



**STOCKPORT**  
METROPOLITAN BOROUGH COUNCIL

# **Flood Investigation Report**

## **Cataract Bridge Mill, Mellor, Stockport**

**Services to Place  
Engineering Services  
Drainage Section**

**May 2012**

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## EXECUTIVE SUMMARY

This Flood Investigation Report has been completed by Stockport Metropolitan Borough Council (SMBC) under our duties as the Lead Local Flood Authority (LLFA). Section 19 of the Flood and Water Management Act 2010 (FWMA) states that on becoming aware of a flood in our area, when appropriate, we must investigate the relevant flood risk management authorities involved and find out which flood risk management functions have been, or will be taken, if any.

A flooding incident at Cataract Mill, Mellor was reported by a member of public and passed to Stockport Council's Highway Structures section on the 11<sup>th</sup> May 2012. It was deemed necessary by the Drainage section to complete an investigation of the flood incident as the Mill and surrounding area site has a planning application pending for conversion to a residential development.

This report provides a summary of the actions being carried out by each of the authorities involved; activities include general inspection, camera surveys of the drainage system, as well as engaging with landowners.

The specific cause of flooding was found to be an obstruction in the culverted section under riparian land ownership. A suitable permanent solution to the flooding at Cataract Bridge Mill was to remove the blockage within the culvert and also improvement of the existing trash screen on the culvert inlet. Any works on the culvert other than maintenance are likely to require consent from the Environment Agency as the Cataract Brook is designated 'Main River'.

The main conclusion found was that if the blockage was removed and the trash screen improved, flood risk at the site would be significantly reduced. This was found to be dependent on a maintenance clearance schedule being devised for the trash screen.

## 1.0 INTRODUCTION

### 1.1 LLFA Investigation

Stockport Metropolitan Borough Council (SMBC) as the Lead Local Flood Authority (LLFA) has a responsibility to record and report flood incidents as detailed within Section 19 of the Flood and Water Management Act 2010 (FWMA):

#### **Section 19**

- (1) On becoming aware of a flood in its area, a lead local flood authority must, to the extent that it considers it necessary or appropriate, investigate—
- (a) which risk management authorities have relevant flood risk management functions, and
  - (b) whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood.
- (2) Where an authority carries out an investigation under subsection (1) it must—
- (a) publish the results of its investigation, and
  - (b) notify any relevant risk management authorities.

Although Cataract Bridge Mill is redundant it was deemed necessary to complete an investigation into the flood incident on 3 May 2012 as a planning application is pending for conversion of the Mill and surrounding area into a residential development.

This report provides a concise review of the rights and responsibilities of all risk management authorities involved, and an outline of their past or proposed actions, if any. It also makes recommendations for a possible way forward.

### 1.2 Site Location

Cataract Bridge Mill is located on Longhurst Lane, Mellor, Stockport (NGR: SJ 970789 888428). It is the site of a textiles mill which has been derelict since 2010 and is located on the main road between Mellor and Marple, as shown in Figure 1.



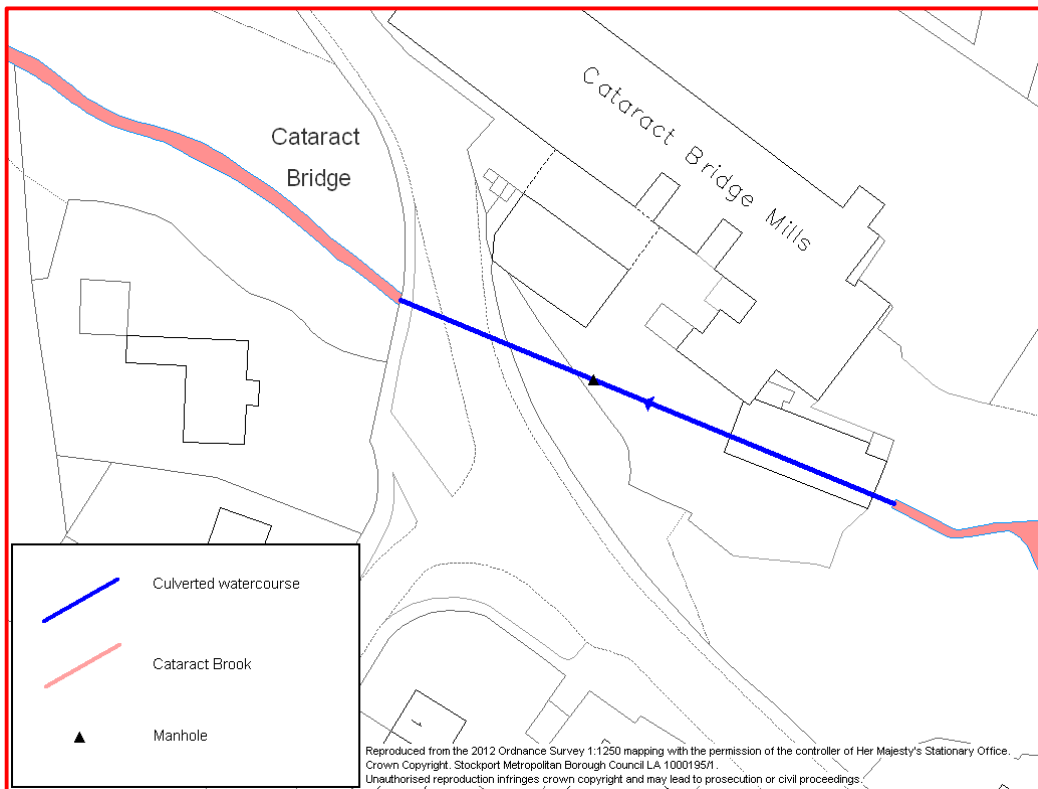
**Figure 1: Cataract Bridge Mill, Mellor, Stockport (Scale 1:5000)**

(Reproduced from the 2011 Ordnance Survey 1250 mapping with the permission of the Controller of Her Majesty's Stationery Office. © Crown Copyright. Stockport MBC LA100019571)

### 1.3 Drainage System

A watercourse (Cataract Brook) flows through the site entering a culvert in the eastern side of the site and outfalling to the west of Longhurst Lane. A manhole is located on the culvert within the mill site and a simple trash screen has been erected on the eastern entrance to the culvert. The layout of the river and drainage can be seen in Figure 2.

Cataract Brook is classified as a 'Main River'. The Environment Agency's formal consent is required for any works which affect a main river and the Environment Agency has permissive powers to carry out works of maintenance and improvement on these rivers.



**Figure 2: Drainage system at Cataract Bridge Mill**

## 2.0 DRAINAGE HISTORY

### 2.1 Previous Flood Incidents

Stockport Council does not have any records of historical flooding in the area.

### 2.2 Flood Incident – 3 May 2012

The flooding incident was reported by a member of public and passed to the Highway Structures section at SMBC on the 11<sup>th</sup> May 2012. The member of public also supplied photographs of the flooding incident (Figures 3 and 4).

The site was inspected by SMBC and although flood waters had receded, photographs were taken and a partially blocked trash screen was found at the culvert inlet (Figures 5 and 6). The member of public informed the officers that the flood had not affected Longhurst Lane and that similar flooding had never been noticed at this site before.

The watercourse is designated 'Main River' and so the Environment Agency was contacted and informed of the flooding event. SMBC was informed that the responsibility to clear the trash screen rests with the landowner and the Agency do not own or maintain any assets in the area.

SMBC is the Lead Local Flood Authority for the area and has a duty to investigate flooding incidents, and so the council decided to undertake this investigation.



**Figure 3: Flooding photograph (Source: member of public)**



**Figure 4: Flooding photograph 2 (Source: member of public)**



**Figure 5: Flooding photograph (Source: SMBC Highway Structures)**



**Figure 6: Partially blocked inlet trash screen (Source: SMBC Highway Structures)**

### **3.0 POSSIBLE CAUSES**

The following observations were made during the investigation of the flooding at the Cataract Bridge Mill site, each of which may have contributed towards the recent flooding incident.

#### **3.1 Inlet Trash Screen**

The trash screen on the culvert inlet was found to be partially blocked on the 11<sup>th</sup> May 2012. A blockage at the inlet will cause water to pond and flood the adjacent land. The trash screen design also appeared poor which could lead to increased blockages or the screen working incorrectly. The Environment Agency has guidelines available for trash screen design.

#### **3.2 Culvert Condition**

The manhole on the culvert was lifted and a large obstruction was found in the manhole (a barrel). This obstruction would restrict flows through the culvert and is the likely cause of the flooding problem. A blockage of this nature is also likely to reduce flow velocities leading to increased siltation in the culvert. A CCTV survey found large debris within the culvert including barrels, tree branches and logs.

### **4.0 RIGHTS AND RESPONSIBILITIES**

#### **4.1 Lead Local Flood Authority**

As stated within the Introduction, SMBC as the Lead Local Flood Authority (LLFA) has a responsibility to investigate flood incidents under Section 19 of the FWMA.

The LLFA also has a responsibility to maintain a register of assets which have a significant effect on flooding from surface runoff, groundwater or ordinary watercourses as detailed within Section 21 of the FWMA. The register must contain a record about each structure or feature, including the ownership and state of repair.

We will therefore be looking for support from other authorities to ensure flood incidents are reported, and any assets which are having a significant effect on flood risk are recorded on our register.

While we suggest possible causes of flooding on Cataract Bridge Mill and make recommendations to ensure flood risk is mitigated as far as possible, the FWMA does not provide SMBC with the mandate or funding to tackle all identified causes of flooding.

SMBC also have powers under Section 25 of the Land Drainage Act 1991 (LDA) to serve notice on any persons impeding the flow of a watercourse and causing an increase in flood risk.

## 4.2 Environment Agency

The EA has permissive powers to carry out maintenance work on Main Rivers under Section 165 of the Water Resources Act 1991 (WRA).

Cataract Brook is classified a Main River, however the frequency of EA maintenance activities is primarily risk based, and for this watercourse these activities comprise annual vegetation management and clearance of blockages as and when required.

Any third party assets on Cataract Brook, such as the access structures and culverts, are neither owned nor maintained by the EA. The EA's policy on third party assets is to notify third party owners of their asset forming part of a flood risk system, and assist by inspecting the assets and advising third party owners on their condition.

The EA will also encourage third party asset owners to maintain their property in appropriate condition and take enforcement action where it is appropriate. They may consider undertaking maintenance or repair of third party assets only where it can be justified in order to safeguard the public interest and where other options are not appropriate.

Any works proposed within 8 metres of Cataract Brook must be discussed with the EA in the first instance. Anything other than general maintenance is likely to require Flood Defence Consent under the WRA and associated Byelaws. Consent must be obtained from the EA prior to commencement of any works.

## 4.3 Highways Authority

SMBC has a duty to maintain the highway under Section 41 of the Highway Act 1980. The western end of the culvert carries Longhurst Lane and is known as Cataract Bridge. This section of culvert under the highway is inspected and maintained by SMBC Highway Structures section and was relined in 2009.

## 4.4 Riparian Landowners

Riparian landowners are those who own land adjoining a watercourse. As detailed within the EA document 'Living on the Edge', riparian landowners have certain rights and responsibilities, including the following:

- they must maintain the bed and banks of the watercourse, and also the trees and shrubs growing on the banks;
- they must clear any debris, even if it did not originate from their land. This debris may be natural or man-made;
- they must keep any structures that they own clear of debris. These structures include culverts, trash screens, weirs and mill gates;
- if they do not carry out your responsibilities, they could face legal action.

Riparian landowners must understand and act upon these responsibilities. SMBC have proposed to write to some landowners in the borough highlighting the importance of this.

As already discussed, riparian landowners must be aware that any works in, over, under or within 8 metres of main rivers, such as Cataract Brook, require formal consent from the EA under the WRA and associated Byelaws. They must not carry

out work without consent. If they do, the EA could reclaim from them the cost of removing, altering or pulling down works.

#### **4.5 Residents**

Stockport residents who are aware that they are at risk of flooding should take action to ensure that they and their properties are protected. Community resilience is important in providing information and support to each other if flooding is anticipated.

Actions taken can include laying sandbags and moving valuable items to higher ground, to more permanent measures such as installing floodgates, raising electrical sockets and fitting non-return valves on pipes.

Anyone affected by flooding should try to document as much information about the incident as possible. SMBC should be contacted and will make a record of the details provided.

As Cataract Brook is classed a main river, residents are advised to report incidents to the EA, by calling the Incident Hotline on 0800 807 060.

#### **5.0 RECOMMENDATIONS**

The method for prioritising works on watercourses varies for each risk management authority involved, and is dependent on factors such as resources available, operational area, and interpretation of flood risk. It is therefore important that all risk management authorities are open and honest with the community about what actions will or won't be taken, and why.

SMBC as the LLFA are in a position to facilitate sharing of information between risk management authorities, and the community, if required. We also recommend the actions summarised within Table 1 overleaf.

As put forward when discussing the cause of the flooding, the obstruction within the culvert must be removed by the land owner. The culvert should then be surveyed to make sure there are no other obstructions and any excess siltation removed. This should provide a solution to the flooding problem as it was found to be the main cause.

A long term solution would be for the riparian owner, with consent from the EA, to improve the trash screen on the culvert inlet. When the trash screen is improved and a maintenance clearance schedule formulated, the risk of debris entering the culvert will be reduced, and hence the flood risk.

**Table 1: Recommendations**

<b>Authority/ Stakeholder</b>	<b>Recommended Actions</b>
LLFA	<ul style="list-style-type: none"> <li>• Facilitate sharing of information between risk management authorities, and the community.</li> <li>• Keep a record of all flood incidents and significant flood risk assets within the area.</li> <li>• Support SMBC in serving notice on landowners where there is evidence flows are being impeded and increasing flood risk.</li> <li>• SMBC to ensure the owners of culverts and watercourses within the area are aware of their responsibilities.</li> <li>• Where the condition of a watercourse is such that ordinary flows are being impeded and the risk of flooding increased, SMBC should ensure the owner of that watercourse remedies the condition.</li> </ul>
Highways Authority	<ul style="list-style-type: none"> <li>• Maintenance activities should be continued based on their own priority system.</li> </ul>
EA	<ul style="list-style-type: none"> <li>• Maintenance activities should be continued based on their own priority system.</li> </ul>
Residents	<ul style="list-style-type: none"> <li>• Take measures to protect themselves and their property when flooding is imminent.</li> <li>• Document and photograph the incident, report flooding to the EA, SMBC and Highways.</li> </ul>
Riparian Owner	<ul style="list-style-type: none"> <li>• Must maintain any culvert, or the bed and banks of any adjacent watercourse.</li> <li>• Clear away any debris from the watercourse or culvert, even if it did not originate from their land.</li> </ul>

SMBC may wish to highlight the potential for flood risk management solutions to be considered within the planning process, particularly as part of planning applications for larger developments in the area.

## **6.0 CONCLUSION**

All flood risk authorities must continue working together, sharing information on any actions taken.

When the obstruction is removed and the trash screen improved, flood risk from the Cataract Brook at the site should be significantly reduced.

A full record of flooding incidents at the site must be kept in order for future planning applications to be assessed accurately.

## USEFUL CONTACTS AND LINKS

### Environment Agency

General Enquiries 08708 506 506 (Mon-Fri, 8am - 6pm)  
Incident Hotline 0800 80 70 60 (24hrs)  
EA Floodline 0845 988 1188 (24hrs)

### Stockport Metropolitan Borough Council

Stockport Direct 0161 217 6111 (24hrs)

All calls may be charged

### Highways Act 1980:

<http://www.legislation.gov.uk/ukpga/1980/66/contents>

### Water Resources Act 1991:

<http://www.legislation.gov.uk/ukpga/1991/57/contents>

### Land Drainage Act 1991:

<http://www.legislation.gov.uk/ukpga/1991/59/contents>

### EA - 'Living on the Edge' a guide to the rights and responsibilities of riverside occupation:

<http://www.environment-agency.gov.uk/homeandleisure/floods/31626.aspx>

### EA - River and Coastal Maintenance Programmes:

<http://www.environment-agency.gov.uk/homeandleisure/floods/109548.aspx>

### EA - Prepare your Property for Flooding:

How to reduce flood damage  
Flood protection products and services

<http://www.environment-agency.gov.uk/homeandleisure/floods/31644.aspx>

### SMBC – Flooding in Stockport

<http://www.stockport.gov.uk/services/transport/highwayandstreetlightmaintenance/seweragedrainage/flooding>