

EARTH ENVIRONMENTAL & GEOTECHNICAL
A Technics Group Company

Flood Risk Assessment

119 Withington Road

Whalley Range

Manchester

April 2026

On behalf of

Range Pharmacy Limited

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1. Introduction and Development Description

1.1. Project Introduction and Objectives

Earth Environmental & Geotechnical Ltd has prepared a Flood Risk Assessment (FRA) to support a planning application for a change of use and extension to 119 Withington Road, Whalley Range, Manchester, M16 8EB, Greater Manchester M28 3LY.

This document represents a site-specific FRA for the proposed development.

1.2. Planning Policy and Requirement for a Site-Specific FRA

This FRA has been undertaken with due regard to the National Planning Policy Framework (NPPF)[1] and associated technical guidance on flood risk and coastal change[2].

Footnote 63 of the NPPF confirms that planning applications for the following development proposals must be supported by a site-specific FRA:

- All developments in Flood Zone 2 or 3.
- Development sites in Flood Zone 1 involving:
  - Sites of 1 hectare (ha) or more;
  - Land identified by the Environment Agency (EA) as having critical drainage problems;
  - Land identified in a Strategic Flood Risk Assessment as being at increased flood risk in the future; and
  - Land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

Review of the EA's online flood map for planning confirms that the application site lies within Flood Zones 2 and 3; therefore, a site-specific FRA is required.

The EA's guidance for FRAs[3] and associated flood risk standing advice supports the NPPF and specifies the requirements for site-specific FRAs, based on the level of flood risk, the nature of the development and the vulnerability of the proposed development to flooding.

The following documents provide local flood risk evidence and guidance for new development in Manchester and have been consulted during the preparation of this FRA:

- The Level 1 Strategic Flood Risk Assessment (SFRA) for Greater Manchester - Update[4] and associated interactive maps for Manchester.
- Manchester City, Salford City and Trafford Council's Level 2 Hybrid SFRA completed in 2010/11 provides current local information on Critical Drainage Areas and flood risk from groundwater and canals.
- Manchester City Council's Local Development Framework Core Strategy (adopted July 2012). **Policy EN14: Flood Risk** states:

[1] GOV.UK, March 2012 (last updated: February 2025), National Planning Policy Framework.
[2] GOV.UK, March 2014 (last updated September 2025), Planning Guidance, Flood Risk and Coastal Change.
[3] GOV.UK, March 2014 (last updated: October 2025), Guidance – Flood Risk Assessments: applying for planning permission.
[4] JBA Consulting, March 2019, Level 1 Strategic Flood Risk Assessment for Greater Manchester - Update. Final Report.

- *In line with the risk-based sequential approach contained within PPS25, development should be directed away from sites at the greatest risk of flooding, and towards sites with little or no risk of flooding; this should take account of all sources of flooding identified in the Manchester-Salford-Trafford Strategic Flood Risk Assessment (SFRA).*

- *In addition to the requirements for site-specific Flood Risk Assessments (FRAs) set out in PPS25, an appropriate FRA will also be required for all development proposals, including changes of use, on sites greater than 0.5ha within Critical Drainage Areas (CDAs) and Canal Hazard Zones identified in the SFRA.*

- *In CDAs, evidence to justify the surface water run-off approach / rates will be required.*

- *The City of Manchester contains many sections of rivers which are culverted or 'hidden'; where these are indicated in the SFRA beneath the proposed development site, further investigation will be required and the development proposal should take this into account; where feasible and appropriate development should seek to open up culverted/hidden rivers to reduce the associated flood risk and danger of collapse, taking advantage of opportunities to enhance biodiversity and Green Infrastructure.*

The 2024 Addendum to the Core Strategy confirms Policy JP-S4 of Greater Manchester Combined Authority's Places for Everyone Plan is also relevant. Policy JP-S4: Flood Risk and the Water Environment includes the following relevant statements:

An integrated catchment-based approach will be taken to protect the quantity and quality of water bodies with reference to the North West River Basin Management Plan and managing flood risk, by:

1. Returning rivers to a more natural state, where practicable;

2. Working with natural processes and adopting a natural flood management approach to slow the speed of water drainage and intercept water pollutants;

3. Locating and designing development so as to minimise the impacts of current and future flood risk, including retrofitting or relocating existing developments, infrastructure and places to increase resilience to flooding;

4. Expecting developments to manage surface water run-off through sustainable drainage systems and as close to source as possible. Development should achieve greenfield run-off rates unless it is demonstrated to be impracticable. District local plans should consider setting more detailed surface water drainage policies to reflect local circumstances, including alternative surface water discharge rates, such as in areas with critical drainage issues;

1.3. Site Location and Existing Land Use

The application site comprises 119 Withington Road, Whalley Range, Manchester, M16 8EB, as outlined in red within Figure 1.

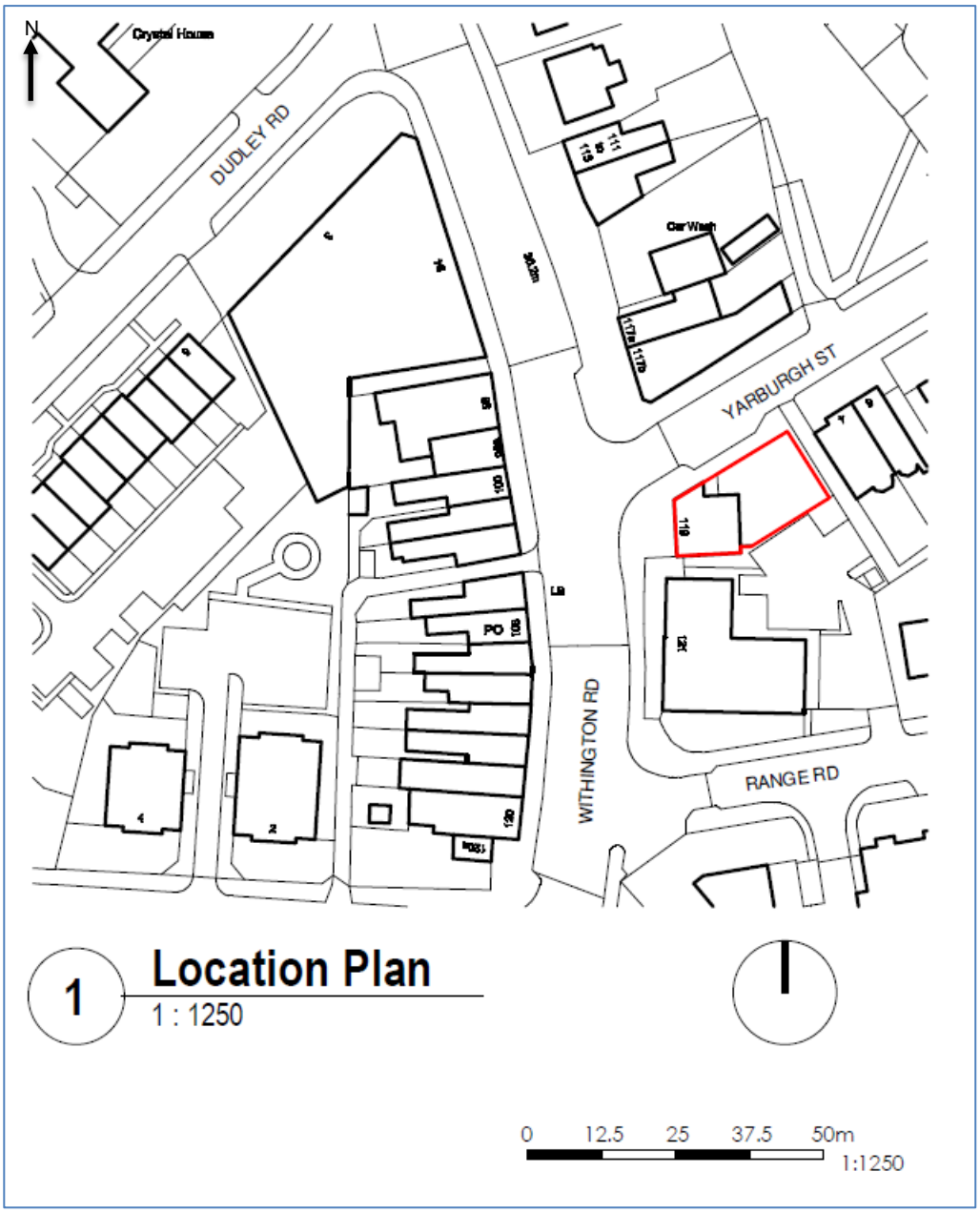


Figure 1. Site Location Plan (extracted from Create it Studios Drawing Number A1616(01)AP001)

The site is adjacent to existing retail and commercial properties at the junction of Withington Road and Yarburgh Street, within the predominantly residential Whalley Range suburb of Manchester, approximately 3km south-west of Manchester city centre.

The existing land use comprises a vacant, disused building and rear yard/garden, as indicated in Figures 2 and 3. The building is three-storey, including a basement level. Existing and proposed development layout plans are included as Appendix A.



Figure 2. Existing Land Use (extracted from Google Earth Pro)



Figure 3. Existing Front Elevation - view east from Withington Road (extracted from Google Streetview)

Review of Ordnance Survey mapping indicates the local topography is relatively flat lying, with external site levels in the range 29mAOD to 30mAOD.

Figure 4 presents an extract of the EA's 2022 DTM LiDAR data with 0.1m contour intervals, extending across the site and surrounding land; the approximate site boundary is indicated by the red line.

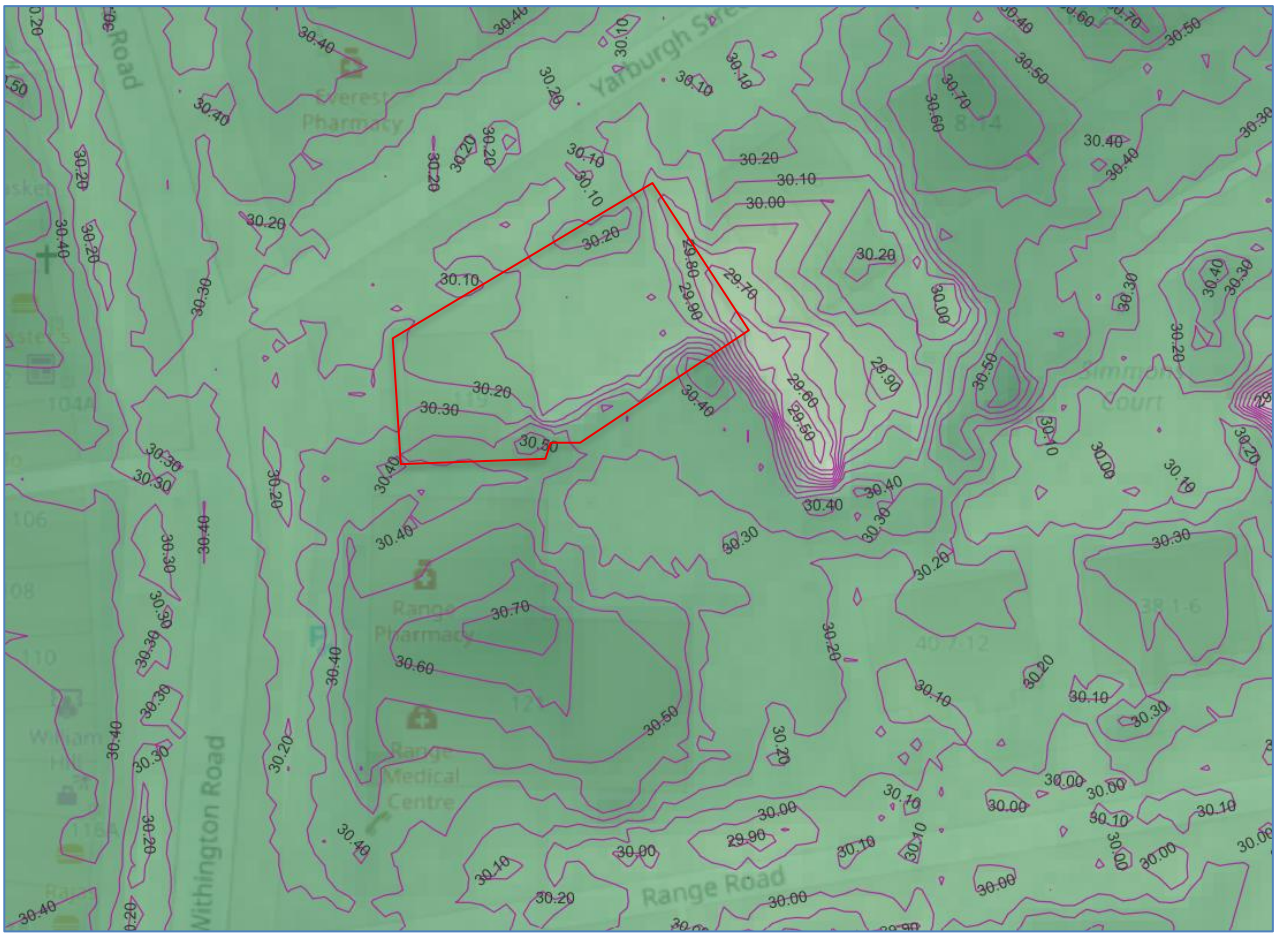


Figure 4 – EA 2022 DTM LiDAR Data (0.1m contour interval)

Review of the LiDAR data and existing elevations (Figure 3) indicates a current ground floor level of approximately 30.3mAOD, with elevations in the rear garden falling to approximately 29.7mAOD on the north-east boundary. The site levels are reviewed against predicted flood water levels in Section 2.2.1.

1.4. Ground Conditions

British Geological Survey mapping indicates the ground conditions beneath the site comprise superficial Glaciofluvial Sheet Deposits (sand and gravel) overlying Devensian Till. These superficial deposits overlie sandstone bedrock of the Wilmslow Sandstone Formation (Sherwood Sandstone Group).

A published geological log for a borehole installed at Whalley Range garage, approximately 100m south of the site (BGS reference: SJ89NW4216) confirms the following local ground conditions:

0.0 – 0.9m below ground level (mbgl): Made Ground
0.9 – 3.6mbgl: interbedded layers of Clay/Silt, Sand and Sand and Gravel
3.5 – 5.0mbgl (base of borehole): stiff becoming very stiff sandy Clay with gravel

A groundwater strike was recorded at 1.6mbgl (no rest groundwater level recorded).

Review of Cranfield University's online Soilscapes Viewer indicates that the soils beneath the site are defined as Soilscape 15: naturally wet, very acid sandy and loamy soils with shallow groundwater.

1.5. Hydrological Features

Review of the Environment Agency's online Catchment Data Explorer confirms the application site lies within the surface water catchment of the River Irwell / Manchester Ship Canal, which passes approximately 2km north-west

of the site. No surface water courses are identified within a 250m radius of the site.

Review of the online Hidden Manchester Map of underground features confirms there are no known buried waterways within a 250m radius of the site.

The regional hydrological site setting presented as Figure 5.

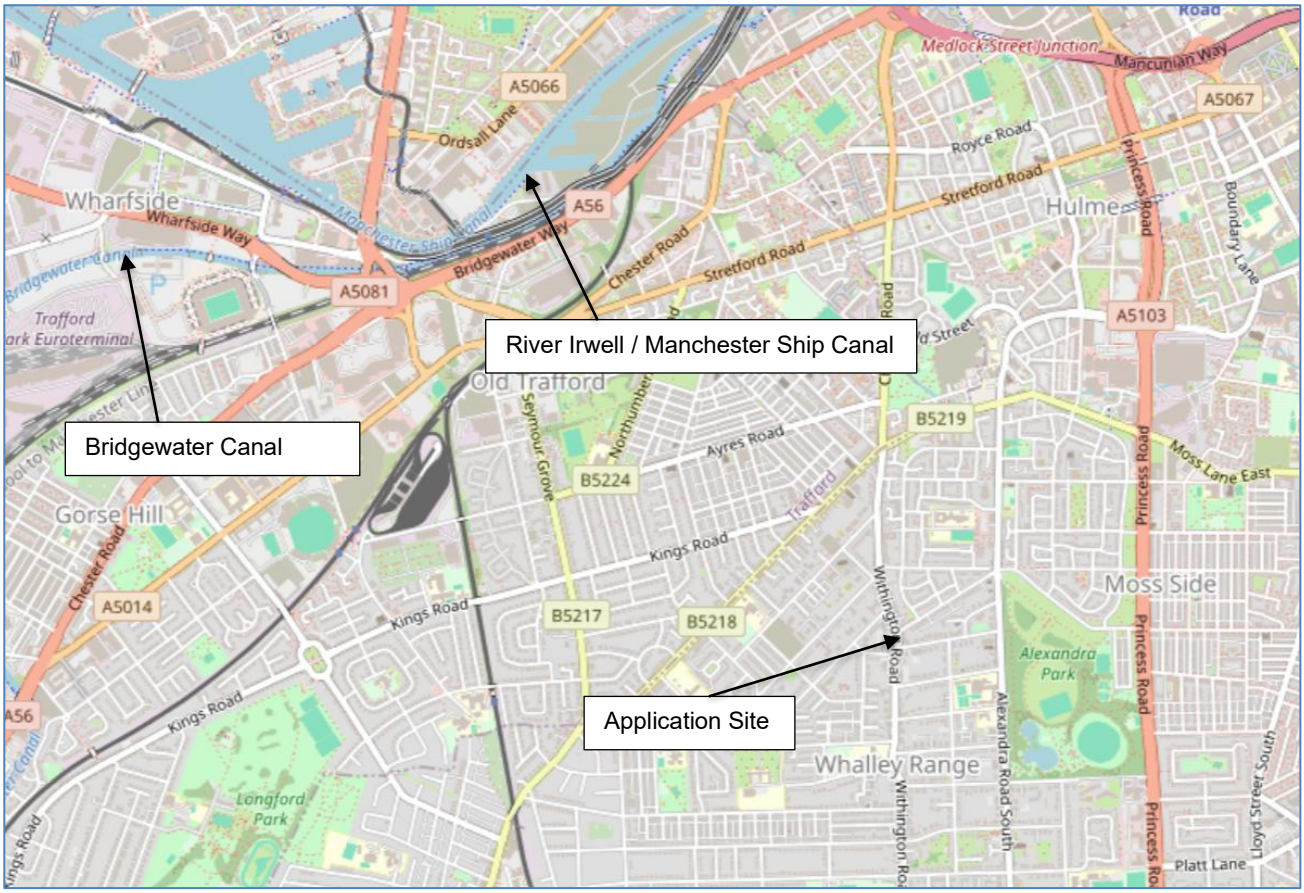


Figure 5. Hydrological Site Setting (extracted from Environment Agency Surface Water Flood Map)

1.6. Proposed Development and Flood Risk Vulnerability Classification

The proposed development comprises a change of use of the existing building and a two-storey rear extension (at ground floor and first floor levels). The development will provide store rooms and a staff room at basement level, a pharmacy at ground floor level, and three no. one-bedroom residential apartments on the first floor. Existing and proposed development plans are included within Appendix A.

The building is currently vacant, but formerly of commercial/retail use. Annex 3 of the NPPF confirms retail and commercial buildings are classified as 'less vulnerable' development with regard flood risk. Residential land use is classified as 'more vulnerable' development with regard flood risk. Therefore, the proposed change of use will increase the flood risk vulnerability of the land use at first floor level only; this is discussed further in Section 2.4.

1.7. Climate Change

The EA's climate change allowances guidance[5] confirms that sea levels, rainfall and river flows are predicted to increase as a result of climate change, which must be considered throughout the lifetime of the proposed development.

[5] Environment Agency, February 2016 (last updated: May 2022), Guidance: Flood Risk Assessments: Climate Change Allowances.

The application site lies within the Irwell Management Catchment, where peak river flow for the 1.0% annual probability event is predicted to increase between 35% (central allowance) and 75% (upper end allowance) by the 2080s. The EA's guidance confirms the central allowance (35%) is appropriate for vulnerable development in Flood Zones 2 and 3a.

Appropriate allowance for climate change has been included in the assessment of fluvial flood risk in Section 2.2.1

2. Flood Risk Assessment

2.1. Sources of Information

In addition to the site setting and flood risk planning policy and guidance outlined in Section 1, the EA's online flood maps and long-term flood risk service have been consulted during the preparation of this FRA. The EA has also been consulted to obtain site-specific flood data (Product 4 data); their response is included as Appendix B.

2.2. Flood Hazard

Table 1 presents a summary of the flood risk to the site from all potential sources.

Table 1: 119 Withington Road, Whalley Range – Potential Sources of Flooding

Potential Source	Flood Risk at Application Site	Reasoning
Fluvial Flooding	Medium-High	The development area lies within Flood Zones 2 and 3. This is discussed further in Section 2.2.1.
Tidal Flooding	N/A	The application site is not coastal or in the vicinity of a tidal watercourse.
Flooding from High Groundwater	Low-Medium	No detailed information is provided in the 2019 SFRA regarding groundwater flood risk. Drawing No. GW_2.1 of the Level 2 Hybrid SFRA confirms the site is not within an area of shallow groundwater, an area at risk of groundwater flooding or an area with groundwater rebound. Section 1.4 of this report confirms relatively shallow groundwater in the vicinity of the site (<2mbgl). The building includes an existing basement level. No extension is proposed at basement level; however, the development plans include lowering the basement floor level to achieve 2.4m ceiling height. This is discussed further in Section 2.2.3.
Surface Water Flooding	Medium	The EA's surface water flood mapping indicates the site has a medium risk of surface water flooding, defined as between 1.0% and 3.3% annual probability of flooding. This is discussed further in Section 2.2.2. Detailed Map 21 of the SFRA confirms the site is not within a Surface Water Hotspot.
Flooding from Artificial Drainage Systems	Low	Drawing No. SS_4.5 of the Level 2 Hybrid SFRA confirms the site lies on the southern boundary of the extensive Conurbation Core Critical Drainage Area (CDA). CDAs typically have known local flooding problems. Detailed Map 21 of the SFRA confirms no recorded incidents of sewer flooding within the site or immediately adjacent roads. Therefore, the risk of flooding to the development area from off-site drains and sewers is assessed as low and acceptable.
Flooding due to Infrastructure Failure	Very Low	The EA's online long-term flood risk service confirms the application site is within the predicted flood extent of local reservoir(s), in the unlikely event of reservoir failure. In England, reservoirs that are capable of holding 25,000m^3 or more of water are regulated under the Reservoirs Act 1975, as amended by the Flood and Water Management Act, 2010. These reservoirs are registered with the EA and subject to inspection and supervision by reservoir engineers. Therefore, due to the tight regulations on periodic inspections and maintenance of the reservoirs, the probability of reservoir failure is very low. The site is approximately 1.8km from the Bridgewater Canal (refer to Figure 5). The Level 2 Hybrid SFRA there is limited likelihood of the canal overtopping, with any flooding limited to the footpath. Therefore, the risk of flooding to the site from infrastructure failure is assessed as very low and acceptable.

Table 1 identifies the following potential sources of flood risk to the site: rivers, surface water, and groundwater. These are assessed further below.

2.2.1 Fluvial Flood Risk

The EA's flood map for planning presents information regarding the fluvial flood risk to the application site and is included as Figure 6 below. The flood map for planning confirms that the site lies within Flood Zones 2 and 3. Flood Zone 2 is defined as land with between 0.1% (1 in 1000-year) and 1.0% (1 in 100-year) annual probability of flooding. Flood Zone 3 is defined as land with more than 1.0% annual probability of flooding. The EA flood zone map does

not take into account local flood defences or climate change.

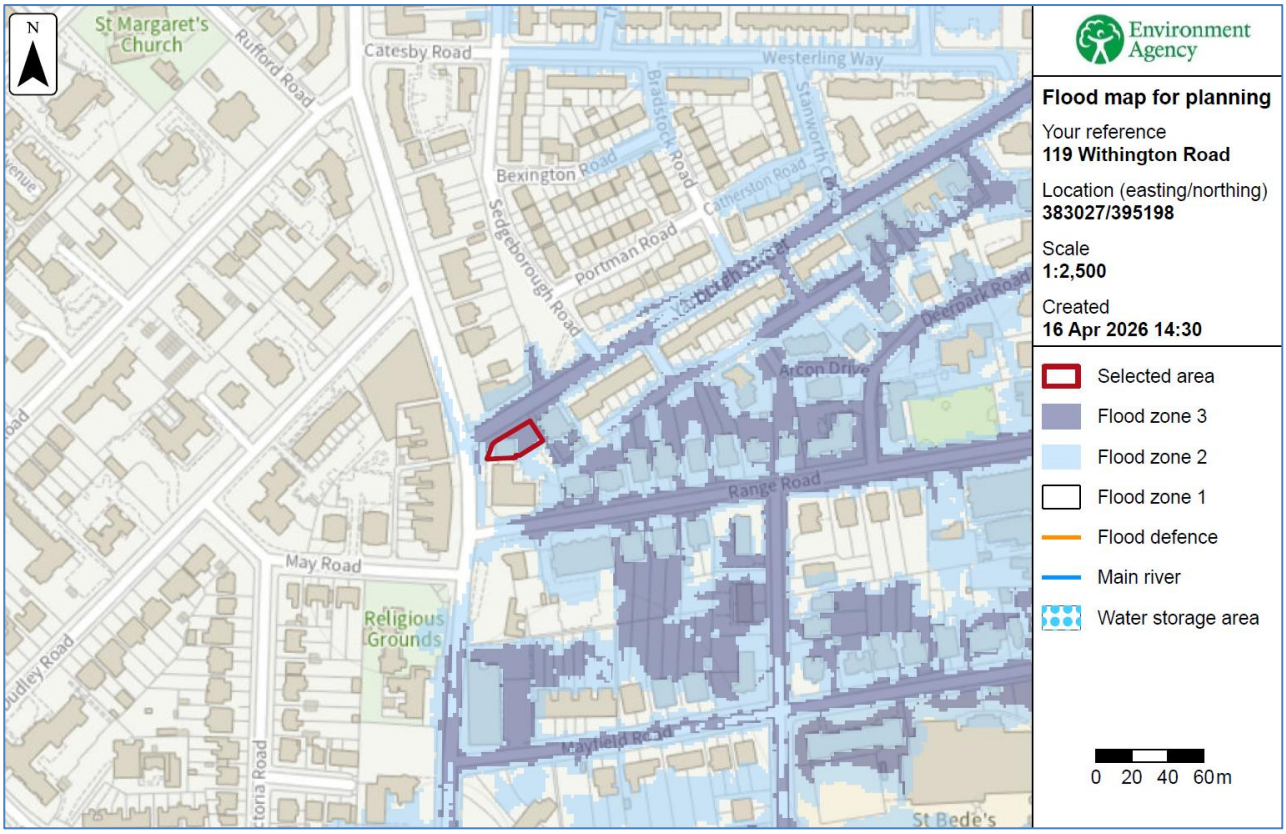


Figure 6. EA Flood Map for Planning – Flood Zones

Detailed Map 21 of the SFRA indicates the site lies entirely within low probability Flood Zone 1; therefore, it is concluded that no part of the site lies within Flood Zone 3b (functional floodplain).

The EA was consulted to obtain site-specific, predicted flood level data (Product 4 data); their response is included as Appendix B and includes data from the 2024 Chorlton Platt Gore model and the 2017 Corn Brook model. Platt Brook, of the Chorlton Platt Gore model, passes approximately 1.6km south of the site and Corn Brook is culverted approximately 0.75km north of the site. The Product 4 data confirm there are no local flood defences.

The 2024 Chorlton Platt Gore model confirms the site is not predicted to flood from this watercourse during the extreme 0.1% annual probability flood event.

The 2017 Corn Brook model confirms the site is predicted to flood from this watercourse during the extreme 0.1% annual probability flood event, equivalent to Flood Zone 2. No flood model data are provided for the 1.0% annual probability flood event (Flood Zone 3) or climate change scenario (future Flood Zone 3).

The design fluvial flood event is represented by the 1.0% annual probability plus climate change event. Review of Section 1.7 confirms a 35% allowance for climate change is appropriate for the development; therefore, the design flood event is equivalent to the 1.0% annual probability + 35% climate change event.

The 2017 Corn Brook model data does not include any climate change scenarios for the 1.0% annual probability flood event. Therefore, in the absence of appropriate flood model data, it is generally assumed that the design flood event (i.e. future Flood Zone 3) is equivalent to the present-day Flood Zone 2.

Figure 7 presents the peak predicted fluvial flood extent and level during the 0.1% annual probability flood event, with 2-D flood model nodes indicated.

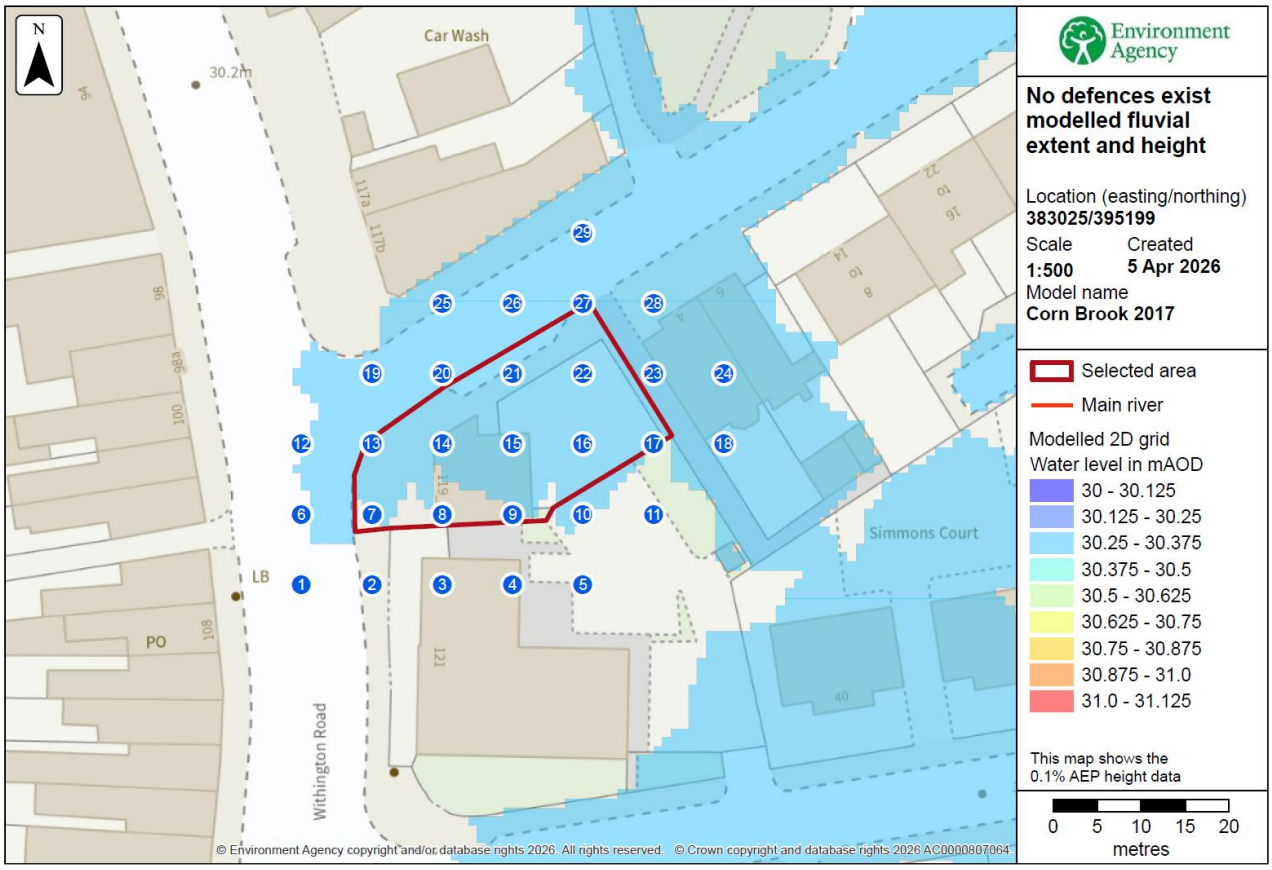


Figure 7. 2017 Corn Brook Flood Model - 0.1% Annual Probability Modelled Flood Extent

The peak predicted flood water level within the area of proposed development (model nodes 8, 9, 14 – 17 and 22) during the 0.1% annual probability flood event, equivalent to the design flood water level is **30.36mAOD**.

The proposed elevations (Appendix A) indicate a ground floor level at 0.2m above external ground level. Therefore, the ground floor level is inferred as 3.50mAOD (based on an external level of 30.3mAOD).

The design flood water level (30.36mAOD) is equivalent to a peak flood water depth of approximately 650mm in the rear garden (north-east boundary), based on the LiDAR topographic data (Figure 4), but the building would remain dry based on a ground floor level of 30.5mAOD. It is acknowledged that the building includes a basement level and appropriate mitigation measures are outlined in Section 2.5.

The EA flood model data confirms peak predicted flood water depths within the adjacent roads, ranging from dry (Withington Road) to 300mm (node 21, Yarburgh Street), during the design flood event.

The EA Product 4 Data does not include predicted flood water velocity but based on the relatively flat local topography and distance from the watercourse (approximately 0.75km), a low velocity of <0.5m/s is inferred. Figure 8 presents the flood hazard matrix, which confirms a flood water depth of ≤300mm and velocity of <0.5m/s represents a low flood hazard and 'danger for some'.

Appropriate flood risk mitigation measures are recommended in Section 2.5.

Table 13.1 Danger to people for different combinations of depth and velocity

Velocity (m/s)	Depth of flooding (m)											
	0.05	0.10	0.20	0.30	0.40	0.50	0.60	0.80	1.00	1.50	2.00	2.50
0.00												
0.10												
0.25												
0.50												
1.00												
1.50												
2.00												
2.50												
3.00												
3.50												
4.00												
4.50												
5.00												

Key:
- Danger for some
- Danger for most
- Danger for all

Figure 8. Flood Hazard Matrix (after Table 13.1 of EA R&D Technical Report FD2320/TR2)

2.2.2 Surface Water Flood Risk

Figure 9 presents an extract of the EA risk of flooding from surface water map, with the site boundary outlined approximately in red.

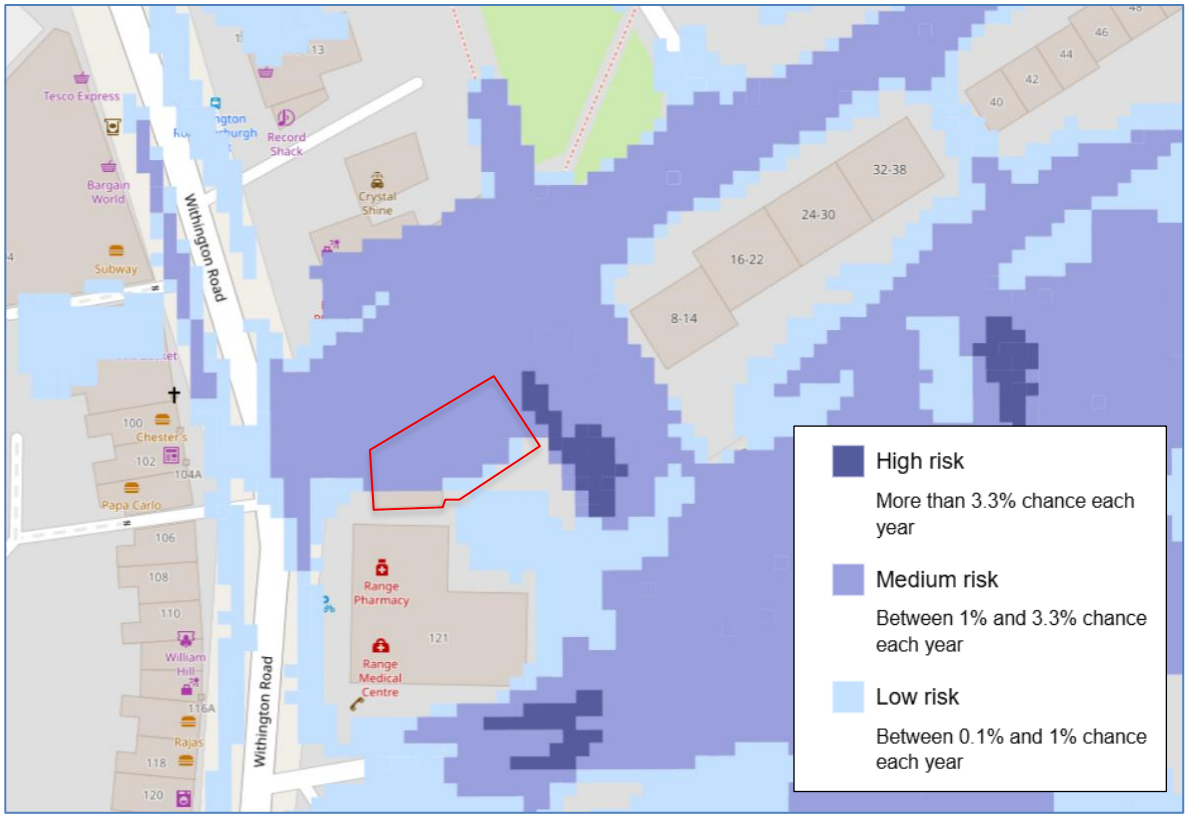


Figure 9. EA Risk of Flooding from Surface Water Map

The surface water flood map confirms the development footprint has a medium risk of surface water flooding, defined as between 1.0% and 3.3% annual probability of flooding. There is no record of historic flooding from surface water within the site or immediate vicinity, and the site is not within a Surface Water Hotspot, as defined in the SFRA. The

EA surface water flood maps indicate the site has a low risk of flooding to a depth of 300mm. Appropriate flood risk mitigation measures are presented in Section 2.5.

Review of the Environment Agency's overland flow pathways mapping confirms there are no probable overland flow pathways within the site or along the adjacent highways. Therefore, the risk of surface water flooding is associated with local ponding of incident rainfall and runoff.

2.2.3 Groundwater Flood Risk

The Level 1 SFRA does not include detailed information regarding groundwater flood risk; Drawing No. GW_2.1 of the Level 2 Hybrid SFRA confirms the site is not within an area of shallow groundwater, an area at risk of groundwater flooding or an area with groundwater rebound. Section 1.4 of this FRA notes a groundwater strike at 1.6mbgl in a local borehole, with the area underlain by naturally wet soils with shallow groundwater.

The proposed development includes lowering the floor level of the existing basement to provide 2.4m ceiling height. The proposed elevations (Appendix A) indicate a ground floor level at 0.2m above external ground level; therefore, based on an external ground level of 30.3mAOD, a ground floor level of 30.5mAOD, ceiling thickness of 0.3m and room height of 2.4m, the basement floor level is inferred as approximately 27.8mAOD (2.5m below ground level).

Based on available data, the basement is likely to extend below the local groundwater table.

The near surface ground conditions are confirmed locally as interbedded layers of clay/silt, sand and sand and gravel (refer to Section 1.4), with groundwater preferentially stored and flowing within the more permeable horizons (sand and gravel).

Appropriate flood risk mitigation measures are outlined in Section 2.5.

2.3. Historic Flooding & Flood Warning Areas

Review of the EA's recorded flood outlines and site-specific Product 4 Data (Appendix B) confirms there is no record of flooding from sea, groundwater or surface water within the application site or immediate vicinity.

Detailed Map 21 of the SFRA confirms there is no evidence of historic flooding from any source within the site.

The site is not located within an EA Flood Warning Area but is located within the EA's Flood Alert Area for the Middle River Mersey catchment including areas near Bramhall, Stockport, Sale, Altrincham and Urmston. This is considered further in Section 2.5.

2.4. The Sequential Test & Flood Zone Compatibility

As set out in the NPPF, the aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. The development is limited to the change of use of the existing building and a minor extension of footprint <250m^2. Paragraph 176 of the NPPF confirms that the flood risk sequential test and exception test do not apply to applications for minor development (including extensions <250m^2) or change of use.

This site-specific FRA confirms the application site lies within Flood Zones 2 and 3a and the proposed land use of the development is classified as 'less vulnerable' (pharmacy) and 'more vulnerable' (residential apartments). Table 2 of the NPPF technical guidance for flood risk and coastal change confirms that less vulnerable and more vulnerable developments are appropriate and compatible within Flood Zones 2 and 3a.

Section 2.5 presents recommendations for flood risk mitigation measures, based on the scale and nature of the development.

2.5. Flood Risk Mitigation

This FRA concludes that the site is at medium risk of flooding from Corn Brook, which is culverted approximately 0.75km north of the site, with a design flood water level of 30.36mAOD. The site is also at medium risk of flooding

from surface water, with the basement also at risk of groundwater flooding. The following flood risk mitigation measures are recommended, based on the fluvial flood risk and development proposals:

- **Flood resistant design** should be incorporated into the development, with an aim of keeping flood water out. Flood resistant design should be introduced to at least 300mm above the design flood water level of 30.36mAOD; this is equivalent to a level of 30.66mAOD or approximately 0.16m above the inferred ground floor level of 30.5mAOD. Flood resistant design aims to keep flood water out and includes use of impermeable construction materials, floodproof doors and windows, sealed (or raised) service entries and anti-flood air bricks. The basement will require appropriate structural and flood resistant design for the design flood water level of 30.36mAOD, which is approximately 2.5m above the basement floor level. The basement design should also account for groundwater levels of between 1m and 2m below ground level (i.e. above basement floor level) during construction and for long-term flood resistance. Groundwater flow should not be impeded, via the introduction of appropriate external drainage, as required based on ground conditions encountered.

- **Flood resilient design (basement)** – it is recommended that flood resilient design measures be incorporated into the basement, to minimise the damage caused in the event of flooding occurring. Such measures would include the use of water resilient floor coverings (e.g. concrete floors or ceramic tiles rather than carpet), electrical services on a separate circuit from the remainder of the building and water resilient fixtures and fittings. Due to the relatively low probability of flooding, low-cost sacrificial fixtures and fittings may be selected over high-cost flood resilient design.

- A **Flood Warning & Evacuation Plan** should be prepared for the development. The site lies within an EA Flood Alert area and owner/occupier(s) should sign up to the EA's free flood warning service. The Flood Warning & Evacuation Plan would set out the actions to be taken in the event of a Flood Alert being issued or flooding being forecast. The Plan would also detail the site's emergency flood evacuation procedures and the measures to be followed post-flooding, to allow the site to be safely re-opened. It is noted that the residential properties are at first floor level and would remain a safe refuge in the event of flooding occurring.

The site's existing drainage arrangements would be relied on and should be maintained throughout the life of the development.

3. Summary and Conclusions

This report presents a site-specific Flood Risk Assessment to support the proposed change of use and rear extension to 119 Withington Road, Whalley Range, Manchester, M16 8EB. The site comprises a vacant building (with basement) and associated rear garden. The proposed development will provide store rooms and staff room at basement level, a pharmacy at ground floor level, and residential apartments on the first floor. The existing basement will be lowered to provide 2.4m ceiling height, with the rear extension at ground and first floor levels only.

The EA flood map for planning indicates the application site lies within Flood Zones 2 and 3; therefore, a site-specific FRA is required. The flood risk sequential test does not apply as the development proposals are limited to a change of use and minor (<250m^2) extension.

A review of all potential sources of flooding to the application site has been undertaken and the EA consulted to obtain site-specific flood data. The EA's consultation response and flood model data confirm the site is at risk of fluvial flooding from Corn Brook, which is culverted approximately 0.75km north of the site. The site is also at medium risk of surface water flooding, with peak predicted external flood water depths of ≤300mm, and the basement is at risk of groundwater flooding due to shallow local groundwater levels. However, there is no record of flooding from any source within the site.

The design fluvial flood water level is 30.36mAOD; this is comparable to the peak predicted surface water flood level during the low risk (0.1% to 1.0% annual probability) scenario. The following flood risk mitigation measures are recommended based on the development proposals and the fluvial, surface water and groundwater flood risk:

- **Flood resistant design** should be incorporated into the development, with an aim of keeping flood water out. Flood resistant design should be introduced to at least 300mm above the design flood water level of 30.36mAOD; this is equivalent to a level of 30.66mAOD or approximately 0.16m above the inferred ground floor level of 30.5mAOD. Flood resistant design aims to keep flood water out and includes use of impermeable construction materials, floodproof doors and windows, sealed (or raised) service entries and anti-flood air bricks. The basement will require appropriate structural and flood resistant design for the design flood water level of 30.36mAOD, which is approximately 2.5m above the basement floor level. The basement design should also account for groundwater levels of between 1m and 2m below ground level (i.e. above basement floor level) during construction and for long-term flood resistance. Groundwater flow should not be impeded, via the introduction of appropriate external drainage, as required based on ground conditions encountered.

- **Flood resilient design (basement)** – it is recommended that flood resilient design measures be incorporated into the basement, to minimise the damage caused in the event of flooding occurring. Such measures would include the use of water resilient floor coverings (e.g. concrete floors or ceramic tiles rather than carpet), electrical services on a separate circuit from the remainder of the building and water resilient fixtures and fittings. Due to the relatively low probability of flooding, low-cost sacrificial fixtures and fittings may be selected over high-cost flood resilient design.

- A **Flood Warning & Evacuation Plan** should be prepared for the development. The site lies within an EA Flood Alert area and owner/occupier(s) should sign up to the EA's free flood warning service. The Flood Warning & Evacuation Plan would set out the actions to be taken in the event of a Flood Alert being issued or flooding being forecast. The Plan would also detail the site's emergency flood evacuation procedures and the measures to be followed post-flooding, to allow the site to be safely re-opened. It is noted that the residential properties are at first floor level and would remain a safe refuge in the event of flooding occurring.

The site's existing drainage arrangements would be relied on and should be maintained throughout the life of the development.

In summary, this FRA concludes that, with the recommended mitigation measures, the proposed change of use and rear extension at 119 Withington Road, Whalley Range, Manchester, is appropriate and sustainable with regards to flood risk.

4. Residual Risk

It is difficult to completely guard against flooding since extreme events greater than the design standard event are always possible, however, there are practicable ways to minimise the risk such as by allowing a freeboard (safety margin) and by using suitable construction and management techniques.

This flood risk assessment has been prepared using the available information and in accordance with the NPPF and associated technical guidance, Local Planning Policy and Environment Agency guidance.

Earth Environmental & Geotechnical Ltd do not warrant that the advice in this report will guarantee the availability of flood insurance either now or in the future.

It will be the owner's / occupier's responsibility to introduce the proposed flood risk mitigation measures and to regularly upkeep the site drainage, throughout the lifetime of the development, to ensure that flood risk on and off site is managed effectively.

Appendix A - Existing & Proposed Development Plans

Appendix B - Environment Agency Flood Risk Assessment Data (Product 4)