

# London Borough of Richmond upon Thames Local Flood Risk Management Strategy

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Summary

2015 - 2020



## Introduction

In response to the severe flooding across large parts of England and Wales in summer 2007, the Government has recently enacted the Flood and Water Management Act 2010 giving local authorities new powers to manage local flood risk in a more co-ordinated way. As a Lead Local Flood Authority, Richmond 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 Flood and Water Management Act 2010 to develop, maintain, apply and monitor a Local Flood Risk Management Strategy ('Local 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.

This document is a summary of the London Borough of Richmond upon Thames Local 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 on the Council's website:  
<http://www.richmond.gov.uk/flooding>

## Development of the Strategy

The Strategy has been developed by Richmond Council 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 Richmond Borough.

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

## The purpose of the Local Strategy

The aim of the Local 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 Richmond Borough 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 Richmond upon Thames Local Strategy Objectives

1. Encourage direct involvement in decision making through the establishment of and maintaining partnerships with key organisations, including the Environment Agency and Thames Water
2. Improve our knowledge and understanding of the interactions between different sources of flooding in Richmond Borough
3. Encourage residents, businesses and local landowners to take action and contribute to the management and reduction of flood risk
4. Target resources where they have the greatest effect by adopting a risk-based approach
5. Contribute to wider social, economic and environmental outcomes by encouraging sustainable multi-benefit solutions for the management of local flood risk

## 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 in the Borough including how they work together and what you should expect of them.

### Richmond Council

We have a number of roles and responsibilities relating to flood risk management in the London Borough of Richmond upon Thames, 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,
- **Emergency Responder** - along with other organisations, developing emergency plans and business continuity plans for use during an emergency,
- **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,
- **Asset Owner** – as the asset owner for flood risk assets, we have responsibility to manage and maintain these to ensure they operate as required and do not increase flood risk.

## Risk Management Authorities

Risk Management Authorities, as defined by the Flood and Water Management Act (2010), include Richmond Council, other London Authorities, the Environment Agency, Thames Water (as the sewerage undertaker) and Transport for London.

The multi-agency South West London Strategic Flood Group has been established that includes representatives from each of the six South West London boroughs, the Environment Agency and Thames Water. The Local 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. (such as 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 and community groups

The public, community groups and businesses also have a role to play in the management of flood risk. The Local Strategy highlights that people and properties in known flood risk areas should be prepared for flood incidents. Anyone who owns land adjoining a watercourse 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 London Borough of Richmond upon Thames

The Council's responsibility, and the focus of this Local 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 is likely to occur after seasonal periods of prolonged rainfall.

However, the most severe flooding is often caused when different types of flooding sources combine. Whilst developing the Local Strategy we have considered the influence of river, sewer and other forms of flooding and we are working in partnership with the Environment Agency, Thames Water and other stakeholders where there are combined sources of flooding.

Other sources of flooding include:

- **Sea (tidal)** – this occurs when water levels from the sea overtop or breach flood defences. Within Richmond Borough, the River Thames is tidally influenced up to Teddington Weir. The Thames Tidal Defences however protect the borough from tidal flooding through a combination of raised defences and the Thames Barrier.

- **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 Richmond Borough include the River Crane, Beverley Brook, Duke of Northumberland River, Whitton Brook, Portlane Brook and River Thames.
- **Sewer** – this occurs when sewers are overwhelmed by heavy rainfall, which can be the result of where the rainfall event exceeds the capacity of the sewer or 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 or artificial lakes** – 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. Within Richmond Borough there are artificial lakes located in Richmond Park and Bushby Park, as well as several reservoir storage areas in the south west of the Borough.

### Historic Flooding

Historically, Richmond Borough has been affected by flooding from surface water, rivers, groundwater and sewers.

Over recent years, severe surface water flooding has been experienced across the area causing damage to property and disruption to businesses and services. The most significant recent flooding event occurred January 2014 when sustained heavy rainfall caused flooding from surface water, rivers and sewers to combine to impact properties across the borough.

### Risk of Flooding

Flood risk is based on the potential risk that might arise based on knowledge of known flooding hotspots and potential mechanisms for flooding. Richmond Borough is at greatest risk of flooding from surface water, sewers, main rivers and groundwater sources. It is predicted that this risk will increase in the future; influenced by climate change and increasing pressures on development and housing need. This does not, however, indicate that flood risk from other sources is insignificant.

Risks from river flooding associated with the River Crane, Beverley Brook, Duke of Northumberland River, Whitton Brook, Portlane Brook and River Thames 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 to view through the Environment Agency's website and are used to guide planning decisions. The flood risk from local sources is less well understood; these typically result in more localised flooding events which are often difficult to predict and there are few historical records available to verify modelling outputs.

Parts of Richmond Borough 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.

Surface water flood maps published by the Environment Agency in December 2013 show that across Richmond Borough up to 500 residential properties could be at high risk of surface water flooding. Areas identified to be particularly susceptible to surface water flooding include Barnes, Hampton, Heathfield, South Richmond, North Twickenham, Teddington and South Twickenham.

### Residential Properties at Risk of Surface Water Flooding in Richmond Borough:

High Risk	491 Houses
Medium Risk	2,146 Houses
Low Risk	12,767 Houses

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

Flood risk from groundwater is less well understood and 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. Based on available data the areas of Richmond Park, land close to the River Thames, River Crane and Beverley Brook and areas of Twickenham 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.

### Non Residential Properties at Risk of Surface Water Flooding in Richmond Borough:

High Risk	137
Medium Risk	423
Low Risk	1575

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

Within Richmond Borough, 9.6km of ordinary watercourses are culverted. Trash screens at the entrances to culverts and culverts themselves have the potential to become blocked by items such as plant debris and rubbish, increasing the chance of water flowing out of bank and causing local flooding.

Sewer flooding is recorded and mapped by Thames Water as the sewerage undertaker in Richmond Borough. 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.

## 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 Local 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.

## Richmond Local Flood Risk Management Strategy Objectives and Actions

Objective	Actions to achieve the objective
<b>Encourage direct involvement in decision making through the establishment of and maintaining partnerships with key organisations, including the Environment Agency and Thames Water</b>	<ul style="list-style-type: none"> <li>• Regularly review and update the current list of risk management authorities</li> <li>• Review and make relevant Council teams aware of the Borough's Local Flood Risk Management Strategy</li> <li>• Continue to hold quarterly Flood Group meetings</li> <li>• Share the minutes and actions of the Richmond Flood Group meetings with all other relevant RMAs</li> <li>• Review opportunities for collaborative working through the Richmond Council Flood Group meetings and raise opportunities to South West London Flood Group, as appropriate</li> <li>• Maintain regular contact with managers and/or officers dealing with flood risk matters in neighbouring boroughs to ensure awareness of cross-boundary projects or initiatives</li> <li>• If relevant, invite Thames Water to quarterly Richmond Flood Group meetings, and ensure actions are assigned and minutes distributed to absentees</li> <li>• Maintain contacts within key organisations including the Environment Agency, Transport for London, UK Power Networks, Network Rail, Greater London Archaeological Advisory Services, English Heritage and local environmental groups such as the South West London Environment Network and Friends of the River Crane Environment etc.</li> </ul>
<b>Improve our knowledge and understanding of the interactions between different sources of flooding in Richmond Borough</b>	<ul style="list-style-type: none"> <li>• Consolidate disparate information on ordinary watercourses held by Richmond Borough Council and external partners</li> <li>• Use the SWMP modelling to identify the key ordinary watercourses which have the greatest impact on flood risk in Richmond borough</li> <li>• Publicise on the Council's website the importance of ordinary watercourses and the responsibilities of private land owners with ordinary watercourses situated on their land</li> <li>• Define significant flood events as those which include internal flooding of a single residential property, business or office premises, or where a flood affected an identified item of key infrastructure, except where the source of flooding is groundwater and where this only affects one single property.</li> <li>• Consolidate flood reporting into one centralised location and aim to update the reporter as to any action taken as a result of this.</li> <li>• Continue with the creation of an online system for reporting flooding incidents from blocked gullies and drains, similar to the highways database for reporting street light faults. Encourage the public to report incidents by filling out a web-based form.</li> <li>• Investigate the creation of an online system for reporting flooding incidents from all sources. Encourage the public to report incidents by filling out a web-based form.</li> <li>• Review prioritised list of Critical Drainage Areas for further investigation and produce a programme for how and when these studies will be taken forward, considering EA, Thames Water, TfL and other stakeholder funding timetables and potential partnership funding opportunities</li> <li>• Work together with the Environment Agency to understand the fluvial and tidal interactions and the operation of the Thames Barrier</li> <li>• Work together with Thames Water to understand the interaction between the sewer system and fluvial/tidal flooding</li> <li>• Evaluate and transfer asset data to the central asset register - Flood Station. This is a web-based asset management tool for drainage assets, such as pipes, gullies, storage tanks and SUDS, developed by the London Drainage Engineers Group (LoDEG) to be used by all London boroughs.</li> <li>• Use the outputs from the SWMP to identify assets which are key in the management of flood risk</li> </ul>
<b>Encourage residents, businesses and local landowners to take action and contribute to the management and reduction of flood risk</b>	<ul style="list-style-type: none"> <li>• The Richmond Council Flood Group will consider producing a Flood Risk Management Communication and Engagement Plan.</li> <li>• Contact all relevant community representatives outlining Richmond's LLFA duties and responsibilities, and current flood risk information available</li> <li>• Hold briefing sessions to inform councillors of the latest flood risk developments, as appropriate</li> <li>• Review and consolidate Richmond Councils flood related webpages and combine the information into one easily accessible location on the website. Ensure this includes appropriate links to external websites for further guidance.</li> <li>• Include an article in the Village Newsletters on how residents can manage their own flood risk and provide links to websites or organisations who can help.</li> <li>• Ensure the Richmond Multi Agency Flood Plan is regularly reviewed and kept up to date.</li> <li>• Maintain contacts with established business groups in the borough and if appropriate hold briefings to inform those in flood risk areas where to go for further information.</li> <li>• Where required, assist community groups in developing flood plans and offer to help carry out emergency exercises to test these plans.</li> <li>• Keep up to date with current Environment Agency, Met Office and Flood Forecasting Centre surface water flood forecasting initiatives</li> <li>• Hold briefing sessions with the Environment Agency to understand how to use their flood warning systems more effectively</li> <li>• Identify areas which are at risk of flooding and which have a low sign up rate to the Environment Agency's flood warning service; consider steps to take in conjunction with the Environment Agency to increase the uptake.</li> <li>• Ensure emergency plans are up to date and the Council emergency planners are informed of any updates to the flood risk modelling</li> <li>• Ensure all links to flood risk information on Richmond Councils website are correct and in particular during an event have clear links, preferably on the front page to direct residents to the best available information.</li> </ul>
<b>Target resources where they have the greatest effect by adopting a risk-based approach</b>	<ul style="list-style-type: none"> <li>• Regularly review and update the Strategic Flood Risk Assessment for Richmond borough to provide developers with the most up to date information</li> <li>• Investigate if the outputs of the surface water maps can be linked to planning applications, for example by flagging up sites that are located in surface water flooding hot spot zones.</li> <li>• Investigate the need to produce a Supplementary Planning Document for flood risk and sustainable drainage.</li> <li>• Monitor current parliamentary processes with regard to Sustainable Drainage Systems Approving Bodies (SAB) and ensure the Council is prepared to act on this when the new legislation comes into force</li> <li>• Develop and produce guidance on Sustainable Drainage Systems for use by planning applicants and council officers (by summer 2014)</li> <li>• Continue to undertake a drainage maintenance regime that prioritises key drainage points.</li> <li>• Progress proposed flood risk schemes at Haliburton Road, Heath Road, Mogden Lane, Petersham Road, Burtens Road, Ferry Road, Ferry Road, Hampton Court Road, and Waldegrave Road</li> <li>• Publish the successful flood risk schemes as referred to above</li> </ul>
<b>Contribute to wider social, economic and environmental outcomes by encouraging sustainable multi-benefit solutions for the management of local flood risk</b>	<ul style="list-style-type: none"> <li>• Assess planned schemes against the Water Framework Directive.</li> <li>• Use schemes to reconnect people to the natural environment and improve river bank access through the setting back of flood defences in line with the Thames Landscape Strategy.</li> <li>• Work together with local environmental groups, including the South West London Environment Network and Friends of the River Crane Environment etc, to utilise best practice for the improvement of the historic and natural environment.</li> <li>• Identify opportunities for tackling environmental and social issues together by building capacity and awareness in the community, tackling flood risk problems and social exclusion simultaneously.</li> <li>• Assess proposed schemes for social impacts and identify opportunities for mitigation or enhancement.</li> <li>• Undertake full lifecycle cost benefit analysis for schemes.</li> <li>• Investigate alternative sources of funding.</li> <li>• Reduce economic damage in the borough by investigating schemes which protect local businesses.</li> </ul>

## 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 with flood risk. 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 Lead local Flood Authorities to fund activities and schemes from their 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 Richmond Borough that have the highest eligibility for national funding, and have submitted eight applications for funding via the Flood and Coastal erosion Risk Management Grant in Aid (FCRM GiA).

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). The Strategy provides detail on the additional funding options that will be considered in the Borough, including seeking contributions from developers.

## What happens next?

Although there is no formal deadline for the Strategy to be produced or updated, we believe that continued monitoring and review are essential to ensure that local flood risk management is responsive to changes. This is especially important in the 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.

The draft Strategy underwent a period of public consultation in early 2015, offering the opportunity for residents, businesses and risk management stakeholders to provide feedback. Following the consultation period, we have considered what you have told us and used this information to update the Local Strategy, where necessary. We will adopt the Strategy in Autumn 2015 and use it as the basis for management of local flood risk.

For further information on the Local Strategy please visit our website at:

<http://www.richmond.gov.uk/flooding>