

Flood Risk Assessment

109 Parsonage road, Withington, M20 4WZ

12/09/2021

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Introduction

This Flood risk assessment has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF, July 2021) and the Environment Agency's Flood Risk Assessment (FRA) Guidance Notes and the best practices in flood risk management. The National Planning Policy Framework follows this planning policy in order to avoid inappropriate development in areas at risk of flooding by directing development away from areas at highest risk, but where development is necessary and achievable, making it safe without increasing flood risk elsewhere.

The FRA for the location should address the following assessments:

- how flood risk affects the proposed development,
- whether the proposal development is appropriate for the location,
- whether the proposed development will increase flood risk elsewhere,
- meet the additional flood resistance and resilience requirements where necessary.

The objectives of this site-specific flood risk assessment are to establish:

- whether the proposed development is likely to be affected by current or future flooding from any source,
- whether it will increase flood risk elsewhere,
- whether the measures proposed to deal with these effects and risks are appropriate

Description of the site

The proposal site is located at 109 Parsonage road approximately centred on the OS NGR SJ856930. The site is located within Withington, Manchester with Manchester City Council being the Local Planning Authority. The site occupies an area of approximately 332.17m². The area of the current ground floor building footprint is approximately 57.35m². The access to the site is via Parsonage road to the front and private parking access from Shireoak Road to the side. The surrounding area consists of predominantly residential use.

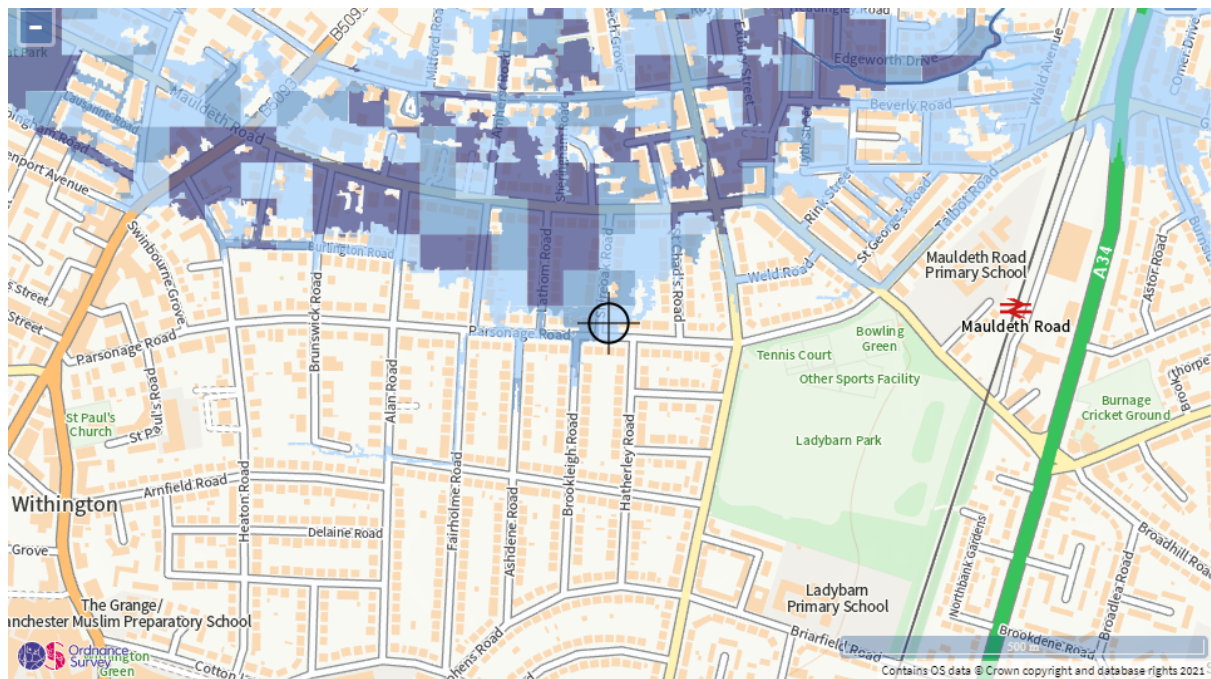
The site topography is relatively flat and level as can be seen in the drawing plans. Further details about the existing site are provided in the existing and proposed development site drawings.

Proposed development

Erection of a two-storey side extension and single storey rear extension to form additional living accommodation. The footprint area of the proposed extension is approximately 34.05m².

Information from the Environment Agency shows the location of M20 4WZ is in flood zone 2, an area with a medium probability of flooding. See Flood map for planning.

The Environment Agency's website shows that the site is at low risk of flooding from the rivers and sea, see fig.1 below; Fig.1

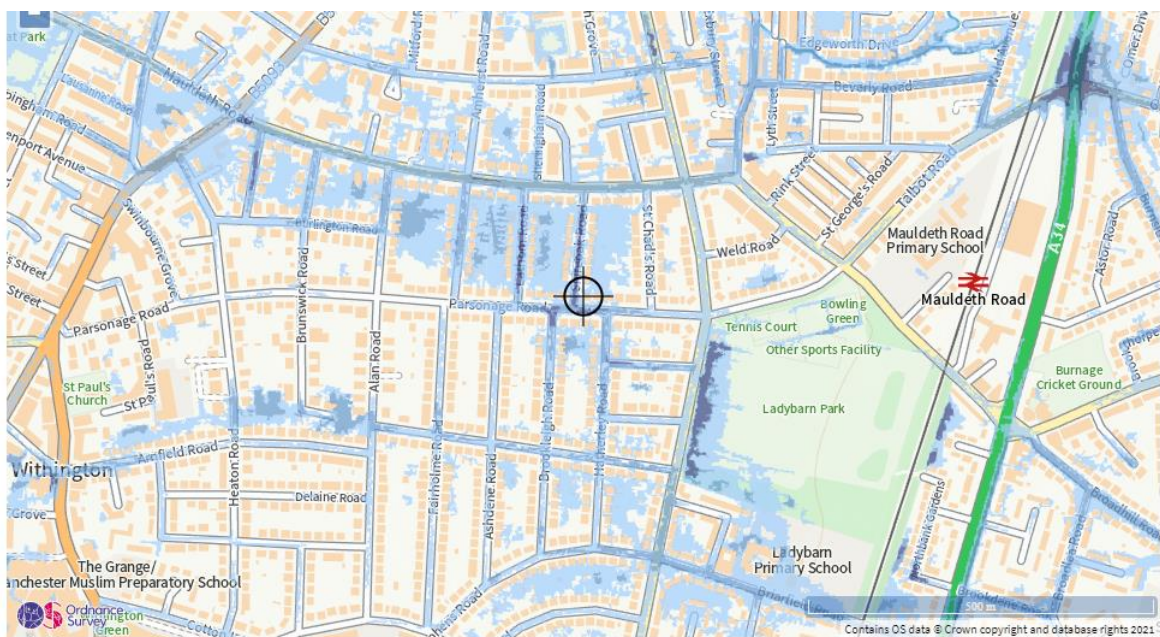


Extent of flooding from rivers or the sea

● High ● Medium ● Low ● Very low ⊕ Location you selected

When contacted, the Environment Agency confirmed that it has no historical record of flooding of the site.

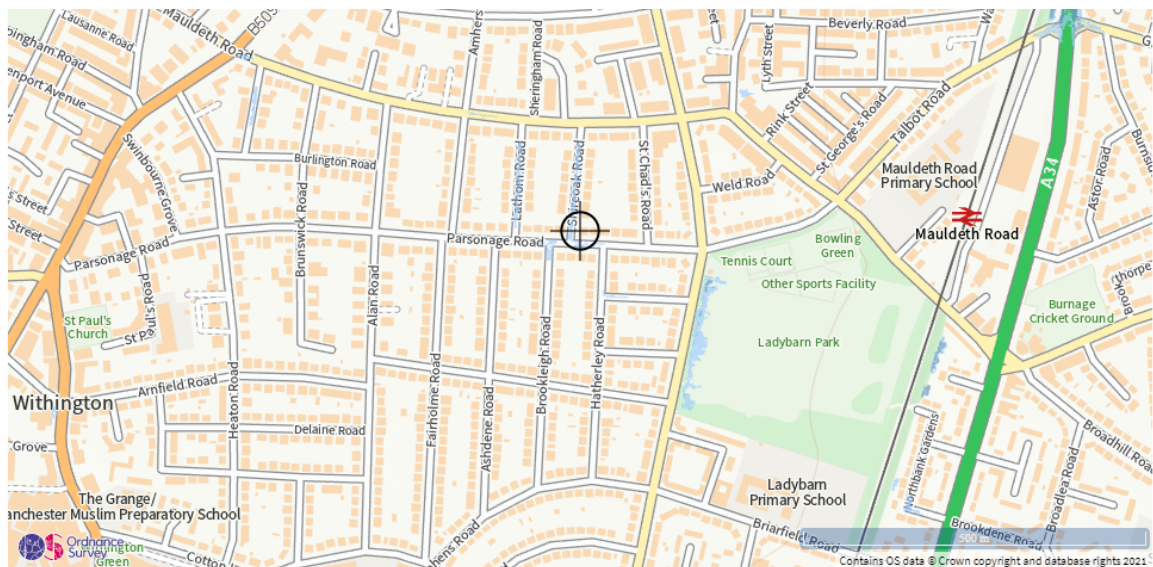
The Environment Agency's website also shows that the extent of flooding from surface water of the site is low risk, see fig 2 below: Fig.2



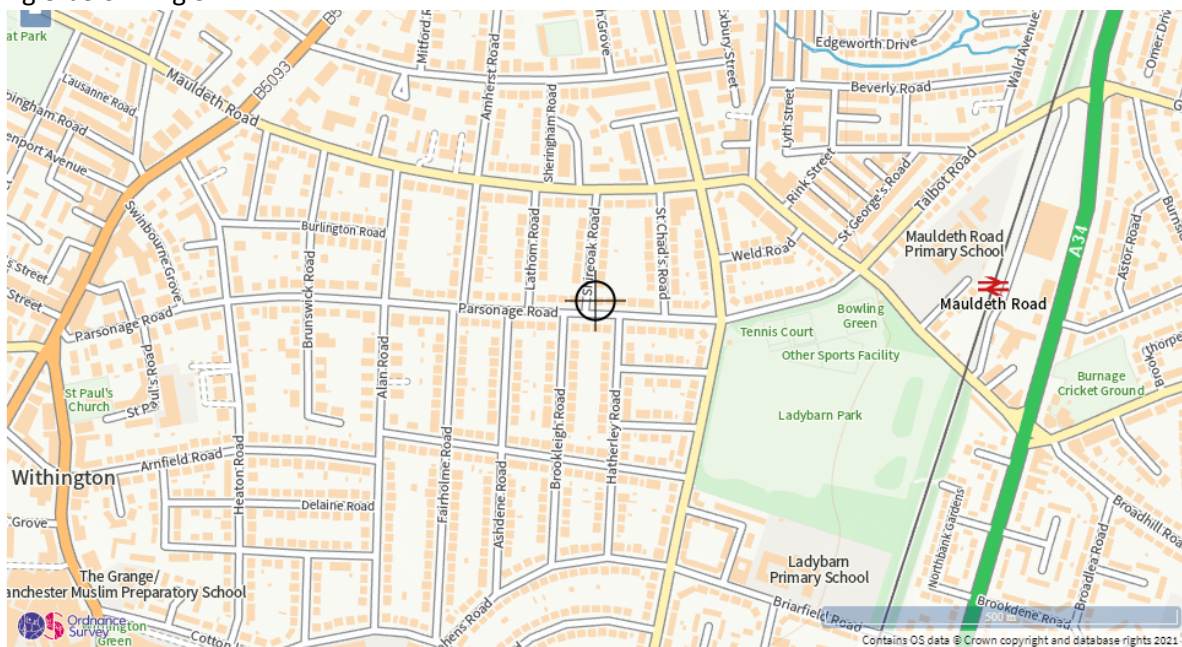
Extent of flooding from surface water

● High ● Medium ● Low ○ Very low ⊕ Location you selected

The Environment agency website also shows that the surface water flood risk depth in a high risk scenario which is extremely unlikely, is below 300mm so all measures proposed today will be effective against even a high risk scenario.



The Environment agency website also shows the location is not at risk of flooding from reservoirs. Fig.3 below. Fig 3.



Due to the possible impact of flooding at this level, below 300mm, the following flood resistant measures are proposed, considering there is a 100mm step into the property from the ground level

outside as there currently is leading into the front porch and the back door entrance of the existing property and ;

- The use of water butts to collect excess water
- The proposed door to the rear elevation shall be flood resilient door as is the front door currently
- All electrical sockets on the ground floor shall be a minimum 300mm above the finish floor level.
- Any airbricks shall be installed 450mm above the ground level.
- Engineering brick to be used upto flood risk levels

In order to provide a level of protection against flooding, the floor level of the proposed extension will be set no lower than the existing level of the property, and flood proofing of the proposed development will be incorporated where appropriate. In order to minimise the damage and to enable quick recovery and clean up after the flooding event, it is proposed that flood resilient measures will be implemented. As the site is located within a flood zone area, we are fully aware of the flood risk and flood warning and evacuation during an extreme event. If necessary, during a flood event the first floor will provide a safe location for all the occupants. The occupants will adhere to the Environment Agency's Flood Warnings Direct Service available in the area and keep upto date with all notifications.

The surface runoff will be improved by implementing appropriate sustainable surface water drainage system (SuDS) measures. A rainwater harvesting (water butt) will be implemented to improve the surface runoff. The landowners will be fully responsible for the repair and management of the implemented SuDS throughout the lifetime of the proposed development. The development will include engineering bricks upto flood risk levels and flood resilient entrance door to the rear of the property. The development will not give rise to backwater affects or divert water towards other properties and will not divert any additional water towards council gullies/drains. There will be no additional water usage at the property. This report demonstrates that the proposal will be safe, in terms of flood risk, for its design life and will not increase the flood risk elsewhere.

Vulnerability of use and Flood Risk Assessment

The proposed development is categorised as 'more vulnerable'. The site is located in Flood Zone 2 (medium probability flooding). The proposed development is therefore considered appropriate at this location. It should be ensured that all types of flood risk are considered as part of the Flood Risk Assessment: 'A site specific Flood Risk Assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall'. This FRA aims to demonstrate that the proposal will remain safe for its lifetime and will not increase flood risk elsewhere

History of Flooding

Information on historic flooding was obtained from the Environment Agency's online records of historic flood events in the area. However, there were no records of any flooding incidents around the site. Information on the past flooding event was also obtained from the solicitor through purchase of the property and there was no flooding history. Previous residents were not aware of any flooding issues at the site and there has not been any flooding recently either.

Risk of Fluvial Flooding

The site is located in close proximity to the small brook with the risk of fluvial flooding. The Environment Agency's Flood Map around the site shows that the site lies within the Flood Zone 2 (medium probability flooding). Flood Zone 2 outline shows a land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding. The maps included shows the Environment Agency's flood risk map which indicates that the risk of flooding to the site is 'low'.

Groundwater Flooding

According to the information available from the landowner, there were no records of any groundwater flooding incidents around the site. Based on these evidences and information, it is reasonable to consider that the risk of groundwater flooding to the site is low.

Surface water flooding

Information on the risk of surface water flooding is held by the Environment Agency. The Environment Agency's Surface Water Flood Risk Maps are provided in fig 2 which indicate that the risk of surface water flooding to the site is 'low'.

Impact of Climate Change

The site is located within the North West River Basin District. As the proposed development is categorised as 'more vulnerable' and the site is located in Flood Zone 2 (medium probability flooding), the guideline recommends to use the Central and Higher Central allowances for assessing the impact of climate change. The Central and Higher Central allowances for the North West River Basin District are 30% and 35% respectively for the period between 2070 and 2115. These allowances should be used for assessing the impact of climate change to the flood risk to the site.

Finished Floor level

The Environment Agency has issued guidance on minor extensions in flood zone 2 and 3 which do not exceed 250m². The proposed development is approximately 35 m² so does not exceed the 250m² guidance therefore 2 options are available, 1.) either floor levels are no less than existing floor levels or 2.) floor levels are 300mm above flood level. For the proposed development, the first option set out in the Environment Agency has been chosen for flood mitigation which is the finished floor level will be no less than the existing floor levels, this is as the existing floor levels are higher than any flood levels.

According to this option, the floor level of the proposed extension will be set no lower than the existing level of the property, and flood proofing of the proposed development will be incorporated where appropriate. It is recommended that flood resilient measures are used in the development as far as practicable to manage the residual risk, reduce the damage and clean up time following a flood. The flood resilient measures have been briefly discussed below.

Flood resilient measures

The following flood resilient measures will be adopted, where able, to minimise the damage and to enable quick recovery and clean up after the flooding event:

- Utility meters will be placed above predicted flood level.
- Non-return valves will be used in the drainage system to prevent back-flow of diluted sewage in situations where there is an identified risk of the foul sewer surcharging.

- All service entries will be sealed to prevent water entry (e.g. with expanding foam or similar closed cell material).
- Closed cell insulation will be used for pipes which are below the predicted flood level.
- Boiler is currently installed in the loft above predicted flood level and any in future will be in same location where possible.
- Wiring for services such as TV and internet will be protected by suitable insulation to minimise damage.
- Building materials that are effective against flood risk will be used which include: engineering bricks, cement-based materials including water retaining concrete and dense stone

Flood warning and evacuation plan

As the site is located within a flood zone area, it will be necessary to make sure any individuals in the property are fully aware of the flood risk and flood warning and evacuation during an extreme event. If necessary, during a flood event the first floor will provide a safe location for the occupants. The occupants will inform family or friends that you may need to leave your home and get flood kit together and include a torch, warm and waterproof clothing, water, food, medication, toys for children and pets, rubber gloves and wellingtons

Conclusion

The proposal consists of erection of two storey side extension and a single-storey rear extension and to form additional living accommodation located at 109 Parsonage road, Withington, M20 4WZ. The proposed development is categorised as 'more vulnerable' as it is within a medium probability flood risk location. The site is located in close proximity to the small brook with the risk of fluvial flooding. According to the information available from the SFRA and the Environment Agency, there were no records of flooding events at the site.

The Environment Agency's Flood Maps show that the site lies within the Flood Zone 2 (medium probability flooding). The Environment Agency's flood risk map indicates that the risk of flooding to the site is 'low'. The overall risk of surface water flooding to the site is 'low'. The flood risk from other sources including underground water, sewer and reservoir is low. In order to provide a level of protection against flooding, the floor level of the proposed extension will be set no lower than the existing level of the property, and flood proofing of the proposed development will be incorporated where appropriate. In order to minimise the damage and to enable quick recovery and clean up after the flooding event, it is proposed that flood resilient measures will be implemented.

As the site is located within a flood zone area, it will be necessary to make sure any individuals within the property are fully aware of the flood risk and flood warning and evacuation during an extreme event. If necessary, during a flood event the first floor will provide a safe location for the occupants. The individuals within the property are advised to utilise the Environment Agency's Flood Warnings Direct Service available in the area. The surface runoff will be improved by implementing appropriate SuDS measures. A rainwater harvesting (water butt) will be implemented to improve the surface runoff as well as additional measures including flood resistant door and engineering bricks where beneficial. The homeowners will be fully responsible for the repair and management of the implemented SuDS throughout the lifetime of the proposed development. The development will not give rise to backwater affects or divert water towards other properties. This report demonstrates

that the proposal will be safe, in terms of flood risk for its full life and will not increase the flood risk anywhere else.