

FLOOD RISK ASSESSMENT

112 Oswald Street

Rochdale

OL16 2JZ

Proposal

First Floor Extension to Create One Self Contained Flat.

Prepared by

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DESCRIPTION OF DEVELOPMENT

Existing site:

The proposal relates to an existing single storey end terrace building. The building is constructed of red brick with a lean to roof design and is used as a fabric shop. The property is positioned in a mainly residential area with some retail uses in the vicinity. The property extends beyond the rear elevation of the terrace and includes a small yard area where bins are stored. A small area of open space is located to the south of the site with Hey Brook located on the other side of Oswald Street.



Above: Map showing location of Flood Risk.

Development Proposal:

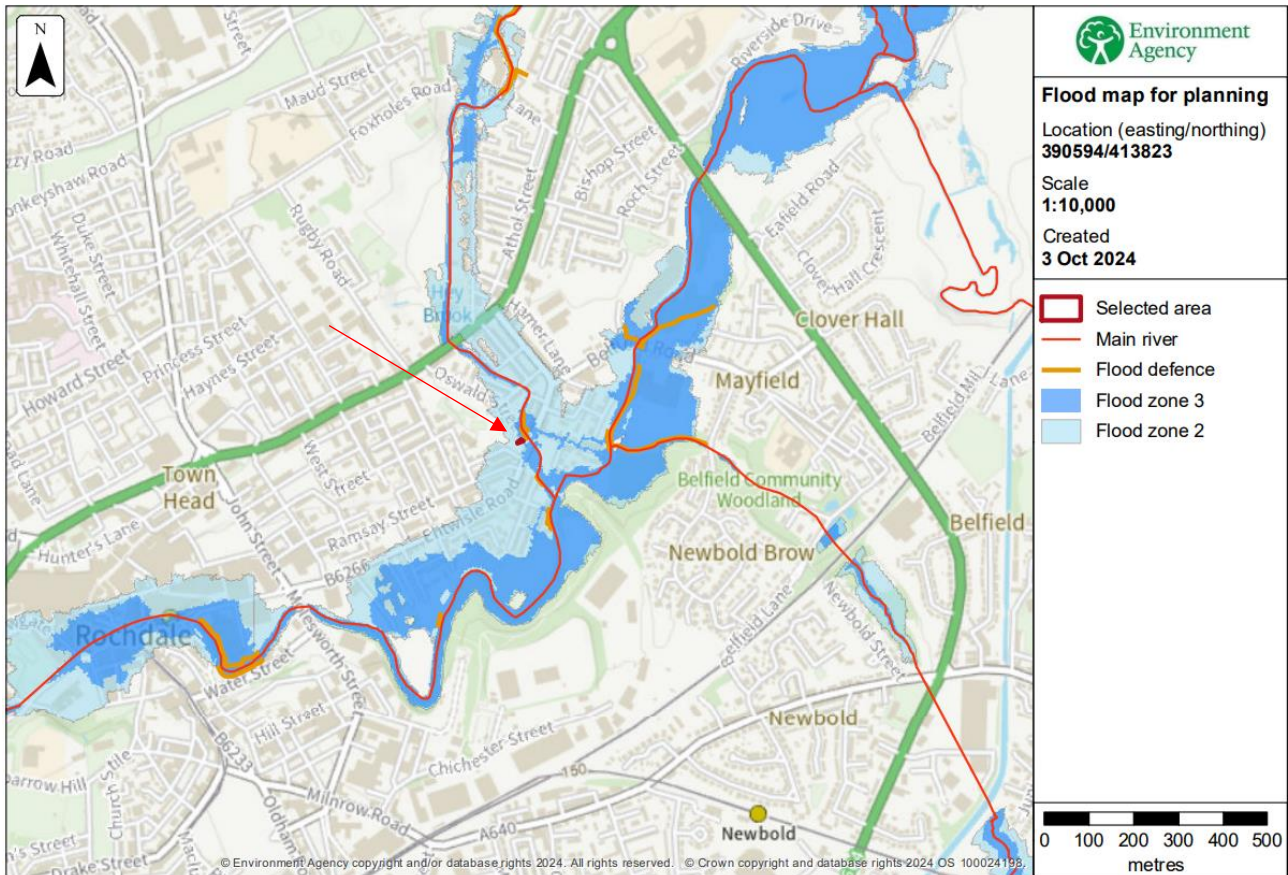
The proposed development is for the erection of a first floor extension above the existing shop. The extension will consist of a dual pitched roof design as a continuation of the existing terrace. To the rear a subordinate extension would be attached. A separate access door for the flat would be installed along the front elevation with steps leading to the first floor flat. The floor plans show the flat would provide a bedroom, WC, and lounge/kitchen.



Above: Plans showing the proposed extension and layout of the proposed flat at first floor level.

FLOOD ZONE

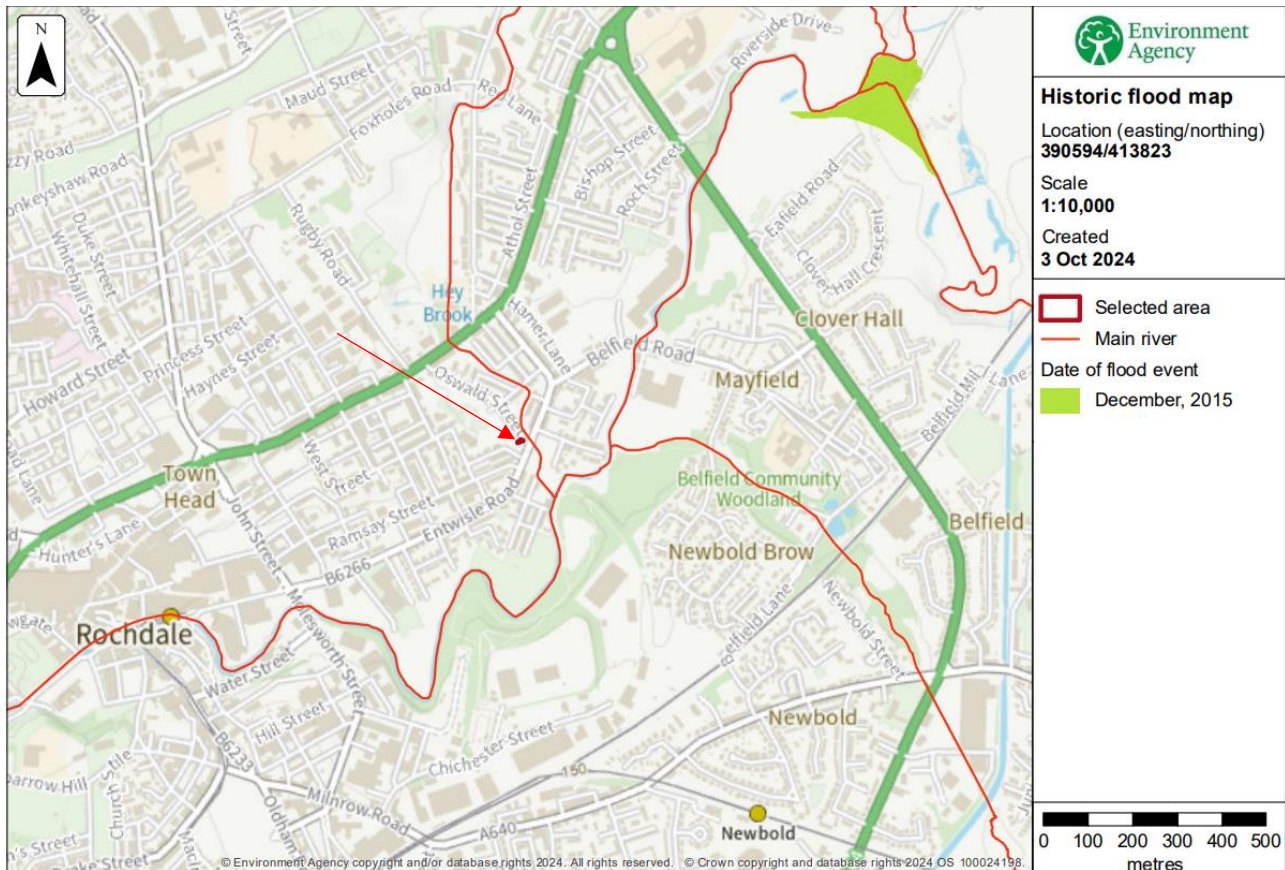
The Planning Flood Map below shows that the site is located in Flood Zone 3. This means that Land within flood zone 3 has a high probability of flooding from rivers and the sea.



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.

Historic Flooding

This map is an indicative outline of areas that have previously flooded;



Historic flood event data

Start date	End date	Source of flood	Cause of flood	Affects location
26 December 2015	26 December 2015	main river	channel capacity exceeded (no raised defences)	No

The property owner has confirmed that the existing building did not flood during the Boxing Day 2015 event owing to the elevated area.

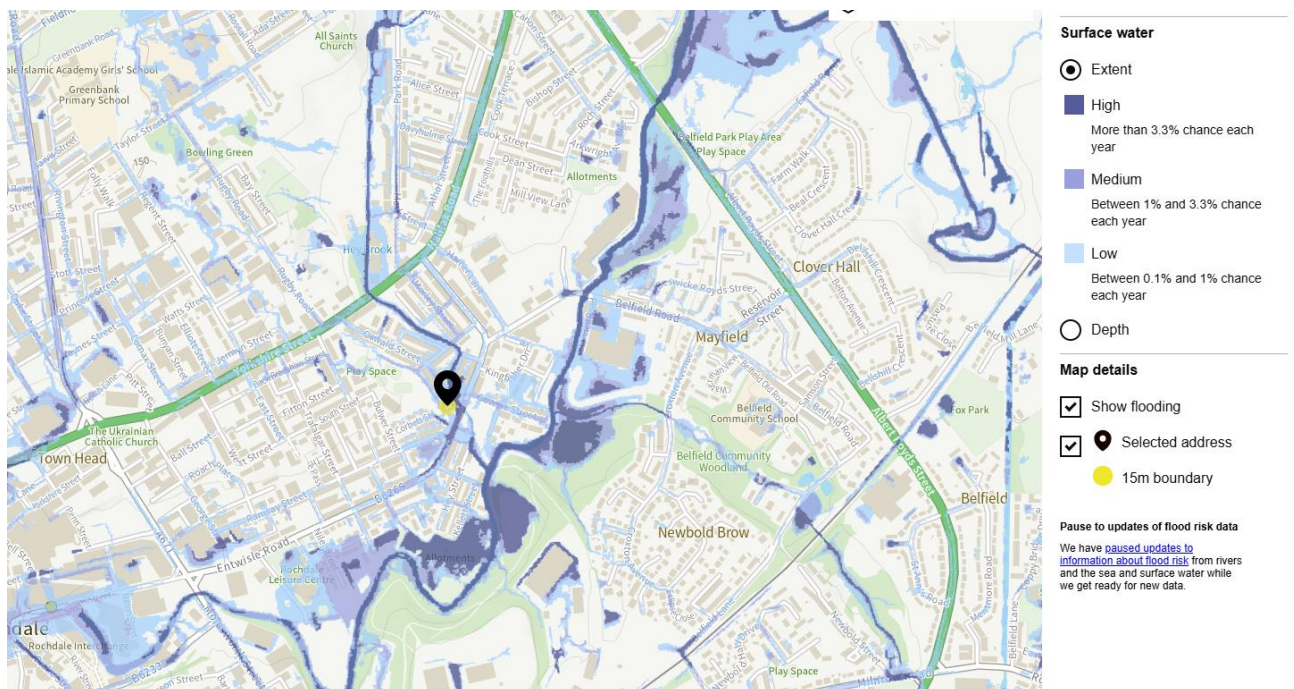
It is difficult to predict exactly how long it would take for water to reach the site following a breach as it is dependent on a number of factors, including the location and nature of the breach and the characteristics of any storm surge, but it is most likely to enter the site from the northern side which is closest to Hey Brook.

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:

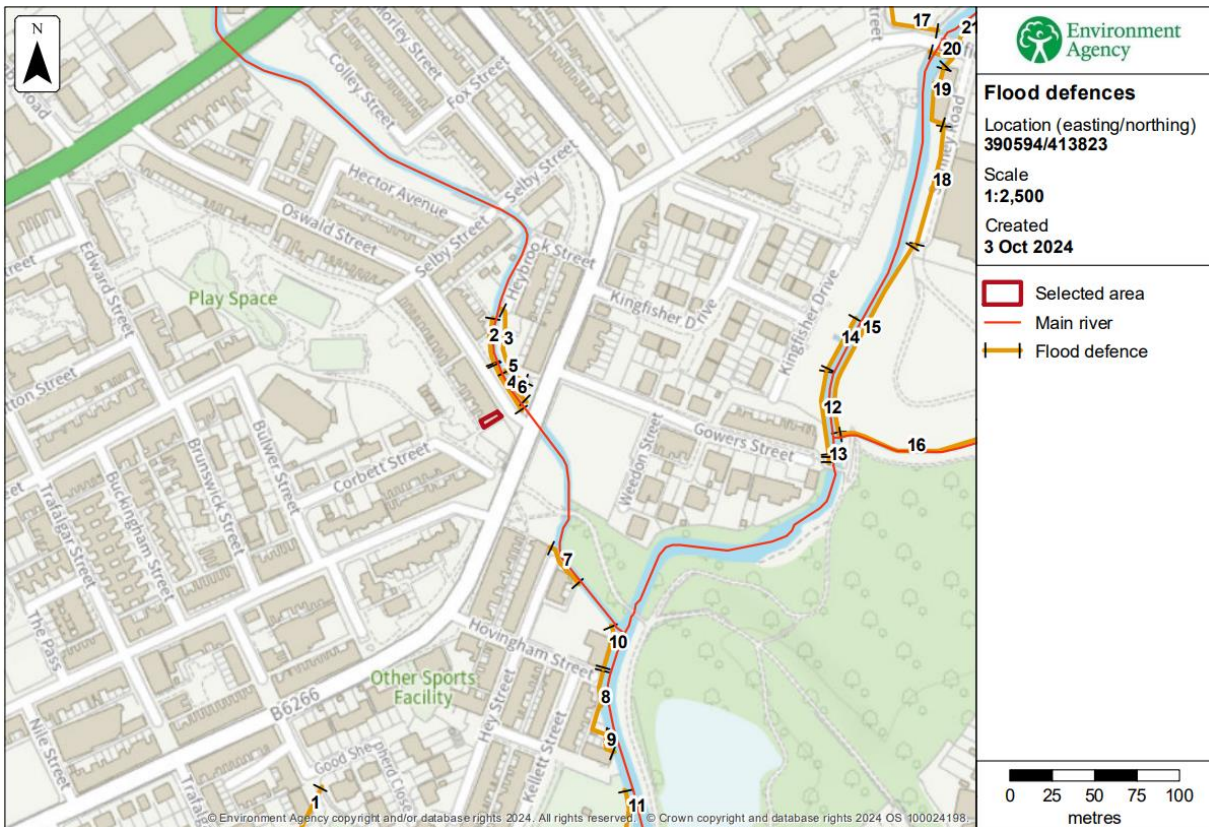
- it often happens in places you don't expect, like up hills.
- it's hard to predict, as heavy rain sometimes only affects a small part of an area.
- where there's lots of tarmac and concrete the water has nowhere to go.



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

Flood Defences

The flood defences map shows the location of the flood defences present. The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.



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

Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	532014	Engineered High Ground					
2	391032	Engineered High Ground			125.73	124.69	
3	129524	Wall	100		124.90	125.03	
4	70613	Wall	100		125.80	125.76	
5	70872	Wall	100		124.93	124.94	
6	70666	Engineered High Ground	100		124.03	122.56	
7	63745	Wall	100		123.86	123.86	
8	127800	Wall	100		123.60	123.52	
9	762057	Wall	100		123.60	123.52	

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



The proposed development is for an extension to the existing building. As this development is located within a defended area, further development will not increase the risk of flooding from Hey Brook.

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.

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 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 Corbett Street and this connects with Brunswick Street and then to Yorkshire Street 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 ground floor building itself will not be changed structurally from the existing situation, however the proposed first floor extension and fit out can mitigate some effects, through flood resilience measures;

- The dwelling shall incorporate the following flood resilience measures:
 - Fixed and mobile electrical assets

- Flood resistant material shall be used for the construction of the external door 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 at ground floor; 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 and use as separate unit within a defended area. This extension will not increase the risk of flooding or increase the level of risk to existing occupiers, proposed 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.