

Flood Risk Assessment

1 Jury Street
Greater Manchester



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1.0 INTRODUCTION

1.1 Purpose and Format

This statement has been prepared in connection with proposed works to a commercial property on Jury Street, Manchester (1).

The purpose of the appraisal is to assess the flood risk for the above site. The report has been commissioned to identify any flood related issues associated with the proposed development and any likely constraints that could be imposed plus to consider the drainage strategy for it. The following issues have been suggested by the Environment Agency (EA) & Manchester City Council (MCC) and subsequently addressed within this report:

- Identify available data relating to flood risk at the site.
- Determine whether the site is at risk from flooding from all sources, including from breach or overtopping of any existing flood defenses, surface water flooding and/or groundwater flooding.
- Consider the flood risk from all other sources.
- Determine the current surface water drainage regime and assess any potential increase in surface water runoff as a result of the proposed development.
- Assess mitigation measures & off-site impacts and define any residual risks.



3.0 PLANNING POLICY FRAMEWORK

3.1 Site Description

The flood maps provided by the Environment Agency (EA) locate the site within Flood Zone 3 however the development will take place in flood zone 2, i.e. land defined as having between a 1 in 100 and 1 in 200 annual probability of flooding in any one year (1%). As a requirement of the NPPF (2022), Annex D, the proposed development has to satisfy the requirements of the Sequential Test and where applicable the Exception Test.

Sequential Test: Under the NPPF (2022), Zone 3 is defined as high probability flood risk. The proposal is for a new storage unit which is of less vulnerable.

Placing both these criteria into Table 2 (Flood Risk Vulnerability and Flood Zone 'Incompatibility'), less Vulnerable development in Flood Zone 3 determines that 'Development is Appropriate'.

3.2 Strategic Flood Risk Assessment

SFRA's assess the risk associated with all types of flooding and provide the information required to identify the amount of development permitted in an area; how drainage systems in the area should function and also how risks in vulnerable areas can be reduced and/or mitigated. The NPPF states that regional planning bodies (RPB's) or local planning authorities should prepare SFRA's in consultation with the EA.

In May 2009 JBA Consulting were commissioned by Manchester City, Salford City and Trafford (MST) Councils to update a Level 2 Hybrid Strategic Flood Risk Assessment (SFRA) for the area, following on from the Greater Manchester Sub-Regional SFRA completed in August 2008. The purpose of the SFRA is to assess and map all known sources of flood risk including fluvial, surface water, sewer, groundwater and all impounded water bodies, taking into account future climate change predictions.

A summary of the main elements from the SFRA associated with the development sites are detailed below. The full report can be obtained from the Manchester City Council website.

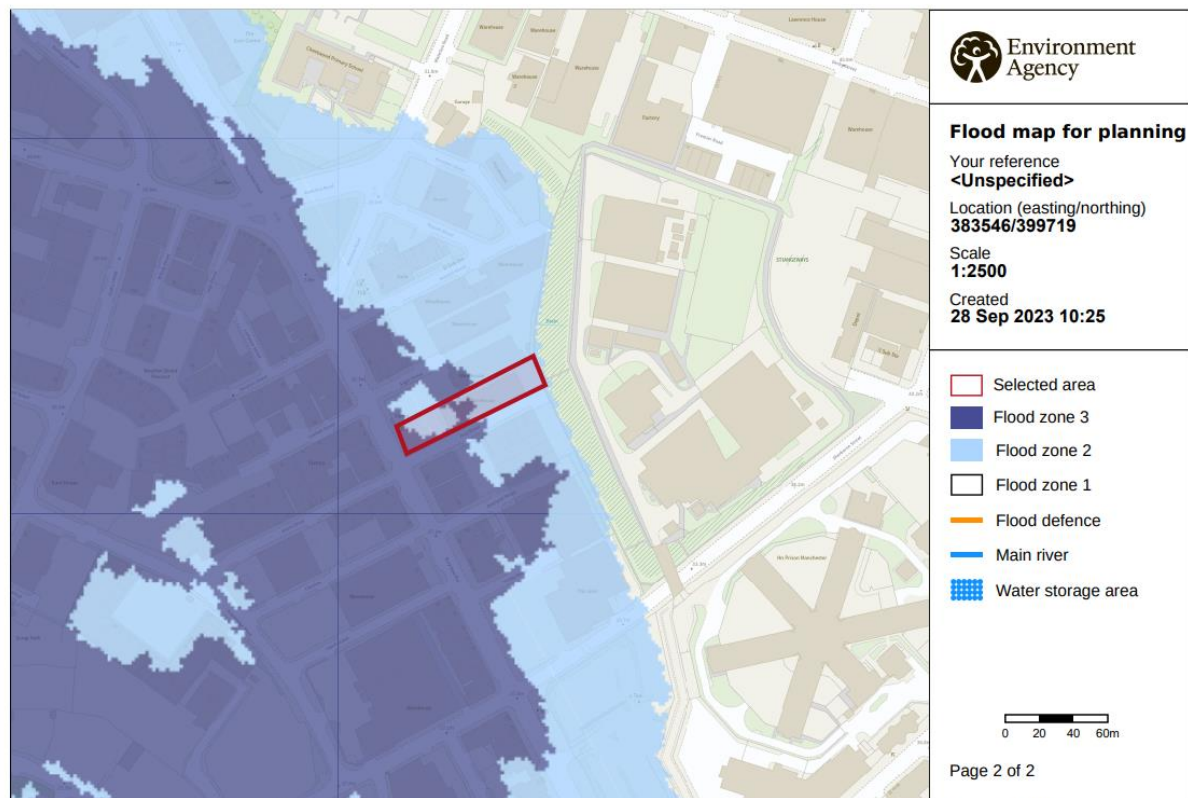
- SFRA provides a detailed understanding of flood risks across the borough from all sources.
- Development should aim to deliver greenfield runoff rates on greenfield sites up to a 1 in 100 year storm event, considering climate change.
- Development should be designed so that there is no flooding to the development in a 1 in 30 year event and so that there is no property flooding in a 1 in 100 year plus climate change event.
- For all sites, development proposals should look at opportunities to incorporate SuDS to reduce the risk of surface water flooding.
- All proposed developments must ensure that foul and surface water are kept separate.

4.0 FLOODING

4.1 Flooding From Rivers

The River Irwell lies approximately 500m to the south of the site, flowing in a southerly direction.

The below image locates the site on the Environment Agency's indicative floodplain map. It is clear from this that the red line boundary sits within medium risk Flood Zone 3 i.e. land defined as having between a 1 in 100 and 1 in 200 annual probability of flooding in any one year (1%). Therefore, the site is at high risk of fluvial flooding.



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4.1 Flooding From Sewers

The United Utilities (UU) sewer records have been reviewed and confirm that there are two combined sewers in Bury new road running towards Great Ducie Street.

The extensive UU adopted drainage network serving the surrounding urban district ensures that the development footprint is protected from the impact of both upstream and downstream runoff. It is speculated that complete protection may well exist beyond a storm event equivalent to the 30-year statistical event. Beyond this projection, there may be a small degree of peripheral 'Exceedance' flooding within the highway areas above the sewers. However, this is expected to be localised and restricted to the location of specific manhole covers located outside the development footprint. Thus flood risk to the site from sewers is diminished to acceptable levels.

5.0 ASSESSMENT OF FLOOD RISK ON DEVELOPMENT SITE

5.1 Flooding From The River Irwell

It is evident from the EA flood zone maps that the cause of any potential flooding to the site can be attributed to the adjacent River Irwell. As discussed in previous sections, the EA maps suggest the development site could lie within the current statistical fluvial floodwater model footprint generated for the River Irwell during the 100-year flood event (1% probability of occurrence).

As the building FFL is at the same level than the 1 in 200-year flood event, additional protection measures are required to protect the building and such measures that should be considered, among others, are as follows:

1. Power sockets and incoming service points to be raised above the extreme flood level and as high as reasonably practicable.
2. Electrical equipment e.g. stage equipment will be fed from high level supplies above the extreme flood level.

6.0 CONTRACTOR OUTLINE PLANNING STATEMENT

6.1 Fluvial Flood Risk Assessment

Manchester Planning Guidance asks that for all Flood Risk Assessments where the site is found to be in Flood Zone 2 or 3 that an Emergency Planning Statement outlining flood warning and evacuation measures be included.

The minimum FFL is the same as existing therefore the building has a continued small risk of flooding.

6.2 Flood Duration

Once the peak flood has passed the area could remain affected by flooding for up to several days, depending upon the nature of the event. Flood waters would leave the site via the site drainage network, drainage networks in the surrounding area, soaking into the ground and running over land into the River Irwell to the west.

6.3 Environmental Agency Services

The Environment Agency operates a free flood warning service which provides warnings by phone, email or text when specific areas are at risk of flooding. The service can be signed up to online through links at <https://www.gov.uk/sign-up-for-flood-warnings> or by calling the Environment Agency Floodline service on 0345 988 1188.

There is an Environment Agency Flood Warning system for the River Irwell which would give an indication of when flooding may be likely to occur in the area around the site. Although users are unlikely to need to leave the site, such information may prove useful should site users consider the need to journey within the wider area at times of wider area flooding. Current information and a three-day forecast can be found through links at <https://www.gov.uk/check-flood-risk>.

The Environment Agency have also published information on how to make a flood plan and get support during and after a flood event. A full and detailed flood evacuation plan and strategy will be prepared and provided to the future Staff in advance of occupation of the new development.

If immediate flooding is forecast and the opportunity to safely evacuate is gone then the occupants must ensure they remain/move to the higher levels in the building and either await rescue if necessary or wait until the flood levels recede.

It is recommended that a flood plan following the Environment Agency guidelines. (<https://www.gov.uk/prepare-for-flooding/future-flooding>) is developed for the site and, both staff and pupils are made aware of the procedures for safe evacuation during a fluvial flood event should this ever prove necessary.

Occupants should not wade through flood water to escape the area; there can be hidden dangers such as dislodged manhole covers and health issues from polluted water.

During a serious and widespread event when large numbers of people require rescue, it could take several hours for the building to be evacuated; priority will be given to rescuing vulnerable people first.

6.4 Reoccupation of the Site

Reoccupation of the building will be a decision taken by the key stake holders such as the emergency services, Manchester CC and the Environment Agency.

Key checks will be carried out to establish whether there is any damage to power supply etc. If all the checks confirm that there has been no damage to the building infrastructure and the flood incident has now passed, the building will be reopened.

Restoration of services shall commence at the earliest opportunity subject to all requirements regarding health and safety being met.

7.0 FLOOD RISK MEASURES

7.1 Management Measures

As the site will be used for storage and workers will have limited access to it it is recommended that the guttering is connected to the existing drainage for the main site. All existing rain run off is to be picked up by the main sewer system as per the existing site.

8.0 CONCLUSION

The land the proposed unit will be constructed on is flood zone 2 however the southern part of the site away from the proposal is flood zone 3.

As such this application will be deemed as flood zone 3. The that being said the use of the build once complete will not receive a heavy foot fall and is classed as less vulnerable. As shown this will be deemed acceptable construction in this area.