



St. Helens Council

Environment and Safer Communities Overview and Scrutiny Panel



Review of Flood Defences

Task Group

August 2013

Councillor(s)

Cllr Dave Banks – Chairman

Joe De'Asha

Jimmy Jackson

David Monk

Table of Contents

Page

Chairman's Foreword	3
Introduction and Terms of Reference	4
Method of Investigation	4
Background	5 -7
Findings	7 - 13
Conclusions	13 - 14
Recommendations	14 - 17

Chairman's Foreword and Acknowledgements



Councillor: Cllr Dave Banks Chairman of the Scrutiny Task Group

Water plays a central, though often invisible part of all our lives. It underpins our economy, our society and overall well-being. It is an essential natural resource but one that can occasionally wreak havoc to lives, communities and business.

In response to the flooding incidents in the Borough in 2012, the Environment and Safer Communities Scrutiny Panel wanted to have a look at the council's flood risk management and make sure that the risk of flooding in the borough is dealt with as a whole, joining up the work done by the Council, the Environment Agency and United Utilities and of course our community and individual households.

As part of the review process we considered, in detail, the draft Flood Risk Management Strategy and made a number of comments and recommendations for inclusion. We undertook a number of site visits to areas in the Borough that had been affected by the severe floods in 2012 and we also met with the Environment Agency and the University of Liverpool to hear about their views and future plans for reducing and managing flood risk within the Borough.

It is not technically, economically or environmentally possible to prevent all flooding or to protect all properties from flood risk. However we can focus on working together to implement cost effective measures that will help to reduce flood risk and help to manage the impact felt by communities.

I would like to thank the task group and officers for all their support during the review and in particular would like to mention Matthew Catherall, John Sheward and Rory Lingham from Environmental Protection for their continued support and contributions throughout the process.

1.0 Introduction and Terms of Reference

- 1.1 During the process of agreeing the Scrutiny Work Programme for 2012/2013 the Council's Environment and Safer Communities Overview and Scrutiny Panel agreed to look at Flood Defences.
- 1.2 The aim of the review was to investigate how St.Helens deals with the effects of flooding and what is being undertaken to lessen these effects. The terms of the review were as follows:
- To establish what policies and procedures the Council have in place to manage flood risks in St.Helens.
 - To establish what partnership work is being undertaken to minimise the risks / damage of floods in the borough.
 - To establish what emergency plans are currently in place in the event of a flood occurring.
 - Investigate what skills capacity that the Council has with regards to the relevant workforce.
 - Investigate the funding available to the Council to alleviate the impact of floods.
 - To review any future plans the Council may have with regard to the towns flood defences.

2.0 Method of the Investigation

- We undertook desktop research, including comparisons with neighbouring authorities.
- We held initial background information session from the Head of Asset Management and report to Scrutiny Panel
- Data was provided from the Head of Asset Management.
- Visits were undertaken to various 'hotspot' sites.
- We met with the Environment Agency and Liverpool University
- Information was obtained from partnership organisations / neighbouring local authorities.
- We spoke with members of the public at the various sites to obtain their views.

3.0 Background

- 3.1 For its new statutory responsibilities as a Lead Local Flood Authority (LLFA), the Council is in the process of developing its first strategy for Flood Risk Management in St Helens to understand and manage flood risk within the Borough. The Strategy is a key step in making sure that the risk of flooding in our Borough is dealt with as a whole, joining up the work done by the Council, the Environment Agency and United Utilities and individual households. Scrutiny has had a key role in the development of the strategy and has contributed to the final document.
- 3.2 A flood is defined as when water covers land that is normally dry. The risk of flooding to any particular area can be increased as a consequence of poor maintenance resulting in blockages or other types of failure of watercourses, sewers or drainage systems. It can also be a consequence of poor development and planning and inappropriate development in and around floodplains.
- 3.3 There are different types of flooding and different agencies have responsibilities for managing incidents, the main ones being:

Type of Flooding	Explanation	Responsibilities
River or Watercourse	When water flows out of a watercourse due to heavy rainfall	Environment Agency (EA) for Main Rivers St. Helens Council or Land Owners for none critical watercourses e.g. ditches and small culverts
Surface Water	From intense rainfall and where drains or ground cannot take the flow	St.Helens Council, Land Owners or United Utilities
Foul Sewage	When intense usually short heavy rainfall overloads sewers	United Utilities

- 3.4 The flooding events on the 25th and 26th September 2012 in St Helens were mainly due to Main Rivers overflowing their banks or high flood flow levels (fluvial flooding).

3.5 Responsibilities

Who	Description
St.Helens Council	<p>Following the major floods of summer 2007, the Government set up the Pitt Review. This review led to the Flood and Water Management Act 2010 under which St.Helens Council became a Lead Local Flood Authority (LLFA). This confers a number of new responsibilities on the Council, which are in the process of being developed.</p> <p>The main responsibility of the Council as the LLFA, is that it is the key coordinator between all agencies in respect of managing flood and flood risk now and in the future.</p>

	A detailed plan, known as a Local Flood Risk Management Strategy must be produced. The development of this plan is currently at an advanced stage and the exceptional flooding incidents of 2012 will shape this strategy.
Environment Agency	As the national coordinator, the EA has a strategic overview and is responsible for flood risk management relating to main rivers and regulation of reservoirs. The EA work with the Met Office to provide flood forecasts and warnings.
United Utilities	Work with the Environment Agency and the Lead Local Flood Authority (the Council) to coordinate the water supply and sewage systems.
The Rivers and Canals Trust	Own and manage canals - in St.Helens the Blackbrook section of the Sankey Canal and Carr Mill Dam are owned by the Trust.

3.6 The St.Helens River System

3.7 The majority of St.Helens lies within the catchment of the River Mersey and in the Sankey sub catchment. Sankey Brook is the prime watercourse draining St.Helens. The central area is drained by a radial pattern of tributaries including Black Brook from Billinge in the north, Rainford and Windle Brook to the northwest. Clipsley Brook drains Haydock whilst Sutton and Pendlebury Brooks drain Rainhill and Lea Green.

3.8 To the south of the M62 Whittle, Union Bank and Penketh Brooks all drain to the Mersey. Due to its position at the top of the Sankey Catchment St.Helens has historically had very few flooding incidents unlike the neighbouring towns of Warrington and Widnes. However three distinct flood events of varying severity have occurred during 2012.

3.9 Weather Patterns and Flood Warnings

3.10 2010 and 2011-experienced one of the most prolonged dry periods since 1953. They also had one of the worst winters for 100 years. We started 2012 with much the same pattern of dry weather with early drought orders in many parts of the country. However, from June the weather patterns changed drastically. The summer of 2012 was one of the wettest for 100 years, nationally recording 200% rainfall above average.

3.11 We had 3 flood events over the summer of 2012 with the most recent and severest of floods on the 25th and 26th September when 90 mm of rain fell in just 48 hours compared to September's normal



average of 73.44 mm for the entire month. This occurred because the deepest low pressure weather system for 30 years stationed itself over the north of the UK.

- 3.12 The floods of September 2012 were the worst that have occurred in St.Helens since the autumn of 2000. The event equated to rainfall intensity of a 1 in 30 year storm. The Council receives extreme weather warnings, but over the summer, these have often proved inaccurate because summer storms can be highly localised and short in duration but of high intensity, often tracking across the southern part of St. Helens.
- 3.13 Storms have often not materialised or been as severe as forecast. Sometimes they have happened, when not forecast at all. However, the September event was forecast accurately. We could not have more categorical evidence that the weather pattern is changing. We are facing a future of erratic, un-seasonal and extreme weather with flooding becoming the highest risk for the town.

4.0 Findings

4.1 Understanding the likely extent of a flood

- 4.2 It is difficult to predict when floods will occur, but we are better able to understand when and where flooding will occur and the impact that it could have. Flood mapping has improved substantially and although this is work in progress, the Council now has a range of maps and scenarios that do assist, particularly with regard to assessing new development. They also allow a range of mitigation measures to be put in place to manage flood risk.
- 4.3 In many cases, as in most towns, flooding in St.Helens cannot be completely eradicated. This is a consequence of the town's historical development pattern. The flooding on the 25th and 26th September 2012 proved the predictive accuracy of the flood maps and confirmed (with one exception) that all the properties affected are within a category 3 national flood zone (the highest category).
- 4.4 As part of its new duties, the Council, as the Local Lead Flood Authority, must map and carry out condition surveys of all flood management assets in the Borough that are not managed by the Environment Agency and apply a range of flood scenarios to those assets. This exercise is a major undertaking and we are currently aware of some 400 culverts within the Borough that are in a mix of private and St Helens Council ownerships.
- 4.5 Over a period of time, an understanding of our assets, their condition and the level of risk posed by the failure of each one will contribute to our flood resilience.

4.6 Existing Protection Measures

Alerts

- 4.7 The Council receives likely abnormal weather warnings from the Met Office, which are disseminated through the Council. On the 24th September 2012 a

Tele-conference was convened by the Environment Agency with all responders and Local Authorities to prepare for the forecasted extreme weather event. The Environment Agency is the lead responder for the provision of flood warnings for St.Helens and has in place early warning alerts for flood zones in the following areas:

- Windle Brook - Dentons Green
- Mill Brook - Eccleston
- Rainford Brook – Moss Bank and Rainford north and south
- Sutton Mill Brook - Sutton Leach
- Sutton Brook - Moss Nook

4.8 We heard from the Environment Agency (EA) that currently flood alert warnings are available to 545 out of 931 properties at risk from river flooding.

The EA ensure householders and businesses in these areas are aware of this service. Although within a category 3 flood zone the EA has no flood warning system in place for Black Brook West End Road. Flood warnings for these catchments were issued



by fax and email updated from the 24th to the 27th September.

4.9 The Council has one independent monitoring system at the Peasley Cross Bridge Railway that warns motorists that the road is closed. This activates once the water reaches 150 mm depth in the channel of the road. The technology for this flood warning installation is successful and others are being considered at College Street and Islands Brow, all of which are prone to regular flooding. Unfortunately, drivers often choose to ignore flood warning signs, advising them of road closures. Traffic diversion routes are planned and ready for implementation at locations where we know that flooding is likely to occur.

4.10 Communications

4.11 Communications are crucial in times of adverse weather. Some of the warnings are automated, or via Emergency Planning arrangements and warnings from the EA and Met Office assisted the Council to be prepared as far as was possible. The Environment Agency provides direct flood warnings via text or phone direct to householders in the respective flood zones. Community information is given on the Councils web site and the Environment Agency Flood Line Warnings Direct Service website. This gives advice on how residents' properties can be protected and how to establish a "flood plan".

4.12 The Council's website provides links to the Environment Agency leaflet "What to do before, during and After a Flood". Road closures are uploaded and

publicised via the local media and through Variable Message Signs in the borough. The Council website recorded 1,642 visits to its flood pages across the period 24th and 25th September 2012 with 80% of visitors going on to link to the Environment Agency web site. It was suggested that in these high risk areas, a designated 'flood warden' could also communicate information between residents.

4.13 Response to Flood Events

4.14 The Council receives details of a flood via the following communication channels:

- The Council's Contact Centre or via the emergency 24/7 contact number.
- Directly from the emergency services – usually the first responders
- From the Councils CCTV system in certain locations
- Automatic systems that detect flooding, as at Peasley Cross Lane

4.15 During the course of events, particularly during a sudden and intense storm, it is not possible to respond to every location, therefore priority is given to where there is a risk to life, health or internal flooding of properties. But households should not rely on the Council for assistance and should prepare accordingly. Indeed, it is often the case that the event can be over almost as soon as the alert is raised. Often the Police are the first responders and take action to close roads if required. With regard to the recent incident at West End Road, a Council Officer alerted the Fire Service and they attended there first. Householders are responsible for the protection of their own property, but assistance is provided by the distribution of sandbags by the Council, where possible, on a without prejudice basis. Rescues are undertaken by the emergency services.



4.16 The Council has in place an Emergency Plan that revolves around a single point of contact. It has been designed to enable the Council to:

- Receive notification of emerging incidents via a 24/7 facility
- Respond to initial requests for assistance via a Duty Officer mechanism
- Activate the crisis management team of specialists to respond

4.17 Environmental Protection has the following operational assistance in place:

- Drainage Officer

- Call out drainage operatives
 - Call off arrangements for road signing
 - Sandbag stock delivered where possible (without prejudice)
 - Sign and barrier stock and crew to deliver
 - Road gully emptier and crew
 - Road sweeper for the recovery phase
 - Permanent road warning signs in high risk areas
- 4.18 Humanitarian assistance with relocation and temporary accommodation is arranged by the Council's Duty Officer in accordance with the Council's Emergency Plan and by reference to specialist Council departments.
- 4.19 Environment Agency has the following operational assistance in place:
- Clearance of culvert grillages etc at known locations
- 4.20 St Helens Local Flood Risk Management Strategy**
- 4.21 St Helens Council is now the Lead Local Flood Authority responsible for preparing a "Local Flood Risk Management Strategy " which sets out our approach to managing flood risk in St Helens. In the development of the Strategy, the Council has already been through a rigorous process of consultation with partners, including the Environment Agency and United Utilities. The task group were also consultees in the development of the Strategy and suggestions and feedback will be incorporated into the final document.
- 4.22 The priority is to reduce flood risk to persons and property. In addition social and economic benefits can be achieved, it is important that any actions we take forward from the strategy also focus on achieving wider environmental benefits. The implementation of flood risk management options and measures provides a significant opportunity to improve the natural, rural and built environment across the town. The strategy will contribute to the achievement of wider environmental objectives in the following ways:
- Improve and/or maintain the capacity of existing drainage systems by targeted maintenance;
 - Take a sustainable approach to flood risks management, balancing economic, environmental and social benefits;
 - To reduce the impact and consequences for individuals, communities, businesses and the environment from flooding:
 - To ensure that planning decisions are properly informed by flooding issues and the impact future planning may have on flood risk management and long term developments;
 - Establish a Sustainable Drainage Systems Approval Body (SAB); and embrace Government guidance on the encouragement, adoption and maintenance of SuDS (Subject to Enactment of Schedule 3 of the Flood and Water Management Act 2010).

- 4.23 It is important that the Council has a record of all flooding that occurs within the Borough, regardless of the source or the extent. The Strategy states it will determine who is responsible for managing the flooding, and for incidents which result in flooding inside properties or which results in road closures; we will undertake a formal investigation. Smaller incidents will be kept on record and could be crucial in building up cases for flood defence / resilience schemes, which require a strong evidence of risk.
- 4.24 Although there is no formal deadline for the strategy to be produced or updated, we believe that continued monitoring, review and development are essential to ensure that local flood risk management is responsive to changes. This is especially important in these early years when there are expected to be substantial changes in the planning system, new requirements for sustainable drainage, changes in funding and design of flood management schemes, and improvements in our knowledge of flood risk across the Borough.
- 4.25 Once public consultation closes, the strategy will then be formally approved later this year. The strategy will be regularly monitored and reviewed every 3 years, and the action plan updated annually

4.26 Findings from Site visit to Carr Mill Dam Overflow and West End Road

- Carr Mill and West End Road are related to problems with Main River and Canals managed by the Environment Agency and Canals and Rivers Trust.
- Carr Mill Dam is owned by the Rivers & Canal Trust, but the Power Boat Association has all water rights.
- Overflow from the Dam goes down to Blackbrook at the Ship Inn, the sight of the 2012 flooding.
- The Group discussed potential ideas and thoughts to increase the water storage capacity.
- A land survey has been completed at Blackbrook and has just been sent to the Environment Agency (EA) so they can start mapping the area.
- EA also looking into the possibility of floodgates being fitted at the Blackbrook properties.



- John Sheward stated that the EA has given the LA £30,000 for investigation works and some of this money has been allocated for the Rainford Beech Gardens site which would cover the survey cost.

4.27 Findings from Site Visit to Bold – School Lane / Warrington Road

- Where School Lane meets Warrington Rd there are a few houses that flood when a small brook which runs in front of the houses backs up and floods across the main road onto their properties.



- Group stated that there doesn't seem much that can be done as the small brook goes underground and into private farm fields.
- Group stated that in all cases there is a lack of maintenance by the Environment Agency. Although the watercourse at School Lane is an Ordinary Watercourse and responsibility of land owners. A detailed study has been commissioned in this area.
- They suggested that the owners might have to look into flood defences for their properties.

4.28 Findings from Site Visit to Rainford Brook

- Beech Gardens in Rainford flooded in September 2012 due to the brook overflowing.
- The brook overflowed during the heavy rain and flooded the street and across into a number of properties.
- The water entered the houses via the airbricks and flowed under the floors of the houses, (some residents have since fitted non-return air bricks to their properties).
- Residents from three



properties talked to the task & finish group about the experience.

- Residents stated that it was difficult to get house insurance due to the flooding, if they do get a quote it's very expensive.
- A survey of the brook has been undertaken by the Environment Agency.
- It was discussed that Rainford Parish Council could possibly arrange for a survey to be undertaken in addition to the EA. Following the visit the ES have made a grant to the Council to commission a detailed study.
- It was identified by the Council Officers present that there could have been several reasons why the brook overflowed and that these required further investigation.

5.0 Conclusions

- 5.1 Flooding is a part of nature. It is neither technically feasible nor economically affordable to prevent all properties from flooding. It is our aim to reduce flood risk and minimise the harm caused by flooding. The Council takes a risk-based approach to achieve the best results possible using the budget and resources available. The Flood Risk Management Strategy states we will continue working to reduce both the likelihood of flooding and the impacts of a flood when it happens. We believe that informing people a flood is about to happen is vital, as it gives them time to prepare. We would also encourage those in risk areas to make a flood plan, so that they are ready when the warning comes.
- 5.2 The Environment Agency are the Lead Responder for provision of flood warnings and information to the public, However, all Category One responders have a role to play in communicating with the public and will either lead or play a significant part at some stage in a flood event, e.g. Police (public safety announcements and information in the consequent management phase), the Council (recovery phase), etc.
- 5.3 The principal method of warning the public of flood risk in Merseyside is via the Environment Agency's Flood Line Warnings Direct system, and messages that the EA issue via local media. It is the property owner's responsibility under the law to protect his or her own property from flooding. However the EA, St.Helens Council and the Emergency services where possible will offer assistance in the event of a flood. Whilst we heard that a number of properties had signed up to the direct alerting system, there were still a large number of properties at risk that had declined the offer of an early warning system. If a 'flood warden', designated member of the community, was present at the high risk sites, it would enable another form of communication for residents.
- 5.4 If serious flooding involves people having to be evacuated, the Council may be able to offer temporary shelter centres with food and bedding. Emergency services (Fire, Police, Ambulance and the Army) will help to evacuate people who are stranded or in danger. It is important to understand that although these bodies can assist at the time of flooding, they are not required by the

law to protect homes or other properties from flooding. The responsibility to do that lies with the property holder.

- 5.5 During a pending or ongoing emergency communications are vital. This is an area requiring continual refinement as forecasting techniques and information technology develops particularly in the use of social media networks. As a source of information the Council's web pages have proved the most effective and accessed media as a source of information at times of flooding. Information should continue to be published on a regular basis as well as through traditional news media channels. When appropriate the Councils network of highway variable message signs could be used to inform of road closures. The Councils mobile device 'App' is now available for the public to use, however this does not currently store any flood risk information. This may be an area which requires further consideration.
- 5.6 Residents of St.Helens who live in identified flood risk areas should not rely upon the Council to respond to a threat of flooding to their property but should have in place their own flood protection plan. The provision of sandbags and assistance by the Council is available subject to the availability of manpower and the assessed priorities at the time. During the review we heard that investigations into new/alternative products had been undertaken to replace sand bags. These are material bags called 'hydro snake' and 'hydro sack', which act in a similar manner to sand bags to protect properties and cost approx £2000 for 80 packs.
- 5.7 Maintaining surface water assets within the highway is undertaken to relevant service standards. The location of assets is well documented allowing for a high quality maintenance regime managed by the Highway Authority. The maintenance of other assets, such as ordinary watercourses and ditches is often poor where local landowners are responsible especially when culverting has taken place. Dumping of waste is problematic and causes blockages and flooding. In many cases the location of assets is unknown. Management of these assets requires significant development.
- 5.8 Under the new Act the Council has to ensure that a list of assets is drawn up, inspected and maintained. The Local Flood Risk Management Strategy has to be in place by the end of 2013. As part of the ongoing work, JBA consultants have been commissioned to undertake studies of areas that have been identified by the Council in appendix 5 of the draft strategy. Funding grants from the Environment Agency will then have to be applied for and there is a possibility match funding will be required. Grants will only be accepted if flooding actually affects properties or in certain circumstances a proven economic case.

6.0 Recommendations

1. The Council seek grant funding from the Environment Agency / North West Regional Flood Defences Committee to undertake detailed flood studies at critical known flooding locations.
2. That the comments/findings suggested by the task group during the review process be included as part of the consultation process for the draft Flood Management Strategy.

3. That the Council undertake a location and condition assessment of drainage assets, particularly culverts
4. That following identification of Council's assets, the Council ensure that culverts and watercourses managed by the local authority are regularly maintained. Following this identification, the Council should ensure that all responsible organisations maintain the waterways/culverts where there is a flood risk.
5. That further investigations into how sand bags and alternative flood defence equipment (sign and barrier stock) are provided and distributed.
6. That further consideration be given as to how improved resilience – waterproof doors, special airbricks, non-return valves etc. could be provided at properties that are subject to a risk of flooding.
7. That the Council continue to make use of its enhanced enforcement powers to ensure landowners maintain critical culverts and ditches.
8. That further discussions be held with the Environment Agency to ensure residents in high-risk flood warning zones are aware of the flood warning/alerts service and that more are registered to receive warnings via text or phone.
9. That the Council's mobile device 'app' be updated to contain a flood risk information tab.
10. That the Councils ensure that permanent road warning signs are in place at all high risk flood areas.
11. That the Environment Agency be requested to consider putting a flood warning system in place for Black Brook West End Road which is a category 3 flood zone.
12. That the Council work in partnership with all relevant agencies and communities to increase publicity on a local level and encourage the establishment of Flood Wardens in certain areas.

Flood Defences

Rec No	Recommendation	Responsible Officer	Agreed Action and Date of Implementation
1	The Council seek grant funding from the Environment Agency / North West Regional Flood Defences Committee to undertake detailed flood studies at critical known flooding locations.		
2	That the comments/findings suggested by the task group during the review process be included as part of the consultation process for the draft Flood Management Strategy		
3	That the Council undertake a location and condition assessment of drainage assets, particularly culverts		
4	That following identification of Council's assets, the Council ensure that culverts and watercourses managed by the local authority are regularly maintained. Following this identification, the Council should ensure that all responsible organisations maintain the waterways/culverts where there is a flood risk.		
5	That further investigations into how sand bags and alternative flood defence equipment (sign and barrier stock) are provided and distributed.		
6	That further consideration be given as to how improved resilience – waterproof doors, special airbricks, non-return valves etc. could be provided at properties that are subject to a risk of flooding.		

Flood Defences

7	That the Council continue to make use of its enhanced enforcement powers to ensure landowners maintain critical culverts and ditches.		
8	That further discussions be held with the Environment Agency to ensure residents in high-risk flood warning zones are aware of the flood warning/alerts service and that more are registered to receive warnings via text or phone.		
9	That the Council's mobile device 'app' be updated to contain a flood risk information tab.		
10	That the Councils ensure that permanent road warning signs are in place at all high risk flood areas.		
11	That the Environment Agency be requested to consider putting a flood warning system in place for Black Brook West End Road which is a category 3 flood zone.		
12	That the Council work in partnership with all relevant agencies and communities to increase publicity on a local level and encourage the establishment of Flood Wardens in certain areas.		