

FLOOD RISK ASSESSMENT

71 Bridgefield Street

Rochdale

OL11 4EY

Proposal

Single storey rear extension and alterations to fenestration on the rear ground floor elevation.

Prepared by

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DESCRIPTION OF DEVELOPMENT

Existing site:

The proposal relates to an existing mid terraced dwelling which lies adjacent to the southern periphery of the River Roch in a predominantly mixed use area. The proposal property is a traditional two storey dwelling with a rear hardstanding yard area. A shared access road and section of grassed area separate the dwelling and the River Roch. A number of properties have single storey kitchen extensions along the terrace.

Development Proposal:

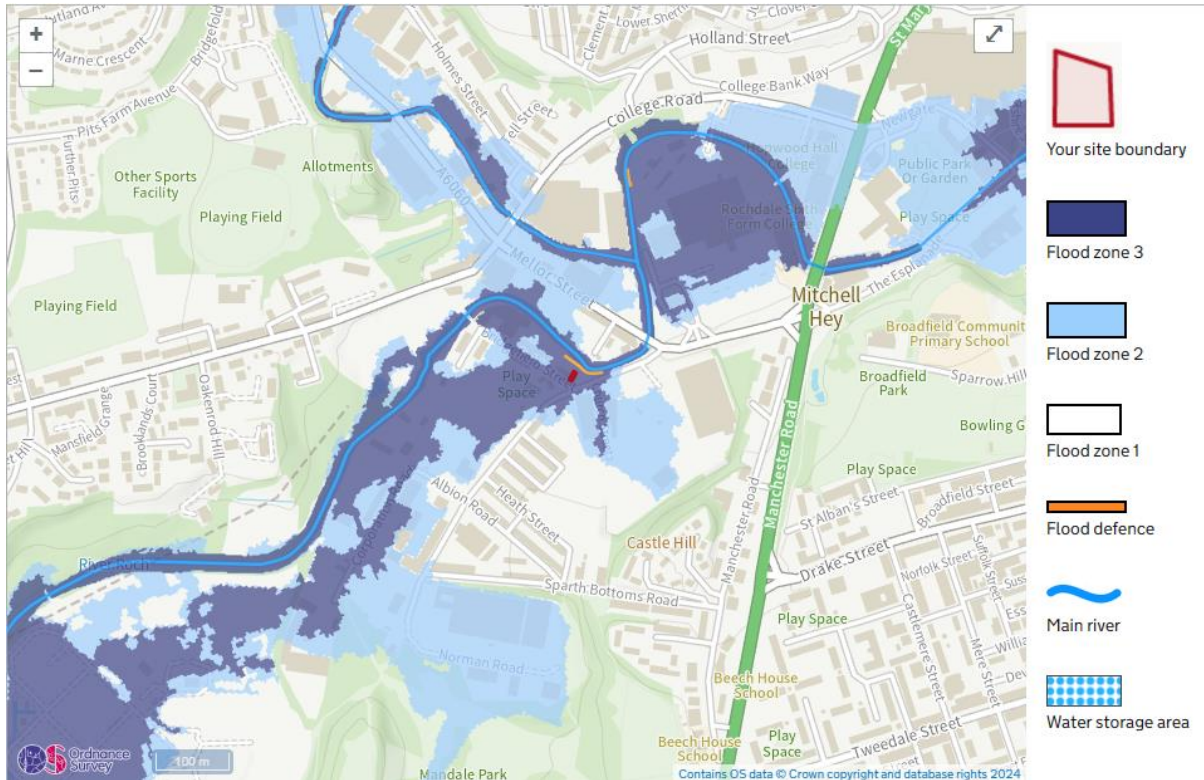
The development is to demolish the existing small store in the rear yard area and to erect a single storey kitchen extension to the rear of the dwelling. The extension would have a dual pitched roof design, would be small in size and retain a portion of the yard area. There is no increase in bedroom numbers. The proposed extension and site layout plan is shown below, a scaled plan also accompanies the planning application.



Above: Plans showing the proposed floor plans and elevations of the proposed extension.

FLOOD ZONE

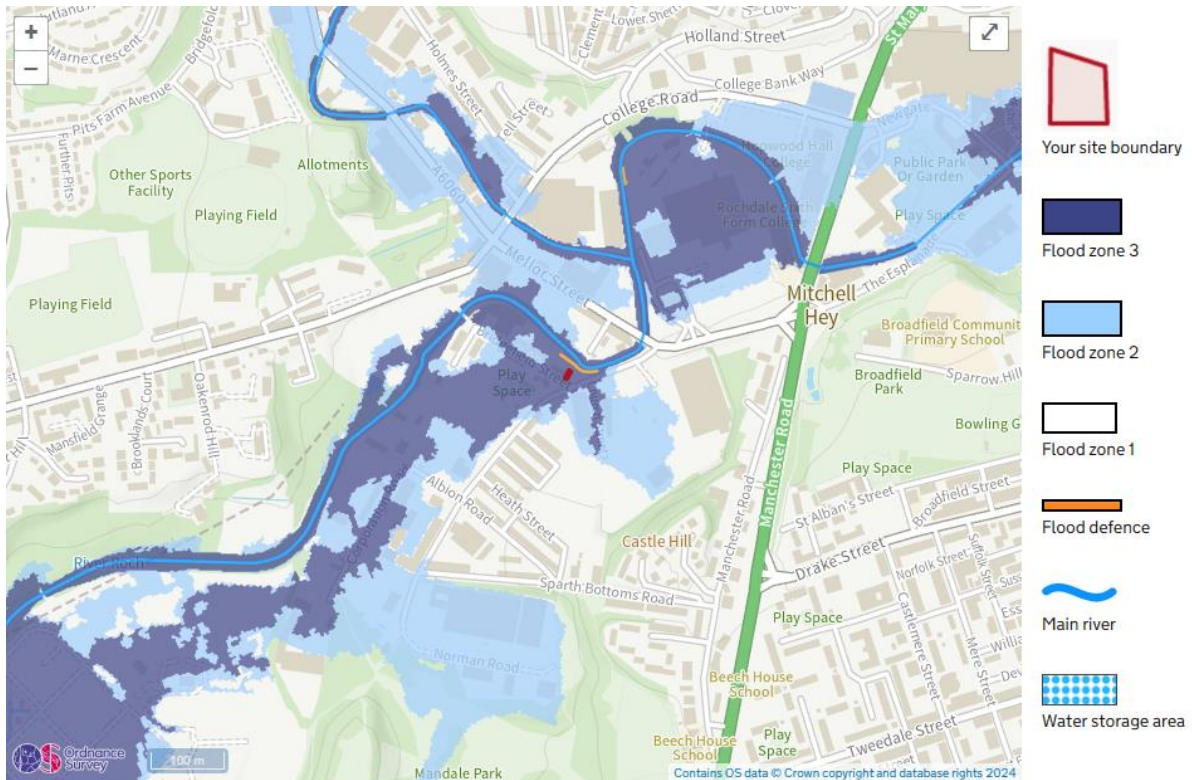
The Planning Flood Map below shows that the site is located in Flood Zone 3. This means that Land within flood zone 3 has a high probability of flooding from rivers and the sea.



Above: The map shows the flood risk to the proposed site indicated in red and to the surrounding area, the site being within Food Zone 3.

Flood Defences

Flood defences have been built to protect against flooding from the river Roch (shown as an orange line on the map). Flood defences reduce, but do not completely stop the chance of flooding because they can be overtopped or fail.



Above: Orange line on the map indicates the flood defences in place along the river adjacent to the application property.

Below: Flood defence wall can clearly be seen in the image below.



The proposed development is for an extension to the existing dwelling. As this development is located within a defended area, further development will not increase the risk of flooding from the River Roch during the design.

In accordance with EA data, the existing flood defences were designed for a 100 year (1% AEP) standard protection.

Also, according to EA data, the Overall Condition Grade is 2 for the structures, which means that the assets are in good condition (minor defects that will not reduce the overall performance of the asset). It is assumed that this is representative of existing flood defences and whilst not necessarily capable of withstanding climate change impacts.

Recorded Floods

According to the EA information (Appendix A.2), a flood event was recorded at the site designated as a Flood Event Code 19074. No further information is available, including source, depth or cause. The property owner has confirmed that, despite inundation of adjacent land and streets the existing dwelling did not flood during the Boxing Day 2015 event owing to the elevated yard area

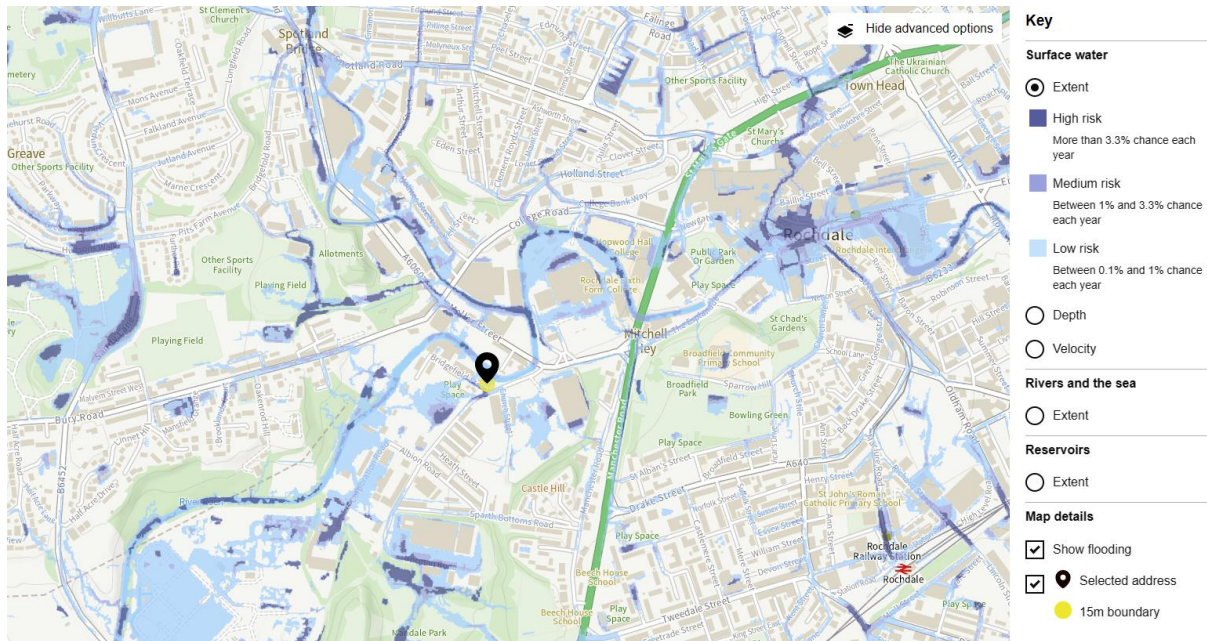
It is difficult to predict exactly how long it would take for water to reach the site following a breach as it is dependent on a number of factors, including the location and nature of the breach and the characteristics of any storm surge, but it is most likely to enter the site from the southern side since the northern side of the site is adjacent to existing flood defences and the northern rear of the site is walled which protects the site from the River directly.

Surface water

The site has a High risk of surface water flooding which means that this area has a chance of flooding of greater than 3.3% each year. Surface water flooding is sometimes known as flash flooding. It happens when rainwater cannot drain away through normal drainage systems.

It's a problem because:

- it often happens in places you don't expect, like up hills.
- it's hard to predict, as heavy rain sometimes only affects a small part of an area.
- where there's lots of tarmac and concrete the water has nowhere to go.



Above: The Surface Water drainage plan shows the site within high risk area.

FLOOD MITIGATION MEASURES

Safety of people inside the dwelling

Flood warnings should be taken into account, and it is almost inconceivable that a significant flood event could occur without the occupants of the premises being made aware through a combination of the Environment Agency flood warning service and national and local television and radio bulletins. In the case of a potential major event such as a 0.5% event, direct action will be taken by local government and the emergency services in accordance with existing emergency response plans.

The site is located in an EA defended flood zone and flood warning area.

In the event that the defence failed than the depth of flooding, based on EA undefended model data, to the area would be approximately 0.80 m for a 1% AEP flood event. This is representative of the risk to existing development in the area, and occupiers should be signed up to the EA's flood warning system.

The existing evacuation routes during a flood event, are via Bridgefield Street and this connects with Norman Road to the south and to Bury Road to the north.

The main occupants of the dwelling are to be responsible for monitoring Environment Agency, Met Office and national flood warnings and evacuate the dwelling in the event of a high-risk warning.

The existing dwelling itself will not be changed structurally from the existing situation, however the proposed extension and fit out can mitigate some effects, through flood resilience measures incorporated in the ground floor as listed below:

- Electrics are to be kept as high as practicable, cables shall be ducted (not chased into the walls) and should be easily isolated from the rest of the circuit- n eg sockets, fuse boxes etc yo be placed at least 600mm above internal floor level.
- The floor level of the kitchen/dining room extension will be at the same floor level as the existing dwelling.
- The extension shall incorporate the following flood resilience measures:
 - Fixed and mobile electrical assets –
 - Flood resistant material shall be used for the construction of the internal and external fabric up to a level of 600mm above internal floor level.
 - Surface water will be discharged onto the existing mains drainage arrangement as for the house.

Drainage Proposal

The existing foul and surface water drainage systems will remain as per the existing arrangement; connected to the local sewer networks. The proposed development does not involve changes to the existing hard standings and therefore the external surface water run-off will remain unaltered.

SUMMARY OF RISK

With the mitigation against flood hazard available through existing defences, flood warnings, emergency plans, and fit out design, the level of residual risk is small. Although the vulnerability of the area is recognised, the risk levels should not prevent the extension to be approved as proposed.

The proposed development is for an extension to the existing building within a defended area. This extension will not increase the risk of flooding or increase the level of risk to existing occupiers or the surrounding area in general. The development should be signed up to the EA's flood warning service.

There is no material effect on the floodplain due to the proposed development. In addition, as surface water runoff is unchanged, there are no anticipated detrimental effects to upstream or downstream properties.