

24th July 2026

Ms. K. Dunlop
2 The Island
Railway Street
Summerseat
Bury
BL9 5QJ

NO. 2, THE ISLAND, SUMMERSEAT FOCUSED FLOOD RISK ASSESSMENT

Betts Hydro have been instructed to prepare a focused Flood Risk Assessment (FRA) to support future development on the site at No. 2 The Island, off Railway Street in Summerseat (see Location Plan in **Appendix A**). The purpose of this technical assessment is to identify the potential flood risks to the site and recommend and required mitigation measures to safeguard the development proposals which would be commensurate to the scale development. Given that the site is less than 1ha and located within Flood Zones 2 and 3, we have prepared an assessment which focuses on the primary source of flood risk which in this case is fluvial.

SITUATION AND BACKGROUND

This FRA has been prepared to support a planning application for the construction of 2no. side extensions and a rear extension to the existing dwelling at No. 2, The Island in Summerseat. An extract of the proposed floor plan is illustrated in **Figure 1** (below). The application site covers ~0.131ha, and the post-development impermeable areas will increase slightly post-development.

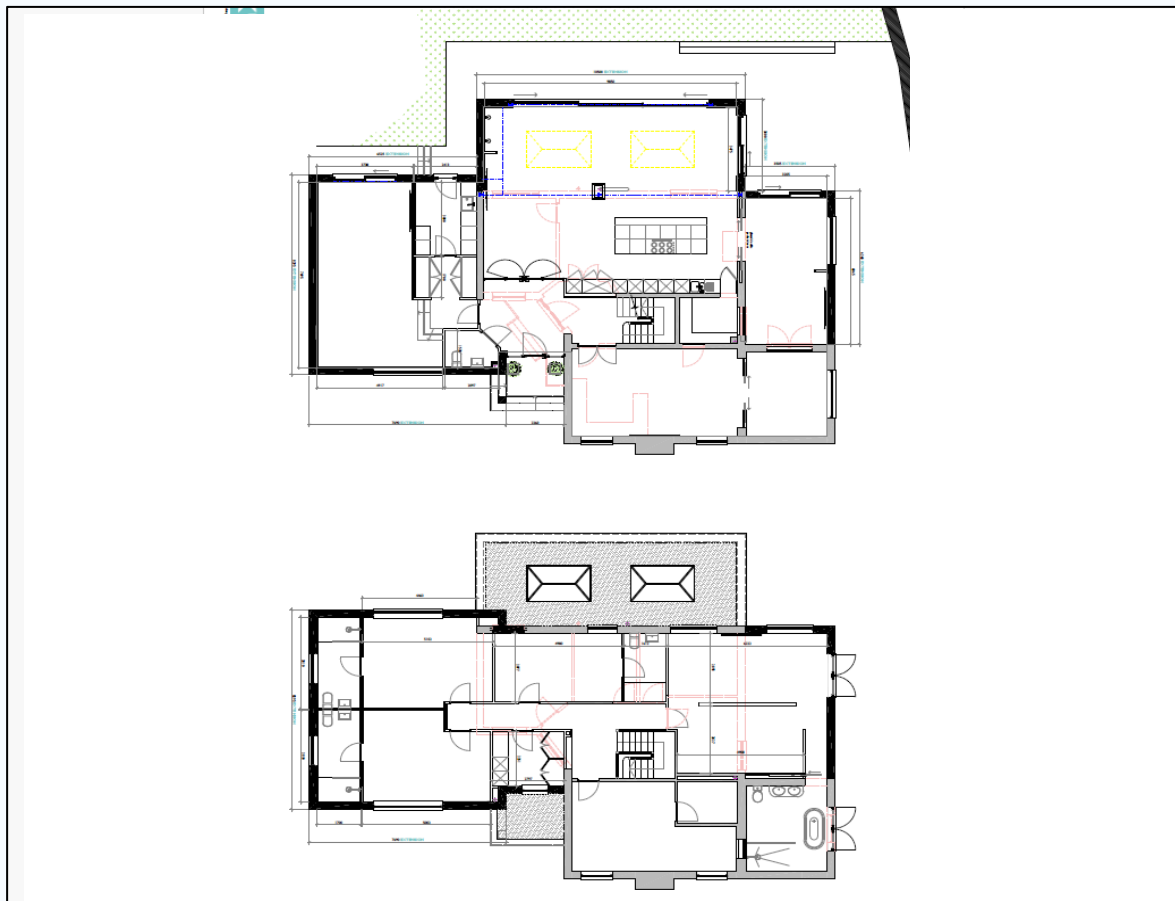


Figure 1: Proposed Floor Plans - Ground (Top) and First (Bottom) (Sky Architecture, 2025)

All relevant referenced information used to support this assessment has been appended to this report for completeness and includes: -

- Location Plan
- Existing and Proposed Floor Plans
- SFRA Mapping Extracts
- Environment Agency Consultations and Data
- Defended Flood Depth and Level Plans
- Blockage Scenario Level Plans

PLANNING POLICY AND THE SEQUENTIAL TEST

The existing residential dwelling, and proposed extensions are located within Flood Zones 2 and 3; residential development is classed as 'more vulnerable', in line with National Planning Policy Framework (NPPF). In terms of planning policy, 'more vulnerable' development is considered appropriate for Flood Zones 1 and 2, assuming there is no increase in flood risk elsewhere as a result. Where residential development is proposed within Flood Zone 3, there is a requirement to demonstrate no adverse impacts elsewhere as a result.

As stated within the NPPF (paragraph 176), applications for minor development (for example, householder development as is proposed in this instance) should not be subject to the Sequential Test. This should, however, still meet the requirements for site-specific flood risk assessments.

FLOOD RISK SOURCES - OVERALL SUMMARY

- **Fluvial: Medium - High**
 - The site is located within Flood Zone 3a (land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea), and the long-term flood risk mapping identifies high flood risk from rivers or the sea.
 - Product 5 (Model Reports), Product 6 (Outputs) and Product 7 (Model) data have been received from the Environment Agency for the Mid Irwell Model (2017) and the Holcombe Brook Model (2009). The Holcombe Brook model has not been considered in detail, as the model does not cover the site location.
 - The primary flood risk to the site is from fluvial sources. This focused FRA considers the potential flood depths and velocities for the key design events (including appropriate climate change, and potential blockage scenarios) and sets out the required mitigation measures. The potential for displacement, and flood flow routing is also assessed.
- **Tidal: Very Low**
 - The site is located within Flood Zone 1 (at little or no flood risk from the sea), and the long-term flood risk mapping identifies very low flood risk from the sea.
- **Reservoirs: Low**
 - The long-term flood mapping identifies that the site is at risk of flooding because of a failure in any nearby reservoirs. This is when river levels are normal and when there is also flooding from rivers. The risk to the site from this source is therefore high. This residual flood risk is discussed in further detail subsequently.

- **Canals: Very Low**
 - The Manchester, Bolton and Bury Canal is located ~5km from the site and therefore presents a very low flood risk to the proposals.
- **Sewers: Very Low**
 - No known issues with public sewer assets in the vicinity of the site were identified during a review of the Greater Manchester Combined Authority Strategic Flood Risk Assessment (SFRA). The SFRA identifies Bury as having the lowest recorded number of sewer flooding incidents within Greater Manchester, with 37 incidents reported.
- **Surface Water/Pluvial: Very Low**
 - The site is located within an area with a very low surface water flood risk. A limited area of flood risk is shown to encroach along the western boundary, reflecting localised ponding associated with an existing low point on The Island access road. The proposed extension will, however, wholly be located in an area at 'very low' chance of flooding from surface water now, and in future as a result of climate change.
 - Any potential residual flood risk from surface water will be managed, post-development through the implementation of a sustainable surface water management regime.
- **Groundwater: Low**
 - Consultations thus far have not identified any historical flooding on the site because of groundwater; therefore, this would be considered a residual flood risk unless site construction activities were to identify groundwater during the construction phase. If this was to be observed during the construction phase, then appropriate management methods should be applied to deal with the flooding depending on level of emergence.

FLUVIAL FLOOD RISK REVIEW

The primary source of flood risk to the site would be from fluvial sources, mainly from the River Irwell, which runs adjacent to the site. An intra-site sequential approach should be taken for new development. It is recommended that new development is located within the extents of Flood Zone 1. Where residential development is proposed within Flood Zones 2 and 3, then there will be a requirement to ensure that it can be safeguarded for its design life.



Figure 2: Flood Map for Planning Extract (2070-2125) (GOV.UK, 2026)

As shown in **Figure 2**, the River Irwell (Main River) is located adjacent to the southern boundary of the site and flows in a south-easterly direction. Fluvial flood defences are also illustrated to be present along the river corridor (see **Figure 2**). The EA Flood Map for Planning (Rivers & Sea) has identified that the site is within the Flood Zone 2 and 3 extents, and thus an area considered to be at high fluvial flood risk, from the River Irwell.

Recent updates to the Flood Map for Planning mapping now also shows a projection for climate change up to 2070-2125, this includes the Flood Zones plus climate change data (indicated in orange in **Figure 2**). This new climate change projection shows how the combined extent of Flood Zones 2 and 3 could increase with climate change over the next century, ignoring the benefits of any existing flood defences. The site is also identified to be within Flood Zone 2 and 3 plus climate change (2070 – 2125) extent.

Environment Agency Data Review

The Environment Agency (EA) have provided their available Product 4 modelling outputs in relation to the wider site taken from the Mid Irwell model (2017). The data includes in-channel and onsite Top Water Levels (TWLs) at numerous node locations within the River Irwell, as well as predicted flood depth, level, velocity, and hazard outputs. As previously noted, the EA also provided the Holcrombe Brook (2009) model, however, upon review the outputs do not extend to the site itself. This assessment therefore focuses only on the outputs provided from the Mid Irwell model.

Whilst the Flood Map for Planning does not identify any formal, EA maintained flood defences, review of the AIMS spatial flood defences dataset has identified natural high ground' along the left and right banks of the River Irwell. These are noted to be maintained by 'private individual, company or charity'. For this assessment, the defended scenario has therefore been considered appropriate.

A range of Annual Exceedance Probability (AEP) events have been simulated for the defended scenario, and this assessment will therefore consider the 1 in 20yr, 1 in 100yr, and 1 in 100yr + 35% climate change allowance return period events. The 1 in 100yr + 35% climate change allowance return period event has been considered, in accordance with the central allowance for the Irwell Management Catchment, as required by the EA. In this instance, it is also noted that the 1 in 1000yr return period event is not available for review.

Review of the 1 in 20yr return period event has identified minor encroachment onto the southern boundary of the site. As illustrated within **Figure 3** overleaf (full depth and level plans within **Appendix E**), the existing residential dwelling, and the proposed dwelling are situated wholly outside of the predicted extent. Within the Greater Manchester Combined Authority Strategic Flood Risk Assessment (SFRA), this event is utilised to delineate the extent of Flood Zone 3b, otherwise referred to as 'functional floodplain'. It is therefore concluded that the proposed extension will not be situated within the extent of Flood Zone 3b.

Based on the as-built drawing (document ref.: 'As built floor plans 2 699L (00) 015'), prepared as part of a previous planning application for the change of house type for the existing dwelling (planning ref.: 58230), the Finished Floor Level (FFL) of the existing dwelling is 600mm above the external levels. This has been verified on-site by the applicant and has not been amended since. Utilising LiDAR data, the existing ground level at the front of the property is identified to be 103.17mAOD. The existing FFL is therefore estimated at 103.77mAOD.



Figure 3: Defended Fluvial 1 in 20yr Flood Level (Betts Hydro, 2026)

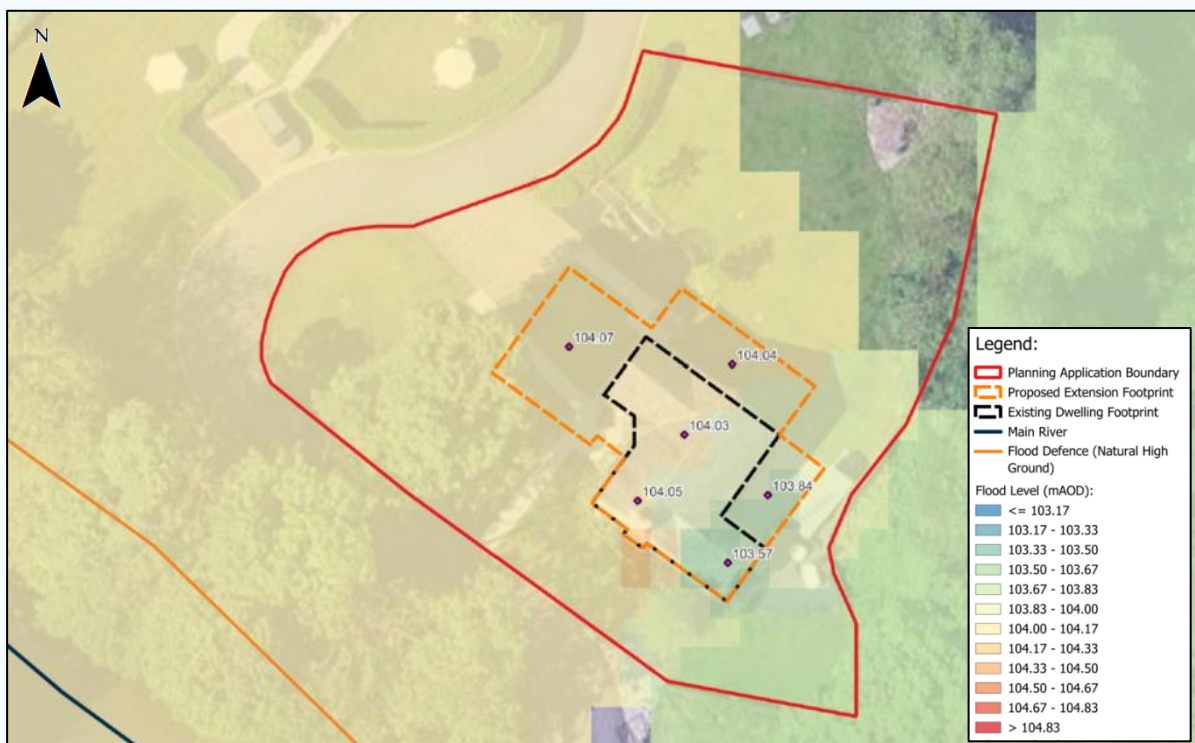


Figure 4: Defended Fluvial 1 in 100yr + 35% CC Flood Level (Betts Hydro, 2026)

Review of the 1 in 100yr, and 1 in 100yr + 35% climate change allowance return period events has however identified greater encroachment onto the site itself. This is shown to impact both the existing dwelling, and the locations of the proposed extensions. In The predicted Top Water Level for the 1 in 100yr event is 103.43mAOD, and 104.07mAOD during the 1 in 100yr + 35% climate change return period event (as illustrated within **Figure 4** shown previously). There would therefore be no internal flooding in the 1 in 100yr return period event, and approximately 300mm during the 1 in 100yr + 35% climate change return period event.

Whilst detailed outputs have not been provided for the 1 in 1000yr return period event, the EA have provided an in-channel level for this event within the Product 4 dataset. The predicted in-channel level at Node 7 (nearest upstream node to the proposals) is 104.30mAOD. This would result in potential internal flood depths of upto 530mm (based on the estimated existing FFL of 103.77mAOD).

Blockage Scenario

The EA have also provided 75% blockage scenarios for three bridges, which are the Irwell Vale Bridge, the Lumb Bridge, and Ramsbottom Bridge. Review of the worst-case provided (1 in 100yr return period event) for each, the predicted TWLs do not exceed those identified for the defended fluvial 1 in 100yr + 35% climate change return period event (see blockage scenario flood depth plans within **Appendix F**). Therefore, the mitigation discussed subsequently for the design event will also safeguard for the residual risk identified in the less extreme, blockage scenarios.

Displacement

The proposed extension is to that of an existing dwelling, which is wholly located within Flood Zone 3a at present. The proposal does not introduce new development into previously undeveloped floodplain but instead represents an extension to an established built form within an existing residential curtilage.

The extension comprises a combined additional footprint of 200m². As discussed, the maximum flood depth (observing a conservative approach, as depths decrease generally west to east) is approximately 1.08m (1 in 100yr + 35% climate change event). An estimated maximum of 216m³ would therefore be displaced as a result of the proposed extensions.

The existing dwelling and surrounding residential curtilage are already located within the same Flood Zone 3a extent and are subject to flooding during the design event. The proposed extension will not encroach into an area of functional floodplain (Flood Zone 3b). Flood flow routing is also not anticipated to be obstructed by the proposed extensions. At present, it is understood based on a review of the topography that flows would follow the topography around the dwelling to its north and south, toward The Island (road) where levels are lowest (~102.9mAOD). Whilst the extension extends further north, levels are such that floodwater can continue to route in this manner. The displaced floodwater would remain connected to the wider floodplain and would be redistributed within the existing inundated area, which is noted to remain relatively flat at around 103-104mAOD.

The surrounding area of flood inundation is approximately 0.829 hectares. If the conservative displaced volume of approximately 216m³ were distributed uniformly across this area, the potential increase in flood depth would be approximately 26mm. Given that this change would occur within an area that is already shown to be inundated during the design flood event, together with the existing connectivity of the site to the wider floodplain and the absence of obstruction to flood conveyance routes, the proposed development is not anticipated to result in a measurable increase in flood levels or flood risk elsewhere.

Mitigation Measures

Given the nature of the proposals, it is not possible to raise the FFL above that of the existing above the TWL in the design event (1 in 100yr + 35% climate change). The proposals are therefore to set the FFL for the proposed extension to match the existing (estimated at 103.77mAOD).

As there is potential for flood depths of upto 300mm in the 1 in 100yr + 35% climate change event, and upto 530mm in the 1 in 1000yr return period event, further mitigation is proposed in the form of flood resilience and resistance measures. These should be incorporated upto 600mm above the proposed estimated FFL of 103.77mAOD (to a level of 103.47mAOD).

These measures will include the use of materials and design to lessen the potential for damage internally, for example by using flood resilient skirting boards and walls upto 600mm. The proposals will also include raised electrical sockets and appliances (where required), and the use of water resistant finishes and membranes. It is also noted that all bedrooms are located on the first floor, which will be located above the TWL in all key design events.

Safe access and egress will have been considered in accordance with government advice when planning permission was granted for The Island development. Access to The Island is via a private road that crosses the River Irwell, and although this route may become inaccessible during significant flood events, residents will mitigate this using EA flood warnings and by maintaining a personal flood plan. Emergency preparations, such as having essential items and evacuation information readily available, will further enhance safety during any potential flood scenario. The applicant has confirmed that such measures are already in place.

RESERVOIR FLOOD RISK REVIEW

The EA recognises reservoirs as bodies of water over 25,000cu.m and the long-term flood mapping is included in Appendix B. The mapping shows that the site is susceptible to flooding should a failure occur in the nearby reservoir when river levels are normal (see extract in **Figure 5**).

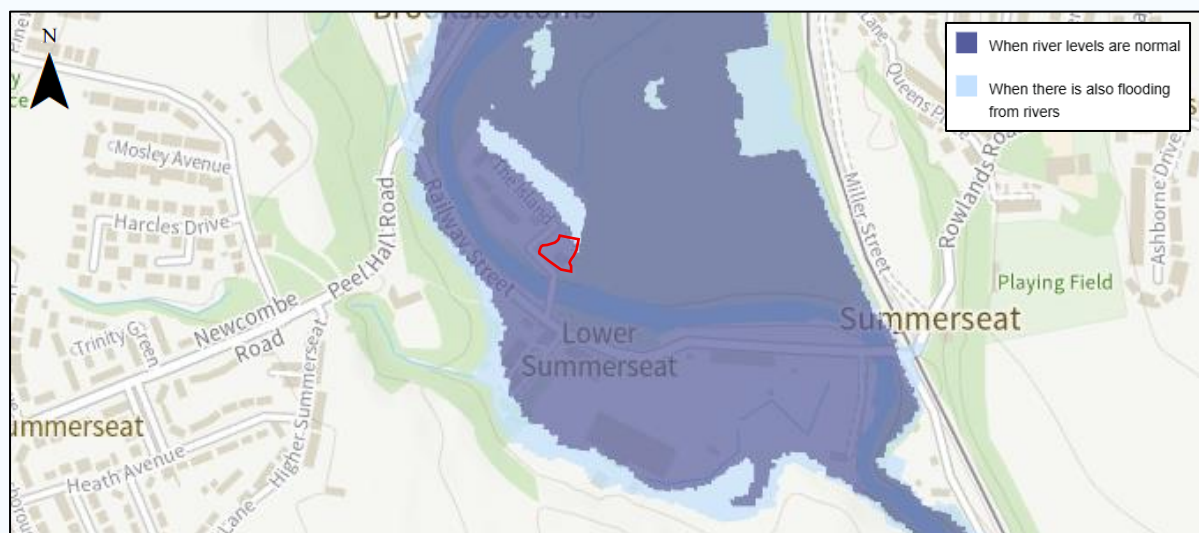


Figure 5: Long-term Flood Risk Mapping – Reservoirs (Betts Hydro, 2026)

The Reservoirs Act 1975 means that the EA ensures reservoirs (over 25,000cu.m) are regularly inspected and safety work is carried out thus meaning a failure or breach in one of these assets is highly unlikely.

The risk from reservoir flooding is to be considered residual, given the management and maintenance associated with this nature of risk.

Very few catastrophic dam failures have occurred in Great Britain, and there has been no loss of life due to dam disasters in the UK since 1925. The risk in this case can be distinguished from the risk associated with a reservoir in private ownership where the maintenance regime is arguably less well known.

Although reservoir flooding is highly unlikely, if a failure was to occur there would be little or no warning and therefore preparedness is key to ensure resilience. In the case of emergency, the Lead Local Flood Authority (LLFA) often prepare emergency plans in collaboration with the EA and other stakeholders to assist with improving community resilience to residual risks such as reservoir flooding. It is advised, however, that residents prepare a personalised Flood Plan detailing the procedures and important measures to take in the event of a flooding incident which could potentially impact on the site. As noted previously, the applicant has confirmed that such measures are already in place.

No historical flooding at or directly adjacent to the development site due to reservoir flooding has been identified as part of this assessment. Irrespective, the external levels will fall away from the proposed buildings, to minimise the flood risk from a variety of sources. Keeping the FFLs elevated relative to the externals will create a safe external overland flood flow route in the event of a breach or any other source of reservoir flooding.

CONCLUSIONS

This focused Flood Risk Assessment has identified that the primary flood risk to the site and the proposals would be from fluvial flooding, based on the available information. Appropriate mitigation measures are proposed, including matching the existing FFL of the property, and implementing flood resilience and resistance measures. Due consideration has also been given to displacement, and flood flow routing. Ultimately, flows are not anticipated to be impeded, and whilst minor displacement will occur, this is not anticipated to result in a measurable increase in flood risk elsewhere.

I trust you will find the above of assistance, however, if you have any queries or require further information, please do not hesitate to contact me.

Yours sincerely,



Flood Risk Analyst
BETTS HYDRO

Attached:

Appendix A – Location Plan
Appendix B – Existing and Proposed Floor Plans
Appendix C – SFRA Mapping Extracts
Appendix D – Environment Agency Consultation and Data
Appendix E – Defended Flood Depth and Level Plans
Appendix F – Blockage Scenario Level Plans

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Appendix A – Location Plan

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LOCATION PLAN

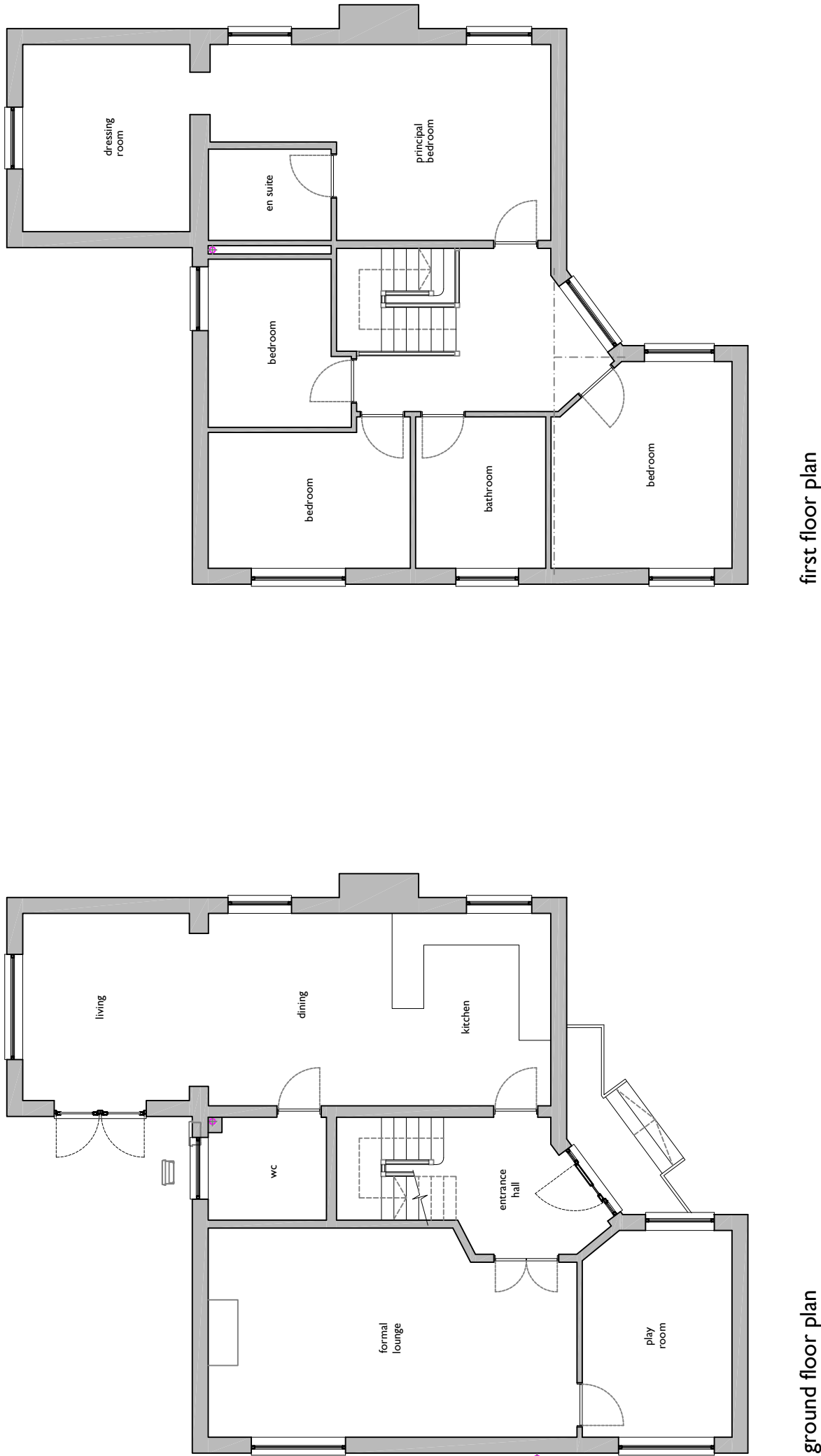
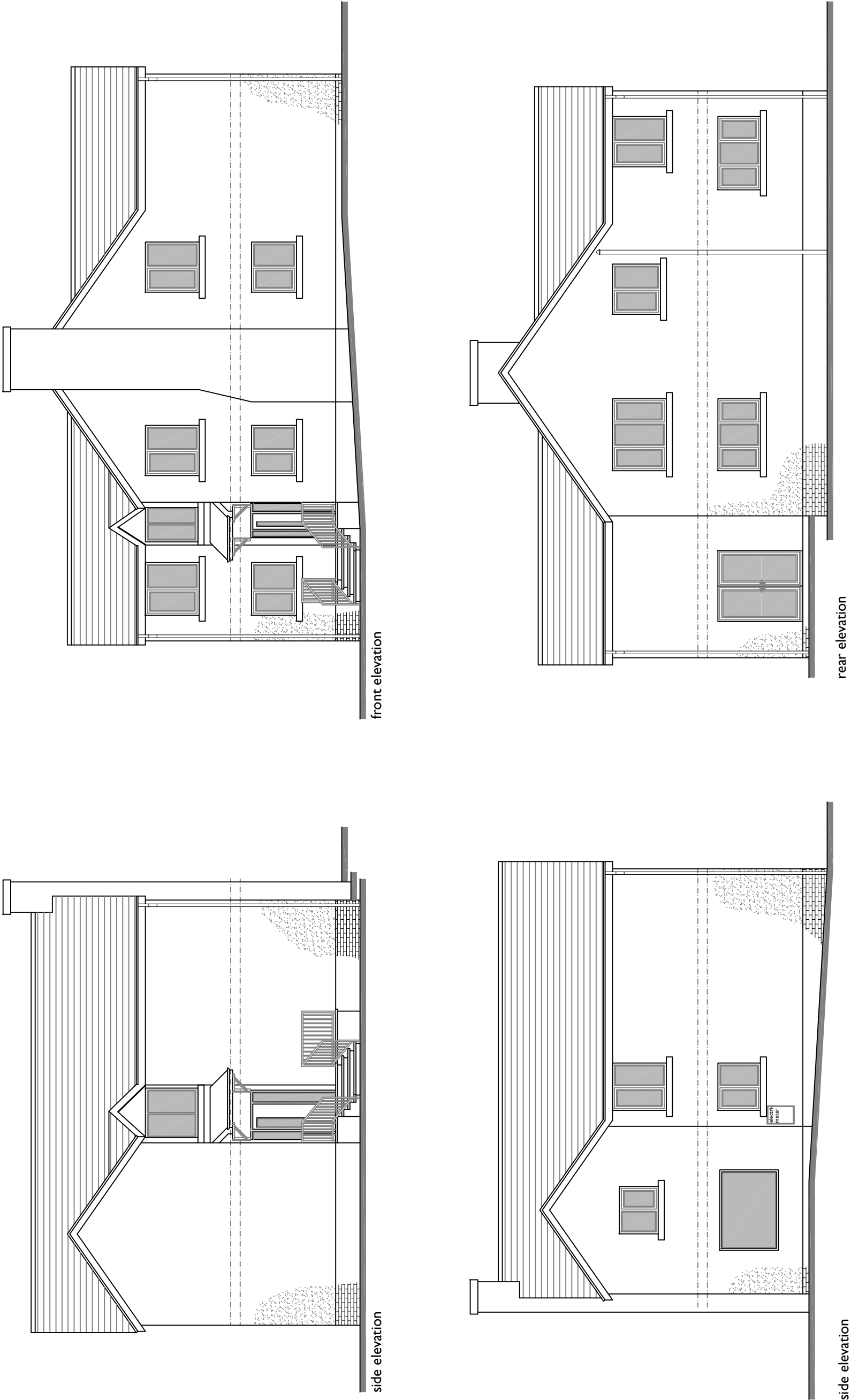
No. 2, The Island, Summerseat



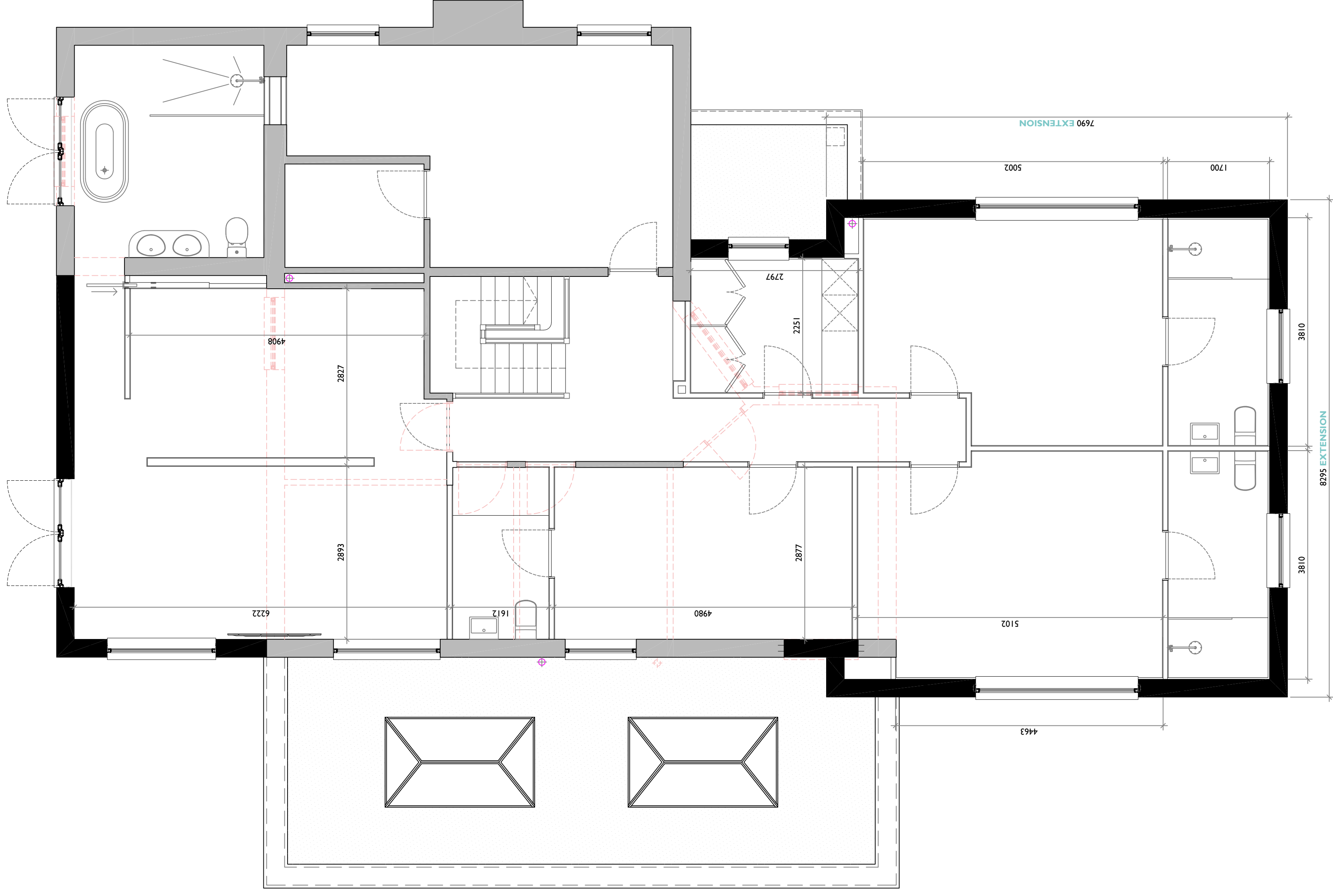
OS X (Easting)	379051
OS Y (Northing)	414679
Nat Grid	SD790146 / SD7905114679
Nearest Post Code	BL9 5QJ
Lat (WGS84)	N53:37:42 (53.628217456136774)
Long (WGS84)	W2:19:06 (-2.3182398197224185)
Lat,Long (WGS84)	53.628217456136774,-2.3182398197224185
Lat (OSGB36)	N53:37:41 (53.6279876988661)
Long (OSGB36)	W2:19:00 (-2.3168038159182167)
Lat,Long (OSGB36)	53.6279876988661,-2.3168038159182

Appendix B – Existing and Proposed Floor Plans

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- red dashed lines indicate extent of existing construction to be removed
- grey shaded areas indicate extent of existing construction to be retained
- black solid areas indicate extent of new external wall structures



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Appendix C – SFRA Mapping Extracts

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LEVEL 1 STRATEGIC FLOOD RISK ASSESSMENT

For
BURY BOROUGH COUNCIL

Please select a data type from the dropdown menu below that you wish to view:

Historic Flooding

Watercourse

Proposed Development Sites

GMSF 2019 Strategic Locations

2018 Call for Sites

2018 Baseline Land Supply 2019 GMSF Allocations

Residential

Industry / Warehousing

Offices

Mixed Use

Historic Flood Map (EA)

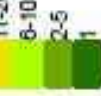
Historical Surface Hotspots (Council)

Surface Water Hotspots (GM SWMP 2013)

Historic canal overtopping (C&RT)

Historic canal breach (C&RT)

Incidents of sewer flooding (IU)

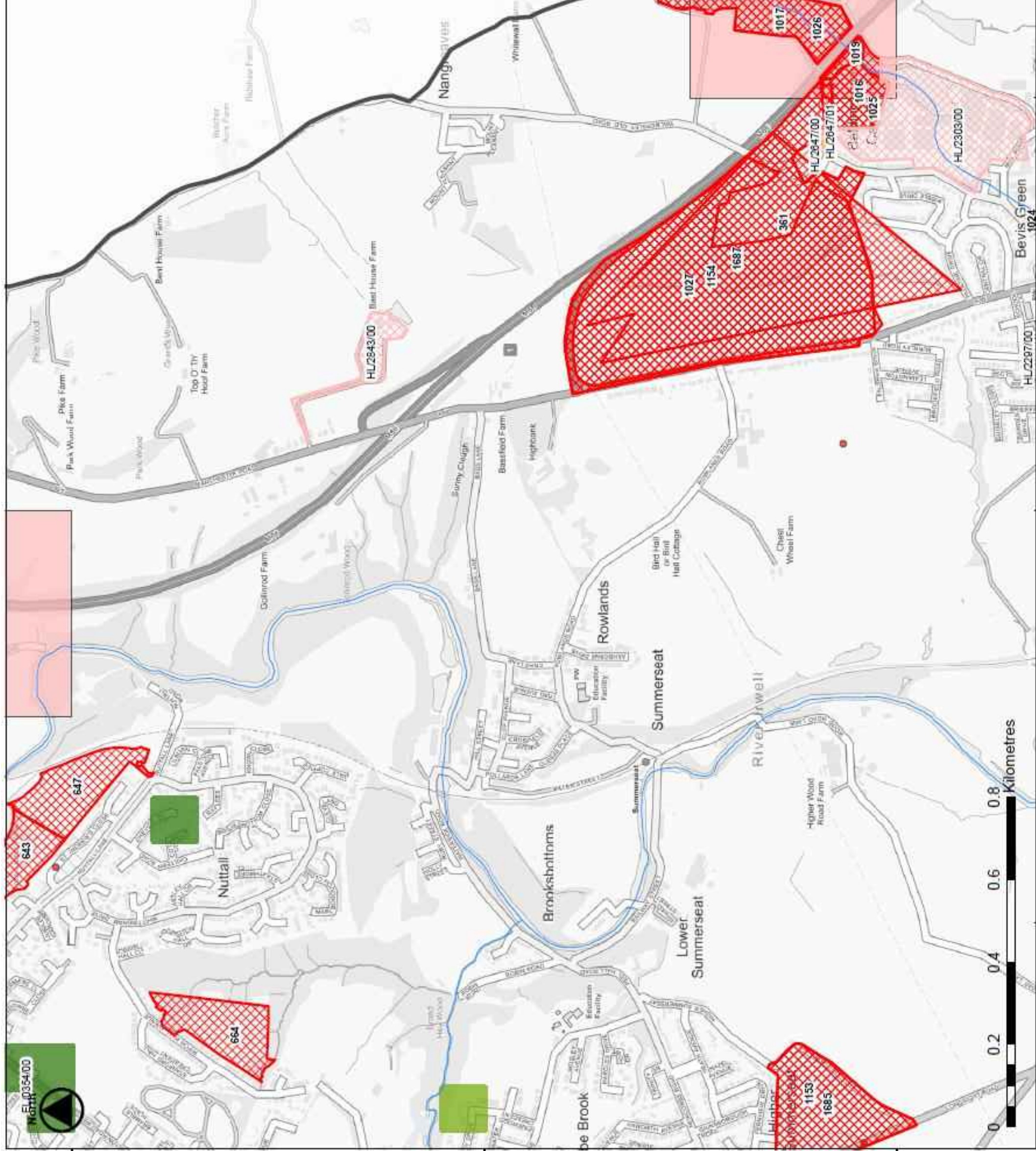


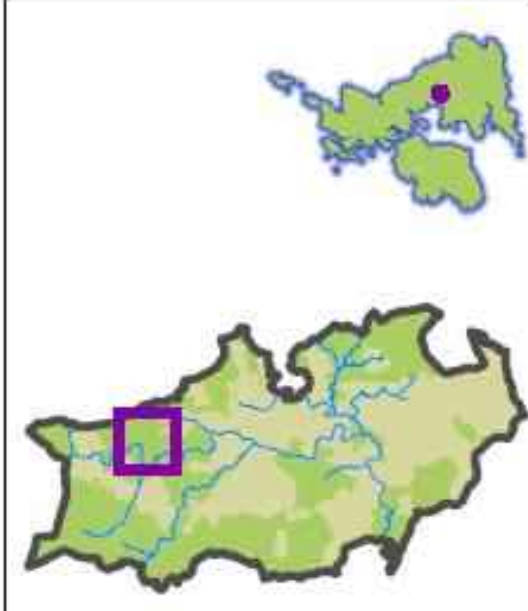
☒ Show Site

☐ Reference Labels



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LEVEL 1
STRATEGIC FLOOD RISK ASSESSMENT
For
BURY BOROUGH COUNCIL

Please select a data type from the dropdown menu below that you wish to view:

Risk of Flooding from Surface Water

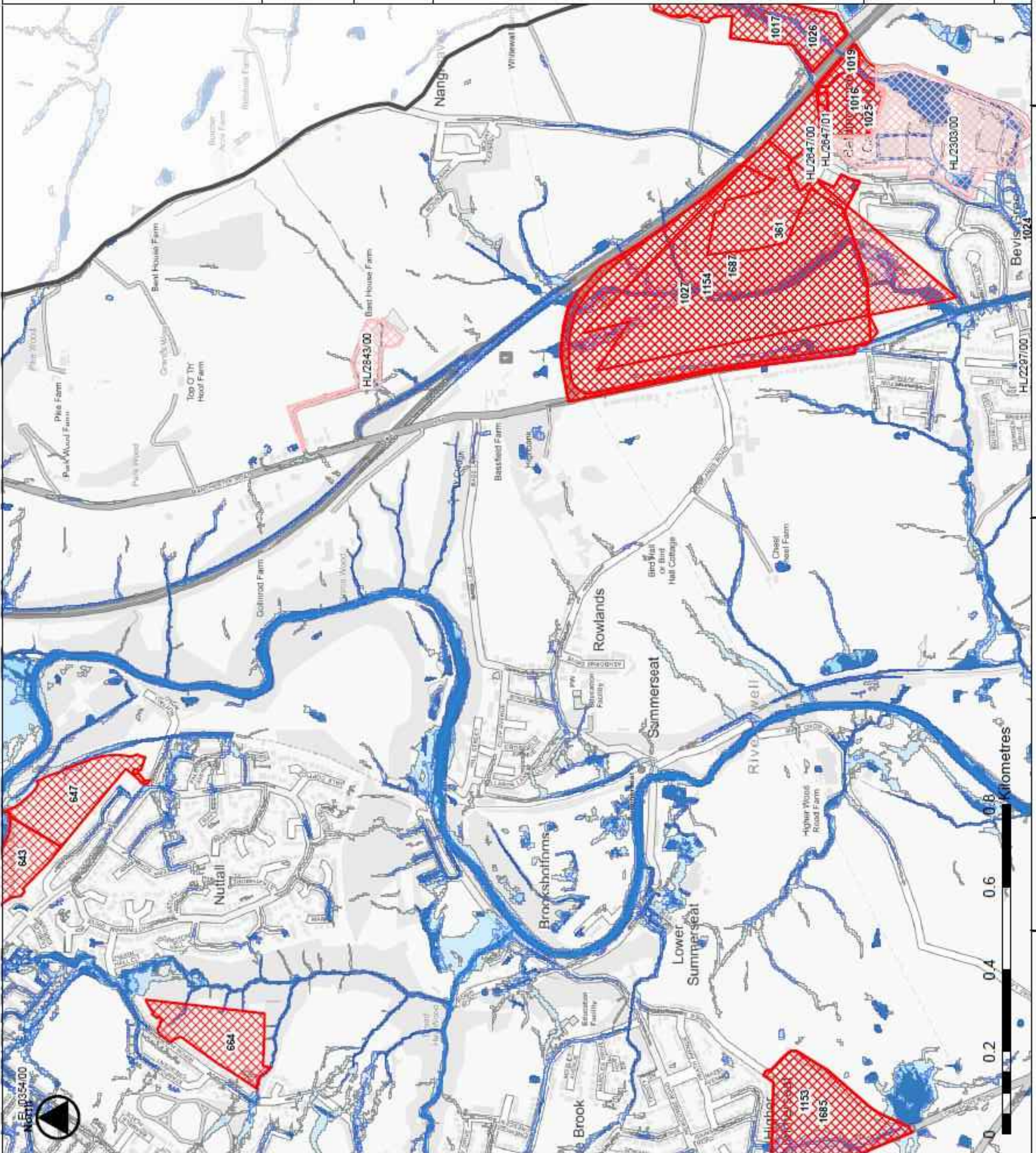
Proposed Development Sites

- GMSF 2019 Strategic Locations**
- 2018 Call for Sites**
- 2018 Baseline Land Supply 2019 GMSF Allocations**
- Residential**
- Industry / Warehousing**
- Offices**
- Mixed Use**

Risk Legend:

- High Risk**
- Medium Risk**
- Low Risk**

☒ **Show Site**
☐ **Reference Labels**





LEVEL 1 STRATEGIC FLOOD RISK ASSESSMENT

For
BURY BOROUGH COUNCIL

Please select a data type from the dropdown menu below that you wish to view:

Risk of Flooding from Rivers & Sea

Watercourse

Proposed Development Sites

GMSF 2019 Strategic Locations

2018 Call for Sites

2018 Baseline Land Supply 2019 GMSF Allocations

Residential

Industry / Warehousing

Offices

Mixed Use

High Risk

Low Risk

Medium Risk

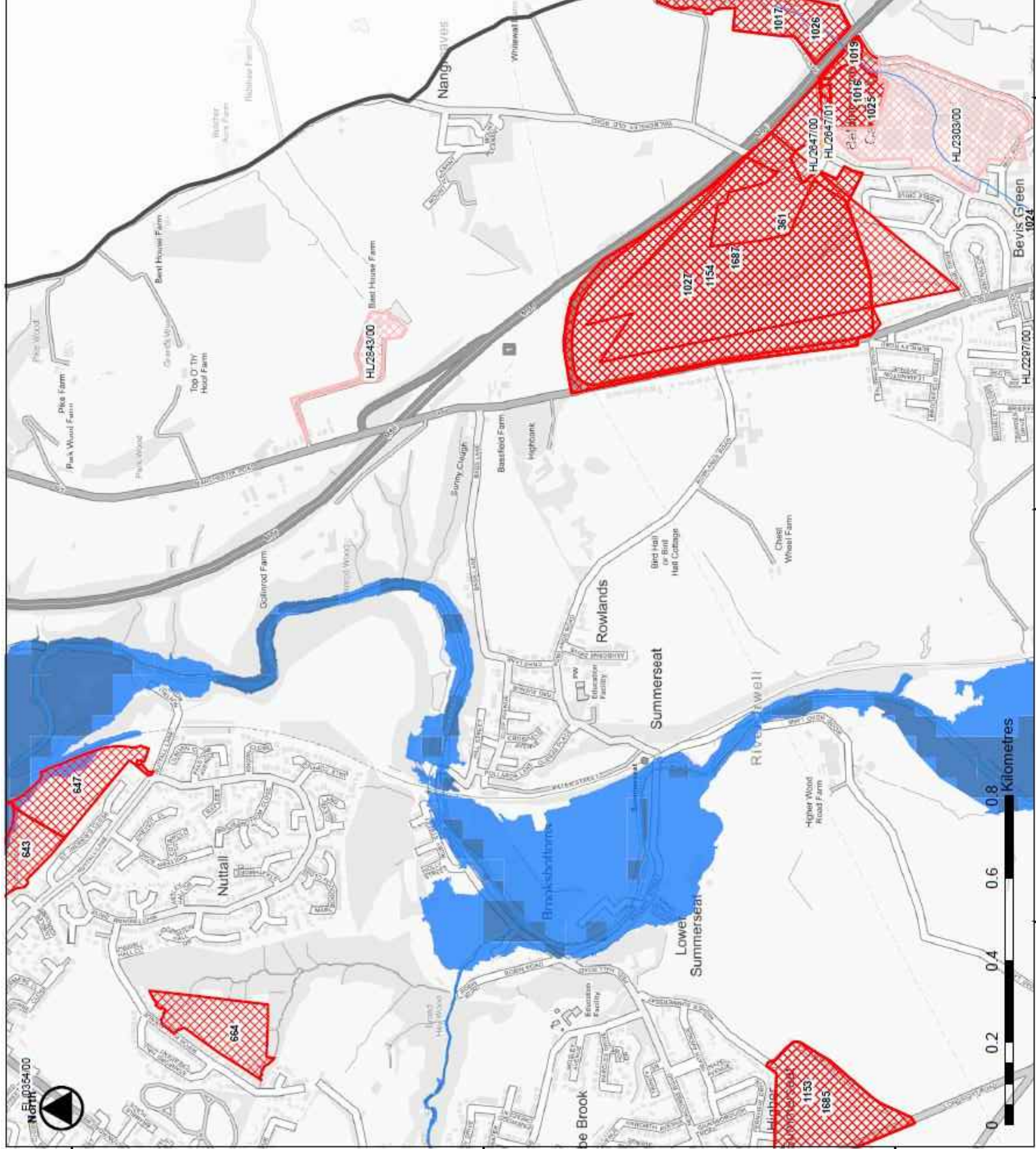
Very Low Risk

☒ Show Site

☐ Reference Labels



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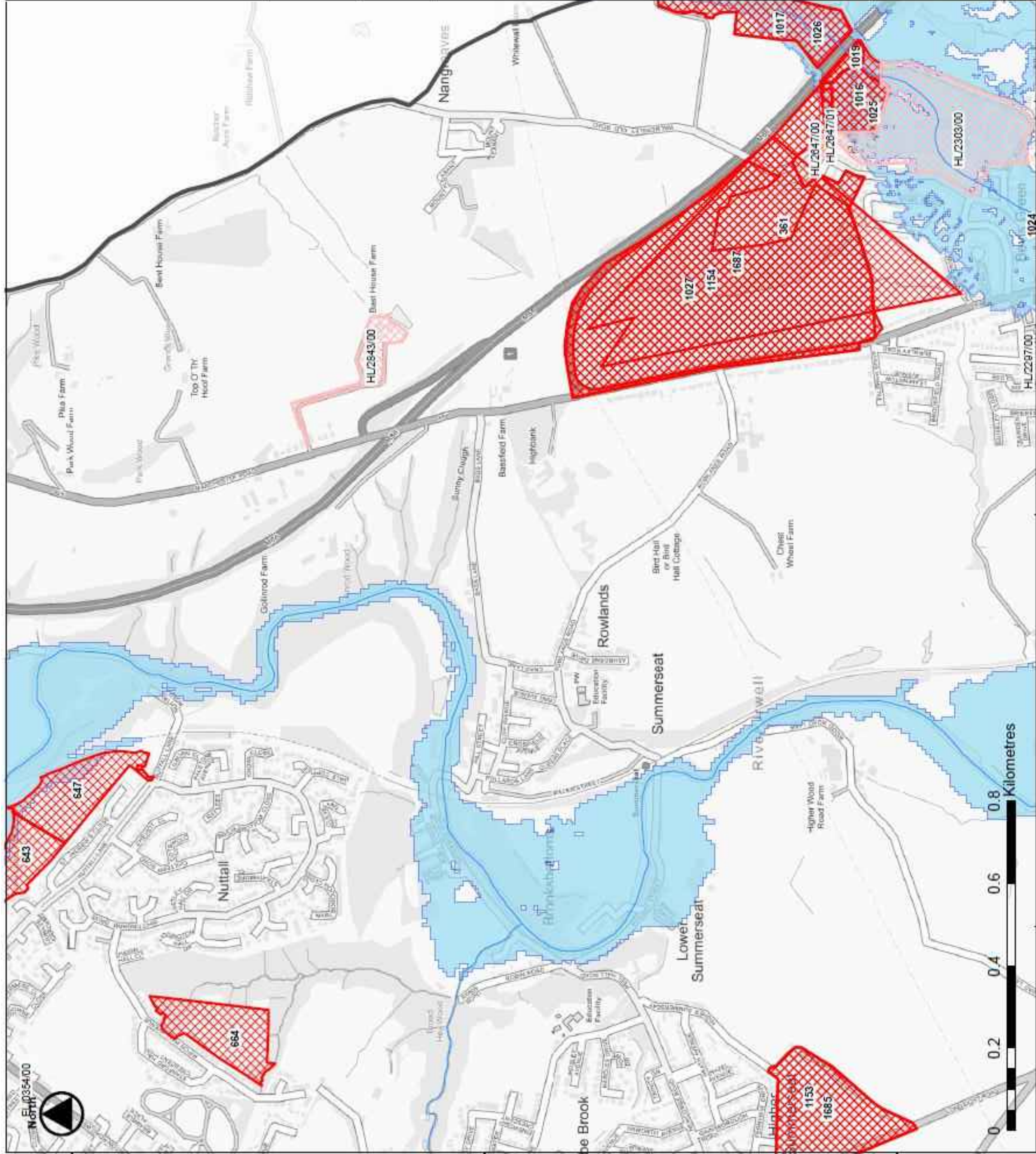


LEVEL 1
STRATEGIC FLOOD RISK ASSESSMENT
For
BURY BOROUGH COUNCIL

Please select a data type from the dropdown menu below that you wish to view:
Reservoir Extent (EA)

- Proposed Development Sites**
- Watercourse
 - GMSF 2019 Strategic Locations
 - 2018 Call for Sites
 - 2018 Baseline Land Supply 2019 GMSF Allocations
 - Residential
 - Industry / Warehousing
 - Offices
 - Mixed Use
 - Reservoir Extent (EA)

☒ Show Site
☐ Reference Labels



Appendix D – Environment Agency Consultation and Data

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Hannah Buchanan

From: Greater Manchester, Merseyside and Cheshire Enquiries
<inforequests.gmmc@environment-agency.gov.uk>
Sent: 03 June 2026 12:42
To: Hannah Buchanan
Subject: Request for information - Ref: EIR2026/26261 [Filed 24 Jun 2026 22:58]
Attachments: E5F43EUAW9VA.pdf
Categories: Filed by Mail Manager

Our ref: EIR2026/26261

Your ref:

Dear Hannah Buchanan,

I am writing in response to your request for information, received 2 June 2026 regarding Request for Flood risk assessment data (product 4). Customer request reference E5F43EUAW9VA.

I enclose the data requested, please see supporting comments from my colleague.

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

The area was previously flooded in: December 2015

There are no flood defences in the vicinity of the site.

We recommend that you also contact United Utilities and Lead Local Flood Authority Bury District Council,

who may hold additional information (the former especially in relation to sewer flooding).

Lead Local Flood Authority Bury District Council is responsible for issues relating to surface water and hold information on surface water flooding.

For further surface information: [Surface water map - Check your long term flood risk - GOV.UK](#)

For further information on your property's flood risk, visit:

Check Your Long Term Flood Risk: [Check the long term flood risk for an area in England - GOV.UK](#)

Check for Flooding: [Check for flooding in England - GOV.UK](#)

Sign up for flood warnings: [Get flood warnings](#)

Flood Map for Planning: <https://flood-map-for-planning.service.gov.uk/>

For additional flood risk information, advice and support in your area, please visit:
<https://thefloodhub.co.uk/>

For more information on how the rivers and sea dataset is used and its limitations, we recommend you visit [How to use rivers and sea data - Flood map for planning - GOV.UK](#)

Please can you advise that the link will expire in **30 days** from **03/07/26**.

It is therefore advisable that the client saves this data to their own system.

Hi,

I have shared files with you, please click on the button below to download.

File name	Size
2009_HolcombeBrook_ MapEdit.zip	136 kB
2017_MidIrwell_GeoTIFF' s.zip	232 MB
2017_MidIrwell_ MapEdit.zip	1.3 MB
2009_HolcombeBrook_ Model.zip	613 kB
2009_HolcombeBrook_GeoTIFF' s.zip	788 kB
2017_Mid Irwell Model (Final).zip	20 MB
2017_MidIrwell_ Reports.zip	25 MB
2009_HolcombeBrook_ Report.zip	1.2 MB

[Download Files](#)

Product 6

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1.

1. You may use the Information for your internal or personal purposes and may only sublicense others to use it if you do so under a written licence which includes the terms of these conditions and the agreement and in particular may not allow any period of use longer than the period licensed to you.
2. Notwithstanding the fact that the standard wording of the Environment Agency Conditional Licence indicates that it is perpetual, this Licence has a limited duration of 5 years at the end of which it will terminate automatically without notice.
3. We have restricted use of the Information as a result of legal restrictions placed upon us to protect the rights or confidentiality of others. In this instance it is because of third party data. If you contact us in writing (this includes email) we will, as far as confidentiality rules allow, provide you with details including, if available, how you might seek permission from a third party to extend your use rights.

1.

1. The Information may contain some data that we believe is within the definition of “personal data” under the Data Protection Act 1998 but we consider that we will not be in breach of the Act if we disclose it to you with conditions set out in this condition and the conditions above. This personal data comprises names of individuals or commentary relating to property that may be owned by an individual or commentary relating to the activities of an individual.

2. Under the Act a person who holds and uses or passes to others personal data is responsible for any compliance with the Act and so we have no option but to warn you that this means you have responsibility to check that you are compliant with the Act in respect of this personal data.

5 The location of public water supply abstraction sources must not be published to a resolution more detailed than 1km2. Information about the operation of flood assets should not be published.

6 .1 Where we have supplied model data which may include model inputs or outputs you agree to supply to the Environment Agency copies of any assessments/studies and related outputs, modifications or derivatives created pursuant to the supply to you of the Information, all of which are hereinafter referred to as “the Data”.

6.2 You agree, in the public interest to grant to the Environment Agency a perpetual royalty free non-exclusive licence to use the Data or any part thereof for its internal purposes or to use it in any way as part of Environment Agency derivative products which it supplies free of charge to others such as incorporation into the Environment Agency's Open Data mapping products.

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Please get in touch if you have any further queries or contact us within two months if you'd like us to review the information we have sent.

Yours sincerely,

Sarah Walters

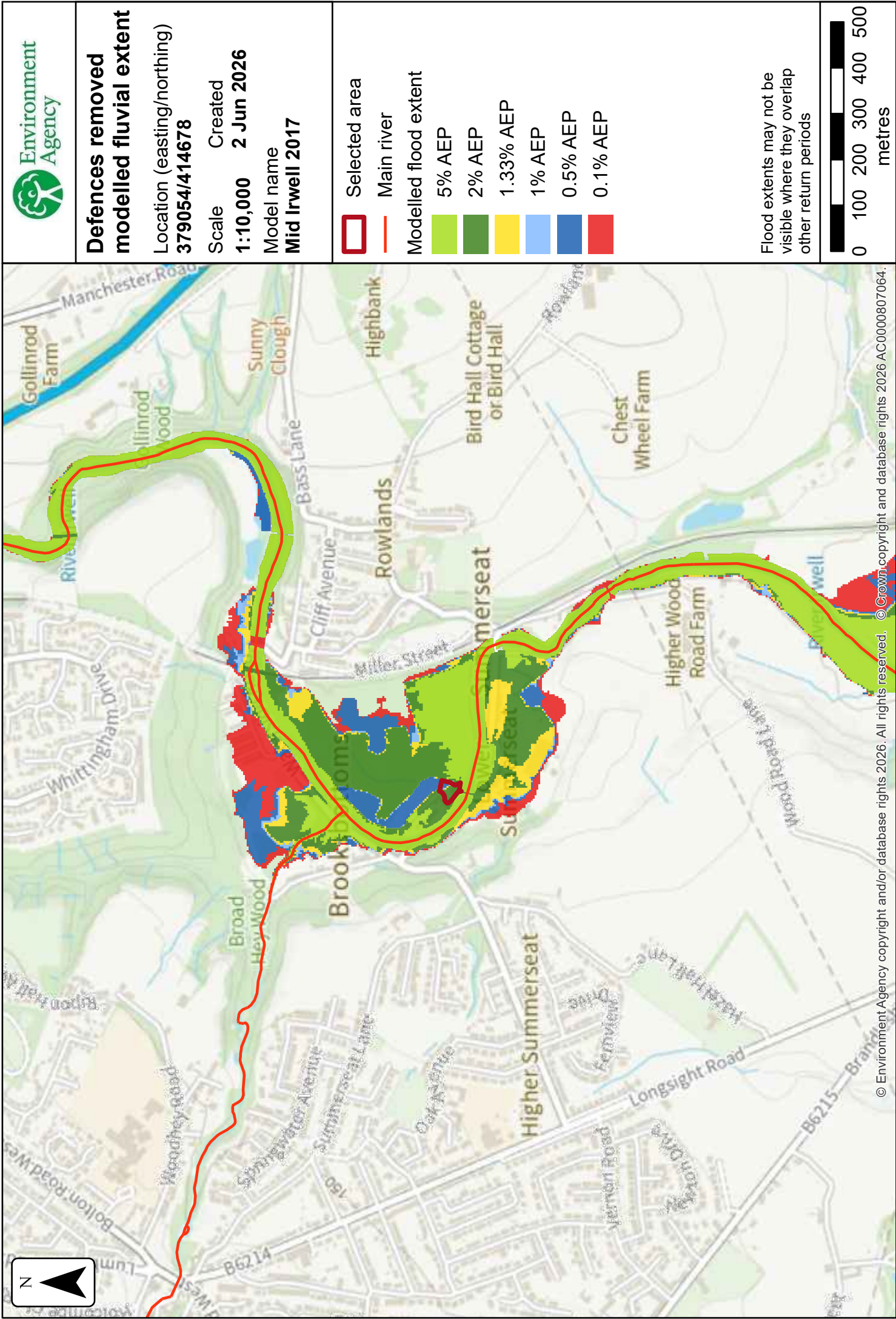
GMMC Area Customers and Engagement Team

Environment Agency

Please tell us how we did

To help improve your experience as a customer we are currently gathering feedback. If you would like to take part in a short customer satisfaction survey, please click the link below:

[Environment Agency FOI Customer Satisfaction Survey](#)





Defended
climate change
modelled fluvial extent

Location (easting/northing)
379054/414678

Scale
1:10,000

Created
2 Jun 2026

Model name
Mid Irwell 2017

 Selected area

 Main river

Modelled flood extent

 1% AEP (+30%)

 1% AEP (+35%)

 1% AEP (+70%)

 0.1% AEP (+20%)

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

0

100

200

300

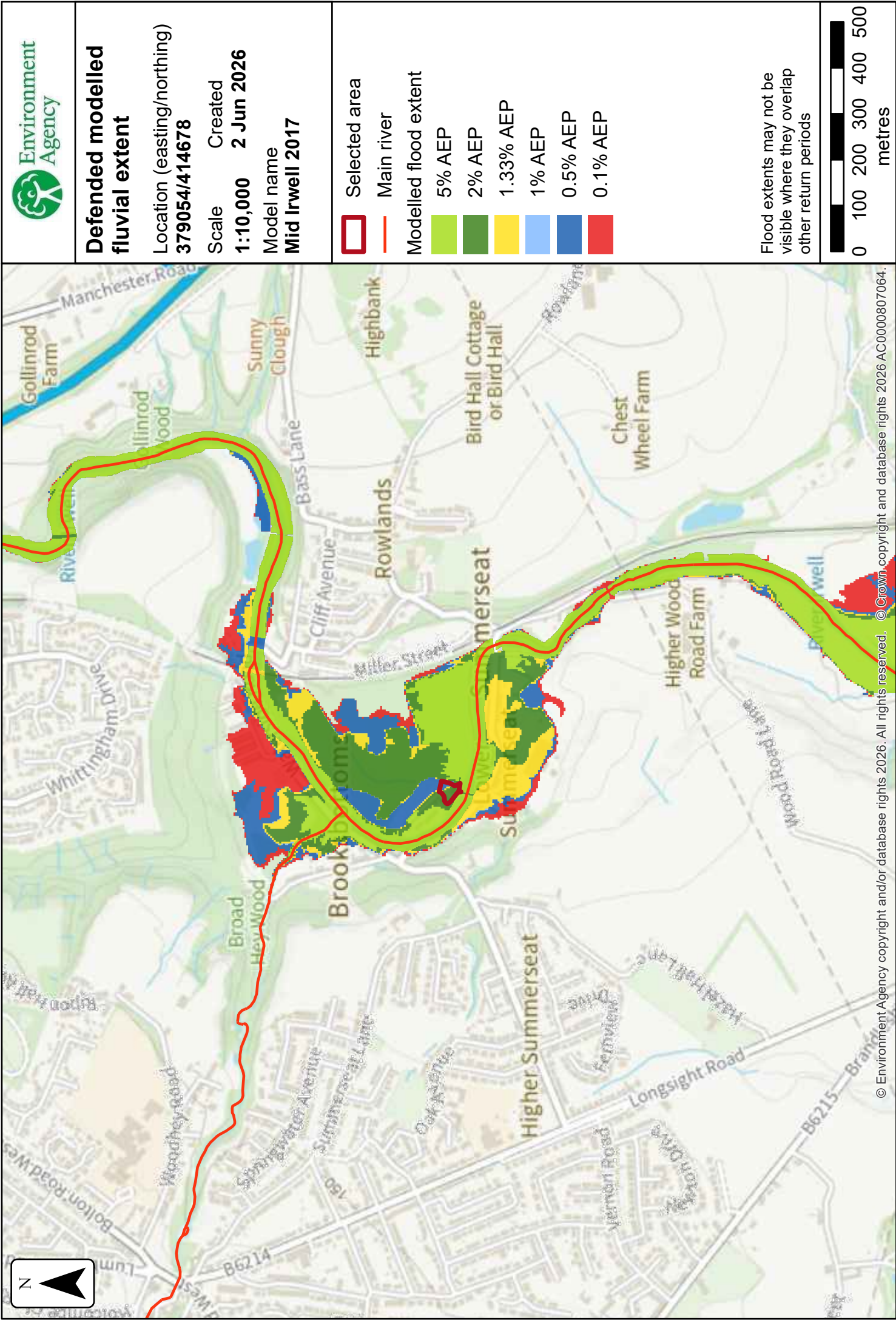
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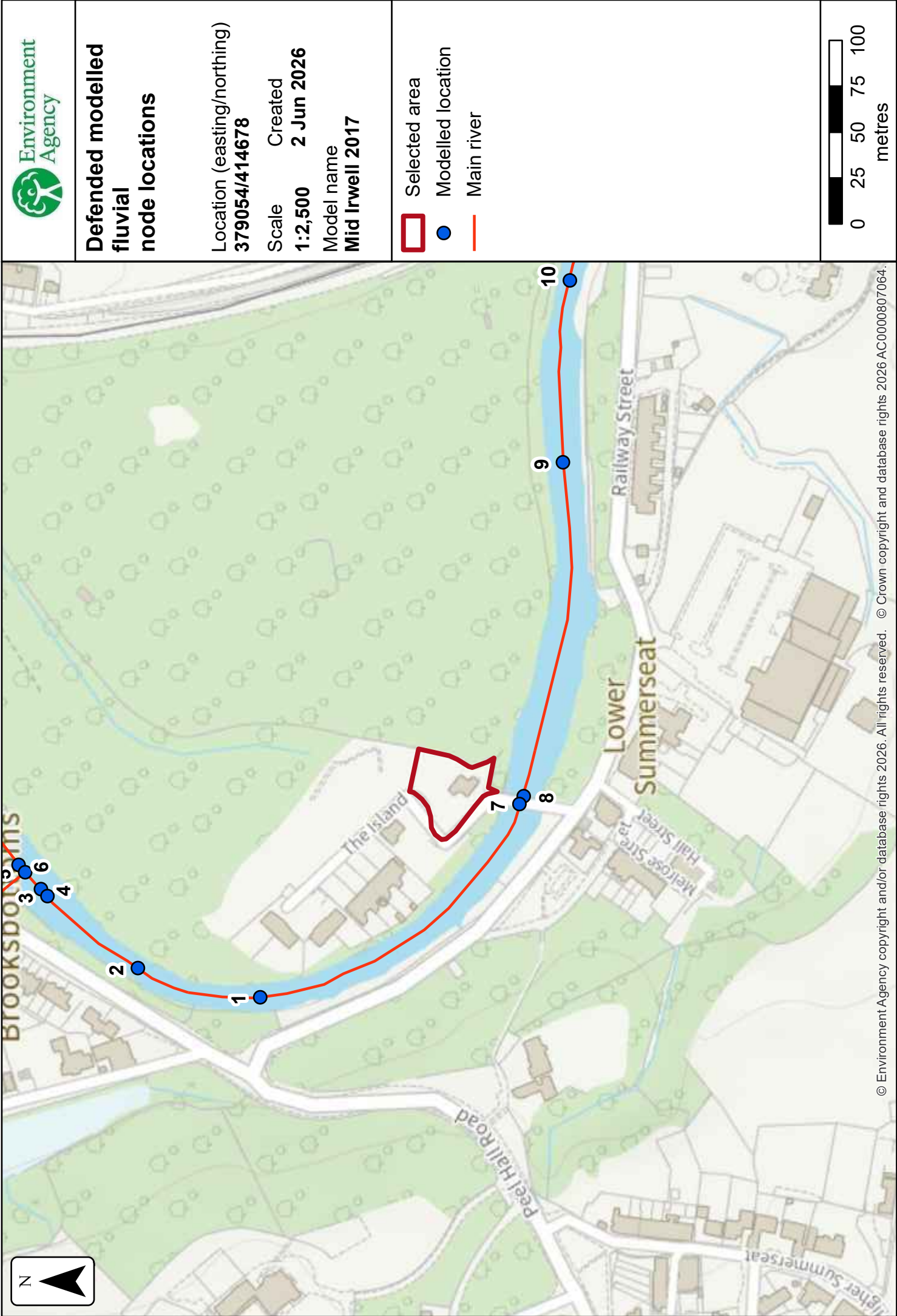
500

metres

The map displays a network of roads and rivers. A red line indicates the main river, and a red outline box marks the selected area. Flood extents are shown in four colors: light green for 1% AEP (+30%), dark green for 1% AEP (+35%), yellow for 1% AEP (+70%), and blue for 0.1% AEP (+20%). The map includes a north arrow and a scale bar.

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Modelled node locations data

Defended

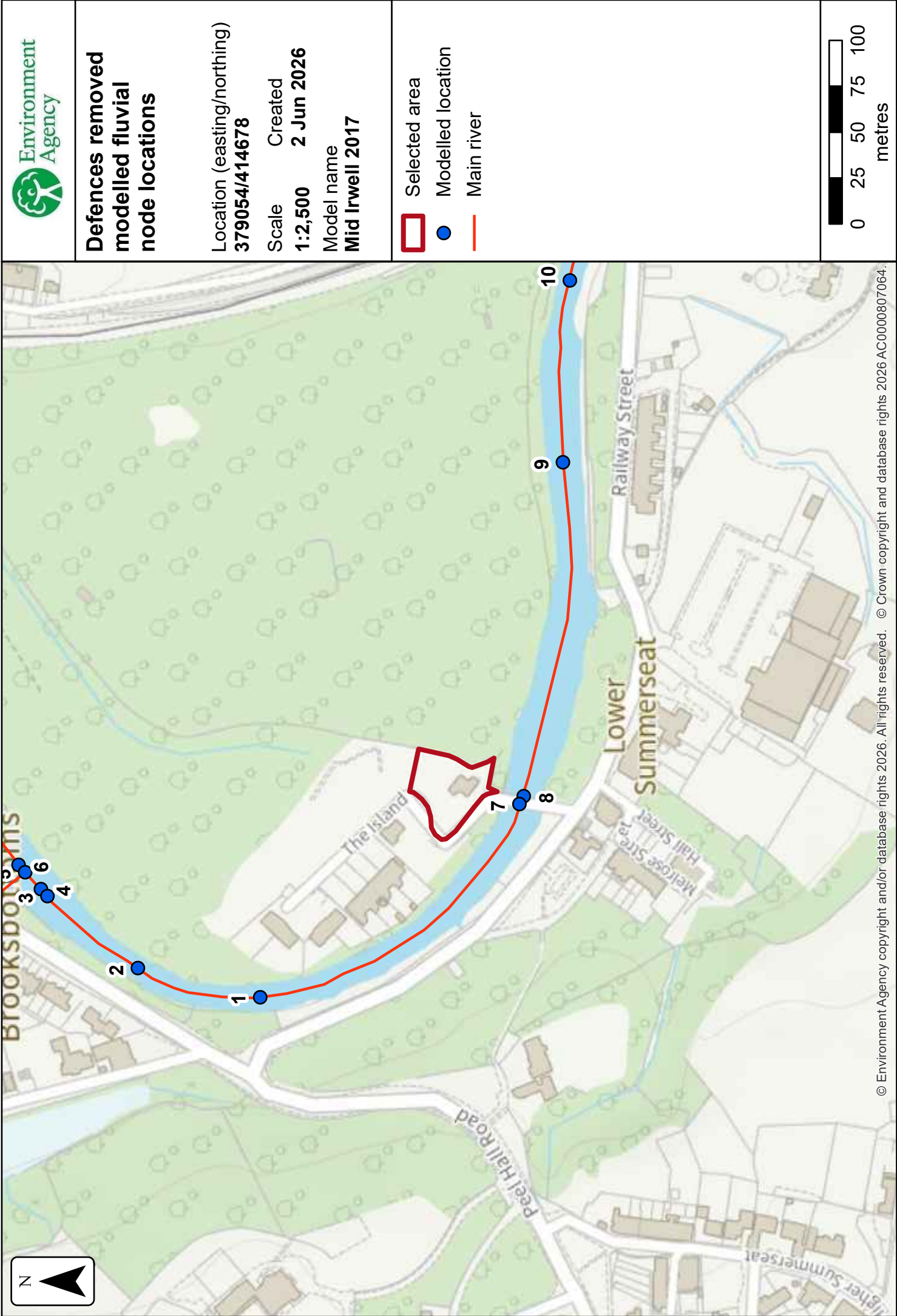
Label	Modelled location ID	Easting	Northing	50% AEP	10%	5%	4%	3.33% AEP	2%	1.33% AEP	1%	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1591977	378940	414781	101.89	102.33	102.71	103.05	103.17	103.29	103.60	103.75	103.76	104.21
2	1591929	378956	414847	102.21	102.69	103.10	103.45	103.56	103.69	103.98	104.13	104.15	104.70
3	1591854	378995	414896	102.40	102.87	103.27	103.63	103.74	103.86	104.19	104.36	104.38	104.97
4	1591679	378999	414900	102.61	103.10	103.51	103.85	103.96	104.07	104.37	104.53	104.55	105.12
5	1591850	379008	414909	102.65	103.14	103.55	103.92	104.04	104.15	104.44	104.59	104.61	105.12
6	1591595	379012	414912	102.83	103.32	103.73	104.08	104.19	104.30	104.57	104.71	104.74	105.26
7	1591539	379045	414639	101.35	101.81	102.16	102.48	102.59	102.71	103.05	103.26	103.29	104.30
8	1591947	379050	414637	101.24	101.67	102.0	102.30	102.39	102.48	102.70	102.83	102.84	104.08
9	1591739	379232	414616	100.66	101.13	101.49	101.84	101.97	102.12	102.49	102.66	102.71	104.05
10	1591894	379331	414612	100.26	100.74	101.12	101.50	101.63	101.77	102.14	102.35	102.43	103.99

Data in this table comes from the Mid Irwell 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.

Defended

Label	Modelled location ID	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
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1591977	378940	414781	108.29	142.66	171.22	200.01	210.11	220.43	243.52	257.78	263.76	292.08	333.63
2	1591929	378956	414847	108.26	142.63	171.19	199.52	208.01	216.53	236.19	250.35	255.62	278.60	311.30
3	1591854	378995	414896	108.22	142.60	171.17	197.46	205.31	212.46	226.48	235.35	240.40	257.04	283.99
4	1591679	378999	414900	108.22	142.60	171.17	197.46	205.31	212.46	226.48	235.35	240.40	257.04	283.99
5	1591850	379008	414909	108.21	142.47	169.38	190.79	197.52	203.93	217.81	228.19	234.52	257.18	291.71
6	1591595	379012	414912	102.53	135.16	162.39	181.33	187.54	193.90	206.71	214.83	220.18	242.13	274.64
7	1591539	379045	414639	108.37	142.74	171.31	200.06	210.27	221.11	246.13	256.39	261.35	270.15	274.37
8	1591947	379050	414637	108.37	142.74	171.31	200.06	210.27	221.11	246.13	256.39	261.35	270.15	274.37
9	1591739	379232	414616	108.45	142.82	171.34	198.54	205.64	211.05	219.69	226.34	229.64	233.48	238.11
10	1591894	379331	414612	108.51	142.89	171.40	200.02	210.17	220.82	244.11	252.45	253.74	255.96	258.67

Data in this table comes from the Mid Irwell 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.



Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	50% AEP	10%	5%	4%	3.33% AEP	2%	1.33% AEP	1%	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1591977	378940	414781	101.89	102.32	102.71	103.05	103.16	103.27	103.57	103.77	103.85	105.13
2	1591929	378956	414847	102.21	102.69	103.10	103.44	103.55	103.67	103.96	104.14	104.25	105.60
3	1591854	378995	414896	102.40	102.87	103.27	103.62	103.73	103.85	104.16	104.37	104.48	105.73
4	1591679	378999	414900	102.61	103.10	103.50	103.85	103.95	104.06	104.35	104.54	104.64	105.85
5	1591850	379008	414909	102.65	103.14	103.55	103.92	104.03	104.14	104.42	104.60	104.70	105.79
6	1591595	379012	414912	102.82	103.32	103.73	104.08	104.18	104.29	104.55	104.73	104.82	105.92
7	1591539	379045	414639	101.35	101.81	102.16	102.48	102.58	102.69	103.02	103.28	103.42	105.50
8	1591947	379050	414637	101.23	101.67	102.0	102.30	102.38	102.47	102.68	102.84	102.94	105.46
9	1591739	379232	414616	100.66	101.13	101.49	101.84	101.96	102.10	102.47	102.69	102.83	105.46
10	1591894	379331	414612	100.26	100.74	101.12	101.49	101.62	101.75	102.12	102.39	102.61	105.28

Data in this table comes from the Mid Irwell 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.

Defences removed

Label	Modelled location ID	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
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1591977	378940	414781	107.94	142.63	171.17	199.58	209.20	219.09	241.33	259.39	271.04	290.29	403.19
2	1591929	378956	414847	107.92	142.60	171.15	199.14	207.23	215.42	234.40	251.54	260.70	276.94	338.99
3	1591854	378995	414896	107.88	142.58	171.12	197.12	204.60	211.52	225.06	236.31	243.74	255.68	321.11
4	1591679	378999	414900	107.88	142.58	171.12	197.12	204.60	211.52	225.06	236.31	243.74	255.68	321.11
5	1591850	379008	414909	107.88	142.45	169.34	190.52	196.90	203.06	216.32	229.35	239.05	255.47	347.85
6	1591595	379012	414912	102.19	135.22	162.36	180.94	186.81	192.80	205.28	216.44	224.82	237.93	317.30
7	1591539	379045	414639	108.03	142.70	171.26	199.62	209.36	219.73	243.95	257.07	262.51	270.47	287.01
8	1591947	379050	414637	108.03	142.70	171.26	199.62	209.36	219.73	243.95	257.07	262.51	270.47	287.01
9	1591739	379232	414616	108.10	142.78	171.30	198.23	205.07	210.46	218.63	226.64	229.49	234.73	245.84
10	1591894	379331	414612	108.17	142.84	171.36	199.59	209.28	219.49	242.35	252.65	254.07	256.12	314.12

Data in this table comes from the Mid Irwell 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.



Environment
Agency

**No defences exist
modelled fluvial
node locations**

Location (easting/northing)
379054/414678

Scale
1:5,000

Created
2 Jun 2026

Model name
Holcombe Brook 2009

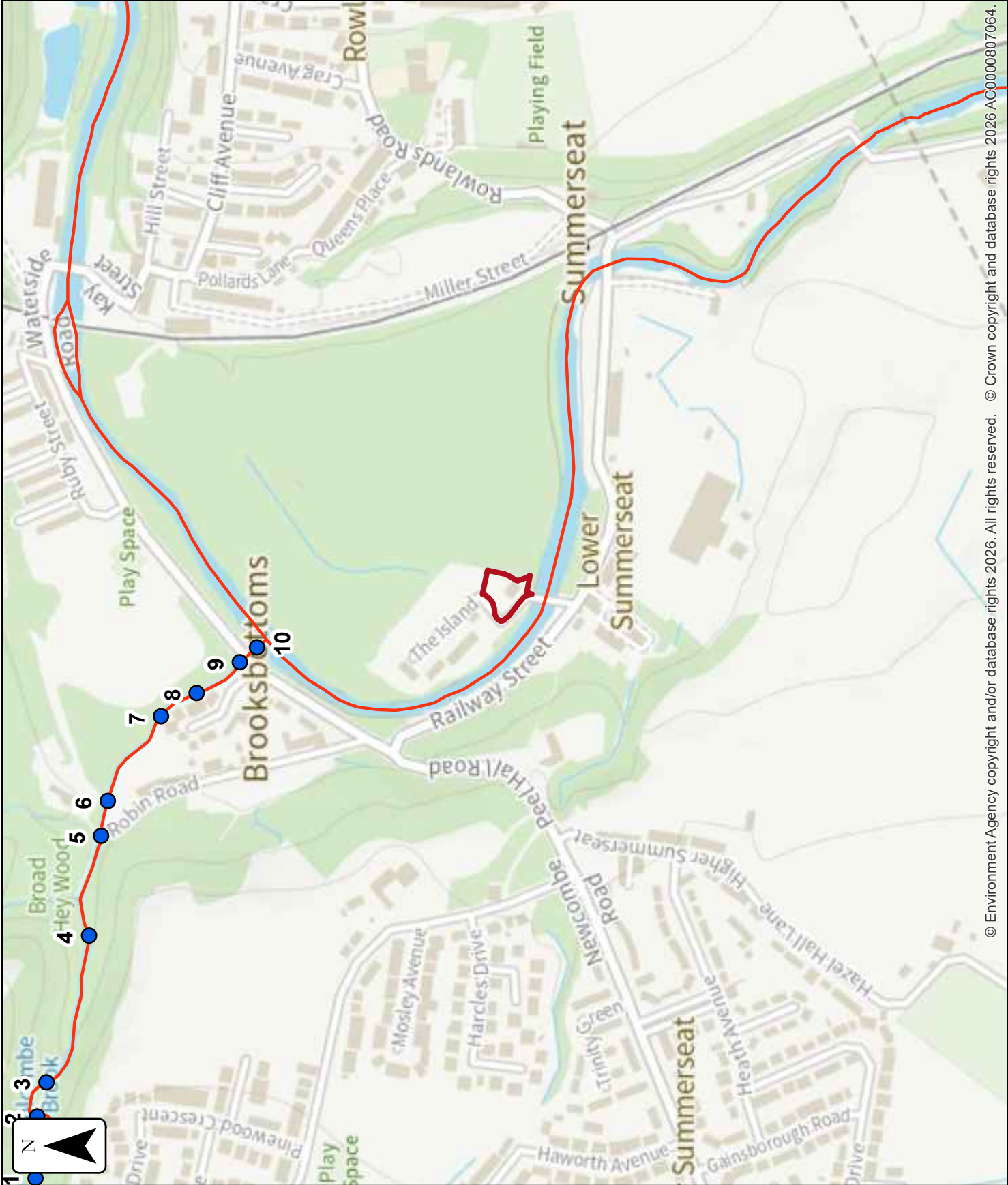
 Selected area

 Modelled location

 Main river



0 50 100 150 200 250
metres

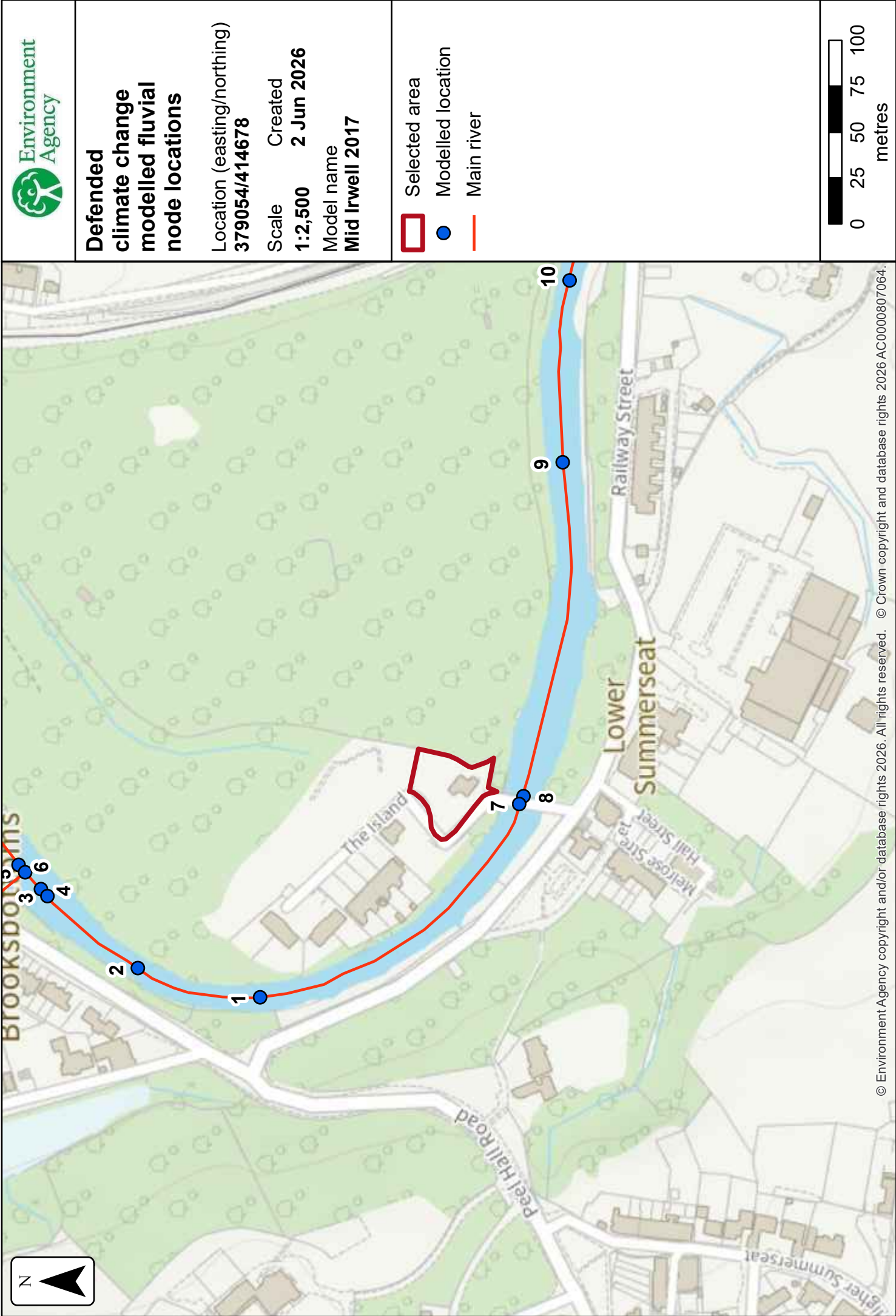


Modelled node locations data

No defences exist

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	1513214	378486	415133	129.14		129.26		129.49		7.49		10.94		18.74	
2	1513244	378546	415131	122.98		123.22		123.67		7.49		10.94		18.74	
3	1513229	378579	415122	118.80		119.02		119.54		7.49		10.94		18.74	
4	1513198	378721	415081	109.68		109.83		110.12		7.49		10.94		18.74	
5	1513217	378818	415069	105.68		105.88		106.25		7.48		10.94		18.73	
6	1513245	378852	415062	105.0		105.15		105.44		7.48		10.94		18.73	
7	1513230	378934	415011	104.06		104.08		104.14		7.49		10.94		18.73	
8	1513234	378957	414976	104.07		104.09		104.16		7.49		10.94		18.73	
9	1513224	378986	414935	104.07		104.10		104.19		7.49		10.94		18.74	
10	1513222	379001	414918	104.05		104.05		104.07		7.50		10.94		18.74	

Data in this table comes from the Holcombe Brook 2009 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.



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	1591977	378940	414781	104.07	104.12	104.74	105.04
2	1591929	378956	414847	104.52	104.59	105.15	105.47
3	1591854	378995	414896	104.79	104.86	105.33	105.60
4	1591679	378999	414900	104.94	105.02	105.47	105.72
5	1591850	379008	414909	104.96	105.03	105.44	105.67
6	1591595	379012	414912	105.10	105.17	105.57	105.80
7	1591539	379045	414639	103.99	104.13	104.97	105.36
8	1591947	379050	414637	103.58	103.81	104.89	105.31
9	1591739	379232	414616	103.54	103.78	104.86	105.30
10	1591894	379331	414612	103.49	103.73	104.75	105.16

Data in this table comes from the Mid Irwell 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.

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	1591977	378940	414781	309.23		318.95		362.17		383.79	
2	1591929	378956	414847	293.21		301.70		329.50		337.17	
3	1591854	378995	414896	268.54		275.66		305.29		315.80	
4	1591679	378999	414900	268.54		275.66		305.29		315.80	
5	1591850	379008	414909	272.12		280.93		321.38		337.51	
6	1591595	379012	414912	255.66		263.59		297.50		314.49	
7	1591539	379045	414639	272.98		274.0		279.50		279.85	
8	1591947	379050	414637	272.98		274.0		279.50		279.85	
9	1591739	379232	414616	236.84		237.78		241.42		241.72	
10	1591894	379331	414612	257.44		257.88		269.53		292.50	

Data in this table comes from the Mid Irwell 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.



No defences exist
climate change
modelled fluvial
node locations

Location (easting/northing)
379054/414678

Scale
1:5,000

Created
2 Jun 2026

Model name
Holcombe Brook 2009

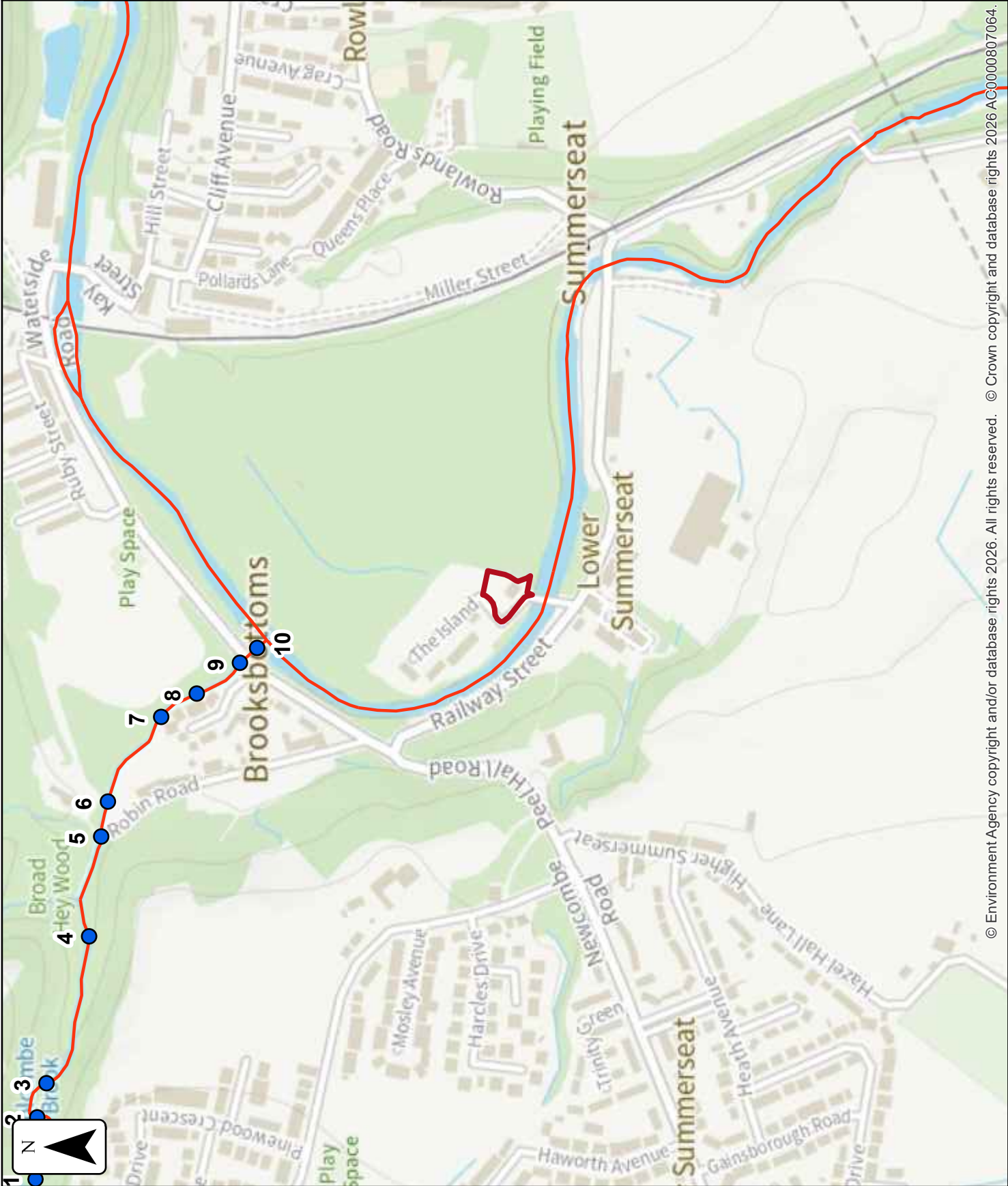
Selected area

Modelled location

Main river

050100150200250

metres



The map displays the Holcombe Brook area, showing the main river (red line) and modelled locations (blue dots). The selected area is highlighted with a red outline. The map includes street names, a scale bar, and a north arrow.

Map Details:

- Streets:** Watetside Road, Ruby Street, Hill Street, Cliff Avenue, Crag Avenue, Queens Place, Rowlands Road, Miller Street, Brooksbottoms, Railway Street, Peel Hall Road, Newcombe Road, Hazel Hall Lane, Higher Summerseat, Heath Avenue, Gainsborough Road, Drive, Hawthorn Avenue, Trinity Green, Mosley Avenue, Harcles Drive, Broad Hey Wood, Robin Road, Play Space, The Island, Lower Summerseat, Summerseat, Playing Field, Pollards Lane.
- Modelled Locations (Blue Dots):** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.
- Selected Area (Red Outline):** A small area near the intersection of Brooksbottoms and Railway Street.
- Scale:** 1:5,000.
- Created:** 2 Jun 2026.
- Model Name:** Holcombe Brook 2009.
- Location (easting/northing):** 379054/414678.
- North Arrow:** Indicated by a black arrow pointing North.
- Scale Bar:** 0 to 250 metres.

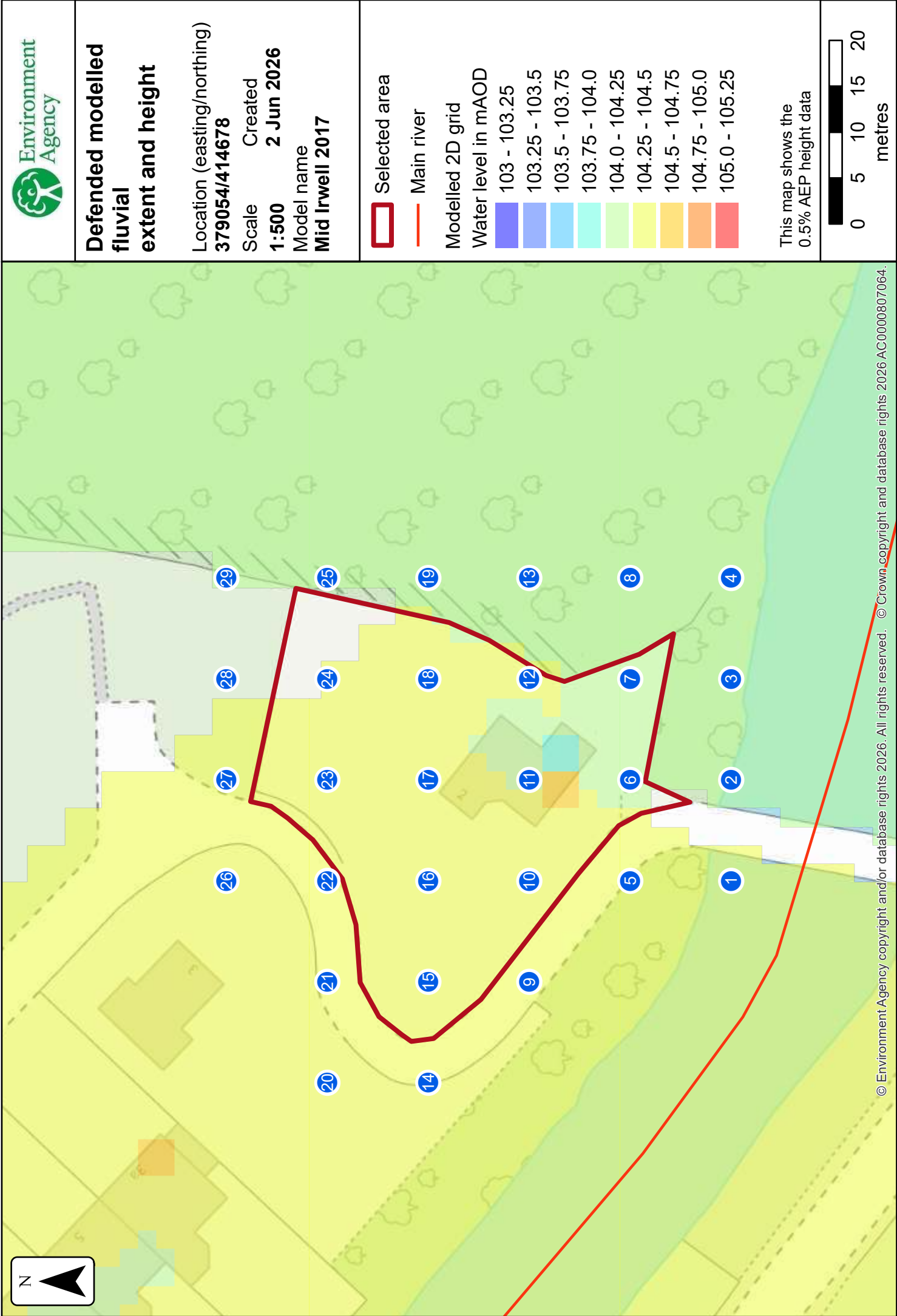
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Modelled node locations data

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)
				Level	Level	Level	Flow	Flow	Flow
1	1513214	378486	415133	129.33	129.37	129.48	13.14	14.76	18.62
2	1513244	378546	415131	123.36	123.45	123.66	13.14	14.74	18.61
3	1513229	378579	415122	119.17	119.27	119.53	13.14	14.75	18.61
4	1513198	378721	415081	109.91	109.97	110.11	13.13	14.77	18.61
5	1513217	378818	415069	106.0	106.07	106.24	13.13	14.77	18.61
6	1513245	378852	415062	105.24	105.30	105.43	13.14	14.77	18.61
7	1513230	378934	415011	104.10	104.10	104.13	13.14	14.78	18.61
8	1513234	378957	414976	104.11	104.12	104.16	13.14	14.77	18.60
9	1513224	378986	414935	104.12	104.13	104.18	13.15	14.77	18.60
10	1513222	379001	414918	104.06	104.06	104.06	13.15	14.77	18.60

Data in this table comes from the Holcombe Brook 2009 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.



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
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
1	379044	414647	101.37	101.82	102.17	102.50	102.61	102.65	102.95	103.27	103.30	104.35
2	379055	414647	101.23	101.66	101.99	102.30	102.39	102.42	102.63	102.82	102.83	104.16
3	379066	414647	101.19	101.62	101.96	102.27	102.36	102.39	102.61	102.81	102.83	104.16
4	379077	414647	101.17	101.60	101.94	102.25	102.34	102.37	102.60	102.81	102.82	104.15
5	379044	414658	101.38	101.83	102.19	102.51	102.62	102.67	102.97	103.28	103.31	104.35
6	379055	414658	NoData	NoData	NoData	NoData	NoData	NoData	NoData	103.22	103.24	104.14
7	379066	414658	NoData	NoData	NoData	NoData	NoData	NoData	102.76	102.86	102.87	104.16
8	379077	414658	NoData	NoData	NoData	102.19	102.28	102.31	102.56	102.79	102.81	104.16
9	379033	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.05	103.33	103.36	104.34
10	379044	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.14	103.34	103.36	104.35
11	379055	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.14	103.30	103.32	104.23
12	379066	414669	NoData	NoData	NoData	NoData	NoData	NoData	NoData	103.24	103.25	104.28

[illegible]

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
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
25	379077	414691	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	104.15
26	379044	414702	NoData	NoData	NoData	NoData	102.95	103.00	103.18	103.44	103.45	104.36
27	379055	414702	NoData	NoData	NoData	NoData	102.95	103.00	103.18	103.44	103.46	104.36
28	379066	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	379077	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	104.16
Max value in selected area:			101.23	101.66	102.00	102.30	102.95	103.00	103.18	103.44	103.46	104.72

Data in this table comes from the Mid Irwell 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.
'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
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
1	379044	414647	1.80	2.10	2.33	2.55	2.62	2.65	2.85	3.07	3.09	3.79
2	379055	414647	1.45	1.68	1.85	2.01	2.06	2.07	2.19	2.29	2.30	2.99
3	379066	414647	1.18	1.38	1.53	1.67	1.71	1.73	1.83	1.92	1.93	2.53
4	379077	414647	0.78	0.92	1.02	1.11	1.14	1.15	1.22	1.28	1.28	1.69
5	379044	414658	0.14	0.16	0.18	0.19	0.20	0.20	0.21	0.23	0.23	0.28
6	379055	414658	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.13	0.15	1.04
7	379066	414658	NoData	NoData	NoData	NoData	NoData	NoData	0.05	0.15	0.15	1.45
8	379077	414658	NoData	NoData	NoData	0.08	0.12	0.15	0.40	0.63	0.64	2.00
9	379033	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.09	0.37	0.40	1.38
10	379044	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.05	0.26	0.28	1.27
11	379055	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.10	0.27	0.29	1.20
12	379066	414669	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.10	0.12	1.14

[illegible]

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
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
25	379077	414691	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.48
26	379044	414702	NoData	NoData	NoData	NoData	0.16	0.21	0.39	0.64	0.66	1.56
27	379055	414702	NoData	NoData	NoData	NoData	0.10	0.12	0.22	0.48	0.50	1.40
28	379066	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	379077	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.08
Max value in selected area:			0.23	0.27	0.30	0.33	0.33	0.34	0.36	0.55	0.57	1.68

Data in this table comes from the Mid Irwell 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.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

Defences removed modelled fluvial extent and height

Location (easting/northing)
379054/414678

Scale Created
1:500 2 Jun 2026

Model name
Mid Irwell 2017

 Selected area

 Main river

Modelled 2D grid

Water level in mAOD

 103 - 103.25

 103.25 - 103.5

 103.5 - 103.75

 103.75 - 104.0

 104.0 - 104.25

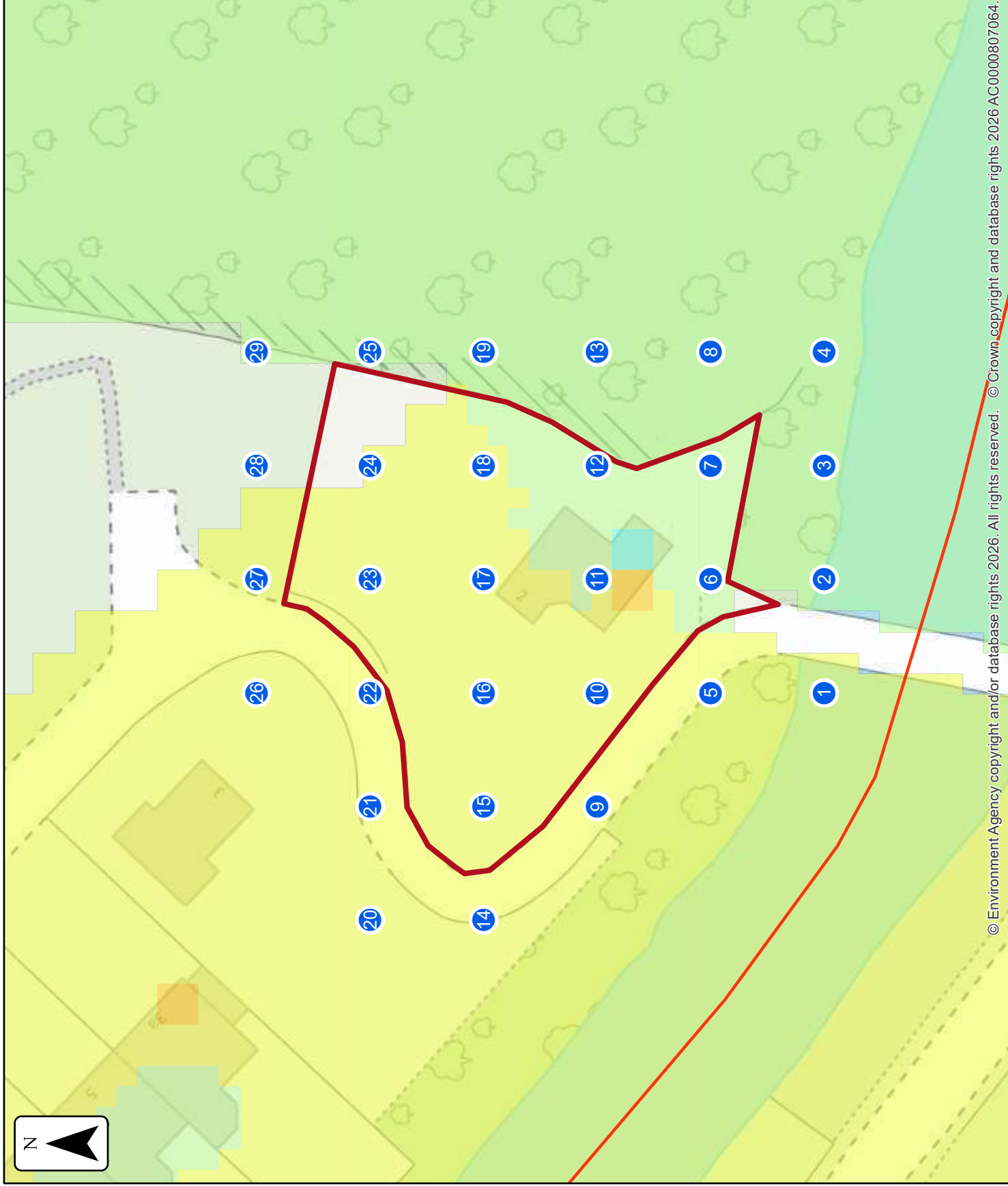
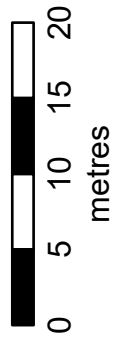
 104.25 - 104.5

 104.5 - 104.75

 104.75 - 105.0

 105.0 - 105.25

This map shows the
0.5% AEP height data



Sample point data

Defences removed

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
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
1	379044	414647	101.36	101.82	102.17	102.49	102.59	102.62	102.91	103.29	103.41	104.30
2	379055	414647	101.22	101.66	101.99	102.29	102.38	102.40	102.60	102.84	102.92	104.08
3	379066	414647	101.19	101.62	101.96	102.26	102.35	102.37	102.58	102.83	102.92	104.08
4	379077	414647	101.16	101.60	101.94	102.24	102.33	102.35	102.57	102.82	102.91	104.08
5	379044	414658	101.38	101.83	102.19	102.51	102.61	102.64	102.92	103.31	103.43	104.30
6	379055	414658	NoData	NoData	NoData	NoData	NoData	NoData	NoData	103.24	103.32	104.08
7	379066	414658	NoData	NoData	NoData	NoData	NoData	NoData	102.76	102.87	102.95	104.09
8	379077	414658	NoData	NoData	NoData	102.18	102.27	102.29	102.54	102.81	102.90	104.08
9	379033	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.03	103.35	103.46	104.29
10	379044	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.12	103.36	103.46	104.30
11	379055	414669	NoData	NoData	NoData	NoData	NoData	NoData	103.12	103.32	103.40	104.18
12	379066	414669	NoData	NoData	NoData	NoData	NoData	NoData	NoData	103.25	103.31	104.21

[illegible]

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
			Height	Height	Height	Height	Height	Height	Height	Height	Height	Height
25	379077	414691	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	104.08
26	379044	414702	NoData	NoData	NoData	NoData	102.94	102.97	103.15	103.46	103.56	104.31
27	379055	414702	NoData	NoData	NoData	NoData	102.94	102.97	103.15	103.46	103.56	104.31
28	379066	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	379077	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	104.08
Max value in selected area:			101.23	101.66	102.00	102.30	102.94	102.97	103.15	103.46	103.56	104.65

Data in this table comes from the Mid Irwell 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.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

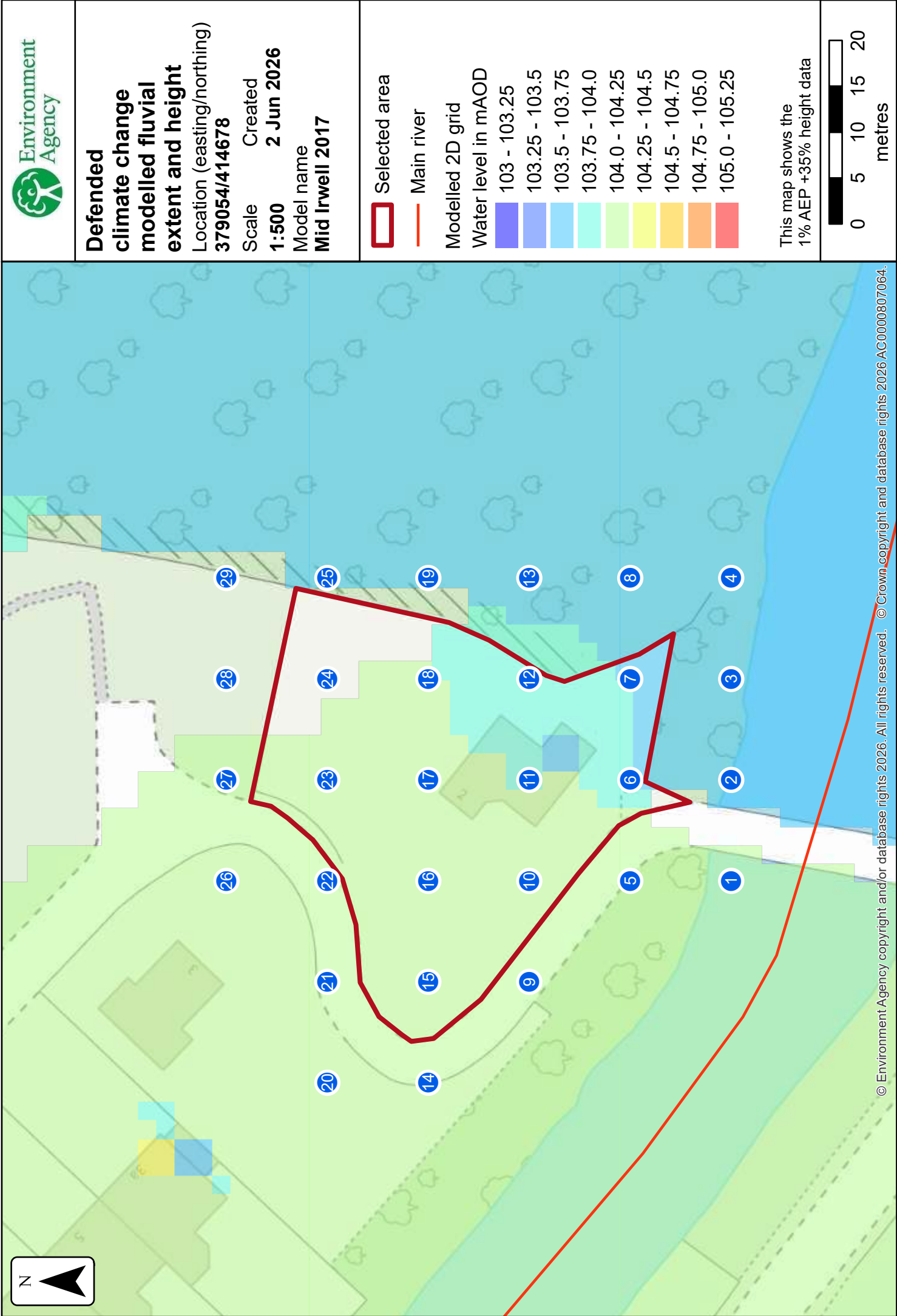
Defences removed

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
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
1	379044	414647	1.79	2.10	2.33	2.55	2.61	2.63	2.82	3.08	3.16	3.76
2	379055	414647	1.45	1.68	1.85	2.01	2.06	2.07	2.17	2.30	2.34	2.95
3	379066	414647	1.18	1.38	1.53	1.67	1.71	1.72	1.82	1.93	1.97	2.50
4	379077	414647	0.78	0.92	1.02	1.11	1.14	1.14	1.21	1.28	1.31	1.67
5	379044	414658	0.14	0.16	0.18	0.19	0.20	0.20	0.21	0.23	0.24	0.28
6	379055	414658	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.14	0.23	0.99
7	379066	414658	NoData	NoData	NoData	NoData	NoData	NoData	0.04	0.16	0.23	1.37
8	379077	414658	NoData	NoData	NoData	0.08	0.12	0.13	0.38	0.64	0.74	1.92
9	379033	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.07	0.39	0.51	1.33
10	379044	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.03	0.28	0.38	1.22
11	379055	414669	NoData	NoData	NoData	NoData	NoData	NoData	0.09	0.29	0.37	1.15
12	379066	414669	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	0.18	1.07

[illegible]

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
			Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth	Depth
25	379077	414691	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.44
26	379044	414702	NoData	NoData	NoData	NoData	0.14	0.18	0.36	0.66	0.76	1.51
27	379055	414702	NoData	NoData	NoData	NoData	0.09	0.11	0.20	0.50	0.60	1.35
28	379066	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
29	379077	414702	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.04
Max value in selected area:			0.23	0.27	0.30	0.32	0.33	0.34	0.35	0.57	0.68	1.61

Data in this table comes from the Mid Irwell 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.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+30%)		1% AEP (+35%)	
			Height	Depth	Height	Depth
1	379044	414647	103.95	3.53	104.09	3.62
2	379055	414647	103.52	2.66	103.74	2.77
3	379066	414647	103.52	2.24	103.74	2.34
4	379077	414647	103.52	1.50	103.74	1.56
5	379044	414658	103.96	0.26	104.09	0.27
6	379055	414658	103.76	0.67	103.88	0.79
7	379066	414658	103.53	0.82	103.75	1.03
8	379077	414658	103.52	1.35	103.74	1.58
9	379033	414669	103.96	1.01	104.09	1.14
10	379044	414669	103.95	0.87	104.08	1.00
11	379055	414669	103.80	0.77	103.94	0.91
12	379066	414669	103.68	0.54	103.87	0.74

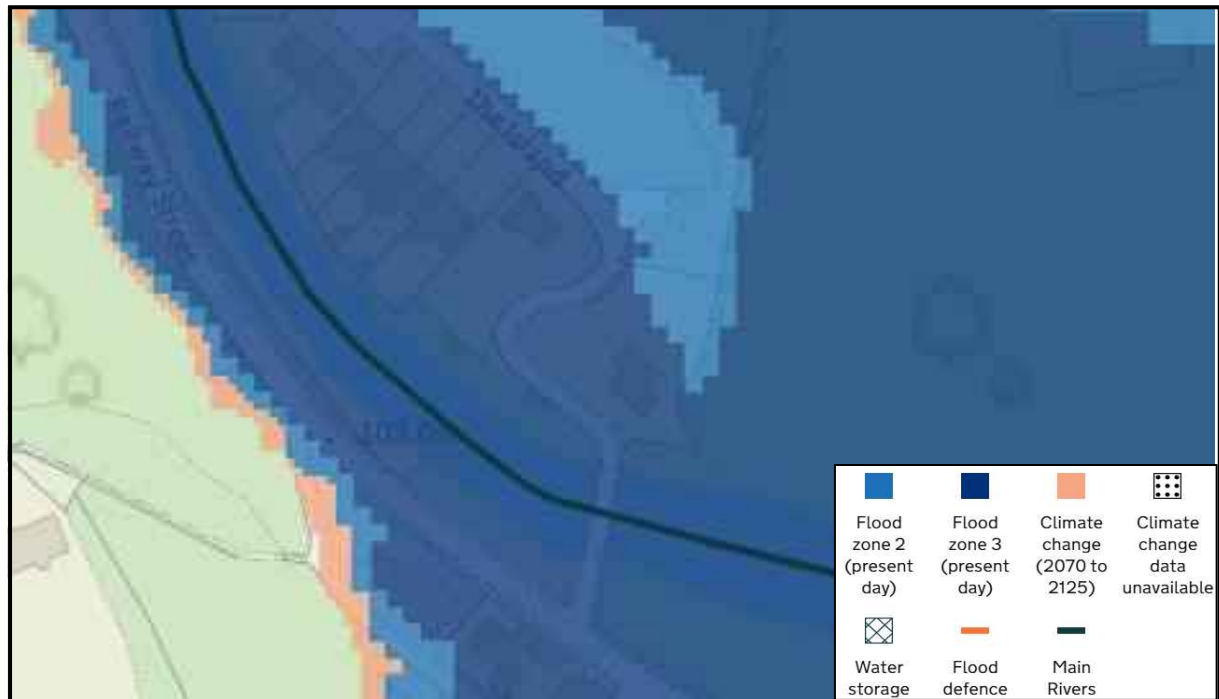
Label	Easting	Northing	1% AEP (+30%)		1% AEP (+35%)		1% AEP (+30%)		1% AEP (+35%)	
			Height	Height	Height	Height	Depth	Depth	Depth	Depth
13	379077	414669	103.51		103.73		1.01		1.23	
14	379022	414680	103.97		104.09		1.15		1.26	
15	379033	414680	103.97		104.08		1.04		1.16	
16	379044	414680	103.96		104.07		0.97		1.08	
17	379055	414680	103.94		104.06		0.92		1.04	
18	379066	414680	103.89		104.02		0.09		0.22	
19	379077	414680	103.51		103.73		0.58		0.80	
20	379022	414691	103.97		104.08		1.08		1.19	
21	379033	414691	103.97		104.07		1.01		1.12	
22	379044	414691	103.96		104.07		1.02		1.13	
23	379055	414691	103.96		104.07		0.62		0.74	
24	379066	414691	NoData		NoData		NoData		NoData	

Label	Easting	Northing	1% AEP (+30%)		1% AEP (+35%)		1% AEP (+30%)		1% AEP (+35%)	
			Height		Height		Depth		Depth	
25	379077	414691	103.51		103.73		0.16		0.27	
26	379044	414702	103.97		104.07		1.17		1.28	
27	379055	414702	103.97		104.07		1.00		1.11	
28	379066	414702	NoData		NoData		NoData		NoData	
29	379077	414702	NoData		NoData		NoData		NoData	
Max value in selected area:			103.98		104.22		1.13		1.25	

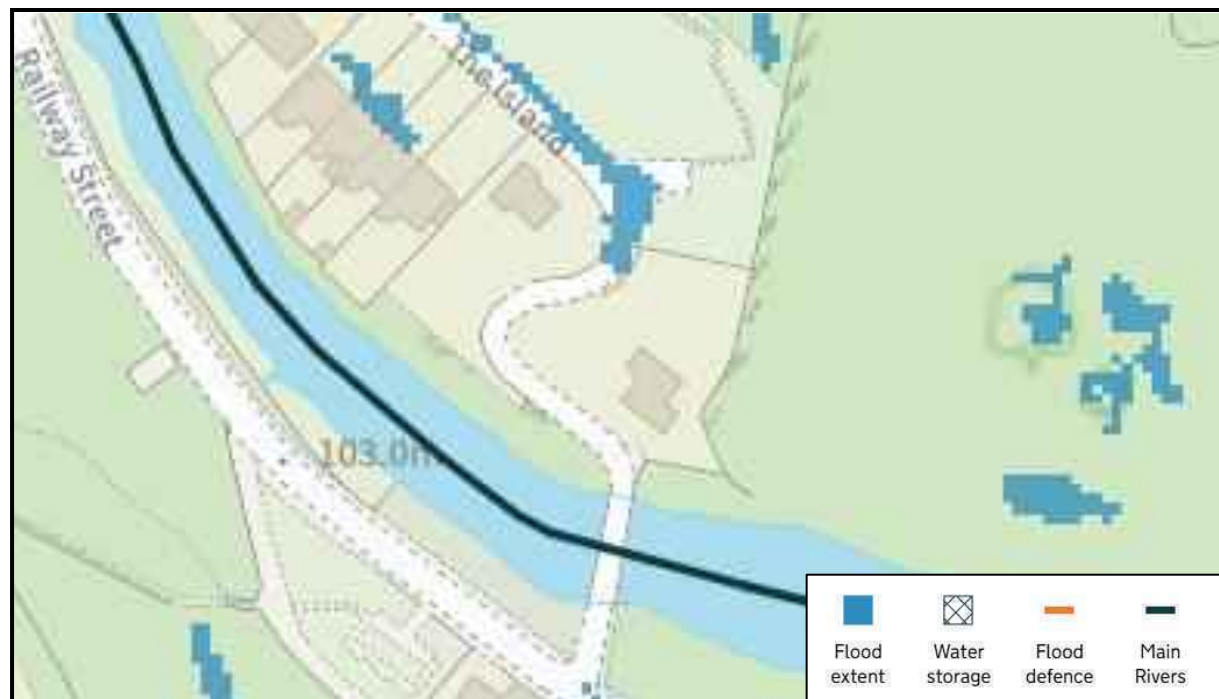
Data in this table comes from the Mid Irwell 2017 model. Height values are shown in mAOD, and depth values are shown in metres.
Any blank cells show where a particular scenario has not been modelled for this location.
Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

FLOOD MAP FOR PLANNING

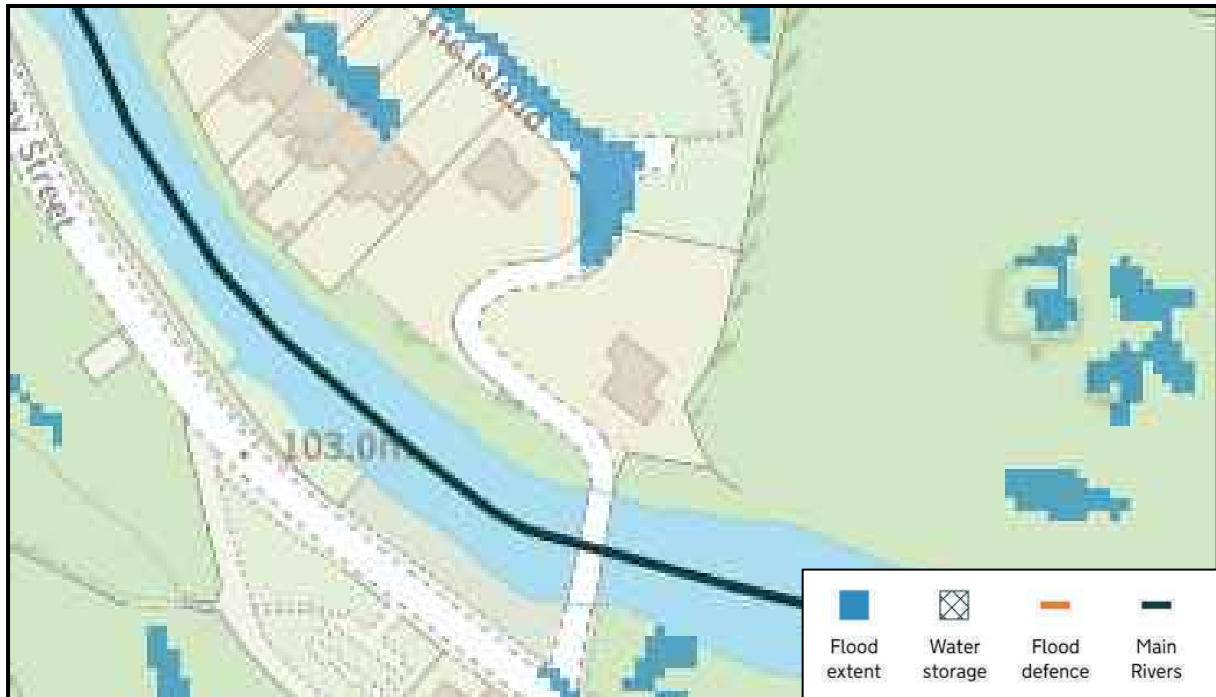
Flood Zones



Surface Water Annual Likelihood of Flooding - 1 in 30yr



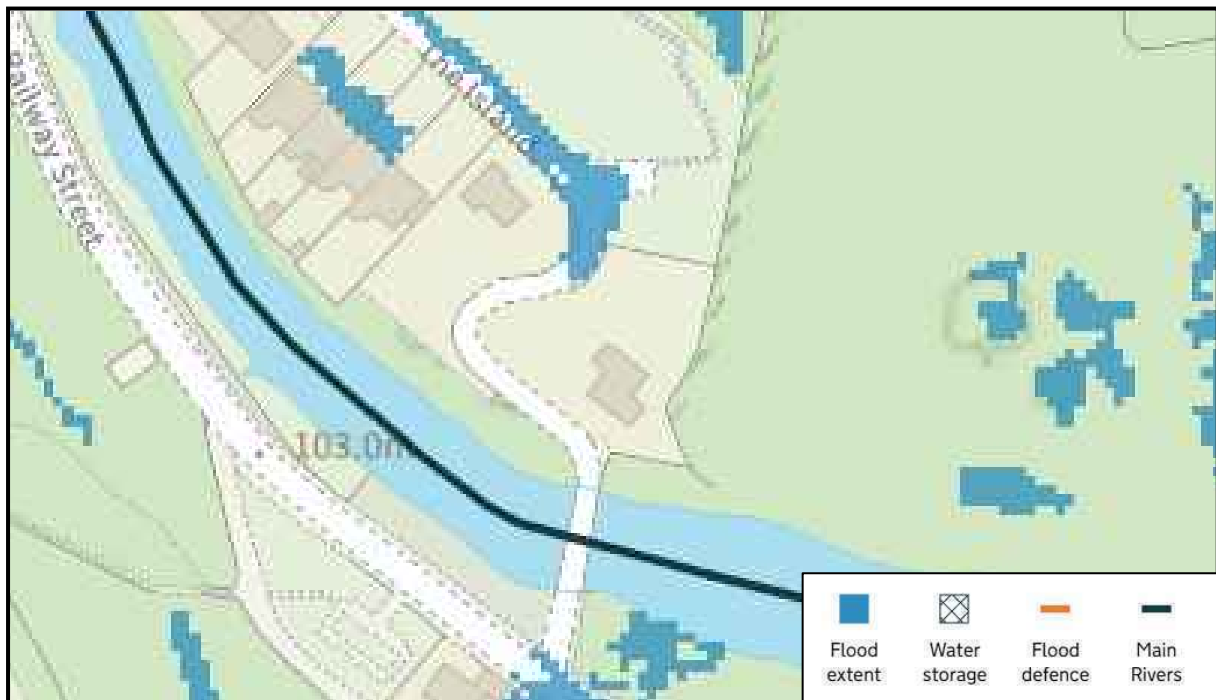
Surface Water Annual Likelihood of Flooding - 1 in 100yr



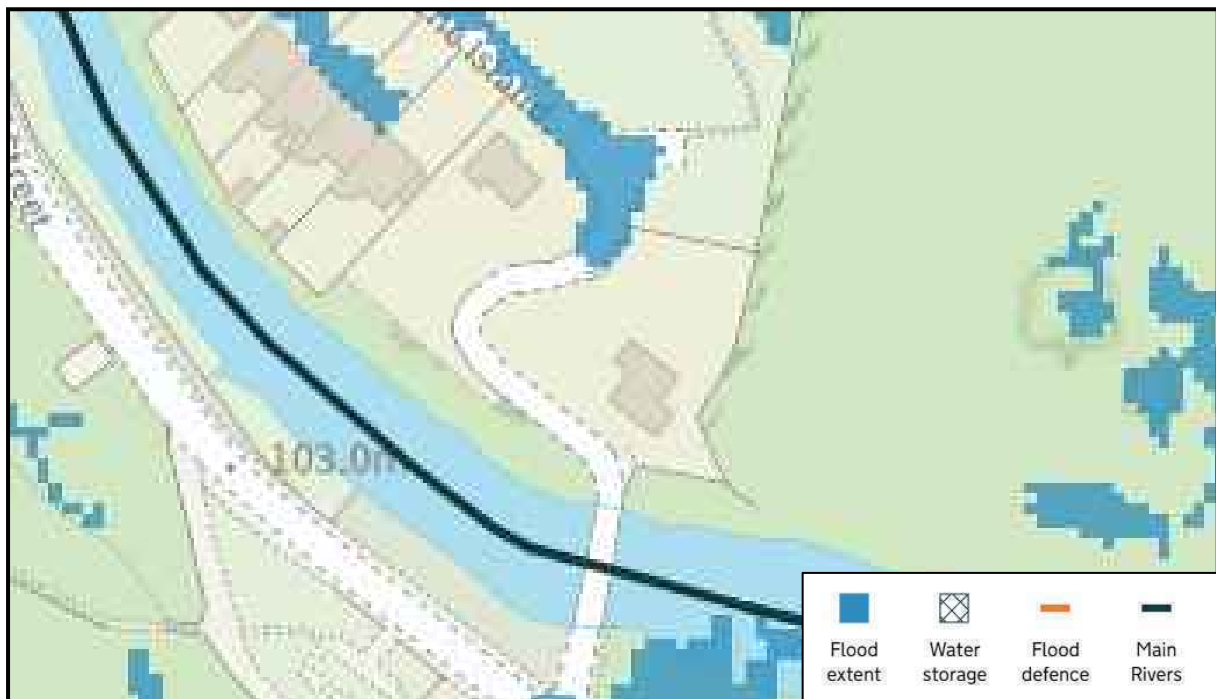
Surface Water Annual Likelihood of Flooding - 1 in 1000yr



Surface Water Annual Likelihood of Flooding - 1 in 30yr (2061 - 2125)



Surface Water Annual Likelihood of Flooding - 1 in 100yr (2061 - 2125)



Surface Water Annual Likelihood of Flooding - 1 in 1000yr (2061 - 2125)



LONG TERM RISK OF FLOODING MAPPING

Rivers or Sea – Current



Rivers or Sea – Future (2036-2069)



Surface Water – Current



Future (2040-2060)



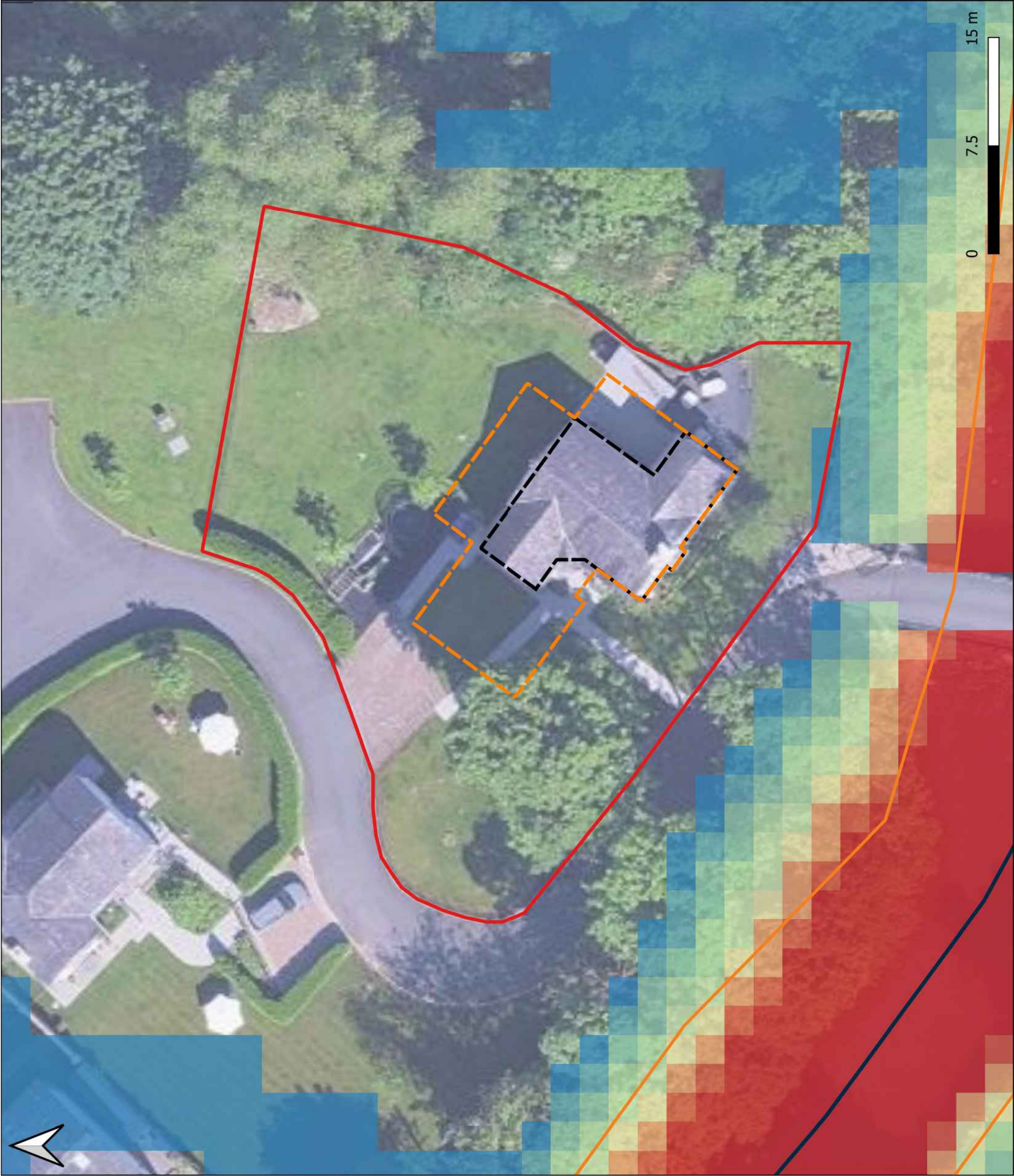
Long Term Flood Risk - Reservoirs



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Appendix E – Defended Flood Depth and Level Plans

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DO NOT SCALE

Legend:

- Planning Application Boundary
- Proposed Extension Footprint
- Existing Dwelling Footprint
- Main River
- Flood Defence (Natural High Ground)

Flood Depth (m):

- <= 0.25
- 0.25 - 0.50
- 0.50 - 0.75
- 0.75 - 1.00
- 1.00 - 1.25
- 1.25 - 1.50
- 1.50 - 1.75
- 1.75 - 2.00
- 2.00 +

REV	DATE	BY	DESCRIPTION	KH	CHK
A	20/07/26	HB	PRELIMINARY FOR ISSUE		

DRAWING STATUS:

Unit 6, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire CH5 2LY
Tel: 01244 298178
enquiries@betts-associates.co.uk

MS. K. DUNLOP

PROJECT:

NO. 2
THE ISLAND
SUMMERSEAT

TITLE:

MID IRWELL (2017)
DEFENDED FLUVIAL 1 IN 20YR
FLOOD DEPTH OVERLAY

DATE:	SCALE @ SIZE:	DRAWN:	CHECKED:
JULY '26	1:250@A3	HB	KH
PROJECT No:	DRAWING No:	REV:	
HYD1187	101	A	



DO NOT SCALE

Legend:

- Planning Application Boundary
- Proposed Extension Footprint
- Existing Dwelling Footprint
- Main River
- Flood Defence (Natural High Ground)

Flood Level (mAOD):

- <= 103.17
- 103.17 - 103.33
- 103.33 - 103.50
- 103.50 - 103.67
- 103.67 - 103.83
- 103.83 - 104.00
- 104.00 - 104.17
- 104.17 - 104.33
- 104.33 - 104.50
- 104.50 - 104.67
- 104.67 - 104.83
- > 104.83

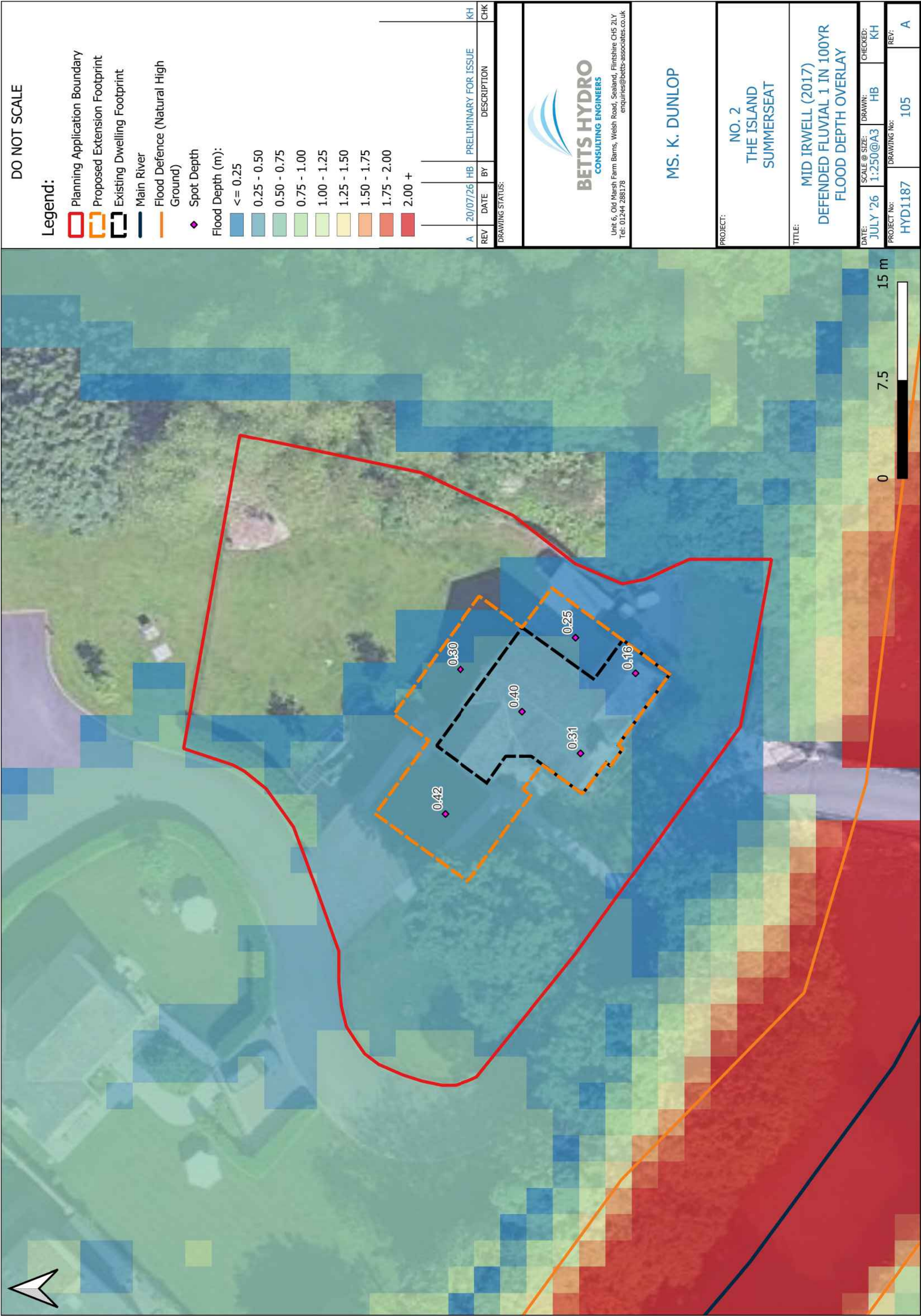
REV	DATE	BY	DESCRIPTION	KH	CHK
A	20/07/26	HB	PRELIMINARY FOR ISSUE		

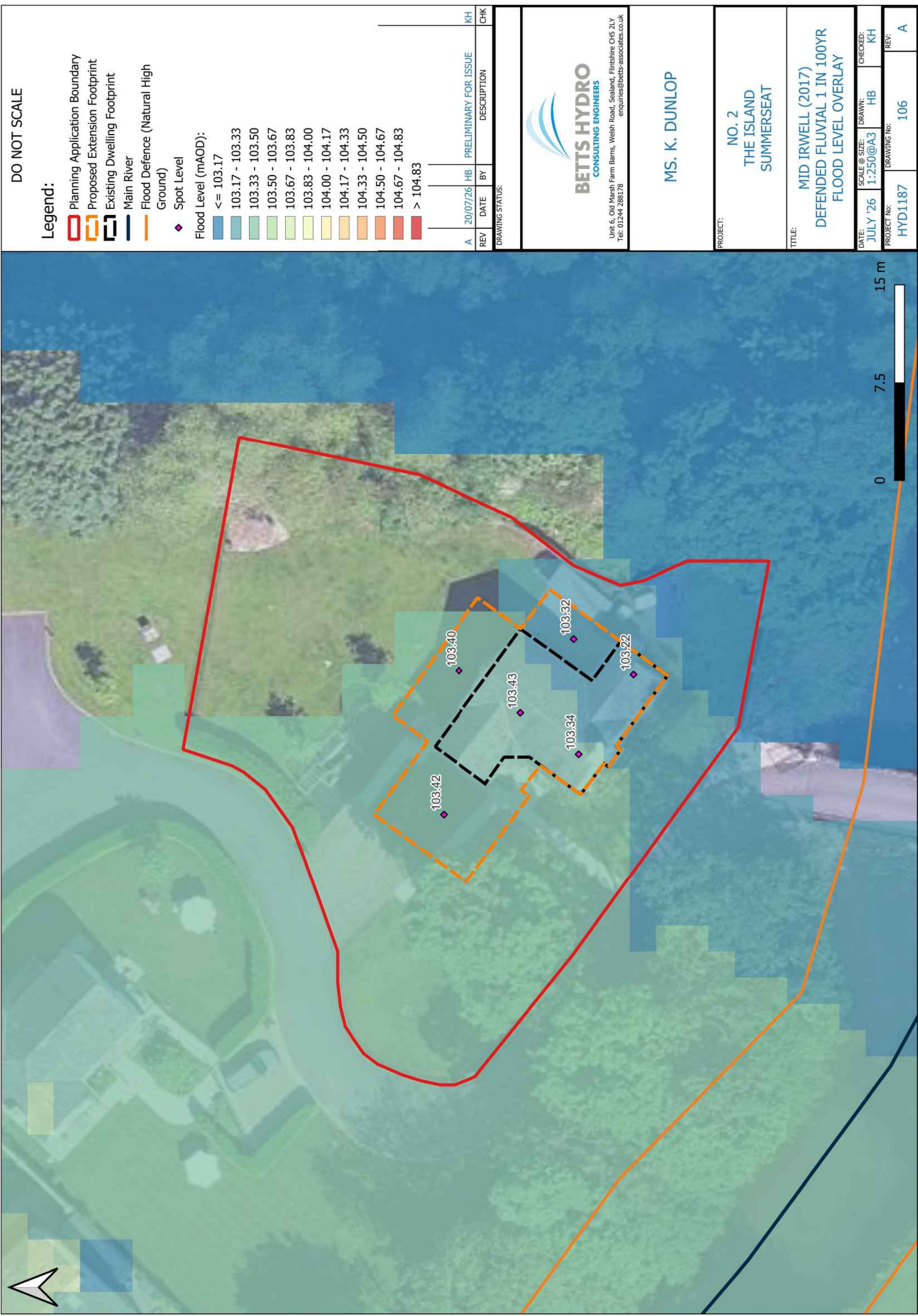
DRAWING STATUS:

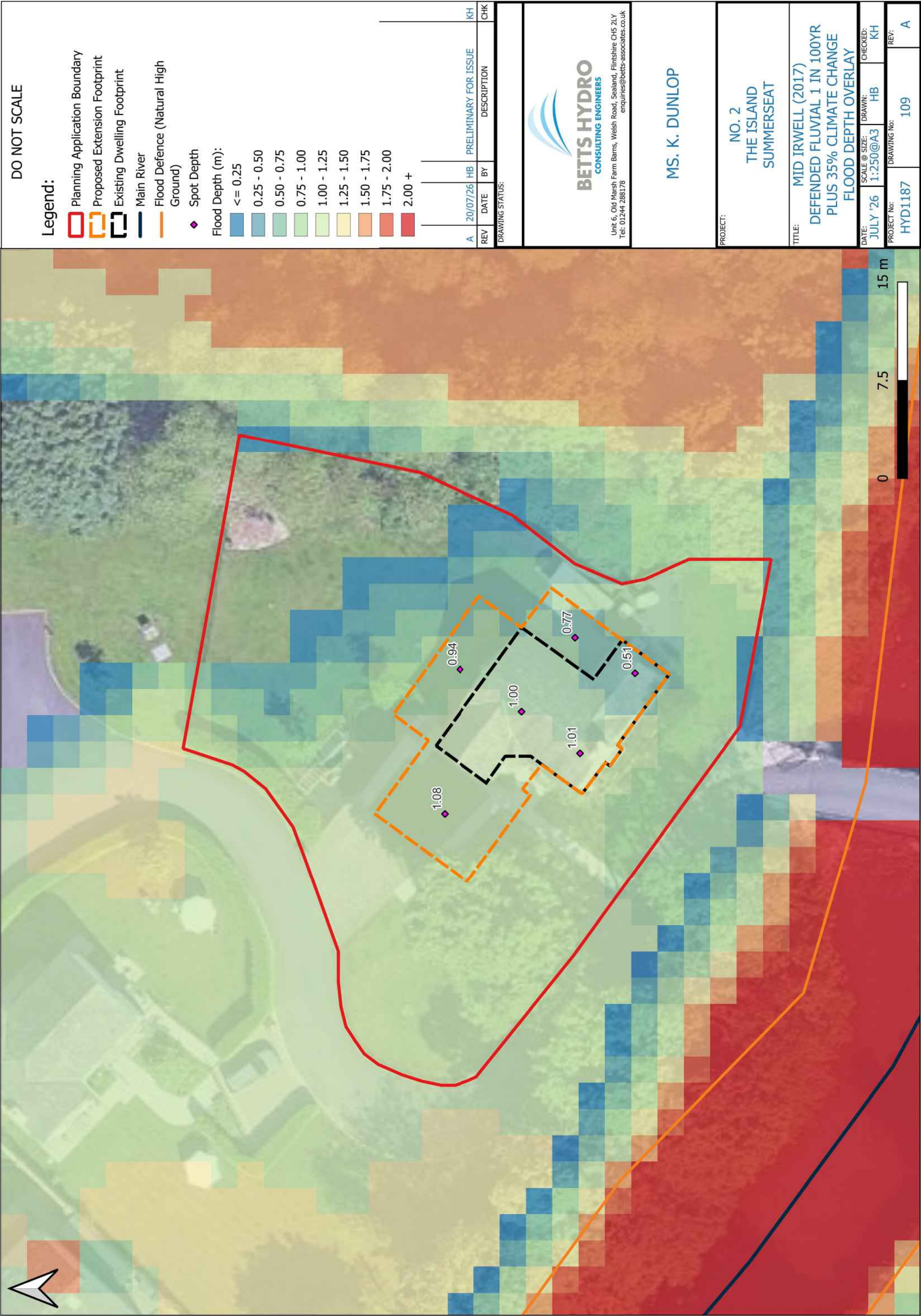
Unit 6, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire CH5 2LY
Tel: 01244 298178
enquiries@betts-associates.co.uk

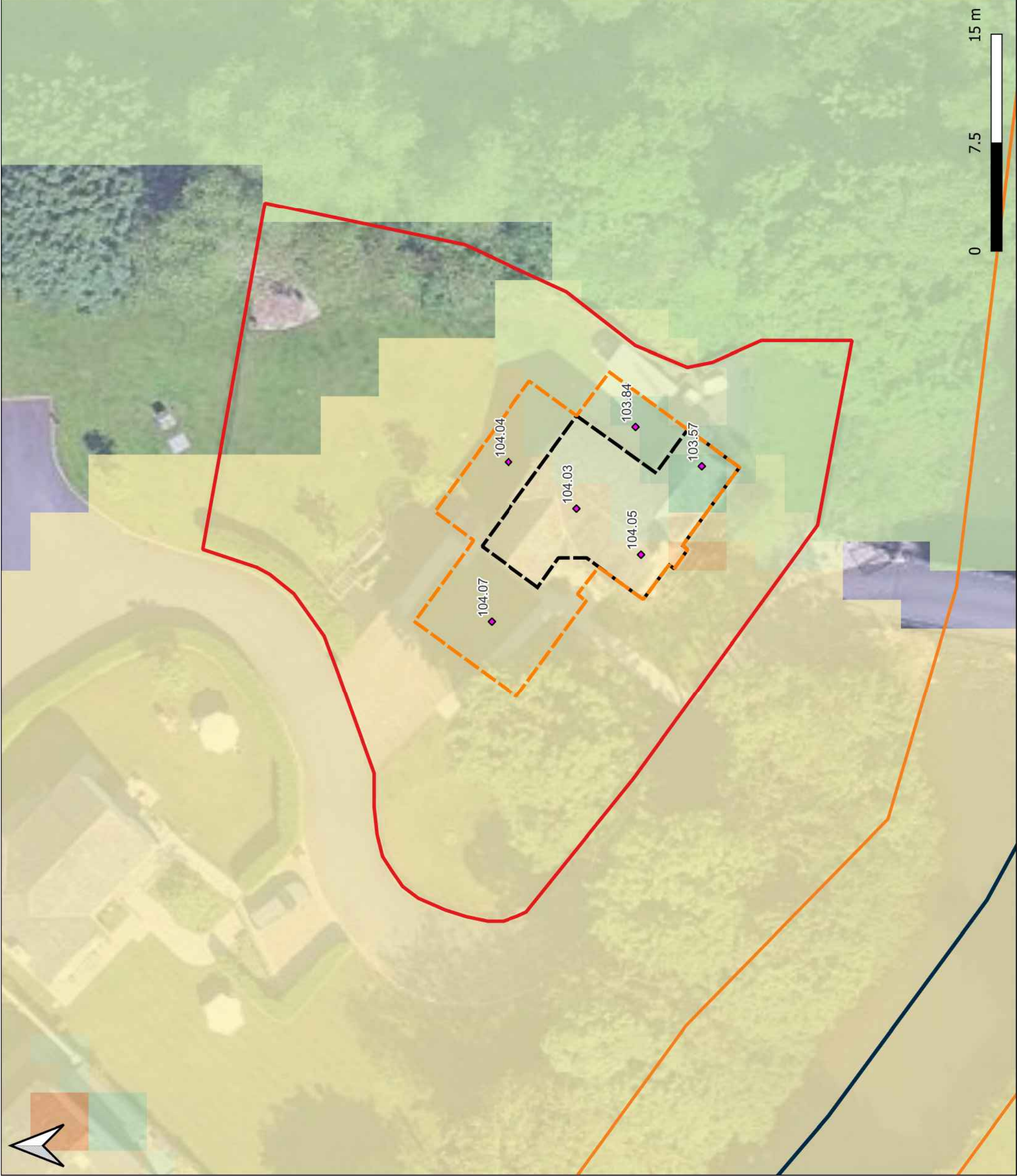
MS. K. DUNLOP

PROJECT:		NO. 2 THE ISLAND SUMMERSEAT					
TITLE:		MID IRWELL (2017) DEFENDED FLUVIAL 1 IN 20YR FLOOD LEVEL OVERLAY					
DATE:	JULY '26	SCALE @ SIZE:	1:250@A3	DRAWN:	HB	CHECKED:	KH
PROJECT No:	HYD1187	DRAWING No:		102		REV:	A









DO NOT SCALE

Legend:

- Planning Application Boundary
- Proposed Extension Footprint
- Existing Dwelling Footprint
- Main River
- Flood Defence (Natural High Ground)

Spot Level

Flood Level (mAOD):

- <= 103.17
- 103.17 - 103.33
- 103.33 - 103.50
- 103.50 - 103.67
- 103.67 - 103.83
- 103.83 - 104.00
- 104.00 - 104.17
- 104.17 - 104.33
- 104.33 - 104.50
- 104.50 - 104.67
- 104.67 - 104.83
- > 104.83

REV	DATE	BY	DESCRIPTION	KH	CHK
A	20/07/26	HB	PRELIMINARY FOR ISSUE		
DRAWING STATUS:					

Unit 6, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire CH5 2LY
Tel: 01244 288178
enquiries@betts-associates.co.uk

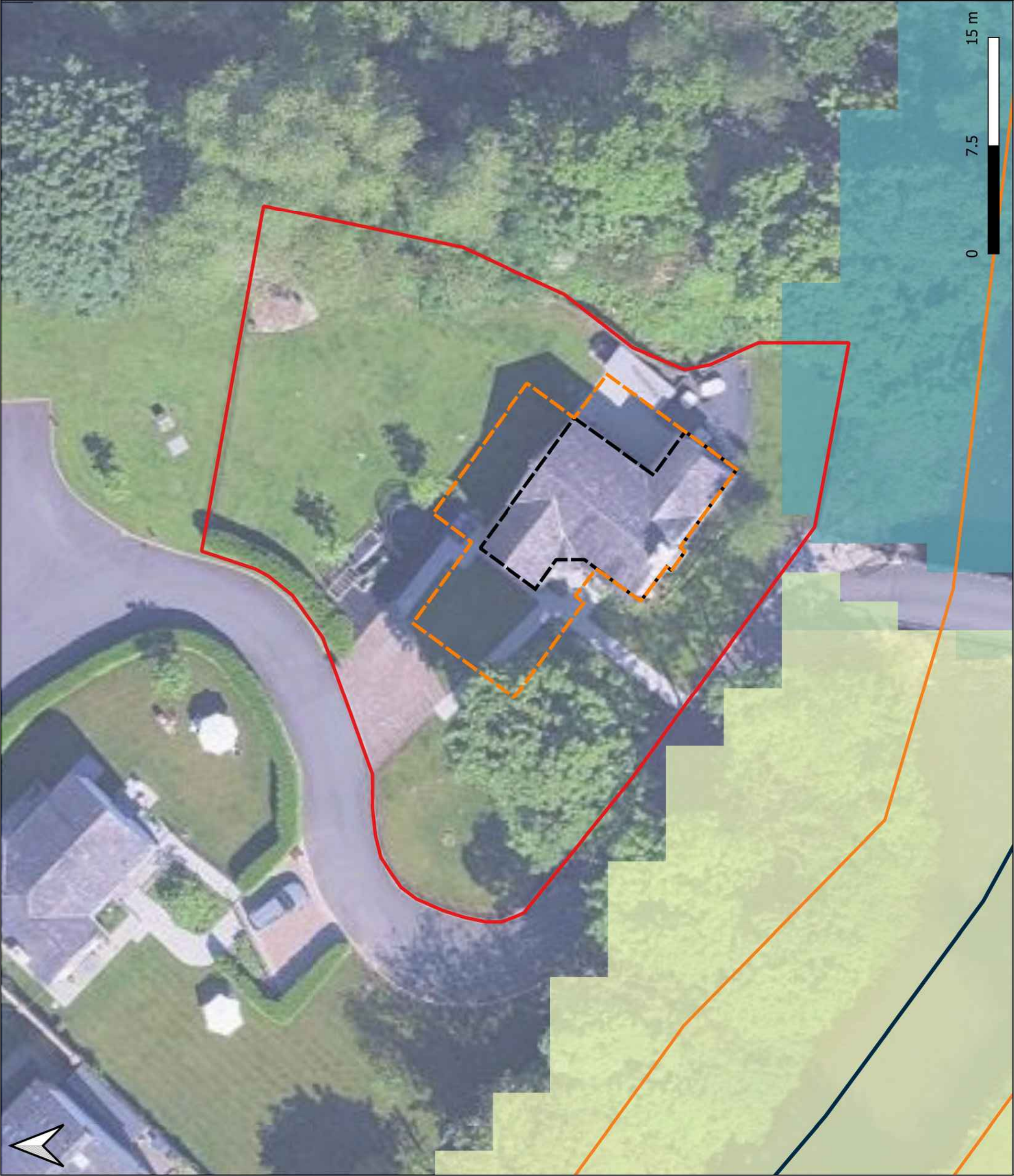
MS. K. DUNLOP

PROJECT:					
NO. 2 THE ISLAND SUMMERSEAT					
TITLE: MID IRWELL (2017) DEFENDED FLUVIAL 1 IN 100YR PLUS 35% CLIMATE CHANGE FLOOD LEVEL OVERLAY					
DATE:	SCALE @ SIZE:	DRAWN:	CHECKED:		
JULY '26	1:250@A3	HB	KH		
PROJECT No:	DRAWING No:		REV:		
HYD1187	110			A	

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Appendix F – Blockage Scenario Level Plans

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DO NOT SCALE

Legend:

- Planning Application Boundary
- Proposed Extension Footprint
- Existing Dwelling Footprint
- Main River
- Flood Defence (Natural High Ground)

Flood Level (mAOD):

- <= 103.17
- 103.17 - 103.33
- 103.33 - 103.50
- 103.50 - 103.67
- 103.67 - 103.83
- 103.83 - 104.00
- 104.00 - 104.17
- 104.17 - 104.33
- 104.33 - 104.50
- 104.50 - 104.67
- 104.67 - 104.83
- > 104.83

REV	DATE	BY	DESCRIPTION	KH	CHK
A	20/07/26	HB	PRELIMINARY FOR ISSUE		

DRAWING STATUS:

Unit 6, Old Marsh Farm Barns, Welsh Road, Sealand, Flintshire CH5 2LY
Tel: 01244 298178
enquiries@betts-associates.co.uk

MS. K. DUNLOP

PROJECT:	NO. 2 THE ISLAND SUMMERSEAT						
TITLE:	MID IRWELL (2017) BLOCKAGE - IRWELL VALE 1 IN 100YR (75% BLOCKAGE) FLOOD LEVEL OVERLAY						
DATE:	JULY '26	SCALE @ SIZE:	1:250@A3	DRAWN:	HB	CHECKED:	KH
PROJECT No:	HYD1187	DRAWING No:		202		REV:	A

