

TO Manchester City Council
Planning & Building Control

DATE 24 January 2024

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PLANNING REF 114585/FO/2016

FILE REF 3251-ROC-ZZ-XX-RP-C-CND25

SUBJECT **114585/FO/2016 – Manchester New Square, Princess Street – Condition 25**

Condition 25 - Within three months of the date of this permission full details of how potential flood risk from the Canal would be controlled shall be submitted to and agreed in writing by the local planning authority in consultation with the Canal & River Trust.

Flood Risk Overview

RoC Consulting Flood Risk & Drainage Statement submitted at planning stage (Ref: 3251/AR/NAK, September 2015) provides details of potential flood risk to the development from various sources.

Fluvial Flood Risk

The site is recognised as being located in Flood Zone 1. This is defined as an area which is not considered at risk from fluvial or tidal flooding for storm events up to and including the 1 in 1000 year return period. The nearest fluvial feature to the site is the River Medlock which is situated circa 160m to the south west of the development.



Pluvial Flood Risk

Environment Agency flood maps also indicate that the site is not at risk of surface water/ pluvial flooding as indicated below.



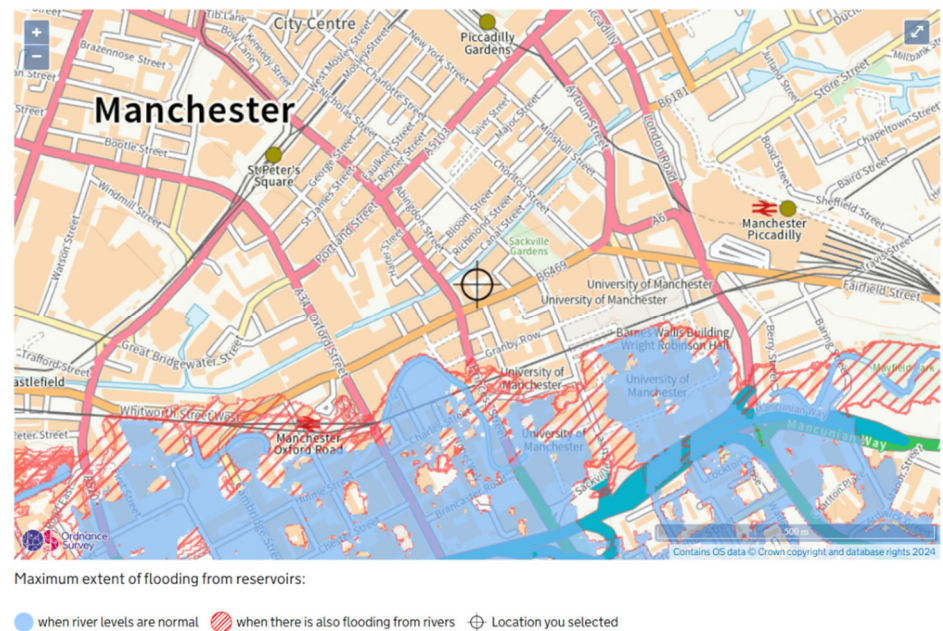
Sewer Flood Risk

It is recognised that the development sits within a critical drainage area. Critical Drainage Areas are those identified from historical flood events and/or modelled data as having a significant risk from surface water flooding and include drainage catchments for the sewer network.

As noted above, surface water flood risk is considered to be low for the development and based on the topography of the site and surrounding area, it is considered unlikely that surcharged public sewers could pose a risk as any potential exceedance flow would be directed south west along the highway corridor.

Reservoir Flood Risk

Environment Agency map data indicates that the site is not in an area at risk of reservoir flooding.



Rochdale Canal Flood Risk

The industrial revolution has left a legacy of inland waterways in Greater Manchester, from which flood risk is relatively unknown. The Rochdale Canal, which is located immediately to the north of the development, is one of these and is classified as a 'broad canal'.

Broad canals were initially built to serve the growing industrial centres of the northwest during the industrial revolution. They are fairly shallow canals that are embanked in places and mainly used today for tourism, carrying narrow boats and other small craft.

It is recognised that broad canals in Greater Manchester do not generally pose a direct flood risk as they are a controlled water body. Therefore, the residual risk of canal flooding is usually associated with lower probability events such as overtopping and/ or breaching of the embankments. The probability of a breach is managed by continued maintenance by the Canal & Rivers Trust.

The length of Rochdale Canal bordering the site is formed by vertical walls and therefore risk to the site would be associated with a potential overtopping event. Whilst this is considered a low probability occurrence, there is a record of this occurring in January 2019 which was reported in the Manchester Evening News.

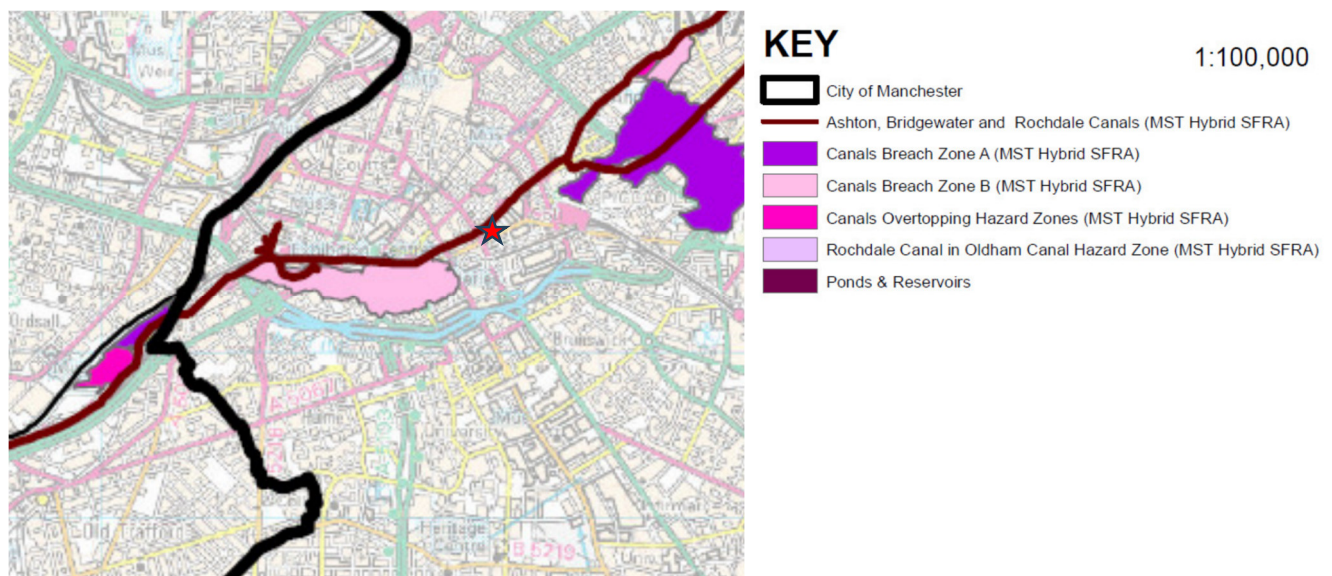
<https://www.manchestereveningnews.co.uk/news/greater-manchester-news/what-happened-rochdale-canal-flooded-15692086>

This arose during maintenance works and resulted in flooding of the towpaths downstream of the development site between Deansgate Locks and Castlefield. The Canal & Rivers Trust reported that the issue was linked to the ongoing maintenance works, however the exact cause of the flooding was unknown.

Notwithstanding the above, the Manchester City, Salford City and Trafford Councils Level 2 Hybrid SFRA identifies 'Canal Hazard Zones' based on broad scale modelling techniques which indicate areas which could potentially be affected by flooding in the event of:

- Overtopping of canal embankments, and
- Full breach of raised canal embankments

An extract of this data is presented below with the development site indicated by a red star. Based on this analysis the site is not considered to be located in an area potentially at risk of a breach of overtopping.



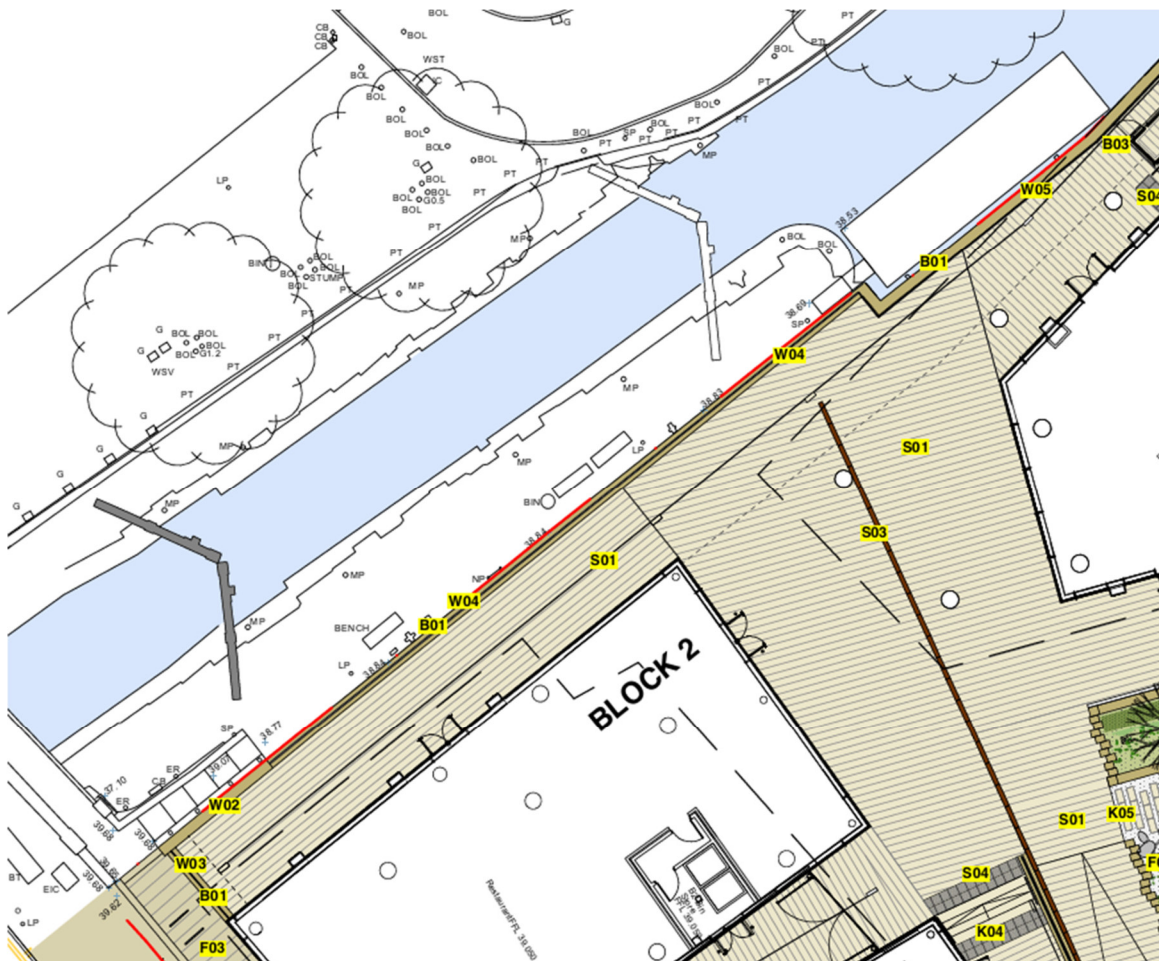
Further to the above, it should be noted that the Princess Street Lock No.87 (formerly David Street Lock) is located next to the site with the next nearest, Chorlton Street No.86, being circa 200m upstream. This is noteworthy for two reasons:

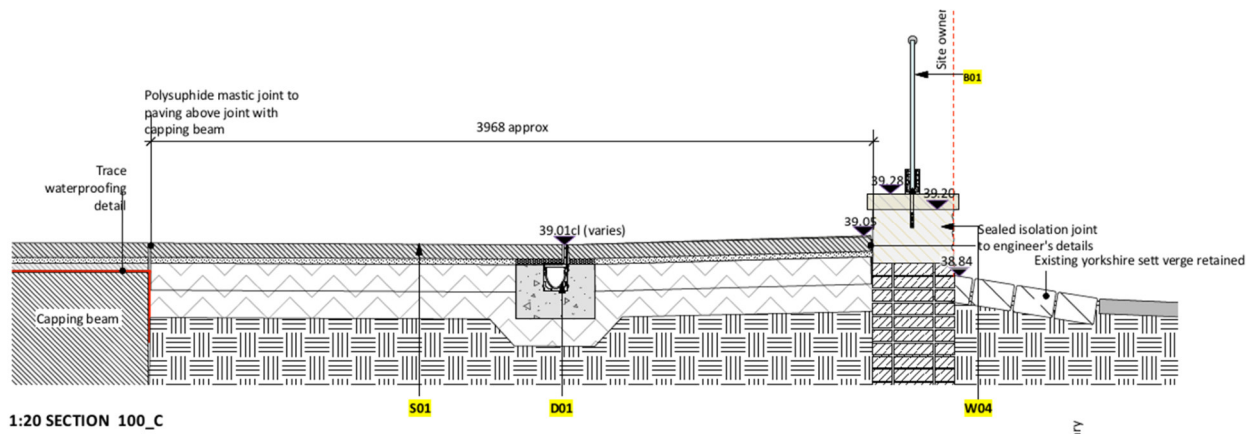
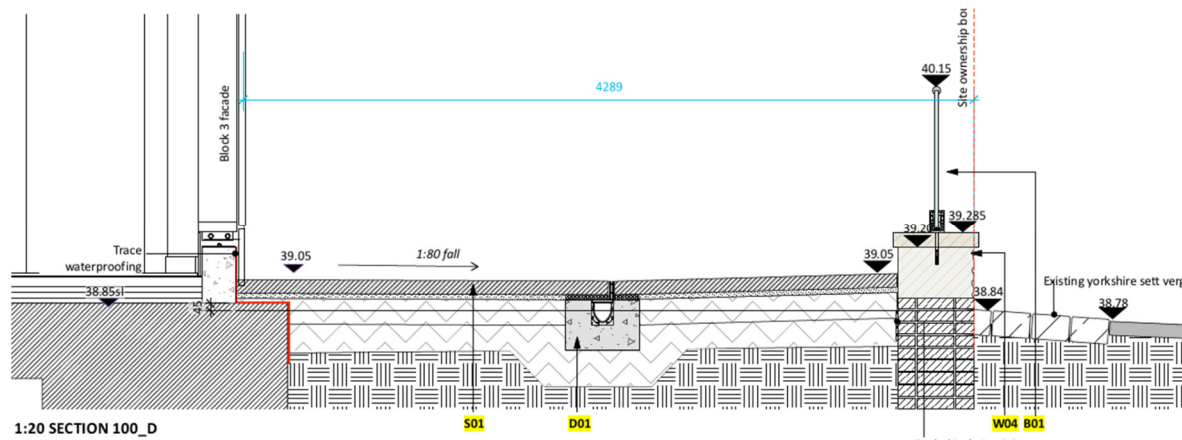
1. The pound length (distance between locks) is very short. In breach/ overtopping conditions it is considered likely that only a single pound length would be likely to drain. The actual volume of water leaving a canal after an event has occurred would in practice be dependent on the local pound length, as this is very short at only 200m the water volume would also be comparatively small.

2. The Rochdale Canal adjacent to the site is traversing downwards and therefore any potential overtopping/emptying of the canal would flow down into the next pound length towards Oxford Street and away from the site.



Whilst it is recognised that the proposed development includes a four-storey basement, all of which sits below the level of the adjacent canal, the structure is suitably waterproofed and protected against any water ingress that may occur as a direct result of any water leakage. The only potential risk therefore would be from overtopping. However, protection to the development from this is provided by way dwarf wall at the interface with the canal towpath as indicated on the plan and cross sections extracted below.





This dwarf wall separates the development site from the canal and provides a physical barrier measuring circa 500mm in height when compared to the adjacent towpath/ canal wall level.

To mitigate against potential flood risk to the development from surcharged sewers, the on-site drainage system is provided with non-return valves.

Summary

Taking all of the above into consideration, it is clear that the development is not at risk of flooding and in particular any potential risk posed by the existing adjacent Rochdale Canal is adequately controlled on the basis that flood water would be unable to reach the development site should overtopping, however unlikely, ever occur.

It is recognised that the development includes a four-storey basement structure which sits below the level of the canal. However, adequate measures have been incorporated within the design/ construction to ensure that it is suitably protected against water ingress.

The risk of flooding to the development site is summarised below.

Source	Risk
Fluvial	Low
Coastal Sea and Estuarine	Not Applicable
Pluvial / Surface Water	Low
Sewers	Low
Reservoir	Low
Canal	Low