

5 Glenlea Drive

Flood Risk Assessment

REP_Flood_5_Glenlea | 0

29th January, 2023



Flood Risk Assessment

5 Glenlea Drive

Project No: 1000001
Document Title: Flood Risk Assessment
Document No: REP_Flood_5_Glenlea
Revision: 0
Document Status:
Date: January 29th, 2023
Project Manager: Ralf Thiede
Author: Gary Daniels
File Name: REP_FLOOD_5_Glenlea

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
0	29/01/23	Flood risk Assessment	GD	SD	SD	GD

Contents

Executive Summary	iii
1. Introduction	4
1.1 Location of the Property and Probability of Flooding	4
1.2 Proposed Extension	4
2. Environment Agency Guidance for Minor Extensions	7
3. Flooding Levels	8
3.1 Current Levels	8
3.2 Estimated Flood Levels	8
3.3 Surface Water	9
4. Proposed Flooding Resistance Upgrades	11
4.1 Management	11
4.2 Avoidance of External Flooding Damage	11
4.3 External Wall Materials	11
4.4 Foundations	11
4.5 Floors	12
4.6 Internal Linings	12
4.7 Services	12

[Appendix A. Environment Agency Flood Information](#)

Table of Figures

Figure 1.1: Flood Risk Map Showing 5 Glenlea Drive	4
Figure 1.2: Existing Floor Plans	5
Figure 1.3: Proposed Floor Plans	5
Figure 2.1: Environment Agency / EA Historic Flooding Map	8
Figure 2.2: Surface Water Flood Risk Calculator	9

Executive Summary

The purpose of this report is to review the risk of flooding for 5 Glenlea Drive, Manchester, M205QJ. The property is located in Flood Zone 2 and the applicant is required to complete a flood risk assessment as part of their planning application.

As the development is classed as a minor extension to an existing property, this flood risk assessment is based on the Environment Agency 'standing advice'.

The floor level will be raised to 300mm (31.9 mAOD) from the surrounding ground level (31.6 mAOD).

While no additional action is required to be taken, the applicant has proposed a number of flood mitigation measures to be adopted as part of the construction works Environment Agency and Community and Local Government guide *Improving the Flood Performance of New Buildings Flood Resilient Construction* (2007) in order to further reduce the risks posed to their property in the event of a flood even occurring. These include:

- a) Use of engineering brick for 300mm plus an additional course above ground level.
- b) Internal hard surfaces to reduce the damage and repair time in the event of a flood occurring.
- c) No sleeping accommodation is proposed at ground floor.

As part of a refurbishment and modernization exercise, the owners of 5 Glenlea Drive, Manchester are proposing an extension of their property.

Information from the Environment Agency (see Appendix A) recommends that the property is in a low risk area which means that this area has a chance of flooding of between 0.1% and 1% each year. A flood risk assessment is required for developments in in this area and the Environment Agencies 'standing advice' should be followed.

Extent of flooding from rivers or the sea

Legend:

- High
- Medium
- Low
- Very low
- Location you selected

The proposed development consists of a upper floor side and rear extension, a ground floor side and rear extension, an outbuilding in the rear garden, a new driveway, a bin store and minor alteration to the front elevation.

4

Flood Risk Assessment

Figure 1.2: Existing Floor Plans



Figure 1.3: Proposed Floor Plans



Flood Risk Assessment

The Environment Agency define a minor extension as a household or non-domestic extension with a floor space of no more than 250 square metres.

On the basis, the extension is considered to be a minor extension and the Environment Agency guide for minor extensions should be applied.

2. Flooding Levels

2.1 Current Levels

Environment Agency Recommendation: State in your assessment all levels in relation to Ordnance Datum (the height above average sea level). You may be able to get this information from the Ordnance Survey. If not, you'll need to get a land survey carried out by a qualified surveyor.

The elevation of the external ground floor of the building is 31.6 mAOD (103.7 ft).

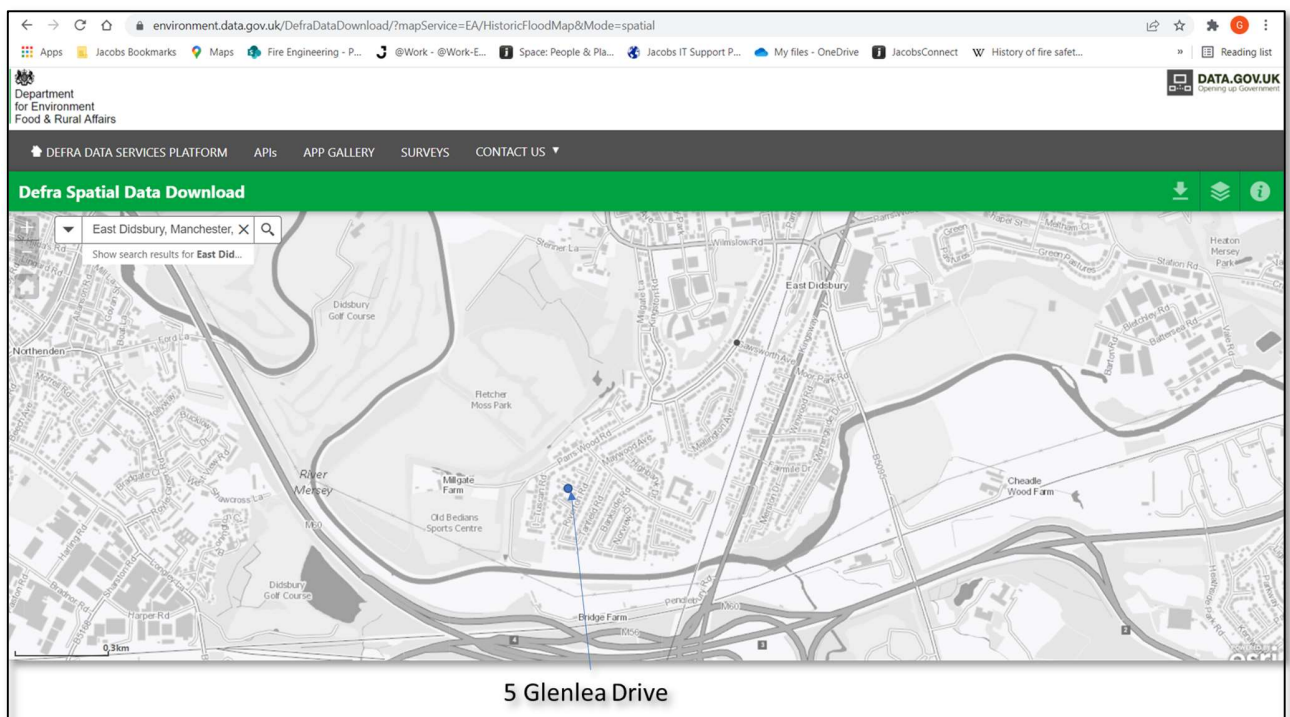
The finished floor levels of the building will be 31.9 m (e.g. 300mm above ground).

2.2 Estimated Flood Levels

Environment Agency Recommendation: You need to provide a plan showing the finished floor levels and the estimated flood levels.

The area surrounding 5 Glenlea Drive are protected by a flood defense system, and no flooding has been recorded in the area since 1946 as can be seen on the DEFRA Historic Flooding Map.

Figure 2.1: Environment Agency / EA Historic Flooding Map



Flood Risk Assessment

With no estimated flood levels being available, due to a lack of historic flooding data, it is proposed to follow the Environment Agency recommendation that floor levels are no lower than existing floor levels. Currently the existing floor levels are 300mm from finished floor level.

Environment Agency Recommendation: Make sure the floor levels are either no lower than existing floor levels or 300 millimetres (mm) above the estimated flood level. You will also need to use flood resistant materials up to at least 300mm above the estimated flood level.

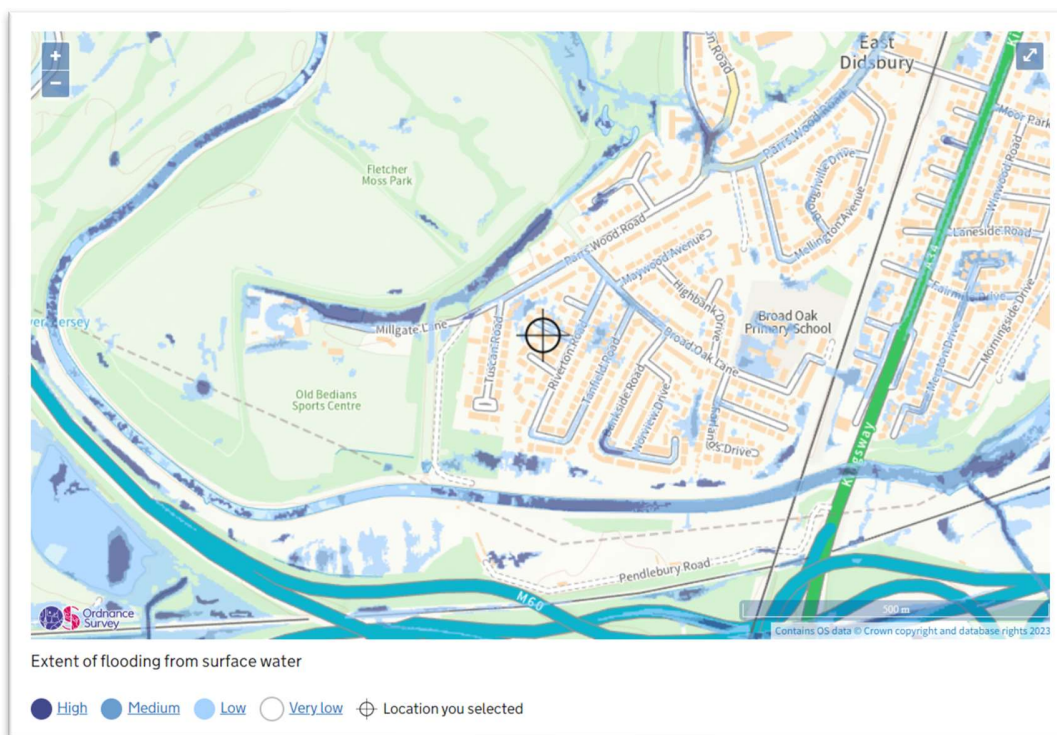
The existing walls comprise of brick, these will be upgraded to engineering bricks (Classes A and B) up to a height of 300mm as part of the new works. Table 6.2 of the Environment Agency and Community and Local Government guide *Improving the Flood Performance of New Buildings Flood Resilient Construction (2007)* notes that these have a good resilience to water egress. More information on proposed flood resistant upgrade works is given in section 4 below.

2.3 Surface Water

Environment Agency Recommendation: Your plans also need to show how you're going to ensure the development is not flooded by surface water or groundwater. This could be by diverting water away from buildings but safely managing it within the site or by raising floor levels above the estimated flood depths of surface and groundwater flooding.

A check on the UK Flood Risk site (<https://check-long-term-flood-risk.service.gov.uk/risk>) recommends that the property has a low risk of flooding from the river or sea and a low risk of flooding from surface water.

Figure 2.2: Surface Water Flood Risk Calculator (accessed 29th January 2023)



Flood Risk Assessment

It is considered that the flood defense works proposed in Section 4 below will mitigate the risks of surface water flooding. No further action is to be undertaken.

3. Proposed Flooding Resistance Upgrades

Environment Agency Recommendation: If you cannot raise the floor levels in this way, you will also need to include extra flood resistance and resilience measures. These measures should protect the property to at least 300mm above the estimated flood level.

While the ground floor levels of the building and proposed extension are 300mm above ground floor level, The homeowner is incorporating additional flood resistance upgrades as part of the proposed works. These are in line with the Environment Agency and Community and Local Government guide *Improving the Flood Performance of New Buildings Flood Resilient Construction* (2007). These will be provided as part of the Building Regulations application submission and RIBA Stage 3 design.

No sleeping accommodation is proposed on ground floor level to minimize the risk to life.

The residents subscribe to the Environment Agency flood alert system already have a flood emergency plan which they have used during a previous flood warning (Storm Christoph - 2021).

Appendix A. Environment Agency Flood Information



Flood map for planning

Your reference
5 Glenlea

Location (easting/northing)
384623/389638

Created
19 Feb 2022 10:55

Your selected location is in flood zone 2, an area with a medium probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

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 2021 OS 100024198. <https://flood-map-for-planning.service.gov.uk/os-terms>