



# 20 RedBank - Manchester

## Flood Risk Assessment

15/10/2025

2290-WSP-XX-XX-RP-CV-001



# Quality Control

| Issue/revision | Revision P01                                                                                                                                                                                                                                                                                                                                       | Revision P02 | Revision P03 |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| Remarks        | Planning Issue                                                                                                                                                                                                                                                                                                                                     |              |              |
| Date           | 15/10/2025                                                                                                                                                                                                                                                                                                                                         |              |              |
| Prepared by    | Talha Ahmed                                                                                                                                                                                                                                                                                                                                        |              |              |
| Signature      | Ahmed, Talha<br>(UKMTA002) <small>             Digitally signed by Ahmed, Talha<br/>             (UKMTA002)<br/>             DN: cn=Ahmed, Talha (UKMTA002),<br/>             ou=Active, email=Talha.Ahmed@wsp.com<br/>             Reason: I am the author of this document<br/>             Date: 2025.10.15 14:35:05 +01'00'           </small> |              |              |
| Checked by     | Stephen Mostyn                                                                                                                                                                                                                                                                                                                                     |              |              |
| Signature      | Mostyn, Stephen<br>(UKSMM003) <small>             Digitally signed by Mostyn,<br/>             Stephen (UKSMM003)<br/>             DN: cn=Mostyn, Stephen<br/>             (UKSMM003), ou=Active,<br/>             email=Stephen.Mostyn@wsp.com<br/>             Date: 2025.10.15 15:03:26 +01'00'           </small>                              |              |              |
| Authorised by  | Richard Verity                                                                                                                                                                                                                                                                                                                                     |              |              |
| Signature      | Richard.Verity@wsp.com <small>             Digitally signed by<br/>             Richard.Verity@wsp.com<br/>             DN: cn=Richard.Verity@wsp.com<br/>             Date: 2025.10.15 15:08:19<br/>             +01'00'           </small>                                                                                                       |              |              |
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# 1. Introduction

## 1.1 Overview

This Flood Risk Assessment has been prepared to support a full planning application for the change of use of an existing rail arch beneath a disused rail line at Unit 20 (hereafter referred to as Arch 20) Red Bank, Manchester, M4 4HF.

The application was submitted on the 17<sup>th</sup> of July 2025 under planning application reference 143484/FO/2025. The description of development for application reference 143484/FO/2025 is as follows:

*“Full planning application for change of use from storage to restaurant and bar, with ancillary retail and associated storage area (Sui Generis) along with external alterations and outdoor seating area.”*



Figure 1 - Site Location Plan

Based on the proposed usage the Flood Risk Vulnerability Classification taken from the National Planning Policy Framework (NPPF 2024) for this type of development is 'More Vulnerable'.

This Flood Risk Assessment will assess the risk of flooding to the proposed development and where necessary propose flood mitigation and management measures and procedures to ensure that the development can be safely occupied in accordance with the NPPF and to satisfy the requirements of, and, therefore, remove the need for, the draft planning condition below:

***Condition 1: No development shall take place until a Flood Risk Assessment in accordance with NPPG Standing Advice or any subsequent replacement national standards has been submitted to and approved in writing by the Local Planning Authority. This shall include:***

- *Assessment of sources of flood risk.*
- *Details of Finished Floor Levels set in accordance with Standing Advice (either no lower than existing floor levels or 300mm above the estimated flood level).*
- *If floor levels cannot be raised in line with Standing Advice, details of flood resistance and resilience measures to be implemented in accordance with Standing Advice.*
- *Details of access and escape plans in accordance with Government Standing Advice for Vulnerable Developments.*

## 1.2 Development Proposals

The existing warehouse space on the ground floor will be converted into a Japanese sake shop display, tasting bar, disabled patrons dining space, refrigerated and ambient storage, accessible toilet and a staff changing room.

The first-floor mezzanine area will become: a dispense bar and kitchen, with two toilets, dining area, and waiting area.

There are two entrances to the Arch 20:

1. Front Red Bank - for the General Public and staff access and escape route
2. Back Red Bank - for General Public and staff access, escape route and servicing access.

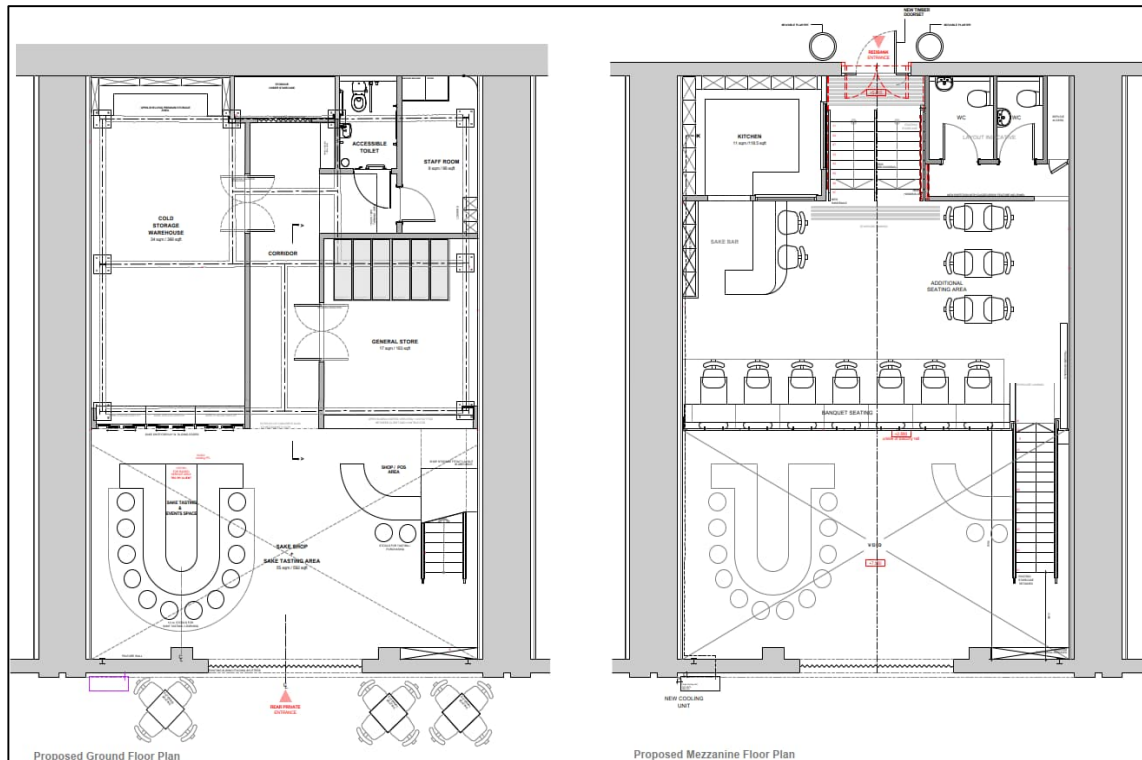


**Figure 2 - Proposed Floor Plans**

## 2. Flood Risk Assessment

### 2.1 Historic Flooding

The EA provided an historical flood map for the area surrounding the site. Recorded flood events have taken place in 1866, 1946, 1954, 2008, 2015 and 2019. None of these are shown to have impacted the site or the area immediately surrounding it.

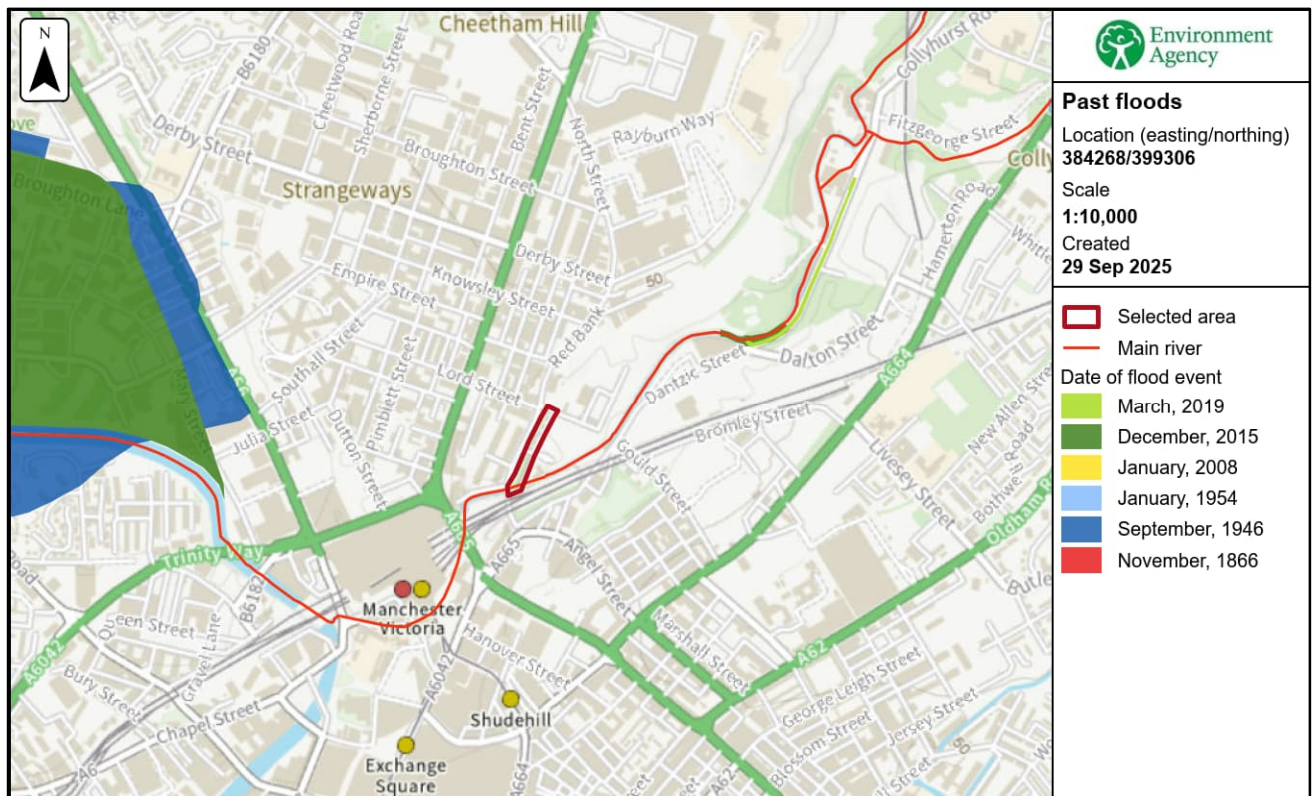


Figure 3 - Historical Flood Outlines

## 2.2 Fluvial Flooding

The National Planning Policy Framework (NPPF) categorises flood risk as follows:

**Zone 1 (low probability)** – Land assessed as having less than a 1 in 1,000 annual probability of river or sea flooding (<0.1%);

**Zone 2 (medium probability)** – Land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%); and

**Zone 3a (high probability)** - Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%).

**Zone 3b The Functional Floodplain** - This zone comprises land where water has to flow or be stored in times of flood. Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map).

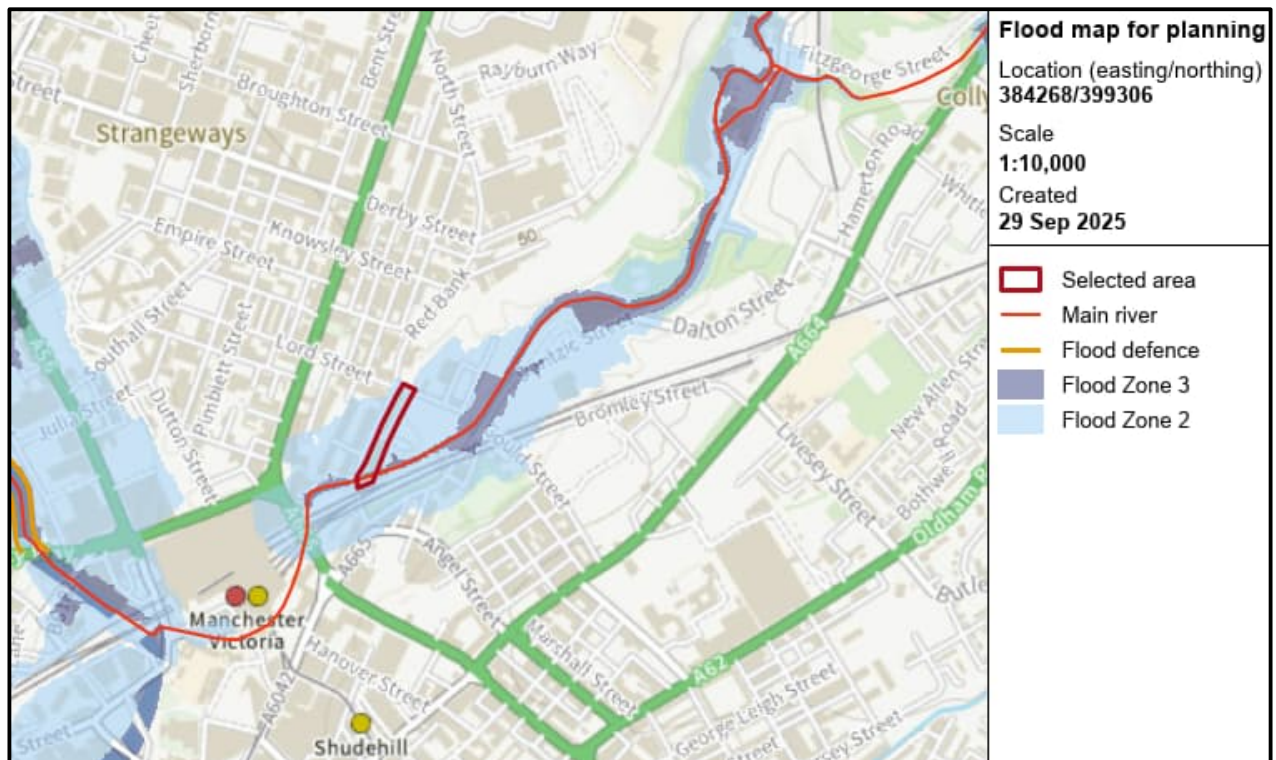


**Figure 4 - EA Flood Map for Planning**

The EA Flood Map for Planning, an extract of which is shown in Figure 2 above shows the site to be located in EA Flood Zone 2 (Medium Probability) associated with the River Irk.

'More Vulnerable' developments are appropriate in EA Flood Zone 2.

The Environment Agency were contacted and asked to provide their detailed flood risk information associated with the site. A copy of the information is provided is appended to this report. The

information includes detailed flood levels and flows for the River Irk 2011 Model and for the Manchester Ship Canal 2018 Model.

For the purposes of this report the level information for the River Irk 2011 model is being used as this site specifically relates to the River Irk and the modelled flood levels for the River Irk 2011 model represent the worst-case levels provided by the EA.

The closest Nodes to the site are Nodes 6 and 7 are shown in Figure 5. The modelled flood levels for these Nodes taken from the River Irk 2011 model are shown in Table 1.

The flood level information for the River Irk 2011 model does not include up to date climate change scenarios. The EA information provides the 100-year plus 20% climate change flood level.

The design flood level is defined as the 100-year event plus a 35% allowance for climate change. This is the event that is used when a development is shown to be at risk of fluvial flooding to set finished floor levels, analyse loss of floodplain compensation storage and to demonstrate that safe access and egress routes are available. Therefore, the actual 'design flood' level for this site is not known.

For the purposes of this report, flood risk has been assessed using flood levels from the River Irk 2011 model for the 100-year plus 20% climate change event.

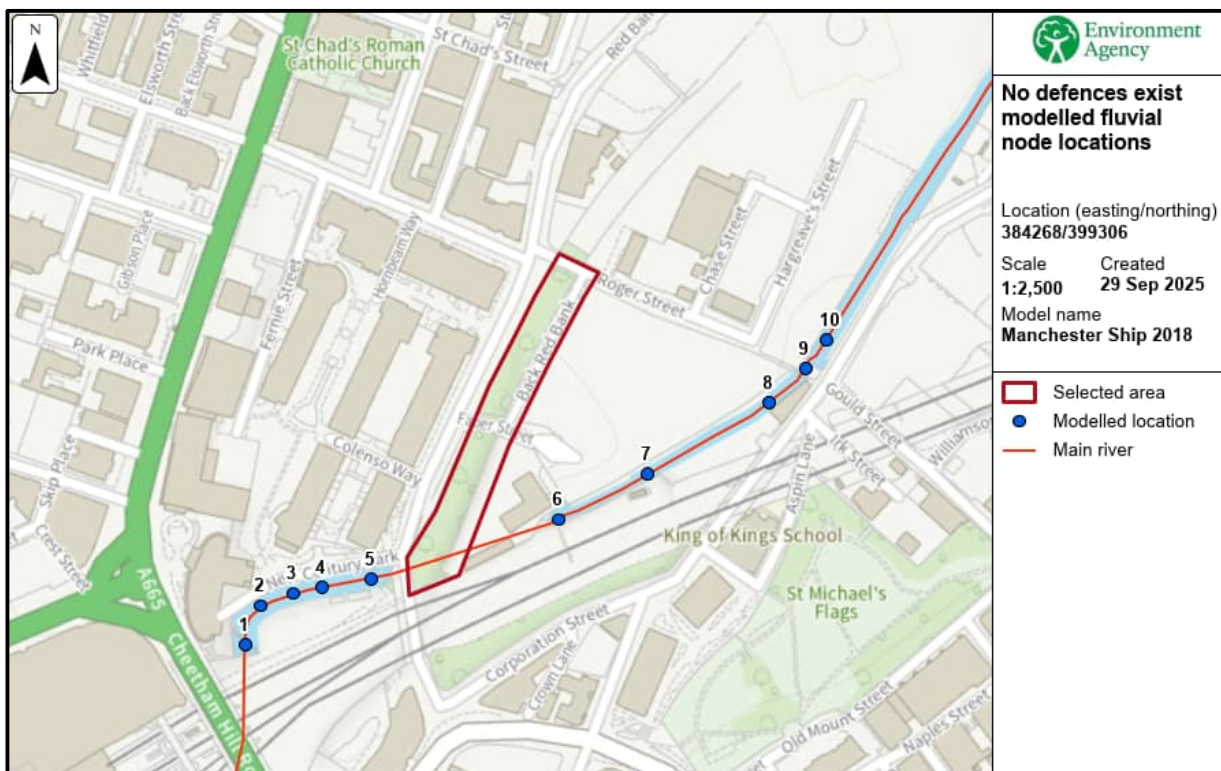


**Figure 5 - Modelled Node Locations (River Irk 2011 Model)**

**Table 1 - River Irk 2011 Modelled Flood Levels**

| Modelled Node | Easting | Northing | 1 in 100-year (m AOD) | 1 in 100-year plus 20% climate change (m AOD) | 1 in 1000-year (m AOD) |
|---------------|---------|----------|-----------------------|-----------------------------------------------|------------------------|
| Node 6        | 384,302 | 399,251  | 28.98                 | 29.21                                         | 30.21                  |
| Node 7        | 384,355 | 399,278  | 29.10                 | 29.32                                         | 30.21                  |

## 2.3 Surface Water/Overland Flow

A review of the EA Surface Water Flood Map for Planning shows that Back Red Bank has a high risk of surface water flooding immediately to the south and east of Arch 20.

Back Red Bank has existing drainage systems within it including existing road gullies along the kerbline channel immediately opposite the site.

Topographically levels in Back Red Bank fall relatively steeply from north to south and away from door thresholds to existing gullies which collect surface runoff along the Back Red Bank kerbline.

Based on the above, it is considered that the site could only be at risk of flooding from surface water in the event of total drainage system failure in the area.



**Figure 6 - EA Surface Water Flood Map**

## 2.4 Other sources of flooding

The proposed development is not at risk of flooding from groundwater, reservoirs, canals or any other known source of flooding.

## 2.5 Surface Water Drainage

There are no proposed changes to the existing surface water drainage arrangements for the site. The proposed works comprise of internal refurbishment and an outdoor seating area with moveable furniture. There is no increase in surface water runoff as this is an existing building.

## 2.6 Floor Levels

As the site sits within EA Flood Zone 2, the EA's standing advice for developments in Flood Zone 2 (including change of use applies). This includes advice on minimum finished floor levels and safe access and egress for development users and emergency services. The standing advice states that:

- *Finished floor levels should be a minimum of whichever is higher of 600mm above the:*
- *average ground level of the site*
- *adjacent road level to the building*
- *estimated river or sea flood level*

*If you cannot raise floor levels to meet the minimum requirement, you will need to:*

- *raise them as much as possible*
- *consider moving vulnerable uses to upper floors*
- *include extra flood resistance and resilience measures*

The development involves the change of use of an existing railway arch. There are no proposals for any new buildings. Therefore, it is not proposed to alter existing floor levels significantly due to existing threshold levels and internal height restrictions.

The existing / proposed ground floor level accessed off Back Red Bank is 29.07m AOD.

The existing / proposed access off Red Bank is 31.60m AOD.

The above levels are taken from threshold levels recorded by topographical survey as shown in Figure 7.

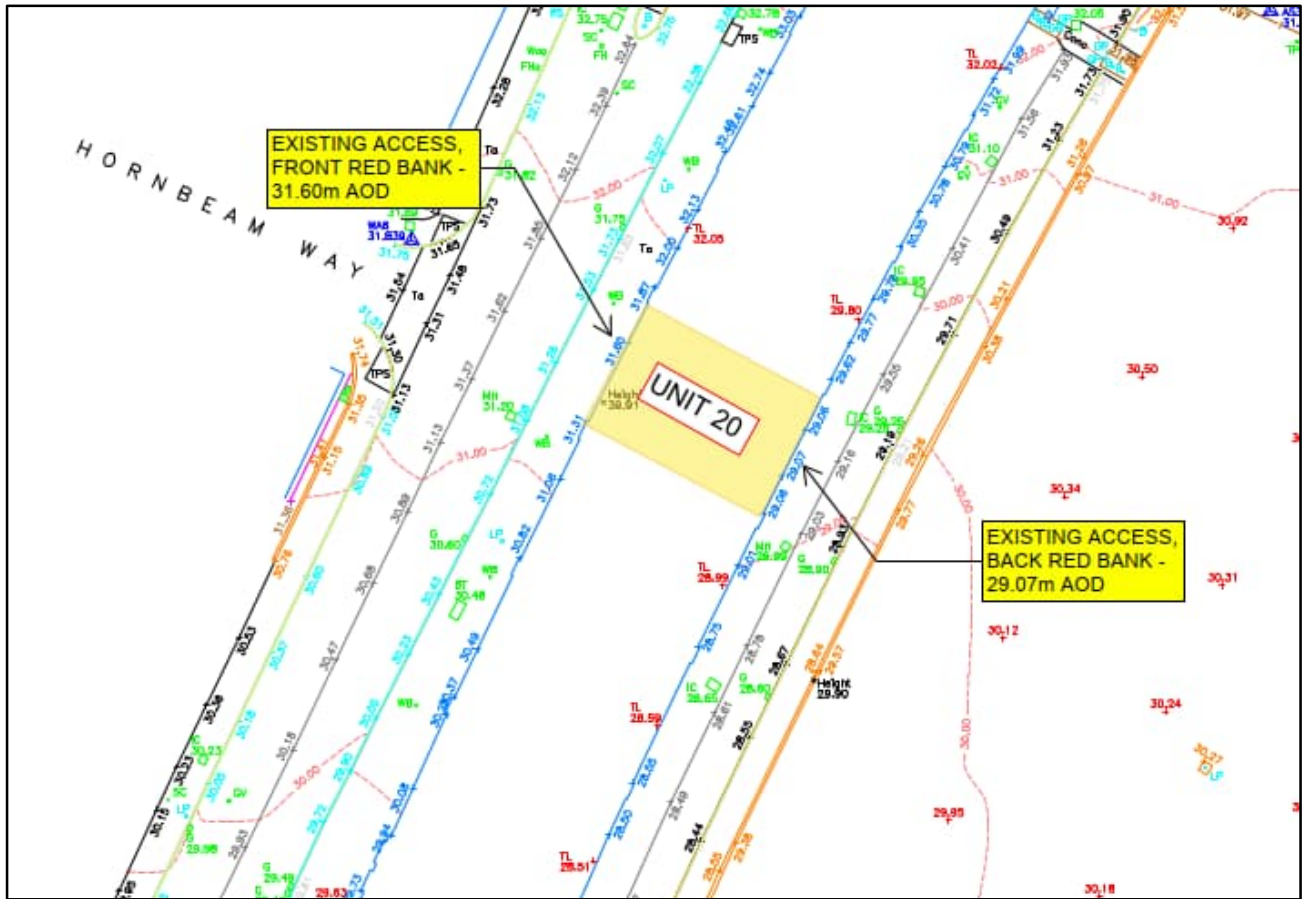


**Figure 7 - Existing Threshold Levels (Unit 20)**

The 100-year (high risk) flood level at Node 6 of the River Irk 2011 model is 28.98 AOD.

The 100-year (plus 20% climate change) flood level at Node 6 of the River Irk 2011 model is 29.21m AOD.

The 1000-year (medium) flood level at Node 6 of the River Irk 2011 model is 30.21m AOD.

Therefore, in a 100-year flood event, the threshold level of Arch 20 along Back Red Bank would be 90mm above the maximum flood level from the River Irk.

In a 100-year plus 20% climate change event, Arch 20 could be subject to up to 140mm of flood water.

In a 1000-year low probability flood event, Arch 20 could be subject to up to 1140mm of flood water.

## 2.7 Emergency Plan

Given that Arch 20 has been assessed to have a medium probability of flooding from the River Irk, it is recommended that an Emergency Plan is put in place so that site users including staff, and customers are aware of the procedures that need to be followed in the event of a flood so that they can be evacuated before the onset of a flood or escape to a safe refuge above the flood level if required.

The requirements for Emergency Plans are set out in the EA / ADEPT guidance document, 'Flood Risk Emergency Plans for New Development'.

The proposed Emergency Plan for this development is set out below with the key information required as part of the Emergency Plan included. A refined version of the Emergency Plan for site users to refer to in case of an emergency is appended to this report.

### ***Characterise and quantify the flood risk;***

The site has a medium probability, or between a 1 in 100 and 1 in 1,000 annual probability of flooding (1% – 0.1%) of flooding from the River Irk.

In a 100-year plus 20% climate change flood event, there could be up to 140mm of flooding to the ground floor level of Arch 20.

### ***Subscribe to EA Automated Flood Warning System;***

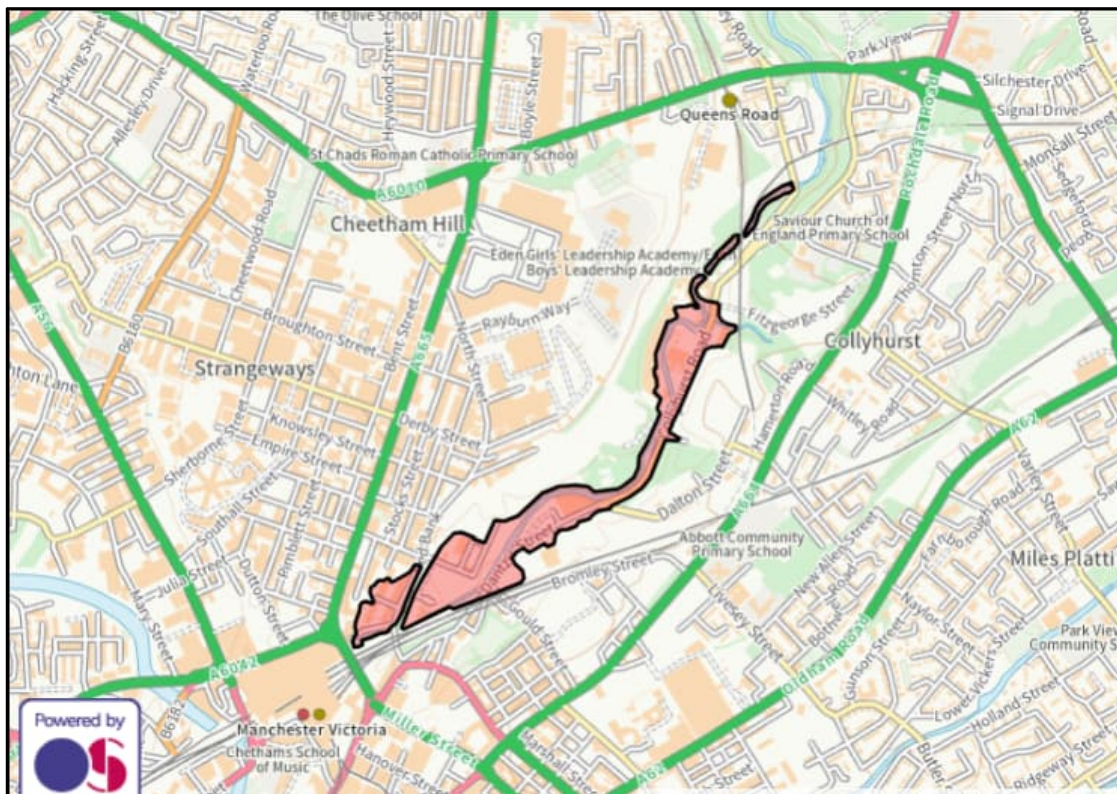


**Figure 8 – 'River Irk at Cheetham Hill' Flood Warning Area**

It is recommended that the site user subscribes to the EA's Automated Flood Warning System so that the site can be evacuated prior to an extreme flood event occurring.

The site is shown to be within the 'River Irk at Cheetham Hill' Flood Warning Area.

The site user can register for Flood Warnings at <https://www.gov.uk/sign-up-for-flood-warnings> or by calling the Floodline 0345 988 1188.

***Detail who is at risk – including vulnerable people and transient users;***

Staff and customers may be at risk in the event of an extreme flood event.

***Explain how the EP will be triggered, by who and when;***

The landlord FEC or the owner / manager / person in charge of the unit should trigger the emergency plan when a Flood Warning is received.

Flood warnings will be provided by the Environment Agency in advance of fluvial flooding.

A Flood Alert is a notification that flooding is possible and to be prepared. Regular monitoring of further flood alerts and EA warnings should be carried out following a flood alert. Once alerted, the responsible person should review the Emergency Plan for preparedness. Ensure access and egress are clear from obstruction. Consider alerting customers to potential flooding.

A Flood Warning communicates that flooding is expected to occur, and immediate action is required.

***Describe what actions are required by the people in the development;***

Once a Flood Warning is received the Emergency Plan is to be triggered. Restaurant staff should close the restaurant and alert customers to the situation and the actions to be taken.

Staff should check for persons in all areas of the restaurant including basement store room and toilets. Disabled users should be evacuated first.

It is recommended that power supplies are to be switched off. This is to minimise the risk of an electrical fuse blowing and potentially causing a fire and / or electrocution.

All cooking equipment should also be turned off.

Temporary demountable flood barrier to be installed at Back Red Bank Entrance, if this is available and there is sufficient time to do so.

***Set out the type and performance of any flood resistance or resilience measures to be installed prior to a flood;***

Flood resistance involves keeping water out of the building and is generally done by using impermeable construction materials up to an agreed level including at entrance thresholds. This can be done by using flood resistant sealed doors or retractable flood barriers at door thresholds.

The Back Red Bank Entrance is proposed to have new glass doors installed behind the existing roller shutter door.

It is not proposed to make the main entrance off Back Red Bank permanently flood resistant as there are to be limited alterations to the external façade. However, it should be noted that much of

the lower portion of the Arch façade is made up of blue engineering bricks. Engineering bricks are highly durable and relative flood resistant. They absorb less water than most bricks and are less likely to deteriorate after flooding.

It is considered that the flood resistance at the Back Red Bank entrance of Arch 20 could be improved by installing a temporary demountable flood barrier such as 'Boxwall Flood Barrier' or similar in the event of a flood warning from the EA. This system is portable, can be easily stored and quickly installed. The site user should consider obtaining a temporary demountable flood barrier.

Flood resilience is related to materials and other methods used to ensure that a flood causes the minimum disruption and that the building can be brought back into use as soon as possible following a flood event.

It is understood that the resin flooring is used at the ground floor level. Resin flooring is flood resilient due to its waterproof, seamless, durable, easy to clean and mould and mildew resistant properties. This type of flooring will enable the development to be brought into use in a timely fashion in the event of a flood.

The relevant guidance documents for further consideration by the site user of resistance and resilience measures are as follows:

- Government guidance on flood resilient construction
- CIRIA Code of Practice for property flood resilience
- British Standard 85500 – Flood resistant and resilient construction

***Establish safe access and escape routes to a safe location and inform site users of routes that are unsafe;***

The 'Flood Risk and Coastal Change' Planning Practice Guidance (PPG) states that, in determining whether a development is safe, the ability of residents and users to safely access and exit a building during a design flood and to evacuate before an extreme flood needs to be considered.

Developments that are frequently visited or occupied by people should be designed so that safe access to and from the development is possible during a flood event. In most cases, safe access can only be provided if there is an access route from the development to an area outside the flood risk zone that is located above the design flood level and which can be passed along easily by all users. For most developments, especially residential, commercial and industrial developments, it is also important that the emergency services can have safe access to and from the development during the design flood.

Safe access and egress is available for site users from the entrance on the Front Red Bank elevation of the building.

Once the building has been evacuated following a flood warning, site users should make their way to higher ground northeast along Red Bank. Site users should be made aware to not to walk southwest along Red Bank.

It should be noted that the lower ground floor which is accessed off Back Red Bank includes dining facilities for disabled users. Such users may not be able to negotiate internal stairs to the mezzanine level to egress the building along Front Red Bank.

Disabled users that are not able to negotiate the internal staircase should be evacuated via the Back Red Bank Street exit. They should travel north along Back Red Bank and turn left beneath the Roger Street bridge and then travel further north along Red Bank.

***Outline the evacuation procedure, place of refuge and related equipment needed to serve occupants for the required duration;***

Given that safe and dry access evacuation is available for the majority of site users via the mezzanine level and the Front Red Bank entrance, a safe refuge is not specifically required for this development.

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## 3. Summary and Conclusion

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A change of use planning application was submitted under application reference 143484/FO/2025 for the following development:

*“Full planning application for change of use from storage to restaurant and bar, with ancillary retail and associated storage area (Sui Generis) along with external alterations and outdoor seating area.”*

The Flood Risk Vulnerability classification for this type of development is ‘More Vulnerable’.

Arch 20 is shown to be located within EA Flood Zone 2 on the EA’s Flood Map for Planning which means it has a medium probability, or between a 1 in 100 and 1 in 1,000 annual probability of flooding (1% – 0.1%) of flooding from the River Irk.

‘More Vulnerable’ developments are appropriate in EA Flood Zone 2’.

In a 100-year plus 20% climate change flood event, there could be up to 140mm of flooding to the ground floor level of Arch 20.

Given that the site is assessed to be at risk of flooding, it is recommended that the site user registers for the EA Automated Flood Warning System for the ‘River Irk at Cheetham Hill Area’.

There are no changes to the existing surface water drainage arrangements for the site and there is no increase in surface water runoff as a result of the proposed development.

Flood resistant and resilient measures have been adopted as part of the development and an Emergency Plan has been developed to outline the procedures for the site user follow in the event of a Flood Warning including safe access and egress routes for all site users including disabled users.

The applicant, who will be occupying the building, has agreed to the flood management measures detailed in this report and subject to their implementation and adherence to the Emergency Plan, it is considered that the development can be occupied safely for its lifetime in accordance with the requirements of the National Planning Policy Framework (NPPF).

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## Appendix A – Environment Agency Data

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# Flood risk assessment data



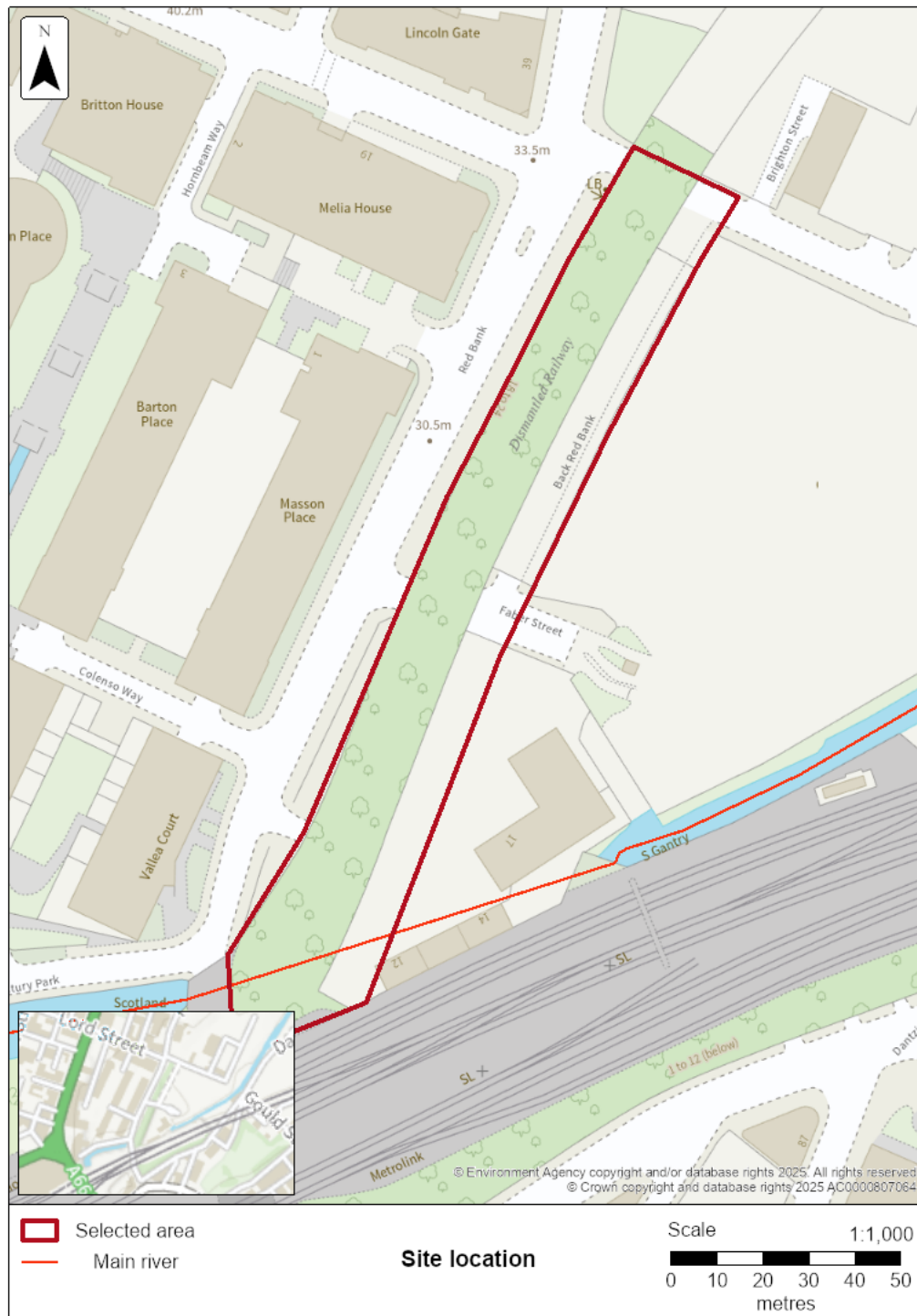
**Location of site:** 384268 / 399306 (shown as easting and northing coordinates)

**Document created on:** 29 September 2025

**This information was previously known as a product 4.**

**Customer reference number:** NXMRF25D3WCV

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



## How to use this information

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

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

## Included in this document

In this document you'll find:

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

## Surface water and other sources of flooding

When using the surface water map on the [check your long term flood risk service](#) the following considerations apply:

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

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

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

Your Lead Local Flood Authority is Manchester District.

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

## About the models used

Model name: Manchester Ship Canal 2018

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 1 May 202

Model name: River Irk 2011

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 5 November 2010

These models contain the most relevant data for your area of interest.

## Terminology used

### Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of 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:

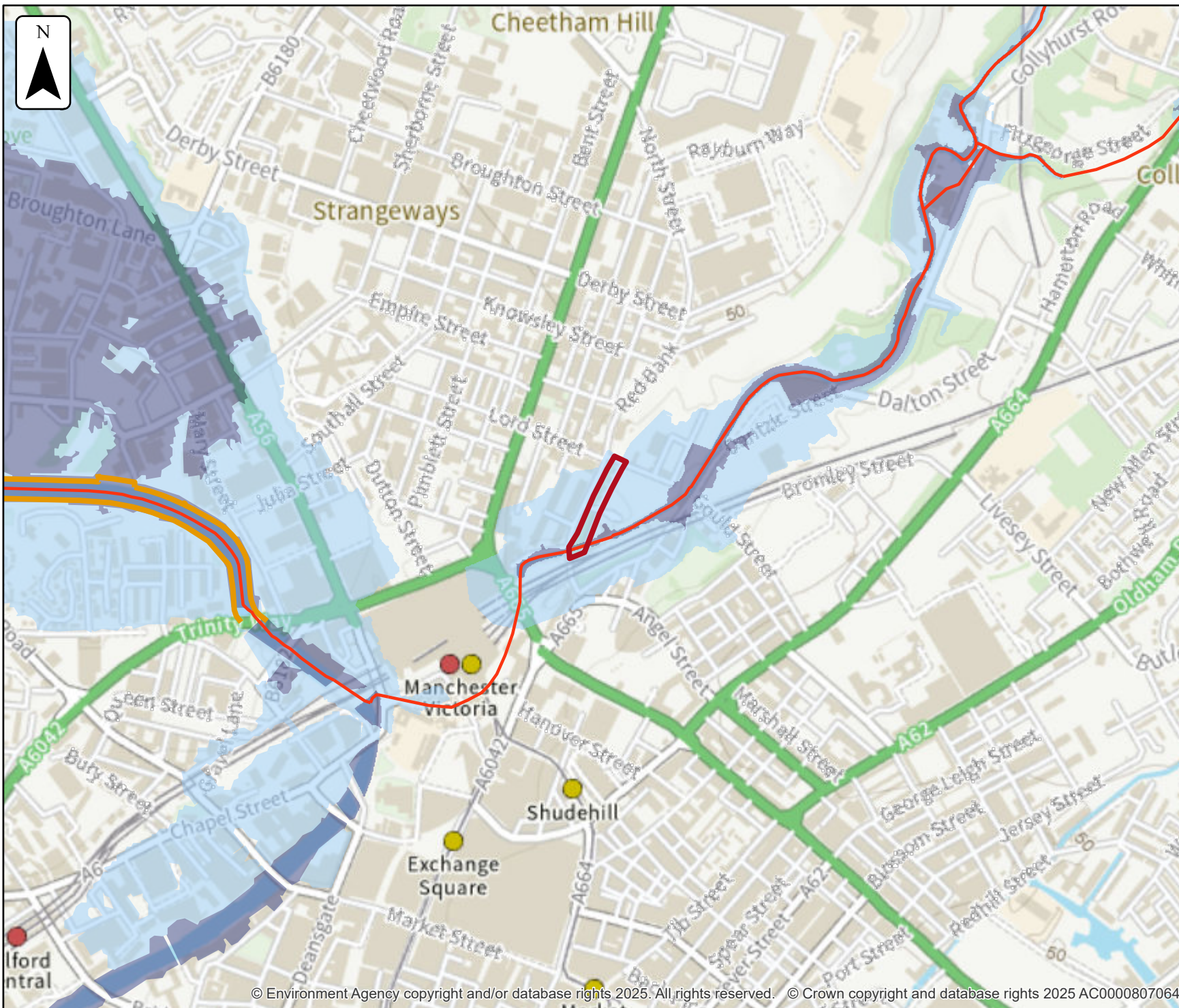
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



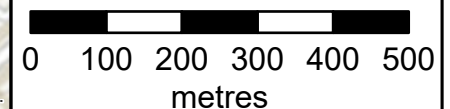
## Flood map for planning

Location (easting/northing)  
**384268/399306**

Scale  
**1:10,000**

Created  
**29 Sep 2025**

-  Selected area
-  Main river
-  Flood defence
-  Flood Zone 3
-  Flood Zone 2



## Past floods

### Past flood events included in this document

The recorded flood outlines included in this document are for areas of land local to your site location that have been flooded by any of these sources:

- ephemeral water
- main rivers
- ordinary watercourses
- the sea
- unknown

### Data limitations

The outlines do not include flooding from:

- drainage where rainfall has led to surface water ponding or overland runoff
- artificial, water-bearing sewer, water supply and wastewater treatment pipelines

### Changes to flood defences

The defences (also known as assets) that were in place may also have changed. For example, assets may have been built more recently than the last recorded flood outline.

### What the recorded flood outlines dataset is

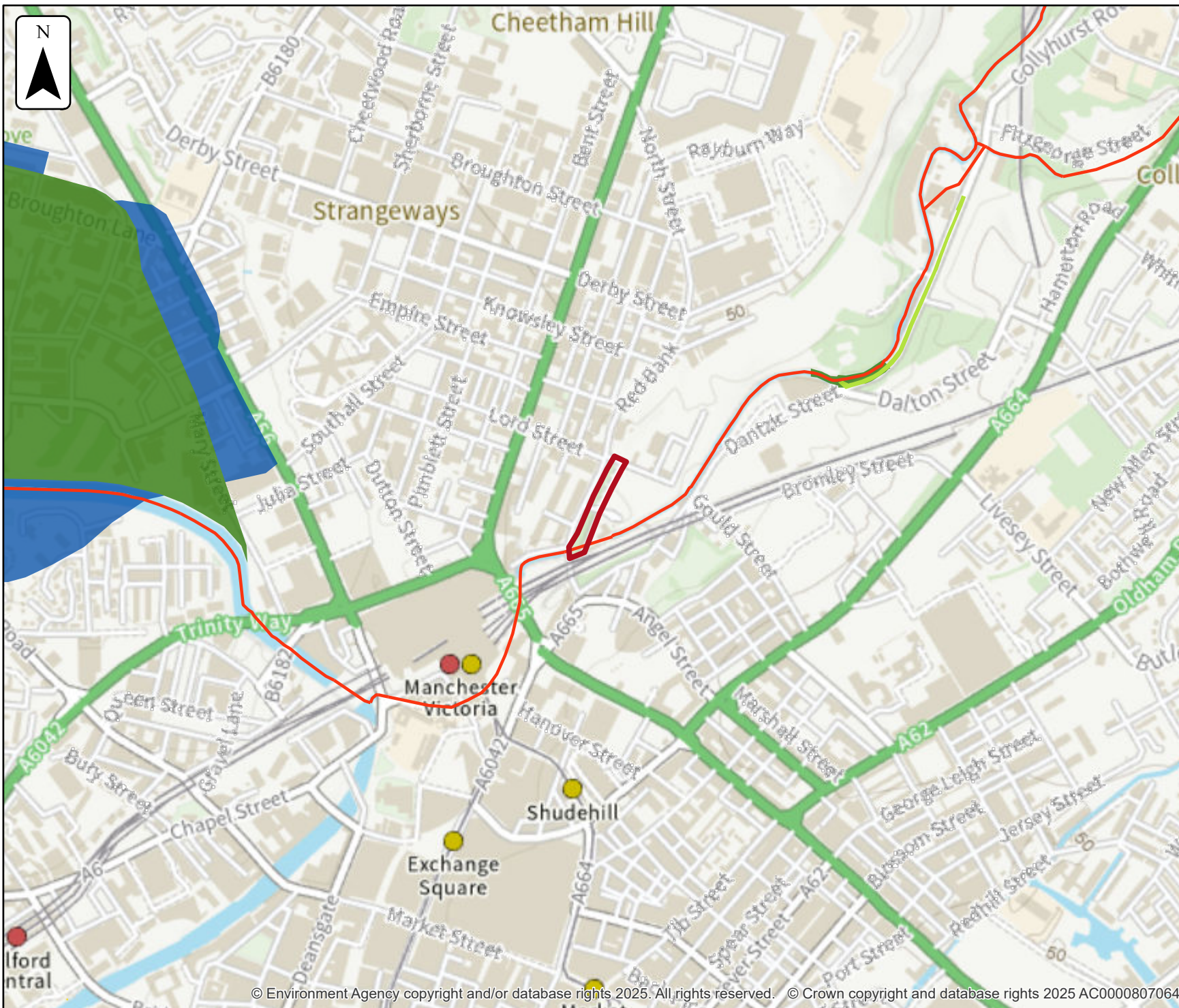
The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

- rivers
- the sea
- groundwater
- surface water

[Download the complete recorded flood outlines dataset](#), which includes data quality flags for outlines recorded after April 2020. This indicates the confidence we have in an outline.

### Get flood information from other organisations

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



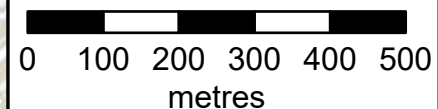
## Past floods

Location (easting/northing)  
**384268/399306**

Scale  
**1:10,000**

Created  
**29 Sep 2025**

-  Selected area
-  Main river
- Date of flood event
  -  March, 2019
  -  December, 2015
  -  January, 2008
  -  January, 1954
  -  September, 1946
  -  November, 1866



## Data on past flood events

| Start date        | End date          | Source of flood | Cause of flood                                 | Affects location |
|-------------------|-------------------|-----------------|------------------------------------------------|------------------|
| 16 March 2019     | 16 March 2019     | main river      | channel capacity exceeded (no raised defences) | No               |
| 26 December 2015  | 26 December 2015  | main river      | overtopping of defences                        | No               |
| 21 January 2008   | 22 January 2008   | main river      | unknown                                        | No               |
| 21 January 1954   | 22 January 1954   | main river      | channel capacity exceeded (no raised defences) | No               |
| 20 September 1946 | 21 September 1946 | main river      | channel capacity exceeded (no raised defences) | No               |
| 01 November 1866  | 02 November 1866  | main river      | channel capacity exceeded (no raised defences) | No               |

## Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

## Climate change

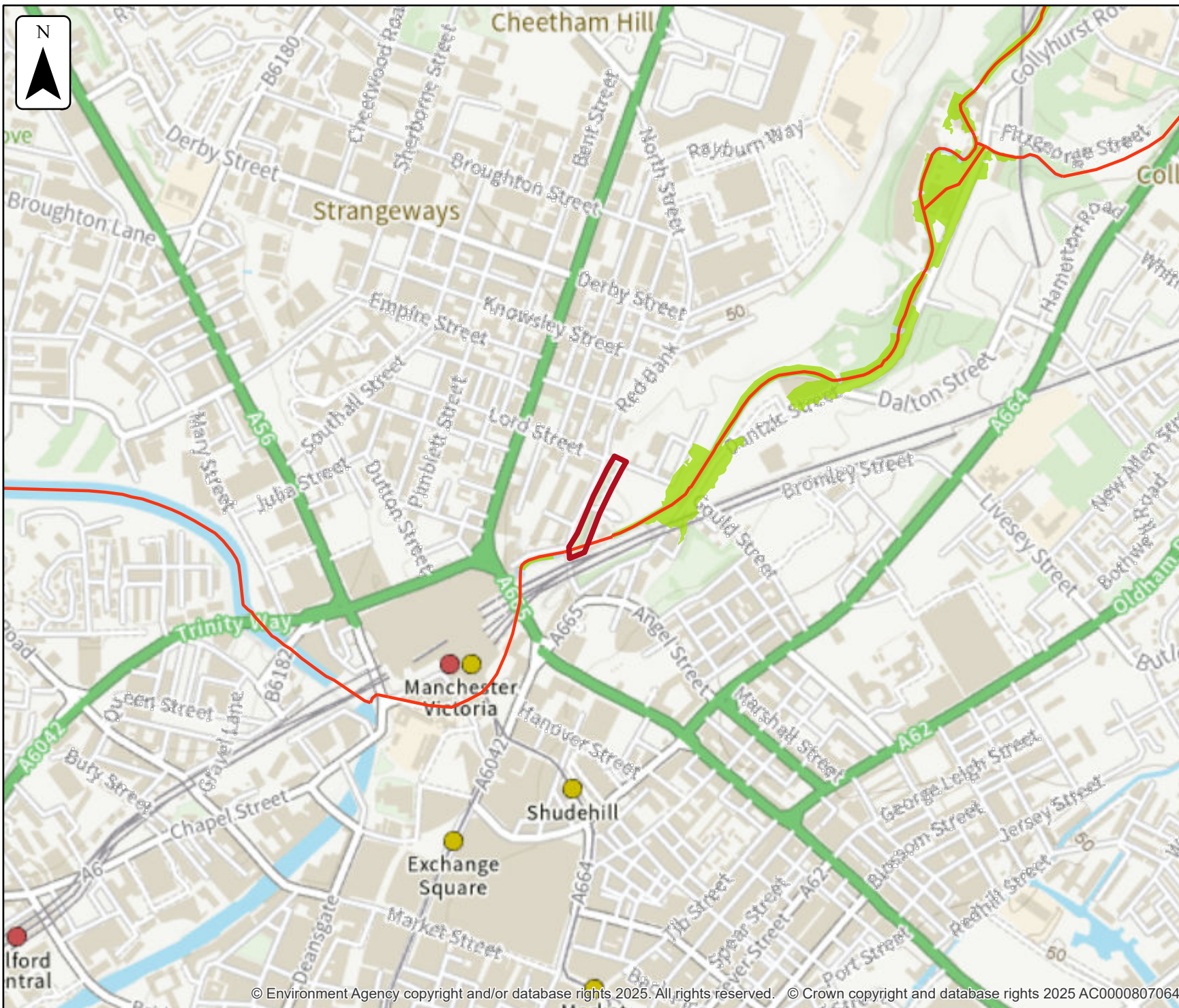
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

## Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change
- No defences exist climate change modelled fluvial: risk of flooding from rivers where there are no flood defences, including estimated impact of climate change



## No defences exist climate change modelled fluvial extent

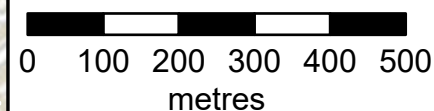
Location (easting/northing)  
**384268/399306**

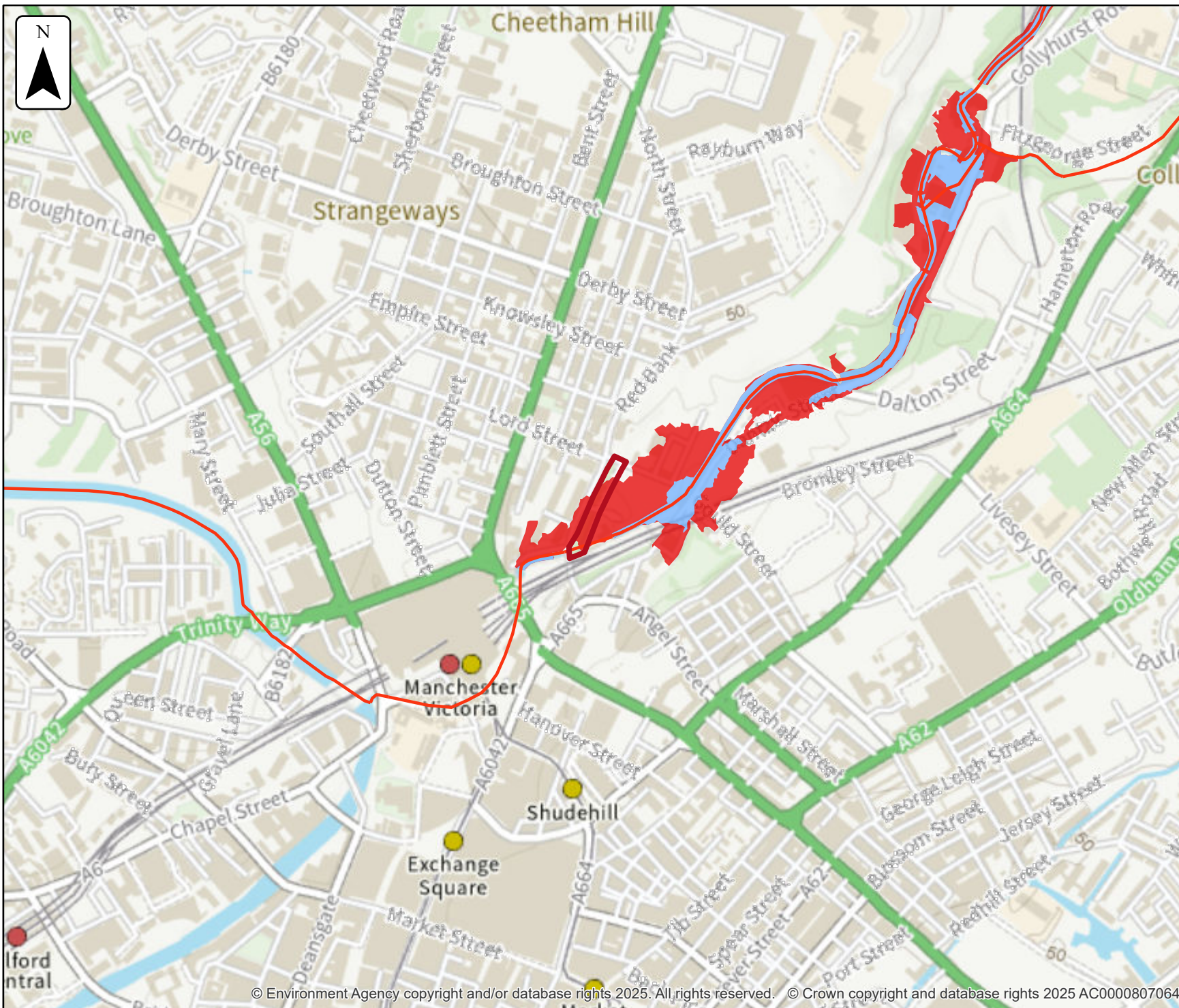
Scale Created  
**1:10,000 29 Sep 2025**

Model name  
**River Irk 2011**

-  Selected area
-  Main river
- Modelled flood extent
-  1% AEP (+20%)

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





**No defences exist  
modelled fluvial extent**

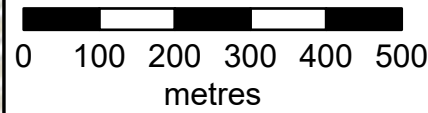
Location (easting/northing)  
**384268/399306**

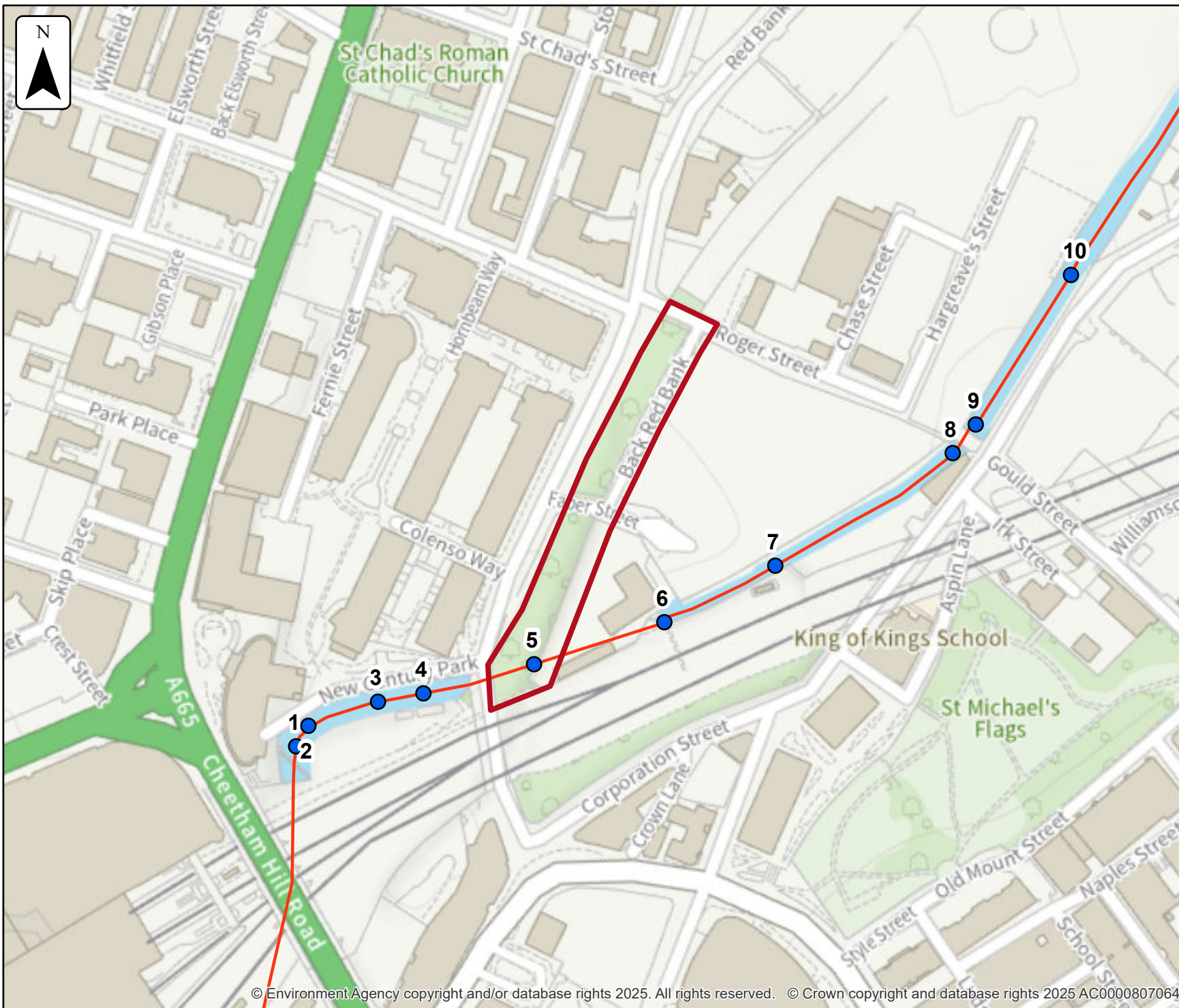
Scale Created  
**1:10,000 29 Sep 2025**

Model name  
**River Irk 2011**

-  Selected area
-  Main river
- Modelled flood extent
  -  1% AEP
  -  0.1% AEP

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





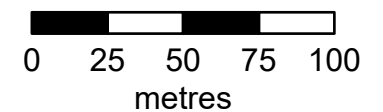
**No defences exist  
climate change  
modelled fluvial  
node locations**

Location (easting/northing)  
**384268/399306**

Scale Created  
**1:2,500 29 Sep 2025**

Model name  
**River Irk 2011**

- Selected area
- Modelled location
- Main river



## Modelled node locations data

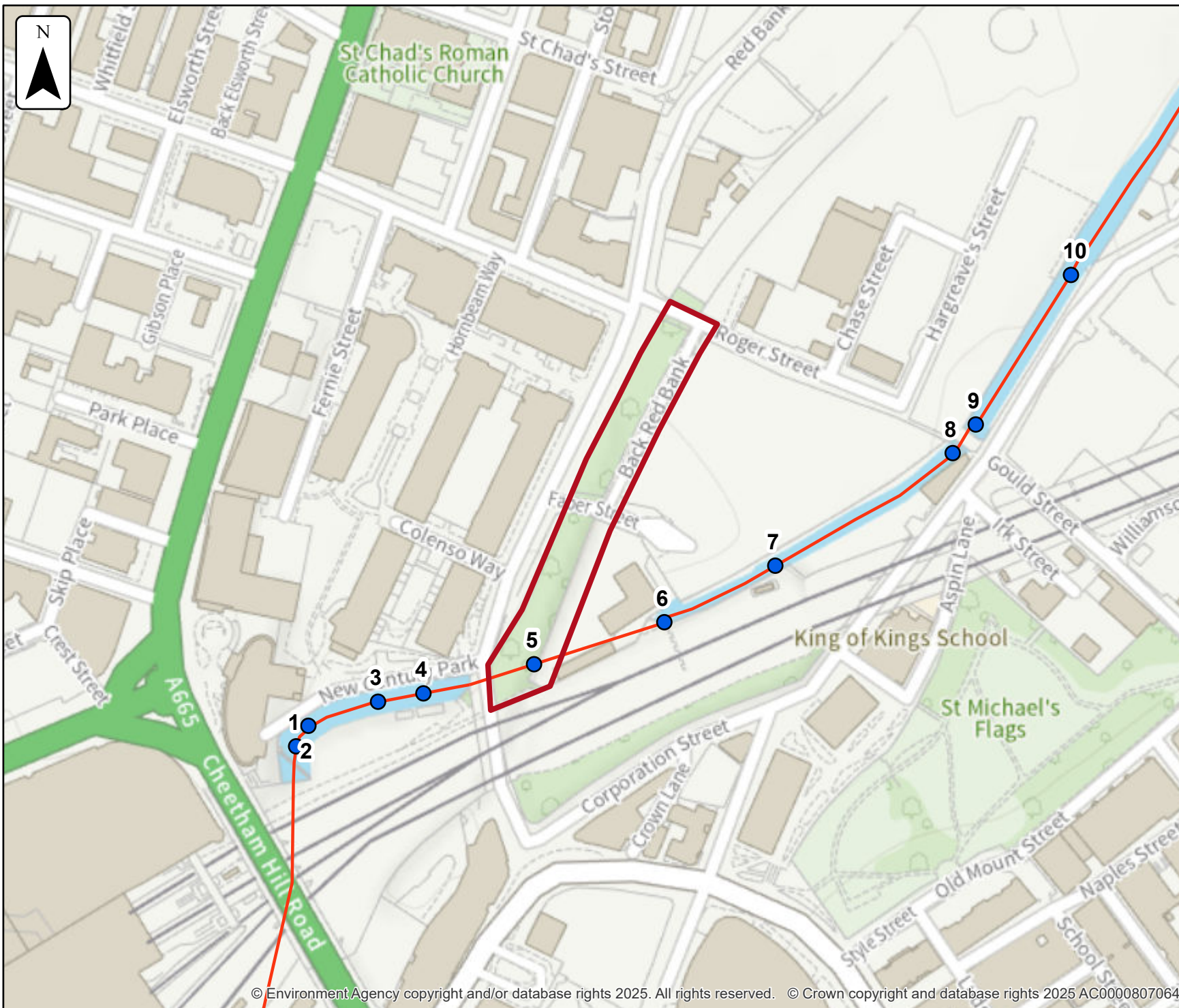
### No defences exist climate change

| Label | Modelled location ID | Easting | Northing | 1% AEP (+20%) | 1% AEP (+20%) |
|-------|----------------------|---------|----------|---------------|---------------|
|       |                      |         |          | Level         | Flow          |
| 1     | 59311                | 384123  | 399191   | 24.94         | 72.70         |
| 2     | 92805                | 384129  | 399201   | 28.34         | 72.69         |
| 3     | 217045               | 384163  | 399212   | 28.50         | 72.66         |
| 4     | 6375                 | 384185  | 399216   | 28.65         | 72.18         |
| 5     | 236007               | 384238  | 399231   | 29.10         | 72.19         |
| 6     | 332514               | 384302  | 399251   | 29.21         | 72.38         |
| 7     | 330472               | 384355  | 399278   | 29.32         | 72.49         |
| 8     | 289504               | 384441  | 399333   | 29.93         | 61.03         |
| 9     | 280085               | 384453  | 399347   | 30.38         | 61.06         |
| 10    | 130569               | 384499  | 399419   | 30.37         | 70.92         |

Data in this table comes from the River Irk 2011 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.



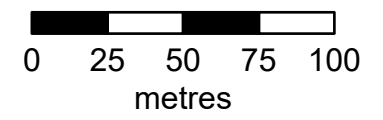
**No defences exist  
modelled fluvial  
node locations**

Location (easting/northing)  
**384268/399306**

Scale Created  
**1:2,500 29 Sep 2025**

Model name  
**River Irk 2011**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

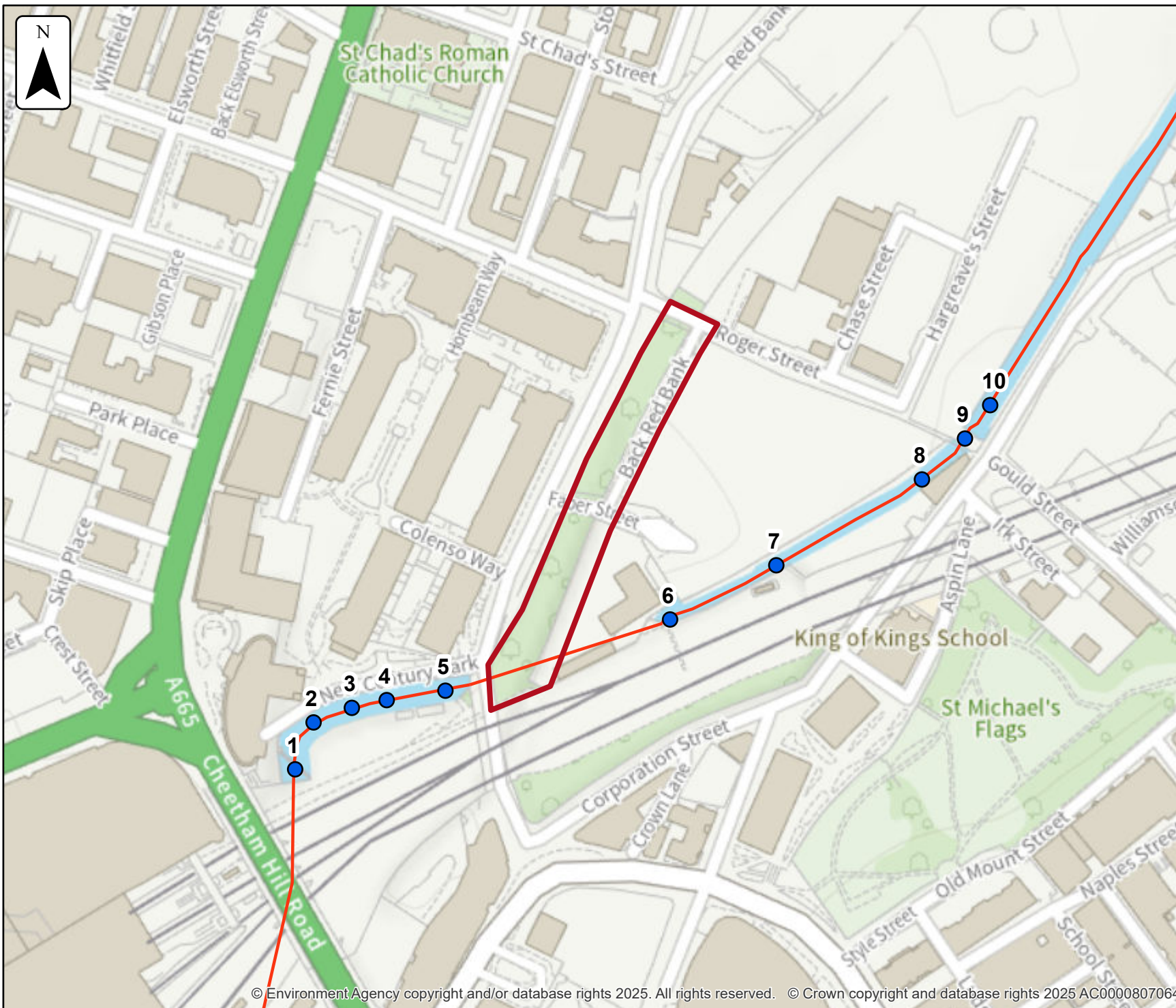
### No defences exist

| Label | Modelled location ID | Easting | Northing | 4% AEP | 1% AEP | 0.1% AEP | 4% AEP | 1% AEP | 0.1% AEP |
|-------|----------------------|---------|----------|--------|--------|----------|--------|--------|----------|
|       |                      |         |          | Level  | Level  | Level    | Flow   | Flow   | Flow     |
| 1     | 59311                | 384123  | 399191   | 24.64  | 24.82  | 25.59    | 55.92  | 65.83  | 106.53   |
| 2     | 92805                | 384129  | 399201   | 27.98  | 28.20  | 29.0     | 55.92  | 65.83  | 106.68   |
| 3     | 217045               | 384163  | 399212   | 28.10  | 28.34  | 29.36    | 55.92  | 65.83  | 94.66    |
| 4     | 6375                 | 384185  | 399216   | 28.30  | 28.51  | 29.38    | 55.63  | 65.43  | 91.08    |
| 5     | 236007               | 384238  | 399231   | 28.55  | 28.87  | 30.17    | 55.63  | 65.43  | 91.07    |
| 6     | 332514               | 384302  | 399251   | 28.67  | 28.98  | 30.21    | 55.63  | 65.43  | 95.01    |
| 7     | 330472               | 384355  | 399278   | 28.79  | 29.10  | 30.21    | 55.63  | 65.43  | 101.64   |
| 8     | 289504               | 384441  | 399333   | 29.25  | 29.63  | 31.0     | 55.63  | 60.59  | 62.97    |
| 9     | 280085               | 384453  | 399347   | 29.71  | 30.16  | 31.08    | 55.63  | 60.61  | 63.05    |
| 10    | 130569               | 384499  | 399419   | 29.80  | 30.21  | 30.93    | 55.51  | 63.66  | 134.74   |

Data in this table comes from the River Irk 2011 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.



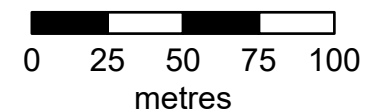
## No defences exist modelled fluvial node locations

Location (easting/northing)  
**384268/399306**

Scale Created  
**1:2,500 29 Sep 2025**

Model name  
**Manchester Ship 2018**

-  Selected area
-  Modelled location
-  Main river



| Map Reference | Model Node Reference    | Easting | Northing | Data                          | Normal Operation       |                         |                        |                        |                           |                         |                                               |                                                |                                                |                           | Latchford 1 Gate Closed    |                         | Latchford 3 Gates Closed |                            |
|---------------|-------------------------|---------|----------|-------------------------------|------------------------|-------------------------|------------------------|------------------------|---------------------------|-------------------------|-----------------------------------------------|------------------------------------------------|------------------------------------------------|---------------------------|----------------------------|-------------------------|--------------------------|----------------------------|
|               |                         |         |          |                               | 20 % AEP (1 in 5 year) | 10 % AEP (1 in 10 year) | 4 % AEP (1 in 25 year) | 2 % AEP (1 in 50 year) | 1.33 % AEP (1 in 75 year) | 1 % AEP (1 in 100 year) | 1% AEP (1 in 100 year) + 30% increase in flow | 1 % AEP (1 in 100 year) + 30% increase in flow | 1 % AEP (1 in 100 year) + 70% increase in flow | 0.5 % AEP (1 in 200 year) | 0.1 % AEP (1 in 1000 year) | 1 % AEP (1 in 100 year) | 1 % AEP (1 in 100 year)  | 0.1 % AEP (1 in 1000 year) |
| 1             | ea013_0251_IRKR01_0579d | 384123  | 399180   | Modelled Water Level (m aodN) | 24.56                  | 24.91                   | 25.40                  | 25.69                  | 25.87                     | 26.11                   | 26.75                                         | 26.90                                          | 28.60                                          | 26.60                     | 29.05                      | 26.11                   | 26.11                    | 29.08                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.20                  | 29.08                   | 35.33                  | 41.90                  | 46.59                     | 50.49                   | 65.63                                         | 68.16                                          | 85.83                                          | 61.52                     | 103.86                     | 50.49                   | 50.49                    | 103.86                     |
| 2             | ea013_0251_IRKR01_0579u | 384130  | 399204   | Modelled Water Level (m aodN) | 27.14                  | 27.27                   | 27.42                  | 27.57                  | 27.68                     | 27.76                   | 28.06                                         | 28.11                                          | 28.73                                          | 27.98                     | 29.21                      | 27.76                   | 27.76                    | 29.23                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.20                  | 29.08                   | 35.33                  | 41.90                  | 46.59                     | 50.49                   | 65.63                                         | 68.16                                          | 85.83                                          | 61.52                     | 103.86                     | 50.49                   | 50.49                    | 103.86                     |
| 3             | ea013_0251_IRKR01_0627d | 384149  | 399210   | Modelled Water Level (m aodN) | 27.06                  | 27.18                   | 27.33                  | 27.48                  | 27.58                     | 27.66                   | 28.00                                         | 28.07                                          | 28.74                                          | 27.90                     | 29.25                      | 27.66                   | 27.66                    | 29.28                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.17                  | 29.04                   | 35.28                  | 41.85                  | 46.53                     | 50.43                   | 65.55                                         | 68.08                                          | 85.73                                          | 61.44                     | 103.74                     | 50.43                   | 50.43                    | 103.74                     |
| 4             | ea013_0251_IRKR01_0627u | 384169  | 399216   | Modelled Water Level (m aodN) | 27.06                  | 27.18                   | 27.33                  | 27.48                  | 27.58                     | 27.66                   | 28.00                                         | 28.07                                          | 28.74                                          | 27.90                     | 29.25                      | 27.66                   | 27.66                    | 29.28                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.17                  | 29.04                   | 35.28                  | 41.85                  | 46.53                     | 50.43                   | 65.55                                         | 68.08                                          | 85.73                                          | 61.44                     | 103.74                     | 50.43                   | 50.43                    | 103.74                     |
| 5             | ea013_0251_IRKR01_0685d | 384193  | 399220   | Modelled Water Level (m aodN) | 27.23                  | 27.37                   | 27.53                  | 27.70                  | 27.80                     | 27.89                   | 28.21                                         | 28.26                                          | 28.76                                          | 28.13                     | 29.24                      | 27.89                   | 27.89                    | 29.26                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.13                  | 29.00                   | 35.23                  | 41.79                  | 46.47                     | 50.36                   | 65.46                                         | 67.68                                          | 85.60                                          | 61.35                     | 103.59                     | 50.36                   | 50.36                    | 103.59                     |
| 6             | ea013_0251_IRKR01_0774  | 384303  | 399254   | Modelled Water Level (m aodN) | 27.45                  | 27.63                   | 27.85                  | 28.07                  | 28.22                     | 28.34                   | 28.78                                         | 28.65                                          | 29.32                                          | 28.66                     | 29.81                      | 28.34                   | 28.34                    | 29.81                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.13                  | 29.00                   | 35.23                  | 41.79                  | 46.47                     | 50.36                   | 65.46                                         | 67.98                                          | 85.61                                          | 61.35                     | 103.59                     | 50.36                   | 50.36                    | 103.59                     |
| 7             | ea013_0251_IRKR01_0835  | 384356  | 399281   | Modelled Water Level (m aodN) | 27.41                  | 27.58                   | 27.79                  | 28.00                  | 28.14                     | 28.25                   | 28.67                                         | 28.74                                          | 29.18                                          | 28.56                     | 29.64                      | 28.25                   | 28.25                    | 29.64                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.12                  | 28.99                   | 35.22                  | 41.77                  | 46.45                     | 50.34                   | 65.43                                         | 67.98                                          | 85.57                                          | 61.33                     | 103.55                     | 50.34                   | 50.34                    | 103.55                     |
| 8             | ea013_0251_IRKR01_0941  | 384428  | 399321   | Modelled Water Level (m aodN) | 27.80                  | 28.01                   | 28.25                  | 28.50                  | 28.66                     | 28.79                   | 29.27                                         | 29.35                                          | 29.85                                          | 29.15                     | 30.35                      | 28.79                   | 28.79                    | 30.35                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.06                  | 28.91                   | 35.12                  | 41.66                  | 46.32                     | 50.21                   | 65.26                                         | 67.78                                          | 85.34                                          | 61.17                     | 103.28                     | 50.21                   | 50.21                    | 103.28                     |
| 9             | ea013_0251_IRKR01_0951d | 384447  | 399341   | Modelled Water Level (m aodN) | 27.91                  | 28.14                   | 28.45                  | 28.77                  | 29.03                     | 29.24                   | 30.02                                         | 30.11                                          | 30.64                                          | 29.86                     | 31.02                      | 29.24                   | 29.24                    | 31.02                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.05                  | 28.90                   | 35.11                  | 41.65                  | 46.31                     | 50.19                   | 60.45                                         | 60.63                                          | 60.69                                          | 59.42                     | 60.65                      | 50.19                   | 50.19                    | 60.68                      |
| 10            | ea013_0251_IRKR01_0951u | 384460  | 399359   | Modelled Water Level (m aodN) | 27.91                  | 28.14                   | 28.45                  | 28.77                  | 29.03                     | 29.24                   | 30.02                                         | 30.11                                          | 30.64                                          | 29.86                     | 31.02                      | 29.24                   | 29.24                    | 31.02                      |
|               |                         |         |          | Modelled Flow (cumecs)        | 24.05                  | 28.90                   | 35.11                  | 41.65                  | 46.31                     | 50.19                   | 65.24                                         | 67.76                                          | 85.32                                          | 61.16                     | 103.26                     | 50.19                   | 50.19                    | 103.26                     |

Model data taken from Manchester Ship Canal 2016

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

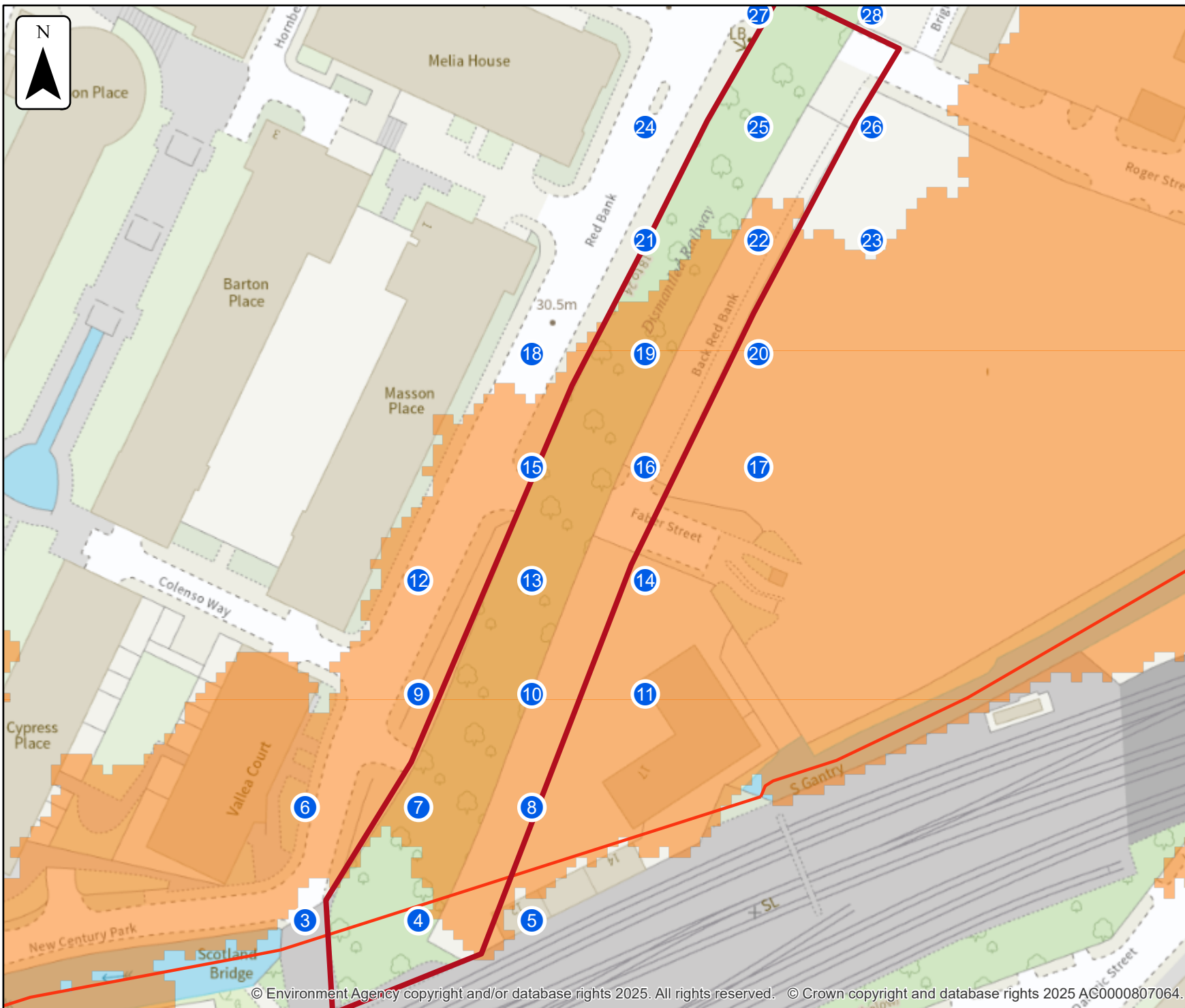
cumecs - cubic metres per second

Notes:

\*Climate Change Scenario - 30%, 35% and 70% increases in flow calculated for the 2080's (2070 - 2115). Please see <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> for more information regarding the new climate change guidance. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

For the Manchester Ship Canal Model, we provide the following three scenarios:

- 1. Normal Operation:** All sluice gates operate automatically to maintain a navigable ponded water level upstream of each set of sluice gates. During times of high flow the gates are opened automatically to allow excess water pass downstream. During extreme conditions the sluice gates can be manually overridden to extend the opening heights.
- 2. Latchford 1 Gate Closed Scenario:** This scenario represents a single operational sluice gate at Latchford Locks fixed closed. Therefore, only operational movements from 2 active sluice gates. The model setup removes the gate from PID controller setup and an IED file is used to define the sluice gate as fixed in the closed position.
- 3. Latchford 3 Gates Closed Scenario:** This scenario has been defined as the removal of operational rules at all three sluice gates at Latchford Locks, thus, all gates are fixed in the closed position resulting in no regulation of upstream water levels. The model setup removes each of the gates from PID controller setup and an IED file is used to define sluice gates fixed in the closed position.



## No defences exist modelled fluvial extent and height

Location (easting/northing)  
**384268/399306**

Scale Created  
**1:1,000 29 Sep 2025**

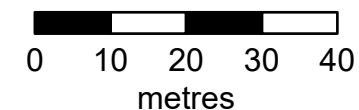
Model name  
**River Irk 2011**

- Selected area
- Main river

Modelled 2D grid  
Water level in mAOD

- 0 - 4.0
- 4.0 - 8.0
- 8.0 - 12.0
- 12.0 - 16.0
- 16.0 - 20.0
- 20.0 - 24.0
- 24.0 - 28.0
- 28.0 - 32.0
- 32.0 - 36.0

This map shows the  
0.1% AEP height data



## Sample point data

No defences exist

| Label | Easting | Northing | 4% AEP | 1% AEP | 0.1% AEP | 4% AEP | 1% AEP | 0.1% AEP |
|-------|---------|----------|--------|--------|----------|--------|--------|----------|
|       |         |          | Height | Height | Height   | Depth  | Depth  | Depth    |
| 1     | 384212  | 399204   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 2     | 384234  | 399204   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 3     | 384212  | 399226   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 4     | 384234  | 399226   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 5     | 384256  | 399226   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 6     | 384212  | 399248   | NoData | NoData | 30.01    | NoData | NoData | 0.70     |
| 7     | 384234  | 399248   | NoData | NoData | 30.10    | NoData | NoData | 1.00     |
| 8     | 384256  | 399248   | NoData | NoData | 30.11    | NoData | NoData | 0.93     |
| 9     | 384234  | 399270   | NoData | NoData | 30.10    | NoData | NoData | 1.03     |
| 10    | 384256  | 399270   | NoData | NoData | 30.11    | NoData | NoData | 1.07     |
| 11    | 384278  | 399270   | NoData | NoData | 30.11    | NoData | NoData | 0.88     |
| 12    | 384234  | 399292   | NoData | NoData | 30.11    | NoData | NoData | 0.79     |

| Label | Easting | Northing | 4% AEP | 1% AEP | 0.1% AEP | 4% AEP | 1% AEP | 0.1% AEP |
|-------|---------|----------|--------|--------|----------|--------|--------|----------|
|       |         |          | Height | Height | Height   | Depth  | Depth  | Depth    |
| 13    | 384256  | 399292   | NoData | NoData | 30.11    | NoData | NoData | 1.13     |
| 14    | 384278  | 399292   | NoData | NoData | 30.11    | NoData | NoData | 1.32     |
| 15    | 384256  | 399314   | NoData | NoData | 30.12    | NoData | NoData | 0.85     |
| 16    | 384278  | 399314   | NoData | NoData | 30.12    | NoData | NoData | 1.64     |
| 17    | 384300  | 399314   | NoData | NoData | 30.13    | NoData | NoData | 0.31     |
| 18    | 384256  | 399336   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 19    | 384278  | 399336   | NoData | NoData | 30.13    | NoData | NoData | 0.73     |
| 20    | 384300  | 399336   | NoData | NoData | 30.11    | NoData | NoData | 0.35     |
| 21    | 384278  | 399358   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 22    | 384300  | 399358   | NoData | NoData | 30.13    | NoData | NoData | 0.61     |
| 23    | 384322  | 399358   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 24    | 384278  | 399380   | NoData | NoData | NoData   | NoData | NoData | NoData   |

| Label                       | Easting | Northing | 4% AEP | 1% AEP | 0.1% AEP | 4% AEP | 1% AEP | 0.1% AEP |
|-----------------------------|---------|----------|--------|--------|----------|--------|--------|----------|
|                             |         |          | Height | Height | Height   | Depth  | Depth  | Depth    |
| 25                          | 384300  | 399380   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 26                          | 384322  | 399380   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 27                          | 384300  | 399402   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| 28                          | 384322  | 399402   | NoData | NoData | NoData   | NoData | NoData | NoData   |
| Max value in selected area: |         |          | NoData | NoData | 30.21    | NoData | NoData | 1.75     |

Data in this table comes from the River Irk 2011 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.

## Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is Manchester District.

## About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

## Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

## Help and advice

Contact the Greater Manchester Merseyside and Cheshire Environment Agency team at [inforequests.gmmc@environment-agency.gov.uk](mailto:inforequests.gmmc@environment-agency.gov.uk) for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for

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## Appendix B – Emergency Plan

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# Flooding - Emergency Plan

This Emergency Plan is to be followed in full in the event of a Flood Alert / Warning from the Environment Agency EA.

This property *is registered* to the EA Automated Flood Alert / Flood Warning System for the 'River Irk at Cheetham Hill Area'. Contact details for Suzume Restaurant and Bar are as follows:

**Email:** [info@ukiyorepublic.com](mailto:info@ukiyorepublic.com); **Telephone:** 0161 302 6267

The **EA Floodline** can be contacted by telephone on **0345 988 1188**.

## Flood Alert

If a Flood Alert is received, the following should be carried out by the responsible person and assistant:

- Regular monitoring of further flood alerts and EA warnings.
- Responsible person should review the Emergency Plan to prepare for further action in the event of a subsequent Flood Warning.
- Ensure access and egress points are clear from obstruction.
- Consider alerting customers to potential flooding.

## Flood Warning

If a Flood Warning is received the Emergency Plan is to be triggered and the following measures should be taken by the responsible person and assistant:

- Restaurant staff should alert customers to the situation and the actions to be taken including routes for safe egress from the site.
- Staff must warn customers of the dangers of taking alternative routes to the approved safe egress routes which are to higher ground.
- Staff should check that all persons have been located and made aware of the emergency procedure.
- Disabled users should be evacuated first.
- Electrical power supplies are to be switched off at the main fuse board.
- All cooking equipment should also be turned off.
- Responsible person and assistant to install temporary flood barrier at Back Red Bank Entrance, if these are available and there is sufficient time to do so before the onset of the flood.
- Responsible person and assistant to lock up restaurant once all staff and users have left the building.

## Evacuation Procedure

**If a Flood Warning is received, the building should be evacuated in accordance with the below procedure.**

- The primary evacuation route is via the Front Red Bank entrance shown in Yellow arrows in the Figure below.
- The secondary evacuation route for disabled users is via the Back Red Bank entrance shown in Blue arrows below.
- Disabled users should be accompanied to safety by a designated person.
- Site staff and users should make their way to higher ground by travelling north along Red Bank.
- Customers should be advised to contact a family member / friend to inform them that they have been evacuated from the location (post code M4 4HF) due to a Flood Warning as they leave the premises. They should contact the same person once they have reached a safe place.



**Figure 1 - Flood Evacuation Routes**

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