

Flood Risk Assessment
for a development at
7 Boat Lane, Northenden
undertaken on behalf of
Yolo Estate Ltd

Report Title:	Flood Risk Assessment – 7 Boat Lane, Northenden
Report Reference:	12608-WML-00-XX-RP-C-0001 – Rev 01
Client:	Yolo Estate Ltd
Issue Date:	March 2026
Drafted By:	Kevin Tyldesley
Authorised By:	Sam Seddon

Revision Status / History

Rev	Date	Issue / Purpose / Comment	Prepared	Checked
01	04/03/2026	First issue.	KPT	SS

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1.0 INTRODUCTION

- 1.1 WML Consulting Ltd have been commissioned by Yolo Estate Ltd to provide a Flood Risk Assessment (FRA) to support a planning application for a proposed development at 7 Boat Lane, Northenden, Manchester, M22 4WE.
- 1.2 The Flood Risk Assessment (FRA) follows the guidance and requirements of the National Planning Policy Framework (NPPF) – and the supporting Technical Guidance to the NPPF.
- 1.3 The NPPF identifies that it is the responsibility of developers to demonstrate:
- whether the development would be affected by current or future flooding from any source;
 - that the development is safe and where possible reduces flood risk overall;
 - whether flood risk would be increased elsewhere;
 - mitigation measures for any identified flooding risks;
 - that the site can be developed and occupied safely.
- 1.4 The FRA identifies whether there are any flooding or surface water management issues related to the development site that may warrant further consideration.

2.0 NATIONAL PLANNING POLICY

- 2.1 The aim of the Sequential Test, as set out in the NPPF, is as follows:-

‘Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere.’

- 2.2 It is intended that new development is steered to areas with the lowest probability of flooding.
- 2.3 The flood zones are shown on the Flood Map for Planning, these zones indicate the probability of sea and river flooding. The extents of Flood Zones 2 and 3 are shown on the flood map, with Flood Zone 1 being the land outside Flood Zones 2 and 3. Flood Zone 1 is the area at the lowest probability of sea or river flooding.

These maps can be viewed on the GOV.UK website via the link below.

<https://flood-warning-information.service.gov.uk/long-term-flood-risk>

- 2.4 The NPPF Technical Guidance defines at Table 1 the Flood Risk Zones as below:

Flood Zone 1 Low Probability	Land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding in any year (<0.1%).
Flood Zone 2 Medium Probability	Land assessed as having between 1 in 100 and 1 in 1,000 annual probability of river flooding (1% to 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% to 0.1%) in any year.
Flood Zone 3a High Probability	Land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Flood Zone 3b Functional Floodplain	Land where water has to flow or be stored at times of flood.

2.5 The NPPF Technical Guidance defines at Table 2 the Flood Risk Vulnerability Classifications, i.e. five categories of flood risk vulnerability with each category having a list of appropriate development uses. The classifications are:

- Essential Infrastructure
- Highly Vulnerable
- More Vulnerable
- Less Vulnerable
- Water – compatible development

2.6 The NPPF Technical Guidance defines at Table 3 the Flood Risk Vulnerability and flood zone ‘compatibility’ as shown below. Thereby providing a matrix that confirms whether a proposed development type is appropriate within a particular flood risk zone.

Table 3 Flood risk vulnerability and flood zone ‘compatibility’

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood Zone (Table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	ExceptionTest required	✓	✓
	Zone 3a	Exception Test required	✓	X	ExceptionTest required	✓
	Zone 3b functional flood plain	Exception Test required	✓	X	X	X

Key: ✓ - Development is appropriate.
 X - Development should not be permitted.

2.7 The proposed residential development would be classified as a ‘more vulnerable’ form of development. From table 3 it can be seen that this form of development is appropriate in Flood Zones 1 and 2, and also in Flood Zone 3a subject to satisfying the requirements of the Exception Test.

3.0 LOCAL POLICY DOCUMENTS

3.1 Strategic Flood Risk Assessments (SFRAs) are prepared by Lead Local Flood Authorities (LLFAs) in consultation with the Environment Agency, sewerage undertakers and where applicable internal drainage boards. Their aim is to assess the risk to the local area from flooding from all sources currently and in the future, taking account of the impact of future climate change.

3.2 The Manchester City County Council SFRA and associated information can be found via the link below.

https://www.manchester.gov.uk/info/500207/planning_and_regeneration/4700/strategic_flood_risk_assessment/2

4.0 EXISTING SITE AND PROPOSED DEVELOPMENT DESCRIPTION

- 4.1 The development is proposed on a site at 7 Boat Lane, Northenden, Manchester, M22 4WE.
- 4.2 The site is a relatively small, having an area of around 800m sq. It is bounded on its western side by a public highway known as Boat Lane, and on its northern, eastern and southern sides by existing residential development.
- 4.3 The site is relatively flat, existing site levels fall from around 31.0m AOD at the site's southern boundary to around 30.0m AOD at its northern boundary.
- 4.4 Pedestrian and vehicular access to the site is directly off Boat Lane.
- 4.5 It is understood that the site has until recently been used as a breakers yard, with existing buildings associated with this function located at the north east corner of the site, plus a small cabin located on the site's western boundary. The rest of the site is surfaced with concrete yard slabs.
- 4.6 A topographic survey has been carried out at the site, and a plan indicating the results of this survey can be found at appendix 01.
- 4.7 It is understood that the development proposals entail the removal of the existing buildings at the site, and the construction of a terrace of five three-storey dwellings plus associated garden and parking areas.
- 4.8 A plan illustrating the proposed site layout that can be found at appendix 02.

5.0 POTENTIAL SOURCES OF FLOODING

- 5.1 The Environment Agency (EA), Manchester City Council (MCC), and United Utilities (UU) have been asked to confirm if they have any information regarding past, present or future flooding issues that may affect the site.
- 5.2 The EA's response, which can be found at appendix 03, confirms that they consider the site to be located within Flood Zone 1 (low risk). It should be noted that the EA's response does contain mapping that indicates the extents of ten past floods dating from 1964 to 2025 in the area to the north east of the site. However it appears that none of these flood events actually affected the site.
- 5.3 The MCC response to our enquiry is yet to be received. If their response is received in due course, and if it provides information that affects the findings of this report, then the report will be amended to suit, their response added at appendix 04, and the report re-issued.
- 5.4 MCC have though recently provided the comments below in blue italics in respect of the recent planning application for the proposed development.

The site is located within Flood Zone 1. However, the site is shown to be within 'Flood Zones plus Climate Change', showing it is at increased risk of flooding from rivers or sea in future.

The following matters as a minimum should be resolved pre-determination. Until these are resolved, we are unable to recommend conditions.

A Flood Risk Assessment is required, in line with national guidance.

The FRA should provide the estimated flood level on site (including Product 4 data), and FFLs must be a minimum of 300mm above the estimated flood level, with the aim of achieving 600mm where feasible.

No existing or proposed drainage information has been provided. As the site is considered to be at risk of flooding, as a minimum an outline drainage strategy is required.

- 5.5 It is considered that the issues raised by MCC are appropriately addressed by the contents of this report.
- 5.6 The UU response, which can be found at appendix 05, confirms that they have no records of sewer flooding incidents in the vicinity of the proposed development site.
- 5.7 Potential sources of flooding that require consideration as part of the FRA are as below:-
- Flooding from rivers – fluvial flooding;
 - Flooding from sea – tidal flooding;
 - Flooding from surface water run-off – pluvial flooding;
 - Flooding from sewers;
 - Flooding from ground waters;
 - Flooding from reservoirs;
 - Flooding from other sources.

Flooding from Rivers – Fluvial Flooding

- 5.8 As part of their response to our enquiry, the EA have provided flood modelling data for the River Mersey, which is classed as a “main river”, and is located approximately 120m north east of the site.

- 5.9 From the information provided, the Flood Map for Planning confirms that the area where the development is proposed is located in Flood Zone 1 (low risk), which means that the site has a present day chance of flooding of less than 0.1% (1 in 1,000) each year.
- 5.10 The modelling indicates that in the vicinity of the site the worst case 1% scenario is the “defenced” one, where the flood water level will reach 29.380m AOD at node 9 and 29.680m AOD at node 10. The site is located closest to the river approximately one third of the way between nodes 9 and 10, hence the water level closest to the site is anticipated to be 29.480m AOD. Adding a 600mm freeboard to this level indicates that the ground floor level for the proposed dwellings should be no lower than 30.080m AOD.
- 5.11 In addition to the above, the FRA needs to consider the effects of future climate change on flood risk in the vicinity of the development.
- 5.12 The modelling provided by the EA considers flooding of the River Mersey under both “defended” and “defences removed” scenarios. A comparison of the water levels reached under these two scenarios for the various events modelled confirms that the “defended” scenario is consistently more onerous in the vicinity of the site.
- 5.13 Below is a series of flood water levels in the vicinity of the site for a range of the “defended” scenarios, using the same interpolation between nodes 9 and 10 as outlined at 5.10 above.
- the 1% AEP plus 30% climate change event = 29.905m AOD.
 - the 1% AEP plus 35% climate change event = 29.965m AOD.
 - the 1% AEP plus 70% climate change event = 30.160m AOD.
 - the 0.1% AEP plus 30% climate change event = 30.410m AOD.
- 5.14 Given the existing carriageway levels of Boat Lane across the frontage of the site, it is considered that the ground floor level of plots 1 and 2 will be 30.190m AOD, whilst the ground floor level of plots 3, 4 & 5 will be 30.415m AOD.
- 5.15 A comparison between the proposed ground floor levels and the flood water levels above indicates that only plots 1 and 2 might be affected by flooding, and then only during the “residual risk” 0.1% AEP plus 30% climate change event, to a depth of 220mm.
- 5.16 It is important that the owners / occupiers of plots 1 and 2 in particular should be made aware of the risk outlined above. In addition, they should be urged to sign up to the governments flood warning service (<https://www.gov.uk/get-flood-warnings>), and to develop a Personal Flood Plan that will provide guidance on how to act at times of flood risk, and also to have in place suitable flood mitigation measures that can be deployed in the event of a potential flood.
- 5.17 Given the above it is considered that the risk to the proposed development from this form of flooding is low.
- Flooding from Sea – Tidal Flooding
- 5.18 The site is not located in an area that is at risk of tidal flooding.
- 5.19 Hence it is considered that the risk to the proposed development from this form of flooding is low.
- Flooding from Surface Water Runoff – Pluvial Flooding
- 5.20 The online surface water flood mapping indicates that the site is at “very low” risk from this form of flooding. Very low risk means that each year this area has a chance of flooding of less than 0.1% (1 in 1,000) each year.

5.21 It should be noted that flooding from surface water is difficult to predict as rainfall location and volume are difficult to forecast. In addition, local features, such as surface water drainage systems that were not taken into account when the modelling behind the surface water flood maps was carried out, can greatly affect the chance and severity of flooding.

5.22 Given the above, it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Sewers

5.23 United Utilities have confirmed that they do not have any records of sewer flooding in the vicinity of the site.

5.24 On this basis it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Groundwater

5.25 Groundwater flooding tends to occur sporadically in both location and time. When groundwater flooding does occur, it tends to mostly affect low-lying areas, below ground infrastructure and buildings (tunnels, basements, etc.) where these are underlain by permeable strata (aquifers).

5.26 The recent Phase 1 Site Investigation report produced by Earth Environmental & Geotechnical in October 2025 stated that “the highest risk of groundwater flooding occurring on-site is moderate”.

5.27 However the proposed development does not entail the creation of any below ground / basement facilities.

5.28 In addition, it is considered that any risk of groundwater flooding will be mitigated as a result of the finished floor levels being raised above the surrounding ground and road levels, as mentioned above.

5.29 Given the above, it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Reservoirs

5.30 The online reservoir flood mapping indicates that the site is potentially at risk from this form of flooding.

5.31 However the risk of reservoir flooding in the UK is generally considered to be extremely low. Reservoirs in the UK are regulated under the Reservoirs Act 1975, which includes a strict monitoring regime.

5.32 On this basis it is considered that the risk to the proposed development from this form of flooding is low.

Flooding from Other Sources

5.33 From a review of the Ordnance Survey mapping, there does not appear to be any other significant bodies of water in the vicinity of the site.

5.34 On this basis, it is considered that the risk to the development from this from flooding from other sources is low.

6.0 DRAINAGE STRATEGY

6.1 The proposed development is to be drained via separate foul and surface water drainage systems.

Surface water drainage proposals

6.2 The surface water drainage proposals will be designed in accordance with BS EN 752-4 and the Building Regulations approved document H (2010), which indicates the following hierarchy for the disposal of surface water drainage from development sites:-

1. discharge via infiltration;
2. discharge to watercourse;
3. discharge to sewer.

6.3 These options are discussed in further detail below.

Surface water discharge via infiltration

6.4 The recent Phase 1 Site Investigation report, produced by Earth Environmental & Geotechnical in October 2025, states that from the British Geological Survey (BGS) online data the site is recorded to be underlain by Glacial Fluvial superficial deposits comprising unconsolidated sands and gravels.

6.5 This report goes on to say that there are thirty three borehole records identified within 250m of the site, with the boreholes immediately to the west of the site indicating ground conditions to be made ground over interbedded clays, gravels, and sands over glacial till, with a rockhead at between 4.20 and 4.90m bgl.

6.6 From the above it can be seen that the ground conditions at the site are likely to be variable in nature. If granular ground conditions such as sands or gravels are encountered at shallow depth and with sufficient thickness, then it is possible that infiltration could be used to dispose of the surface water runoff.

6.7 Drainage via infiltration could be achieved in various ways as outlined below:-

- by collecting the runoff from plots 1 to 5 in traditional below ground pipework and delivering it to a new soakaway located beneath the rear gardens of plots 1 and 2.
- by installing new permeable paving to the front and rear of each of the properties, and discharging the runoff from the roofed areas to the permeable sub-base, from where it would infiltrate into the ground beneath.

Surface water discharge via watercourse

6.8 From online mapping it appears that there are no watercourses within, or in the vicinity of, the site. Therefore surface water discharge via this method will not be feasible.

Surface water discharge via the public sewerage system

6.9 Should the ground conditions at the site not be suitable for the use of infiltration, then given that discharge to a watercourse is also not feasible, it will be necessary to discharge the surface water runoff to the public drainage system.

6.10 From a review of the United Utilities (UU) public sewer records it can be seen that there are no existing public surface water sewers in the vicinity of the site. Hence it will be necessary to discharge to the existing 225mm diameter combined sewer that drains northwards beneath Boat Lane along the site's frontage.

- 6.11 In line with modern design criteria, the surface water discharge rate will need to be restricted to greenfield runoff rates. WML have carried out a greenfield runoff rate assessment for the proposed development using the Micro Drainage Source Control module, based upon an impermeable drained area of 600m sq (0.06 ha).
- 6.12 The results of this assessment can be found at appendix 06. Due to the relatively limited extents of the proposed development, the greenfield runoff rates are correspondingly limited, i.e. ranging from 0.3 l / sec for the 1 in 1 year storm event, to 0.7 l / sec for the 1 in 100 year event.
- 6.13 It is generally accepted that restricting surface water runoff to such small rates is not practicable due to the risk of the flow control becoming blocked, with this potentially resulting in an increase flood risk locally.
- 6.14 Hence it is proposed to limit the runoff rate to 2 l / sec for all storm events up to and including the critical 1 in 100 year plus a 45% climate change allowance.
- 6.15 WML have carried out an assessment to confirm the volume of attenuation storage that will be needed to restrict the runoff rate from the development to 2 l / sec. The results of this assessment, which can be found at appendix 07, indicate that between 19 and 31m cu will be required. Applying the two-thirds rule to this range gives an estimated volume of 27m cu.
- 6.16 This volume could be accommodated in a geo-cellular tank (4m x 6m x 1.2m deep say) located beneath the rear gardens of plots 1 and 2. Alternatively it could be accommodated within oversized pipework running along the western, northern and eastern elevations of the proposed dwellings (80m long x 0.675m diameter say).
- 6.17 It is considered that the proposed development would result in a significant betterment when compared against the existing situation, given that virtually the whole site is currently impermeably surfaced and runoff from it is not controlled / restricted.

Foul water drainage proposals

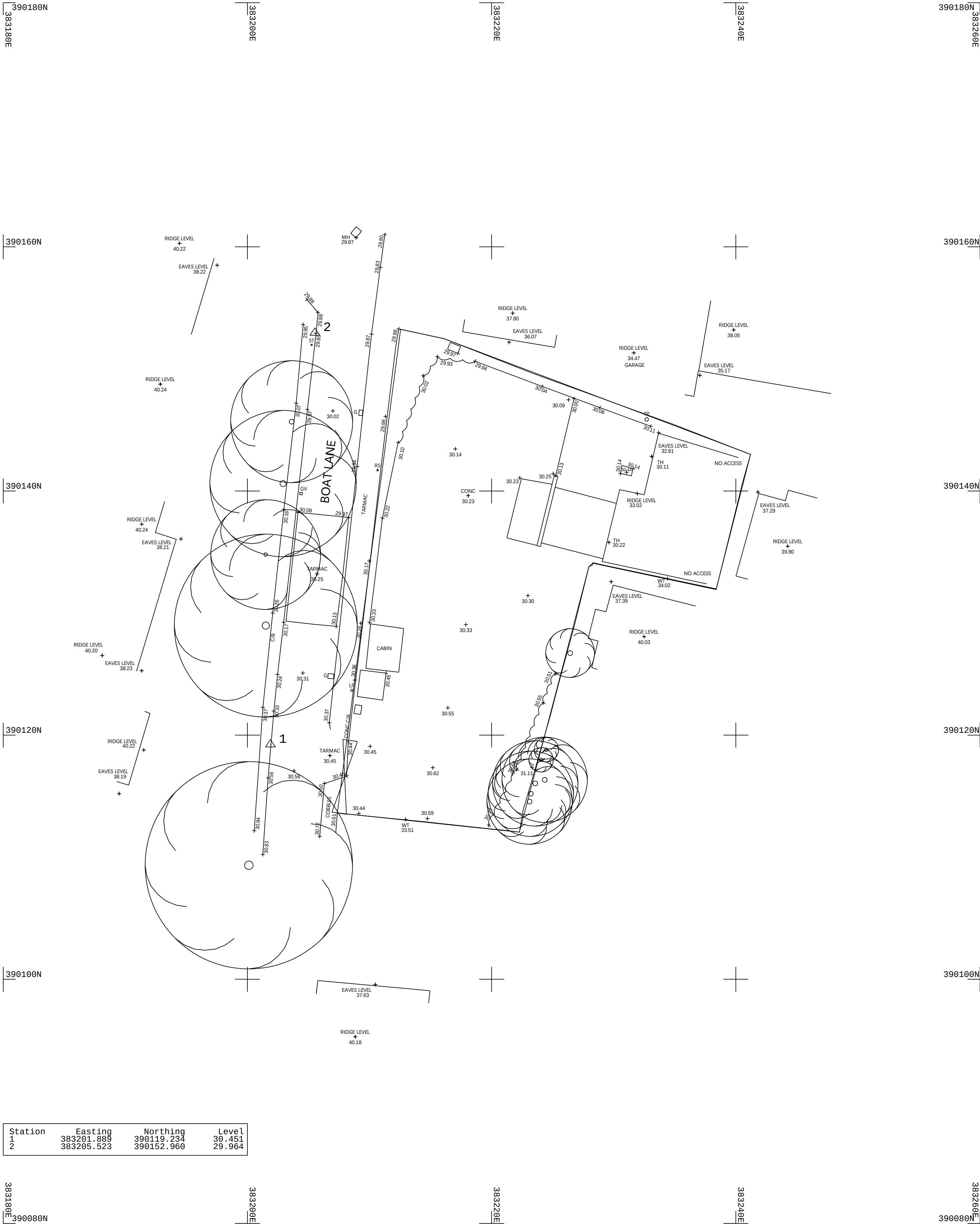
- 6.18 The foul drainage flows generated by the proposed development will be directed to the existing United Utilities combined sewer that runs along the western site boundary, draining northwards beneath Boat Lane.

7.0 SUMMARY

- 7.1 WML Consulting Ltd have been commissioned by Yolo Estate Ltd to provide a Flood Risk Assessment (FRA) to support a planning application for a proposed development at 7 Boat Lane, Northenden, Manchester, M22 4WE.
- 7.2 It is understood that the development proposals entail the removal of the existing buildings at the site, and the construction of a terrace of five three-storey dwellings plus associated garden and parking areas.
- 7.3 The online Flood Map for Planning confirms that the area where the development is proposed is located in Flood Zone 1 (low risk), which means that this area has a chance of flooding of less than 0.1% (1 in 1,000) each year.
- 7.4 The proposed development would be classified as a 'more vulnerable' form of development, and from Table 3 of the NPPF guidance notes it can be seen that this type of development is appropriate in Flood Zone 1.
- 7.5 In response to our enquiry to them, the Environment Agency (EA) have provided flood modelling data for the River Mersey, which is classed as a "main river", and is located approximately 120m north east of the site.
- 7.6 It should be noted that the EA's response does contain mapping that indicates the extents of ten past floods dating from 1964 to 2025 in the area to the north east of the site. However it appears that none of these flood events actually affected the site.
- 7.7 This modelling indicates that in the vicinity of the site the worst case 1% (1 in 100 yr) flood would result in a water level of 29.480m AOD. Adding a 600mm freeboard to this level indicates that the ground floor level for the proposed dwellings should be no lower than 30.080m AOD.
- 7.8 In addition, the FRA has considered the effects of future climate change. Below is a series of worst case flood water levels in the vicinity of the site for a range of scenarios.
- the 1% AEP plus 30% climate change event = 29.905m AOD.
 - the 1% AEP plus 35% climate change event = 29.965m AOD.
 - the 1% AEP plus 70% climate change event = 30.160m AOD.
 - the 0.1% AEP plus 30% climate change event = 30.410m AOD.
- 7.9 Given the existing carriageway levels of Boat Lane across the frontage of the site, it is considered that the ground floor level of plots 1 and 2 will be 30.190m AOD, whilst the ground floor level of plots 3, 4 & 5 will be 30.415m AOD.
- 7.10 A comparison between the proposed ground floor levels and the flood water levels above indicates that only plots 1 and 2 might be affected by flooding, and then only during the "residual risk" 0.1% AEP plus 30% climate change event, to a depth of 220mm.
- 7.11 It is considered that the development is not at significant risk of flooding from tidal waters, surface water, reservoirs, sewers, groundwater or from other sources.
- 7.12 The surface water drainage proposals for the development will incorporate the principles of the NPPF and the SUDS manual. Refer to chapter 6 for further details of the drainage proposals.
- 7.13 Given the above it is considered that the development is appropriate in this instance.

Appendix 01

Topographic survey of the site



Station	Easting	Northing	Level
1	383201.889	390119.234	30.451
2	383205.523	390152.960	29.964

Abbreviations/Symbols (Measured Building Surveys):

C:	Window Cill Height
H:	Window Head Height
BH:	Beam Height
DH:	Door Height
COL:	Column
SVP:	Soil Vent Pipe
FL:	Floor Level
TH:	Threshold Level
FC:	Floor to Ceiling Height
VC:	Vaulted Ceiling

Line types

~ ~ ~	Hedge Lines
- - -	Drainage Runs
- - -	Overhead Electricity Cables
- - -	Overhead Telephone Cables

Symbols

●	Tree/Bush	▨	Glass House
⚡	Control Station	⬆	Osbm
⊙	Borehole		
⊗	Trial Hole		

Abbreviations (Topographic Survey):

AH:	Arch Height
AV:	Air Valve
BB:	Belted Beacon
BO:	Electricity Box, Cables Box, Etc.
BOL:	Bollard
BS:	British Telecom Inspection Chamber
BS/IC:	Bus Stop
BS/ILP:	Bus Stop / Lamp Post
CAV:	CAV Inspection Chamber
CCTV:	Closed Circuit Television
CL:	Cellar Light
C.PIT:	Cellar Pit
ER:	Earth Rod
EC:	Electricity Inspection Chamber
EP:	Electricity Pole
FH:	Fire Hydrant
FP:	Flag Pole
GV:	Gas Valve
G:	Gully
IC:	Inspection Chamber
KO:	Kerb Outlet
LP:	Lamp Post
LB:	Letter Box
LC:	Lighting Column
MR:	Marker
MH:	Manhole
MP:	Mooring Point
MS:	Mile Stone
NYNEX:	Nynex Inspection Chamber
O/H:	Over Hang
P:	Post
PO/IC:	Post Office Inspection Chamber
R/S:	Road Sign
RE:	Retaining Wall
RTW:	Retaining Wall
S/P:	Sign Post
SNP:	Street Name Plate
ST:	Stop Tap
SV:	Stop Valve
T:	Telecom Inspection Chamber
TCB:	Telephone Call Box
TH:	Threshold Level
TL:	Traffic Light
TP:	Telegraph Pole
TROUGH:	Trough
WO:	Water Outlet
WM:	Water Meter

Fence Descriptions:

B/W:	Barbed Wire
C/B:	Close Boarded
C/BARRIER:	Crash Barrier
C/L:	Chain Link
C/P:	Chestnut Paling
C/I:	Corrugated Iron
I/R:	Iron Railing
MISC:	Miscellaneous
P/R:	Post & Rail
P/W:	Post & Wire
P/C:	Post & Chain
S/PAL:	Steel Palade
W/M:	Wire Mesh

Survey Notes:

Coordinates and Levels related to Ordnance Survey Datum - GPS OSG836

Revision	Date	Description



Chris Parlington Land Surveyors
56b Carrington Lane
Sale
Cheshire
M33 5NR
t: 0161 976 1194
www.cpls.co.uk e:survey@cpls.co.uk

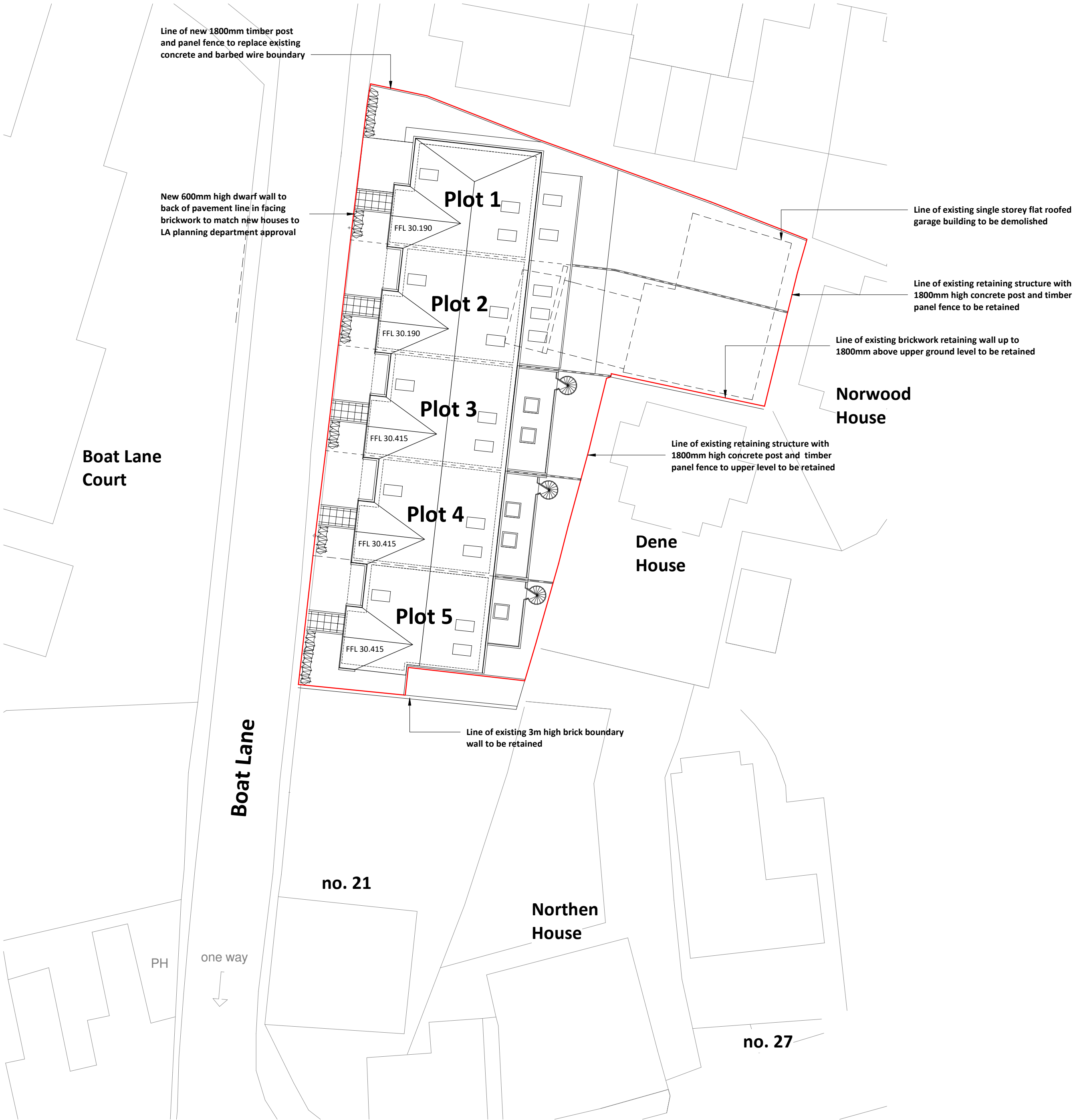


Client
Bernard Taylor Partnership

Project
Boat Lane, Northenden
Site Survey

Scale 1:200	Surveyed By J C	Date Feb 2025
Drawing No. 080225JC-01	Checked By CPLS	Date Feb 2025
	Drawn By J C	Date Feb 2025

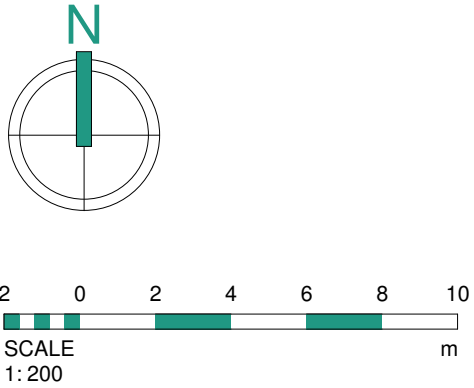
Appendix 02
Proposed Site Plan



Site Plan as Proposed
1 : 200

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D	04/03/26	AG	Layout updated for FFL's required for FRA.
C	13/11/25	AG	Roof terraces added to plots 3-5.
B	07/10/25	AG	Site edged red and Plot 5 updated.
A	12/06/25	AW	Client Details Updated.
Rev	Date	Int	Description

btp
ARCHITECTS

RIBA 
Chartered Practice 

CLIENT:
Yolo ltd

PROJECT:
7 Boat Lane, Northenden

DESCRIPTION:
Site Plan as Proposed

PURPOSE OF ISSUE:
Planning

DRAWN BY:	CHECKED	DATE:	SCALE @ A2:
AP	AW	11/04/25	1 : 200

JOB NO:	STATUS CODE:	DRAWING NO:	REV
4731	S0	105	D

FILE IDENTIFIER:
BL-BTP-00-SP-DR-A-4731_105.D

Appendix 03

Environment Agency correspondence

Kevin Tyldesley

To: Greater Manchester, Merseyside and Cheshire Enquiries
Subject: RE: Request for information - Ref: EIR2026/08333

From: Greater Manchester, Merseyside and Cheshire Enquiries <inforequests.gmmc@environment-agency.gov.uk>
Sent: 20 February 2026 10:19
To: Kevin Tyldesley <Kevin.Tyldesley@wmlconsulting.com>
Subject: Request for information - Ref: EIR2026/08333

Our ref: EIR2026/08333

Your ref:

Dear Kevin Tyldesley,

I am writing in response to your request for information, received 18 February 2026 regarding 7 Boat Lane, Northenden, M22 4HR - FLOOD RISK ASSESSMENT.

Although there are no recorded flood outlines at the site, we have provided a map to show previous flooding nearby.

However, this does not mean flooding has not occurred in the past or that it will not flood in future.

We recommend that you also contact United Utilities and Lead Local Flood Authority Manchester Council, who may hold additional information (the former especially in relation to sewer flooding).

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

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

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

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

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

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

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

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

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

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

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

Yours sincerely,

Sarah Walters

GMMC Area Customers and Engagement Team

Environment Agency

Please tell us how we did

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

[Environment Agency FOI Customer Satisfaction Survey](#)

Flood risk assessment data



Location of site: 383221 / 390133 (shown as easting and northing coordinates)

Document created on: 19 February 2026

This information was previously known as a product 4.

Customer reference number: J6N9YM9K3KWM

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



How to use this information

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

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

Included in this document

In this document you'll find:

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

Surface water and other sources of flooding

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

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

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

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

Your Lead Local Flood Authority is Manchester District.

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

About the models used

Model name: Upper Mersey 2017

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 14 April 2022

This model contains 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 1.

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



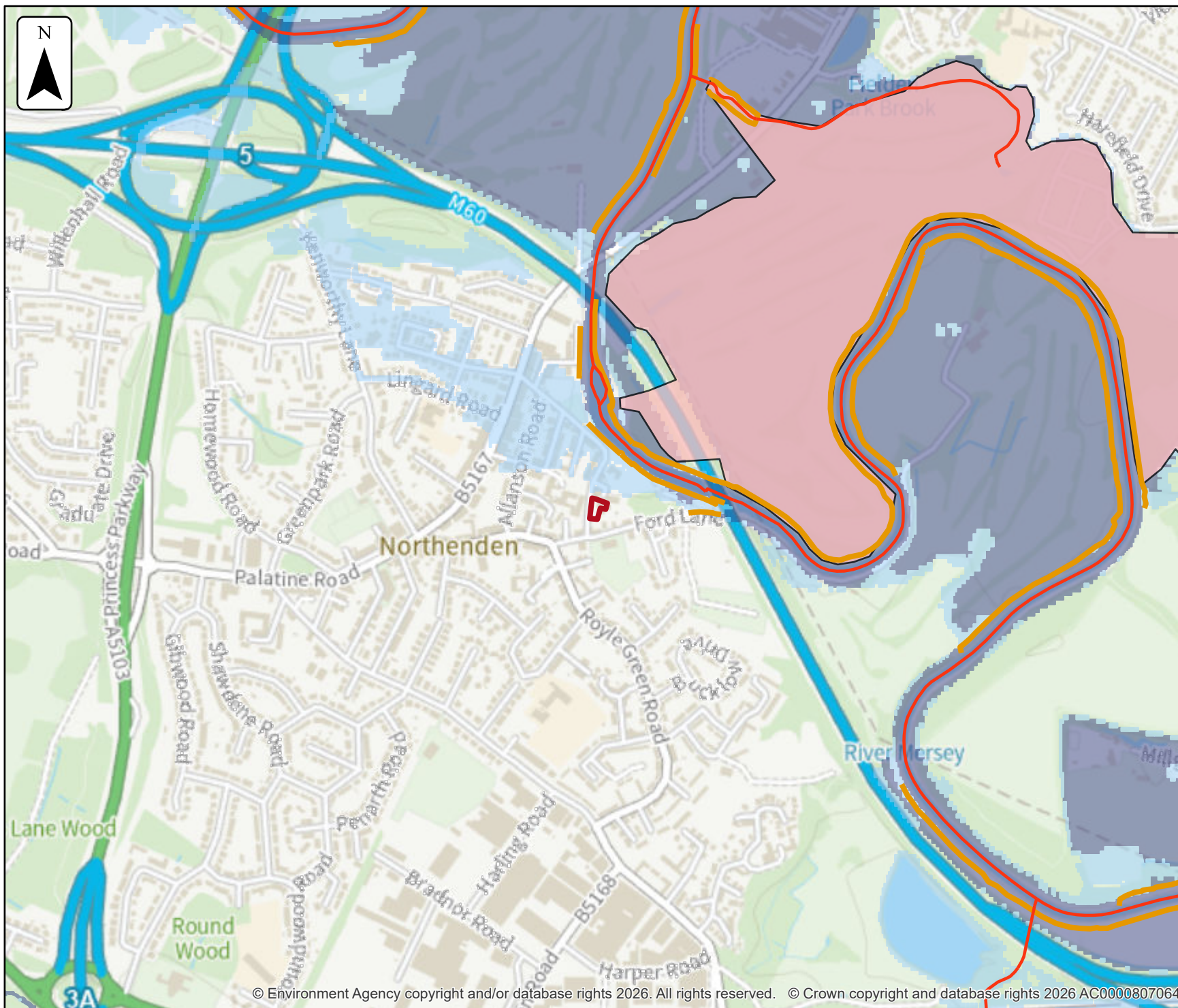
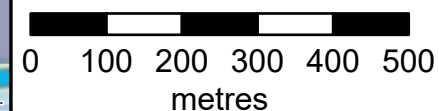
Flood map for planning

Location (easting/northing)
383221/390133

Scale
1:10,000

Created
19 Feb 2026

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



Past floods

Past flood events included in this document

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

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

Data limitations

The outlines do not include flooding from:

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

Changes to flood defences

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

What the recorded flood outlines dataset is

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

- rivers
- the sea
- groundwater
- surface water

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

Get flood information from other organisations

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



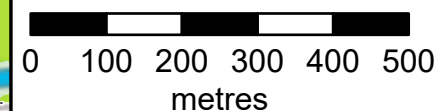
Past floods

Location (easting/northing)
383221/390133

Scale
1:10,000

Created
19 Feb 2026

-  Selected area
-  Main river
- Date of flood event
 -  January, 2025
 -  January, 2021
 -  November, 2000
 -  October, 2000
 -  October, 1998
 -  March, 1998
 -  December, 1978
 -  October, 1973
 -  July, 1973
 -  January, 1964



Data on past flood events

Start date	End date	Source of flood	Cause of flood	Affects location
1 January 2025	1 January 2025	main river	overtopping of defences	No
20 January 2021	20 January 2021	main river	other	No
16 November 2000	17 November 2000	unknown	channel capacity exceeded (no raised defences)	No
10 October 2000	11 October 2000	unknown	other	No
23 October 1998	24 October 1998	unknown	channel capacity exceeded (no raised defences)	No
3 March 1998	4 March 1998	unknown	channel capacity exceeded (no raised defences)	No
27 December 1978	28 December 1978	unknown	channel capacity exceeded (no raised defences)	No
5 October 1973	6 October 1973	unknown	operational failure/breach of defence	No
16 July 1973	17 July 1973	unknown	channel capacity exceeded (no raised defences)	No
1 January 1964	2 January 1964	unknown	unknown	No

Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



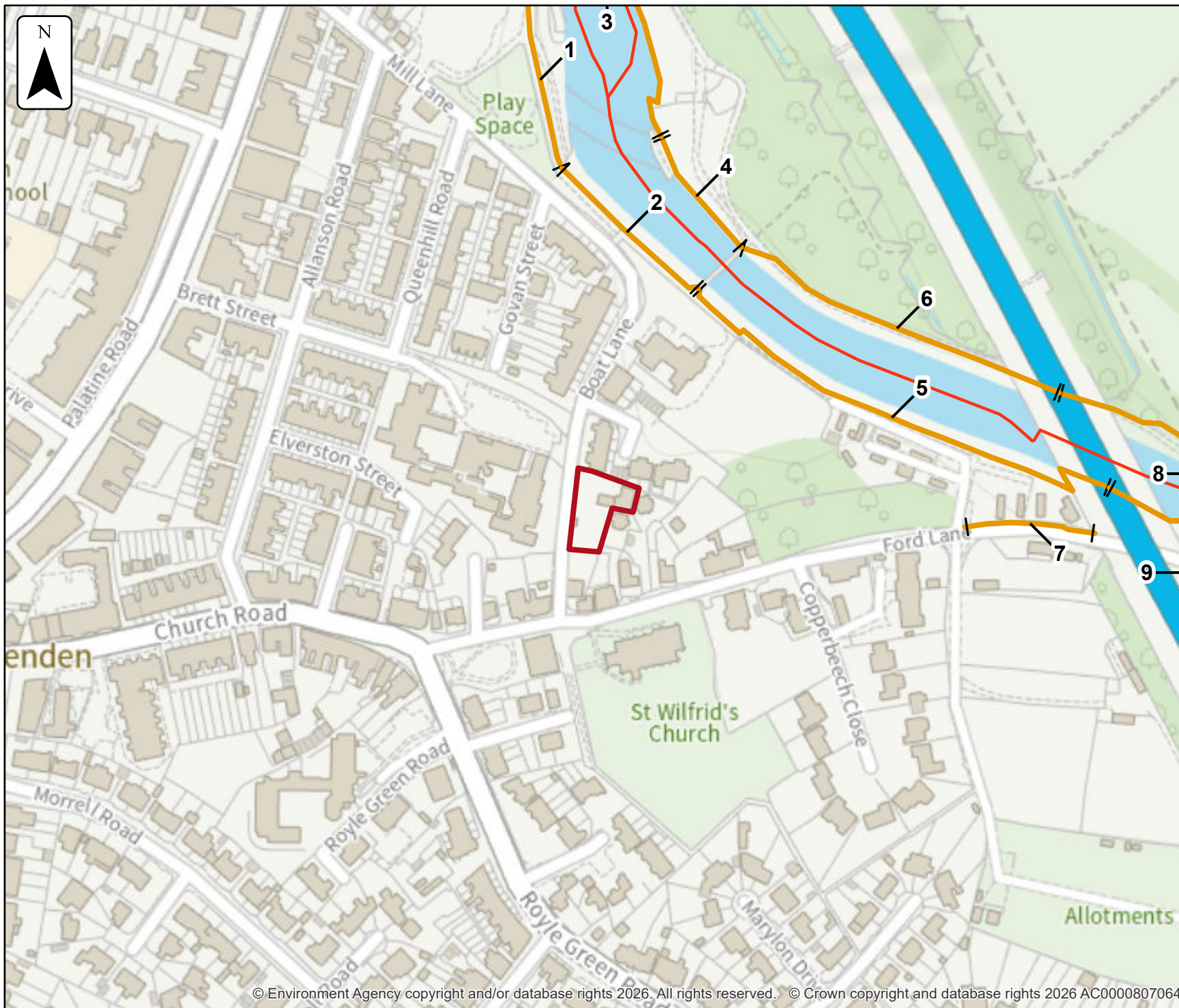
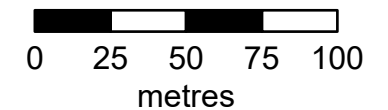
Flood defences

Location (easting/northing)
383221/390133

Scale
1:2,500

Created
19 Feb 2026

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	411052	Engineered High Ground	150	Fair			
2	58941	Wall	150	Fair	32.28	30.07	
3	58973	Embankment	150		29.65	29.69	
4	120736	Embankment	150		29.88	29.65	
5	120542	Wall	150	Fair	30.35	30.38	
6	120543	Embankment	100		29.67	29.91	
7	533434	Wall	150	Fair	30.40	30.40	30.40
8	763797	Embankment	100		29.84	30.70	
9	59069	Engineered High Ground	100	Fair	27.28	35.14	

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

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

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

Climate change

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

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

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change

No data available

We do not have any height or depth data at this location for the following models:

Model name: Upper Mersey 2017

Scenario(s): Defences removed modelled fluvial, Defended climate change modelled fluvial, Defended modelled fluvial



Defences removed climate change modelled fluvial extent

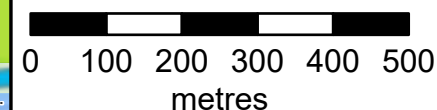
Location (easting/northing)
383221/390133

Scale Created
1:10,000 19 Feb 2026

Model name
Upper Mersey 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





Defences removed modelled fluvial extent

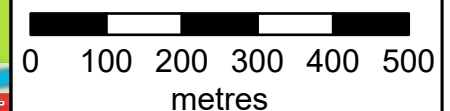
Location (easting/northing)
383221/390133

Scale Created
1:10,000 19 Feb 2026

Model name
Upper Mersey 2017

-  Selected area
-  Main river
- Modelled flood extent
 -  5% AEP
 -  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





Defended climate change modelled fluvial extent

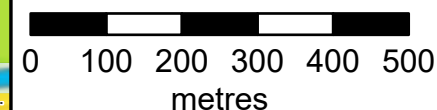
Location (easting/northing)
383221/390133

Scale Created
1:10,000 19 Feb 2026

Model name
Upper Mersey 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





Scale Created
1:10,000 19 Feb 2026

 Selected area

 Main river

Modelled flood extent

 5% AEP

 2% AEP

 1.33% AEP

 1% AEP

 0.5% AEP

 0.1% AEP



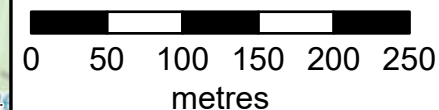
Defended modelled fluvial node locations

Location (easting/northing)
383221/390133

Scale Created
1:5,000 19 Feb 2026

Model name
Upper Mersey 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1290764	383209	390473	27.92	28.44	28.57	28.87	28.93	28.97	29.04	29.08	29.24	29.34	30.05
2	1290653	383210	390504	27.90	28.41	28.53	28.83	28.89	28.93	29.0	29.04	29.20	29.30	30.0
3	1290768	383211	390427	28.01	28.53	28.66	28.97	29.03	29.07	29.14	29.17	29.33	29.43	30.12
4	1290577	383212	390537	27.88	28.39	28.52	28.82	28.88	28.92	28.99	29.03	29.19	29.30	29.95
5	1290513	383214	390574	27.88	28.39	28.52	28.81	28.88	28.91	28.98	29.03	29.19	29.29	29.91
6	1290562	383220	390374	28.09	28.62	28.75	29.06	29.13	29.17	29.24	29.27	29.42	29.52	30.17
7	1290561	383226	390341	28.09	28.62	28.75	29.06	29.13	29.17	29.24	29.27	29.42	29.52	30.17
8	1290683	383238	390296	28.14	28.68	28.81	29.13	29.19	29.24	29.31	29.34	29.48	29.58	30.22
9	1290759	383260	390272	28.06	28.58	28.72	29.02	29.09	29.13	29.20	29.23	29.38	29.48	30.15
10	1290777	383502	390142	28.41	28.94	29.07	29.38	29.44	29.48	29.55	29.58	29.68	29.77	30.29

Data in this table comes from the Upper Mersey 2017 model.

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

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

Defended

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1290764	383209	390473	184.16	234.40	247.46	280.76	287.47	291.95	300.24	303.56	306.02	310.76	323.39
2	1290653	383210	390504	184.01	234.75	247.63	280.69	287.35	291.98	300.21	303.66	305.84	310.74	323.28
3	1290768	383211	390427	184.70	234.66	247.60	280.47	287.53	292.05	300.28	303.88	305.83	310.76	323.60
4	1290577	383212	390537	184.63	234.61	247.39	280.28	287.49	291.96	300.19	303.80	305.81	310.69	323.18
5	1290513	383214	390574	184.46	234.31	247.42	280.51	287.37	291.83	300.15	303.62	305.95	310.71	323.97
6	1290562	383220	390374	184.37	234.78	247.76	280.80	287.38	292.08	300.31	303.62	305.83	310.80	324.08
7	1290561	383226	390341	184.37	234.78	247.76	280.80	287.38	292.08	300.31	303.62	305.83	310.80	323.58
8	1290683	383238	390296	184.35	234.67	247.64	280.93	287.71	292.12	300.38	303.54	306.16	310.83	324.61
9	1290759	383260	390272	185.11	234.91	247.62	280.64	288.0	292.30	300.44	304.10	305.83	310.82	325.31
10	1290777	383502	390142	184.25	235.18	247.69	280.70	287.80	292.03	300.10	303.35	305.71	310.29	326.68

Data in this table comes from the Upper Mersey 2017 model.

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

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



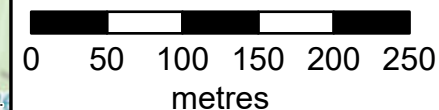
Defences removed modelled fluvial node locations

Location (easting/northing)
383221/390133

Scale Created
1:5,000 19 Feb 2026

Model name
Upper Mersey 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level	Level	Level	Level	Level	Level
1	1290764	383209	390473	27.29	27.51	27.62	27.72	27.78	27.84	27.99	28.11	28.21	28.46	29.64
2	1290653	383210	390504	27.25	27.46	27.55	27.65	27.71	27.77	27.92	28.05	28.15	28.41	29.59
3	1290768	383211	390427	27.40	27.65	27.77	27.88	27.94	27.99	28.13	28.26	28.35	28.59	29.71
4	1290577	383212	390537	27.21	27.40	27.49	27.58	27.65	27.70	27.87	28.0	28.10	28.37	29.55
5	1290513	383214	390574	27.21	27.38	27.46	27.54	27.61	27.66	27.83	27.97	28.08	28.35	29.51
6	1290562	383220	390374	27.51	27.79	27.93	28.05	28.11	28.16	28.30	28.41	28.50	28.72	29.79
7	1290561	383226	390341	27.51	27.79	27.93	28.05	28.11	28.16	28.30	28.41	28.50	28.72	29.79
8	1290683	383238	390296	27.57	27.87	28.02	28.15	28.21	28.26	28.39	28.50	28.59	28.81	29.84
9	1290759	383260	390272	27.49	27.78	27.92	28.05	28.10	28.15	28.28	28.39	28.47	28.69	29.76
10	1290777	383502	390142	28.15	28.65	28.94	29.16	29.22	29.27	29.38	29.45	29.50	29.63	30.16

Data in this table comes from the Upper Mersey 2017 model.

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

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

Defences removed

Label	Modelled location ID	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% AEP	3.33% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow	Flow
1	1290764	383209	390473	172.18	222.62	254.15	277.41	282.93	286.86	296.55	301.73	304.84	311.05	325.04
2	1290653	383210	390504	172.19	222.66	254.11	277.32	282.80	286.81	296.39	301.74	304.84	310.99	325.03
3	1290768	383211	390427	172.21	222.68	254.14	277.13	282.98	286.85	296.55	301.83	304.90	311.28	325.28
4	1290577	383212	390537	172.17	222.57	254.11	277.20	282.73	286.79	296.39	301.69	304.83	311.26	327.40
5	1290513	383214	390574	172.18	222.57	254.12	277.19	282.69	286.79	296.36	301.67	304.90	311.92	337.38
6	1290562	383220	390374	172.19	222.77	254.14	277.50	283.01	286.90	296.53	301.98	305.12	311.47	325.81
7	1290561	383226	390341	172.19	222.77	254.14	277.50	283.01	286.90	296.53	301.98	305.12	311.47	325.81
8	1290683	383238	390296	172.23	222.90	254.18	277.58	283.27	287.05	296.92	302.06	305.21	311.67	326.24
9	1290759	383260	390272	172.24	222.88	254.17	277.32	283.41	286.92	297.01	302.16	305.26	311.96	326.48
10	1290777	383502	390142	139.44	164.64	175.75	180.37	181.78	182.69	183.27	184.35	184.78	186.88	246.89

Data in this table comes from the Upper Mersey 2017 model.

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

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



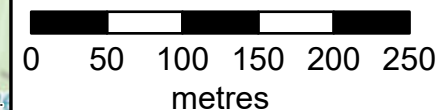
Defended climate change modelled fluvial node locations

Location (easting/northing)
383221/390133

Scale Created
1:5,000 19 Feb 2026

Model name
Upper Mersey 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	1290764	383209	390473	29.69	29.76	30.0	30.24
2	1290653	383210	390504	29.66	29.72	29.96	30.21
3	1290768	383211	390427	29.77	29.83	30.08	30.31
4	1290577	383212	390537	29.64	29.70	29.91	30.15
5	1290513	383214	390574	29.63	29.69	29.88	30.08
6	1290562	383220	390374	29.84	29.90	30.13	30.37
7	1290561	383226	390341	29.84	29.90	30.13	30.37
8	1290683	383238	390296	29.90	29.96	30.18	30.43
9	1290759	383260	390272	29.82	29.89	30.11	30.36
10	1290777	383502	390142	30.07	30.12	30.26	30.51

Data in this table comes from the Upper Mersey 2017 model.

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

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

Defended climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	1290764	383209	390473	314.66	315.77	321.44	333.96
2	1290653	383210	390504	314.74	315.58	321.43	333.94
3	1290768	383211	390427	314.89	315.92	321.56	333.90
4	1290577	383212	390537	315.51	316.22	321.35	342.14
5	1290513	383214	390574	316.81	318.08	323.01	363.66
6	1290562	383220	390374	315.26	315.84	321.81	334.85
7	1290561	383226	390341	313.92	315.19	321.33	334.57
8	1290683	383238	390296	313.77	315.56	321.40	335.29
9	1290759	383260	390272	313.85	315.48	321.59	335.80
10	1290777	383502	390142	313.40	315.06	321.66	337.24

Data in this table comes from the Upper Mersey 2017 model.

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

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



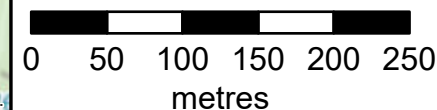
Defences removed climate change modelled fluvial node locations

Location (easting/northing)
383221/390133

Scale Created
1:5,000 19 Feb 2026

Model name
Upper Mersey 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed 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	1290764	383209	390473	28.91	29.01	29.52	30.14
2	1290653	383210	390504	28.86	28.96	29.47	30.12
3	1290768	383211	390427	29.01	29.10	29.60	30.17
4	1290577	383212	390537	28.83	28.93	29.43	30.08
5	1290513	383214	390574	28.81	28.90	29.39	30.03
6	1290562	383220	390374	29.11	29.20	29.67	30.19
7	1290561	383226	390341	29.11	29.20	29.67	30.19
8	1290683	383238	390296	29.18	29.27	29.73	30.23
9	1290759	383260	390272	29.07	29.16	29.66	30.18
10	1290777	383502	390142	29.80	29.85	30.12	30.34

Data in this table comes from the Upper Mersey 2017 model.

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

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

Defences removed 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	1290764	383209	390473	316.96	318.21	322.72	309.06
2	1290653	383210	390504	316.96	318.12	322.70	309.07
3	1290768	383211	390427	317.12	318.33	322.93	309.35
4	1290577	383212	390537	317.87	319.08	324.77	321.0
5	1290513	383214	390574	319.69	321.15	328.04	335.30
6	1290562	383220	390374	317.61	318.70	323.42	310.04
7	1290561	383226	390341	317.61	318.70	323.42	310.04
8	1290683	383238	390296	317.73	318.95	323.79	310.55
9	1290759	383260	390272	318.06	319.07	323.98	310.85
10	1290777	383502	390142	189.16	189.48	210.35	234.27

Data in this table comes from the Upper Mersey 2017 model.

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

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



Defences removed climate change modelled fluvial extent and height

Location (easting/northing)
383221/390133

Scale Created
1:500 19 Feb 2026

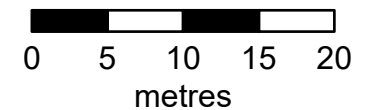
Model name
Upper Mersey 2017

-  Selected area
-  Main river

Modelled 2D grid
Water level in mAOD

-  30 - 30.125
-  30.125 - 30.25
-  30.25 - 30.375
-  30.375 - 30.5
-  30.5 - 30.625
-  30.625 - 30.75
-  30.75 - 30.875
-  30.875 - 31.0
-  31.0 - 31.125

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



Sample point data

Defences removed climate change

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
1	383202	390106	NoData	NoData
2	383211	390106	NoData	NoData
3	383220	390106	NoData	NoData
4	383229	390106	NoData	NoData
5	383202	390115	NoData	NoData
6	383211	390115	NoData	NoData
7	383220	390115	NoData	NoData
8	383229	390115	NoData	NoData
9	383202	390124	30.18	0
10	383211	390124	NoData	NoData
11	383220	390124	NoData	NoData
12	383229	390124	NoData	NoData

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
13	383238	390124	NoData	NoData
14	383202	390133	30.19	0
15	383211	390133	NoData	NoData
16	383220	390133	NoData	NoData
17	383229	390133	NoData	NoData
18	383238	390133	NoData	NoData
19	383247	390133	NoData	NoData
20	383202	390142	30.19	0
21	383211	390142	NoData	NoData
22	383220	390142	30.19	0.03
23	383229	390142	NoData	NoData
24	383238	390142	NoData	NoData

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
25	383247	390142	NoData	NoData
26	383202	390151	30.19	0
27	383211	390151	30.19	0.24
28	383220	390151	30.19	0.17
29	383229	390151	30.19	0.05
30	383238	390151	30.20	0.06
31	383211	390160	30.19	0.32
32	383220	390160	30.19	0.23
Max value in selected area:			30.19	0.17

Data in this table comes from the Upper Mersey 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 04

Manchester City Council correspondence

Appendix 05

United Utilities correspondence

Kevin Tyldesley

To: wastewaterdeveloperservices@uuplc.co.uk
Subject: RE: 7 Boat Lane, Northenden, M22 4HR - FLOOD RISK ASSESSMENT

From: wastewaterdeveloperservices@uuplc.co.uk <wastewaterdeveloperservices@uuplc.co.uk>
Sent: 23 February 2026 12:12
To: Kevin Tyldesley <Kevin.Tyldesley@wmlconsulting.com>
Subject: 7 Boat Lane, Northenden, M22 4HR - FLOOD RISK ASSESSMENT

Hi Kevin,

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.

Regards,



Mike Rimmer
Developer Engineer
Developer Services & Metering
M: 07341 686020
unitedutilities.com

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

From: Kevin Tyldesley [kevin.tyldesley@wmlconsulting.com]
Sent: 18/02/2026 15:00
To: wastewaterdeveloperservices@uuplc.co.uk
Subject: 7 Boat Lane, Northenden, M22 4HR - FLOOD RISK ASSESSMENT

Hi

We have been asked to provide a Flood Risk Assessment for a proposed development at the above site, as indicated on the attached pdf.

Can you confirm if you are aware of any flood risk issues that may affect the site ?

Any queries, let me know.

Kind regards.

Kevin Tyldesley

WML Consulting

WML Consulting Ltd

Civil, Structural & Geotechnical Engineers
Third Floor South | Metropolitan House | Station Road | Cheadle Hulme | Cheshire | SK8 7AZ

Tel: 0161 482 0600 | email: kevin.tyldesley@wmlconsulting.com | web: www.wmlconsulting.com

Appendix 06
Greenfield Runoff Assessment

WML Consulting Ltd		Page 1
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8 6QL		
Date 03/03/2026 13:48 File	Designed by KTyldesley Checked by	
Innovyze		
Source Control 2020.1.3		
ICP SUDS Mean Annual Flood Input Return Period (years) 100 Soil 0.450 Area (ha) 0.060 Urban 0.000 SAAR (mm) 864 Region Number Region 10 Results l/s QBAR Rural 0.3 QBAR Urban 0.3 Q100 years 0.7 Q1 year 0.3 Q30 years 0.6 Q100 years 0.7		
©1982-2020 Innovyze		

Appendix 07

Attenuation Storage Assessment

Quick Storage Estimate

Micro Drainage

Variables

FSR Rainfall

Return Period (years) 100

Region England and Wales

Map M5-60 (mm) 18.000

Ratio R 0.360

Cv (Summer) 0.750

Cv (Winter) 0.840

Impemeable Area (ha) 0.060

Maximum Allowable Discharge (l/s) 2.0

Infiltration Coefficient (m/hr) 0.00000

Safety Factor 2.0

Climate Change (%) 45

Analyse OK Cancel Help

Enter Climate Change between -100 and 600

Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 19 m³ and 31 m³.

These values are estimates only and should not be used for design purposes.

Analyse OK Cancel Help

Enter Climate Change between -100 and 600