

4.0 Conclusions and Recommendations

Clancy Consulting Limited was instructed by University of Manchester to carry out a Phase 1 Preliminary Risk Assessment for a site located in a courtyard in the north of the Music and Drama Centre at the University of Manchester. It is proposed to develop the site with a two-storey music block within an existing courtyard of the Martin Harris Centre of Music and Drama.

The site comprised vacant land to the rear of residential dwellings in Manchester until the 1940's when the site became part of a depot. This was later removed and replaced with a dental hospital until the 2000's when the site was incorporated into the Drama and Music Centre.

Surrounding land saw extensive residential development in the 1800's and early 1900's, with buildings associated with University of Manchester developed around the site throughout the 1900's. Industrial works were also developed around the site including a stone yard, depot, engineering works and other unidentified industrial type buildings.

British Geological Survey mapping indicates the site to be underlain Devensian Till, overlying the Chester Formation. Given the historical development of the site, Made Ground may also be present overlying natural soils.

According to the Flood Map for Planning, available on the gov.uk website, the site is located within Flood Zone 3, whereby there is greater than 1% (1 in 100) chance of flooding from rivers or the sea occurring each year. The Flood Risk Extent map on the gov.uk website indicates that the site is within the extent of flooding in case of reservoir failure (Audenshaw reservoirs no.1, 2 and 3). If one is not already available, it is recommended that a Flood Risk Assessment is undertaken for the proposed development.

The River Medlock is present approximately 790m to the north of the site.

Zetica Bomb Risk Mapping indicates the site to be in a moderate bombing density area during the Second World War. Therefore, further assessment of the risk posed by UXO is considered to be required.

The site is underlain by an Undifferentiated Secondary Aquifer and Principal Aquifer, relating to the Devensian Till and Chester Formation, respectively. The site is also located within Zone III (Total Catchment) of a SPZ. However, this is considered likely to be associated with the deeper Chester Formation Principal Aquifer, which is afforded a degree of protection by the overlying Devensian Till. Furthermore, the nearest groundwater abstraction is in excess of 500m from the site. On this basis, the site is not considered to represent a significant risk to groundwater resource receptors.

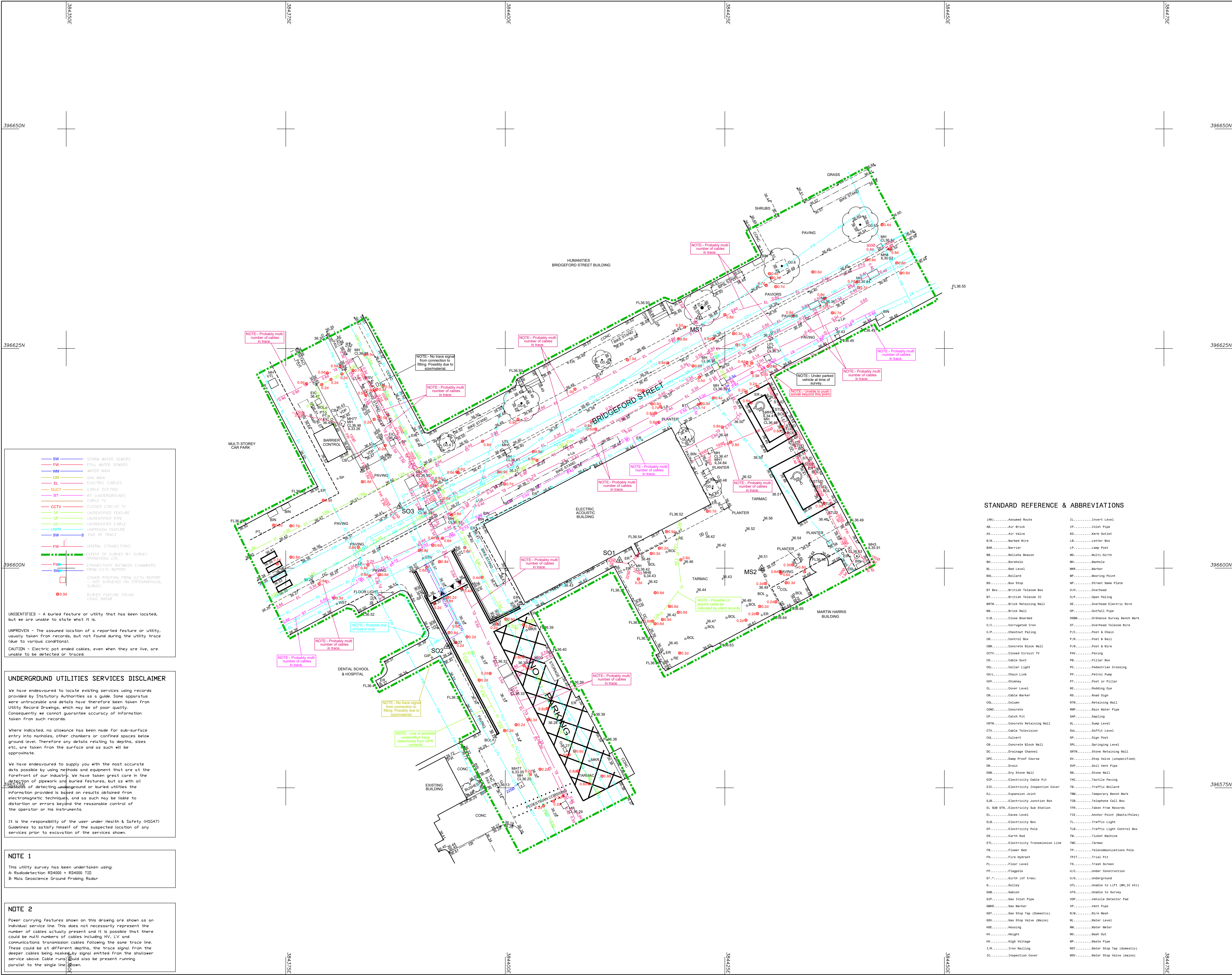
The nearest surface water feature is the River Medlock located 790m to the north. Given its distance, this watercourse is not considered to be at significant risk from potential contaminants of concern beneath the site.

A number of potential pollutant linkages have been identified, which may be active following the proposed redevelopment of the site. On the basis of the assessment above, the following additional works are recommended:

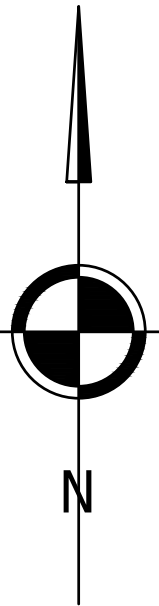
- Flood Risk Assessment should be completed for the site.
- A Detailed UXO Desk Study should be undertaken to clarify the potential risk posed by buried ordnance beneath the site.
- Carry out an intrusive site investigation to confirm ground conditions at the site.
- Installation of wells in boreholes to allow the assessment of potential risk to future site users posed by ground gases.
- Soil samples should be recovered from selected exploratory holes and tested for potential contaminants of concern. This should include pH, metals, asbestos screening, speciated PAH and speciated TPH.
- In-situ testing and geotechnical soil sampling should be carried out during intrusive investigation to provide adequate recommendations for foundation design.

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Appendix C – Topo and Utilities



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Survey Operations Limited.



Note:
The survey is plotted on a plane local
Grid. Orientation to National Grid.
All levels relate to Ordnance Datum,
achieved using the
OS National GPS Network.

Survey Control Markers established for
Mapping purposes only and should not be
used for Construction without the written
approval of Survey Operations Ltd.

SURVEY STATIONS			
Name	Easting	Northing	Height
S01	384413.00	396600.91	36.42
S02	384393.37	396591.09	36.34
S03	384387.99	396607.04	36.40
MS1	384422.10	396628.58	36.46
MS2	384429.20	396599.97	36.51

Utilities surveyed April 2022 and added
to Survey Operations drawing no. 21L118

EL	UNPROVEN ELEC
BT	UNPROVEN BT
GM	UNPROVEN GAS
WM	UNPROVEN WATER
SW	UNPROVEN SURFACE
FW	UNPROVEN FOUL

All unproven lines without additional notes on
drawing show the approximate location of a
reported utility or feature as indicated on
available stat records.

Revision - Date - Description
A - 03/05/22 - Drawing notes updated.



Smith Street, Skelmersdale, Lancs. WN8 8LN
Tel: 01695 725662 Fax: 01695 51816
Email: mail@survops.co.uk - www.survops.co.uk

Client University of Manchester	
Drawing Title Utilities Survey of: New Music Practice Building Manchester	
Scale(s) 1:200	Surveyor ES
Date Apr 22	Drawn DS
Job Number 22C200	Checked SO
Sheet Size & Drg Number & Revision A1 22C200/001 A	

Appendix D – Anglian Water

Clancy Consulting Ltd

19
Upper King Street,
Norwich, Norfolk
NR3 1RB

FAO:

How to contact us:

**United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP**

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

**Your Ref: Martin Harris Music Block
Our Ref: UUPS-ORD-400763
Date: 20/06/2022**

Dear Sirs

Location: Martin Harris Music Block

I acknowledge with thanks your request dated 01/06/2022 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



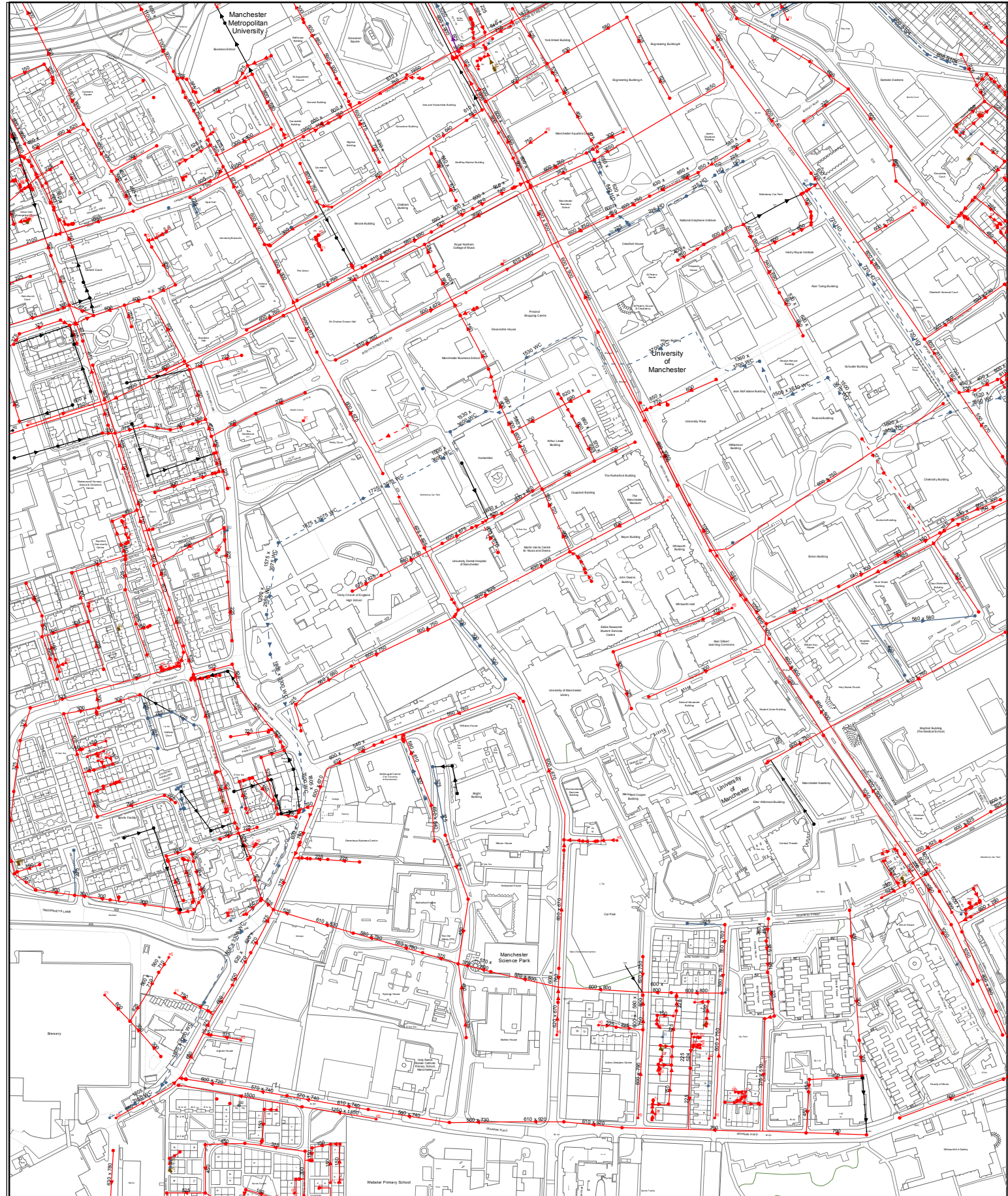
Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



Date: 20/06/2022

Printed By:
Property Searches

Extract from Map of Public Sewers

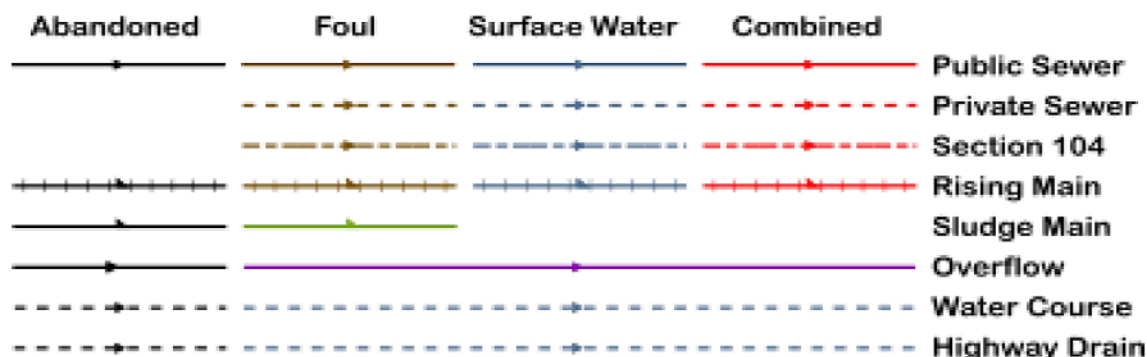
Martin Harris Music Block



The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water PLC will not accept any liability for any damage caused by the actual positions being different from those shown.

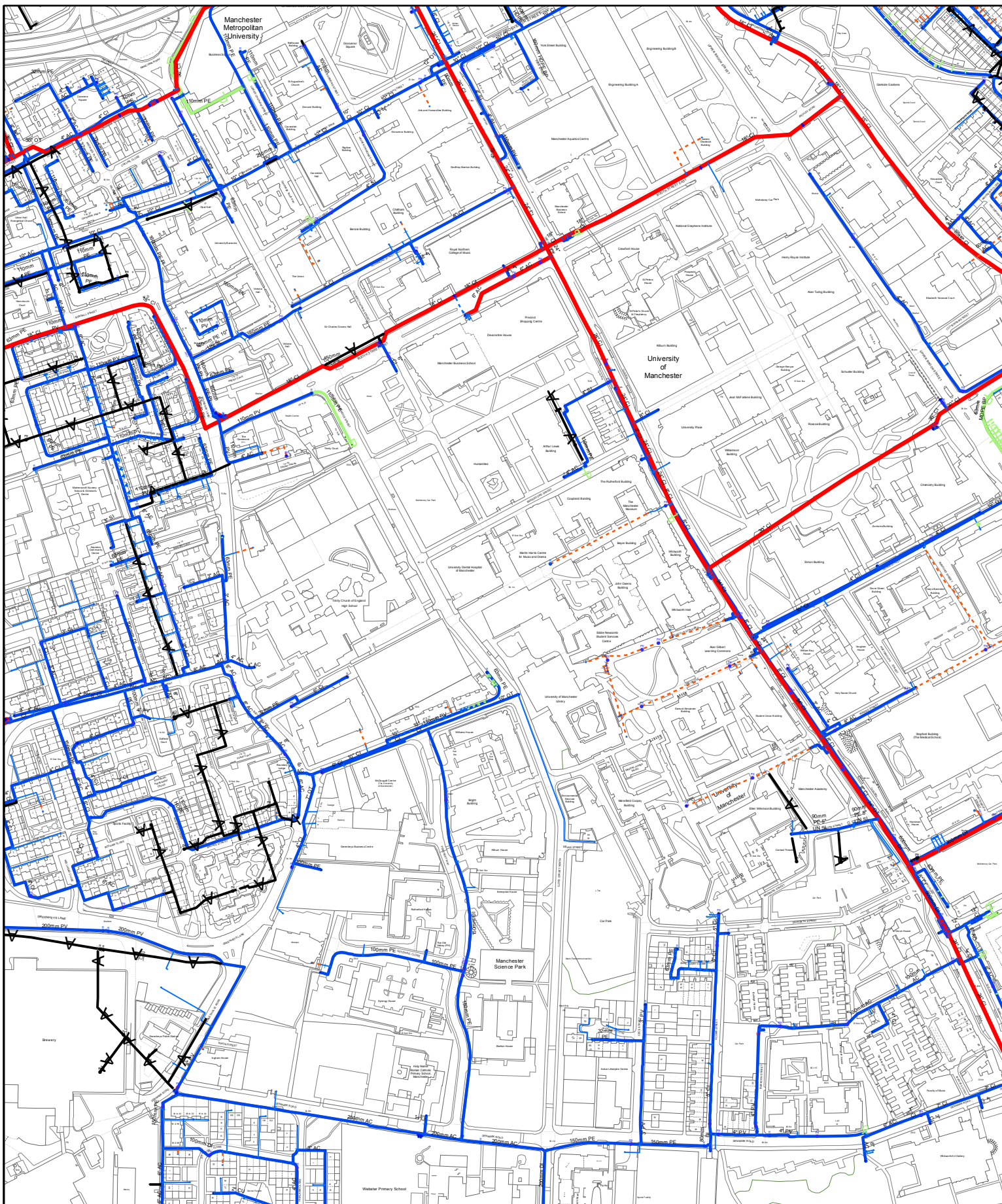
© United Utilities Water PLC 2022. The plan is based upon the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office, Crown copyright 100022432 and United Utilities Water PLC copyrights are reserved. Unauthorised reproduction will infringe these copyrights.

Wastewater Symbolology



All point assets follow the standard colour convention: **red** – combined **brown** - foul
blue – surface water **purple** - overflow

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Date: 20/06/2022

Extract from Map Of Water Mains

Printed By:
Property Searches

Martin Harris Music Block



The position of underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. The actual positions may be different from those shown on the plan and private pipes, sewers or drains may not be recorded. United Utilities Water PLC will not accept any liability for any damage caused by the actual positions being different from those shown.

Clean Water Symbolology

Proposed	Abandoned	Live	
			Distribution Main
			Trunk Main
			Comms Pipe
			Private Pipe
			Concessionary Service
			Raw Water
			LDTM Raw Water
			LDTM Treated Water
			Air Valve
			AC Valve, open
			AC Valve, closed
			CC Valve, open
			CC Valve, closed
			Non Return Valve
			Pressure Management Valve
			OMS Valve
			Stop Tap
			Flow Meter
			Domestic Meter
			Commercial Meter
			Pump
			Hydrant
			Fire Hydrant
			Anode
			Chlorination Point
			De-chlorination Point
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Sampling Station
			Logger Box
			Bore Hole
			Inlet Point
			Bulk Supply Point
			End Cap
			Site Termination
			Change of Characteristic
			Condition Report
			<u>Property Types</u>
			Water Tower
			Valve House
			Booster Pumping Station
			Intake Pumping Station
			Water Treatment Works
			Supply Reservoir
			Service Reservoir
			Impounding Reservoir
			Pipe Bridge

Symbology for proposed assets is the same as above, but shown in **green**
 Symbology for abandoned assets is the same as above, but shown in **black**

Appendix E – Surface Water Flood Flows

Flood risk assessment data

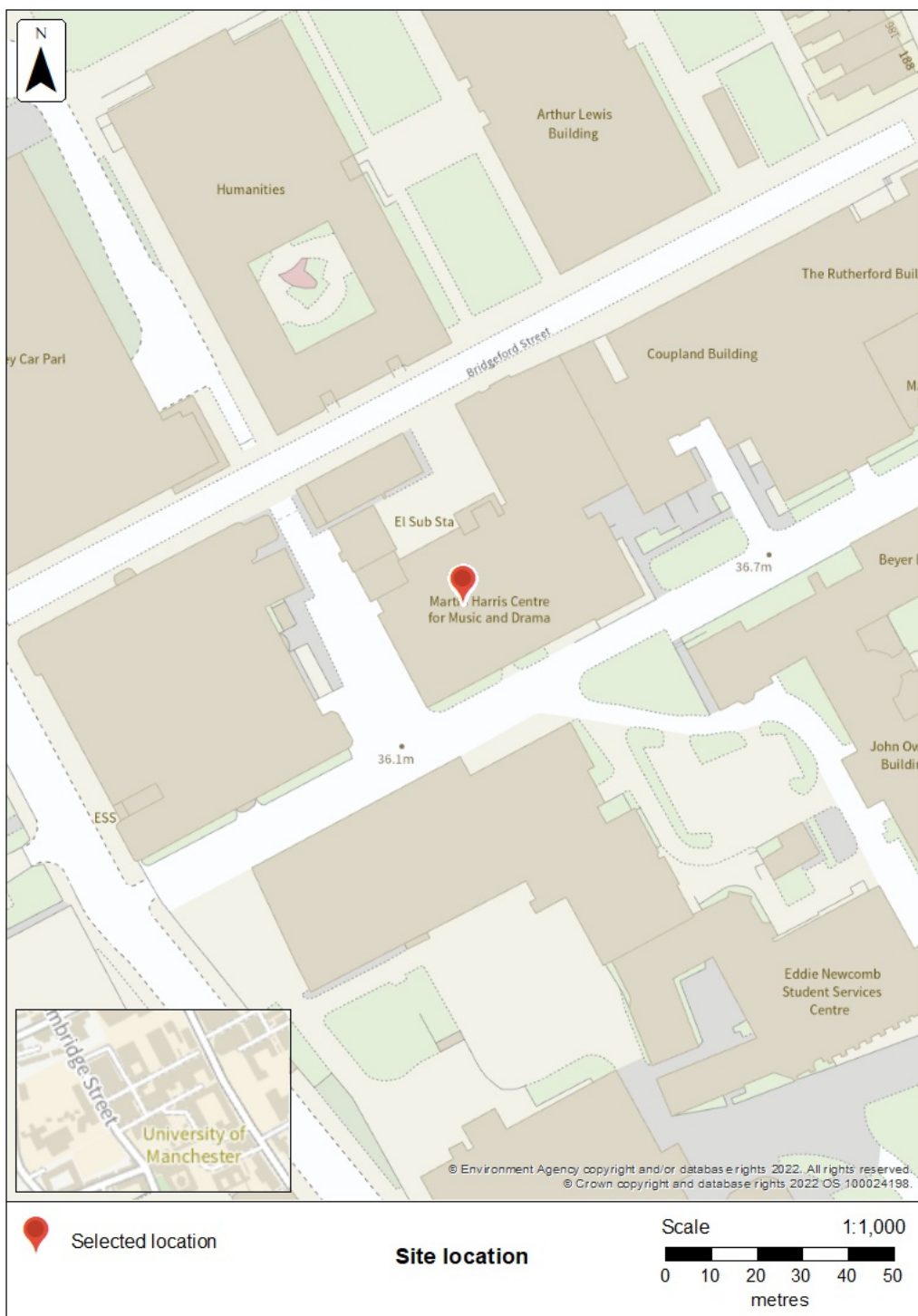
Location of site: 384432 / 396578 (shown as easting and northing coordinates)

Document created on: 14 June 2022

This information was previously known as a product 4.

Customer reference number: GMMC262199SPW

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)
- modelled data
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- historic flooding
- flood defences and attributes

We do not have historic flooding data for this location.

Please note that:

- flooding may have occurred that we do not have records for
- flooding can come from a range of different sources
- we can only supply flood risk data relating to flooding from rivers or the sea

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

We aren't able to display flood defence locations and attributes as there are no formal flood defences in the area of interest.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

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

About the models used

Model name: Corn Brook 2017

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

Date: 31 December 2017

Model name: Manchester Ship Canal 2018

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

Date: 1 May 2020

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 2.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

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

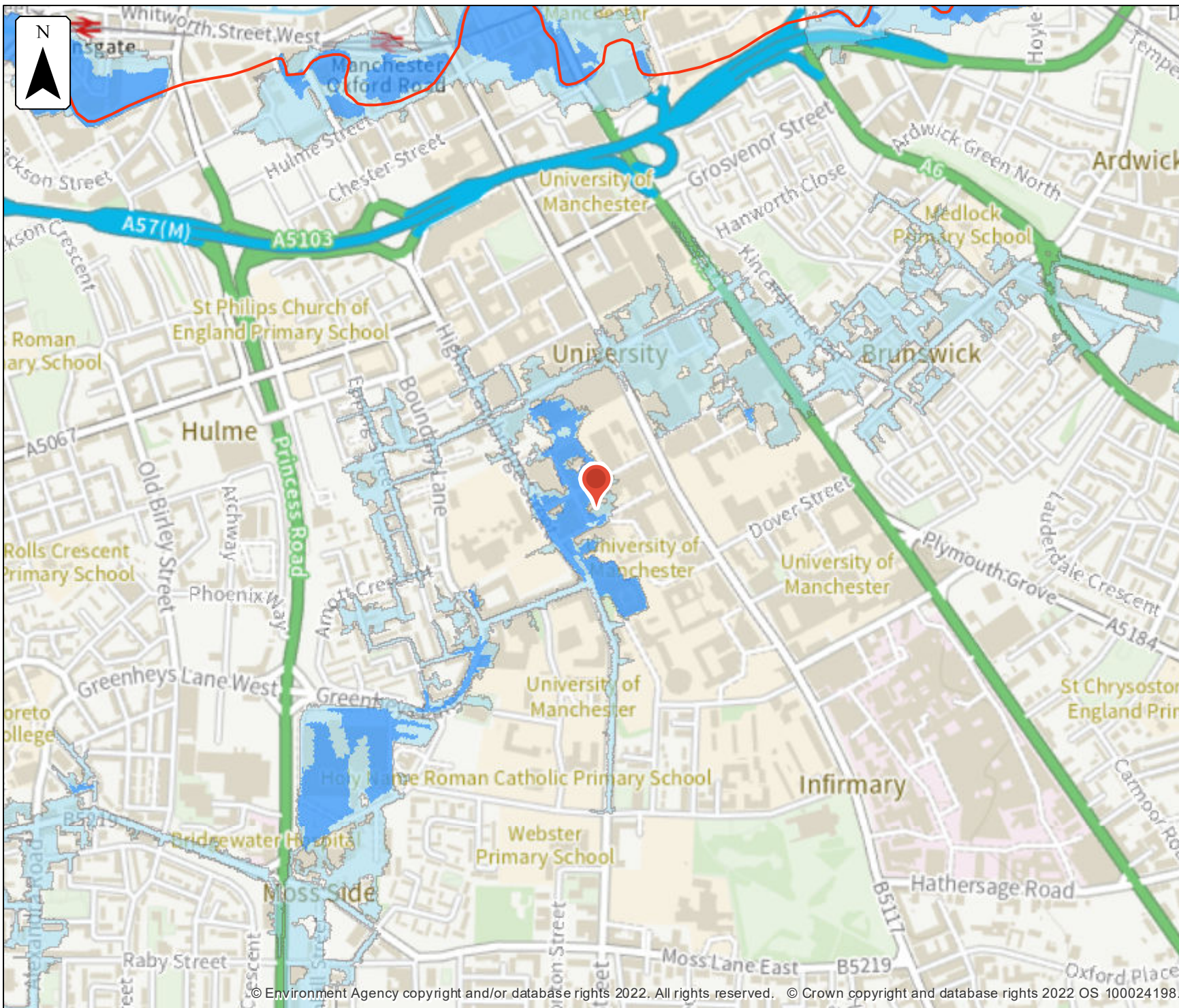
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change

This data is updated on a quarterly basis as better data becomes available.



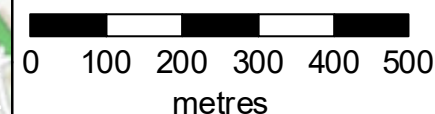
Flood map for planning

Location (easting/northing)
384432/396578

Scale
1:10,000

Created
17 May 2022

-  Selected location
-  Main river
-  Flood zone 3
-  Flood zone 2



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

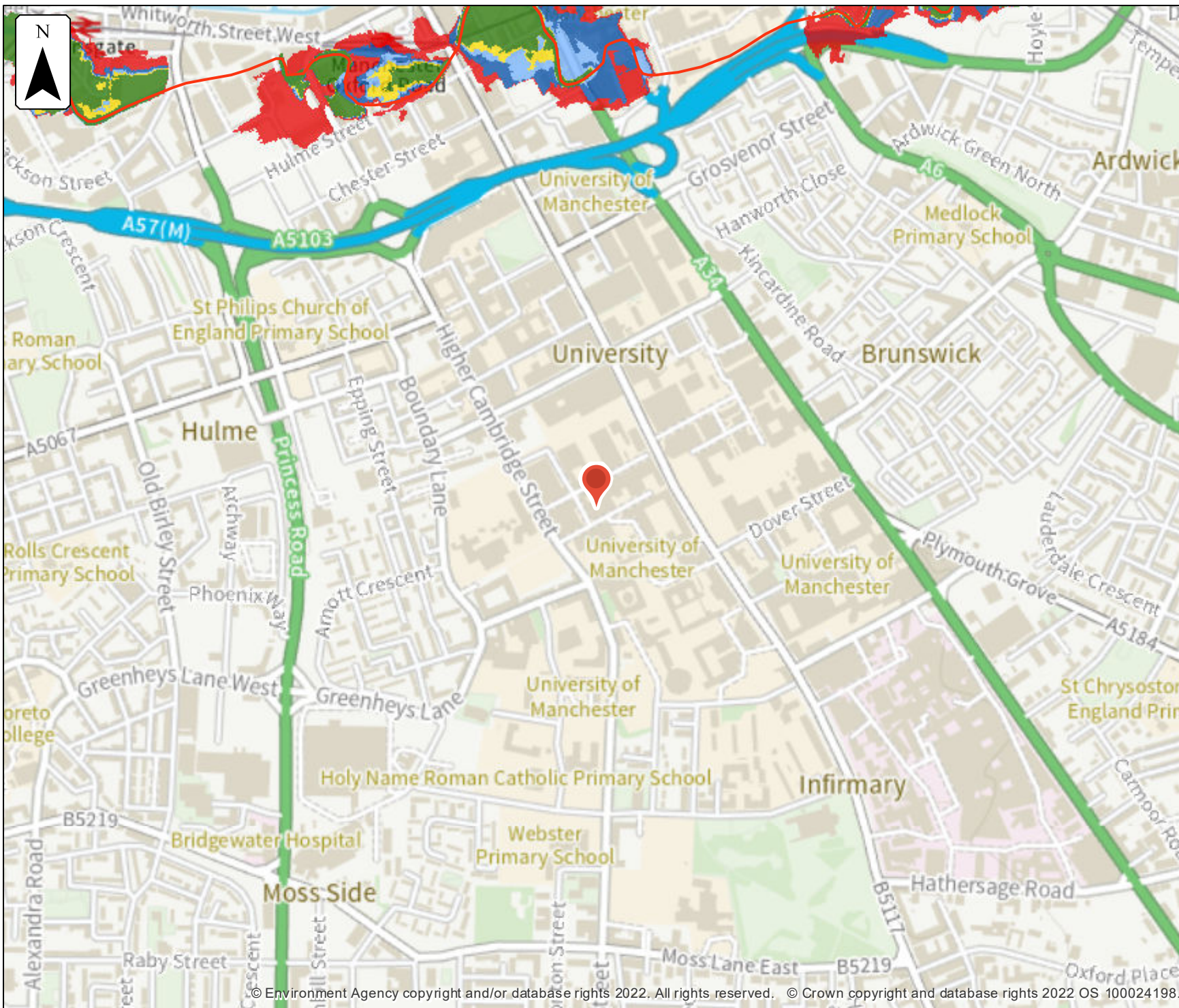
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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:

- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- 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 modelled fluvial extent

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
**Manchester Ship
Canal 2018**

 Selected location

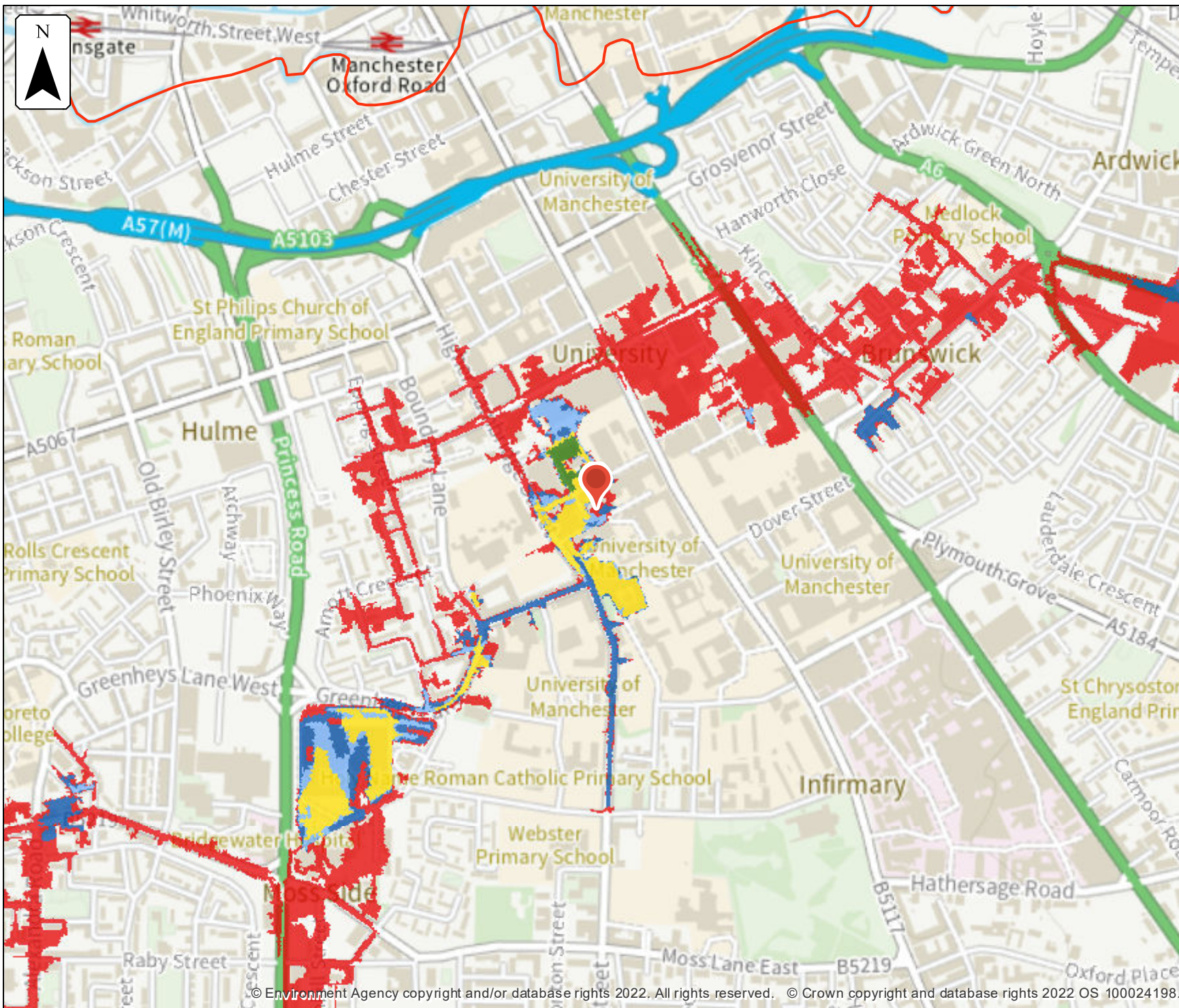
 Main river

Modelled flood extent

 2% AEP
 1.33% AEP
 1% AEP
 0.5% AEP
 0.1% AEP

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


0 100 200 300 400 500
metres



No defences exist modelled fluvial extent

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
Corn Brook 2017

 Selected location

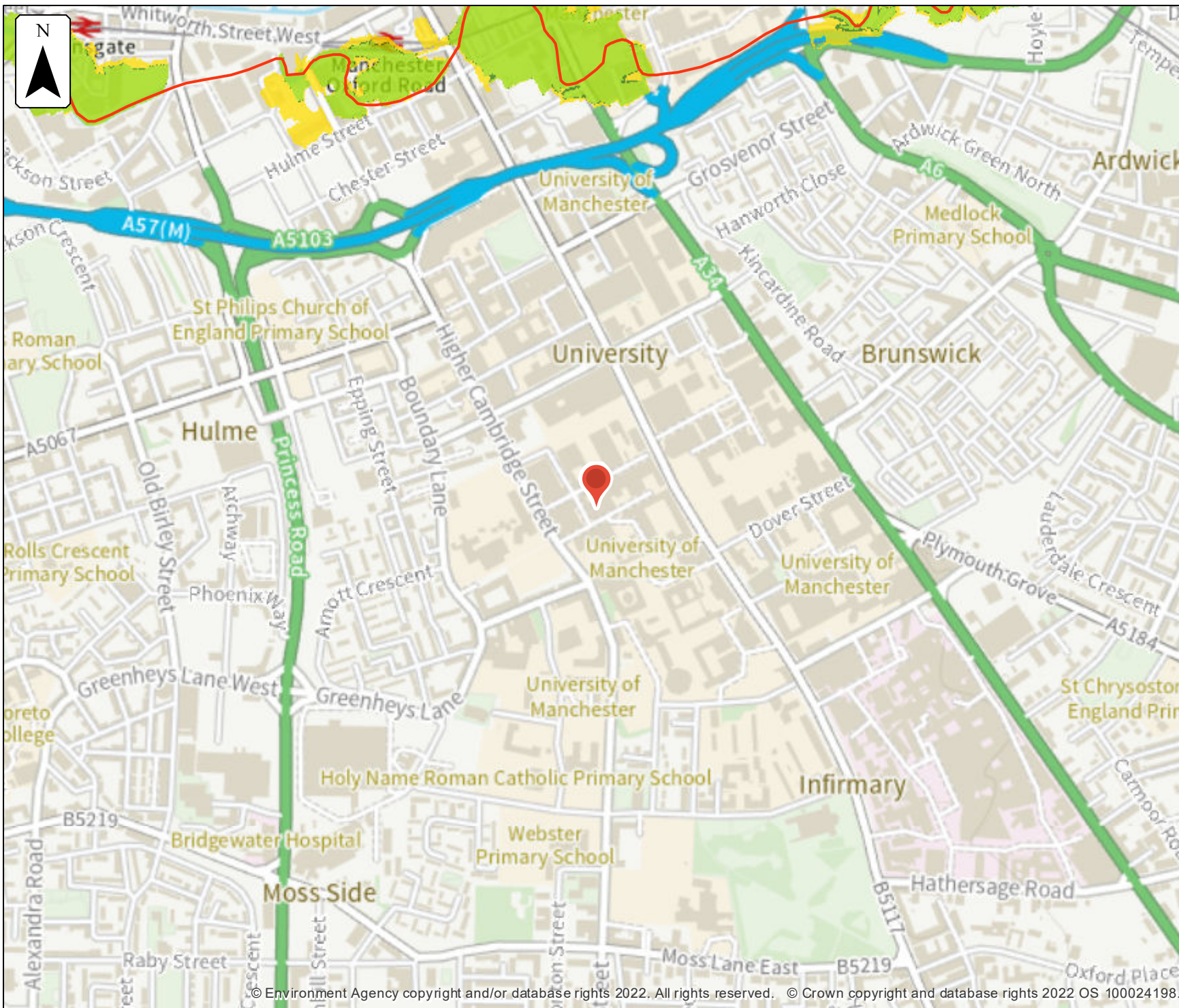
 Main river

Modelled flood extent

 2% AEP
 1.33% AEP
 1% AEP
 0.5% AEP
 0.1% AEP

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


0 100 200 300 400 500
metres



No defences exist climate change modelled fluvial extent

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
**Manchester Ship
Canal 2018**

 Selected location

 Main river

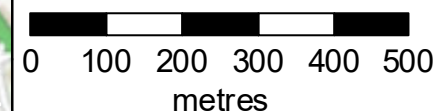
Modelled flood extent

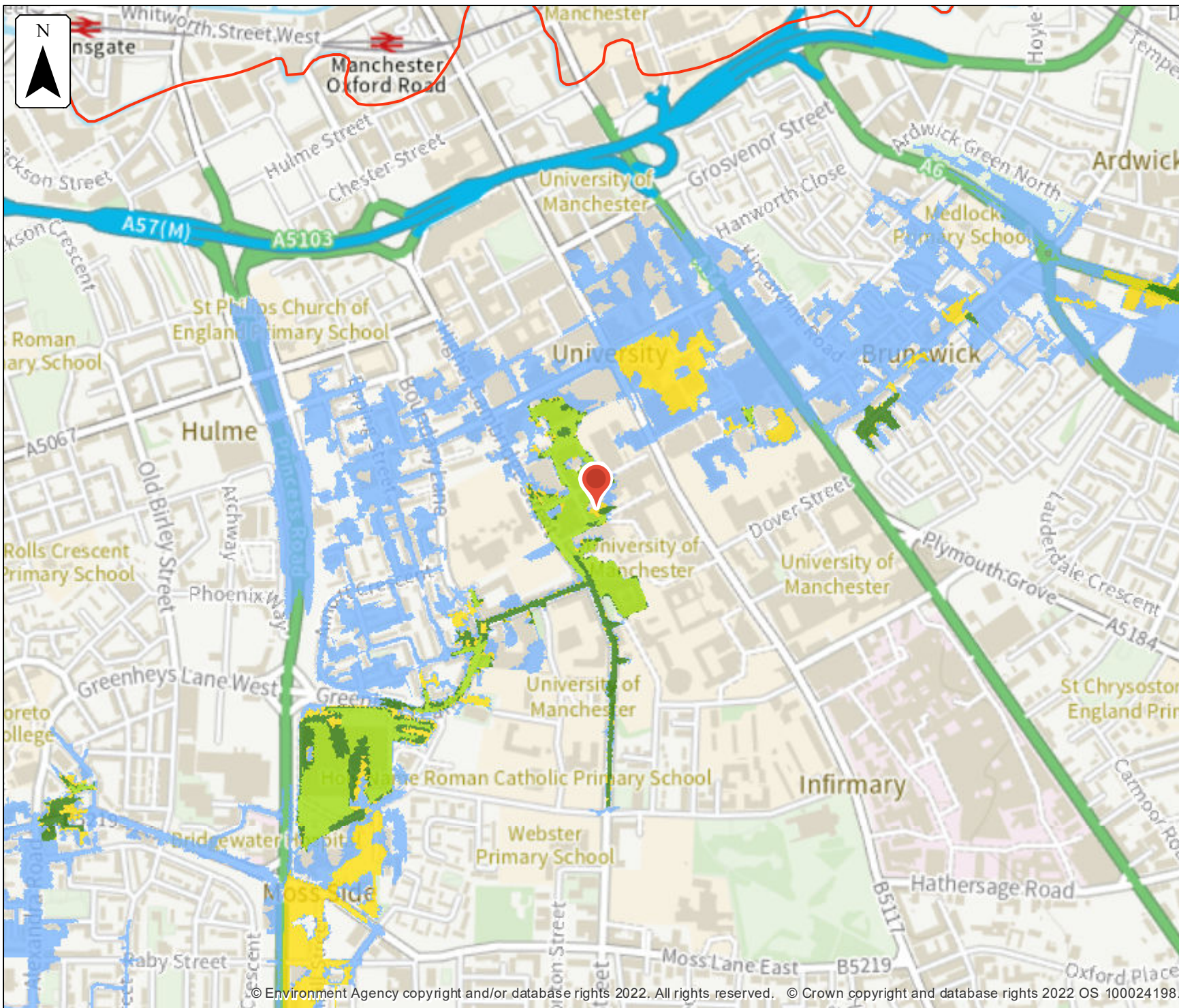
 1.0% AEP (+30%)

 1.0% AEP (+35%)

 1.0% AEP (+70%)

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





No defences exist climate change modelled fluvial extent

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
Corn Brook 2017

 Selected location

 Main river

Modelled flood extent

 1.0% AEP (+30%)

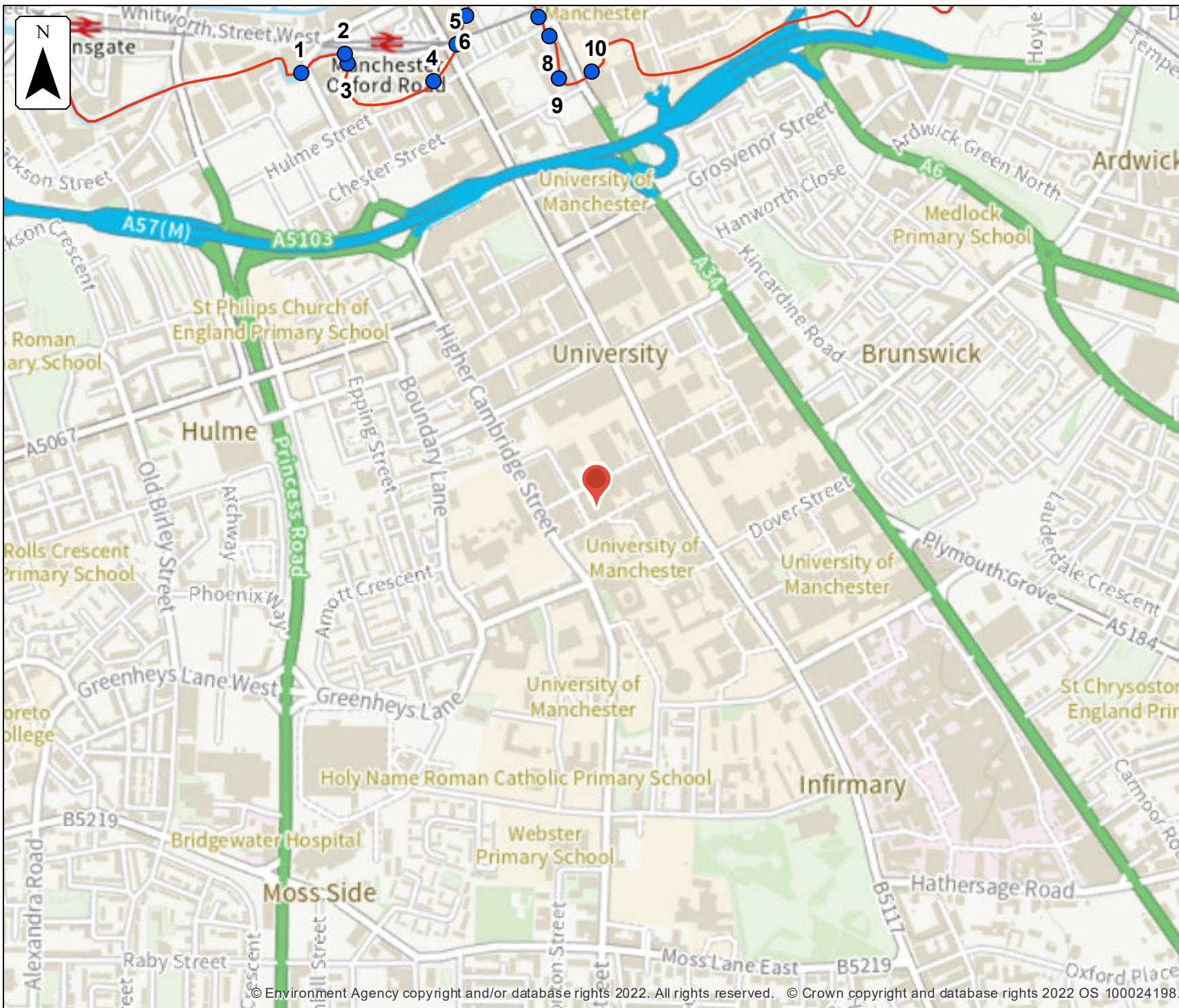
 1.0% AEP (+35%)

 1.0% AEP (+70%)

 0.1% AEP (+30%)

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


0 100 200 300 400 500
metres



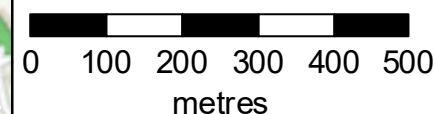
No defences exist modelled fluvial node locations

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
**Manchester Ship
Canal 2018**

-  Selected location
-  Modelled location
-  Main river

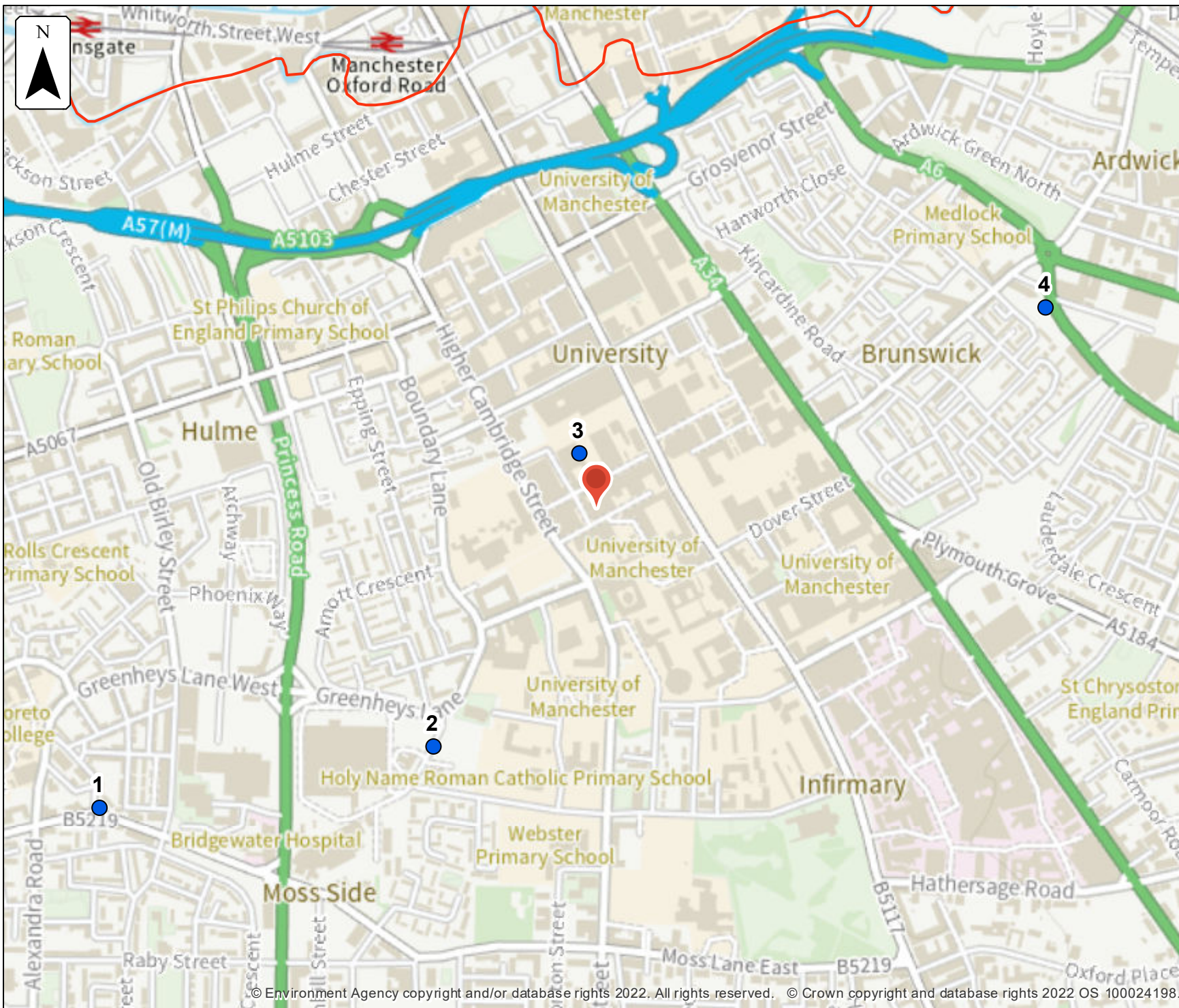


Modelled node locations data

No defences exist

Label	Modelled location ID	Easting	Northing	4% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	1177997	383859	397419	29.29	43.95	29.51	51.09	29.66	56.10	29.79	60.34	30.13	72.18	31.28	122.22
2	1177712	383944	397457	29.51	43.63	29.75	50.71	29.91	55.68	30.05	59.89	30.41	71.64	31.52	121.53
3	1177701	383951	397438	29.53	43.49	29.78	50.55	29.94	55.50	30.08	59.70	30.44	71.42	31.58	121.21
4	1178043	384117	397404	30.20	43.49	30.70	50.55	31.06	55.50	31.37	59.70	31.72	71.42	32.28	121.21
5	1177738	384161	397476	30.70	43.21	31.38	50.23	31.89	55.16	32.33	59.33	33.10	70.97	33.72	120.61
6	1177780	384179	397531	30.73	42.89	31.41	49.85	31.92	54.74	32.36	58.88	33.13	70.45	33.79	119.90
7	1177737	384320	397528	30.80	41.75	31.47	48.52	31.98	53.30	32.41	57.32	33.18	68.59	33.90	117.17
8	1177756	384343	397490	30.89	41.75	31.59	48.52	32.02	53.30	32.43	57.32	33.19	68.59	33.90	117.17
9	1177553	384361	397409	30.93	41.23	31.62	47.91	32.05	52.63	32.46	56.60	33.21	67.74	33.97	115.75
10	1177896	384423	397424	31.07	40.92	31.81	47.56	32.27	52.24	32.67	56.19	33.27	67.25	34.06	113.28

Data in this table comes from the Inland Modelling 2015-16: Manchester Ship Canal 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.



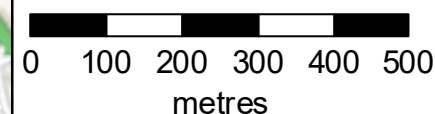
No defences exist modelled fluvial node locations

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
Corn Brook 2017

-  Selected location
-  Modelled location
-  Main river



Modelled node locations data

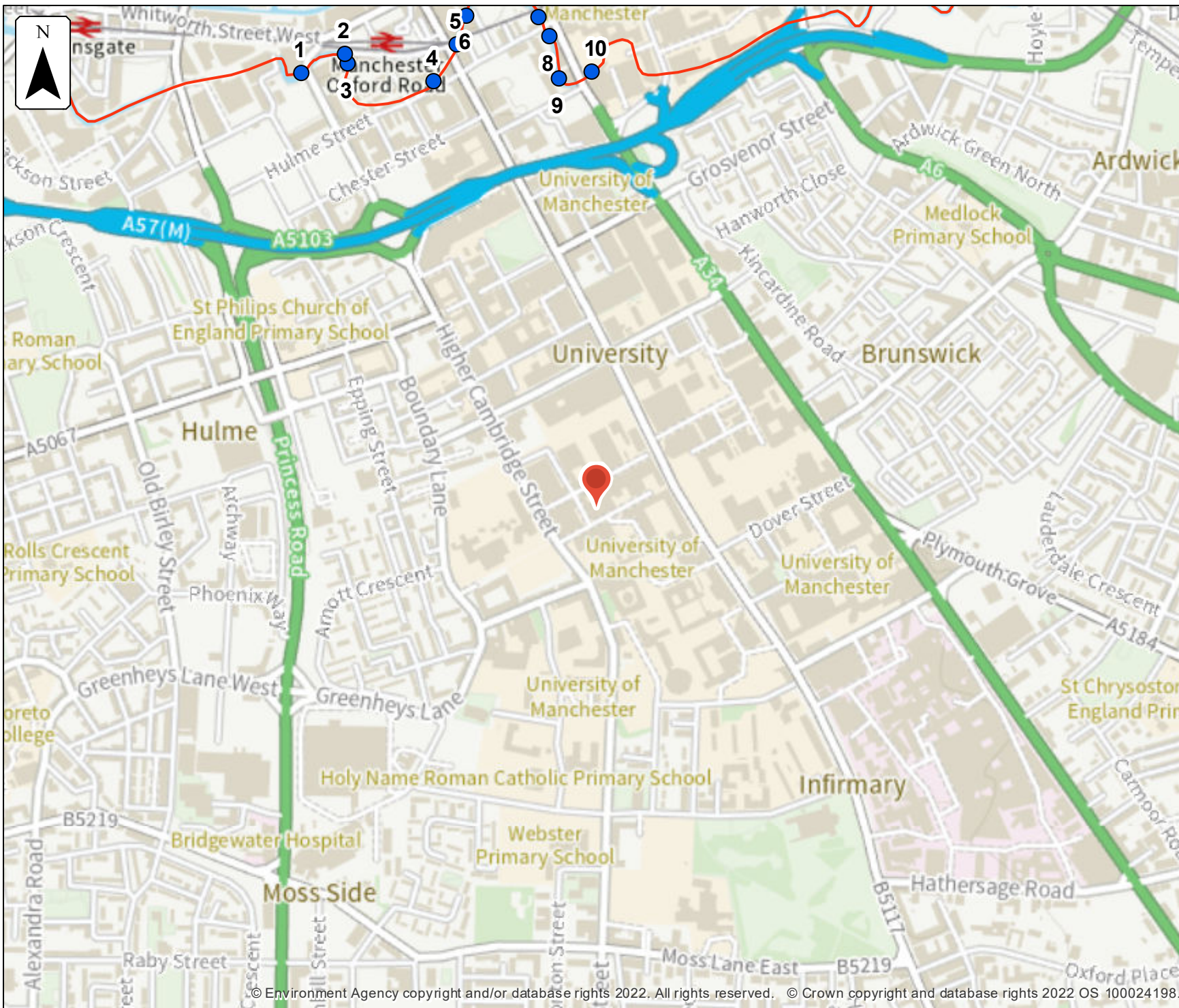
No defences exist

Label	Modelled location ID	Easting	Northing	4% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	952452	383467	395993	31.01	0.58	31.93	1.03	32.43	1.32	32.58	1.57	32.84	2.24	33.28	4.60
2	952465	384116	396112	32.51	0.47	32.77	0.81	33.26	1.03	33.47	1.21	33.83	1.70	34.34	3.47
3	952467	384400	396681	35.77	0.67	36.89	1.20	37.13	1.56	37.27	1.84	37.41	2.65	37.66	5.49
4	952453	385305	396966	38.83	1.09	39.03	1.78	39.65	2.26	40.33	2.66	40.80	3.78	41.42	7.77

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



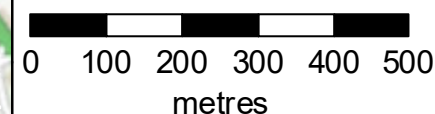
No defences exist climate change modelled fluvial node locations

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
**Manchester Ship
Canal 2018**

-  Selected location
-  Modelled location
-  Main river

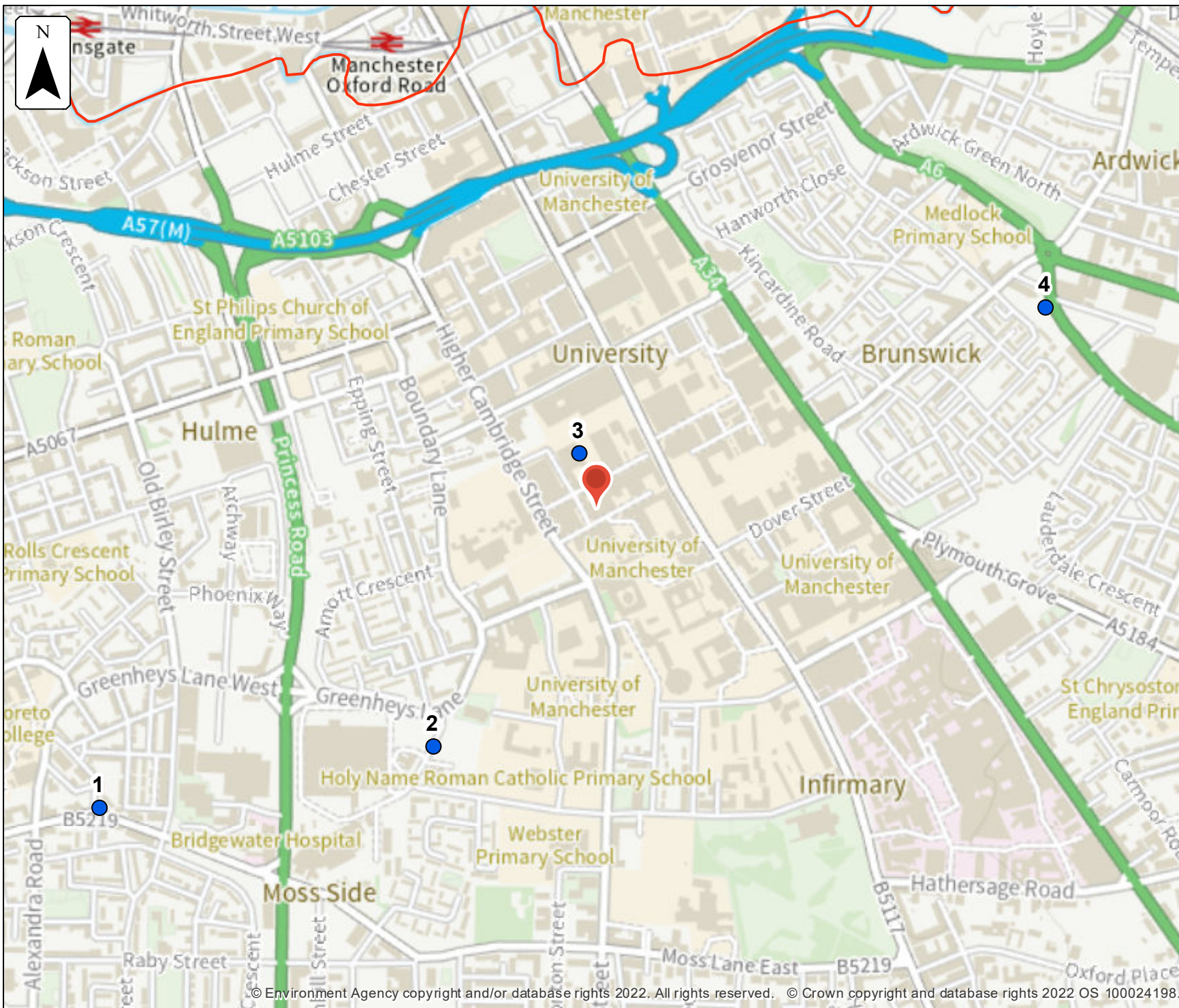


Modelled node locations data

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)		1.0% AEP (+35%)		1.0% AEP (+70%)	
				Level	Flow	Level	Flow	Level	Flow
1	1177997	383859	397419	30.26	76.89	30.34	79.61	30.87	100.61
2	1177712	383944	397457	30.55	76.30	30.62	79.01	31.20	99.56
3	1177701	383951	397438	30.58	76.05	30.66	78.75	31.24	99.10
4	1178043	384117	397404	31.80	76.05	31.84	78.75	32.10	99.10
5	1177738	384161	397476	33.27	75.57	33.32	78.25	33.56	98.26
6	1177780	384179	397531	33.30	74.99	33.35	77.65	33.60	97.23
7	1177737	384320	397528	33.35	72.97	33.40	75.56	33.66	93.15
8	1177756	384343	397490	33.35	72.97	33.41	75.56	33.66	93.15
9	1177553	384361	397409	33.38	72.04	33.44	74.59	33.70	91.53
10	1177896	384423	397424	33.43	71.50	33.49	74.03	33.77	95.36

Data in this table comes from the Inland Modelling 2015-16: Manchester Ship Canal 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.



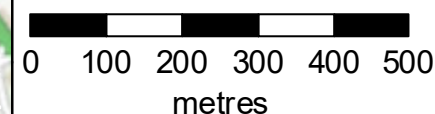
No defences exist climate change modelled fluvial node locations

Location (easting/northing)
384432/396578

Scale Created
1:10,000 17 May 2022

Model name
Corn Brook 2017

-  Selected location
-  Modelled location
-  Main river



Modelled node locations data

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)		1.0% AEP (+35%)		1.0% AEP (+70%)		0.1% AEP (+30%)	
				Level	Flow	Level	Flow	Level	Flow	Level	Flow
1	952452	383467	395993	32.78	2.03	32.81	2.11	32.99	2.66	33.39	5.98
2	952465	384116	396112	33.75	1.57	33.79	1.63	34.02	2.05	34.46	4.51
3	952467	384400	396681	37.38	2.40	37.39	2.49	37.47	3.13	37.77	7.13
4	952453	385305	396966	40.73	3.46	40.76	3.59	40.94	4.52	41.65	10.10

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



No defences exist modelled fluvial extent and height

Location (easting/northing)
384432/396578

Scale Created
1:2,500 17 May 2022

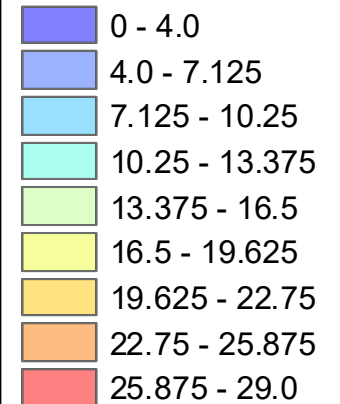
Model name
**Manchester Ship
Canal 2018**



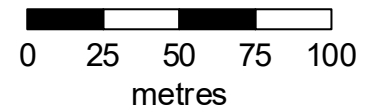
Selected location

— Main river

Modelled 2D grid
Water level in mAOD



This map shows the
0.1% AEP height data



Sample point data

No defences exist

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	384382	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
2	384407	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	384432	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	384457	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	384482	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	384382	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
7	384407	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
8	384432	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
9	384457	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	384482	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	384382	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
12	384407	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
13	384432	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
14	384457	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
15	384482	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	384382	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

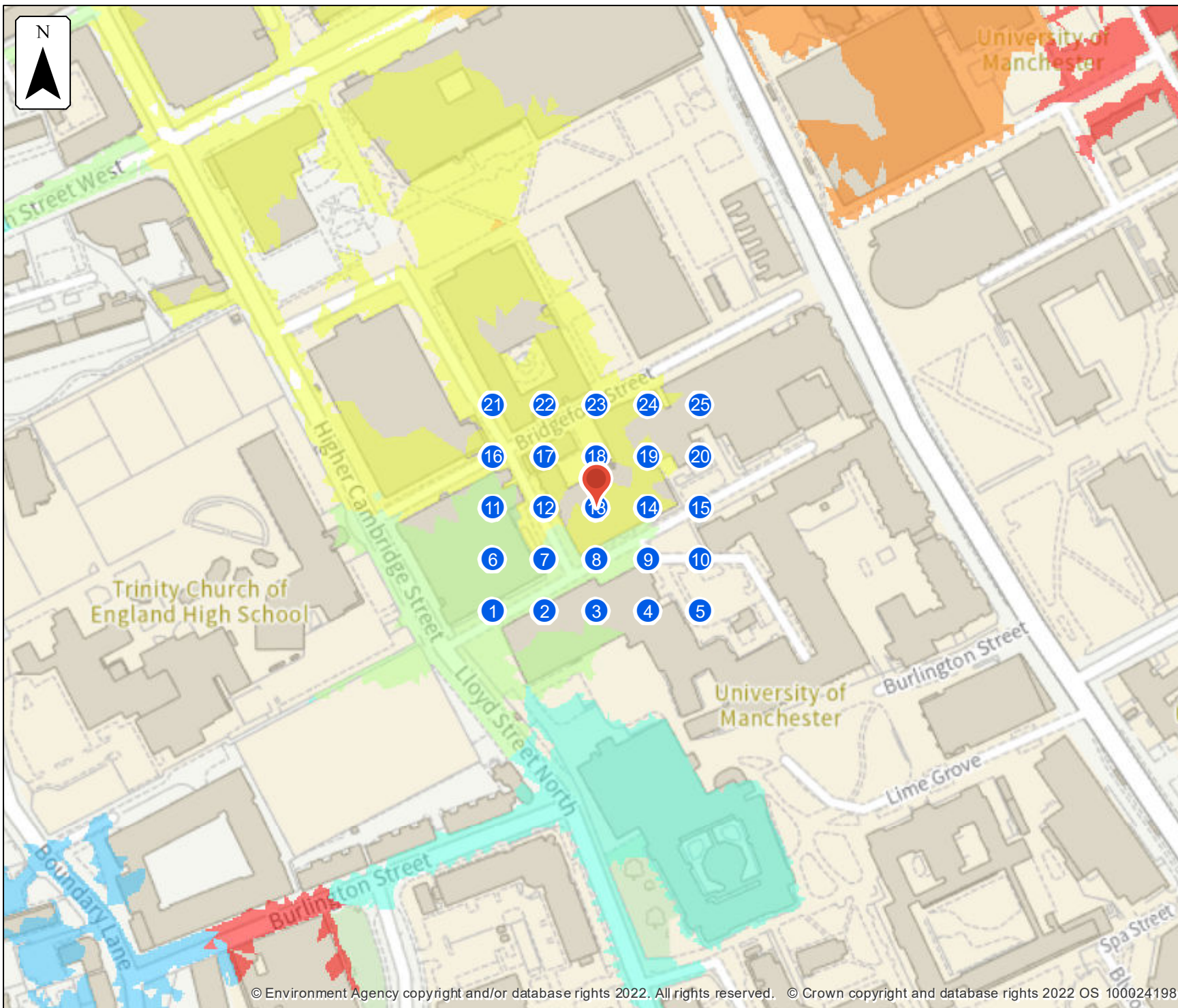
Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	384407	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
18	384432	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
19	384457	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	384482	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	384382	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
22	384407	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	384432	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	384457	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
25	384482	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Inland Modelling 2015-16: Manchester Ship Canal 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.



No defences exist modelled fluvial extent and height

Location (easting/northing)
384432/396578

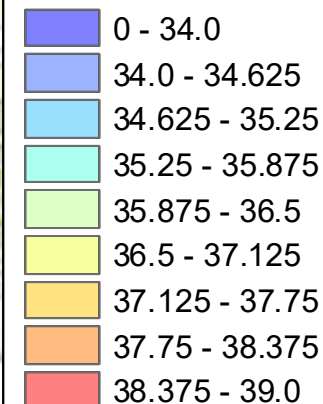
Scale Created
1:2,500 17 May 2022

Model name
Corn Brook 2017

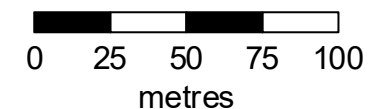
 Selected location

 Main river

Modelled 2D grid
Water level in mAOD



This map shows the
0.1% AEP height data



Sample point data

No defences exist

Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	384382	396528			NoData	NoData	0.54	36.20	0.57	36.23	0.60	36.26	0.63	36.30
2	384407	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	384432	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	384457	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	384482	396528			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	384382	396553			NoData	NoData	2.41	36.28	2.45	36.32	2.48	36.35	2.53	36.40
7	384407	396553			NoData	NoData	0.14	36.29	0.18	36.33	NoData	NoData	0.26	36.41
8	384432	396553			NoData	NoData	NoData	NoData	0.15	36.38	0.19	36.40	0.15	36.43
9	384457	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	384482	396553			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	384382	396578			NoData	NoData	0.38	36.28	0.42	36.32	0.46	36.36	0.50	36.40
12	384407	396578			NoData	NoData	0.17	36.46	0.20	36.49	0.23	36.51	0.26	36.55
13	384432	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.17	36.62
14	384457	396578			NoData	NoData	NoData	NoData	NoData	NoData	0.14	36.55	0.21	36.62
15	384482	396578			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	384382	396603			NoData	NoData	0.18	36.54	0.21	36.57	0.23	36.60	0.28	36.64

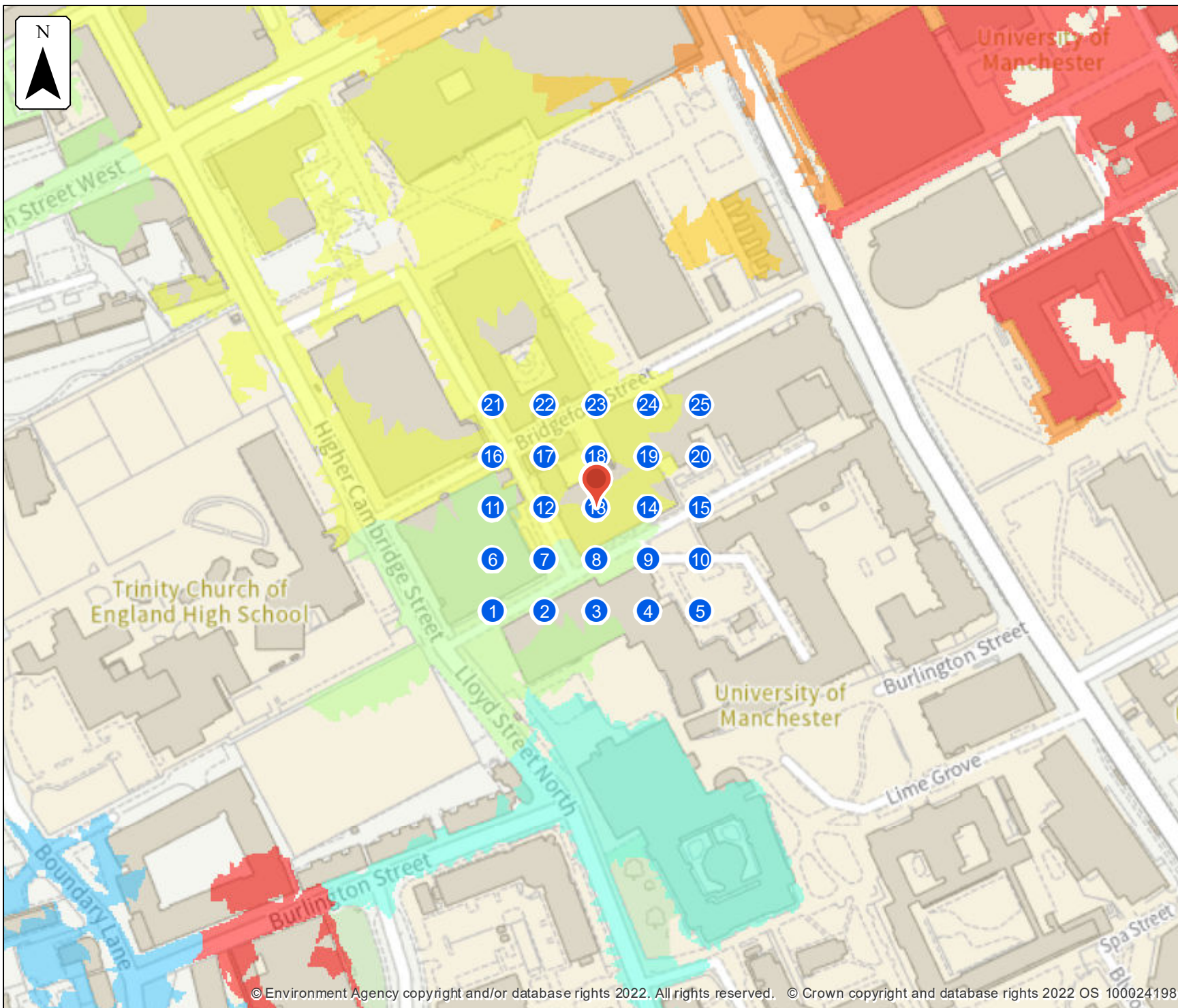
Label	Easting	Northing	5% AEP		2% AEP		1.33% AEP		1% AEP		0.5% AEP		0.1% AEP	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	384407	396603			NoData	NoData	0.20	36.61	0.23	36.65	0.27	36.68	0.31	36.73
18	384432	396603			NoData	NoData	NoData	NoData	NoData	NoData	0.12	36.70	0.17	36.75
19	384457	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.15	36.65
20	384482	396603			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	384382	396628			0.17	36.66	0.26	36.74	0.29	36.78	0.33	36.81	0.37	36.86
22	384407	396628			NoData	NoData	0.16	36.70	0.22	36.75	0.27	36.80	0.32	36.87
23	384432	396628			NoData	NoData	0.28	36.64	0.32	36.68	0.36	36.71	0.41	36.77
24	384457	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	36.66
25	384482	396628			NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Corn Brook 2017 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.



No defences exist climate change modelled fluvial extent and height

Location (easting/northing)
384432/396578

Scale Created
1:2,500 17 May 2022

Model name
Corn Brook 2017

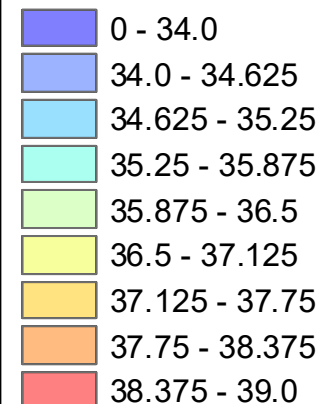


Selected location

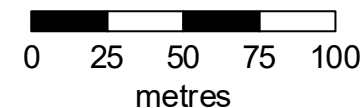
— Main river

Modelled 2D grid

Water level in mAOD



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



Sample point data

No defences exist climate change

Label	Easting	Northing	1% AEP (+30%)		1% AEP (+35%)		1% AEP (+70%)		0.1% AEP (+30%)	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height
1	384382	396528	0.59	36.25	0.59	36.26	0.61	36.27	0.59	36.30
2	384407	396528	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
3	384432	396528	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
4	384457	396528	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
5	384482	396528	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
6	384382	396553	2.47	36.35	2.47	36.35	2.09	36.37	2.54	36.42
7	384407	396553	NoData	NoData	NoData	NoData	0.11	36.42	0.15	36.46
8	384432	396553	0.18	36.40	0.19	36.40	0.20	36.41	0.20	36.45
9	384457	396553	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
10	384482	396553	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	384382	396578	0.45	36.35	0.45	36.35	0.47	36.37	0.52	36.42
12	384407	396578	0.22	36.51	0.22	36.51	0.24	36.52	0.28	36.56
13	384432	396578	NoData	NoData	NoData	NoData	0.11	36.57	0.19	36.64
14	384457	396578	0.13	36.54	0.14	36.54	0.16	36.57	0.24	36.64
15	384482	396578	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	384382	396603	0.23	36.59	0.23	36.60	0.24	36.61	0.29	36.65

Label	Easting	Northing	1% AEP (+30%)		1% AEP (+35%)		1% AEP (+70%)		0.1% AEP (+30%)	
			Depth	Height	Depth	Height	Depth	Height	Depth	Height
17	384407	396603	0.26	36.67	0.26	36.68	0.28	36.70	0.32	36.75
18	384432	396603	0.11	36.70	0.12	36.70	0.13	36.72	0.19	36.77
19	384457	396603	NoData	NoData	NoData	NoData	NoData	NoData	0.17	36.66
20	384482	396603	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	384382	396628	0.32	36.80	0.32	36.81	0.34	36.83	0.39	36.88
22	384407	396628	0.26	36.79	0.26	36.79	0.29	36.82	0.36	36.89
23	384432	396628	0.35	36.71	0.35	36.71	0.37	36.73	0.43	36.79
24	384457	396628	NoData	NoData	NoData	NoData	NoData	NoData	0.13	36.68
25	384482	396628	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData

Data in this table comes from the Corn Brook 2017 model.

Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

Strategic flood risk assessments

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

This should give you information about:

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

About this data

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

Flood risk activity permits

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

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

Help and advice

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

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