

London Borough of Sutton Local Flood Risk Management Strategy

Summary

2014 - 2020



Introduction

In response to the severe flooding across large parts of England and Wales in summer 2007, the Government has enacted the Flood and Water Management Act 2010 ('the Act') and the Flood Risk Regulations 2009 giving local authorities new powers to manage local flood risk in a more coordinated way. As a Lead Local Flood Authority our, Sutton Council's, responsibilities relate to 'local' flood risk from surface water, groundwater and small rivers, streams and ditches.

We have a legal requirement under the Act to develop, maintain, apply and monitor a Local Flood Risk Management Strategy ('the Strategy') that:

- Provides an overview of flood risk management work being undertaken and planned throughout the Borough,
- Explains how partners are working together to reduce flood risk, and,
- Clearly sets out which organisations are responsible for different types of flooding in the Borough to ensure a common understanding of roles, responsibilities and priorities within the Borough.

The increase in extreme weather conditions, the presence of existing buildings in areas of flood risk, and limited public funding, means that we cannot prevent all flood incidents happening in the Borough. However, through the strategy we can coordinate our services so that flood risk is reduced and the impact of any flood incidents is minimised. The strategy also provides us with an opportunity to work together with local residents, businesses and stakeholders to minimise risk and prepare for the effects of climate change.

Nationally, around 5.2 million properties are at risk of flooding; 1.4 million are at risk from rivers or the sea, 2.8 million at risk from surface water and 1 million are at risk from both.
(Environment Agency, 2009)

This document is a summary of the London Borough of Sutton Strategy, setting out our plan for the management of local flood risk across the Borough during the period 2014 - 2020.

The full Local Flood Risk Management Strategy is available at our Denmark Road, Carshalton office.

Development of the Strategy

The Strategy has been developed by us in partnership with the Environment Agency and Thames Water, as well as local communities and neighbouring boroughs. It has been informed by local, regional and national policy, including the Environment Agency's National Strategy for flood and coastal risk management, to ensure a coordinated approach to flood risk management within Sutton.

A community engagement exercise was undertaken between December 2013 and April 2014. The outcomes from this have been used to shape the development of the Strategy and future flood risk management priorities.



Wallington Railway Bridge, July 2007
(Source: www.yourlocalguardian.co.uk)

The purpose of the Strategy

The aim of the Strategy is to work in partnership with local communities, and organisations responsible for managing flooding, in order to better understand and reduce local flood risk in Sutton where it is economically, technically, socially, and environmentally feasible to do so. To achieve this aim a number of key objectives have been identified.

London Borough of Sutton Local Strategy Objectives

1. Improve our understanding and data holdings regarding mechanisms of flooding in Sutton,
2. Build on relationships with Risk Management Authorities and maximise joint working opportunities for multiple benefits,
3. Proactively encourage sustainable practices and identify opportunities for holistic water management across the Borough,
4. Reduce the number of homes and businesses at risk of flooding, and
5. Support local residents to increase their own resilience to flooding.

How are we working with others?

Several organisations have a role to play in minimising the risk and impact of flooding in the Borough. The Strategy clarifies the responsibilities of the different organisations involved in flood risk management including how they work together and what you should expect of them.

Our responsibilities (Sutton Council)

We have a number of roles and responsibilities relating to flood risk management including:

- **As the Lead Local Flood Authority and a Risk Management Authority** – we have legal duties and powers to investigate significant flooding events, maintain a register of significant flood risk assets and manage flood risk from ordinary watercourses,
- **As the Highways Authority** – ensuring that highways are drained of surface water and where necessary maintain all drainage systems,
- **As an Emergency Responder** - along with other organisations, developing emergency plans and business continuity plans for use during an emergency,
- **As the Local Planning Authority** - to consider flood risk in the development of the Local Plan, to be the decision maker on flood risk for planning application for development and to undertake a Strategic Flood Risk Assessment to inform strategic land use planning, and,
- **As an Asset Owner** – as the asset owner for flood risk assets on our own land, we have responsibility to manage and maintain these to ensure they operate as required and do not increase flood risk.



*Flooding on Revell Road, Sutton
(Source: Sutton Council)*

Risk Management Authorities

Aside from ourselves, Risk Management Authorities in Sutton include the Environment Agency, Thames Water (as the sewerage undertaker), Transport for London and neighbouring Boroughs, where flood risk crosses administrative boundaries.

The multi-agency South West London Strategic Flood Group has been established and includes representatives from each of the six boroughs in the area, the Environment Agency and Thames Water. The Strategy has been developed through this Partnership Group to ensure that a joined up approach is adopted throughout South West London.

Other flood risk management organisations

There are a number of other relevant organisations that have a key role to play in managing flood risk in the Borough, e.g. Network Rail and Natural England. These organisations will be involved as required to support flood alleviation projects, or to provide information, support and input on a project-by-project basis.

Public, businesses and community groups

The public, community groups and businesses also have a role to play in the management of flood risk. The Strategy highlights that people and properties in known flood risk areas should be prepared for flood incidents. Anyone who owns land adjoining a watercourse, known as a Riparian Owner, also has certain responsibilities to ensure the unobstructed flow of water.

Our aim is that the public and local community groups are aware of the flood risks they face, take action to reduce their vulnerability to flooding, and are actively involved in flood risk management. To achieve this vision, we will:

- Raise awareness of local flood risk and encouraging local communities to take action, and,
- Target communities at greatest risk as part of flood studies or development of a flood alleviation scheme.

Flood risk in the Borough

Our responsibility, and the focus of the Strategy, is the management of 'local' flooding. By this we mean flooding from:

- **Surface water** – this occurs when heavy rainfall cannot be absorbed into the ground or enter the drainage systems,
- **Ordinary watercourses** – this occurs when smaller watercourses, such as streams, ditches, drains, cuts, dykes and sluices cannot hold the volume of water flowing through them and overflow their banks onto surrounding land, and,
- **Groundwater** – this occurs when water levels in the ground rise above surface levels, which is most likely to occur in areas underlain by permeable rocks and after seasonal periods of prolonged rainfall.



*Hamilton Avenue, July 2007
(Source: Sutton Council)*

However, the most severe flooding is often caused when different sources of flooding combine. Whilst developing the Strategy we have considered the impact of river, sewer and other forms of flooding and we are working in partnership with the Environment Agency and local water and sewerage companies where there are combined sources of flooding.

Other sources of flooding include:

Rivers – this occurs when a watercourse cannot cope with the volume of water draining into it and overflows its banks onto surrounding land. Large ('Main') rivers in Sutton include the River Wandle, Pyl Brook, the East Pyl Brook, and Beverley Brook,

Sewer – this occurs when surface water or combined (surface water and foul) sewers are overwhelmed by heavy rainfall, which exceeds the capacity of the sewer drainage system, the system becomes blocked by debris or sediment, and/or the system surcharges due to high water levels in receiving watercourses, and,

Reservoirs – this occurs when reservoirs, which hold large volumes of water above ground water, overtop, i.e. cannot contain the amount of water flowing into them, or when part of the reservoir fails resulting in a fast release of water. Russell Hill Reservoir is located just to the south-east of Sutton in the London Borough of Croydon.



*Surface water sewer outfall into River Wandle at Hackbridge, Sutton
(Source: Sutton Council)*

Historic flooding

Historically, Sutton has been affected by flooding from surface water, rivers, groundwater and sewers, the most significant recent flooding event occurring in the summer of July 2007 when heavy rainfall caused flooding from surface water, rivers and sewers to combine to impact properties across the borough, particularly within the areas of Beddington, Hackbridge, Worcester Park and Wallington.

There have been several reported groundwater flooding incidents in the north west of the Borough, the majority of these occurring in 2001 which was a particularly wet period. The high groundwater levels experienced from December 2013 to April 2014 caused the Carshalton Place Canal, Carshalton Park Canal and Westcroft Canal (tributaries of the River Wandle) to flow for the first time in over 10-15 years. Although flooding to properties was minimal during this time, work was required to manage the flows in The Grove and Carshalton Park and to avoid Carshalton High Street from being flooded.

Major flooding from rivers has not occurred in Sutton since 1968, when extensive flooding occurred along the banks of the Pyl Brook, East Pyl Brook and the Beverley Brook, in the north west of the borough.

Historically, sewer flooding has occurred in a number of locations across the Borough, including Wallington and Worcester Park. Several incidents have occurred where the sewer system has surcharged during high flows in the Beverley and Pyl Brooks, resulting in flooding upstream and in surrounding areas.

Risk of flooding

Sutton is at greatest risk of flooding from surface water, river and groundwater sources and it is predicted that this will increase in the future; influenced by climate change and increasing pressures on development and housing need. This does not, however, indicate that the future flood risk from other sources is insignificant. Runoff from roads or impermeable areas and flooding from road gullies were



*Surcharging of surface water sewer system at Wallington Rail Bridge
(Source: www.yourlocalguardian.co.uk)*

identified as the main sources of flooding perceived by local communities.

Risks from river flooding associated with the Beverley Brook, Pyl Brook, East Pyl Brook and River Wandle are relatively well understood and have been managed at a catchment level for many years by the Environment Agency. These risks are mapped and delineated into Flood Zones, which are available through the Environment Agency's website and are used to guide planning decisions. However, flood risk from local sources is less well understood; these

are typically very localised events which are often difficult to predict and there are few historical records available to provide supporting evidence. In particular this is the case for flooding from ordinary watercourses, which is overall considered to be a low risk across the Borough.

Residential Properties at Risk of Surface Water Flooding in Sutton

High Risk	approx. 2,000 Houses
Medium Risk	approx. 5,200 Houses
Low Risk	approx. 16,300 Houses

Based on Flood Map for Surface Water (Environment Agency, December 2013)

Parts of Sutton have a particular susceptibility to surface water and sewer flooding due to the urbanised nature of the area and the complexity of the sewer system leading to a high potential for constrictions, blockages and failure. Over recent years, severe surface water flooding has been experienced across the area causing damage to property and disruption to businesses and services.

Non-Residential Properties at Risk of Surface Water Flooding in Sutton

High Risk	approx. 220 Businesses approx. 40 critical infrastructure*
Medium Risk	approx. 220 Businesses approx. 65 critical infrastructure*
Low Risk	approx. 220 Businesses approx. 140 critical infrastructure*

* Critical infrastructure includes fire, police and ambulances stations, health and education facilities, care homes and electricity substations.

Based on Flood Map for Surface Water

The most recent information available from the Environment Agency shows that areas identified to be particularly susceptible to surface water flooding include Carshalton, Trafalgar Avenue, Worcester Park, Hackbridge and Sutton Junction.

Flood risk from groundwater is less well understood within the borough than that from surface water, rivers or sewers. Groundwater flooding can be particularly difficult to predict due to the 'hidden' nature of the source of flooding and relatively longer period as the water table rises and emerges, often several days or weeks after heavy rainfall has fallen and river levels have dropped. Available flood risk datasets indicate that the north east of the borough,

and a band in the centre of the borough in Wallington and Cheam are predicted to be at greatest risk, where permeable deposits (which usually consist of sediments such as gravel, sand, silt and clay) associated with the river valley are located.

Sewer flooding is recorded and mapped by Thames Water as the sewerage undertaker in Sutton. Climate change is anticipated to increase the potential risk from sewer flooding as summer storms become more intense and winter storms more prolonged. This combination is likely to increase the pressure on the existing efficiency of sewer systems, thereby reducing their design standard and leading to more frequent localised flooding incidents. There are a number of known areas susceptible to surcharging of sewer and drainage systems across the Borough, many of these where the system discharges into rivers, and the ability to do this can therefore be impacted by high water levels in the receiving watercourses.

How will we deliver local flood risk management?

The Strategy sets out how we will deliver the objectives of the Strategy over the next six years. A number of measures and actions have been identified to achieve this, and these are set out in the Action Plan that accompanies the Strategy. These will help us to improve our understanding of flood risk across the Borough and inform the way we reduce this and plan for resilience against the impacts of climate change.

In delivering flood risk management, we have the opportunity to deliver wider environmental objectives and requirements, as set out in European Legislation including the Water Framework Directive. A Strategic Environmental Assessment and a Habitats Regulations Assessment Screening exercise has been undertaken to inform the Strategy development.

Objective	How we will deliver the objective
<p>Improve our understanding and data holdings regarding mechanisms of flooding in Sutton.</p>	<ul style="list-style-type: none"> Put a system in place to enable the capture and interrogation of information regarding historic flood risk. Update and utilise existing flood studies to inform the understanding of flood risk across the borough. Improve understanding of the hydrological links between boroughs and work with neighbouring LLFAs where cross-boundary issues exist. Improve how flood risk information is communicated in-house and influences different work streams of the Council. Develop and prioritise area-wide action plans for critical drainage areas based on Surface Water Management Plan. Gain better understanding of the threat groundwater poses in Sutton and its influence on SuDS and future development.
<p>Build on relationships with Risk Management Authorities and maximise joint working opportunities for multiple benefits.</p>	<ul style="list-style-type: none"> Work with Risk Management Authorities and stakeholders to maximise partnership working opportunities to deliver flood remediation at catchment and local levels. Continue to support the South West London Flood Group and seek opportunities for collaborative working and sharing of best practice across South West London.
<p>Proactively encourage sustainable practices and identify opportunities for holistic water management across the Borough.</p>	<ul style="list-style-type: none"> Set up a procedure enabling the LLFA to carry out their statutory consultee role assessing proposed drainage measures in major planning applications. Promote SuDS creation through landscaping schemes for biodiversity Ensure Sustainable water policy is being implemented effectively and the water environment managed holistically.
<p>Reduce the number of homes and businesses at risk of flooding.</p>	<ul style="list-style-type: none"> Seek opportunities to carry out flood alleviation works to reduce the likelihood of flooding in Sutton. Seek funding for further flood alleviation works. Ensure council extreme weather event and flood recovery plans are kept updated.
<p>Support local residents in increasing their own resilience to flooding.</p>	<ul style="list-style-type: none"> Educate residents to understand how they can influence and get involved in local flood risk management. Work towards public understanding and acceptance of particular areas being designed to provide flood storage as well as other multiple benefits when dry.

How will we prioritise flood risk management actions?

It is not possible to prevent all flooding, and with limited resources and funding it is not possible to carry out work in every area at risk of flooding. The approach must be proportionate and risk based and all authorities have to ensure that environmental consequences are taken into account.

Projects are likely to fall under three broad categories:

- Schemes with highest eligibility for national funding,
- Local priorities with lower eligibility for national funding, and,
- Ongoing programmes of work and maintenance schedules.

As our understanding of flood risk improves and evidence is forthcoming specific mitigation schemes and activities will be developed to address flood risk in those areas at greatest risk, where funding is available.

How will flood risk management be funded?

To date, flood risk management activities in the Borough have primarily been funded through central government grants. However, the current economic climate places significant pressures on these funding sources and in the future there will be greater emphasis on us to fund activities and schemes from our own or alternative local sources of funding.

Since April 2012, flood risk management projects funded by Government, relate directly to the number of households protected, damage prevented and other benefits such as the environmental or business benefits that will be delivered. We are developing our understanding of areas in Sutton that have the highest eligibility for national funding, and to date have successfully secured funding, to investigate flood risk in some of the higher risk areas of Cheam, Carshalton, Hackbridge, and Cedar Road (Sutton), through both national and local sources of funding, including the Drain London project, administered by the Greater London Authority.

In the future we will need new ways of working to make sure we can successfully reduce the risk of flooding as well as finding new ways to pay for the improvements. Whilst it may be possible to fully pay for some projects using available national sources of funding, it is likely they will require a wider range of funding sources (including contributions from local communities and businesses as beneficiaries). The Strategy provides detail on the additional funding options that will be considered in the Borough, including seeking contributions from developers.

What happens next?

The draft Strategy has undergone a period of public consultation, which offered residents, businesses and risk management stakeholders the opportunity to provide feedback. Following the public consultation period, we have considered what you have told us and have use it to update the Strategy, where necessary. We have now adopted the Strategy and use it as the basis for local flood risk management.

Although the Strategy is for the period up to 2020, we believe that continued monitoring and review are essential to ensure that flood risk management is responsive to changes. This is especially important in the early years when there are expected to be 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.

The full Local Flood Risk Management Strategy is available at our Denmark Road, Carshalton office.