



PLEASE NOTE:
BACKGROUND INFORMATION
"15024-01Ato02A.dwg"
PRODUCED BY CADPLAN AND
PROVIDED BY CLIENT

PLEASE NOTE:
BACKGROUND INFORMATION
"15024-01Ato02A.dwg"
PRODUCED BY CADPLAN AND
PROVIDED BY CLIENT

LEGEND		
Topographic Linework Features		
— Air-Con Unit (ACU)	— Hedge	— Service
— Barrier	— Hoarding	— Sky Light
— Beam Line	— Kerb Bottom	— Slope Bottom
— Bench	— Kerb Drop	— Slope Top
— Bin	— Kerb Top	— Slot Drain
— Bollard Illuminated	— Lake	— Speed Bump
— Bollard	— Land Drain	— Steel Cladding
— Bridge	— Lift	— Steel Structure
— Building Facade	— Obstruction	— Step Line
— Building	— Opening - Slab	— Surface Change
— Bus Stop Shelter	— Overhang	— Tank
— Cable Trough	— Overhead Cables	— Telephone Box (TB)
— Canopy	— Partition	— Ticket Machine(TVM)
— Ceiling Line	— Ramp	— Top of Fence Line
— Centre Line	— Red Line Dashed	— Top of Wall Line
— Column	— Red Line Solid	— Track
— Column Bottom Line	— Red Line Double	— Traffic Ctrl Box(TCB)
— Column Top Line	— Red Line Triple	— Tree Drip Line
— Concrete Base/Slab	— Road Edge	— Tree Line
— Contour Major	— Road Edge	— Trial Pit
— Contour Minor	— Road Scar Line	— Vegetation Line
— Cycle Lane	— Road Text	— Vent
— Ditch	— Roof	— Verge Line
— Door	— Grid Line	— Wall Line
— Duct		— Window
— Electric Box (EBOX)		— Window Glazing
— Fence		— White Line Dashed
— Fixture		— White Line Double
— Flowerbed		— White Line Solid
— Footpath		— Yellow Line Dashed
— Grating		— Yellow Line Solid
— Hand Rail		
— Sanitary		

Topographic Point Features		
AV Air Valve	IC Inspection Cover	RS Road Sign
APEX Apex Building	IC - CATV	RE Rodding Eye
BL Bed Level	IC - Comms	SA Sector Antenna
BS Beisha Beacon	IC - Electric	SIGN Sign (General)
B Bolt	IC - Round	SOF Soffit Level
BOLT Bolt	IC - Telecom	SH Spot Height
BH Borehole	IC - Traffic	SC Stop Cook
B Bush	IC - Invert Level	TP Telegraph Pole
CCTV Camera Pole	IL Lamp Post	T12.24 Top of Fence Level
C Ceiling Elevation	IL Invert Level	T12.24 Top of Tree Level
D Dipole	MH Manhole	TL Traffic Light
DR Earth Rod	MH - Foul	Tree (TX.XX SX.XX)
EAVE Eave	MH - Round	T=Trunk Radius(m)
EL Electrical Pole	MH - Surface Water	T-Spread Radius(m)
FI Fire Hydrant	MK Marker Post	Tree Deciduous
F Floor Level	MW Microwave Dish	TT Tree Trunk
GM Gas Meter	OW Pipe - Down	V Valve General
G Gas Valve	POLE Pole	WL Water Level
Gully	POST Post	WM Water Meter
Gully Round		WW Water Valve

Special Features		
ID A E-XXXX.XXX Survey Station	ID E-XXXX.XXX Scan Target	
H222.222	H222.222	
Fence Types		
B/W Barbed Wire	C/L Chain Link	O/B Open Boarded
C/B Close Boarded	H Hears	P/W Post and Wire
C/I Corrugated Iron	I/R Iron Railings	P/R Post and Rail

Murphy Geospatial Disclaimer
All reasonable endeavours have been used to capture the required data in the survey to the agreed standards of accuracy. Where features have been obstructed due to a lack of access, the areas will be annotated as 'VFB (Unable To Survey)'. The Company shall not be liable for any damages or consequential losses arising from the reliance on survey information beyond its specified scale and accuracy, or survey information used for purposes other than that stated in the Contract of Works.

Any concerns with the survey should be raised with Murphy Geospatial, who will endeavour to promptly provide a remedy. The Client shall not seek recourse through any third party until such time as Murphy Geospatial have had the opportunity to address any concerns raised.

For full terms and conditions visit [Terms and Conditions](https://www.murphygcs.com/terms-and-conditions) www.murphygcs.com

Location Plan



Revisions				
Rev	Description	Surveyed by	Drawn by	Checked by
A	First Issue	MGS - 21/08/25	SH - 04/09/25	AP - 04/09/25
B	Added connections from CCTV survey	MGS - 21/08/25	AP - 22/09/25	AP - 22/09/25
C	Updated MH IDs to match CCTV Report	MGS - 21/08/25	SH - 10/10/25	AP - 10/10/25
D	Background changed to '15024-01Ato02A'	MGS - 21/08/25	AP - 28/10/25	AP - 30/10/25
Height datum adjust to new background (-1m)				



Geospatial certainty you can trust [murphygcs.com](https://www.murphygcs.com)

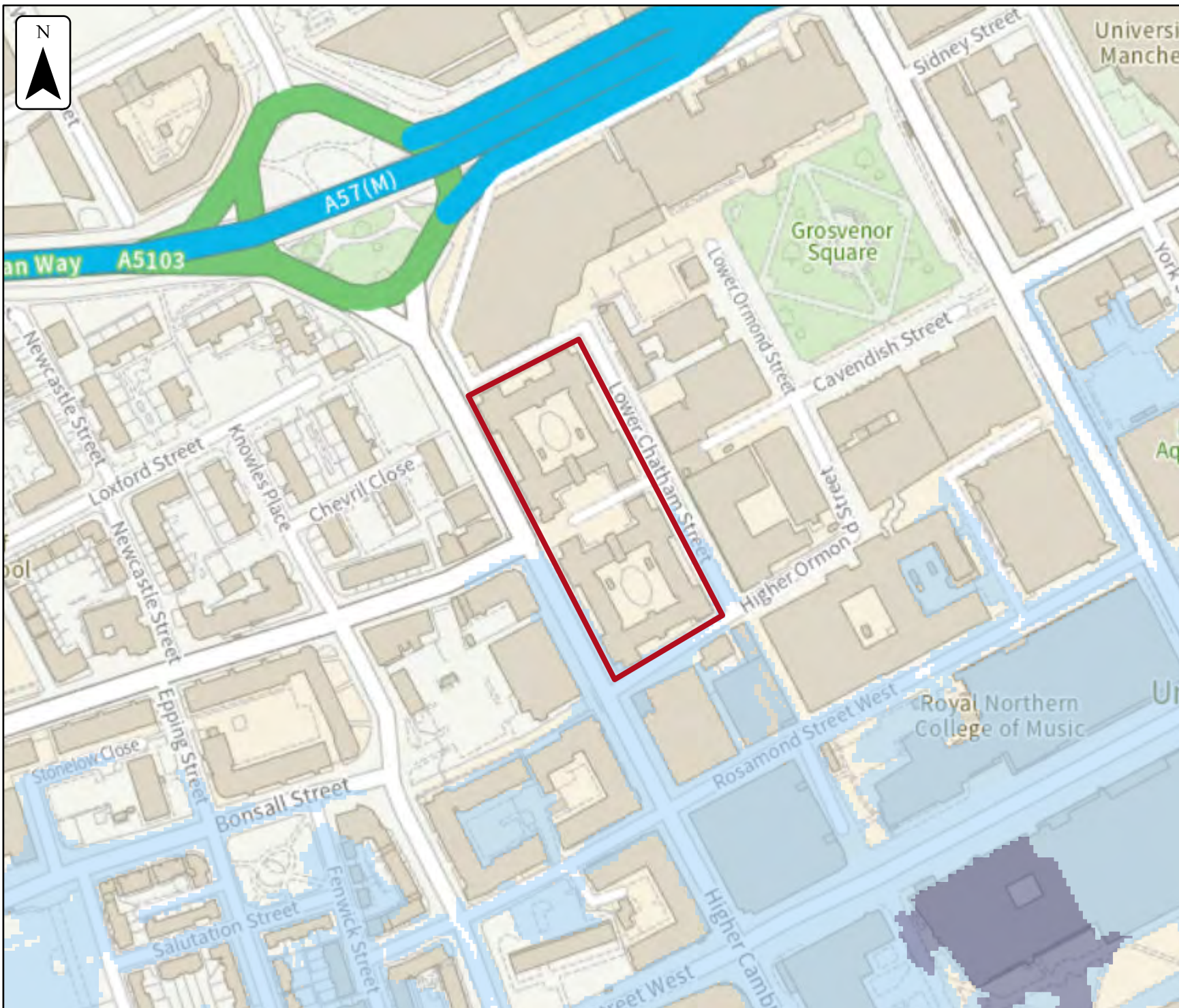
UK Head Office
9 Millfield Croxley Park
Woodshots Meadow
Watford
WD18 8YX
Phone: (+44) 0192 362 4800
Email: info@murphygcs.com



London Manchester Birmingham Glasgow Belfast Cork Kildare

Client	Graham Construction LTD
Project	Cambridge Halls MMU
Site Address	Manchester M15 6TT United Kingdom
Description	Culvert Survey - 2D
Survey Grid	Localised OSGB36(15) - Scale Factor 1.0
Survey Datum	GNSS - Ordnance Datum Newlyn (ODN)
RICS Band	N/A
Drawing Scale	Presentation @A0
Drawing Number	MGS64324-UT-Culverts_2d-RevD

Appendix D – Flood map for planning



Flood map for planning

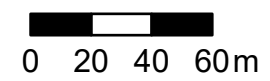
Your reference
Unspecified

Location (easting/northing)
384155/396969

Scale
1:2,500

Created
19 Nov 2025 11:58

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area



Appendix E – Environment Agency Flood Risk Data

Environment
Agency

Customer reference number: WVXRMHR1MAJ3

Business School

Bellhouse Building

St Augustine's Church

Clitheroe House

Ormond Building

Cavendish Building

El Sub Sta

Cavendish Hall

Cambridge North Hall

Cambridge South Hall

Cambridge House

University Barracks

Lower Ormond Street

Dalesman Walk

Cavendish

Upal mall

The Union

PH

Higher Cambridge

A57(M)

call Street

Univ

Selected area

Site location

Scale 1:1,000

0 10 20 30 40 50 metres

© Environment Agency copyright and/or database rights 2025. All rights reserved.
© Crown copyright and database rights 2025 AC0800807064

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
- 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:

- flood defences and attributes

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

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: Corn Brook 2017

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

Date: 31 December 2017

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:

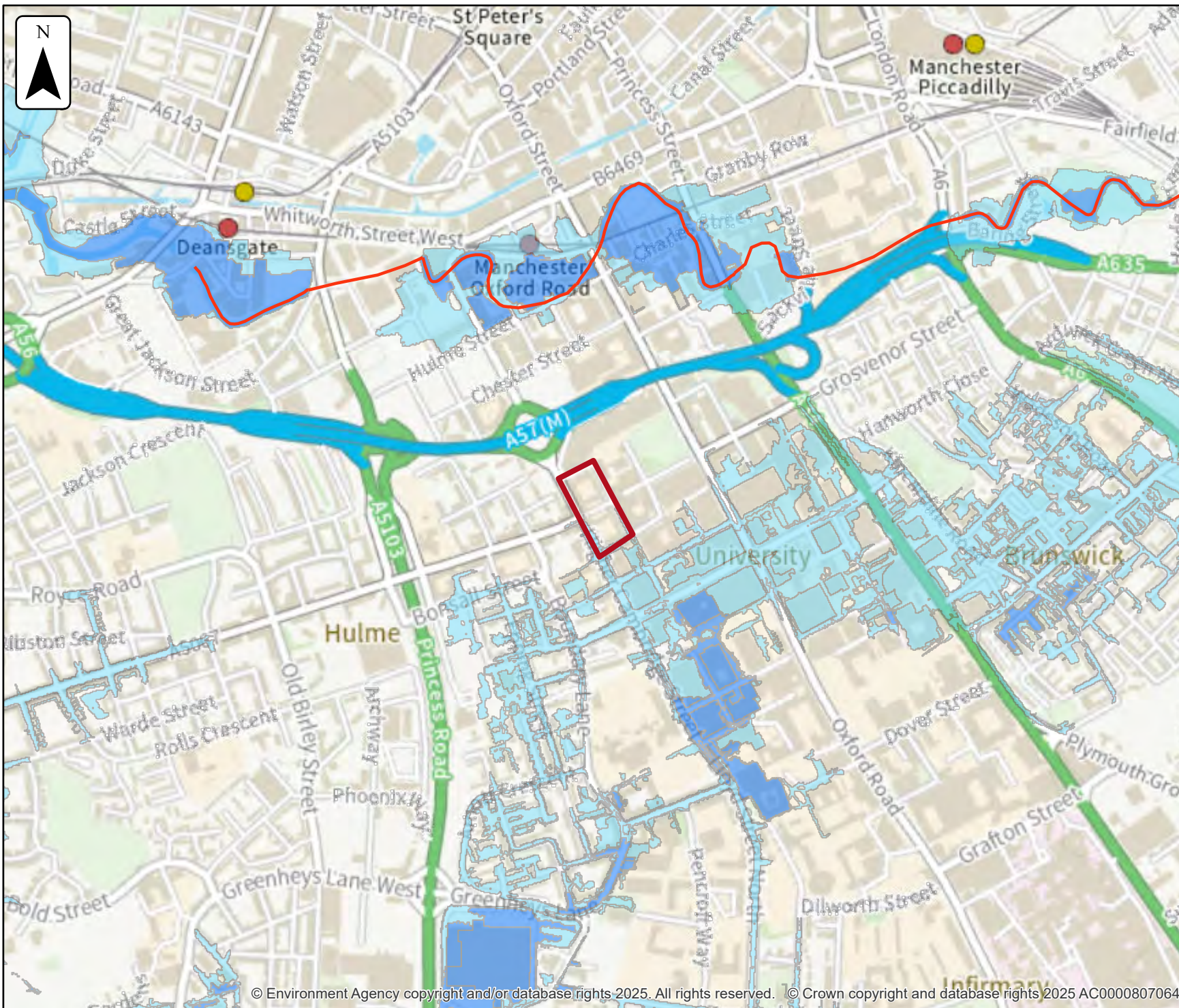
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



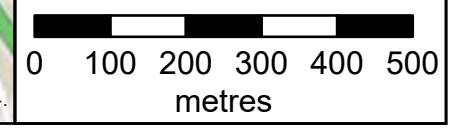
Flood map for planning

Location (easting/northing)
384153/396969

Scale
1:10,000

Created
14 Apr 2025

-  Selected area
-  Main river
-  Flood defence
-  Water storage area
- Flood Zones 2 and 3 Rivers and Sea
 -  Flood Zone 2
 -  Flood Zone 3



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

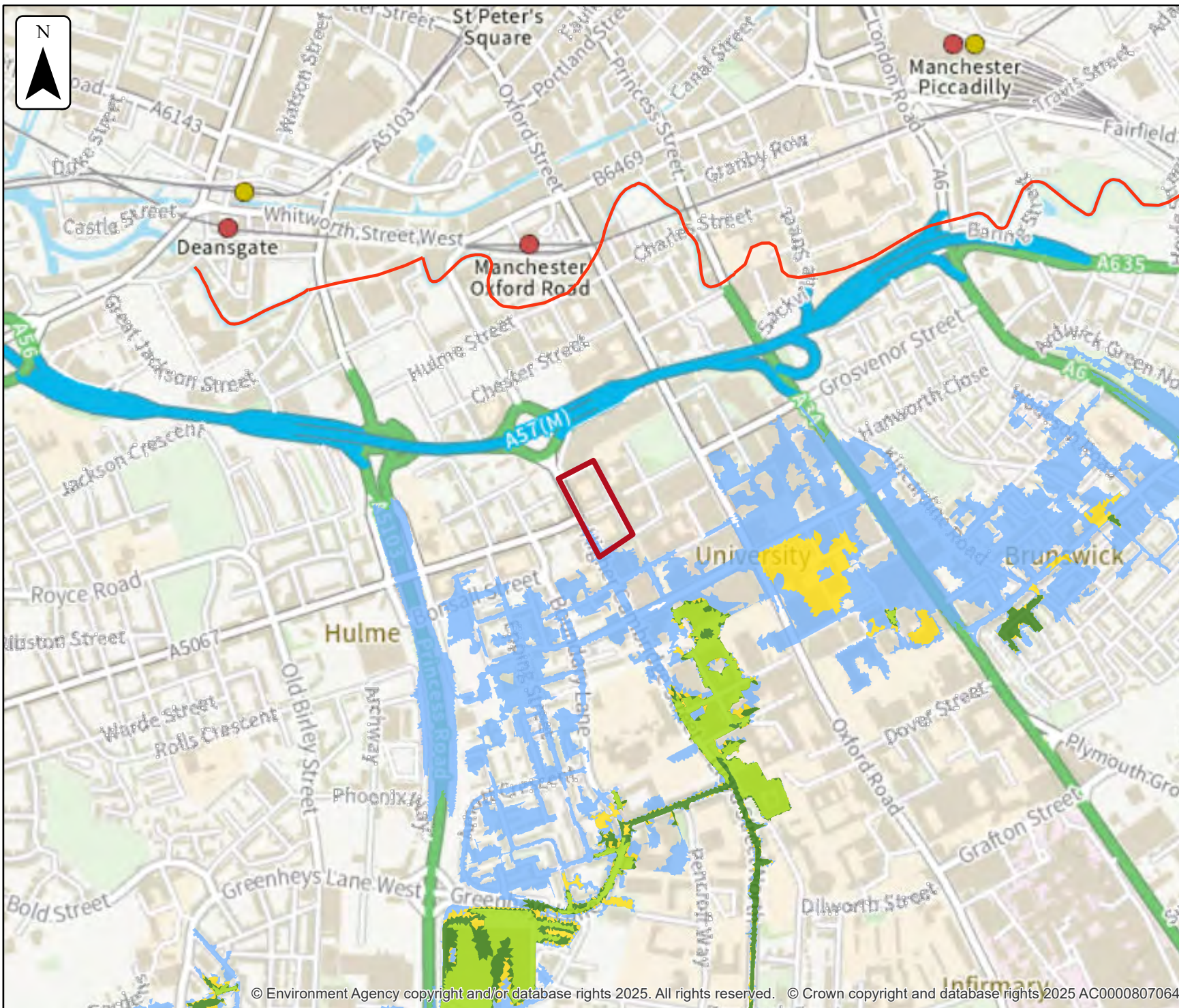
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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
climate change
modelled fluvial extent**

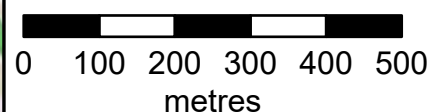
Location (easting/northing)
384153/396969

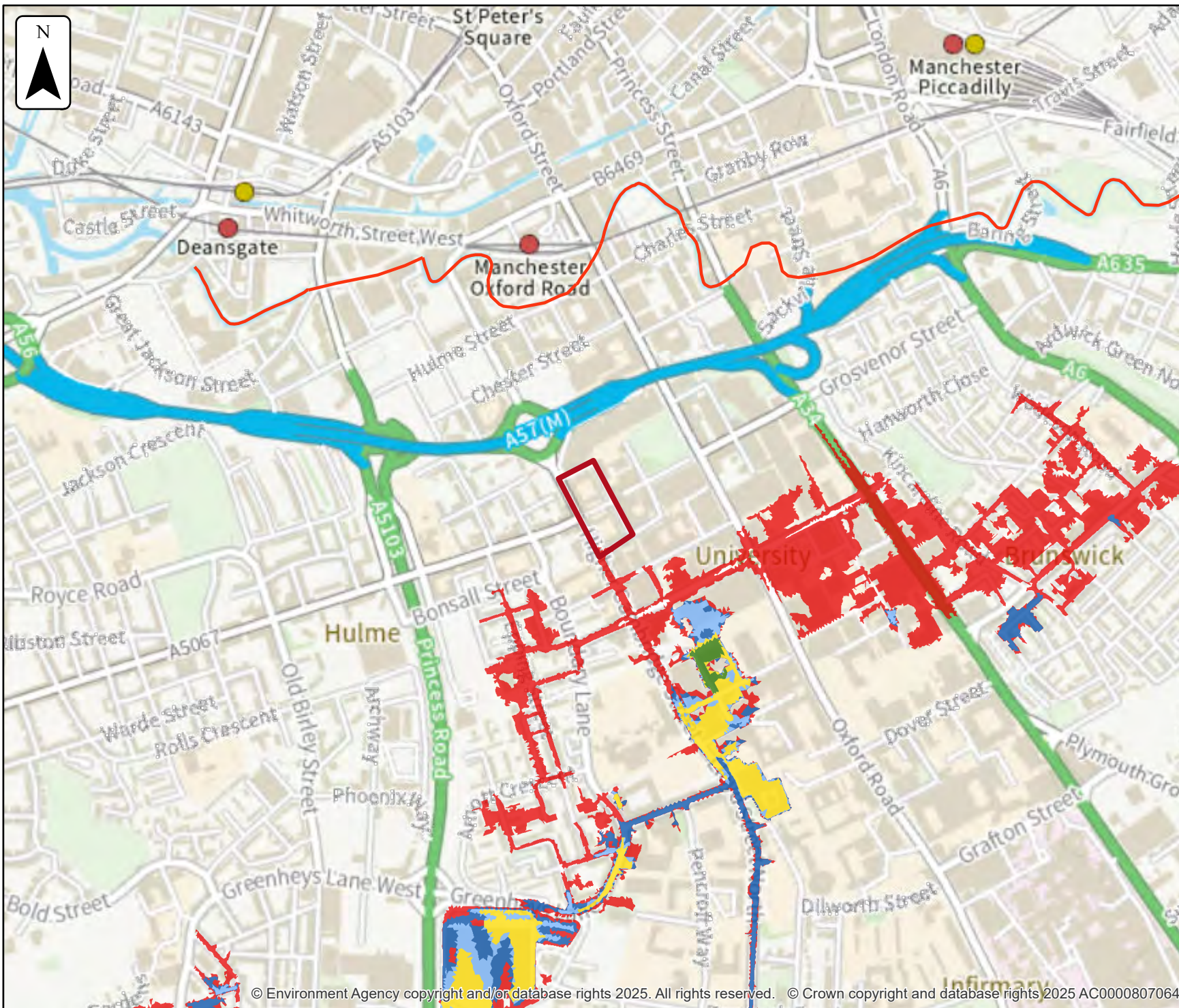
Scale Created
1:10,000 14 Apr 2025

Model name
Corn Brook 2017

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+30%)
 -  1% AEP (+35%)
 -  1% AEP (+70%)
 -  0.1% AEP (+30%)

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





No defences exist modelled fluvial extent

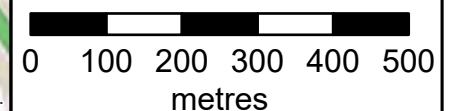
Location (easting/northing)
384153/396969

Scale Created
1:10,000 14 Apr 2025

Model name
Corn Brook 2017

-  Selected area
-  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





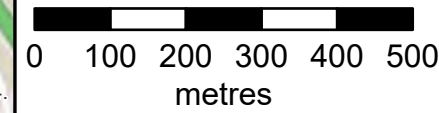
**No defences exist
climate change
modelled fluvial
node locations**

Location (easting/northing)
384153/396969

Scale Created
1:10,000 14 Apr 2025

Model name
Corn Brook 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	952465	384116	396112	33.75	33.79	34.02	34.46
2	952467	384400	396681	37.38	37.39	37.47	37.77

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

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	952465	384116	396112	1.57	1.63	2.05	4.51
2	952467	384400	396681	2.40	2.49	3.13	7.13

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.



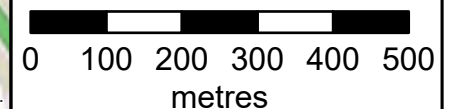
No defences exist modelled fluvial node locations

Location (easting/northing)
384153/396969

Scale Created
1:10,000 14 Apr 2025

Model name
Corn Brook 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

No defences exist

Label	Modelled location ID	Easting	Northing	20% AEP	10% AEP	4% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level
1	952465	384116	396112	32.28	32.37	32.51	32.77	33.26	33.47	33.83	34.34
2	952467	384400	396681	34.99	35.19	35.77	36.89	37.13	37.27	37.41	37.66

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

Label	Modelled location ID	Easting	Northing	20% AEP	10% AEP	4% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	952465	384116	396112	0.27	0.34	0.47	0.81	1.03	1.21	1.70	3.47
2	952467	384400	396681	0.39	0.48	0.67	1.20	1.56	1.84	2.65	5.49

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)
384153/396969

Scale Created
1:1,000 14 Apr 2025

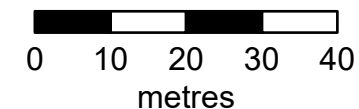
Model name
Corn Brook 2017

-  Selected area
-  Main river

Modelled 2D grid
Water level in mAOD

-  0 - 0.0
-  0.0 - 4.75
-  4.75 - 9.5
-  9.5 - 14.25
-  14.25 - 19.0
-  19.0 - 23.75
-  23.75 - 28.5
-  28.5 - 33.25
-  33.25 - 38.0

This map shows the
0.1% AEP height data



Sample point data

No defences exist

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth
1	384163	396873	NoData	NoData	NoData	NoData	0.11
2	384135	396901	NoData	NoData	NoData	NoData	NoData
3	384163	396901	NoData	NoData	NoData	NoData	NoData
4	384191	396901	NoData	NoData	NoData	NoData	NoData
5	384219	396901	NoData	NoData	NoData	NoData	NoData
6	384135	396929	NoData	NoData	NoData	NoData	NoData
7	384163	396929	NoData	NoData	NoData	NoData	NoData
8	384191	396929	NoData	NoData	NoData	NoData	NoData
9	384219	396929	NoData	NoData	NoData	NoData	NoData
10	384107	396957	NoData	NoData	NoData	NoData	NoData
11	384135	396957	NoData	NoData	NoData	NoData	NoData
12	384163	396957	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth
13	384191	396957	NoData	NoData	NoData	NoData	NoData
14	384219	396957	NoData	NoData	NoData	NoData	NoData
15	384107	396985	NoData	NoData	NoData	NoData	NoData
16	384135	396985	NoData	NoData	NoData	NoData	NoData
17	384163	396985	NoData	NoData	NoData	NoData	NoData
18	384191	396985	NoData	NoData	NoData	NoData	NoData
19	384079	397013	NoData	NoData	NoData	NoData	NoData
20	384107	397013	NoData	NoData	NoData	NoData	NoData
21	384135	397013	NoData	NoData	NoData	NoData	NoData
22	384163	397013	NoData	NoData	NoData	NoData	NoData
23	384079	397041	NoData	NoData	NoData	NoData	NoData
24	384107	397041	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Depth	Depth	Depth	Depth
25	384135	397041	NoData	NoData	NoData	NoData	NoData
26	384163	397041	NoData	NoData	NoData	NoData	NoData
27	384135	397069	NoData	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	NoData	0.24

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.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

No defences exist

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height
1	384163	396873	NoData	NoData	NoData	NoData	36.50
2	384135	396901	NoData	NoData	NoData	NoData	NoData
3	384163	396901	NoData	NoData	NoData	NoData	NoData
4	384191	396901	NoData	NoData	NoData	NoData	NoData
5	384219	396901	NoData	NoData	NoData	NoData	NoData
6	384135	396929	NoData	NoData	NoData	NoData	NoData
7	384163	396929	NoData	NoData	NoData	NoData	NoData
8	384191	396929	NoData	NoData	NoData	NoData	NoData
9	384219	396929	NoData	NoData	NoData	NoData	NoData
10	384107	396957	NoData	NoData	NoData	NoData	NoData
11	384135	396957	NoData	NoData	NoData	NoData	NoData
12	384163	396957	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height
13	384191	396957	NoData	NoData	NoData	NoData	NoData
14	384219	396957	NoData	NoData	NoData	NoData	NoData
15	384107	396985	NoData	NoData	NoData	NoData	NoData
16	384135	396985	NoData	NoData	NoData	NoData	NoData
17	384163	396985	NoData	NoData	NoData	NoData	NoData
18	384191	396985	NoData	NoData	NoData	NoData	NoData
19	384079	397013	NoData	NoData	NoData	NoData	NoData
20	384107	397013	NoData	NoData	NoData	NoData	NoData
21	384135	397013	NoData	NoData	NoData	NoData	NoData
22	384163	397013	NoData	NoData	NoData	NoData	NoData
23	384079	397041	NoData	NoData	NoData	NoData	NoData
24	384107	397041	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
			Height	Height	Height	Height	Height
25	384135	397041	NoData	NoData	NoData	NoData	NoData
26	384163	397041	NoData	NoData	NoData	NoData	NoData
27	384135	397069	NoData	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	NoData	36.50

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.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



**No defences exist
climate change
modelled fluvial
extent and height**

Location (easting/northing)
384153/396969

Scale Created
1:1,000 14 Apr 2025

Model name
Corn Brook 2017

 Selected area
 Main river

Modelled 2D grid
Water level in mAOD

 0 - 0.0
 0.0 - 4.75
 4.75 - 9.5
 9.5 - 14.25
 14.25 - 19.0
 19.0 - 23.75
 23.75 - 28.5
 28.5 - 33.25
 33.25 - 38.0

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


0 10 20 30 40
metres

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	Depth	Depth	Depth
1	384163	396873	NoData	NoData	NoData	0.21
2	384135	396901	NoData	NoData	NoData	NoData
3	384163	396901	NoData	NoData	NoData	NoData
4	384191	396901	NoData	NoData	NoData	NoData
5	384219	396901	NoData	NoData	NoData	NoData
6	384135	396929	NoData	NoData	NoData	0.10
7	384163	396929	NoData	NoData	NoData	NoData
8	384191	396929	NoData	NoData	NoData	NoData
9	384219	396929	NoData	NoData	NoData	NoData
10	384107	396957	NoData	NoData	NoData	NoData
11	384135	396957	NoData	NoData	NoData	NoData
12	384163	396957	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
13	384191	396957	NoData	NoData	NoData	NoData
14	384219	396957	NoData	NoData	NoData	NoData
15	384107	396985	NoData	NoData	NoData	NoData
16	384135	396985	NoData	NoData	NoData	NoData
17	384163	396985	NoData	NoData	NoData	NoData
18	384191	396985	NoData	NoData	NoData	NoData
19	384079	397013	NoData	NoData	NoData	NoData
20	384107	397013	NoData	NoData	NoData	NoData
21	384135	397013	NoData	NoData	NoData	NoData
22	384163	397013	NoData	NoData	NoData	NoData
23	384079	397041	NoData	NoData	NoData	NoData
24	384107	397041	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
25	384135	397041	NoData	NoData	NoData	NoData
26	384163	397041	NoData	NoData	NoData	NoData
27	384135	397069	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	0.33

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.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

No defences exist climate change

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
1	384163	396873	NoData	NoData	NoData	36.60
2	384135	396901	NoData	NoData	NoData	NoData
3	384163	396901	NoData	NoData	NoData	NoData
4	384191	396901	NoData	NoData	NoData	NoData
5	384219	396901	NoData	NoData	NoData	NoData
6	384135	396929	NoData	NoData	NoData	36.58
7	384163	396929	NoData	NoData	NoData	NoData
8	384191	396929	NoData	NoData	NoData	NoData
9	384219	396929	NoData	NoData	NoData	NoData
10	384107	396957	NoData	NoData	NoData	NoData
11	384135	396957	NoData	NoData	NoData	NoData
12	384163	396957	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
13	384191	396957	NoData	NoData	NoData	NoData
14	384219	396957	NoData	NoData	NoData	NoData
15	384107	396985	NoData	NoData	NoData	NoData
16	384135	396985	NoData	NoData	NoData	NoData
17	384163	396985	NoData	NoData	NoData	NoData
18	384191	396985	NoData	NoData	NoData	NoData
19	384079	397013	NoData	NoData	NoData	NoData
20	384107	397013	NoData	NoData	NoData	NoData
21	384135	397013	NoData	NoData	NoData	NoData
22	384163	397013	NoData	NoData	NoData	NoData
23	384079	397041	NoData	NoData	NoData	NoData
24	384107	397041	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
25	384135	397041	NoData	NoData	NoData	NoData
26	384163	397041	NoData	NoData	NoData	NoData
27	384135	397069	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	36.60

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.

'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 for:

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

Appendix F – UU Correspondence

LLFA correspondence

WASTEWATER PRE-DEVELOPMENT ENQUIRY



United Utilities Grasmere House, 2nd Floor
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

12.08.25

Dear Marta,

Pre-Development Enquiry for Cambridge Halls, Cavendish St, Manchester, M15 6TT UU Reference Number: 07888655

We have assessed your application based on the information provided. This pre-development advice on your drainage strategy will be valid for 12 months. Your strategy will need review by other authorities as part of the planning process. We advise conducting necessary site investigations to confirm viability of your proposals.

Modelled Flood Risk

[Please see the image on page 3 for details](#)

I can confirm that we do not have modelled flood risk within the vicinity of the proposed development.

Please note that our modelling data is indicative, and only representative of the 1:100year storm event.

[Please see comment 2 of the attached guidance sheet](#)

Asset Protection

2. We have significant assets crossing this site that cannot realistically be diverted.
3. According to our public sewer records, there are public sewers located within your site boundary. This requires an easement of 6m to both 600mm and 1950mm If you cannot achieve the required clearance, you may wish to consider diverting and or abandoning the public sewer.

[Please see comment 3 of the attached guidance sheet and Working Near Our Pipelines Guidance document](#)

Foul Water

Foul flow from this site will be allowed to drain into the public combined sewer system.

Our preferred point of discharge would be to the 600mm or 1950mm within your proposed development at an unrestricted rate.

WASTEWATER PRE-DEVELOPMENT ENQUIRY

Grid reference 384153, 396970

[Please see the images on **page 3** for clarification](#)

Surface Water

Follow the National Planning Policy Guidance drainage hierarchy and Provide evidence for discounting higher options before considering public sewer discharge. Consult the Lead Local Flood Authority regarding surface water concerns.

[Please see comment **4** within the guidance sheet](#)

Infiltration

[Please see comment **4** within the guidance sheet](#)

Public Sewer

United Utilities will consider a connection to the 1950mm or 600mm diameter public combined sewer within located within the proposed site at a pass forward flow to be agreed by the Lead Local Flood Authority. United Utilities requests that any agreed rate does not exceed 14 l/s.

Grid reference 384153, 396970

[Please see images on **page 3** for clarification](#)

Site Images



WASTEWATER PRE-DEVELOPMENT ENQUIRY



Marta Wolska

From: seweradoptions@uuplc.co.uk
Sent: 02 October 2025 10:40
To: Marta Wolska; Andy Losty
Cc: seamus.mcferran@graham.co.uk; james.beggan@graham.co.uk
Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development

Hello Andy

Thank you for the phone call.

Please find a link to our standard details:

[Developer Services Construction Details](#)

Use table "Manhole Access Detail" to support designing the manhole, as discussed, if a connection to the 1950mm combined sewer is being considered.

If I can be of further help do get in touch.

Kind Regards

Gulshan



Gulshan Seetulparsad, MEng (Hons)

Developer Engineer (Greater
Manchester Area)
Developer Services & Metering
Customer Services

T: 01925 429092

unitedutilities.com



If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow

----- Original Message -----

From: seweradoptions@uuplc.co.uk [seweradoptions@uuplc.co.uk]

Sent: 30/09/2025 17:09

To: marta.wolska@curtins.com

Cc: seamus.mcferran@graham.co.uk; andy.losty@curtins.com; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development

Good Afternoon Marta

In line with the pre-development enquiry United Utilities will consider a connection to the 600mmx750mm brick egg combined sewer at 14l/s following discounting the drainage hierarchy.

I have linked, [standard-conditions-for-works-adjacent-to-pipelines-issued-july-2015.pdf](#) please see section 8.5. c) the use of root barriers.

Further to this please see appendix 1 for plants and the distance they are allowed to protect the public sewers.

If I can be of any further support do reach out.

Kind Regards

Gulshan

	Gulshan Seetulparsad, MEng (Hons) Developer Engineer (Greater Manchester Area) Developer Services & Metering Customer Services T: 01925 429092 unitedutilities.com



If you have received a great service today why not tell us?
Visit: unitedutilities.com/wow

----- Original Message -----

From: seweradoptions@uuplc.co.uk [seweradoptions@uuplc.co.uk]

Sent: 17/09/2025 10:50

To: marta.wolska@curtins.com

Cc: seamus.mcferran@graham.co.uk; andy.losty@curtins.com; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development

Good Morning,

Your enquiry has been logged and sent to our engineer Gulshan and his contact number is 01925 429092. Our service Level agreement is to respond to you within 10 working days.

Many thanks



Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated



Visit: <https://unitedutilities.thewowawards.co.uk/nominate>

----- Original Message -----

From: Marta Wolska [marta.wolska@curtins.com]

Sent: 16/09/2025 18:33

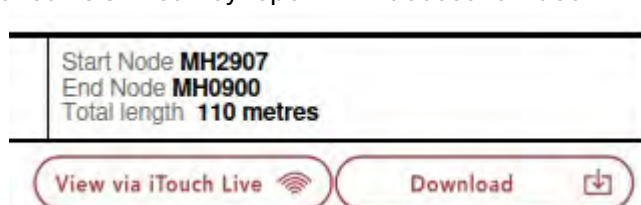
To: seweradoptions@uuplc.co.uk

Cc: seamus.mcferran@graham.co.uk; andy.losty@curtins.com; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development

Dear James

1. Please find attached the survey of the 1950mm and 600x750mm public sewers, each with a total 6m easement (3m either side). As the easements overlap, the extent has been highlighted. Kindly confirm whether you have any further comments or if this is acceptable.
2. The attached CCTV survey report with access to video

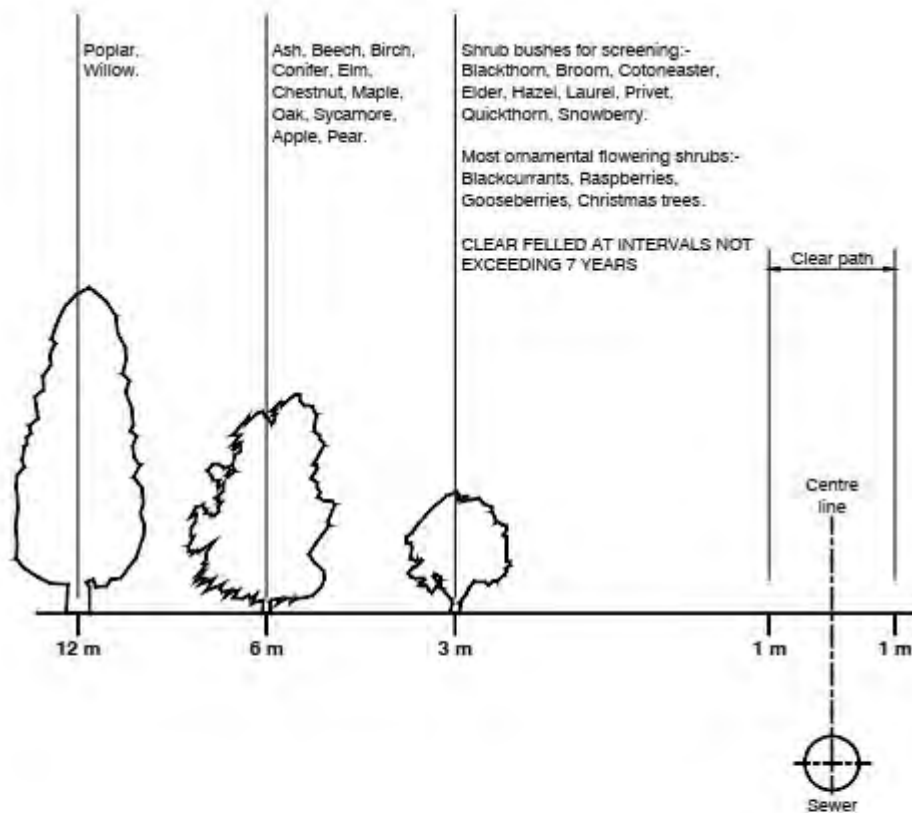


footage

indicates 600x750 has significant debris which is obstructing to carry out the full CCTV survey between 0900& 2907. The survey company was unable to clean it and complete the survey. I will notify UU of the issue; however, it is unlikely they will undertake major further cleaning as it is still flow between debris.

3. Please review the information and please confirm if UU permits us to connect development to the 600x750mm sewer in its current condition?
4. Based on the attached UU 1905 manhole card, the existing shaft is 800 mm. If connection to 600x750 is not permitted, would you accept installing only a 1200-diameter shaft above 1950 and a backdrop connection from the site?

5. Further investigation will be carried for 300x400 as there is no downstream and upstream chamber to carry out a survey; therefore, trial pit will be required.
6. The landscape plan proposes some trees outside the easement but within 4 m of the sewer. According to *Sewer for Adoption 6th Edition* (see below), specific clearance distances are required for different tree types. Does this requirement still apply if a root protection barrier is installed?



Kind regards

Marta Wolska
Principal Civil Engineer

Tel: 0161 236 2394
Mob: 07842 414 675
marta.wolska@curtins.com
curtins.com

From: seweradoptions@uuplc.co.uk <seweradoptions@uuplc.co.uk>

Sent: 12 August 2025 14:53

To: Marta Wolska <marta.wolska@curtins.com>

Cc: seamus.mcferran@graham.co.uk; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development Submission

Good afternoon Marta,

Please find attached the PDE and the guidance.

Regards,



James Darlington
Developer Engineer
Developer Services & Metering
T: 01925 429095
unitedutilities.com

If you have received a great service today why not tell us?

Visit: [//unitedutilities.com/wow](http://unitedutilities.com/wow)

If you are happy with the service we have provided, please consider submitting a nomination in the following link – this only takes a moment and would be greatly appreciated: unitedutilities.com/wow

----- Original Message -----

From: seweradoptions@uuplc.co.uk [seweradoptions@uuplc.co.uk]

Sent: 06/08/2025 14:33

To: marta.wolska@curtins.com

Cc: seamus.mcferran@graham.co.uk; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development Submission

Hi Marta

Thanks for your email.

The case has been passed over to our engineer however our service level agreement time is 10 days for us to respond.

Kind Regards,



Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated



Visit: <https://unitedutilities.thewowawards.co.uk/nominate>

----- Original Message -----

From: Marta Wolska [marta.wolska@curtins.com]

Sent: 06/08/2025 14:16

To: seweradoptions@uuplc.co.uk

Cc: seamus.mcferran@graham.co.uk; james.beggan@graham.co.uk

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development Submission

Dear Laura

Would you mind asking the engineer to review it at their earliest convenience?

It is essential to have the location and discharge rate confirmed as soon as possible to meet the client's deadline.

Kind regards

Marta Wolska
Principal Civil Engineer

Tel: 0161 236 2394
Mob: 07842 414 675
marta.wolska@curtins.com
curtins.com

From: seweradoptions@uuplc.co.uk <seweradoptions@uuplc.co.uk>

Sent: 06 August 2025 13:57

To: Marta Wolska <marta.wolska@curtins.com>

Subject: RE: UU REF: 07888655 - Cambridge Halls Pre Development Submission

Dear Marta,

PROPOSED PRE DEVELOPMENT AT Cambridge Halls - UU Ref – 07888655.

Thank you for your **card** payment for £565.55 received 06.08.25. Your application has now been processed and passed to our Engineer.

We will respond within the next 10 working days, please feel free to contact us if you need anything.

Kind regards



Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated



Visit: <https://unitedutilities.thewowawards.co.uk/nominate>

----- Original Message -----

From: seweradoptions@uuplc.co.uk [seweradoptions@uuplc.co.uk]

Sent: 24/07/2025 16:27

To: marta.wolska@curtins.com

Subject: UU REF: 07888655 - Cambridge Halls Pre Development Submission

Dear Marta

PRE DEVELOPMENT/POC APPLICATION AT: Cambridge Halls – UU Ref 07888655.

Thank you for your application submitted on 23.07.25 for the above development. We have now logged this on our system under reference 07888655. Please use this reference in any future correspondence.

I have reviewed your application and attachments and can confirm we have received all necessary documents.

Before we can proceed with passing this to our Engineering Team, we kindly ask that you submit a payment of £565.55. This can be made via BACS to the account below, using reference 07888655.

NatWest Sort Code:

01-09-17

NatWest Account Number: 58934014
Account Name: UUW Sundry Debtors Receipts

Alternatively, please call us on 0345 026 8989 to make payment over the phone.

Please note that until payment is received your application will not be progressed.

If you have any questions, feel free to reach out.

Kind regards



Laura Owens
Customer Advisor Advanced
Developer Services & Metering
Customer Services
T: 0345 026 8989 option 4
unitedutilities.com

If you feel you have received a good service from myself, please can you take two minutes to fill in the survey below. This will be much appreciated



Visit: <https://unitedutilities.thewowawards.co.uk/nominate>

The information contained in this e-mail is intended only for the individual to whom it is addressed. It may contain legally privileged or confidential information or otherwise be exempt from disclosure. If you have received this Message in error or there are any problems, please notify the sender immediately and delete the message from your computer. You must not use, disclose, copy or alter this message for any unauthorised purpose. Neither United Utilities Group PLC nor any of its subsidiaries will be liable for any direct, special, indirect or consequential damages as a result of any virus being passed on, or arising from the alteration of the contents of this message by a third party.

United Utilities Group PLC, Haweswater House, Lingley Mere
Business Park, Lingley Green Avenue, Great Sankey,
Warrington, WA5 3LP
Registered in England and Wales. Registered No 6559020

www.unitedutilities.com
[//www.unitedutilities.com/subsidiaries](http://www.unitedutilities.com/subsidiaries)



Marta Wolska

From: wastewaterdeveloperservices@uuplc.co.uk
Sent: 23 July 2025 10:39
To: Marta Wolska; jennifer.atkinson@manchester.gov.uk
Cc: seamus.mcferran@graham.co.uk; Matthew Wright; Charlie Smith
Subject: RE: Cavendish St M15 6TT UU REF 142888/FO/2025

Good Morning Martha

Thank you for reaching out to us.

Could you please confirm whether you have any further comments or requirements? Would UU remove the objection if the exact location of 1950 and 600x750 is provided?

With regards to asset crossing the site. Following confirmation of the exact location and health of the sewer we have also requested RAMS on how the sewer will be protected during construction including. RAMS should also cover pre piling and post piling CCTV survey to confirm that no damage has been caused to the sewer as a result of piling.

As you have mentioned you will have piled foundations, therefore, loading should not be an issue, and you will be keeping 3m away from the centre line of the asset. We would still like to see drawings confirming how the load is being transferred away from the sewer (zone of influence diagram).

We also would like the opportunity to comment on the piling RAMS, to make sure that vibrations are being kept within as acceptable range.

Could you please confirm

- 1. if connection from site to 600x750mm sewer to Higher Chatham Street UU1904 (foul water 39l/s , surface water 98.7l/s) is acceptable*
- 2. What is the surcharge level for 1 in 30 and 1 in 100 in the public sewer where the connection is proposed?*
- 3. Does UU require any other sewers to be investigated to lift the objection*

1 and 2 are all covered under a Pre-Development Enquiry Application which is a chargeable service.

[Wastewater Pre-Development Enquiry | United Utilities](#)

I can advise that we will not recommend anything exceeding greenfield rates even for brownfield developments.

Concerning section 3, our objection only relates to the 1950mm, 600x700 and 300x400 combined sewers. Following this being resolved our objection will be lifted. Should you be planning any sewer closures, please apply for a S116 Sewer Closure - [Application to close a public sewer \(S116\)](#)

Thank you.

Kind Regards

Gulshan



Gulshan Seetulparsad, MEng (Hons)

Developer Engineer (Greater
Manchester Area)
Developer Services & Metering
Customer Services

T: 01925 429092

unitedutilities.com



If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow

----- Original Message -----

From: Marta Wolska [marta.wolska@curtins.com]

Sent: 17/07/2025 19:51

To: wastewaterdeveloperservices@uuplc.co.uk; seweradoptions@uuplc.co.uk

Cc: seamus.mcferran@graham.co.uk; charlie.smith@curtins.com; matthew.wright@curtins.com

Subject: RE: Cavendish St M15 6TT UU REF 142888/FO/2025

Dear Gulshan

Could you please confirm you download the fields as wink will expire tomorrow

Marta Wolska

Principal Civil Engineer

Tel: 0161 236 2394

Mob: 07842 414 675

marta.wolska@curtins.com

curtins.com

From: Marta Wolska

Sent: 15 July 2025 22:00

To: wastewaterdeveloperservices@uuplc.co.uk; SewerAdoptions <seweradoptions@uuplc.co.uk>

Cc: Charlie Smith <Charlie.Smith@curtins.com>; Seamus McFerran <seamus.mcferran@graham.co.uk>; Matthew Wright <Matthew.Wright@curtins.com>

Subject: RE: Cavendish St M15 6TT UU REF 142888/FO/2025

Dear Gulshan

We kindly request your prompt attention to assist in resolving United Utilities' objections (UU Reference: 142888/FO/2025) to the submitted planning drainage strategy.

Accordingly, we provide the following response as part of the planning consultation process.

The files are too big size and bounce back when attached Please download files as link expires in 3 days
<https://we.tl/t-38t26j5pJA>

1. UU letter
2. Arups Flood Risk Assessments and Drainage Strategy
3. Existing Drainage overview
4. Site investigation report
5. Proposed Arup drainage Strategy

Based on previous correspondence between Arup and United Utilities, it was our understanding that the drainage strategy had been discussed and agreed upon in principle.

To clarify the proposed drainage approach and address the objections raised, please find below a summary and supporting documents related to the drainage strategy for the site.

The main objection relates to public sewers crossing the development site.

Regarding the public sewers within the site:

1. **1950mm and 600x750mm Sewers:** A survey is currently being arranged to accurately determine the position of these sewers on site.
2. **300x400mm Sewer:** There are no accessible upstream or downstream manholes for this sewer, making a CCTV survey currently unfeasible. A Ground Penetrating Radar (GPR) survey, along with trial pits, will be required following the demolition of the existing building.

While there are public sewers located in the adjacent roads outside the site boundary, the proposed development will not impact them, as pile foundations are being used.

Could you please confirm whether you have any further comments or requirements? Would UU remove the objection if the exact location of 1950 and 600x750 is provided?

UU comments to Drainage

3. **Section 5.3** of Arup's Flood Risk Assessment and Drainage Strategy outlines the surface water drainage hierarchy. It explains why infiltration, connection to a watercourse, and discharge to a surface water sewer are not feasible. This is supported by ground investigation results indicating the presence of clay and made ground.
4. **Section 5.1** of the report states that surface water is proposed to be discharged into the existing public combined sewer network via a new gravity connection to UU manhole MH1904. The discharge will be restricted to 98.7 l/s, reflecting a 50% reduction from the existing runoff rate calculated using the Modified Rational Method for a catchment area of 0.82 ha. Any additional surface water will be attenuated on-site using geocellular storage tanks.
5. A detailed drainage layout has been provided showing proposed cover and invert levels.
6. The plan has also been updated to include flow rates from the development.
7. We have added to the drainage plan the plan flows from the development.

Could you please confirm

1. if connection from site to 600x750mm sewer to Higher Chatham Street UU1904 (foul water 39l/s, surface water 98.7l/s) is acceptable
2. What is the surcharge level for 1 in 30 and 1 in 100 in the public sewer where the connection is proposed?
3. Does UU require any other sewers to be investigated to lift the objection

If you would like us to further clarify I am available Monday, 21.07 11-3pm or Wednesday, 11-3pm for teams meeting.

I have attached documents

Marta Wolska
Principal Civil Engineer

Tel: 0161 236 2394
Mob: 07842 414 675
marta.wolska@curtins.com
curtins.com

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>
Sent: 10 July 2025 16:27
To: Marta Wolska <marta.wolska@curtins.com>
Cc: Charlie Smith <Charlie.Smith@curtins.com>
Subject: RE: Cavendish St M15 6TT

Hello Marta

Jordan has now moved roles.

I am currently the engineer responsible for the Greater Manchester area.

I have no record of a predevelopment enquiry on our system for this development.

You will have to apply for [Wastewater pre-development - United Utilities](#) here.

This is a chargeable service at £471.29 (excl VAT)

I can see from our systems that Jordan responded to the planning application 01/07/2025 (the official planning letter may have gone out later).

Happy to discuss any of the points raised.

Kind Regards

Gulshan



Gulshan Seetulparsad, MEng (Hons)

Developer Engineer (Salford, Bury,
Oldham, Rochdale, Burnley)

Developer Services & Metering

Customer Services

T: 01925 429092

unitedutilities.com



If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow

----- Original Message -----

From: Marta Wolska [marta.wolska@curtins.com]

Sent: 10/07/2025 08:59

To: wastewaterdeveloperservices@uuplc.co.uk

Cc: charlie.smith@curtins.com

Subject: RE: Cavendish St M15 6TT

Dear Jordan & Conor

Could you please respond as soon as possible, as I am not sure if PDE has been submitted previously or should be submitted now?

Kind regards

Marta Wolska
Principal Civil Engineer

Tel: 0161 236 2394
Mob: 07842 414 675
marta.wolska@curtins.com
curtins.com

From: Marta Wolska
Sent: 07 July 2025 13:27
To: wastewaterdeveloperservices@uuplc.co.uk
Cc: Charlie Smith <Charlie.Smith@curtins.com>
Subject: Cavendish St M15 6TT

Dear Jordan & Conor

I would like to ask please for quick review and response.

Curtins Consulting have been appointed to carry out the Stage 4 design for the site. Arup has carried out a pre-planning consultation with UU regarding the easement of the existing sewer and proposed flow rates and discharge point.

Based on below correspondence seems Flood Risk Assessment and Drainage strategy has been submitted to UU, and UU accepted surface water flows 50% reduction from the existing surface water rates to 600x750 within Higher Chatham Street.

As there is no UU reference number, we are not sure if a redevelopment enquiry has been submitted with Foul and surface water flows.

We have been informed by the client that the 600x750mm sewer, which reduces to 450mm within Higher Chatham Street, is experiencing capacity issues.

Due to limited information from Arup

I would like to confirm:

1. Has the exact predevelopment enquiry been submitted by Arup and what is reference number
2. Has UU in principle approved connection from site to 600x750mm sewer to Higher Chatham Street
3. Have the exact foul water and surface water flow rates from the development been submitted and accepted by UU
4. What is the surcharge level for 1 in 30 and 1 in 100 in the public sewer where the connection is proposed?
5. Has UU responded to the Council consultation under Planning application? would it be possible to get that advice

I have attached Arup's drawing and indicated flow rates which we understand been discussed with UU and agreed.

Kind regards

Marta Wolska
Principal Civil Engineer

Tel: 0161 236 2394
Mob: 07842 414 675
marta.wolska@curtins.com
curtins.com

From: Greg Hardie <Greg.Hardie@arup.com>

Sent: 17 June 2025 13:58

To: Ross Cuming <ross.cuming@cumming-group.com>; Laura Merrion Shaw <laura.shaw@cumming-group.com>; Hannah Walder <hannah.walder@unitestudents.com>; Seamus McFerran <seamus.mcferran@graham.co.uk>

Cc: James Thorneycroft <James.Thorneycroft@arup.com>; Daryl Ruane <Daryl.Ruane@arup.com>; Emma Cecil <Emma.Cecil@arup.com>

Subject: FW: Sewer Easement - Cavendish St M15 6TT

Hi All,

Response from UU on the sewer easement

Regards

Greg

Greg Hardie

Associate Director

My working week is Tuesday to Friday.

Arup

6th Floor 3 Piccadilly Place, Manchester, M1 3BN

United Kingdom

d +44 161 602 9324

m 07880 404 378

[arup.com](https://www.arup.com)

Follow us: [LinkedIn](#) [Instagram](#) [YouTube](#) [Facebook](#)

Ove Arup & Partners Limited | Registered in England & Wales Registered Number: 1312453 | Registered Address: 8 Fitzroy Street, London, W1T 4BJ

Electronic mail messages entering and leaving Arup business systems are scanned for viruses and acceptability of content.

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>

Sent: 17 June 2025 13:24

To: Daryl Ruane <daryl.ruane@arup.com>

Cc: James Thorneycroft <james.thorneycroft@arup.com>; Greg Hardie <greg.hardie@arup.com>; Emma Cecil <emma.cecil@arup.com>; Lee Jordan <lee.jordan@arup.com>; Tom Saville <tom.saville@arup.com>; Michal Ceklarz <michal.ceklarz@arup.com>

Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi Daryl,

Thank you for your email.

We're unable to accurately confirm the easement in relation to the sewer until the sonde survey has been completed.

As you can appreciate, this may impact your design and could potentially alter the footprint of certain elements.

I hope this helps, should you need anything else please do let me know.

Kind regards,



Jordan Houghton
Developer Engineer
Developer Services & Metering
Customer Services
T: 01925 429091
unitedutilities.com

If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow

----- Original Message -----

From: Daryl Ruane [daryl.ruane@arup.com]

Sent: 11/06/2025 16:14

To: wastewaterdeveloperservices@uuplc.co.uk; james.thorneycroft@arup.com

Cc: greg.hardie@arup.com; tom.saville@arup.com; emma.cecil@arup.com; lee.jordan@arup.com; michal.ceklarz@arup.com

Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi Jordan,

Thank you for your response.

Following our discussions with your colleague Lewis Barr on 01/07/2024, we were advised that a 3m width would be sufficient in accordance with Building Regulations Part H4. While a greater width for the 1950mm sewer was preferred, this was noted as a preference rather than a formal requirement. This site is highly constrained on both sides of Cavendish St, and we are limited by available space.

For reference, I have attached a copy of this correspondence.

Could you please confirm whether this guidance still applies? Our designs have been developed based on this prior engagement, and we want to ensure alignment.

Please note – we are currently in the process of seeking a sonde survey to confirm an accurate position of this sewer to clarify where this corridor applies. Would confirming the location of this sewer help reduce the risk/ width?

Looking forward to your clarification.

Best regards,

Daryl

Daryl Ruane

Senior Civil Engineer

MEng CEng MICE

Arup

6th Floor 3 Piccadilly Place, Manchester, M1 3BN

United Kingdom

arup.com

Follow us: [LinkedIn](#) [Instagram](#) [YouTube](#) [Facebook](#)

Ove Arup & Partners Limited | Registered in England & Wales Registered Number: 1312453 | Registered Address: 8 Fitzroy Street, London, W1T 4BJ

Electronic mail messages entering and leaving Arup business systems are scanned for viruses and acceptability of content.

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>

Sent: 09 June 2025 15:34

To: James Thorneycroft <james.thorneycroft@arup.com>

Cc: Greg Hardie <greg.hardie@arup.com>; Emma Cecil <emma.cecil@arup.com>; Lee Jordan

<lee.jordan@arup.com>; Daryl Ruane <daryl.ruane@arup.com>; Michal Ceklarz <michal.ceklarz@arup.com>

Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi James,

Thank you for your email.

As Conor mentioned in his message below, the required easement from the centre line of the sewer should be 4 metres. However, the specification you've provided currently indicates only 3 metres.

Could you please review and update the specification accordingly?

Kind regards,



Jordan Houghton
Developer Engineer
Developer Services & Metering
Customer Services
T: 01925 429091
unitedutilities.com

If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow

----- Original Message -----

From: James Thorneycroft [james.thorneycroft@arup.com]

Sent: 06/06/2025 12:23

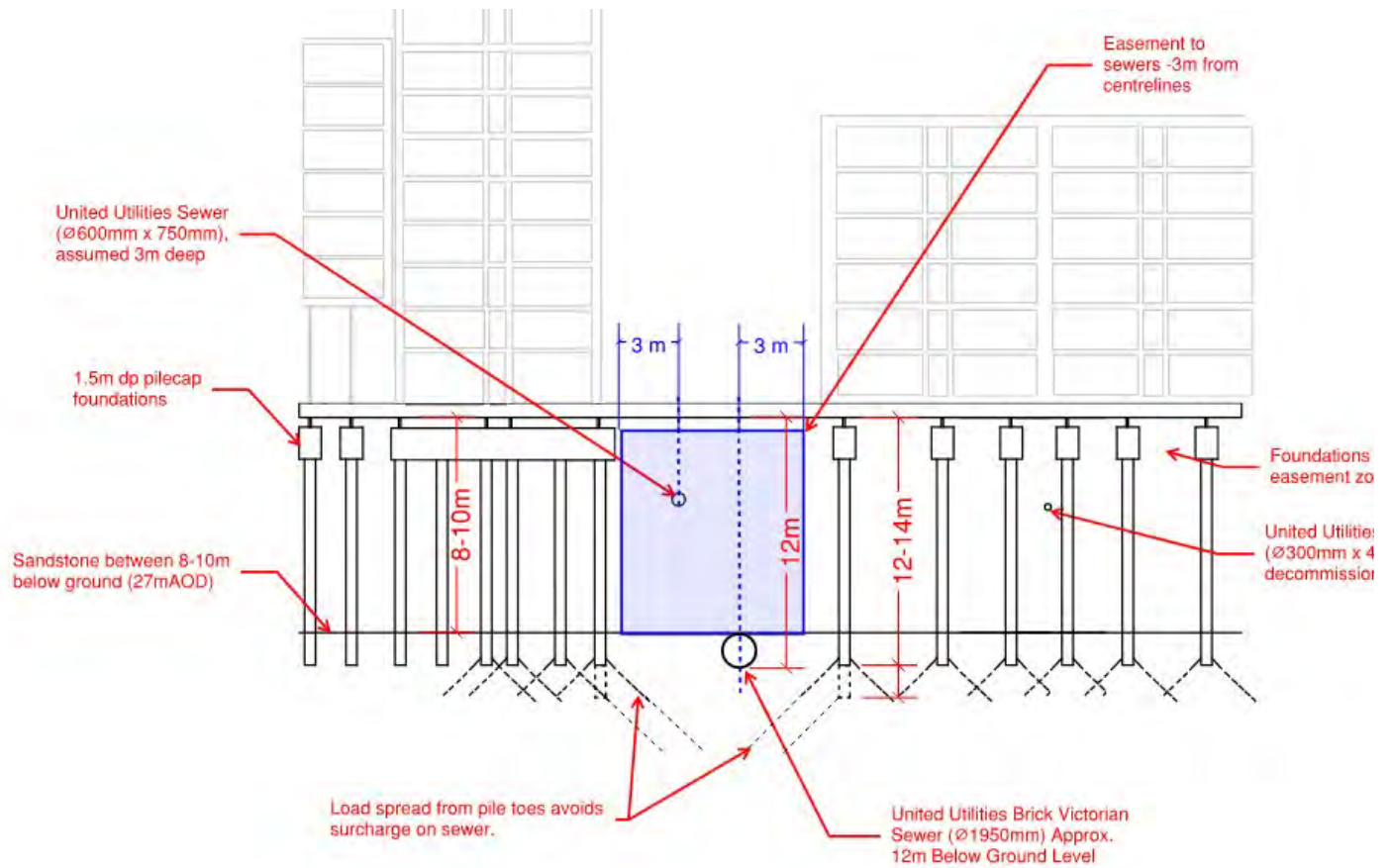
To: wastewaterdeveloperservices@uuplc.co.uk; emma.cecil@arup.com

Cc: greg.hardie@arup.com; lee.jordan@arup.com; daryl.ruane@arup.com; michal.ceklarz@arup.com

Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi Conor,

The piles will be rock socketed into the bedrock (which is generally between 8-10m below ground level) by approximately 4 metres, so we're expecting the base of the pile to be between 12-14m in length. I believe the invert level of the deeper sewer is around 12m.



Kind Regards

James

James Thorneycroft

Senior Structural Engineer

MEng(Hons) CEng MICE

Arup

6th Floor 3 Piccadilly Place, Manchester, M1 3BN

United Kingdom

d +44 161 602 9590

arup.com

Follow us: [LinkedIn](#) [Instagram](#) [YouTube](#) [Facebook](#)

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>
Sent: 06 June 2025 09:12
To: Emma Cecil <emma.cecil@arup.com>
Cc: James Thorneycroft <james.thorneycroft@arup.com>; Daryl Ruane <daryl.ruane@arup.com>; Michal Ceklarz <michal.ceklarz@arup.com>
Subject: RE: Sewer Easement - Cavendish St M15 6TT

Good Morning Emma

Thank you for confirming the clearance, as long as any foundations/structure is outside of the 4m easement, this could be acceptable.

If the landowner is the same one that originally entered into the build over agreement then the easement can automatically be released. However if the landowner/developer is different from the original grantee, then we could look to issue a letter that could confirm that the build over agreement is not required.

Regarding the piles, are you able to advise of the depth that these will be installed to? Whilst the structures may be outside of the 3m clearance, we still need to understand if any loading will be put onto our sewers.

Kind Regards

If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow



Conor Donaghy
Developer Engineer
Developer Services & Metering
T: 01925 429097
unitedutilities.com

----- Original Message -----

From: Emma Cecil [emma.cecil@arup.com]
Sent: 05/06/2025 07:43
To: wastewaterdeveloperservices@uuplc.co.uk
Cc: james.thorneycroft@arup.com; daryl.ruane@arup.com; michal.ceklarz@arup.com
Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi Conor,

I can confirm that the proposed building footprint and foundations are outside of the 3m easement – please see attached sketch CAM-ARP-ZZ-ZZ-SK-C-000004 to visualise this.

Our WS3 design does clash with the new 4m easement, there is approximately 400mm encroachment – please see CAM-ARP-ZZ-ZZ-SK-C-000005.

If you can please keep us updated on whether the 4m easement for the buildover can be removed that would be great.

If you could please also confirm any specific monitoring that UU require during piling/construction?

Thanks,

Emma

Emma Cecil

She/her

Senior Civil Engineer | Infrastructure

MEng CEng MICE

Please note my working days are Monday, Tuesday & Wednesday

Arup

6th Floor 3 Piccadilly Place, Manchester, M1 3BN

United Kingdom

d +44 161 602 9564

[arup.com](https://www.arup.com)

Follow us: [LinkedIn](#) [Instagram](#) [YouTube](#) [Facebook](#)

Ove Arup & Partners Limited | Registered in England & Wales Registered Number: 1312453 | Registered Address: 8 Fitzroy Street, London, W1T 4BJ

Electronic mail messages entering and leaving Arup business systems are scanned for viruses and acceptability of content.

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>
Sent: 04 June 2025 09:43
To: Emma Cecil <emma.cecil@arup.com>
Cc: James Thorneycroft <james.thorneycroft@arup.com>; Michal Ceklarz <michal.ceklarz@arup.com>
Subject: RE: Sewer Easement - Cavendish St M15 6TT

Good Morning Emma

So I am just liaising with our legal team to understand how/if this legal easement can be removed automatically when the cantilever/cover is demolished.

Are you able to confirm if any other building footprint/foundations come within 3m of either sewer? If they do then we may request the easement remains but if you're able to confirm that would be appreciated.

Kind Regards

If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow



Conor Donaghy
Developer Engineer
Developer Services & Metering
T: 01925 429097
unitedutilities.com

----- Original Message -----

From: Emma Cecil [emma.cecil@arup.com]
Sent: 02/06/2025 21:45
To: wastewaterdeveloperservices@uuplc.co.uk
Cc: james.thorneycroft@arup.com; michal.ceklarz@arup.com
Subject: RE: Sewer Easement - Cavendish St M15 6TT

Hi Conor,

Thankyou for the plan. If the buildover were to cease would the legal easement no longer be required? How come only one of the sewers has a legal easement here?

In the proposals for the new Cambridge Halls, the historic Cavendish Street is to be a public realm area and the buildings sat on the plots on either side, but no proposed building to bridge over Cavendish Street. The proposed landscaping strategy within the (3m) easement has movable raised tree planters - should access be required by UU to the 2No sewers – in addition to more generic benches and ground-level grass/flowers.

Thanks,

Emma

Emma Cecil

She/her

Senior Civil Engineer | Infrastructure

MEng CEng MICE

Please note my working days are Monday, Tuesday & Wednesday

Arup

6th Floor 3 Piccadilly Place, Manchester, M1 3BN

United Kingdom

d +44 161 602 9564

[arup.com](https://www.arup.com)

Follow us: [LinkedIn](#) [Instagram](#) [YouTube](#) [Facebook](#)

Ove Arup & Partners Limited | Registered in England & Wales Registered Number: 1312453 | Registered Address: 8 Fitzroy Street, London, W1T 4BJ

Electronic mail messages entering and leaving Arup business systems are scanned for viruses and acceptability of content.

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>

Sent: 02 June 2025 14:19

To: Emma Cecil <emma.cecil@arup.com>

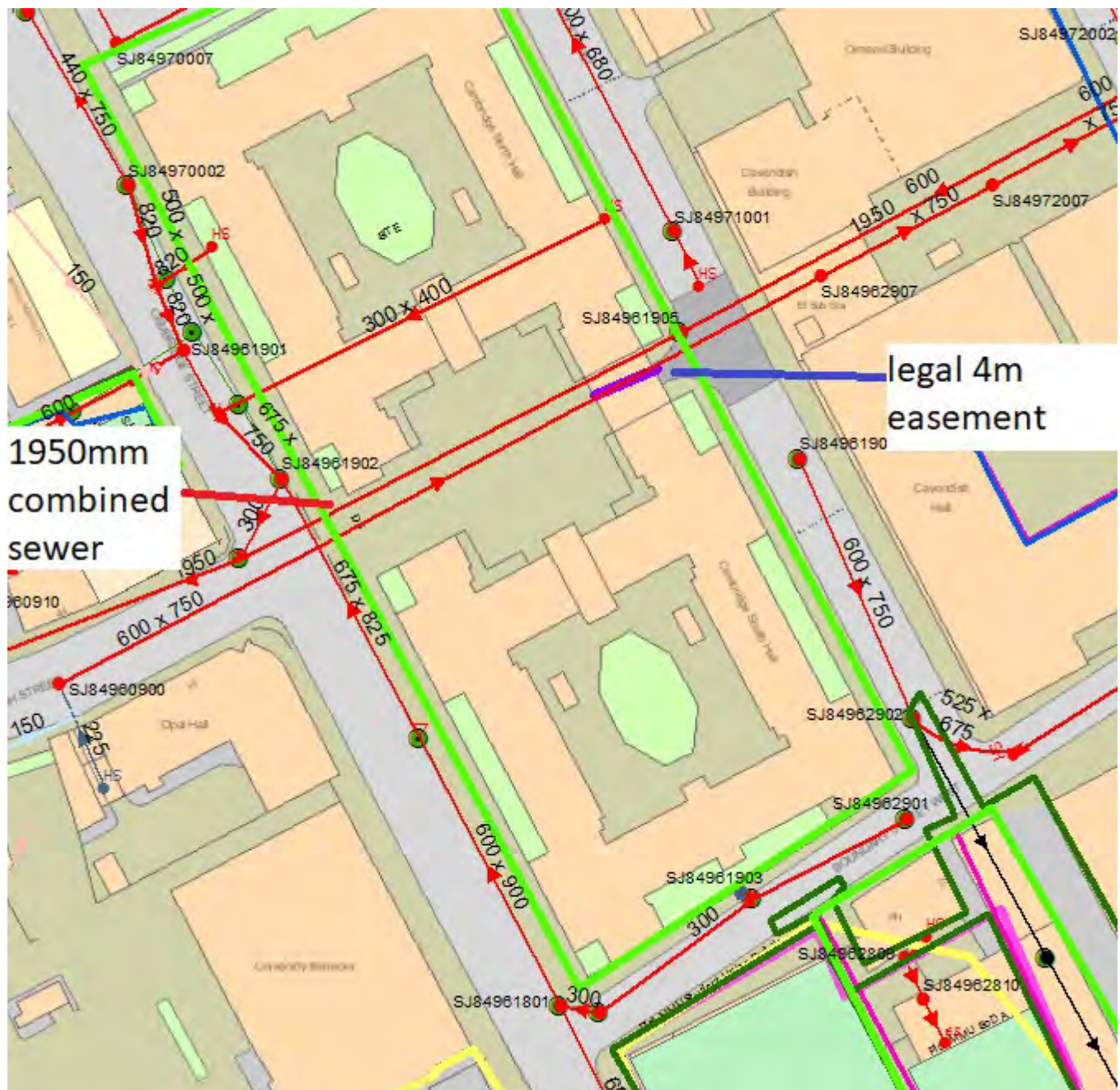
Cc: James Thorneycroft <james.thorneycroft@arup.com>; Michal Ceklarz <michal.ceklarz@arup.com>

Subject: RE: Sewer Easement - Cavendish St M15 6TT

You don't often get email from wastewaterdeveloperservices@uuplc.co.uk. [Learn why this is important](#)

Good Afternoon Emma

As per below, please see screenshot of our records. I've labelled each point however the purple section is the actual legal easement that is within the development as well as the positioning of the 1950mm combined sewer. Will this area now become open with nothing over the top of the sewers?



Kind Regards

If you have received a great service today why not tell us?

Visit: unitedutilities.com/wow



Water for the North West

Conor Donaghy
Developer Engineer
Deve



The information contained in this e-mail is intended only for the individual to whom it is addressed. It may contain legally privileged or confidential information or otherwise be exempt from disclosure. If you have received this Message in error or there are any problems, please notify the sender immediately and delete the message from your computer. You must not use, disclose, copy or alter this message for any unauthorised purpose. Neither United Utilities Group PLC nor any of its subsidiaries will be liable for any direct, special, indirect or consequential damages as a result of any virus being passed on, or arising from the alteration of the contents of this message by a third party.

United Utilities Group PLC, Haweswater House, Lingley Mere
Business Park, Lingley Green Avenue, Great Sankey,
Warrington, WA5 3LP
Registered in England and Wales. Registered No 6559020

www.unitedutilities.com

[//www.unitedutilities.com/subsidiaries](http://www.unitedutilities.com/subsidiaries)

Marta Wolska

From: Daryl Ruane <Daryl.Ruane@arup.com>
Sent: 08 October 2024 15:58
To: Flood Risk Management
Cc: Hannah Mohd Noor Azam; Michal Ceklarz; James Thorneycroft
Subject: Pre-Planning Advice on Discharge Restrictions - CAM/M15/A/PRE
Attachments: 2024-10-08 MCC_ARUP FLOOD CALL - CAMM15APRE.docx; 2024-10-08 MCC Flood Call.pptx; Cambridge Halls Internals.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Owen,

Thank you for the call today. I've attached the meeting minutes, presentation slides, and initial CCTV information as requested for your initial comment.

Could you please send us the pre-planning information as discussed?

If you need anything from me in the meantime or would like to discuss further, please get in touch.

Kind regards,
Daryl

Daryl Ruane
Senior Civil Engineer
MEng (Hons) CEng MICE

Arup
6th Floor, 3 Piccadilly Place
Manchester, M1 3BN, United Kingdom
d +44 161 602 9011
arup.com

Follow us
[LinkedIn](#) [Twitter](#) [Instagram](#) [YouTube](#) [Facebook](#)

Minutes

Project title	Cambridge Halls
Job number	303452-20
Meeting name & number	Pre-Planning Advice on Discharge Restrictions, CAM/M15/A/PRE
File ref	C-12-FN
Time and date	13:30 – 14:0008 October 2024
Location	Online
Purpose of meeting	Pre-planning discussion for the Cambridge Halls development
Present	Owen Beddow (OB), Daryl Ruane (DR), Hannah Mohd Noor Azam (HA)
Apologies	N/A
Circulation	Those present

Topic	Action
-------	--------

1. Project Overview

- **DR Presentation:** DR presented slides detailing the current understanding of existing flooding conditions, the proposed masterplan, and SuDS (Sustainable Drainage Systems) for the scheme.
- **Project Status:** The project is in the pre-planning/concept design phase, with a planning submission anticipated in early 2025 (Feb/Mar 2025).
- **Sewer Details:** A 1950mm Victorian brick sewer runs through Cavendish St. United Utilities (UU) pre-application discussions indicate no build-over will be acceptable, requiring a 5m easement on either side from the centreline.
- **Flood Zones:** The site is primarily in Flood Zone 1, with a small corner on Boundary St in Flood Zone 2 (outside site redline boundary).
- **Surface Water Flooding:** A small area of surface water flooding is noted in the southern courtyard, likely due to LiDAR inaccuracies as the area is actively drained.
- **River/ Sea Flood Risk:** No indications of river or sea flooding are present.
- **Site Classification:** The site is considered brownfield due to existing hard surfacing and actively drained raised planters in the central courtyard (to be confirmed by CCTV surveys).

Project title Cambridge Halls
 Job number 303452-20
 Date of Meeting 08 October 2024

Topic	Action
--------------	---------------

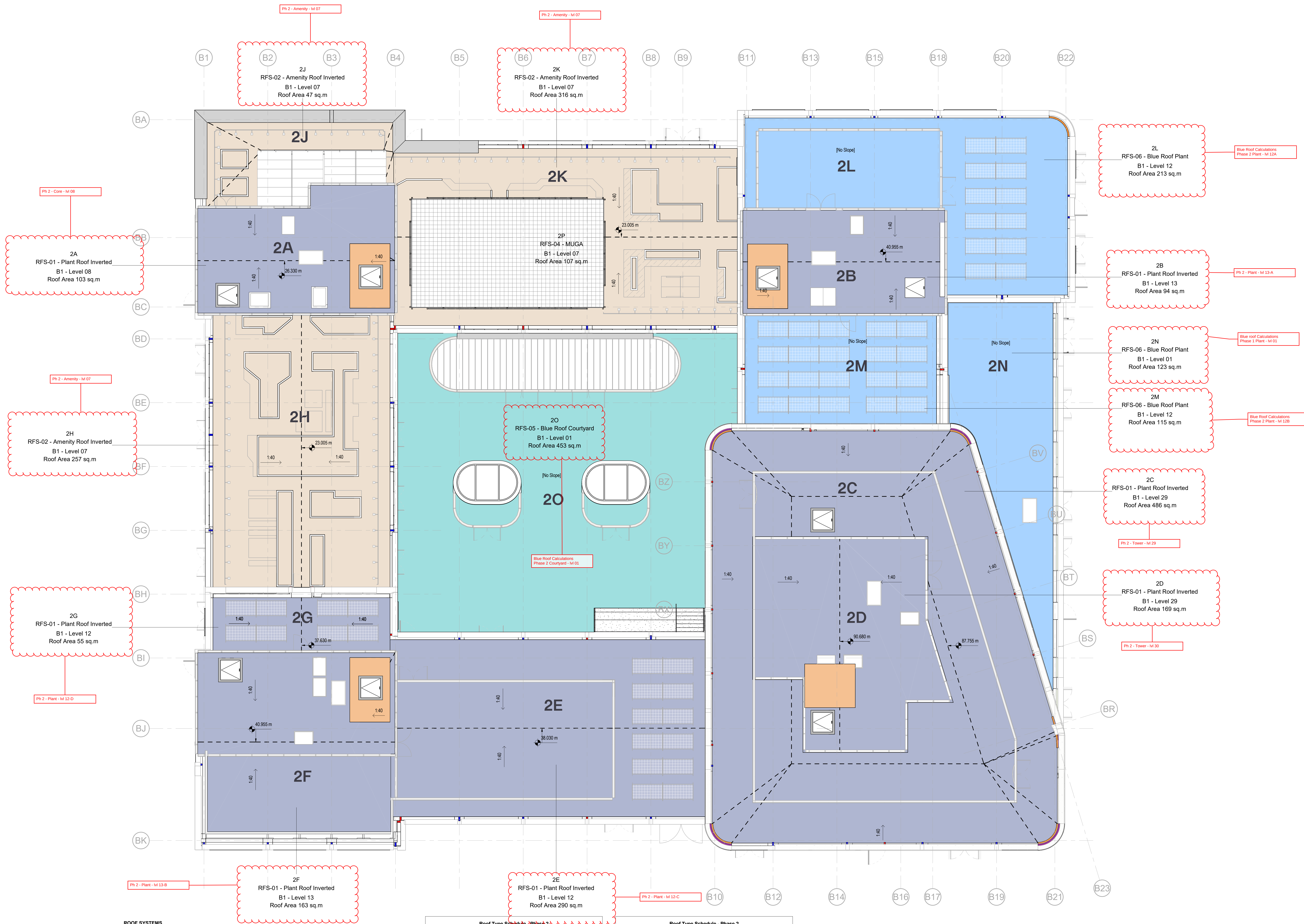
- **Recommendations:**
 - OB suggested obtaining Product 4 information from the Environment Agency (EA) for inclusion in the Flood Risk Assessment (FRA).
 - OB advised securing a pre-development response from UU on connection points and discharge rates.

2. Pre-Application Document Review

- **Calculations Submission:** OB requested Arup submit calculations with the FRA to confirm/check parameters against their standards and requirements.
- **Climate Change Consideration:** OB requested using a 45% climate change factor for the 100-year scenario.
- **Phasing Requirements:** OB provided details on phasing requirements, asking Arup to demonstrate that each phase can work independently as part of the FRA.

3. Next Steps

- **Action Items:**
 - Arup to send OB the PowerPoint slides from today's call and initial CCTV findings.
 - OB to send Arup the pre-planning documentation checklist.
- **Future Meetings:** No additional meeting is required before the FRA submission, but Manchester City Council (MCC) is open to a pre-submission call prior to the FRA issue.



ROOF SYSTEMS

- RFS-105: Liquid-Applied Inverted Roof Covering Systems (D)
Ss 30, 40, 30, 42
RFS-01 - Inverted Roof - Plant Area - Bauder Baker Hot Melt System
- RFS-105: Liquid-Applied Inverted Roof Covering Systems (D)
Ss 30, 40, 30, 42
RFS-02 - Inverted Roof - Amenity Area - Bauder Baker Hot Melt System
- RFS-111: Reinforced Bitumen Membrane Warm Roof Covering Systems (D)
Ss 30, 40, 30, 72
RFS-03 - Warm Roof - Plant Area - Bauder Total Roof System
- RFS-04 - MUGA Surface - SEL Sport EPDM Roof Overlay System
Refer to Landscape Architect design and specification
- RFS-941: Blue Roof Systems - Pedestal System
Ss 30, 40, 30, 07
RFS-05 - Blue Roof - Courtyard Area - Bauder Blue Storm Pedestal System over Warm Roof
- RFS-945: Blue Roof Systems - Ballast System
Ss 30, 40, 30, 07
RFS-06 - Blue Roof - Plant Area - Bauder Blue Roof Ballasted System over Warm Roof

Roof Type Schedule - Phase 2

Mark	Base Level	Type	Area
2A	B1 - Level 08	RFS-01 - Plant Roof Inverted	103 m ²
2B	B1 - Level 13	RFS-01 - Plant Roof Inverted	94 m ²
2C	B1 - Level 29	RFS-01 - Plant Roof Inverted	486 m ²
2D	B1 - Level 29	RFS-01 - Plant Roof Inverted	169 m ²
2E	B1 - Level 12	RFS-01 - Plant Roof Inverted	290 m ²
2F	B1 - Level 13	RFS-01 - Plant Roof Inverted	163 m ²
2G	B1 - Level 12	RFS-01 - Plant Roof Inverted	55 m ²
RFS-01 - Plant Roof Inverted: 7			1,360 m ²
2H	B1 - Level 07	RFS-02 - Amenity Roof Inverted	257 m ²
2J	B1 - Level 07	RFS-02 - Amenity Roof Inverted	47 m ²
2K	B1 - Level 07	RFS-02 - Amenity Roof Inverted	316 m ²
RFS-02 - Amenity Roof Inverted: 3			620 m ²

Roof Type Schedule - Phase 2

Mark	Base Level	Type	Area
B1 - Level 09		RFS-03 - Plant Roof Warm	13 m ²
B1 - Level 13		RFS-03 - Plant Roof Warm	13 m ²
B1 - Level 13		RFS-03 - Plant Roof Warm	13 m ²
B1 - Level 29		RFS-03 - Plant Roof Warm	12 m ²
RFS-03 - Plant Roof Warm: 4			52 m ²
2P	B1 - Level 07	RFS-04 - MUGA	107 m ²
RFS-04 - MUGA: 1			107 m ²
2O	B1 - Level 01	RFS-05 - Blue Roof Courtyard	453 m ²
RFS-05 - Blue Roof Courtyard: 1			453 m ²
2L	B1 - Level 12	RFS-06 - Blue Roof Plant	213 m ²
2M	B1 - Level 12	RFS-06 - Blue Roof Plant	115 m ²
2N	B1 - Level 01	RFS-06 - Blue Roof Plant	123 m ²
RFS-06 - Blue Roof Plant: 3			451 m ²
Grand total: 19			3,043 m ²

Drawing Original Size

A0

Notes

Unless indicated, this drawing is for information only and should not be used for construction. Do not scale, use figures and dimensions. All dimensions are checked on site. This drawing should be printed and read at the original size, as stated. Cartwright Pickard Architects accept no responsibility for errors that occur as a result of reworking this drawing at any other size.

Cartwright Pickard Architects prepared this drawing using 2025.4 and does not accept liability for any loss or degradation of information held in the drawing resulting from the transition from the original file format to any other file format or from the recipient's reading of it in any other program or at a later version of the program referred to above. Cartwright Pickard Architects accept no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.

DWG Issues

When this drawing is issued in DWG format it is an uncorrected version and is provided to enable the recipient to prepare their own documents to drawings to which it is likely responsible. It is based on background information current at the time of issue.

Cartwright Pickard Architects accept no liability for any alterations to, additions to or omissions from drawings or changes to such background information which occur after it has been issued by Cartwright Pickard Architects.

STAGE 3 DESIGN INTENT

HIGH RISK BUILDING

Design subject to Stage 3 design development and Planning Consent, Building Control and Building Safety Act approval which may have impact on the proposed information.

The proposed information is to be developed with the main contractor, relevant sub-contractor(s) and specialist designers prior to procurement and construction. Current design proposals are subject to Gateway 2 approval prior to construction.

Any discrepancies from the Employer's Requirements are to be clarified prior to design conclusion and procurement of the relevant package.

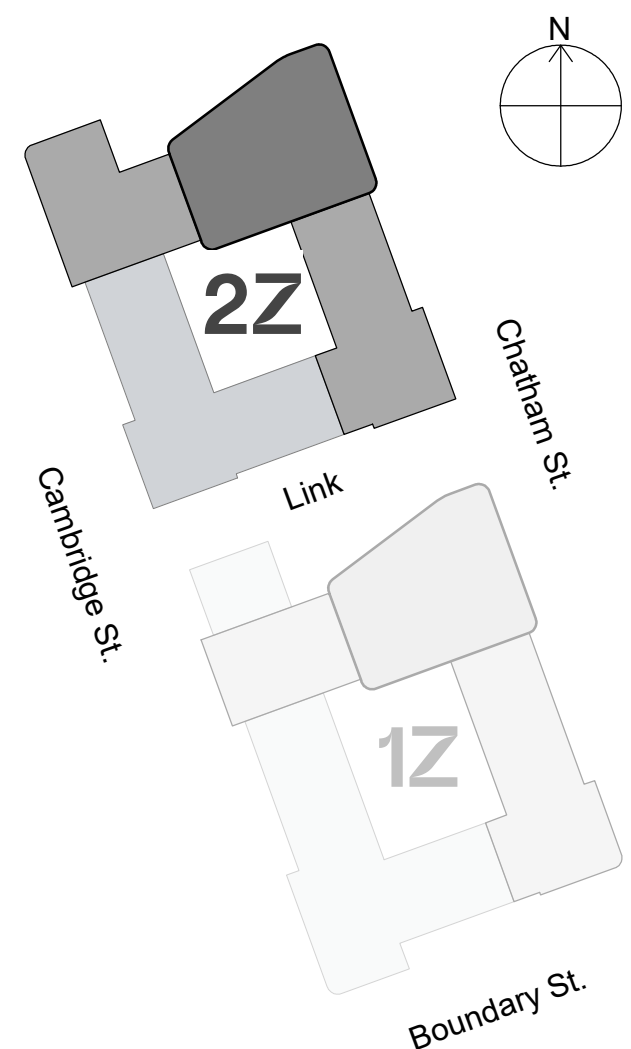
This drawing is to be read in conjunction with all other relevant Architect's, Structural Engineer's, Services', Fire, Acoustic and Other Consultants information and specifications.

Design subject to further development and co-ordination. Airtightness, Thermal, Acoustic & Fire performance to be in accordance with the Architect's specification.

FABRIC PERFORMANCE REQUIREMENTS

Performance requirements to be read in conjunction with MEP Overheating & Energy Statement information.

External Wall U-Value: 0.12 W/m²K
Ground Floor U-Value: 0.12 W/m²K
Roof U-Value: 0.12 W/m²K
Roof U-Value: 0.12 W/m²K
Glazing U-Value: 0.8 W/m²K (Triple Glazing)
Glazing G-Value: 0.4
Glazing L-T Value: 0.7
External Door U-Value: 1.6 W/m²K
Building Air Permeability: 3m³/h.m² @ 50Pa



Drawing Revisions

Date	Rev	Note	Check
30.05.25	P01	Stage 3 Issue	CP

CARTWRIGHT
PICKARD

Client

Unite Students and Manchester Metropolitan University

Project

CAM | Cambridge Halls

Building Name

Cambridge Halls

Drawing Title

Roof Details - Roof Types Phase 2

Scale

As indicated @ A0

Drawing Created

May 2025

Revision

P01

Drawing No.

CAM-CPA-2Z-ZZ-DR-A-003501



Manchester Office
One St John's House
Quay Street
Manchester M2 2BQ
Tel: 0161 275 1144

cartwrightpickard.com
© Cartwright Pickard Architects Ltd