PD Construction Consultants

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Flood Risk Assessment Statement, Upbrooks Farm, Upbrooks, Clitheroe

- i. The site is within Flood Zone 3 Grid Ref: SD 375523 442236 as identified on Environment Agency Flood Map
- ii The historic flood level data obtained from Environment Agency is less than 300mm depth.
- iii There are no flood defences protecting this site.
- iv. Existing minimum ground level is 84.7m above Ordnance Survey Datum level.
- v. Development levels will be as existing ground level. Finished floor levels are 150mm above minimum ground level to address the low to medium flood risk.
- vi. Surface water will be dealt with by using the existing existing surface water drain at the property.

Environment Agency data is included in Appendix A

APPENDIX A

ENVIRONMENT AGENCY DATA

Flood risk assessment data



Location of site: 375523 / 442236 (shown as easting and northing coordinates)

Document created on: 8 April 2024

This information was previously known as a product 4.

Customer reference number: UCFUXBE3WUTT

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 <u>long term flood risk service</u> to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

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

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

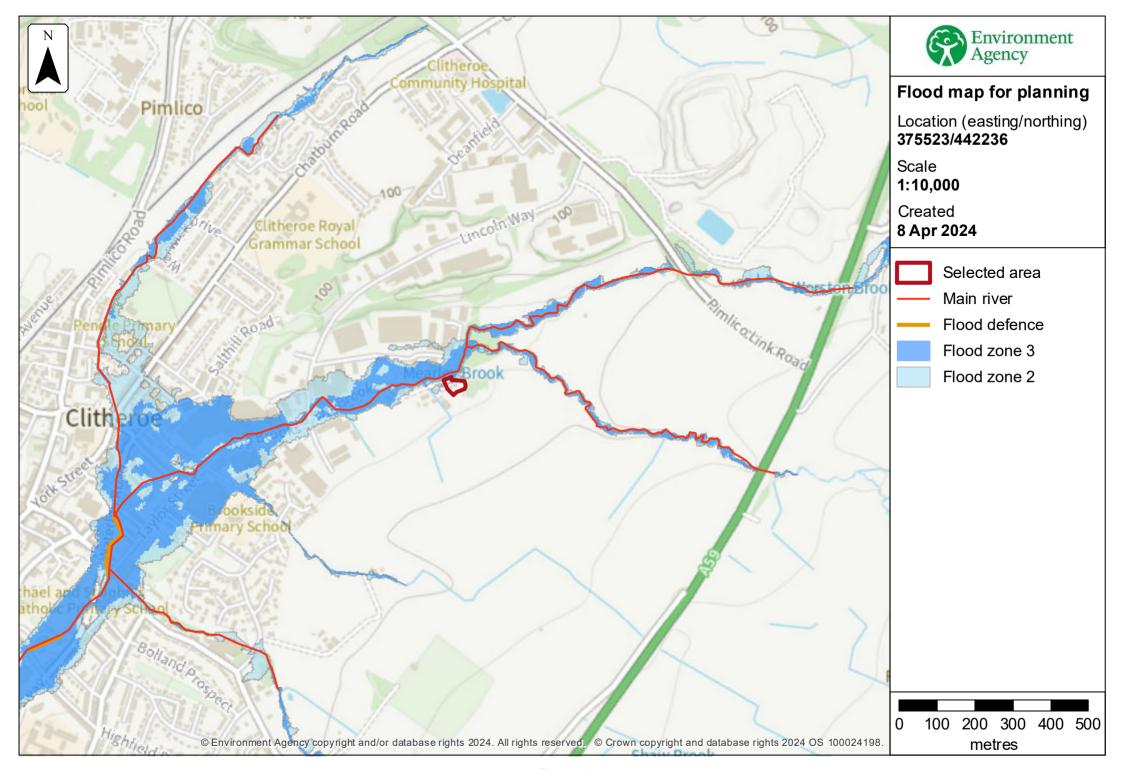
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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

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.



Page 5

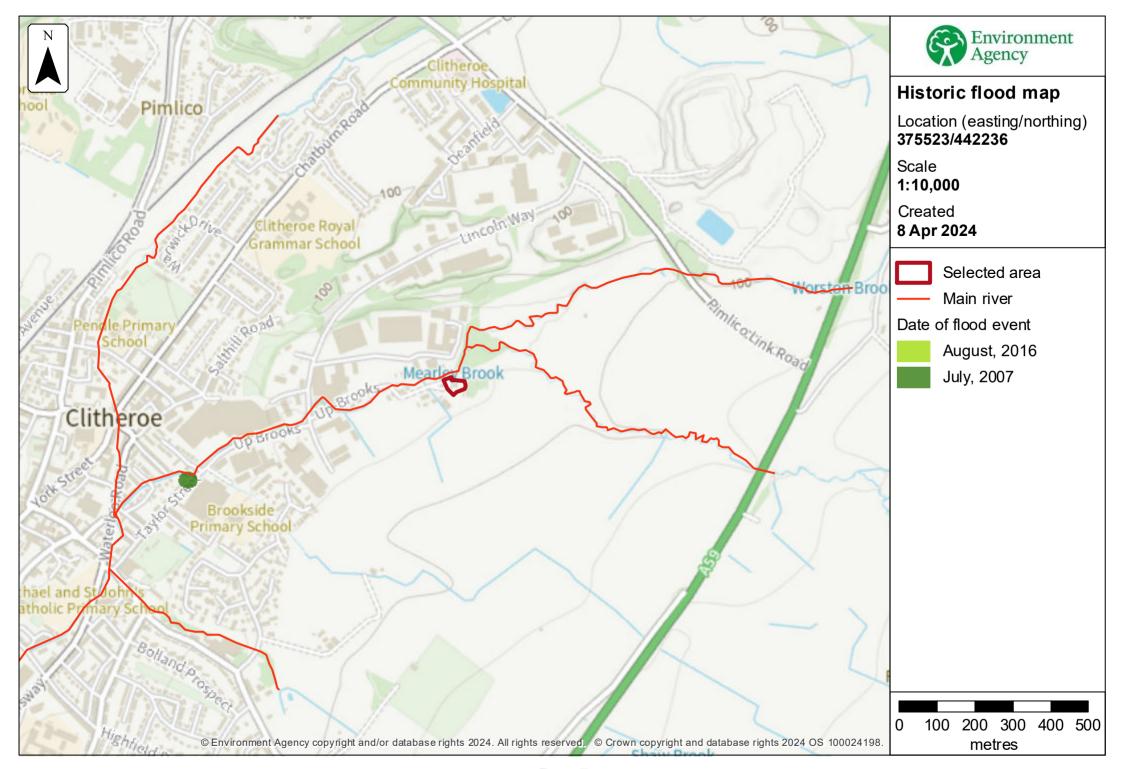
Historic flooding

This map is an indicative outline of areas that have previously flooded. Remember that:

- our records are incomplete, so the information here is based on the best available data
- it is possible not all properties within this area will have flooded
- other flooding may have occurred that we do not have records for
- flooding can come from a range of different sources we can only supply flood risk data relating to flooding from rivers or the sea

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

Download recorded flood outlines in GIS format



Page 7

Historic flood event data

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
3 July 2007	4 July 2007	ordinary watercourse	obstruction/blockage - culvert	No

Flood defences and attributes

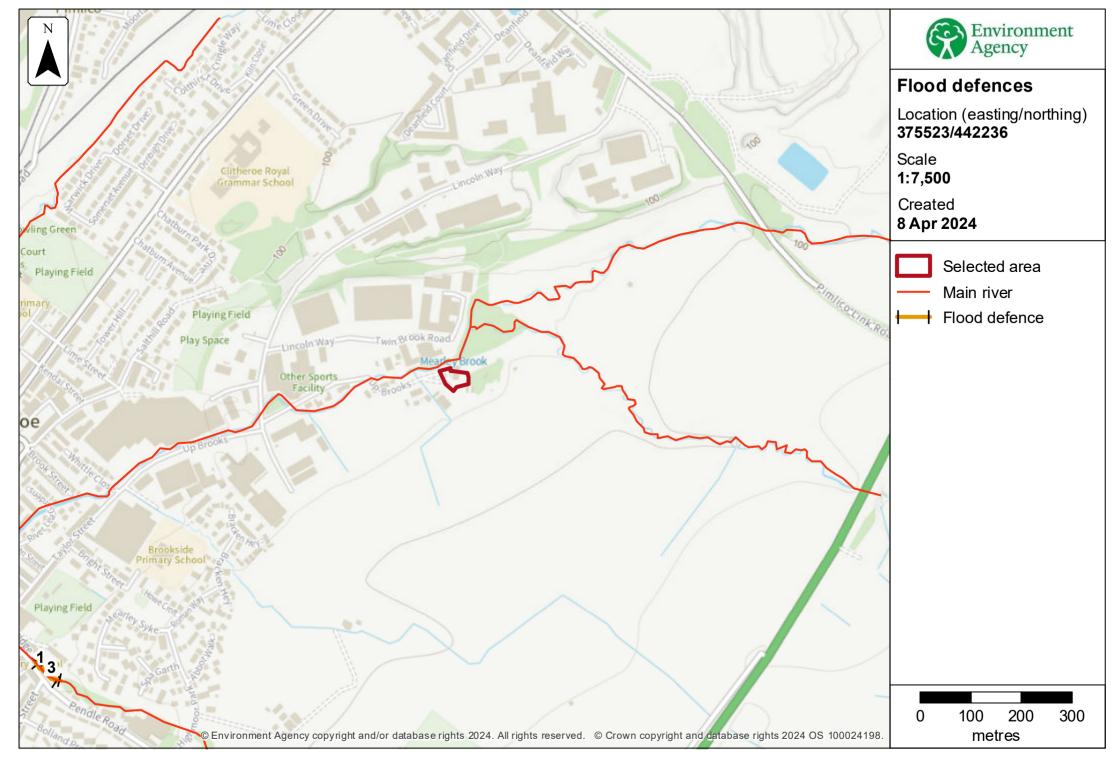
The flood defences map shows the location of the flood defences present.

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



Page 10

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	536674	Flood Gate		Fair	77.10	77.10	77.10
2	148786	Wall	10	Fair	78.25	79.30	78.25
3	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

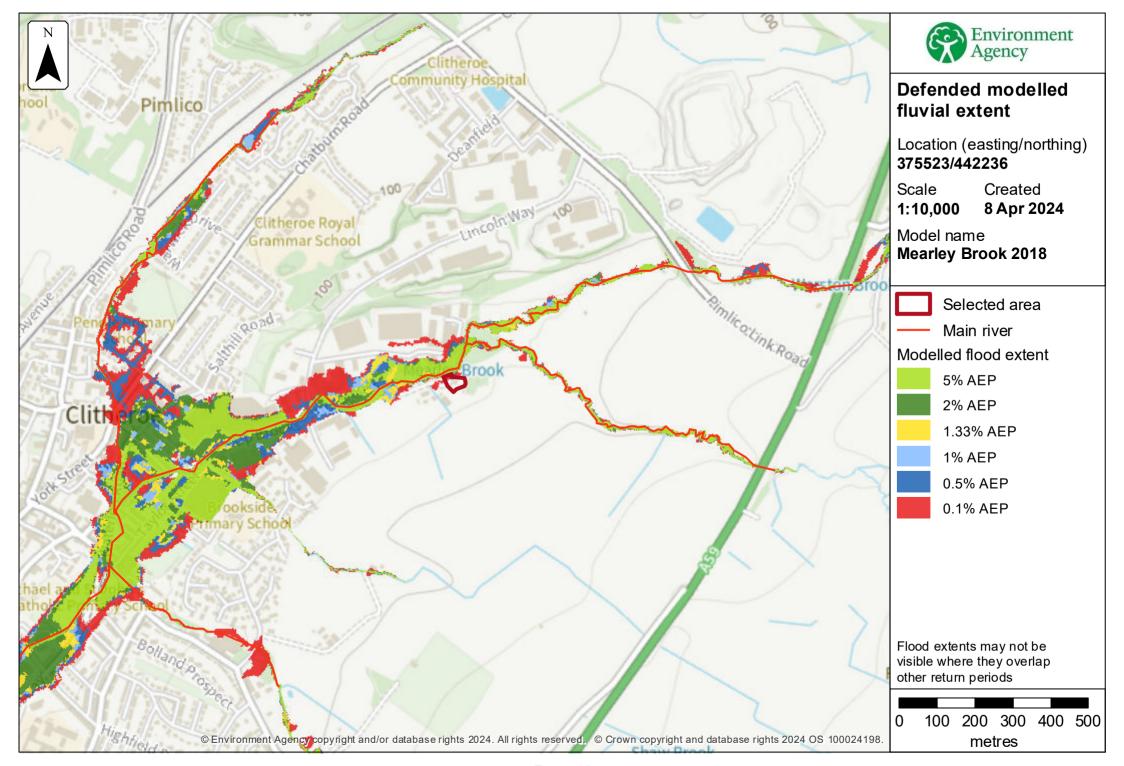
The climate change data included in the models may not include the latest <u>flood risk</u> <u>assessment climate change allowances</u>. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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.

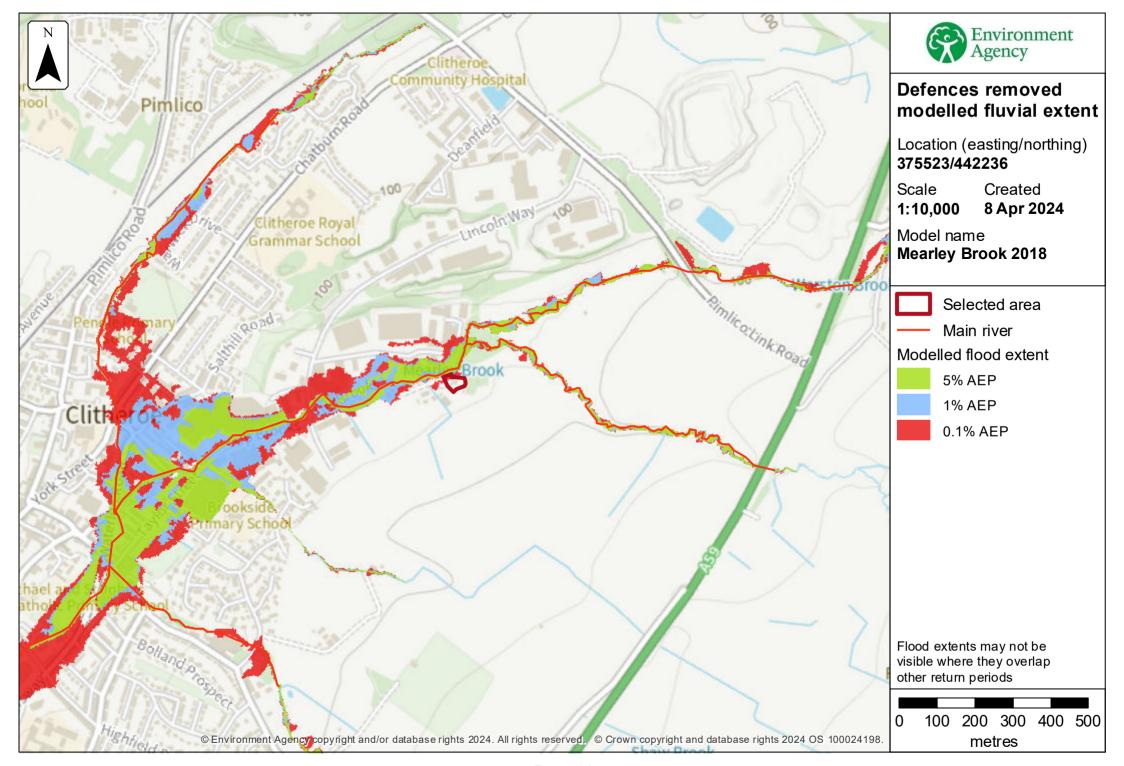
Modelled scenarios

The following scenarios are included:

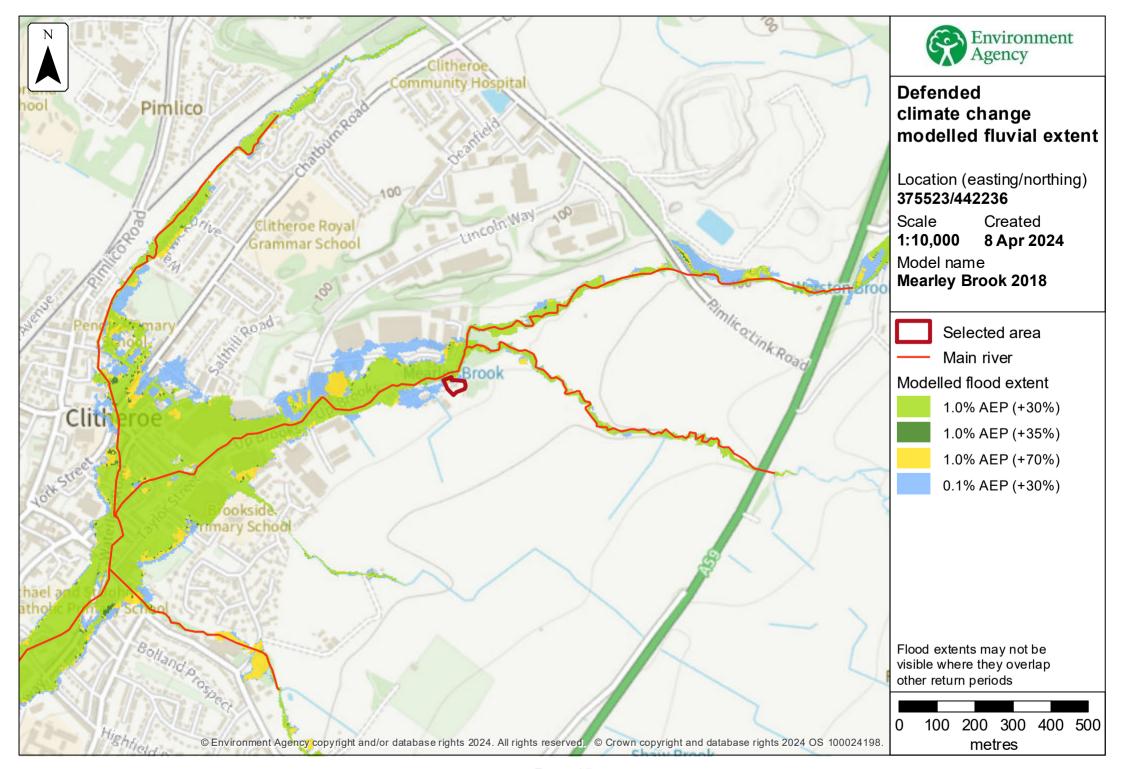
- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including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



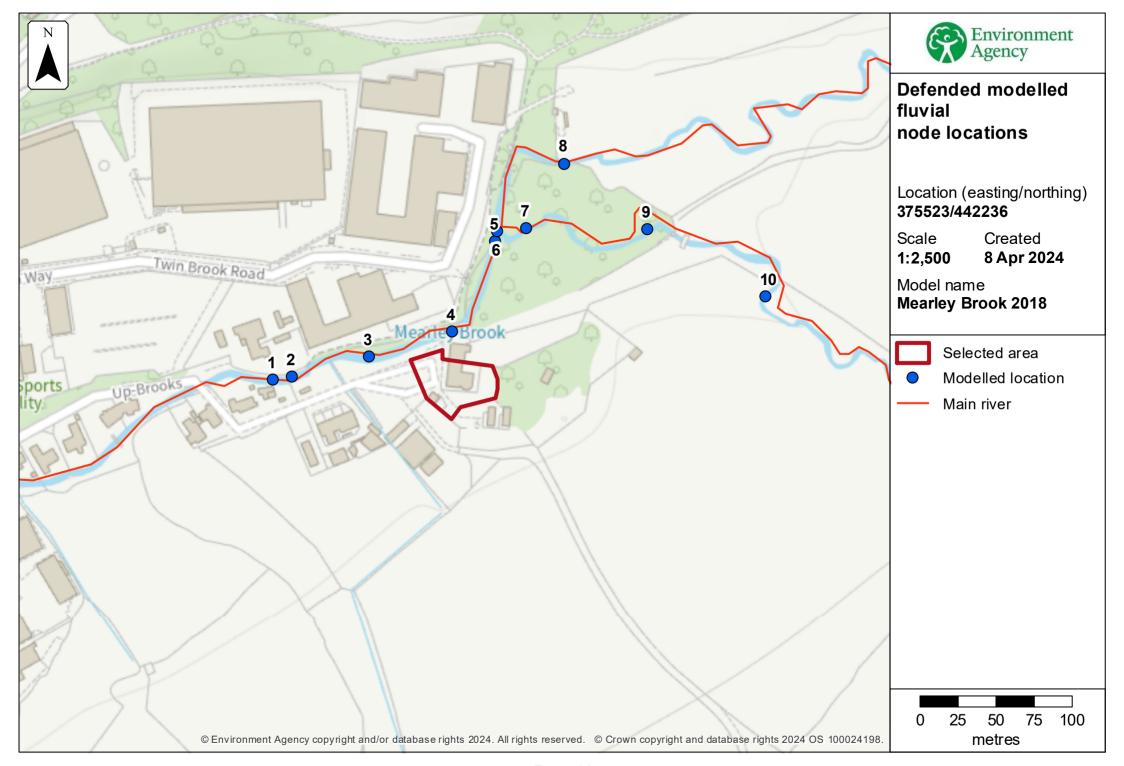
Page 13



Page 14



Page 15



Page 16

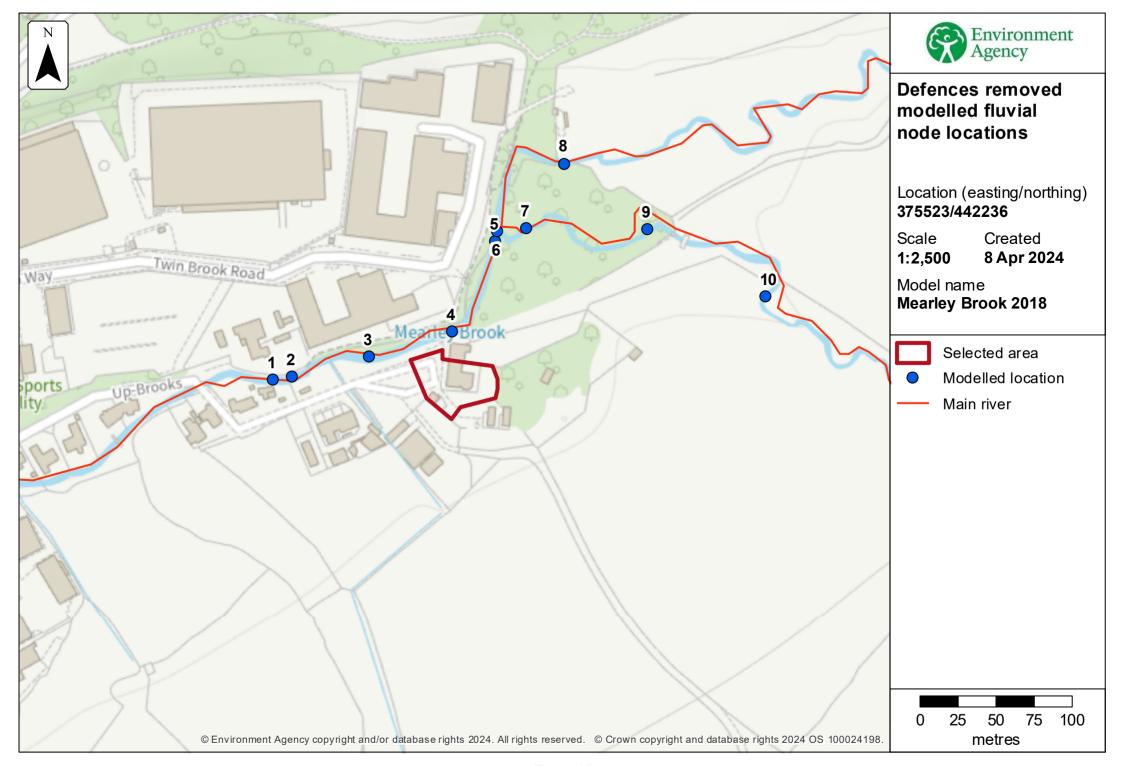
Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	5% AEF	•	2% AEF	•	1.33% A	NEP	1% AEP	•	0.5% A	ĒΡ	0.1% A	ΞP
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	982260	375404	442237	82.49	14.05	82.72	17.17	82.82	18.45	82.88	19.28	82.98	21.73	83.20	26.75
2	982222	375416	442240	82.57	13.84	82.80	16.40	82.90	17.34	82.96	17.99	83.08	19.80	83.33	23.68
3	982288	375467	442253	83.08	13.48	83.24	16.35	83.31	17.67	83.35	18.76	83.44	22.23	83.64	32.50
4	982324	375522	442269	83.73	12.69	83.84	14.99	83.88	16.05	83.91	16.89	84.0	19.37	84.27	25.97
5	982268	375550	442329	84.67	13.76	84.71	17.04	84.72	18.57	84.73	19.82	84.78	23.68	84.94	35.85
6	982458	375552	442335	84.67	8.89	84.71	11.08	84.72	12.13	84.73	12.95	84.78	15.50	84.94	23.52
7	982394	375571	442337	84.70	4.89	84.75	5.99	84.77	6.49	84.78	6.91	84.84	8.16	85.01	12.35
8	982391	375596	442380	85.26	8.89	85.33	11.06	85.36	12.13	85.39	12.98	85.47	15.51	85.66	24.50
9	982317	375651	442337	86.57	4.89	86.61	5.96	86.63	6.48	86.64	6.91	86.69	8.16	86.81	12.35
10	982405	375729	442292	89.68	4.53	89.71	5.52	89.73	6.01	89.74	6.40	89.78	7.55	89.86	11.40

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.



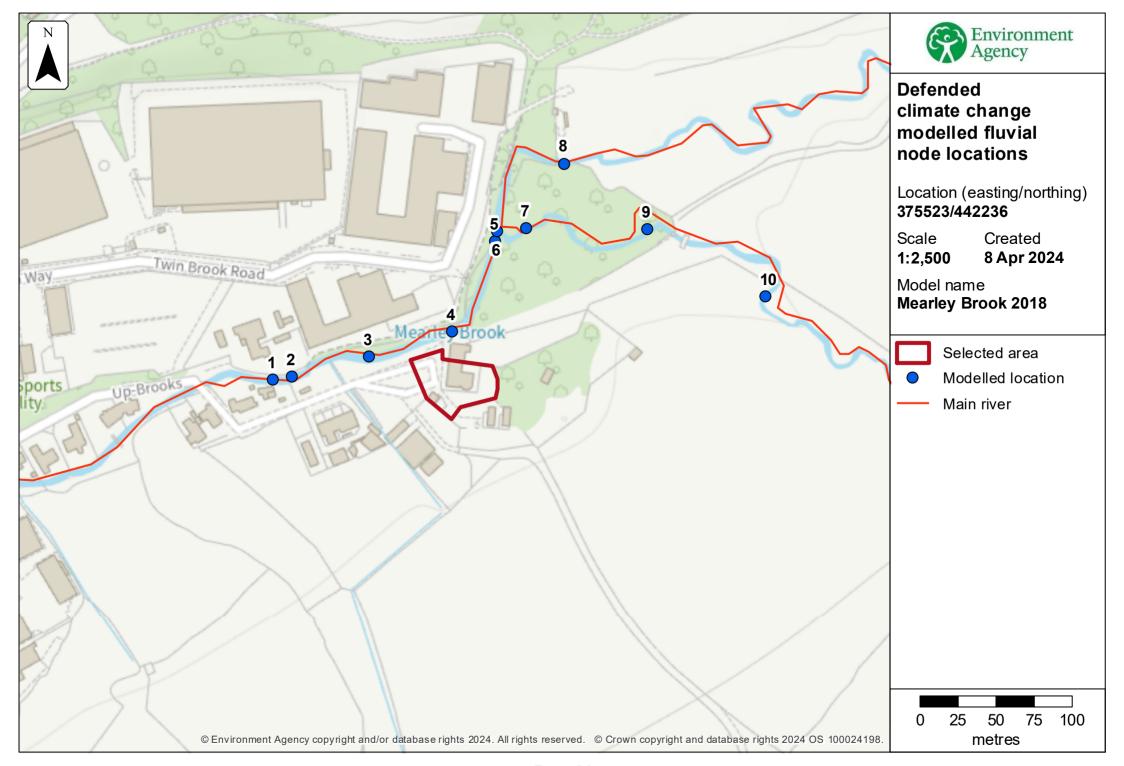
Page 18

Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP		2% AEP		1.33% A	LEP	1% AEP		0.5% AE	ΕP	0.1% AE	₽
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	982260	375404	442237	82.49	14.05					82.87	19.28			83.20	26.75
2	982222	375416	442240	82.57	13.84					82.96	17.98			83.33	23.68
3	982288	375467	442253	83.08	13.48					83.35	18.76			83.64	32.49
4	982324	375522	442269	83.73	12.69					83.91	16.88			84.27	25.97
5	982268	375550	442329	84.67	13.76					84.73	19.82			84.94	35.85
6	982458	375552	442335	84.67	8.89					84.73	12.95			84.94	23.52
7	982394	375571	442337	84.70	4.89					84.78	6.91			85.01	12.35
8	982391	375596	442380	85.26	8.89					85.39	12.98			85.66	24.50
9	982317	375651	442337	86.57	4.89					86.64	6.91			86.80	12.35
10	982405	375729	442292	89.68	4.53					89.74	6.40			89.86	11.40

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.



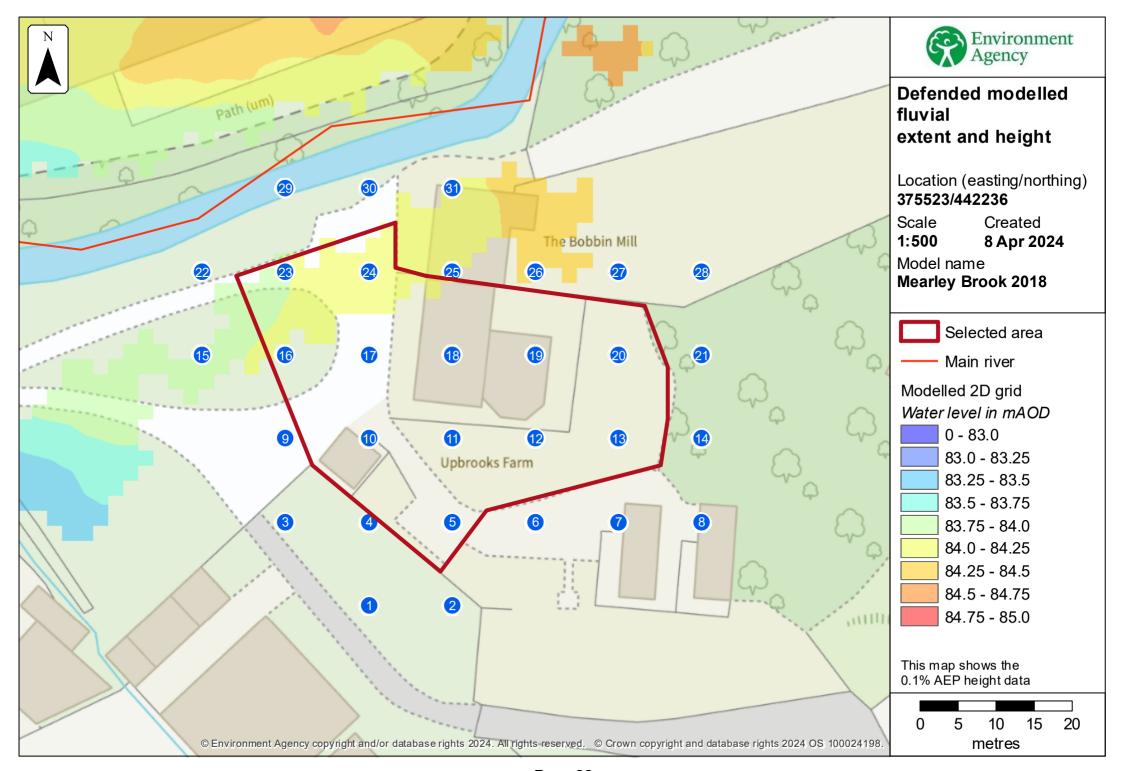
Page 20

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	Flow	Level	Flow	Level	Flow	Level	Flow
1	982260	375404	442237	83.02	22.24	83.03	22.59	83.14	25.34	83.34	30.06
2	982222	375416	442240	83.12	20.09	83.14	20.34	83.26	22.48	83.47	27.01
3	982288	375467	442253	83.48	23.67	83.49	24.29	83.59	29.55	83.76	39.48
4	982324	375522	442269	84.05	20.41	84.07	20.82	84.20	24.20	84.42	30.34
5	982268	375550	442329	84.82	25.50	84.82	26.24	84.90	32.38	85.04	44.64
6	982458	375552	442335	84.82	16.74	84.82	17.15	84.90	21.15	85.04	29.07
7	982394	375571	442337	84.87	8.84	84.88	9.12	84.96	11.25	85.11	15.59
8	982391	375596	442380	85.49	16.99	85.50	17.43	85.60	21.79	85.78	31.39
9	982317	375651	442337	86.71	8.82	86.72	9.12	86.78	11.25	86.88	15.58
10	982405	375729	442292	89.79	8.15	89.80	8.43	89.84	10.39	89.91	14.34

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.



Page 22

Sample point data

Defended

Label	Easting	Northing	5% AEP		2% AEP		1.33% AE	Р	1% AEP		0.5% AEF)	0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	375512	442207	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	375523	442207	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	375501	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	375512	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	375523	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	375534	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	375545	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	375556	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	375501	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	375512	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	375523	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	375534	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	375545	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	375556	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	375490	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.01	83.95
16	375501	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

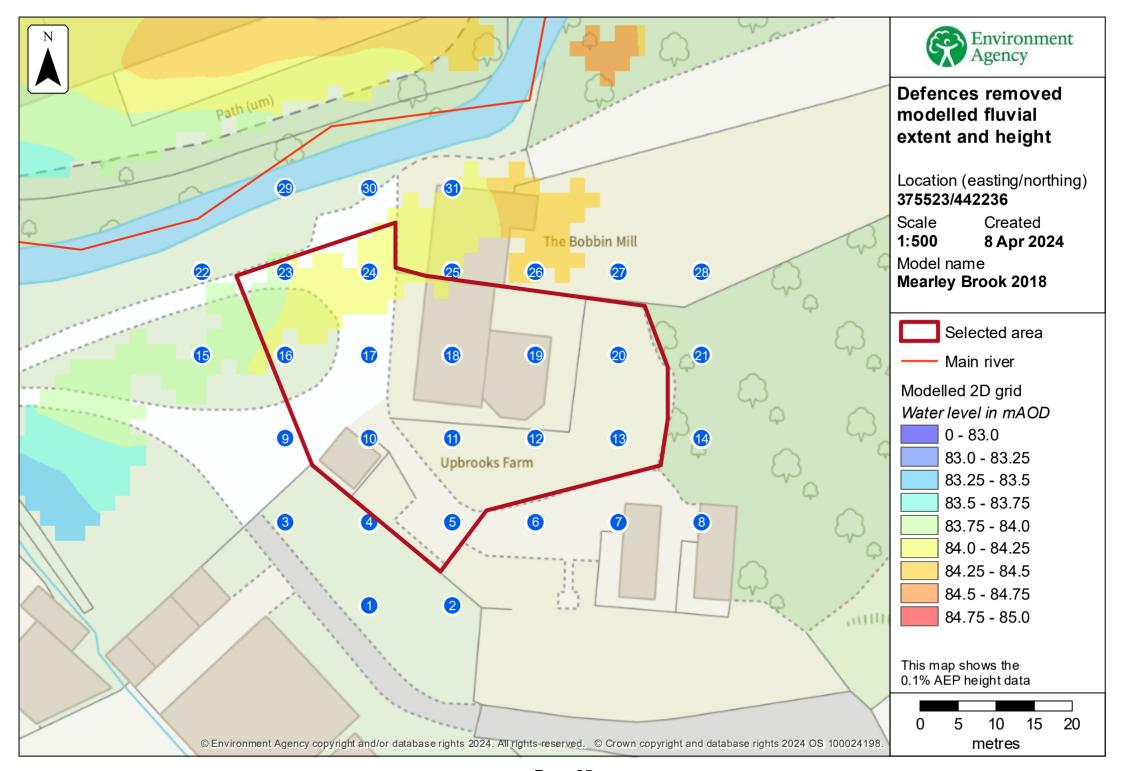
Label	Easting	Northing	5% AEP		2% AEP		1.33% AE	Р	1% AEP		0.5% AEP	•	0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	375512	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	375523	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	375534	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	375545	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	375556	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	375490	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	375501	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.11	83.99
24	375512	442251	NoData	NoData	NoData	NoData	NoData	NoData	0	83.77	0.02	83.84	0.22	84.09
25	375523	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.02	84.13
26	375534	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
27	375545	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
28	375556	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	375501	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
30	375512	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
31	375523	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Mearley Brook 2018 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.



Page 25

Sample point data

Defences removed

Label	Easting	Northing	5% AEP		2% AEP		1.33% A	EP	1% AEP		0.5% AE	Р	0.1% AEF	•
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	375512	442207	NoData	NoData					NoData	NoData			NoData	NoData
2	375523	442207	NoData	NoData					NoData	NoData			NoData	NoData
3	375501	442218	NoData	NoData					NoData	NoData			NoData	NoData
4	375512	442218	NoData	NoData					NoData	NoData			NoData	NoData
5	375523	442218	NoData	NoData					NoData	NoData			NoData	NoData
6	375534	442218	NoData	NoData					NoData	NoData			NoData	NoData
7	375545	442218	NoData	NoData					NoData	NoData			NoData	NoData
8	375556	442218	NoData	NoData					NoData	NoData			NoData	NoData
9	375501	442229	NoData	NoData					NoData	NoData			NoData	NoData
10	375512	442229	NoData	NoData					NoData	NoData			NoData	NoData
11	375523	442229	NoData	NoData					NoData	NoData			NoData	NoData
12	375534	442229	NoData	NoData					NoData	NoData			NoData	NoData
13	375545	442229	NoData	NoData					NoData	NoData			NoData	NoData
14	375556	442229	NoData	NoData					NoData	NoData			NoData	NoData
15	375490	442240	NoData	NoData					NoData	NoData			0.00	83.95
16	375501	442240	NoData	NoData					NoData	NoData			NoData	NoData

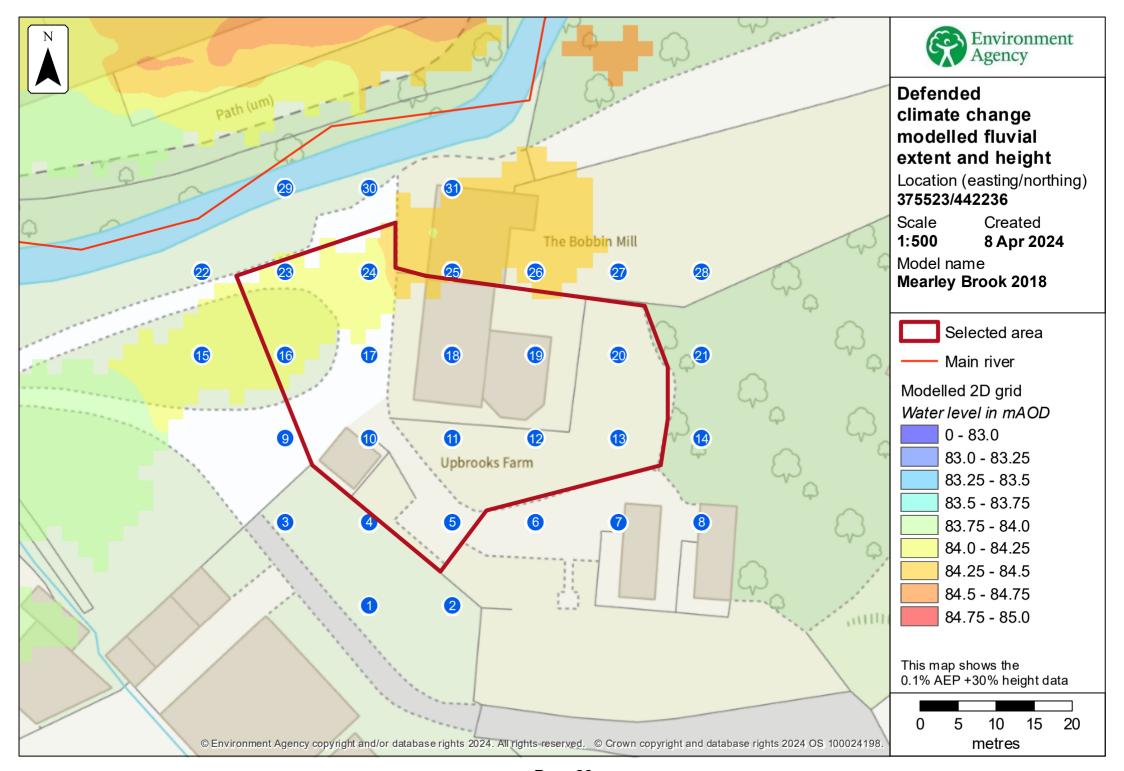
Label	Easting	Northing	5% AEP		2% AEP		1.33% Al	ĒΡ	1% AEP		0.5% AEI	•	0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	375512	442240	NoData	NoData					NoData	NoData			NoData	NoData
18	375523	442240	NoData	NoData					NoData	NoData			NoData	NoData
19	375534	442240	NoData	NoData					NoData	NoData			NoData	NoData
20	375545	442240	NoData	NoData					NoData	NoData			NoData	NoData
21	375556	442240	NoData	NoData					NoData	NoData			NoData	NoData
22	375490	442251	NoData	NoData					NoData	NoData			NoData	NoData
23	375501	442251	NoData	NoData					NoData	NoData			0.13	84.00
24	375512	442251	NoData	NoData					0.00	83.77			0.22	84.08
25	375523	442251	NoData	NoData					NoData	NoData			0.00	84.13
26	375534	442251	NoData	NoData					NoData	NoData			0.00	84.29
27	375545	442251	NoData	NoData					NoData	NoData			NoData	NoData
28	375556	442251	NoData	NoData					NoData	NoData			NoData	NoData
29	375501	442262	NoData	NoData					NoData	NoData			NoData	NoData
30	375512	442262	NoData	NoData					NoData	NoData			NoData	NoData
31	375523	442262	NoData	NoData					NoData	NoData			0.22	84.22

Data in this table comes from the Mearley Brook 2018 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.



Page 28

Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+3	30%)	1% AEP (+3	35%)	1% AEP (+7	0%)	0.1% AEP (+30%)
			Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	375512	442207	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	375523	442207	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	375501	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	375512	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	375523	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	375534	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	375545	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	375556	442218	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	375501	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	375512	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	375523	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	375534	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	375545	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	375556	442229	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	375490	442240	NoData	NoData	NoData	NoData	NoData	NoData	0.09	84.07
16	375501	442240	NoData	NoData	NoData	NoData	NoData	NoData	0.09	84.15

Label	Easting	Northing	1% AEP (+3	0%)	1% AEP (+3	35%)	1% AEP (+7	0%)	0.1% AEP (+30%)
			Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	375512	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	375523	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	375534	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	375545	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	375556	442240	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	375490	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	375501	442251	NoData	NoData	0.00	83.88	0.05	83.92	0.25	84.12
24	375512	442251	0.03	83.88	0.04	83.89	0.16	84.03	0.37	84.23
25	375523	442251	NoData	NoData	NoData	NoData	NoData	NoData	0.13	84.30
26	375534	442251	NoData	NoData	NoData	NoData	NoData	NoData	0.08	84.43
27	375545	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
28	375556	442251	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	375501	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
30	375512	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
31	375523	442262	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Mearley Brook 2018 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.

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

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