

FLOOD RISK MANAGEMENT



ANNUAL REPORT 2016/17

Foreword

In England, 5.2 million properties are at risk of flooding. Of these, 1.4 million are at risk from rivers or the sea, 2.8 million are at risk from surface water flooding and 1 million are at risk from both.

Stockton Borough has been subject to severe flooding in the last few years. Over 200 residents and businesses have suffered damage and disruption from severe weather events in September 2012, May 2013, September 2013 and December 2013.

In September 2012, the communities along Lustrum Beck were subject to severe flooding, following persistent rain and the wettest summer on record causing Lustrum Beck to overtop. Further severe weather events in May 2013 and September 2013 caused localised flash surface water flooding affecting some communities and many highways across the Borough. In December 2013, Stockton on Tees was hit by another severe event, this time high tides coincided with a depression over the North Sea causing a tidal surge to affect the community of Port Clarence and businesses in the area.

In light of this, how we manage flood risk within the Council is critical in both addressing existing issues and working pro-actively to reduce future risk. The following report is the first annual report for Flood Risk Management to give a brief overview of the activities that have taken place during 2016/17 and an insight into plans for the forthcoming year.



Councillor Mike Smith

Cabinet Member for Environment and Transport

Flood Risk Management

Annual Overview 2016/17

Introduction

This is the first annual report of the Flood Risk Management Team and is designed to be an overview of activities that have taken place in the past year and information on plans for the coming year.

Stockton 2016/17	Annual Total
Statutory S19 Investigations	0
Pre-Application Enquiries	22
Planning Applications	117
Discharge of Conditions	30
Land Drainage Consents	5
Developer Requests/ Enquiries	5<

Planning Applications

In April 2015, Stockton Borough Council as a Lead Local Flood Authority (LLFA) became a statutory consultee in the planning process. The flood risk team now provide a response to all major planning applications (10 properties or more) and can provide pre-application advice to developers on drainage and flood risk reduction. Surface water drainage strategies are a key consideration for major development, where the proposals must not increase the risk of surface water run-off or the risk of flooding to neighbouring sites or downstream of the development.

Investigations

Stockton Borough Council as LLFA has a duty to investigate a flood event when considered necessary or appropriate under Section 19 of the Flood and Water Management Act 2010.

Section 19 Local authorities: investigations

- (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 investigation under subsection (1) it must –
 - a) publish the results of its investigation, and
 - b) Notify any relevant risk management authorities.

The Tees Valley authorities, through the Tees Valley Strategic Flood Risk Partnership agreed that an investigation of a flood event, is deemed locally significant and considered appropriate, if one or more of the following is affected by flooding:

Locally Significant Criteria

- 5 or more residential properties;
- 2 or more businesses;
- 1 or more critical services;
- 1 or more transport links (Impassable for 10 Hours or more).

In 2016/17, there were no flooding events that met the criteria for a statutory investigation; however the Flood Risk Management team dealt with many smaller scale issues such as highway flooding and issues raised by individual residents. The most notable event was on 21st November 2016, when heavy rain and high winds caused highway flooding in a number of locations across the Borough.

Consents

The Land Drainage Act 1991 and subsequent legislation under the Flood and Water Management Act 2010, requires that anyone wishing to carry out work on an ordinary water course must apply to the LLFA for a Land Drainage Consent. The Council is allowed to levy a £50 charge for an application. In 2016/17 there were **five** Land Drainage Consent applications approved.

Schemes

Lustrum Beck

The Lustrum Beck Flood Risk Management Partnership Project is a £3.6m scheme to provide a range of flood alleviation measures to protect the communities along Lustrum Beck. The project is a partnership between the Environment Agency and Stockton Borough Council. The first phase commenced in late 2014, with a new flood wall being installed along Bishopton Road by the Environment Agency. A new lifting screen has been installed by the Environment Agency at Primrose Hill Culvert, the screen the only one of its kind in the country, will be lifted in times of high river flows, to prevent the culvert from becoming blocked and causing the water to back up.

Stockton Borough Council has installed a new single span bridge on Durham Road. Londonderry Bridge was previously a 4 span bridge with two of those spans being blocked causing a major constriction to the flow of Lustrum Beck. The new single span bridge prevents flows from being blocked at that location. The Council have also built a sustainable drainage scheme on the site of the old adult training centre on Wrensfild Road. The scheme will take surface water flows channelling them into the site and releasing them into Lustrum Beck slowly. Other elements of the scheme completed by the Environment Agency are a flood wall at the end of Bedford Street parallel to the beck between Browns Bridge and Londonderry Bridge, embankments at Wrensfild and naturalisation of the channel on the site of the previously demolished 94 Bishopton Road.

Londonderry Bridge won a silver medal at the Considerate Contractors Scheme Awards with Lustrum Beck winning the "Working in Partnership Award" at the Flood and Coast Environment Agency Project Excellence Awards.



Halidon Way

Over recent years there have been several instances of flooding in and around Halidon Way in Low Grange, Billingham. The most notable of which was an event that occurred in March 1979 which resulted in 68 dwellings being flooded some to depths in excess of 1 metre.

Following the 1979 event, a number of works were implemented to reduce the impact and risk of repetition. The work comprised of the construction of a new trash screen at the entrance to the culverted section of Cowbridge Beck, sealing the pedestrian subway on Neasham Avenue and constructing an earth bund around the perimeter of the Billingham Campus playing field.

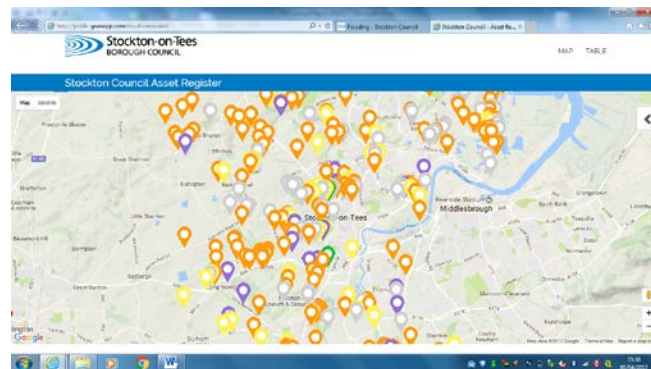
During heavy rainfall in 2003, several properties in Halidon way, Billingham suffered from internal flooding. It was reported that the flooding seemed to originate from two areas of surface water run-off, one within the curtilage of Oakdene School, the other water running off Neasham Avenue down into Halidon way.

Halidon Way was subject to flooding again in September 2013, when localised intense rainfall hit the Billingham and Cowpen Bewley areas causing surface water flooding, affecting a number of individual properties in the area and the shops.

In March 2017, a bid to the Environment Agency for Flood Defence Grant in Aid was accepted and a scheme for property protection measures, such as flood doors for 8 properties is proposed to be implemented this year.

Asset Register

A register of flood risk assets and features, as required by the Flood and Water Management Act, has been built by our Partners JBA and is now available to the public on the SBC website. All the assets have been inspected and graded to the Environment Agency's national standards. An on-going programme of inspections of these assets and features will commence with the frequency being determined by the risk of flooding.



Risk Management Partnership Working

Darlington Borough Council

Stockton Borough Council has a contract with Darlington Borough Council, where Stockton carries out the Lead Local Flood Authority duties under the Flood and Water Management Act 2010, on behalf of Darlington in their Borough. The duties include investigation of flooding incidents, technical advice on planning applications and drainage issues, provision of land drainage consents on ordinary watercourses and development of an asset register.

Darlington 2016/17	Annual Total
Statutory S19 Investigations	0
Pre-Application Enquiries	44
Planning Applications	58
Discharge of Conditions	18
Land Drainage Consents	1
Developer Requests	2<

Northumbrian Water

Northumbrian Water are currently carrying out a couple of pieces of work in the Borough, first is the Stockton South Stage 1 Study and the second is North Billingham Community Action Plan. The names refer to Northumbrian Water Drainage Areas and not parliamentary or ward boundaries. Stockton South is in the Hartburn/ Grangefield Areas and Billingham North covers a large area North of Billingham Town Centre. We have had several meetings with Northumbrian Water to explain any flooding issues we have experienced in those areas and are hopeful that there could be joint schemes in the future.

Plans for 2017/18

Asset Modelling

Our framework consultants JBA, who produced the asset register for Stockton, have been commissioned to provide basic flood modelling for each of the assets on the register. The modelling will consider different storm events and the consequences of the asset being 100% blocked. This will show properties that may be at risk of potential flooding allowing Officers to identify potential schemes and bid for funding for protection measures, where appropriate.

Drainage Schemes

The 2016 Scrutiny review of Flood Risk Management by the Place Select Committee highlighted some issues with of the Councils existing drainage assets, in terms of potential blockage and flood risk. There are approximately 5000 older style gullies, which could potentially need replacing subject to funding and risk assessment. This along with other drainage and flooding issues are to be considered along with the highway maintenance programme.

Lustrum Beck Phase 2

Work are due to commence on phase 2 of the Lustrum Beck Flood Alleviation Scheme in the coming year, the scheme involves natural flood risk management in the upper catchment of the Beck in the Coatham Wood and Six Fields area.

Natural flood risk management is the alteration, restoration or use of landscape features to reduce the risk of flooding. It involves the development and management of green infrastructure to reduce and slow the rate of surface water run-off and provide temporary flood water storage. This approach should be explored and where feasible delivered through the Borough's Green Infrastructure Strategy.

The aim is to reduce the amount of water travelling downstream at the peak of the event allowing it to be released more slowly by restricting the progress of water through a catchment. This relies on either one, or a combination, of the following techniques:

- **Storing water** - using ponds, ditches, channels, reservoirs or flooding land.
- **Slowing the progress of water through the catchment** – this can be done by planting in the channel or on flood plain land.
- **Infiltration** – free draining soils will allow infiltration and potentially reduce surface water run-off.
- **Interrupting the flow of water** – through natural dams, ponds, introducing meanders or planting.



Port Clarence Phase 2

The Environment Agency are proposing to build the second phase of their scheme near Port Clarence known as Greatham South. The scheme involves repositioning the flood embankments to create storage and wildlife habitats. This multi-million pound scheme is funded through a combination of Flood Defence Grant in Aid (FDGiA) and private contributions from the industries who will benefit from the scheme. The new defences will provide a high standard of protection to the major industry in the area.

Preliminary Flood Risk Assessment Review

The purpose of the PFRA report is aimed at providing a strategic assessment of flood risk from local sources including surface water, groundwater, ordinary watercourses and canals. The report is a high level screening exercise using readily available data held by Stockton Borough Council and partnering organisations. The report looks at historical past flood events and considers the potential future flood events that may have a significant consequence on human health, economic activity and the environment including cultural heritage. The PFRA is required under the EU Floods Directive and the original 2011 report requires review in 2017.