

Appendix K

EA Product 4 Flood Risk Information

Peter Amies
Phoenix Design Partnership Limited
Peter.Amies@phoenixdp.co.uk

Our ref: 242256-WX

Your ref: 502-10000

Date: 14 December 2021

Dear Peter

Thank you for your enquiry. We respond to requests under the Freedom of Information Act 2000 and Environmental Information Regulations 2004.

Please refer to [Open Government Licence](#) which explains the permitted use of this information.

Abstract

Name	Product 4
Description	Flood Risk Information for land at Westbury Road, Warminster [386835,146638]
Licence	Open Government Licence
Information Warnings	<i>The mapping of features provided as a background in this product is © Ordnance Survey. It is provided to give context to this product. The Open Government Licence does not apply.</i>
Attribution	Contains Environment Agency information © Environment Agency and/or database rights. Contains Ordnance Survey data © Crown copyright 2020 Ordnance Survey 100024198.

Open data

The following Environment Agency published datasets are now available on the weblink below as part of the Government's 'Open Data' project and are available for you to download free of charge.

Environment Agency published datasets: <https://data.gov.uk/data/search?publisher=environment-agency&unpublished=false>

You will need to search and select the name of the following datasets to take you directly to the weblink to enable you to download the data:

- Flood Map for Planning (Rivers and the Sea) – Flood Zones 2 and 3
- Flood Map for Planning (Rives and Sea) – Areas Benefiting from Defences
- Flood Map for Planning (Rivers and Sea) Spatial Flood Defences
- Flood Map for Planning (Rivers and Sea) Flood Storage Areas
- Recorded Flood Outlines
- Historic Flood Map
- Risk of Flooding from Surface Water Extent for:

- 3 percent annual chance
- 1 percent annual chance
- 0.5 percent annual chance

You can also access the Flood Map for Planning here: <https://flood-map-for-planning.service.gov.uk/>

You can also access the Risk of Flooding from Surface Water maps and Risk of Flooding from Reservoirs information here: <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>

Recorded Historic Flood Events

We do not have any record of the area flooding from the river or sea. Please note, however, that this could mean either that the site has not flooded, or that the site has flooded and we are not aware of the fact that the site has flooded.

Flood Zones in the Flood Map for Planning

Flood Zones 2 and Flood Zones 3 to the North of the site have been produced using our National Generalised Model (JFLOW). Please refer to the JFLOW Modelled Fluvial Water Levels section below for further details.

Flood Zones 2 and Flood Zones 3 for the rest of your site have been produced using the Warminster 2020 model extents. Please note that as the Defended flood outline is greater than the Undefended flood outline in some locations in Warminster, we have taken the decision to merge the 'defended' and 'undefended' outlines to inform the Flood Map for Planning.

Modelled Fluvial Water Levels

Warminster Integrated Model 2020

The attached map contains a set of modelled (within the river channel) fluvial flood level node locations/unique identifiers, for the Were River and tributaries. The modelled data is taken from the Warminster Integrated Model 2020. A sheet is also attached providing the associated flood levels, flood flows if available and NGRs relating to each of these nodes.

Please note: Modelled water levels and flows are in channel values only. There may be a variation in water levels and flows across the flood plain in the 2D domain.

2D Modelled Flood Plain Water Levels

Please see below for maximum 2D level information for your site for a range of return periods. This information is taken from the Warminster Integrated Model 2020.

Maximum 2D modelled water levels for the investigation area:

Undefended Levels

1% AEP (100yr) undefended: **114.49 mAOD**

0.1% AEP (1000yr) undefended: **114.79 mAOD**

Defended Levels

1% AEP (100yr) defended: **114.49 mAOD**

0.1% AEP (1000yr) defended: **114.79 mAOD**

N.B. Levels and depths have been extracted based upon the site boundary plan provided.

Please note: As your development site is large, the modelled water levels may vary across the site. Please contact Wiltshire Council who can provide you with the modelled water levels across the site (part of the Product 6 dataset).

JFLOW

Modelled Fluvial Water Levels

We have not carried out any detailed fluvial flood risk modelling to the north of this location.

The fluvial Flood Map in this area has been produced using our National Generalised Model (JFLOW). This modelling is fit for the purpose of the Flood Zones. However, it is not based on a specific channel survey. Neither water depths nor water levels were outputs specified when we commissioned this generalised modelling for the Flood Zones. Whilst the modelling process does provide some information on depth of water, it would have been possible to produce the flood extents without storing the water depth values, since water depth is only a 'by-product' of the calculation process. As this type of modelling was developed, tested and reviewed for production of the Flood Zone extents only, we have no information on the accuracy of the water depth data.

Water depth or level outputs from this model are only suitable to be used for decision making at a broad catchment scale and is not fit for the purpose of a site specific flood risk assessment.

For your information we have supplied maps showing the water depths derived from JFLOW for the 1% AEP (100yr) and 0.1% AEP (1000yr) fluvial modelled flood scenarios.

Please note that the JFLOW data shows a greater fluvial flood risk extent than that shown in the Flood Map for Planning. We do not have a record of why this additional JFLOW extent was not included in the Flood Map for Planning, which was last updated before 2008. However you should be mindful that there may be some fluvial flood risk associated with the ordinary watercourse in the North of the site when carrying out your Flood Risk Assessment.

For more information on climate change allowances please see the guidance on the Gov.UK website here: [Flood risk assessments: climate change allowances - GOV.UK](#). **Please be aware that we will soon be updating the peak river flow climate change allowances given in this link.**

Ordinary Watercourse

The watercourse adjoining this site is classed as an 'Ordinary Watercourse' not a 'Main River' under our control. It is under the jurisdiction of **Wiltshire Council**. Please contact **Wiltshire Council** for information about the management of any assets or future works on the watercourse.

Flood Asset Information

The area does not benefit from any formal fluvial/tidal flood defences managed or owned by the Environment Agency. Please contact Wiltshire Council as the Lead Local Flood Authority to see whether they hold any relevant asset information.

Planning

If you have questions regarding the planning nature of your enquiry, or require advice on floor levels, please contact our Sustainable Places team on SWX.SP@environment-agency.gov.uk. Please be aware that we now charge for planning advice when consulted on pre-application enquiries. This new approach provides advice to developers in two ways. Firstly there is the provision of 'free' advice available to everyone where we give a preliminary opinion on a proposed development. This sets out the environmental constraints together with any issues this raises for us. Should you wish us to review in detail any of these issues then we can do this through a chargeable scheme aimed at recovering our costs.

Strategic Flood Risk Assessment (SFRA)

Please contact Wiltshire Council for an update on their Strategic Flood Risk Assessment in your area.

Further Information

We advise that you also contact the drainage engineer/ flood risk management team at **Wiltshire Council** as they may be able to provide further advice with respect to localised flooding and drainage issues.

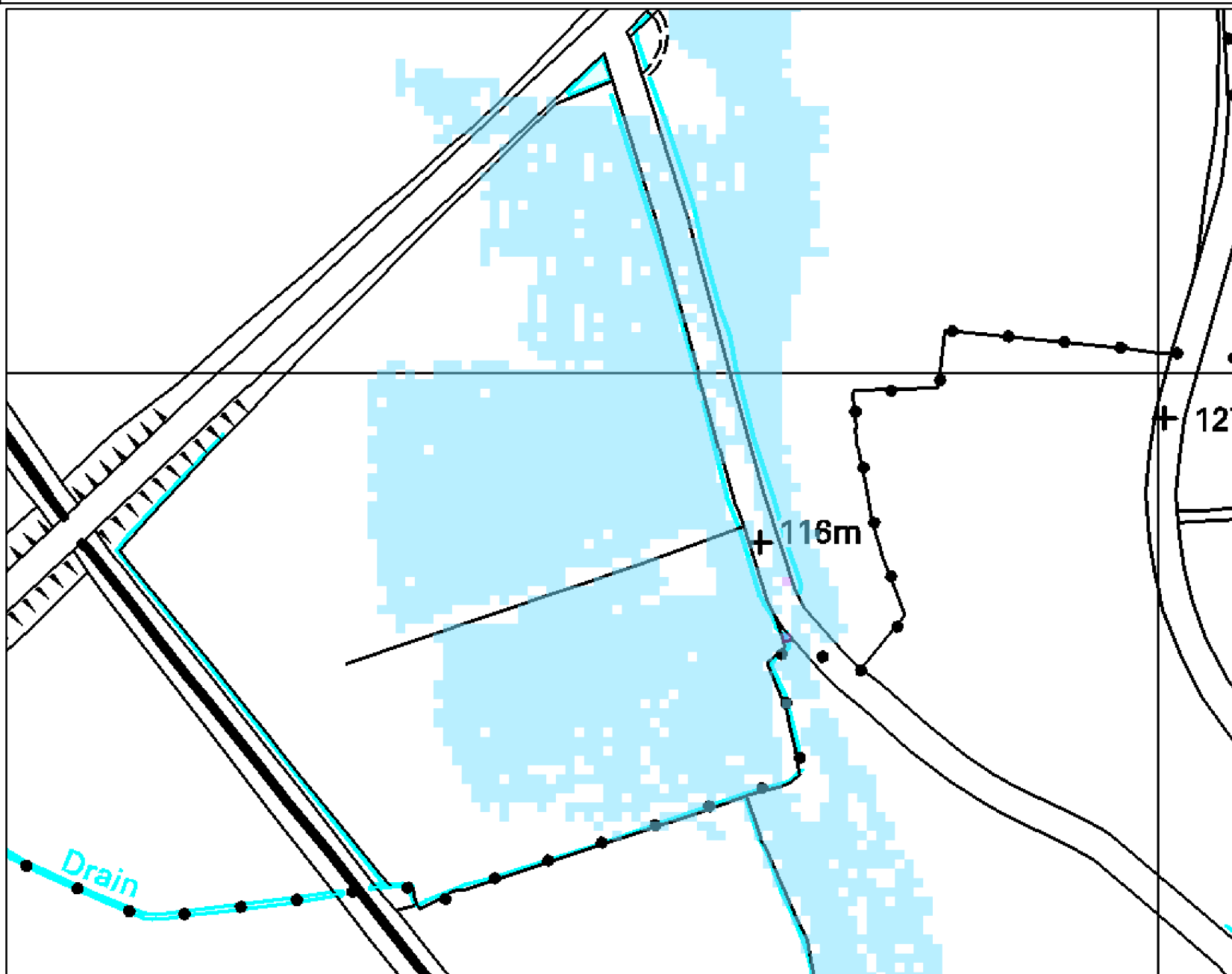
Further details about the Environment Agency information supplied can be found on our website: <https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

We hope you find this information helpful and it is provided subject to the attached notice 'Use of Environment Agency Information for Flood Risk Assessments', which we strongly recommend you read.

Yours sincerely

Corinne Moyse

Wessex Enquiries – Customer and Engagement



Scale 1:3,000



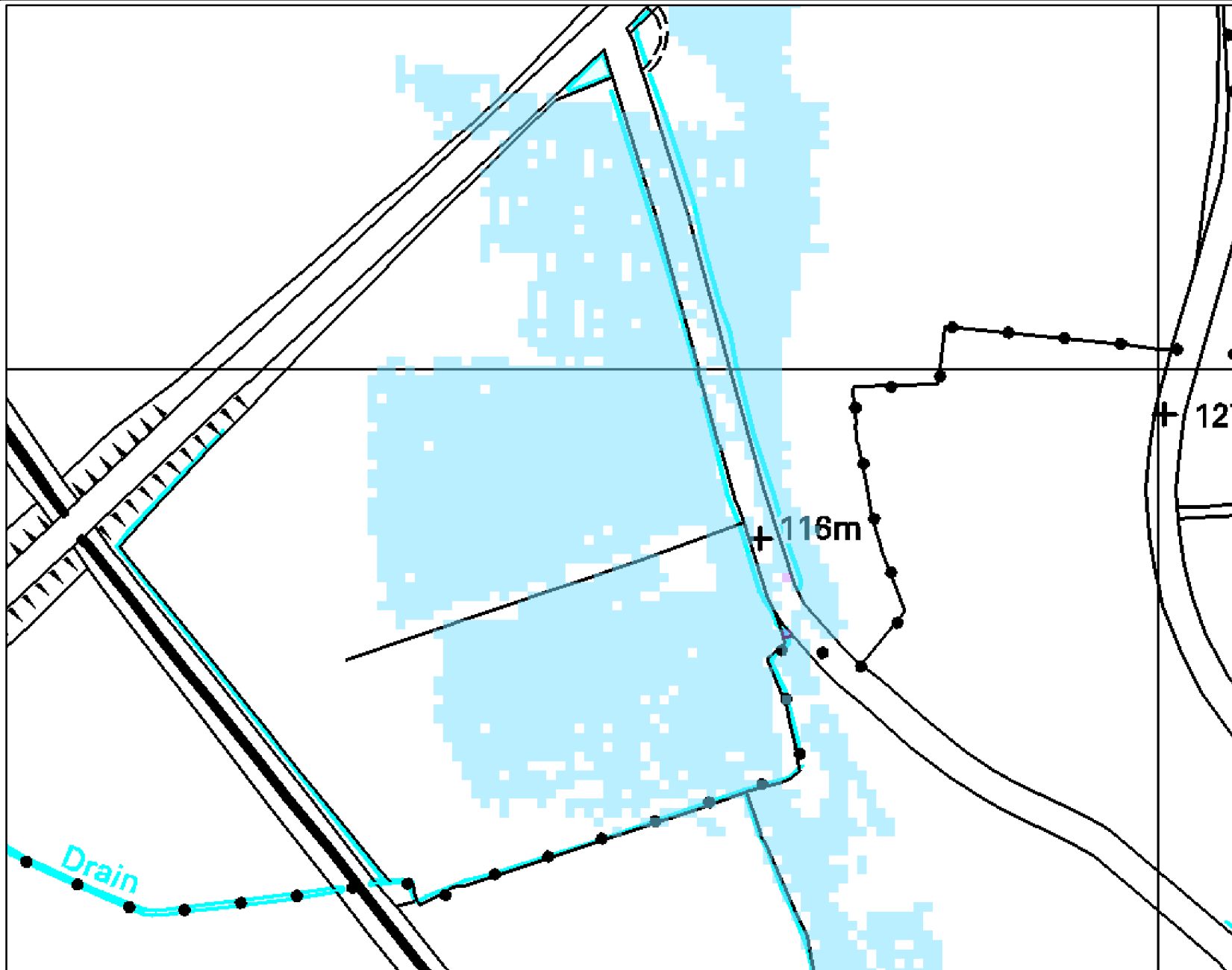
Legend

1000yr JFLOW Depth metres

0 - 0.5
0.500000000 - 1
1.000000001 - 2
2.000000001 - 3
3.000000001 - 4
4.000000001 - 5
5.000000001 - 10
10.000000001 - 100

Information Warning

We do not recommend the use of water depths/levels derived from JFLOW for site specific investigations such as Flood Risk Assessments.



Scale 1:3,000



Legend

100yr JFLOW Depth metres

0 - 0.5
0.500000000 - 1
1.000000001 - 2
2.000000001 - 3
3.000000001 - 4
4.000000001 - 5
5.000000001 - 10
10.000000001 - 100

Information Warning

We do not recommend the use of water depths/levels derived from JFLOW for site specific investigations such as Flood Risk Assessments.

TITLE
MODEL DATE
SOFTWARE

Warminster integrated model 2020
01/12/2020
Infoworks ICM

SCENARIO

Defended

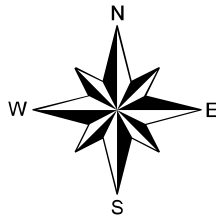
NODE	NW_003.1.Were_8.010-Were_8.001	ST86468301.1.CX0671!	ST86468301.1.CX0671!-CX0671!-CX025	ST86469001.1.CX0259	ST86469108.1.CX0671!-CX025	W_001.1.Uppe_7.061	WW_007.1.Were_8.010
WATERCOURSE	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream
2YR Level	111.78	114.04	113.59	113.02	113.15	111.42	112.19
2YR Flow	0.69	0.69	0.63	0.61	0.63	1.06	0.68
5YR Level	111.94	114.14	113.62	113.56	113.57	111.56	112.34
5YR Flow	1.26	0.96	0.64	0.63	0.63	1.58	1.22
10YR Level	112.07	114.17	113.74	113.72	113.72	111.70	112.48
10YR Flow	1.85	1.13	0.63	0.67	0.63	2.15	1.53
20YR Level	112.22	114.19	113.78	113.76	113.76	111.85	112.63
20YR Flow	2.65	1.29	0.63	0.68	0.63	2.91	1.98
20YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
20YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
25YR Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
25YR Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
30YR Level	112.31	114.21	113.79	113.77	113.77	111.95	112.71
30YR Flow	3.16	1.38	0.63	0.68	0.64	3.40	2.32
50YR Level	112.41	114.20	113.76	113.74	113.75	112.05	112.81
50YR Flow	3.78	1.31	0.63	0.68	0.64	3.98	2.63
75YR Level	112.49	114.21	113.79	113.77	113.77	112.14	112.87
75YR Flow	4.29	1.42	0.62	0.67	0.64	4.47	2.86
100YR Level	112.56	114.26	113.82	113.80	113.80	112.21	112.93
100YR Flow	4.74	1.72	0.62	0.64	0.64	4.96	3.05
100YR 20%CC Level	112.68	114.29	113.84	113.81	113.81	112.36	113.05
100YR 20%CC Flow	5.78	1.98	0.59	0.57	0.64	5.72	3.48
100YR 30%CC Level	112.69	114.31	113.85	113.82	113.82	112.37	113.06
100YR 30%CC Flow	5.86	2.10	0.59	0.58	0.64	5.77	3.52
100YR 40%CC Level	112.77	114.32	113.86	113.82	113.82	112.50	113.17
100YR 40%CC Flow	6.93	2.21	0.58	0.55	0.64	5.92	3.89
100YR 85%CC Level	112.82	114.38	113.88	113.84	113.84	112.56	113.20
100YR 85%CC Flow	7.24	2.65	0.61	0.54	0.64	6.24	4.10
200YR Level	112.67	114.28	113.84	113.81	113.81	112.34	113.04
200YR Flow	5.65	1.90	0.60	0.58	0.64	5.66	3.42
200YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
200YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
500YR Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
500YR Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
1000YR Level	112.91	114.35	113.86	113.83	113.83	112.74	113.26
1000YR Flow	7.48	2.38	0.58	0.47	0.64	6.19	4.74
1000YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
1000YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
TIDE 200YR	NMD	NMD	NMD	NMD	NMD	NMD	NMD
TIDE 1000YR	NMD	NMD	NMD	NMD	NMD	NMD	NMD
Eastings	386918	386883	386939	386995	386981	387006	386869
Northings	145722	146322	146170	145961	146065	145696	145686

SCENARIO **Undefended**

NODE	NW_003.1.Were_8.010-Were_8.001	ST86468301.1.CX0671!	ST86468301.1.CX0671!-CX0671!-CX025	ST86469001.1.CX0259	ST86469108.1.CX0671!-CX025	W_001.1.Uppe_7.061	WW_007.1.Were_8.010
WATERCOURSE	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream	R Were & Cannimore Stream
2YR Level	111.78	114.04	113.59	113.03	113.15	111.42	112.18
2YR Flow	0.69	0.69	0.63	0.61	0.63	1.04	0.68
5YR Level	111.95	114.14	113.62	113.56	113.57	111.57	112.35
5YR Flow	1.30	0.96	0.64	0.63	0.63	1.59	1.23
10YR Level	112.08	114.17	113.75	113.74	113.74	111.71	112.49
10YR Flow	1.93	1.13	0.63	0.67	0.63	2.21	1.57
20YR Level	112.24	114.19	113.79	113.77	113.78	111.87	112.64
20YR Flow	2.73	1.29	0.63	0.68	0.63	2.98	2.03
20YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
20YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
25YR Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
25YR Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
30YR Level	112.33	114.21	113.80	113.78	113.79	111.97	112.73
30YR Flow	3.26	1.38	0.63	0.68	0.64	3.50	2.39
50YR Level	112.43	114.20	113.78	113.76	113.76	112.07	112.82
50YR Flow	3.89	1.31	0.63	0.68	0.64	4.08	2.67
75YR Level	112.51	114.21	113.80	113.78	113.78	112.15	112.88
75YR Flow	4.38	1.42	0.62	0.68	0.64	4.56	2.90
100YR Level	112.56	114.26	113.83	113.81	113.81	112.21	112.94
100YR Flow	4.79	1.72	0.62	0.65	0.64	5.00	3.07
100YR 20%CC Level	112.69	114.29	113.85	113.82	113.82	112.36	113.05
100YR 20%CC Flow	5.82	1.98	0.59	0.58	0.64	5.74	3.49
100YR 30%CC Level	112.69	114.31	113.85	113.83	113.83	112.37	113.06
100YR 30%CC Flow	5.89	2.10	0.59	0.58	0.64	5.78	3.52
100YR 40%CC Level	112.77	114.32	113.86	113.83	113.83	112.51	113.17
100YR 40%CC Flow	6.97	2.21	0.58	0.55	0.64	5.93	3.90
100YR 85%CC Level	112.81	114.38	113.88	113.85	113.85	112.56	113.20
100YR 85%CC Flow	7.26	2.65	0.61	0.54	0.64	6.24	4.13
200YR Level	112.67	114.28	113.84	113.82	113.82	112.35	113.04
200YR Flow	5.68	1.90	0.60	0.58	0.64	5.68	3.43
200YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
200YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
500YR Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
500YR Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
1000YR Level	112.91	114.35	113.87	113.84	113.84	112.74	113.26
1000YR Flow	7.48	2.38	0.58	0.48	0.64	6.20	4.75
1000YR 20%CC Level	NMD	NMD	NMD	NMD	NMD	NMD	NMD
1000YR 20%CC Flow	NMD	NMD	NMD	NMD	NMD	NMD	NMD
TIDE 200YR	NMD	NMD	NMD	NMD	NMD	NMD	NMD
TIDE 1000YR	NMD	NMD	NMD	NMD	NMD	NMD	NMD
Eastings	386918	386883	386939	386995	386981	387006	386869
Northings	145722	146322	146170	145961	146065	145696	145686

Level of confidence	Moderate	
		The model was produced to assess our flood risk management assets and the results are fit for this purpose. We have MODERATE confidence in its input data, and subsequently its results. The reason that we have MODERATE confidence in the model and its results is because the model requires verification against a known flood event. You will need to contact our Partnership and Strategic Overview Team to discuss whether the flood levels from this model are suitable for your FRA or whether they require you to carry out further work to update the modelling.
NMD	No Modelled Data	
UNITS	LEVELS:	mAOD
	FLOW:	cumecs

Scale:1:10,000 At A3



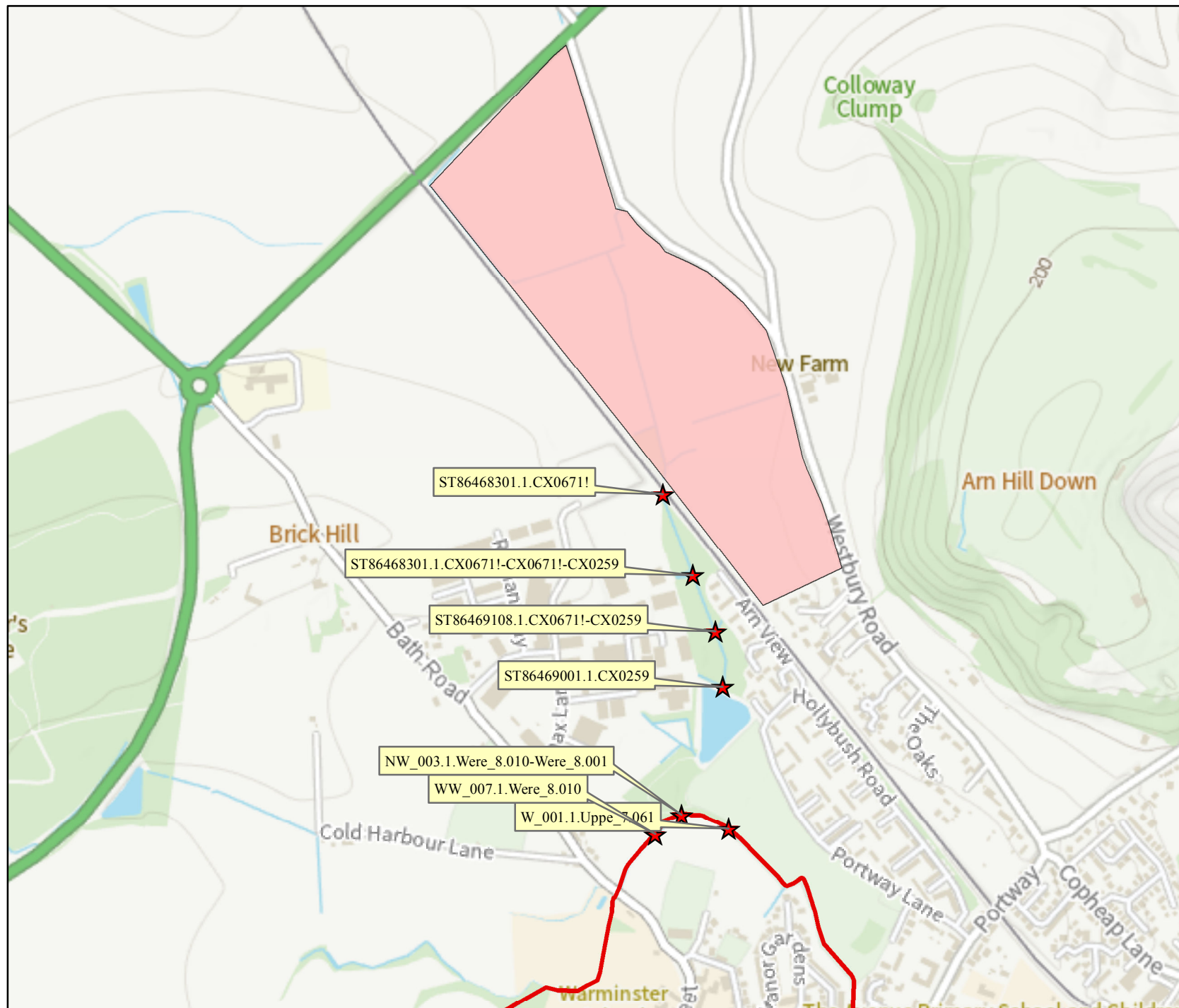
Legend

M_TYPE

-  1D_RiverSection
-  2D_RiverSection
-  Interpolate
-  Replicate
-  Reservoir
-  Site_Boundary
-  Main Rivers

Modelled Flood Level Nodes

A table that references the node locations/unique identifiers is also attached, giving associated flood levels, NGRs and further information for the river channel and model.



Use of Environment Agency Information for Flood Risk Assessments (ERAs)

Important

Use of Environment Agency data: you should note that

1. Information supplied by the Environment Agency may be used to assist in producing a Flood Risk Assessment (FRA) where one is required, but the use of Environment Agency information does not constitute such an assessment on its own.
2. As part of your data request, we have provided all of the relevant modelled data we hold for your location. Please note that some of our modelled information may have been produced for purposes other than for flood zone generation. This may mean that some of the modelled data you have been provided with has a lower confidence level, and has not been used in producing our flood map, nor definitively reflects the predicted flood water level at the property/development site scale.
3. This information covers flood risk from main rivers and the sea, and you will need to consider other potential sources of flooding, such as groundwater or surface water runoff. The information produced by the Local Planning Authority and the Lead Local Flood Authority (LLFA) may assist in assessing other sources of flood risk.
4. Where a planning application requires a FRA and this is not submitted or deficient, the Environment Agency may well raise an objection.
5. For more significant proposals in higher flood risk areas, we would be pleased to discuss details with you ahead of making any planning application, and you should also discuss the matter with your Local Planning Authority.

Pre-Planning Advice from the Environment Agency

If you have requested this information to help inform a development proposal, then we recommend that you undertake a formal pre-application enquiry using the form available from our website:

Pre-application Preliminary Opinion:

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

Pre-application Charged Service:

<https://www.gov.uk/government/publications/planning-and-marine-licence-advice-standard-terms-for-our-charges>

Depending on the enquiry we may also provide advice on other issues related to our responsibilities, including flooding, waste, land contamination, water quality, biodiversity, navigation, pollution, water resources, foul drainage or Environmental Impact Assessment.

Flood Risk Assessment (FRA) Guidance

You should refer to the Planning Practice Guidance of the National Planning Policy Framework (NPPF) and the Environment Agency's Flood Risk Standing Advice for information about Flood Risk Assessment (FRA) for new development in the different Flood Zones. These documents can be accessed via:

National Planning Policy Framework Planning Practice Guidance:

<http://planningguidance.planningportal.gov.uk/>

Environment Agency advice on FRAs:

<https://www.gov.uk/flood-risk-assessment-for-planning-applications#when-to-follow-standing-advice>

Strategic Flood Risk Assessment (SFRA)

You should also consult the Strategic Flood Risk Assessment (SFRA) produced by your Local Planning Authority (LPA). Most level 1 & 2 SFRA documents are available on the LPA's website.