Project No: 25255

Project: Langdale Mews
Langdale Avenue
Levenshulme
M19 3NT

Subject: SuDS Drainage Statement

Date: 29 May 2025

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1.0 GENERAL

This drainage statement has been prepared to support the planning application for the extension of the existing apartment block at Langdale Mews, Langdale Avenue, Levenshulme, M19 3NT**.** The site is located within the District Centre of Levenshulme and is currently occupied by a four-storey apartment building. The proposal seeks to extend the building to provide additional residential units. The site comprises a mix of hardstanding and underutilised grassed areas, consistent with previously developed land (brownfield site) within an established urban setting.



Figure 1 – Site Location Plan

2.0 DRAINAGE DESIGN

2.1 Surface Water Drainage

2.1.1 Flood Risk

The site is lies wholly within the Zone 1 Flood Map. This means the land is assessed as having a low probability of flooding, which is less than 1 in 1000 (<0.1%).

A site-specific flood risk assessment is not required as the site is in Flood Zone 1 and under 1ha.

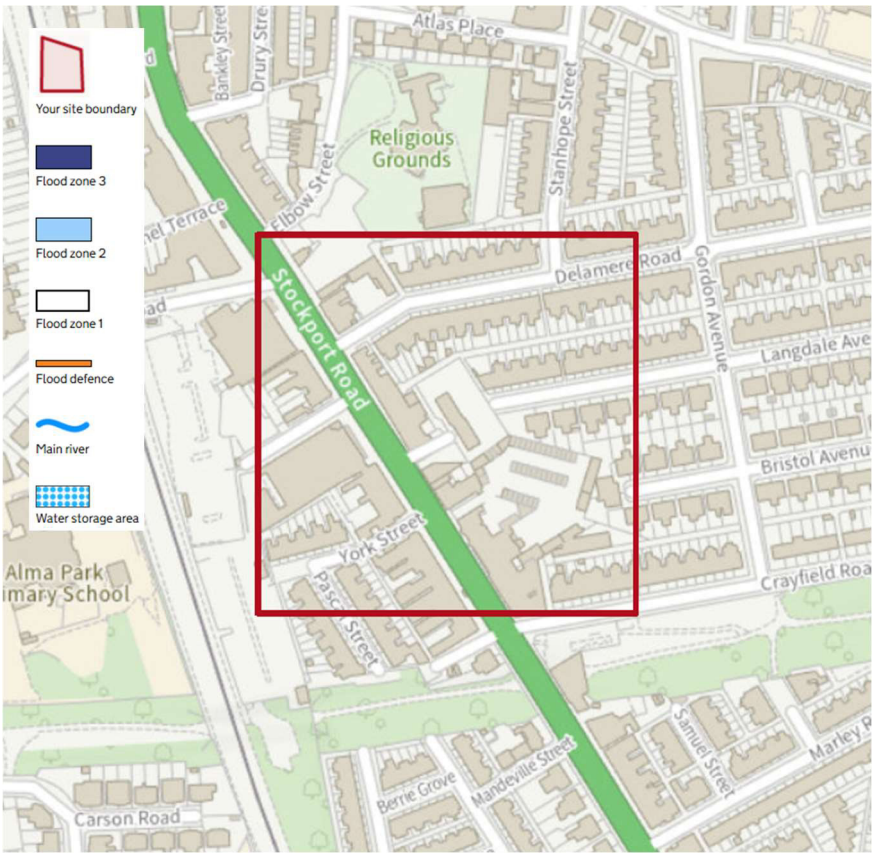


Figure 2 – Flood Map for Planning

2.1.2 Drainage Strategy

1st Choice - Discharge to Soakaway

In accordance with the drainage hierarchy outlined in the Building Regulations (Part H) and the CIRIA SuDS Manual, the first option for the disposal of surface water is infiltration via soakaway.

However, percolation testing has not been undertaken at the development site at Langdale Mews, Langdale Avenue, Levenshulme, M19 3NT. Based on publicly available geological data from the British Geological Survey (1:50,000 scale mapping), the site is underlain by Devensian Till (Diamicton), a low-permeability

glacial deposit. Additionally, Soilscape 17 data from the Cranfield Soilscapes database indicates the area is characterised by slowly permeable, seasonally wet acid loamy and clayey soils**.** These soil types are associated with impeded drainage and poor infiltration potential, especially during wetter months.

Given these conditions, infiltration-based drainage systems such as soakaways are considered unlikely to be feasible without significant ground improvement or engineered subsoil drainage. As infiltration capacity has not been confirmed through site-specific testing, it is not currently relied upon as a viable method for surface water disposal at this location.

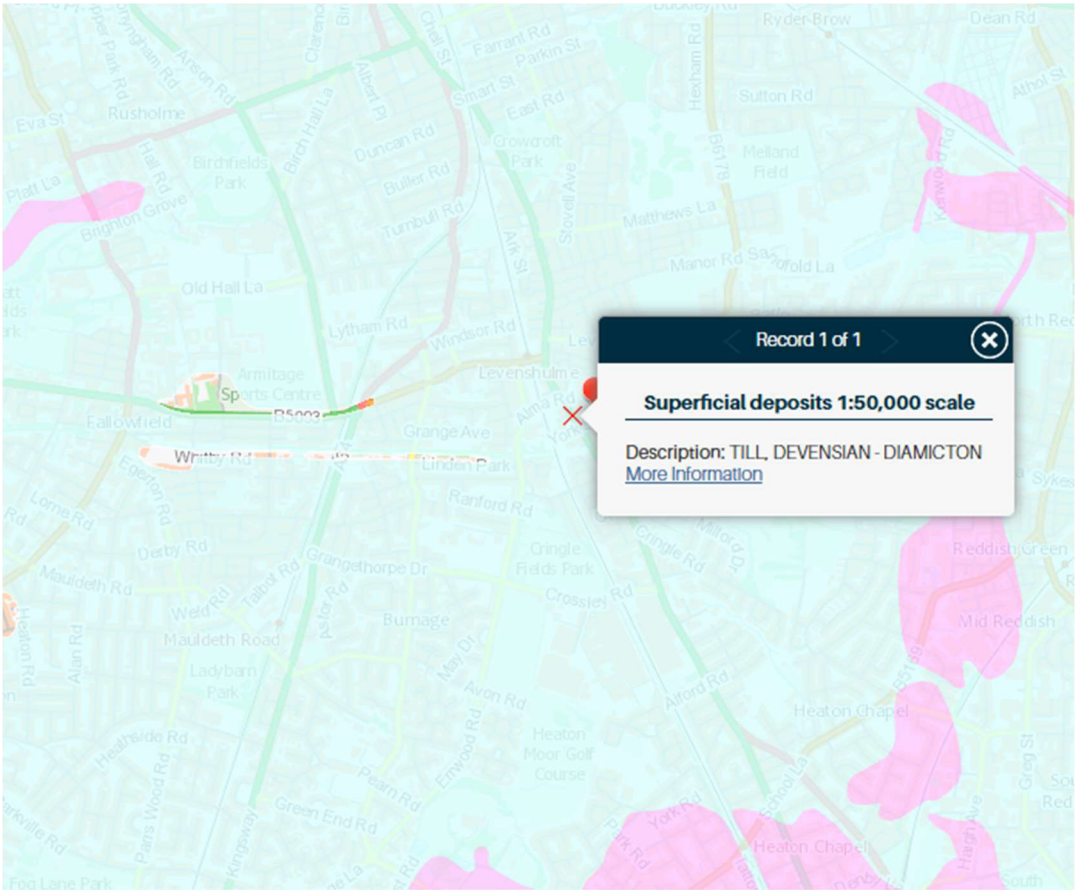


Figure 3 – Superficial Deposits

2nd Choice - Discharge to Watercourse

The second option in the drainage hierarchy is the discharge of surface water to a nearby watercourse or open ditch.

A review of statutory mapping and drainage records confirms the presence of Cringle Brook, a local watercourse located over 150 metres southwest of the development site at Langdale Mews, Langdale Avenue, Levenshulme, M19 3NT. However, due to the distance and the requirement to cross multiple third-party land parcels, discharge to this watercourse is considered not feasible.

3rd Choice - Discharge to Surface Water Sewer

The third option in the drainage hierarchy is the discharge of surface water into an existing surface water sewer.

A review of United Utilities sewer records confirms that there is a 225mm diameter surface water sewer running adjacent to the development site along Langdale Avenue, continuing west toward Delamere Road and east toward Louis Street Avenue. This sewer is located within the public highway and is readily accessible from the site.

Given its proximity and capacity, this option is considered feasible and appropriate for the disposal of surface water runoff from the proposed development. Discharge to this sewer would be subject to approval from United Utilities, including confirmation of capacity and flow restrictions, and would need to comply with the drainage hierarchy outlined in Part H of the Building Regulations and the CIRIA SuDS Manual.

4th Choice - Discharge to Combined Sewer

The fourth and final option in the drainage hierarchy is discharge to a combined sewer.

Although there are combined sewers present within the wider area, including sections along Stockport Road, the preference is to avoid connection to a combined system unless all higher-ranking options (infiltration, watercourse, and surface water sewer) are demonstrated to be unviable. Discharge to a combined sewer would introduce additional load to the foul system and is therefore considered a last resort under current sustainable drainage guidance.

If discharge to a surface water sewer is deemed infeasible or denied by United Utilities, connection to a combined sewer would only proceed with formal agreement and would require flow attenuation in accordance with national SuDS standards.

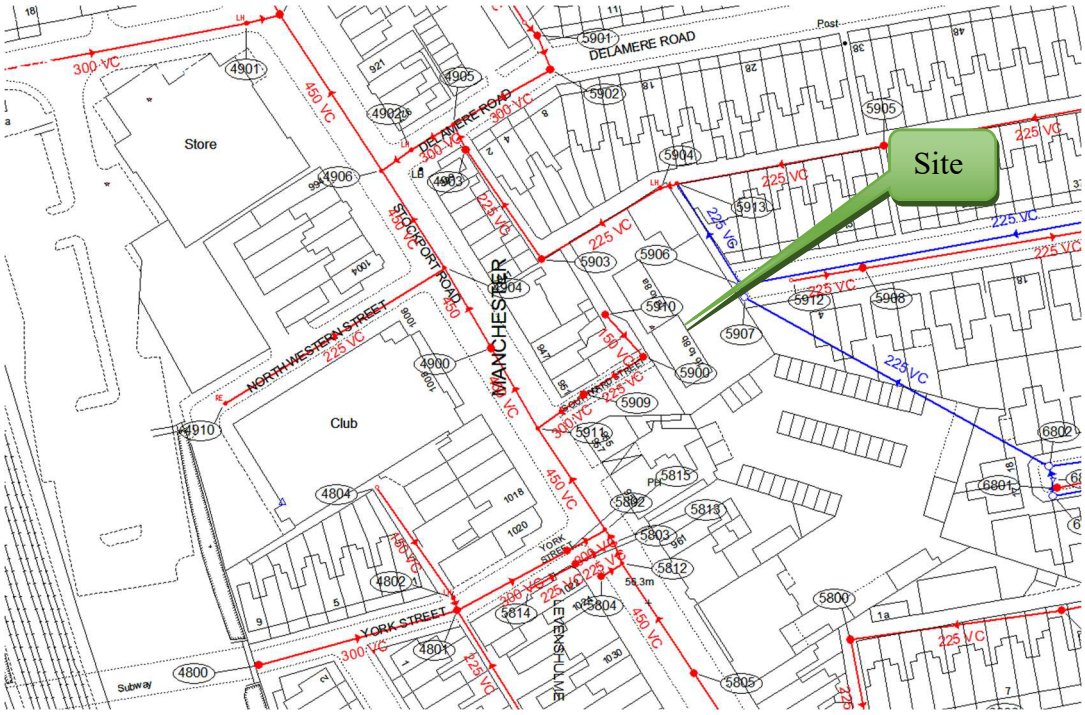


Figure 4 – Extract from United Utilities records

It is proposed that surface water from the development will be managed via controlled discharge to the adjacent public surface water sewer, in accordance with the drainage hierarchy**.** Infiltration has been discounted due to the site's underlying glacial till (diamicton) and seasonally wet clayey soils (Soilscape 17), which are typically associated with low permeability and impeded drainage.

The proposed development comprises an extension to an existing apartment block, resulting in a revised impermeable area of approximately 929 m², including retained existing surfaces. This reflects a net increase of 107 m² over the current condition, as shown on the submitted drainage layout plans.

Surface water runoff will be managed via attenuation within a geocellular storage system, sized to accommodate the critical 1 in 100-year storm event plus a 45% climate change uplift, in line with Environment Agency guidance for the 2070s epoch. A flow control device (e.g., Hydrobrake or equivalent) will be installed to restrict discharge to 5.71 l/**s**, representing a 50% betterment over the estimated existing brownfield runoff rate (11.42 l/s). This level of reduction is consistent with policy expectations for developments located within a Critical Drainage Area (CDA)**,** as identified in Manchester's Strategic Flood Risk Assessment.

Surface water will then outfall into the adjacent 225mm VC public surface water sewer in Langdale Avenue, subject to technical approval by United Utilities.

Surrounding hard landscaping will either be constructed with permeable surfacing (such as gravel or open-cell concrete blocks), or will be positively drained to collect runoff into the proposed drainage system efficiently.

For detailed drainage layouts, attenuation calculations, and supporting hydraulic modelling, refer to Appendix D.

2.1.3 Climate Change

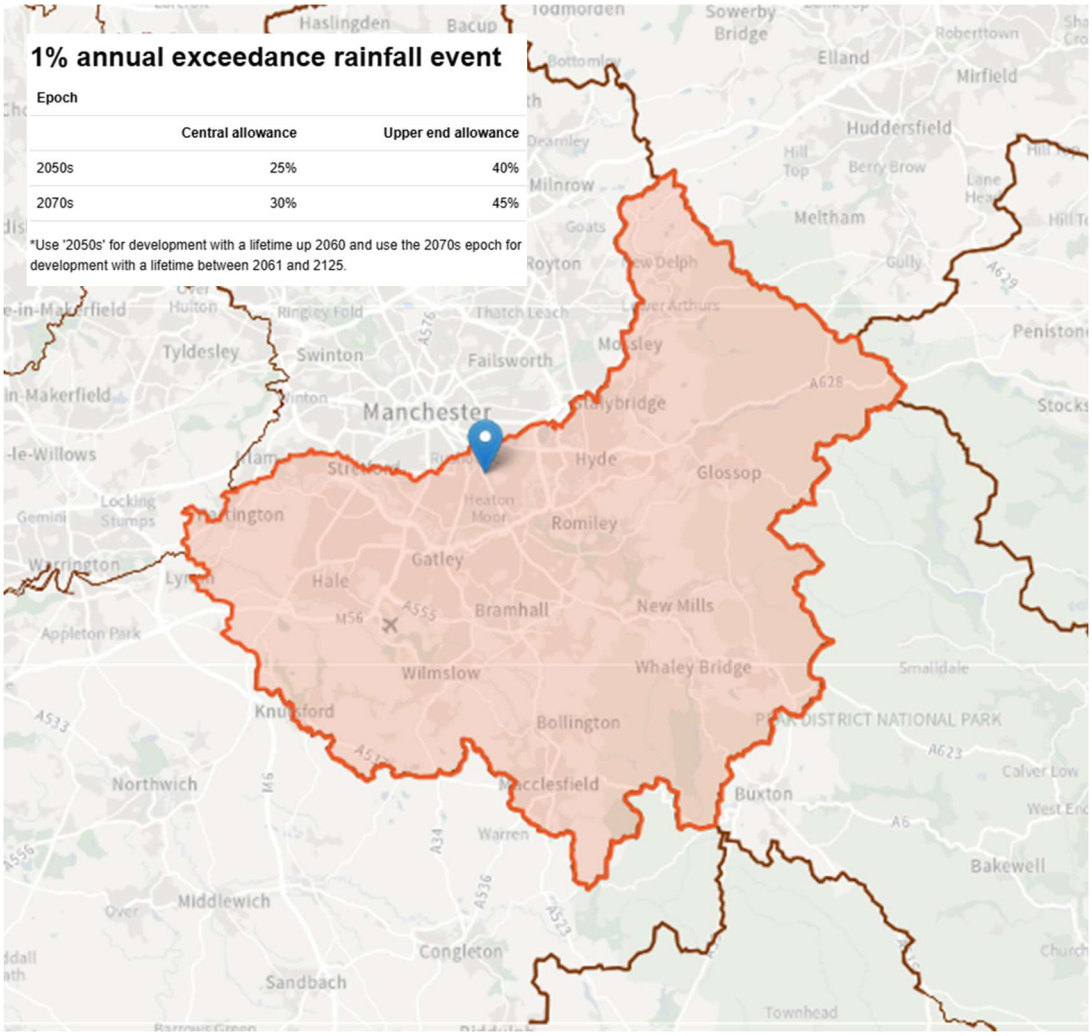


Figure 5 – Climate Change

Design Criteria for Surface Water Drainage

- The drainage system will be designed to prevent surcharging under the 1 in 30-year storm event**,** ensuring effective operation without surface flooding or exceedance across the development.
- The 1 in 100-year storm event, with a 45% climate change allowance (upper end, 2070s epoch), will be fully attenuated on site within a geocellular storage system. The **t**otal attenuation volume has been calculated based on a combined impermeable area of approximately 929 m²**,** with discharge restricted to 3.0 l/s via a flow control device (e.g., Hydrobrake or equivalent).
- Roof water from the proposed apartments will be collected via downpipes and conveyed to the attenuation tank before being discharged into the adjacent 225mm VC public surface water sewer on Langdale Avenue, subject to United Utilities

approval and consistent with the 50% betterment requirement for developments within a Critical Drainage Area (CDA).

- Surrounding hard landscaping, including access paths and shared areas, will incorporate permeable surfacing (such as gravel or block paving) or be appropriately graded to direct runoff into the proposed drainage system.
- A bypass separator is not required for this development, as the proposed hardstanding areas are limited and not associated with high pollution risk (e.g. no vehicle fuelling or significant commercial traffic).

2.2 Foul Drainage

The foul drainage from the proposed apartment extension will be discharged to the existing public combined sewer, located within Langdale Avenue, adjacent to the development site. This connection is consistent with the existing building's drainage arrangement and is the most practical and sustainable solution given the urban setting.

All new foul flows will be directed via gravity, where feasible, or pumped if required, into the combined sewer system, subject to technical approval by United Utilities.

Separate drainage systems will be provided for foul and surface water, in accordance with Building Regulations Part H, to ensure no cross-contamination between systems. All new foul drainage infrastructure will be designed to meet the requirements of BS EN 12056 (Gravity drainage systems inside buildings) and Sewers for Adoption (where applicable).

3.0 Appendices

- Appendix A - United Utilities Drainage Records
- Appendix B - Flood Flow Drawing Number 25255.001 – Drainage Layout.
- Appendix C - Flood Map for Planning
- Appendix D – Attenuation Calculations

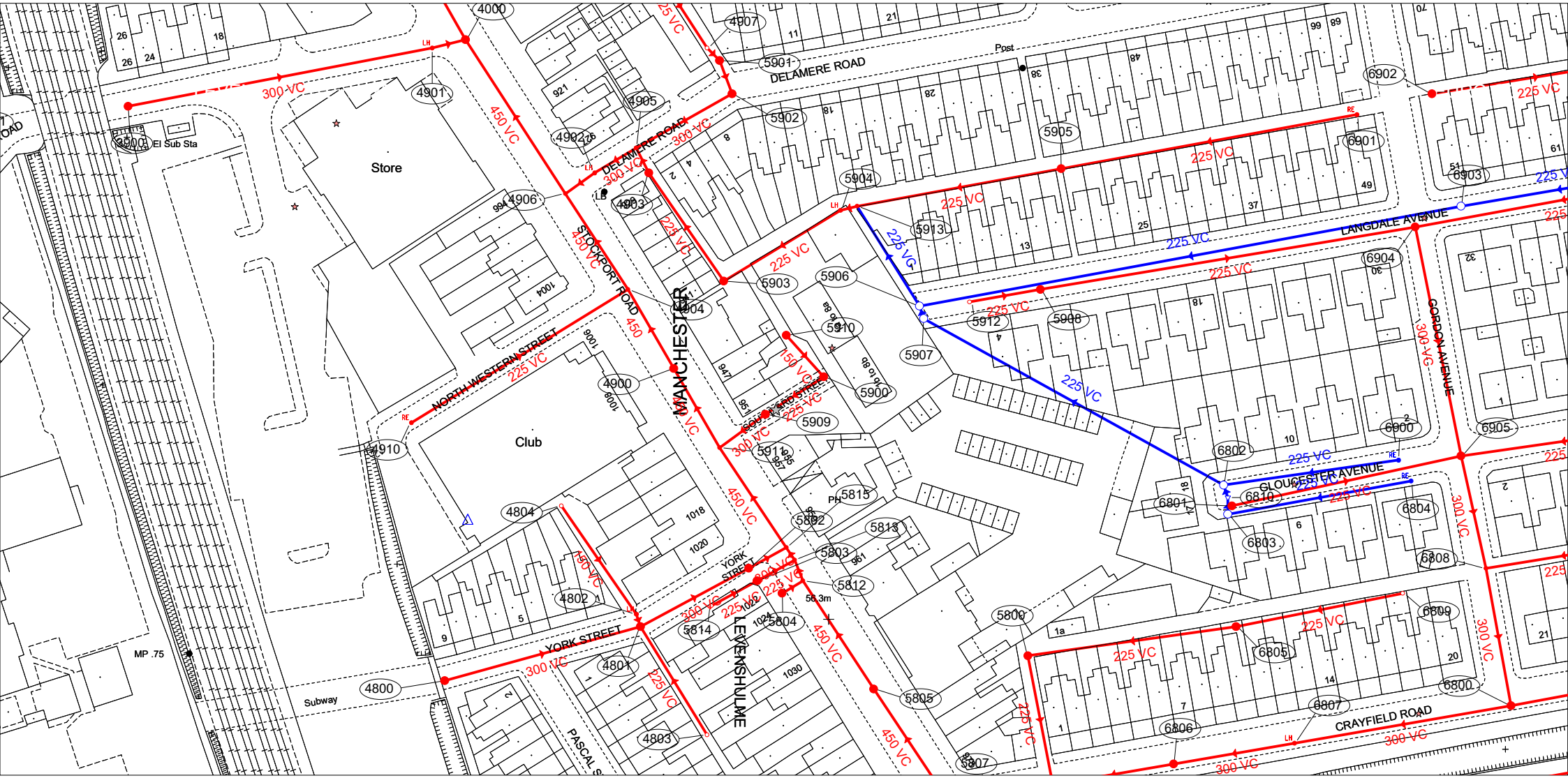
Flood Flow Product Range

We also offer a wider range of supporting reports and assessments. Please get in touch if you require additional services from our Flood Flow Product Range, outlined below.





APPENDIX A


DELAMERE ROAD
DELAMERE ROAD
STOCKPORT ROAD
MANCHESTER
LEVENSHULME
NORTH WESTERN STREET
YORK STREET
YORK STREET
LANGDALE AVENUE
GORDON AVENUE
GLOUCESTER AVENUE
CRAYFIELD ROAD
PASCAL S
Store
Club
El Sub Sta
Subway
MP .75
Post
PH
56.3m
4000
4901
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1006
1008
1018
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1024
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947
961
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1026
1027
1028
1029
450 VC
300 VC
225 VC
150 VC
LH
RE



APPENDIX B



APPENDIX C

Flood map for planning

Your reference	Location (easting/northing)	Created
25255	**387525/393926**	**29 May 2025 11:18**

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

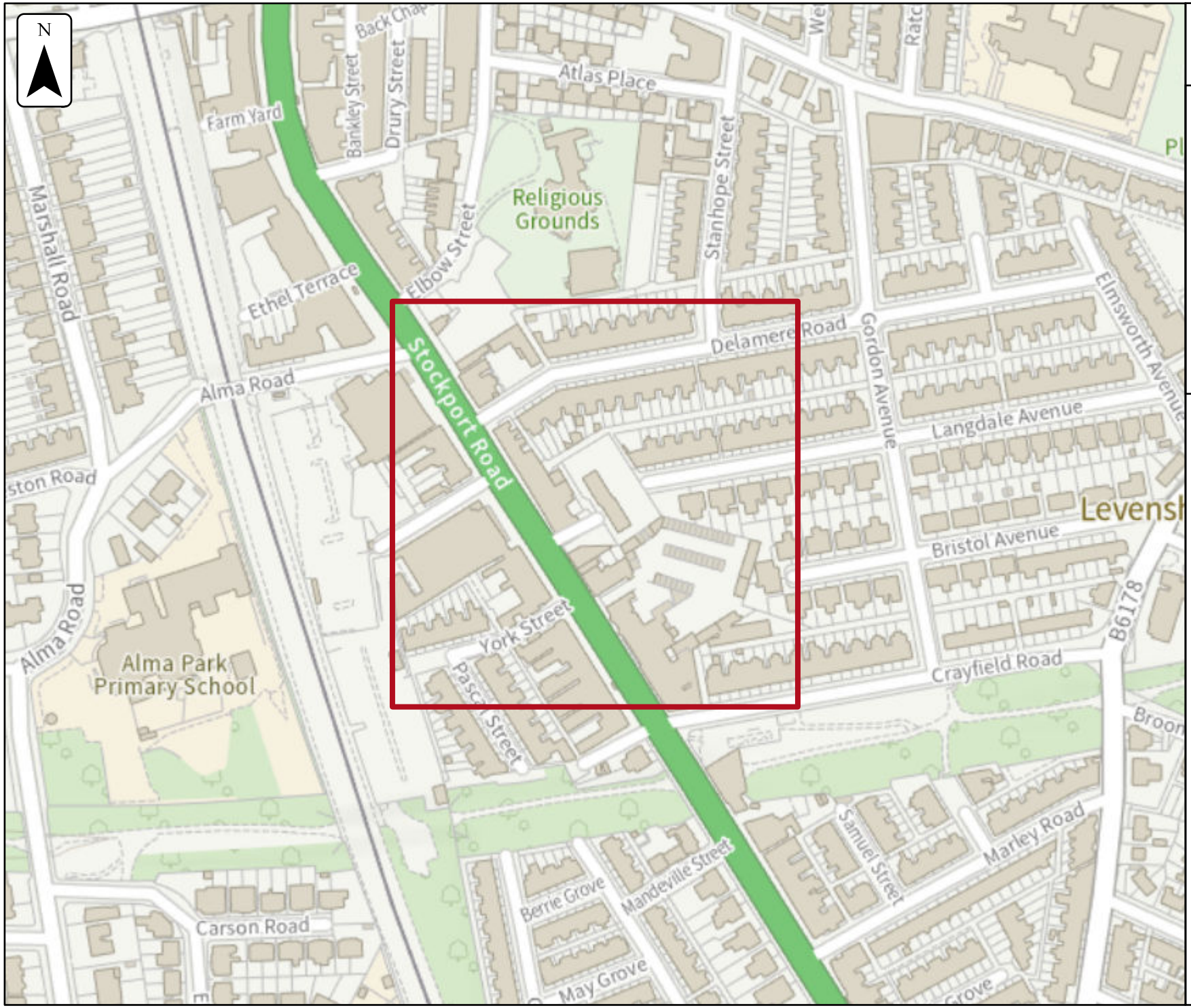
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2025 AC0000807064. https://flood-map-for-planning.service.gov.uk/os-terms



Environment Agency

Flood map for planning

Your reference
25255

Location (easting/northing)
387525/393926

Scale
1:2,500

Created
29 May 2025 11:18

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

0 20 40 60 m

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APPENDIX D

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Attenuation Calculations

