London Borough of Merton
Local Flood Risk Management Strategy

Final Version

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CAPITA | URS

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FOREWORD

In response to the flood events during 2007, the Government commissioned Sir Michael Pitt to undertake a review. The outcome of this, *Learning Lessons from the 2007 Floods* outlined the need for changes in the way England is adapting to the increased risk of flooding and the role different organisations have to deliver this function.

The Flood Risk Regulations 2009 and the Flood and Water Management Act 2010, enacted by Government in response to the recommendations of The Pitt Review, gave unitary and county councils as Lead Local Flood Authorities, new responsibilities for leading and co-ordinating the management of local flood risk; namely the flood risk arising from surface water, groundwater and smaller watercourses and ditches, known as ordinary watercourses. This includes a statutory duty to develop, maintain, apply and monitor a strategy for the management of local flood risk.

Merton Council is the Lead Local Flood Authority for the London Borough of Merton. This Local Flood Risk Management Strategy ('the Strategy') offers the first opportunity for us to formalise our longer term vision and flood risk management priorities to shape a Strategy that delivers the greatest benefit to the people, property and environment of Merton.

Merton has a history of surface water flooding with the earliest recorded incident occurring in 1900. In 2007 significant surface water flooding occurred throughout the Borough. In recent years Raynes Park, West Barnes, Colliers Wood and South Wimbledon have experienced surface water flooding. Merton is at risk of flooding from surface water, ordinary watercourses 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.

In December 2013 the Environment Agency published the national surface water flood mapping, the Flood Risk from Surface Water Map. This Strategy has identified that within the London Borough of Merton up to 17,611 residential properties and 1,873 non-residential properties could be at risk of surface water flooding. Of these, up to 999 residential properties and 190 non-residential properties could be at high risk of surface water flooding, defined as a flooding from a rainfall event with a 1 in 30 chance of occurrence in any given year.

Our Strategy complements and supports the *draft Thames River Basin District Flood Risk Management Plan* and the *National Flood and Coastal Erosion Risk Management Strategy*, both published by the Environment Agency. The Environment Agency has a strategic overview role of all flood and coastal erosion risk management. In addition, the Strategy is aligned with the corporate priorities of Merton's strategic plans. We have taken the guiding principles from these strategies into account when setting our objectives for the management of local flood risk.

London Borough of Merton Strategy Objectives

1. Identify areas at highest risk of flooding from local sources and develop a prioritised action plan in line with the principles of the Strategy,
2. Work with Risk Management Authorities and stakeholders to identify ways of managing flood risk in those areas at greatest risk within the borough,
3. Work with planners and developers to ensure no increase in risk of flooding from new development,
4. Maximise available resources and funding to target those areas at greatest risk,
5. Prioritise maintenance activities to reduce surface water flooding, and,
6. Advise communities, residents and businesses on the level of flood risk affecting them and how they can better protect themselves and their property.

Since April 2011 we have been working closely with communities, businesses, and other risk management authorities, including our neighbouring Boroughs, the Environment Agency and Thames Water, to improve our understanding of flood risk in Merton and deliver measures that improve community resilience alongside nationally funded strategic schemes that deliver flood and environmental benefits to communities, businesses and infrastructure.

In developing this Strategy, we have consulted with communities, businesses, neighbouring Boroughs and risk management authorities to develop a coordinated Strategy for local flood risk management across Merton. We recognise that communities now play a much greater role in the flood risk management decision making process. The Strategy outlines the priorities for local flood risk management and provides a delivery plan to manage the risk over the next six years. We have given consideration to the roles and responsibilities of other risk management authorities in Merton, including the Environment Agency which has responsibility for managing the risk arising from main rivers, including the River Wandle, River Graveney, Pyl Brook and Beverley Brook, and Thames Water, which has responsibility for managing sewer flooding. Both these sources of flooding interact and influence ordinary watercourse, surface water and groundwater flood risk within Merton.

The Strategy is accompanied by an Action Plan setting out how we will deliver the objectives of the Strategy over the next six years and a Strategic Environmental Assessment assessing the impacts of the Strategy on the environment. Over the next six years we will continue to work with communities and businesses to help them understand the risks they face and what can be done to manage them. A range of individual, community and council-led actions and improved awareness will help manage both the likelihood and impact of flooding and consequently lead to social, economic and environmental benefits to Merton's communities.

Longer term strategic development across Merton will integrate consideration of flood risk and sustainable drainage into planning and development control systems. Inappropriate development which could increase flood risk will be avoided, as will inappropriate development in areas of significant flood risk.

The Strategy will be formally reviewed in 2020, every 6 years thereafter, and following a significant flood event to ensure that its content and emphasis remains relevant.

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1. INTRODUCTION

1.1 Flood Risk in South West London

1.1.1 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 and 1 million are at risk from both[1]. This risk was realised in many parts of the country during the summer floods of 2007, which resulted in 55,000 properties flooding, 7,000 rescues by emergency services, 13 deaths and an estimated £3billion of damages. The severity of this event generated changes in the way flooding should be managed by local and national organisations.

1.1.2 Across South West London there are risks of flooding from a range of sources, including surface water runoff and ponding, groundwater, sewer surcharging and flooding from main rivers and ordinary watercourses, and reservoirs. In some cases more than one of these sources of flooding can combine to cause a flood event.

1.1.3 Risks from tidal and river flooding associated with the River Thames, Beverley Brook, River Wandle and River Graveney are relatively well understood and have been managed for many years by the Environment Agency. However, flood risk from more local sources, including surface water runoff and ponding, groundwater and small ditches and land drains are less well understood; these are typically very localised events which are often difficult to predict, and with sparse historical records available to provide supporting evidence.

1.1.4 Parts of South West London 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. Details of historic flood records are provided in Section 3.

1.1.5 In December 2013 the Environment Agency published the Flood Risk from Surface Water mapping[2] which maps surface water flood risk across England and Wales The Risk of Flooding from Surface Water mapping builds on modelling undertaken as part of the London Borough of Merton Surface Water Management Plan (SWMP), and high-level, Borough-wide property counts undertaken to support this Strategy indicate that up to 17,611 residential properties and 1,873 non-residential properties could be at risk of surface water flooding across the Borough, with 999 residential and 190 non-residential properties at high risk, defined as having a 1 in 30 chance of surface water flooding occurring in any given year. Further details are provided in Section 3.

1.1.6 Typically, reactive mitigation measures have been implemented in response to past flood events, usually with the construction of new drainage infrastructure. However, climate change and continued urbanisation are likely to increase flood risks in the future unless action is taken to mitigate or adapt to that risk.

[1] Environment Agency (2009) Flooding in England: A National Assessment of Flood Risk http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/geho0609bqds-e-e.pdf

[2] Environment Agency (2014) Flood Risk from Surface Water map http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=ufmfsw#x=357683&y=355134&scale=2

1.2 Flood Risk Management in South West London

1.2.1 In response to the severe flooding across large parts of England and Wales in summer 2007, the Government commissioned Sir Michael Pitt to undertake a review of flood risk management. The Pitt Review – Learning Lessons from the 2007 Floods[3] and subsequent progress reviews outlined the need for changes in the way the UK is adapting to the increased risk of flooding and the role different organisations have to deliver this function.

1.2.2 The Flood and Water Management Act 2010[4] ('the Act') and The Flood Risk Regulations 2009[5] ('the Regulations'), make provision for unitary authorities and county councils, including all London Boroughs, as Lead Local Flood Authorities (LLFAs). As the LLFA, Merton Council has a number of duties and responsibilities in relation to managing local flood risk, as required by the Act and the Regulations. Local flood risk is defined as the risk of flooding from surface water, groundwater and small ditches and watercourses (collectively known as ordinary watercourses).

1.2.3 The Act also formalises the flood risk management roles and responsibilities for other organisations including the Environment Agency, water companies and highways authorities. The responsibility to lead and co-ordinate the management of flood risk from main rivers, the sea and other tidal sources (such as estuaries) remains that of the Environment Agency. Further details regarding responsibilities and functions in relation to their flood risk management in South West London is provided in Section 2.

1.2.4 As LLFAs, each of the unitary authorities across South West London has a statutory duty to develop, maintain, apply and monitor a strategy for local flood risk management ('the Strategy'). This document forms the London Borough of Merton's Strategy.

1.2.5 The six LLFAs covering South West London, (namely, London Borough of Croydon, The Royal Borough of Kingston upon Thames, London Borough of Merton, London Borough of Sutton, London Borough of Richmond upon Thames and London Borough of Wandsworth), have chosen to partner together to commission the preparation of their Strategies in a coordinated manner. This partnership approach will encourage collaboration and enable flood risk across South West London to be managed more effectively and holistically. Further details of the South West London Strategic Flood Group are included in Section 5.

1.3 The London Borough of Merton Strategy

1.3.1 The purpose of the London Borough of Merton Strategy is to set out the approach to managing flood risk from local sources (i.e. surface water, ground water and ordinary watercourses) in both the short and longer term, with proposals for actions that will help to manage the risk in a way that delivers the greatest benefit to its residents, businesses and the environment.

[3] Cabinet Office (2008) Sir Michael Pitt Report 'Learning lessons learned from the 2007 floods' http://webarchive.nationalarchives.gov.uk/20100807034701/http://archive.cabinetoffice.gov.uk/pittreview/_/media/assets/www.cabinetoffice.gov.uk/flooding_review/pitt_review_full%20pdf.pdf
[4] HMSO (2010) The Flood and Water Management Act 2010 http://www.legislation.gov.uk/ukpga/2010/29/contents
[5] HSMO (2009) The Flood Risk Regulations http://www.legislation.gov.uk/uksi/2009/3042/contents/made

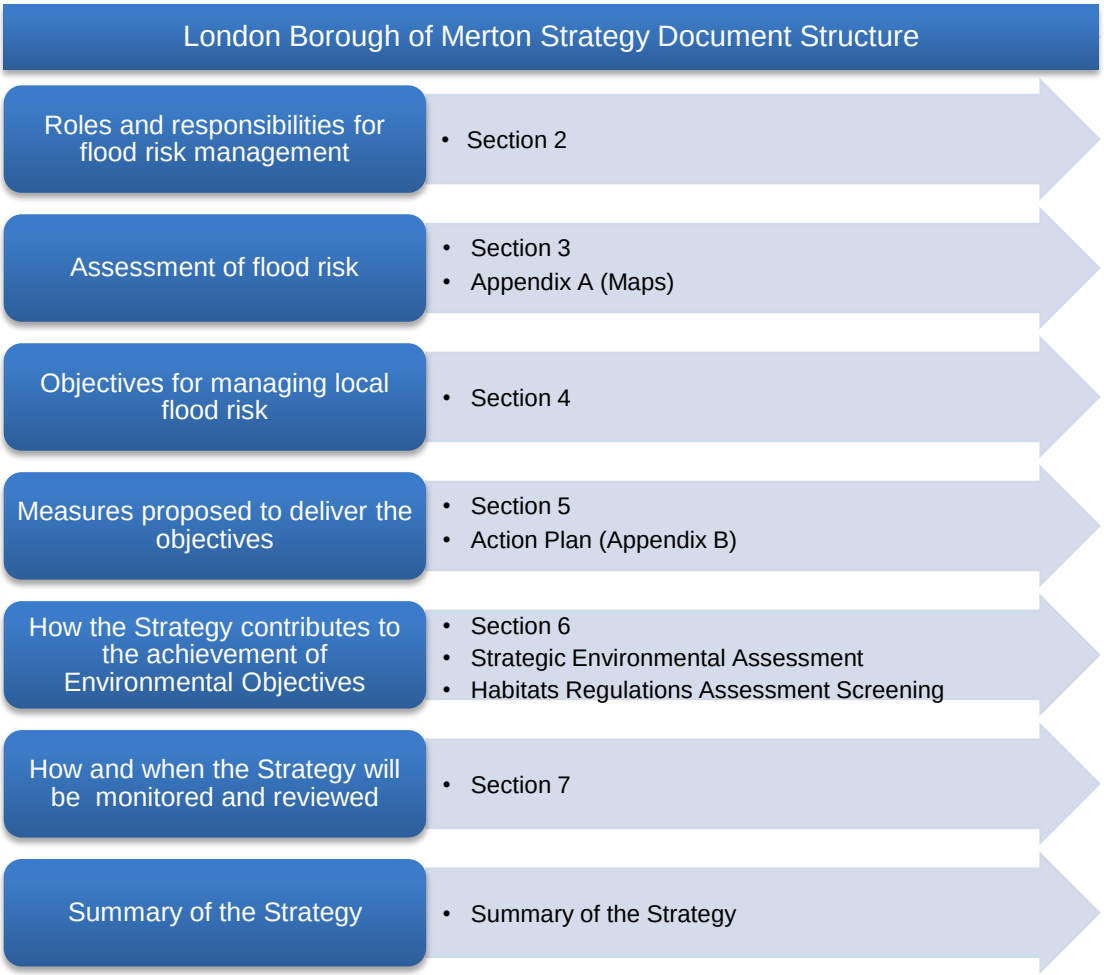


Figure 1-1 Structure of the Strategy

1.3.2 The Local Strategy complements and supports the National Strategy[6], published by the Environment Agency, which outlines a National framework for flood and coastal risk management, balancing the needs of communities, the economy and the environment. The Strategy has been developed in partnership with the Environment Agency to ensure consistency with the draft Thames River Basin District Flood Risk Management Plan (FRMP). Further information is provided in Section 1.6.

1.3.3 The Strategy has been developed by Merton Council in partnership with Risk Management Authorities, including the Environment Agency and Thames Water, as well as local communities and neighbouring boroughs. Further details of organisations with responsibilities for flood risk management in the London Borough of Merton are provided in Section 2.

1.3.4 In delivering flood risk management, Merton Council has the opportunity to help deliver wider environmental objectives and requirements, as set out in European legislation including the Water Framework Directive[7] (WFD). The WFD was transposed into UK national law through The Water Environment Regulations 2003[8] and states that Merton Council should have regard

[6] Defra, Environment Agency (2011) The National Flood and Coastal Erosion Risk Management Strategy for England https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england
[7] European Union (2000) Water Framework Directive http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:NOT
[8] HMSO (2003) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 http://www.legislation.gov.uk/uksi/2003/3242/contents/made

to the River Basin Management Plans (RBMPs) when exercising its functions as a public body. The approach for addressing this, including the preparation of a Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment Screening exercise, is outlined in Section 6.

1.4 Community Engagement and Consultation

1.4.1 A community engagement exercise was undertaken between November 2013 and January 2014 offering residents and businesses the opportunity to shape the development of the Strategy and future flood risk management priorities. Details of the outcomes from the community engagement activities are included in Appendix E.

1.4.2 This report forms the draft Strategy which will undergo a period of public consultation, offering the opportunity for residents, businesses and risk management stakeholders to provide feedback. The consultation will be undertaken in partnership with the Environment Agency, who will be consulting on the draft Thames River Basin District FRMP. Following the public consultation, the Strategy will be updated in line with comments received and finalised before being adopted and published by Merton Council.

1.5 Supporting Plans and Documents

1.5.1 Over recent years, a number of documents have been prepared detailing the assessment and management of flood risk within Merton. Figure 1-2 illustrates the sequence of flood risk studies, plans, legislation and data in relation to the Strategy. Each of these have built on emerging evidence, assessments and modelling techniques to improve the knowledge of flood risk across the Borough.

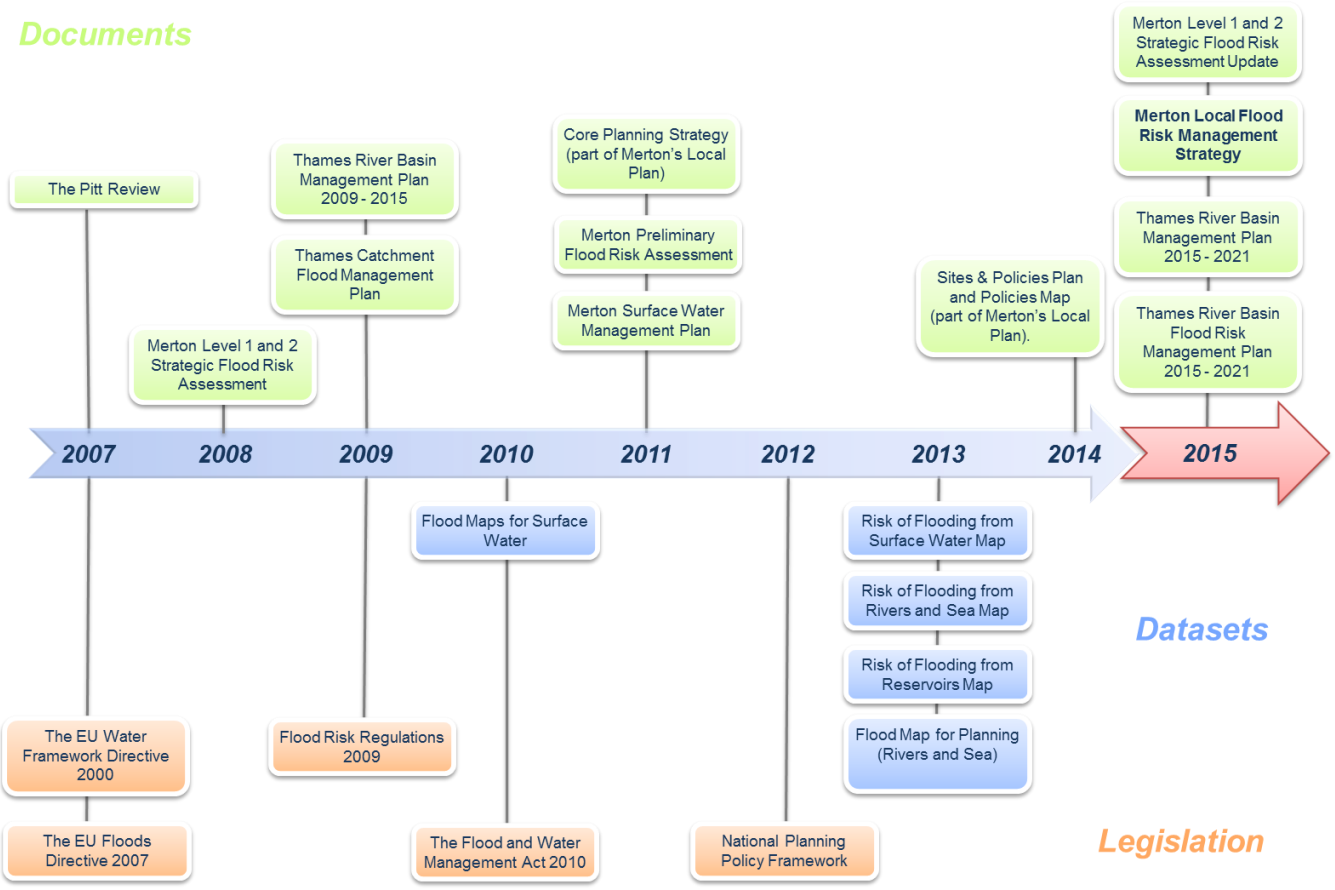


Figure 1-2 Timeline of supporting documents, datasets and legislation for the Strategy

1.5.2 The Strategy forms a key document in this suite of flood risk management plans, drawing together existing flood risk studies and plans into a single document that outlines how Merton Council will manage local flood risk going forwards (Figure 3-1).

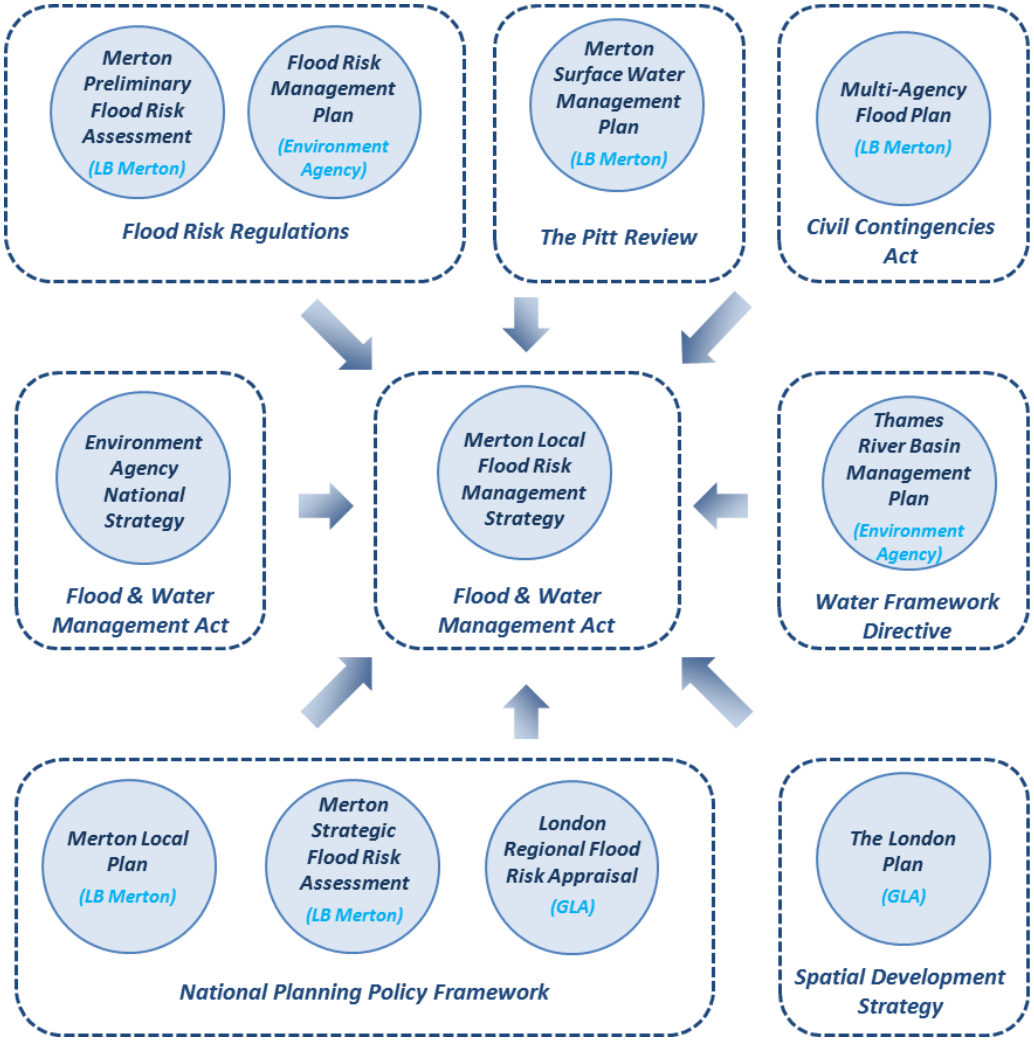


Figure 1-3 Legislative Drivers and Supporting Documents (owner) for the Strategy

1.5.3 As part of the assessment of flood risk, the Strategy draws on technical information and historic records of flooding presented in the SWMP, Level 1 Strategic Flood Risk Assessment[9] (SFRA), Level 2 SFRA[10] and the Preliminary Flood Risk Assessment (PFRA)[11]. These documents and the partnerships forged between Risk Management Authorities during their preparation are built upon and formalised as part of the Strategy.

1.5.4 The Strategy also draws from wider environmental plans covering the Thames catchment including the Thames RBMP[12] and the Thames Catchment Flood Management Plan (CFMP)[13] to ensure a coordinated approach to flood risk management across South West London.

[9] Scott Wilson (2008) London Boroughs of Wandsworth, Merton, Sutton and Croydon Level 1 Strategic Flood Risk Assessment. http://www.merton.gov.uk/wmsc_level_1_sfra_-_main_report_2008.pdf
[10] Scott Wilson (2009) London Borough of Merton Level 2 Strategic Flood Risk Assessment. http://www.merton.gov.uk/merton_level_2_sfra_-_final_-_july_2009.pdf
[11] Capita Symonds URS (2011) London Borough of Merton Preliminary Flood Risk Assessment http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/research/planning/135542.aspx#24
[12] Environment Agency (2009) Thames River Basin District Management Plan

1.6 Linkages to the Flood Risk Management Plan

1.5.4 The Flood Risk Regulations implement the European Floods Directive[14], which aims to provide a consistent approach to managing flood risk across Europe. Under the Regulations, the Environment Agency will produce a set Flood Risk Management Plans (FRMPs) at the river basin district level. FRMPs describe the risk of flooding from rivers, the sea, surface water, groundwater and reservoirs. They set out how Risk Management Authorities will work together, with communities, to manage flood risk and are important for delivering the aims of the Environment Agency's National Strategy.

1.5.5 LLFAs in Flood Risk Areas need to prepare FRMPs covering 'local' sources of flooding and the Environment Agency need to prepare FRMPs covering flooding from main rivers, the sea and reservoirs. The first cycle of FRMPs will be published by December 2015. In addition, the Environment Agency will be updating their RBMPs to ensure they comply with the Water Framework Directive and they will go to public consultation aligning both of these plans. This will enable people to look at proposals for managing flood risk alongside issues such as water quality.

1.5.6 Under the requirements of the Regulations, all of the LLFAs within the London 'flood risk area' have a statutory responsibility to develop and consult on a FRMP for local flood risk and this covers the 33 London Boroughs and Surrey County Council. As part of the London Flood Risk Area, Merton Council, as the LLFA for the London Borough of Merton, is required to contribute to the preparation of a FRMP for the Thames River Basin District outlining significant flood risk, receptors and consequences across their administrative area.

1.5.7 The draft Strategy has been produced in partnership with the Environment Agency to comply with the requirements of the Regulations as well as the Act, to avoid duplication of work, and with the aim of aligning and integrating the findings of the Strategy with the wider river basin objectives. The draft Strategy will undergo a joint consultation with the draft Thames River Basin District FRMP, as outlined in Section 1.4.

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/289937/geth0910bswa-e-e.pdf

[13] Environment Agency (2009) Thames Catchment Flood Management Plan https://www.gov.uk/government/publications/thames-catchment-flood-management-plan

[14] European Union (2007) EU Floods Directive http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32007L0060:EN:NOT

2. RESPONSIBILITIES FOR FLOOD RISK MANAGEMENT

2.1 Overview

2.1.1 Flood events are often a complex interaction of flood source(s), pathway(s) and receptor(s), the responsibility for managing which can often lie with a number of different organisations or individuals. As a result, a clear definition of responsibilities and effective communication across these organisations and individuals is vital if the risk to people, property and the environment is to be managed effectively.

2.2 Responsibilities of Risk Management Authorities

2.2.1 The following organisations are designated Risk Management Authorities and the Act have a number of legal responsibilities for managing flood risk in the London Borough of Merton:

- Merton Council as the LLFA and Highways Authority,
- Environment Agency,
- Thames Water Utilities as the Sewerage Undertaker, and
- Transport for London as the Highways Authority.

All Risk Management Authorities have a duty to cooperate with the LLFA, and other Risk Management Authorities when exercising their flood risk management functions.

Merton Council

2.2.2 Merton Council has a number of roles and responsibilities for flood risk management in the London Borough of Merton under the Act, the Regulations and other national legislation, as outlined below.

Merton Council is responsible for:

- The drainage of surface water from the Strategic Road Network (SRN) and Local Distributor Roads, including Local Access roads (such as the A298, A236 and residential streets excluding private roads).
- Maintaining the road drains on minor roads, including kerbs, road gullies, ditches and the pipe network which connects to the Thames Water sewers.
- Developing and implementing an emergency plan, contingency plan and business continuity plan.
- Ensuring flood risk is considered in the Local Plan.
- Making decisions on planning applications which may be at risk of flooding or increase flooding elsewhere.
- Agreeing any works to ordinary watercourses (i.e. streams, ditches) which may affect the flow or storage of water.
- Maintaining Council owned assets, such as drainage ditches, gullies, trash

As the Lead Local Flood Authority

2.2.3 Merton Council has a number of duties and discretionary powers under the Act, the Regulations and Land Drainage Act 1991[15]. Figure 2-1 presents the Council's duties and discretionary powers as the LLFA.

As the Regulator of Ordinary Watercourses

2.2.4 Merton Council has been assigned the powers of ordinary watercourse consent under the Land Drainage Act 1991. Any works (either temporary or permanent), that may alter or impact the flow or storage of water within an ordinary watercourse will require consent from the Council prior to any work being carried out. Merton Council therefore has:

- The power to serve notice on riparian landowners along ordinary watercourses who need to carry out maintenance to reduce flooding or who are not fulfilling their riparian responsibilities, and
- Where an obstruction in an ordinary watercourse has been erected, raised or altered (such as a weir or culvert) without prior consent from Merton Council, and is deemed to be causing a 'nuisance', the Council has the power to serve notice on a person to remove or reduce the obstruction.

As an Asset Owner

2.2.5 Merton Council is responsible for the maintenance of Council owned assets which have a role in flood risk management including drainage ditches, gullies, trash screens and culverts.

As the Highways Authority

The highway drainage system is integral in the management and behaviour of surface water during heavy rainfall events. As a Highways Authority, the Highways Act 1980[16] requires that Merton Council ensure that highways are drained of surface water and where necessary maintain the highway drainage system, up to the point of connection with the sewer network.

As an Emergency Responder

2.2.6 Merton Council is a Category 1 Responder under the Civil Contingencies Act 2004[17] and therefore has a responsibility, along with other organisations, for developing emergency plans, contingency plans and business continuity plans to help reduce, control or ease the effects of an emergency. The complex and diverse nature of flooding and the consequences that arise require a comprehensive and often sustained response from a wide range of organisations, and as such Merton Council has prepared a multi-agency flood plan18 to allow all responding parties to work together on an agreed coordinated response to severe flooding.

2.2.7 Practical advice is provided on the Merton Council website[19] on how to prepare for flooding. Merton Council does not provide sandbags, however, practical advice on how residents can make their own sandbags is provided, along with a list of local stores and suppliers which may stock sand and bags.

[15] HSMO (1991) Land Drainage Act http://www.legislation.gov.uk/ukpga/1991/59/contents
[16] HSMO (1980) Highways Act http://www.legislation.gov.uk/ukpga/1980/66/contents
[17] HSMO (2004) Civil Contingencies Act http://www.legislation.gov.uk/ukpga/2004/36/contents
[18] London Borough of Merton (2014) London Borough of Merton Multi-Agency Flood Plan (Living draft)
[19] Merton Council website, 'What to do in the event of a flood': http://www.merton.gov.uk/environment/flooding/flooding-advice.htm

As the Local Planning Authority

2.2.8 Merton Council has a responsibility to consider flood risk in their strategic land use planning and the development of their Local Plan[20] Merton Council is the 'decision maker' on flood risk for planning applications for development, taking into consideration technical advice from other Risk Management Authorities as statutory consultees.

2.2.9 The National Planning Policy Framework (NPPF)[21] and supporting guidance[22] requires Local Planning Authorities to undertake a SFRA and to use their findings, and those of other studies, to inform strategic land use planning and to steer development towards areas of lowest flood risk before considering development in areas more prone to flooding, through the application of the Sequential Test. The London Boroughs of Wandsworth, Merton, Sutton and Croydon Level 1 SFRA was produced in December 2008 and the London Borough of Merton Level 2 SFRA produced in July 2009, both to support the Local Plan. The SFRA will be updated in 2015. When considering applications for development, site-specific flood risk assessments are a requirement of the NPPF. The London Borough of Merton Level 2 SFRA outlines what a site-specific flood risk assessment should include.

[20] See the Merton Council website for the latest version of Local Plan:
http://www.merton.gov.uk/environment/planning/planningpolicy/ldf.htm#what_docs_in_ldf
[21] Communities and Local Government (2012) National Planning Policy Framework
http://www.communities.gov.uk/documents/planningandbuilding/pdf/2116950
[22] Communities and Local Government (2014) Planning Practice Guidance: Flood Risk and Coastal Change:
http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/

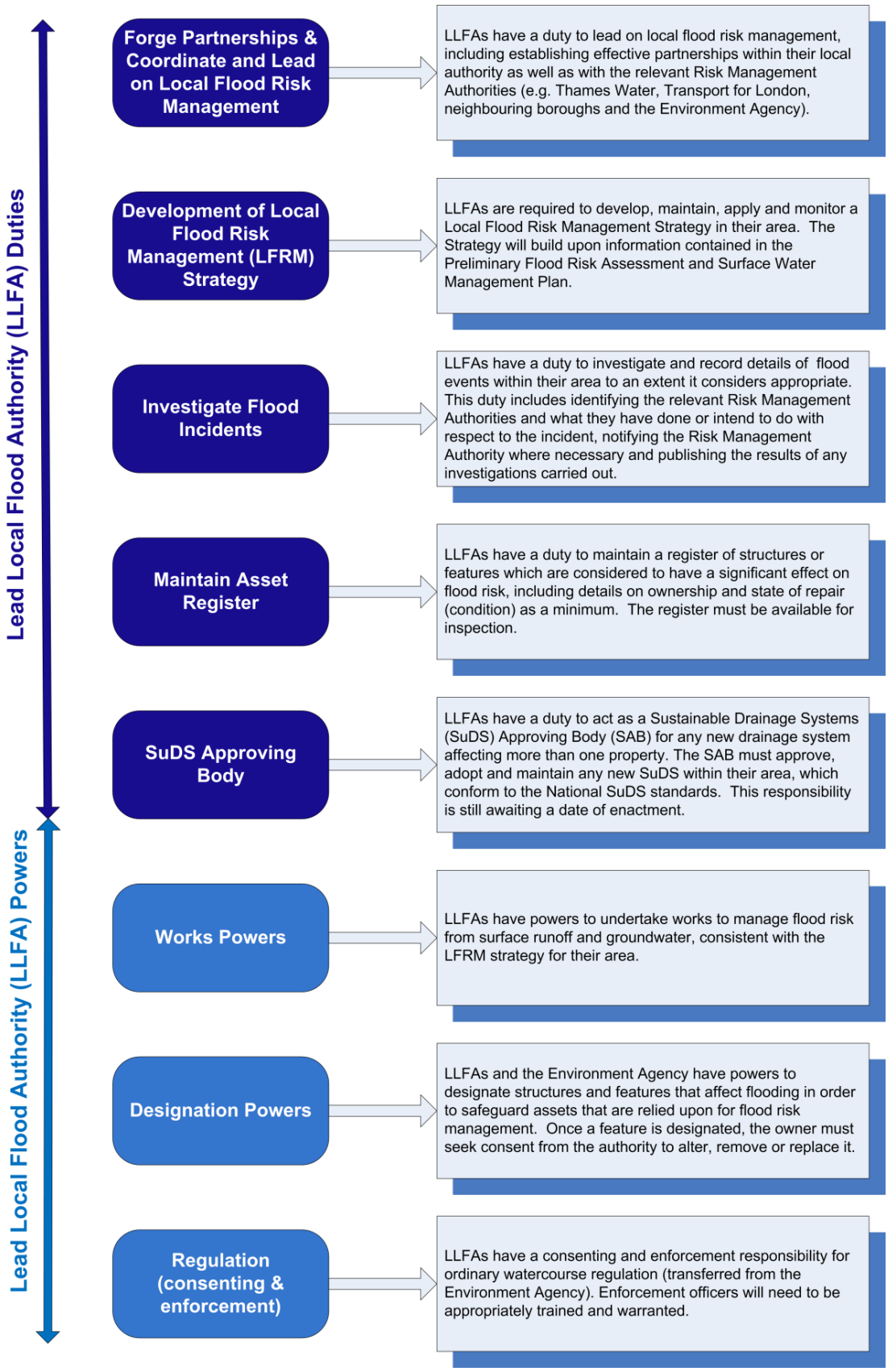


Figure 2-1 Duties and Discretionary Powers for Merton Council under the Act

Environment Agency

2.2.10 The Environment Agency is responsible for managing flooding from main rivers, tidal sources and the sea and has a responsibility to provide a strategic overview for all flooding sources and coastal erosion. The Environment Agency take a risk based approach to flood risk management and have a number of roles and responsibilities including as a statutory consultee on flood risk throughout the planning process and regulation of third party works on main rivers.

The Environment Agency is responsible for:

- Managing flooding from main rivers (e.g. River Thames and River Wandle), reservoirs, estuaries and the sea.
- Providing a strategic overview for all sources of flooding and coastal erosion.
- Regulation of third party works on main rivers.

Thames Water Utilities Ltd

2.2.11 Thames Water is responsible for surface water drainage from development via adopted sewers and for maintaining public sewers into which much of the highway drainage connects.

2.2.12 In October 2011, water and sewerage companies in England and Wales became responsible for private sewers which were previously the responsibility of property owners. However, not all private sewers were included; there are some cases where the property owners remain responsible for the sections of pipe between the property and the transferred private sewer. Further information is available via Thames Water's website[23].

2.2.13 Flooding from burst water mains is excluded from the Act. However, under the Water Industry Act 1991[24], Thames Water, as the water undertaker for the majority of Merton, has a duty to ensure it maintains and improves its water mains and other pipes.

Thames Water is responsible for:

- The drainage of surface water from development via sewers adopted by Thames Water.
- Maintaining public sewers owned by Thames Water into which much of the highway drainage connects.
- Maintaining and improving its water mains and other pipes to reduce the risk of leaking or burst pipes.
- Reporting its performance each year to Ofwat (The Water Services Regulation Authority), including in respect of internal sewer flooding of properties.

[23] Thames Water Utilities website http://www.thameswater.co.uk/
[24] HSMO (1991) Water Industry Act 1991 http://www.legislation.gov.uk/ukpga/1991/56/contents

Transport for London (TfL)

2.2.14 Under the Highways Act 1980, TfL has responsibility for the effectual drainage of surface water from adopted roads and along major roads (red routes) insofar as ensuring that drains, including kerbs, road gullies and ditches and the pipe network which connect to the sewers, are maintained.

Transport for London (TfL) is responsible for:

- The drainage of surface water from TfL adopted roads and red routes (major Strategic Routes including A24, A217 and A3).
- Maintaining the drains on TfL adopted roads and red routes, including kerbs, road gullies, ditches and the pipe network which connects to the Thames Water sewers.

2.3 Flood Risk Management Responsibilities for Others

Sutton and East Surrey Water plc

2.3.1 Sutton and East Surrey Water is the water undertaker responsible for clean water supply for parts of Merton in the south of the Borough, and as with Thames Water, has a duty to ensure it maintains and improves its water mains and other pipes under the Water Industry Act 1991.

Sutton and East Surrey Water is responsible for:

- Maintaining and improving its water mains and other pipes to reduce the risk of leaking or burst pipes.

Home and Business Owners, Tenants and Individuals

2.3.2 Merton Council recognises the vital role individuals, communities and businesses have in managing flood risk and the requirement for more information to be available to support these initiatives. The Strategy aims to promote and encourage personal responsibility by raising awareness of flood risk, how risk can be reduced by supporting community-based actions.

2.3.3 It is the responsibility of householders and businesses to look after their property, including protecting it from flooding. It is important that householders, whose homes are at risk of flooding, take steps to ensure that their home is protected. Practical guidance can be found in the publication 'Prepare your property for flooding' available on the Environment Agency website[25].

[25] Environment Agency website, 'Prepare your property for flooding': https://www.gov.uk/prepare-for-a-flood

Home and Business Owners are responsible for:

- Looking after their property and protecting it from flooding through property level resilience and resistance measures (such as installing barriers or replacing carpets with waterproof tiling).
- Maintaining proper flow of water in any watercourse running through or under their land (See Responsibilities of Riparian Owners) or other private drainage pipes.

Residents and businesses who rent property or land should:

TENANTS

- Agree with the owner who will manage riparian owner responsibilities (See Responsibilities of Riparian Owner).
- Adhere to any riparian owner responsibilities as outlined in the tenancy agreement.

Individuals can:

INDIVIDUALS

- Take action such as disposing of leaf litter, grass cuttings and other garden waste rather than letting it block drains or watercourses.
- Co-operate with neighbours and other risk management authorities.
- Get involved with local flood risk management activities.

Riparian Owners

2.3.4 Property or land owners who own land which is adjacent to a watercourse or land which has a watercourse running through it, are riparian owners and have certain legal responsibilities to maintain the watercourse. Where a watercourse marks the boundary between adjoining properties, it is assumed the riparian owner owns the land up to the centre line of the watercourse.

2.3.5 Further information for riparian owners on their responsibilities is available in the Environment Agency publication 'Living on the Edge'[26] and on the Environment Agency website[27].

[26] Environment Agency (2012) 'Living on the Edge' https://www.gov.uk/government/publications/riverside-ownership-rights-and-responsibilities

[27] https://www.gov.uk/river-maintenance-and-drainage-charges-farmers-and-landowners

Riparian Owners are responsible for:

- Maintaining the banks and bed of the watercourse, including trees and shrubs growing on the banks, and any flood defences that exist on it.
- Clearing litter from the watercourse and banks, even if it did not come from your land.
- Maintaining and clearing any structures on their stretch of watercourse including culverts, weirs and mill gates from obstructions (natural or otherwise) so the normal flow of water is not impeded.
- Accepting the natural flow from their upstream neighbour and transferring it downstream without obstruction, pollution or diversion.
- Applying to Merton Council for formal consent to carry out any works within an ordinary watercourse, or to notify Merton Council of any works adjacent to an ordinary watercourse
- Applying to the Environment Agency for formal consent to carry out works within 8 metres of a main river.

Insurance Companies

2.3.6 Insurers do not have any statutory duties or responsibilities under the Act. However, the Flood Reinsurance Scheme under the Water Act 2014[28], known as 'Flood Re', is a not-for-profit scheme proposed by the Association of British Insurers to safeguard the availability and affordability of flood insurance for properties at high risk. The scheme will cap the flood aspect of buildings insurance according to council tax band, and will be funded by an annual levy on all household premiums. Properties in Tax band H and properties built since 2009 are not covered by the scheme.

Other Stakeholders

2.3.7 There are a number of relevant organisations that have a key role to play in managing flood risk in the Borough, including large organisations such as Network Rail, environment bodies such as Natural England, local voluntary groups and charities such as The Wandle Trust and National Trust, who are responsible for the Wandle through Morden Hall Park and Watermeads Island. These organisations will be involved as required to support flood studies and schemes, or to provide information, support and input on a project-by-project basis.

[28] HMSO (2014) The Water Act 2014 http://www.legislation.gov.uk/ukpga/2014/21/contents/enacted

3. FLOOD RISK IN THE LONDON BOROUGH OF MERTON

3.1 What is Flood Risk?

3.1.1 Flood risk is not just the likelihood of flooding occurring, but also the potential damage a flood could cause. Assessing risk in quantifiable, financial terms can help prioritise where available funding should be directed, as well as support applications for additional external funding.

3.1.2 However, it should also be borne in mind that the consequences of flooding can be far reaching and not always easy to value, particularly the social impacts of displacement, loss and fear of repeat events. All available information and past experiences have been considered in developing the objectives for managing future flood risk.

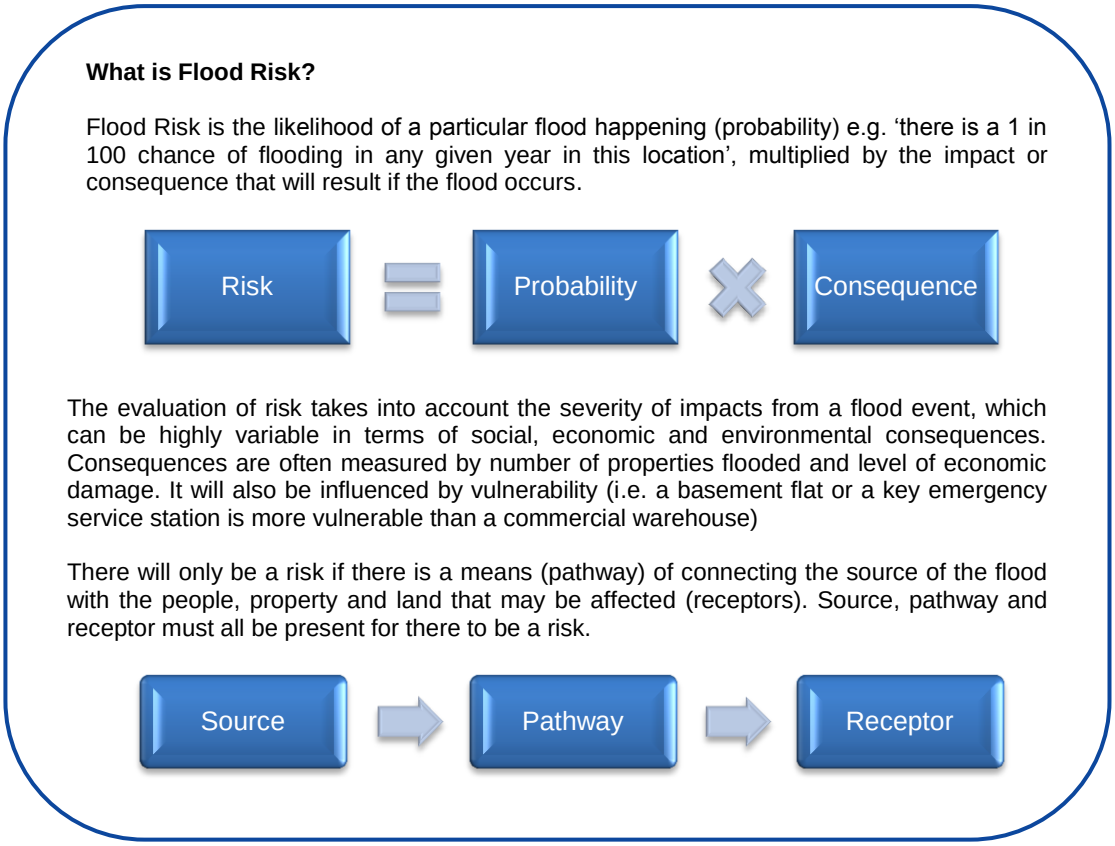


Figure 3-1 Definition of Flood Risk

3.2 Sources of Flood Risk in the London Borough of Merton

3.2.1 The London Borough of Merton is at risk of flooding from both local sources of flooding and other sources, including main rivers, sewers surcharging and artificial sources. The greatest risk from these often arises where different sources of risk combine to exacerbate flooding.

3.2.2 For each of the flooding sources a description of the source and mechanism of flooding has been provided and an assessment of the risk from each source has been made (Tables 3-1 to Table 3-6) drawing on historical records, outcomes from the community engagement (refer to Appendix E), as well as assessments detailed in existing technical studies addressing both current and future risk. Appendix A provides a series of maps showing the historic records of flooding and flood risk, where information is available.

Surface Water

Table 3-1 Flooding from Local Sources –Surface Water	
Description of Source	Surface water flooding usually occurs during very intense rainfall which causes water to flow over the surface of the ground and create deep pools or puddles of water in low lying areas. This type of flooding is most common in urban areas where water is unable to enter the ground because of tarmac or other impermeable surfaces. It can also be exacerbated when the soil is saturated and natural drainage channels or artificial drainage systems have insufficient capacity to cope with the intense rainfall.
Historic Flooding	Merton Council holds records of surface water flooding dating back to 1900. The most significant surface water flooding event occurred in 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 Raynes Park, West Barnes, Colliers Wood and South Wimbledon. Though extensive rainfall was experienced most recently in the winter of 2013 /2014, there were no reported incidents of flooded properties, with flooding restricted to roads and gardens, despite long periods of heavy rainfall and high groundwater levels. The historical records record a number of specific episodes of surface water flooding in West Barnes, Raynes Park, Morden, St Helier and Colliers Wood, as shown in Figure 1, Appendix A: The online survey carried out to support this Strategy indicated particular concern amongst respondents regarding flooding as a result of heavy rainfall events and the resultant surface water runoff from impermeable surfaces. Surface water flooding as a result of blocked road gullies was also highlighted as a concern. Gullies and drains that appear to be blocked can often be due to a lack of capacity in the main sewer system rather than a physical blockage (see Table 3-5).  *Hillcross Avenue - Flooding 20th July 2007 (Source: Merton Council)*  *Raynes Park Bridge – Flooding 20th July 2007 (Source: Merton Council)*
Future Flood Risk	The PFRA and SWMP identify parts of Merton to be particularly susceptible to surface water flooding, including West Barnes / Raynes Park, Colliers Wood and East Mitcham, particularly in the area of Manor Road / Manor Way. The Environment Agency has undertaken national modelling of the risk of flooding from surface water and published the mapping outcomes on their website in December 2013. The Flood Risk from Surface Water Map identifies the risk of surface water flooding at a strategic scale and bands flood risk as follows: • **High Risk** – at risk of flooding for a rainfall event with a 1 in 30 probability of occurrence in any given year, • **Medium Risk** – at risk of flooding for a rainfall event with a 1 in 100 probability of occurrence in any given year , • **Low Risk** – at risk of flooding for a rainfall event with a 1 in 1000 probability of occurrence in any given year, and, • **Very Low Risk** – at risk of flooding for a rainfall event with less than a 1 in 1000 probability of occurrence in any given year.

Table 3-1 Flooding from Local Sources –Surface Water

The Flood Risk from Surface Water Map improves on modelling and mapping undertaken as part of the Merton SWMP in 2011. The mapping shows relatively good correlation with the surface water modelling presented in the SWMP, but shows surface water to be more constrained within roads and watercourse, which reflects the improved modelling approach. Based on available historic information, the dataset is considered to be more reflective of flood risk across Merton and will be used as the surface water flood risk map for the Borough until such time as further updates or improved modelling of risk is undertaken.

An assessment of the risk to properties, critical infrastructure, transport, heritage and the environment in Merton has been undertaken for the Strategy using the Environment Agency's National Receptor Database. This is presented in the table below and Figures 7a and 8b in Appendix A.

Number of Properties at Risk from Surface Water Flooding
(based on 'Flood Risk from Surface Water' mapping, Environment Agency, December 2009)

Type of Property		Risk		
		Low	Medium	High
Residential		**17,611**	**3,743**	**999**
Non Residential ** Denotes critical infrastructure*	Commercial & Industrial	1,565	519	161
	Emergency Services (Fire, Police & Ambulance)*	6	3	0
	Hospitals*	5	2	1
	Schools and Education Facilities*	77	29	14
	Surgery or Health Care*	26	4	0
	Residential Home*	4	1	1
	Sewage Treatment*	3	0	0
	Electricity Sub Station or Building*	114	29	5
	Other	73	25	8
	Non Residential Total	**1,873**	**612**	**190**
Total		**19,484**	**4,355**	**1,189**

The areas at greatest risk within Merton have been identified as Critical Drainage Areas (CDAs).Thirteen CDAs have been identified across Merton (see Figure 6 in Appendix A and overleaf).

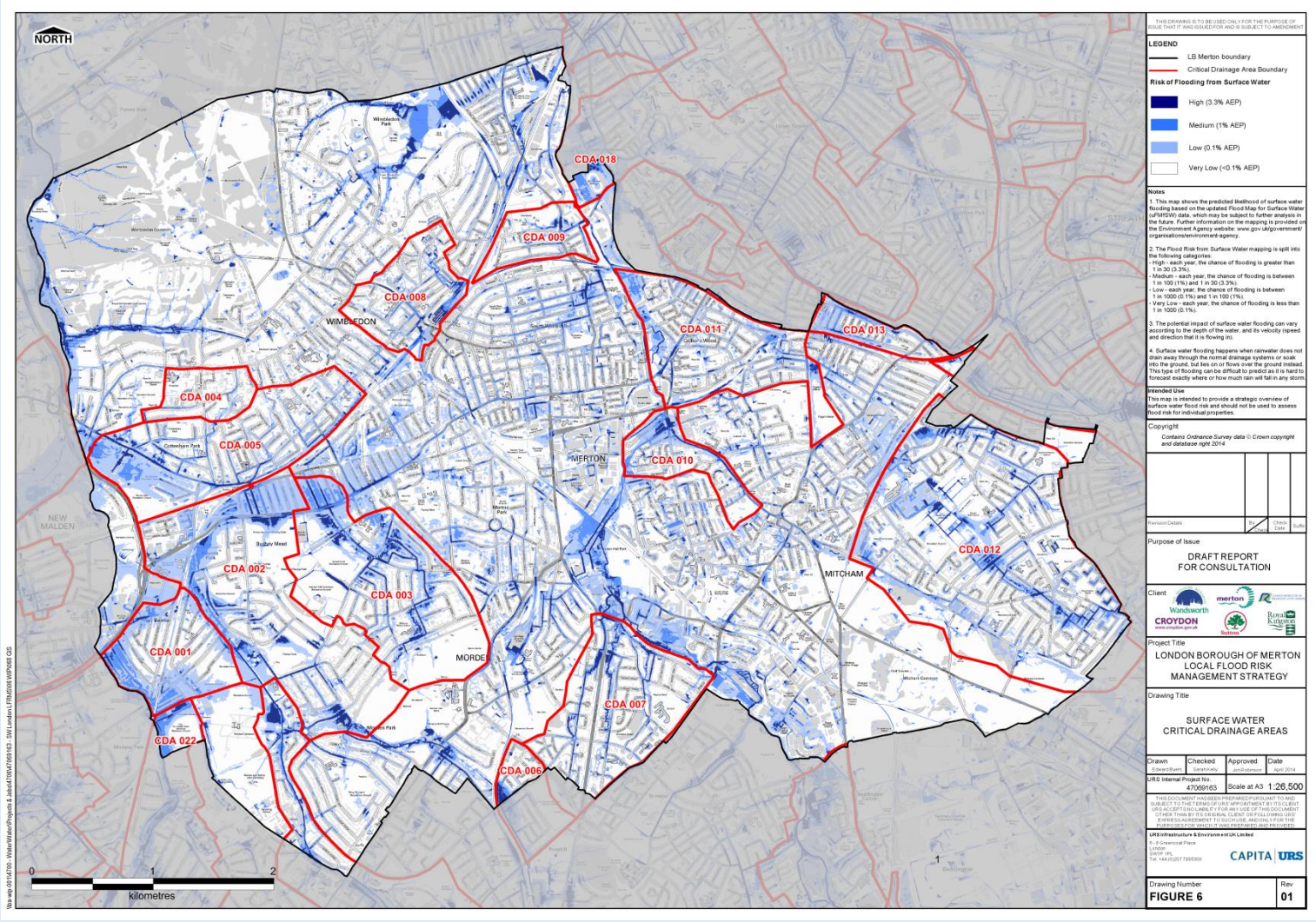
The areas considered to be at greatest risk of surface water flooding are:

- Raynes Park (CDA 002),
- West Barnes (CDA 001),
- Collier's Wood (CDA 011),
- East Mitcham (CDA 012),
- Cottenham Park (CDA 005), and,
- Ascot / Seeley Road (CDA 013).

Supporting Documents	London Borough of Merton SWMP London Borough of Merton PFRA Environment Agency Flood Risk from Surface Water Map[29]
Figures - Appendix A	Figure 1: Historic Flooding Figure 2: Flood Risk from Surface Water Figure 6: Surface Water Critical Drainage Areas Figure 7a: Flood Risk from Surface Water: Critical Services and Transport Figure 8a: Flood Risk from Surface Water: Environment and Heritage

[29] Environment Agency Flood Risk from Surface Water Map: http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?lang=_e&topic=ufmfsw&layer=default&scale=2&x=357683&y=355134#x=357683&y=355134&scale=2
Also known as the updated Flood Map for Surface Water (uFMfSW) dataset.

Table 3-1 Flooding from Local Sources –Surface Water

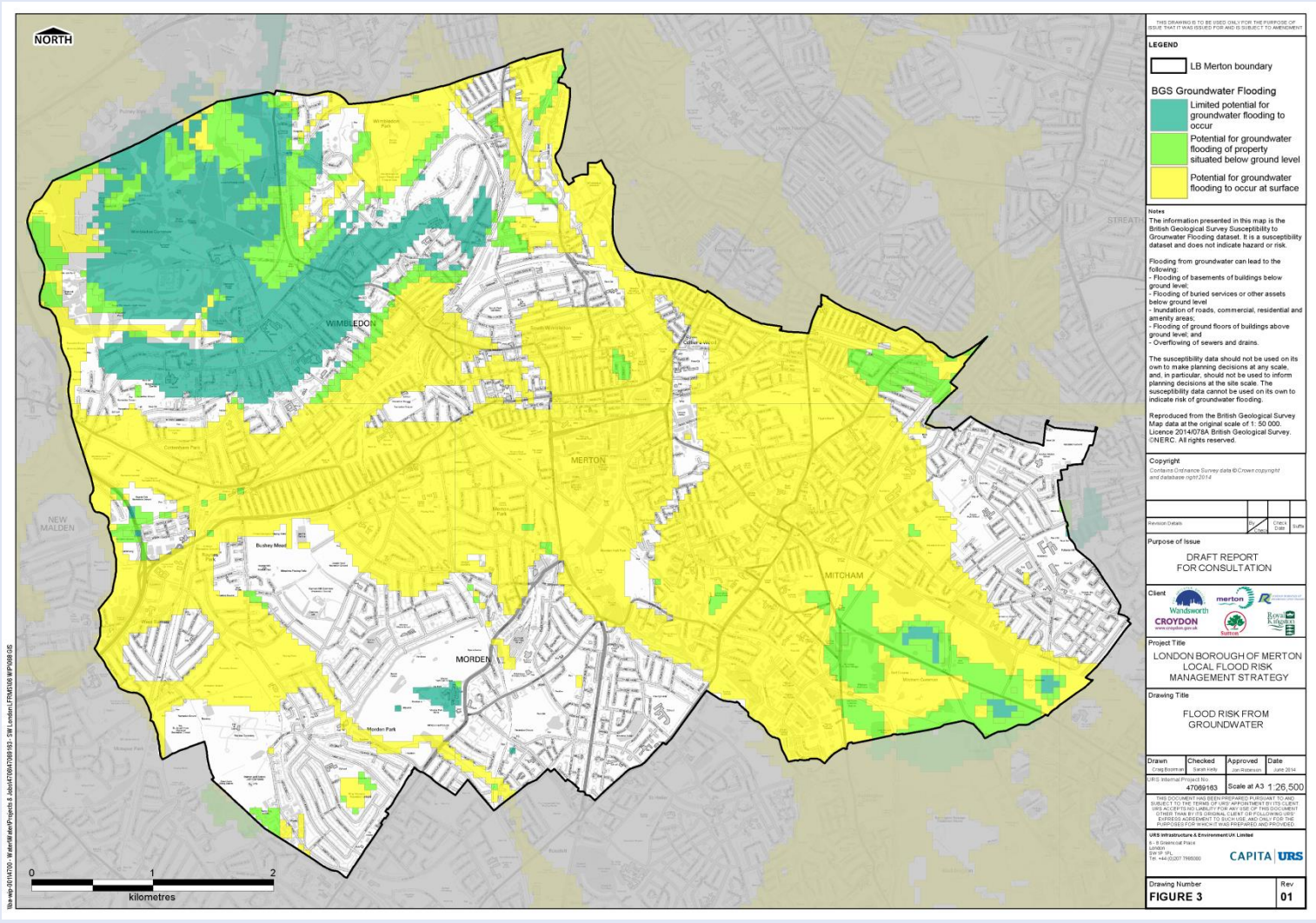


Surface Water Flood Risk in London Borough of Merton and Critical Drainage Areas (CDAs)

Groundwater

Table 3-2 Flooding from Local Sources – Groundwater	
Description of Source	Groundwater flooding occurs as a result of a rising water table from the underlying aquifer or from water flowing from springs. This tends to occur after long periods of sustained heavy rainfall and can be random in both location and time of flooding, often lasting longer than a river or surface water flood. High groundwater levels may not always lead to widespread groundwater flooding; but has the potential to exacerbate the risk of; • surface water flooding by saturating the soil and reducing the amount of rainfall the ground can accept, • river flooding by increasing the base flow in rivers, and • sewer flooding through the interaction between groundwater and underground sewer networks.
Historic Flooding	A number of groundwater flooding incidents have been recorded, with incidents dispersed across the Borough. There is no clear concentration of groundwater flooding incidents in any particular area (Figure 1, Appendix A). In the supporting online survey, fewer than 1 in 5 respondents indicated that they thought flooding was due to the presence of groundwater/springs.
Future Flood Risk	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. Basements and other below-ground level installations are particularly vulnerable to groundwater flooding, although property and land above ground level can be at risk. Existing efforts to predict groundwater flooding events are based on monitoring water levels in boreholes in areas known to be at risk. These systems can give days or weeks warning notice before flooding might occur. Groundwater models can also be used to provide early warning systems to alert authorities to possible groundwater flooding in advance allowing authorities to plan their response and possibly even to implement mitigating measures. However, the monitoring of boreholes and development of groundwater flood models can be costly, and are only normally undertaken in those areas of greatest risk. The British Geological Survey (BGS) has produced a national Susceptibility to Groundwater Flooding dataset (Figure 3, Appendix A and overleaf). The dataset is based on geological and hydrogeological information and identifies areas where geological conditions could enable groundwater flooding to occur and where groundwater may come close to the ground surface. The areas most susceptible to groundwater flooding across the Borough, where there is the potential for groundwater flooding to occur at the surface, are located in the those areas with permeable superficial deposits (which usually consist of sediments such as gravel, sand, silt and clay) which are typically associated with river valleys. These cover a wide area in Merton and include the following areas: • From Mitcham north towards Collier's Wood, • Sections of West Barnes and Raynes Park, and • An area of central Merton from South Wimbledon west towards Cottenham Park. Smaller areas, where there is potential for groundwater flooding of property situated below ground level, are located in Mitcham, Collier's Wood and South Wimbledon, whilst Wimbledon Common and areas in close proximity to this are identified to have limited potential for groundwater flooding to occur. However, it should be noted that the susceptibility to groundwater flooding dataset provides a high-level assessment of potential risk across the Borough and incidents may occur outside these areas depending on the local geological conditions.
Supporting Documents	London Borough of Merton SWMP London Borough of Merton PFRA London Borough of Merton Level 2 SFRA
Figures - Appendix A	Figure 1: Historic Flooding Figure 3: Flood Risk from Groundwater Figure 7b: Flood Risk from Groundwater: Critical Services and Transport Figure 8b: Flood Risk from Groundwater: Environment and Heritage

Table 3-2 Flooding from Local Sources – Groundwater

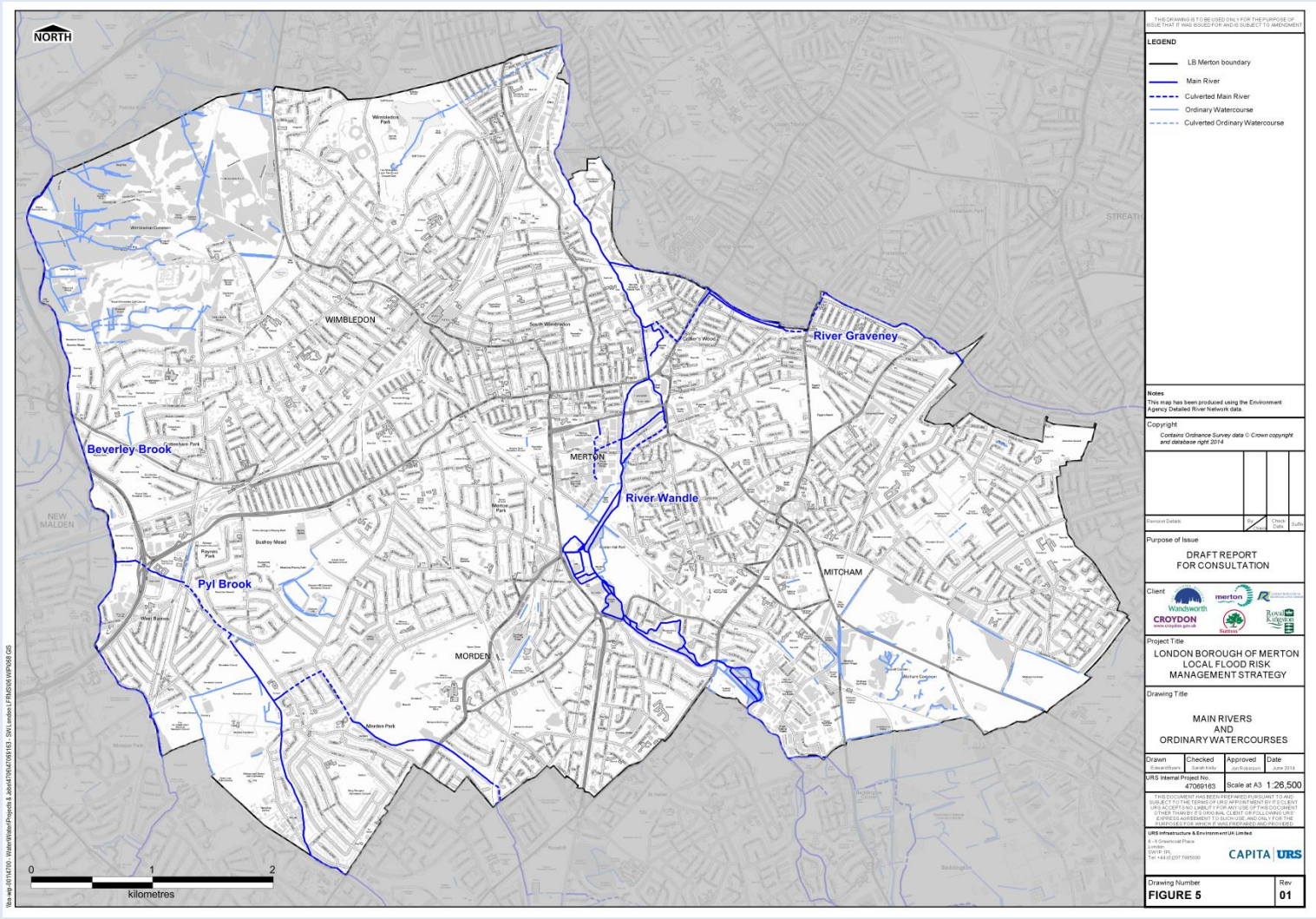


Groundwater Flood Risk in London Borough of Merton

Ordinary Watercourses

Table 3-3 Flooding from Local Sources – Ordinary Watercourses (incl. small ditches and land drains)	
Description of Source	Ordinary watercourses include every river, stream, ditch, drain, cut, dyke, sluice, sewer (other than a public sewer) and passage through which water flows, above ground or culverted, which is not designated as a main river (see Table 3-4). The responsibility for managing and maintaining ordinary watercourses falls to riparian owners (Section 2.3) and Merton Council has responsibility to regulate activities related to the watercourses (Section 2.2). In total there is approximately 69km of ordinary watercourse in Merton, approximately 5km of which is culverted. Figure 5 in Appendix A and overleaf shows the location of the watercourses. The majority of watercourses are located in Wimbledon Common, Mitcham Common, Raynes Park, Cannon Hill Common and Wimbledon Park. A number of these are small ditches located in Council managed parks and adjacent to roads, for which Merton Council are the riparian owners as well as the Risk Management Authority.  *Morden Hall Park, Merton (Source: Merton Council)*
Historic Flooding	Only six minor flood incidents have been recorded within Merton, as presented in Appendix A Figure 1. It is likely that the occurrence of flooding originating from ordinary watercourses is under represented in Merton Council records, especially where events have not been reported, e.g. in unoccupied open spaces. Seventy-seven flood incidents with an unknown or multiple source have been recorded, which may be in part due to a number of sources contributing to the same flood event, for example flooding from small ditches combined with flooding from main rivers and surface water. In the supporting survey, just over 1 in 5 respondents indicated that they thought flooding was due to blocked ditches or streams.
Future Flood Risk	No modelling of the flood risk from ordinary watercourses has been undertaken to date across Merton. Therefore future flood risk is based on the potential risk that might arise based on knowledge of known flooding hotspots and potential mechanisms for flooding. Merton Council is aware of a number of areas with known flooding problems associated with ordinary watercourses, including: • The watercourse adjacent to Meadowsweet Close, which has a history of flooding due to overgrown vegetation and blockage of the trash screen. This can impact the culverted section of watercourse upstream which runs along the rear of the properties along Grand Drive. • The watercourse flowing through Kings College School Sports Ground in Raynes Park. A section flows eastward, connecting to the Pyl Brook, whilst a section flows westward and is culverted underneath Arthur Road. Flooding has been reported when the culvert and associated trash screen has become blocked. Trash screens and culverts have the potential to become blocked by items such as plant debris and rubbish. Blockages can restrict the natural flow of water, increasing the chance of water flowing out of bank and causing local flooding due to the reduced flow of the associated watercourse. Therefore the risk of flooding from ordinary watercourses can be very localised and requires appropriate inspection and maintenance regimes to ensure the risk is minimised. Due to an expected lack of funding for maintenance of ordinary watercourses in the future, prioritisation of maintenance on those ordinary watercourses which are the responsibility of Merton Council as the riparian owner, along with gullies and other flood risk assets, will be key to maximise the positive impact of flood risk management activities carried out by the Council. Maintenance on those watercourses that are not the Council's responsibility are the responsibility of the riparian owner. Often flooding from ordinary watercourses occurs and coincides at the same time as other sources of flooding, such as surface water or main river. Therefore it is important to consider this source in combination with these, as shown in Figures 2 and 4 in Appendix A.
Supporting Documents	London Borough of Merton SWMP London Borough of Merton PFRA
Figures - Appendix A	Figure 1: Historic Flooding Figure 2: Flood Risk from Surface Water Figure 4: Flood Risk from Rivers Figure 5: Main Rivers and Ordinary Watercourses

Table 3-3 Flooding from Local Sources – Ordinary Watercourses (incl. small ditches and land drains)



Ordinary Watercourses and Main Rivers in the London Borough of Merton

Main Rivers

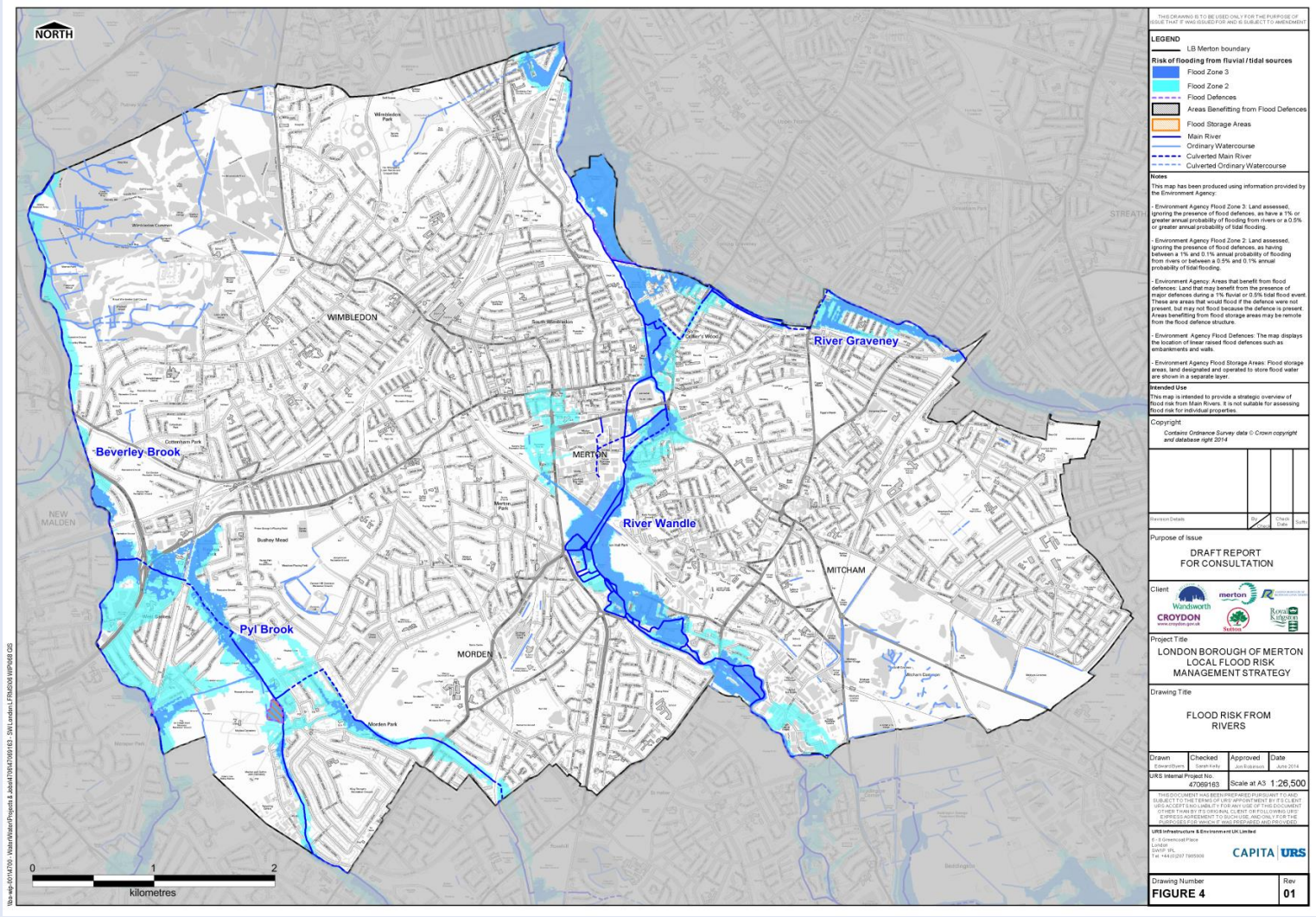
Table 3-4 Flooding from Other Sources – Main Rivers	
Description of Source	River flooding occurs when water levels rise as a result of heavy or intense rainfall which flows into them, resulting in watercourses overflowing or bursting their banks. A main river is defined by the Environment Agency on its Main River Map[30] and is usually a larger river or stream. The following main rivers are present within the London Borough of Merton, as shown in Figure 5 in Appendix A; • **River Wandle** – the watercourse enters Merton in the south-east to the south of Mitcham and flows in a roughly south-east to north-west direction through Watermeads, Ravensbury Park and Morden Hall Park before flowing northwards towards Merton High Street and adjacent to adjacent to Wandle Park, towards the London Borough of Wandsworth. A number of tributaries flow into the Wandle, including **Bunces Ditch** in Morden Hall Park and the River Graveney. • **River Graveney** – this watercourse is a tributary of the River Wandle. The watercourse originates as the Norbury Brook, before becoming the River Graveney to the east of Merton. The River Graveney flows in an approximately east to west direction along the northern boundary of Merton. The river splits close to Tooting Rail Station, with one branch forming the **Figges Marsh Ditch**. At High Street Collier's Wood one branch of the River Graveney is culverted and continues to flow westward where it joins the River Wandle to the north of Wandle Meadow Nature Park. The second branch of the River Graveney is culverted underneath High Street Collier's Wood, before diverting north-west under Bygrove Road. To the north of Wandle Park the watercourse opens up and flows into the River Wandle. • **Beverley Brook** – the watercourse rises in Cuddington Park and is then culverted until Worcester Park, to the south-west of Merton. It subsequently flows in an approximately south-north direction along the western boundary of Merton and eventually discharges into the Thames at Barnes. • **Pyl Brook** – this watercourse is a tributary of the Beverley Brook. The Pyl Brook rises to the south of Sutton Common train station before flowing in an approximately south-east to north-west direction through Merton and connecting to the Beverley Brook in Beverley Park on the western boundary of Merton. An approximately 600m section of the Pyl Brook running adjacent to West Barnes Lane is culverted between Kingsway and Raynes Park High School. The Derwent Road Flood Storage Area provides additional storage from the Pyl Brook during periods of high flow.
Historic Flooding	Major flooding from rivers has not occurred in Merton since 1968, when extensive flooding occurred along the banks of the Pyl Brook and the Beverley Brook, in the south west of the Borough around West Barnes. Prior to this, flooding occurred in 1937. This flood event affected small areas along the Beverley Brook. The Level 1 SFRA presents the extent of historic river floods from 1937 and 1968. River flooding within Merton in 1937 was limited to isolated areas in West Barnes, associated with the Beverley Brook. Relatively small patches of flooding occurred in proximity to Marina Avenue and Burlington Road. River flooding in 1968 was associated with the Beverley Brook, the Pyl Brook and East Pyl Brook. Not all river flooding is caused by overtopping, and in 2007 extensive flooding occurred as a result of high water levels in the Beverley Brook and Pyl Brook, blocking outfalls and causing water to back up in the road drainage system and flood. This occurred in what is now Raynes Park High School, along with areas south of Malden Way and down towards West Barnes Lane and along the Pyl Brook from Lower Morden Lane towards what is now Raynes Park High School. Hatfield Primary School experienced flooding of approximately 300mm depth as a result of overtopping of the Pyl Brook and the East Pyl Brook flowed out of bank where it flows through the south-west end of Morden park up towards Camborne Road. Less extensive flooding associated with the Pyl Brook occurred between Lower Morden Lane and the southern boundary of Merton.
Future Flood Risk	In December 2013, the Environment Agency published a new set of mapping called the Risk of Flooding from Rivers and the Sea, which shows the risk of flooding from rivers and the sea banded into High, Medium and Low Risk, in a consistent format with the Risk of Flooding from Surface Water and Reservoir Maps (see Table 3-1 and Table 3-6). Whilst this dataset is readily available to the public to understand their own flood risk, the Strategy uses the Flood Map for Planning (Rivers and Sea), also published by the Environment Agency, as the basis to determine future flood risk from rivers. The Flood Map for

[30] Environment Agency website: https://www.gov.uk/government/organisations/environment-agency

Table 3-4 Flooding from Other Sources – Main Rivers	
	Planning (Rivers and Sea) defines Flood Zones and is used by Merton Council, as the Local Planning Authority, to make planning decisions in line with national legislation. The NPPF defines Flood Zones associated with tidal and river flooding based upon the probability of flooding. The extent of land adjacent to main rivers within Flood Zone 2 (between a 1 in 100 and 1 in 1000 chance of flooding in any given year and Flood Zone 3 (greater than 1 in 100 chance of flooding in any given year) varies throughout the Borough, as shown in Figure 4 in Appendix A and overleaf. Extensive areas within Flood Zones 2 and 3 include: • West Barnes and Raynes Park, associated with the Beverley Brook and Pyl Brook. • Properties in proximity to Morden Park associated with the East Pyl Brook. • Relatively large numbers of properties to the south of the A3 and in proximity to Arthur Road and Cannon Hill Lane. • The areas of Watermeads, Ravensbury Park and Morden Hall Park associated with the River Wandle, and properties between Ravensbury Park and Morden Hall Park. • Wandle Meadow Park and Wandle Park in Collier's Wood. • A number of properties along Runnymead and Liberty Avenue. • Wimbledon Stadium and properties located to the south. • Properties in the very north-east of the Borough surrounding Brooklands Avenue. • Properties around the Eagle Trading Estate in the south of the Borough. • Areas around Brangwyn Crescent and to the west of Merantun Way. The interaction of the surface water drainage with Figges Marsh Ditch could have a significant influence on surface water flooding. Properties along the course of the Figges Marsh Ditch may be vulnerable to river flooding as they are directly connected to the culverted watercourse via drainage systems. Figures 7c and 8c in Appendix A show the risk of flooding from rivers to critical infrastructure, transport, environment and heritage sites across the Borough. According to the Environment Agency[31], there are approximately 6,000 properties in areas at risk of river flooding in Merton; around 7% of all properties in the Borough. The Environment Agency's National Flood Risk Assessment shows that around 66% of the properties are in areas where likelihood of flooding is low due to protection from flood defences. The Environment Agency offers a free flood warning service, which gives advance warning of flooding via telephone, mobile SMS text, e-mail or fax. As of March 2013, 4,523 properties in Merton were registered to receive flood warnings[20]. This does not include all properties at risk, though other media, such as local radio, the Environment Agency and Merton Council website also broadcast the warnings.
Supporting Documents	London Boroughs of Wandsworth, Merton, Sutton and Croydon Level 1 SFRA London Borough of Merton Level 2 SFRA Thames CFMP Environment Agency Flood Map for Planning (Rivers and Sea)
Figures - Appendix A	Figure 1: Historic Flooding Figure 4: Flood Risk from Rivers Figure 5: Main Rivers and Ordinary Watercourses Figure 7c: Flood Risk from Rivers: Critical Services and Transport Figure 8c: Flood Risk from Rivers: Environment and Heritage

[31] Environment Agency (August 2013), Merton London Borough Environmental Fact Sheet - compiled as an extension to the London State of the Environment Report: http://test.environment-agency.gov.uk/static/documents/Research/Merton_2011.pdf

Table 3-4 Flooding from Other Sources – Main Rivers



Flood Risk from Main Rivers in the London Borough of Merton

Sewers

Table 3-5 Flooding from Other Sources – Sewers	
Description of Source	During heavy rainfall flooding from the sewer system may occur if (a) the amount of rainfall exceeds the capacity of the sewer system / drainage system, (b) the system becomes blocked by debris or sediment and/or (c) high water levels in receiving watercourses cause water to back up in the sewer system and overflow. Sewer flooding generally results in localised short term flooding. Sewers are designed to cope with the vast majority of storms but occasionally rainfall can be so heavy that it overwhelms the system. When this happens, sewage can overflow from manholes and gullies and flood homes and gardens. The majority of Merton is served by separate foul and surface water sewers with the surface water sewers typically designed to accommodate a rainfall event with a 1 in 30 chance of occurring in any given year or less. During larger, more intense rainfall events when the capacity of the surface water sewer system is insufficient, many of the sewer systems in the south west of the Borough discharge directly, or via some degree of attenuation, into the natural watercourses in the Raynes Park area. These discharges can locally increase water levels and potential for flooding.
Historic Flooding	The London Borough of Merton PFRA states that the West Barnes and Raynes Park areas in particular are known to experience sewer flooding during heavy rainfall. Sewer flood incidents have also been recorded by Merton Council, with incidents recorded in St Helier, Wimbledon and East Mitcham (Figure 1, Appendix A). Sewer flooding incidents should be reported directly to the water company; however, many often go unreported, meaning that there is not a complete dataset associated with historic sewer flooding.
Future Flood Risk	Overall, sewer flooding is not considered to be significant flood risk across the Borough. Information provided by Thames Water, through their DG5 register32, for the London Borough of Merton SWMP highlighted the following wards as being at greatest risk of sewer flooding, however, Thames Water focus their efforts on removing properties from the DG5 register and therefore this information may not accurately represent those properties currently at risk; • Wimbledon Park, • Collier's Wood, • Graveney, and • Longthornton. 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. Sewer flooding could be exacerbated by the increase in surface water runoff caused by heavy rainfall. However the risk from sewer flooding in the London Borough of Merton is low as the majority of Merton is served by separate foul and surface water sewers. Thames Water will prioritise investment for potential flood alleviation schemes depending on the severity and frequency of flooding, but this can only be identified where affected property owners report the incident to the water company. As such, Thames Water will monitor the risk of sewer flooding and put plans in place to manage this, as required, based on their business plan and priorities. The London Borough of Merton will work with Thames Water to identify flooding hotspots and locations of known sewer capacity issues where risk could be exacerbated.
Supporting Documents	London Borough of Merton SWMP London Borough of Merton PFRA Thames Water Utilities website
Figures - Appendix A	Figure 1: Historic Flooding

[32] A water-company held register of properties which have experienced sewer flooding due to hydraulic overload, or properties which are 'at risk' of sewer flooding more frequently than once in 20 years

Artificial Sources

Table 3-6 Flooding from Other Sources – Artificial Sources	
Description of Source	Artificial sources include any water bodies not covered under other categories and typically include canals, lakes and reservoirs. Artificial sources located in Merton include lakes and ponds in Wimbledon Park, Wimbledon Common, Cannon Hill Common and Mitcham Common. Wimbledon Park Lake is located towards the north-east of Merton and is a designated reservoir under the Reservoirs Act 1975[33]. Merton Council is the reservoir undertaker for the Lake.  *Wimbledon Park Lake (Source: Merton Council)*
Historic Flooding	There are no recorded incidents of flooding from artificial sources within Merton.
Future Flood Risk	Reservoir flooding is extremely unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925. As the undertaker for Wimbledon Park Lake, Merton Council is required to ensure that inspections are carried out by a Reservoirs Act qualified (panel) engineer and that necessary safety work is completed as required to reduce the likelihood of any failure. In the unlikely event that the reservoir dam failed, a large volume of water would escape at once and flooding could happen with little or no warning. In this instance flood waters would flow north-east towards the River Wandle into the London Borough of Wandsworth, and subsequently northwards towards the River Thames. Properties located to the north-east of Wimbledon Park Lake, along streets running south from Revelstoke Road and Ravensbury Road would potentially be flooded, with flood depths of up to 2m. The Environment Agency's Flood Risk from Reservoirs mapping shows the area and depths of flooding and flow velocities that could occur if Wimbledon Park Lake were to fail and release the water it holds. Other smaller lakes located in Wimbledon Common, Cannon Hill Common and Mitcham Common are not raised and therefore do not present a significant risk, however, in some instances the Thames Water surface water sewer network does discharge to these features.
Supporting Information	Environment Agency Risk of Flooding from Reservoirs Map[34] London Boroughs of Wandsworth, Merton, Sutton and Croydon Level 1 SFRA
Figures - Appendix A	Figure 1: Historic Flooding

[33] HMSO (1975) Reservoirs Act 1975 http://www.legislation.gov.uk/ukpga/1975/23
[34] Environment Agency Risk of Flooding from Reservoirs Map: http://watermaps.environment-agency.gov.uk/wiyby/wiyby.aspx?topic=reservoir#x=357683&y=355134&scale=2

3.3 Impact of Climate Change

3.3.1 Current predictions of future rainfall indicate that increasing numbers of severe and extreme weather events are expected in the future. Intense storms are the main cause of surface water flooding, which would also increase in frequency. It is predicted that the frequency of heavy rainfall events could double by the 2080s according to the UK Climate Projections 2009[35]. By the 2080s, it is predicted that there could be around three times as many days in winter with heavy rainfall (defined as more than 25mm in a day) and that the amount of rain in extreme storms (with a 1 in 5 annual chance or rarer) could increase locally by 40%. Consequently, the number of properties, business and critical infrastructure at risk will also increase.

3.3.2 The effects of climate change by 2050 for London are presented in Table 3-7.

Table 3-7 Effects of climate change under different UKCP09 emission scenarios

Effects of climate change	Low emissions	Medium emissions	High emissions
% change in annual mean precipitation	0%	0%	0%
% change in winter mean precipitation	12%	14%	16%
% change in summer mean precipitation	-14%	-19%	-19%

Implications for Flood Risk

3.3.3 Climate change can affect local flood risk in several ways. Impacts will depend on local conditions and vulnerability. In Merton, more intense rainfall is likely to result in an increase in localised surface water flooding. In turn, this may increase pressure on drains, sewers and water quality in watercourses. Some areas in Merton, not currently at risk from surface water flooding, have been identified as being sensitive to the impact of climate change. These areas include parts of Raynes Park, West Barnes and north east of St Helier.

3.3.4 Rising sea or river levels may increase local flood risk inland or away from major rivers because of interactions with drains, sewers and smaller watercourses. There is a risk of flooding from groundwater-bearing chalk and limestone aquifers. Recharge of the aquifers may increase in wetter winters, or decrease in drier summers.

3.3.5 Where appropriate, local studies are needed to understand climate impacts in detail, including effects from other factors like land use. Sustainable development and drainage will help to adapt to climate change and manage the risk of damaging floods in future.

Adapting to Change

3.3.6 Past emissions means some climate change is inevitable. It is essential to respond by planning ahead. Merton Council will prepare by understanding the current and future vulnerability to flooding, developing plans for increased resilience and building the capacity to adapt. Regular review and adherence to these plans is key to achieving long-term, sustainable benefits. The updated Merton Climate Change Strategy and action plan (2014-2017)[36] is currently in production and sets out how the Council and residents of the London Borough of Merton can take action on climate change.

3.3.7 Although the broad climate change picture is clear, the Council will have to make local decisions against deeper uncertainty. Merton Council will therefore consider a range of

[35] United Kingdom Climate Projections 2009 http://ukclimateprojections.defra.gov.uk//
[36] Merton Council (2014) Merton Climate Change Strategy 2014-2017. http://www.merton.gov.uk/environment/sustainability-climate/climatechange/what-are-we-doing/merton_climate_change_strategy_2014-2017-draft.pdf

measures and retain flexibility to adapt. This approach, embodied within flood risk appraisal guidance, will help to ensure that the vulnerability of communities and businesses to flooding does not increase.

3.3.8 A number of regional and local policies are in place to reduce the impact of and adapt to climate change, including Policy 5.13 Sustainable Drainage (London Plan) and Policy CS15 Climate Change (London Borough of Merton Local Plan). A full list of relevant policies is provided in Appendix C and detail on each policy can be found in the respective plans.

Including allowances for Climate Change in Flood Risk Management

3.3.9 The NPPF and supporting guidance set out the allowances required for climate change to be used in Flood Risk Assessments. The Environment Agency has produced guidance on Climate Change Allowances for Planners[37] to support the NPPF to outline requirements for preparing FRAs for Local Plans and planning applications. This includes recommended national precautionary sensitivity ranges for peak rainfall intensity and peak river flow suitable for use in the planning system (Table 3-8).

Table 3-8 Recommended national precautionary sensitivity ranges for peak rainfall intensity and peak river flow

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		

3.3.10 Existing flood risk studies, covering the London Borough of Merton and the wider catchment, have assessed the impacts of climate change and flood risk and provide the evidence base for understanding how this may impact current and future communities and businesses. Further information on how the Strategy takes into account the impacts of climate change is outlined in Section 5.5.

3.4 Summary

3.4.1 This Section has afforded a summary of past and future flood risk associated with local sources in Merton which are the primary focus of the Strategy. A summary of the past and future risk associated with other sources of flooding has also been provided to ensure a comprehensive appreciation of flood risk across the Borough.

3.4.2 The sources of flood risk that are of most significance within Merton are considered to be surface water, river and groundwater. This does not, however, indicate that the future flood risk from other sources is insignificant. Indeed, runoff from roads or impermeable areas and flooding from road gullies were identified as the main sources of flooding perceived by respondents in the Survey. However a significant proportion of respondents to the survey also identified large rivers such as the River Wandle, smaller ditches and streams, surface or foul sewers and groundwater as sources of flooding in their local area. This indicates that surface water flooding is of major concern for respondents within the Borough, though a number of other flood sources are perceived to impact the Borough.

[37] Environment Agency (September 2013) Climate Change Allowances for Planners – Guidance to Support the National Planning Policy Framework. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296964/LIT_8496_5306da.pdf

4. OBJECTIVES FOR MANAGING LOCAL FLOOD RISK

4.1 London Borough of Merton's Local Objectives

4.1.1 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 Merton 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 Merton Strategy Objectives

1. Identify areas at highest risk of flooding from local sources and develop a prioritised action plan in line with the principles of the Strategy,
2. Work with Risk Management Authorities and stakeholders to identify ways of managing flood risk in those areas at greatest risk within the borough,
3. Work with planners and developers to ensure no increase in risk of flooding from new development,
4. Maximise available resources and funding to target those areas at greatest risk,
5. Prioritise maintenance activities to reduce surface water flooding, and,
6. Advise communities, residents and businesses on the level of flood risk affecting them and how they can better protect themselves and their property.

Figure 4-1 Local Flood Risk Management Objectives

4.2 Guiding Principles for Setting Objectives

4.2.1 The objectives for the London Borough of Merton Strategy have been developed in line with the Environment Agency's National Strategy[38], the draft Thames River Basin District FRMP, the outcomes from the public engagement exercise undertaken to inform to the Strategy (Appendix E) and discussions with Merton Council and Risk Management Authority officers.

National Flood Risk Management Objectives

4.2.2 The Environment Agency's National Strategy sets out the following national objectives for flood risk management:

- **Understand the risks** – understanding the risks of flooding and coastal erosion, working together to put in place long-term plans to manage these risks and making sure that other plans take account of them,
- **Prevent inappropriate development** – avoiding inappropriate development in areas of flood and coastal erosion risk and being careful to manage land elsewhere to avoid increasing risks,
- **Manage the likelihood of flooding** – building, maintaining and improving flood and coastal erosion management infrastructure and systems to reduce the likelihood of harm to people and damage to the economy, environment and society,
- **Help people to manage their own risk** – increasing public awareness of the risk that remains and engaging with people at risk to encourage them to take action to manage the risks that they face and to make their property more resilient, and

[38] Defra, Environment Agency (2011) The National Flood and Coastal Erosion Risk Management Strategy for England https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england

- **Improve flood prediction, warning and post-flood recovery** – improving the detection, forecasting and issue of warnings of flooding, planning for and co-ordinating a rapid response to flood emergencies and promoting faster recovery from flooding.

Guiding Principles for Flood Risk Management

4.2.3 The National Strategy strategic aims and objectives are supported by six high-level principles, to guide decisions on risk management activities, and the process by which they are taken, at both a national and local level. Merton Council has used these to guide the development of objectives and identification of measures to deliver local flood risk management within Merton.

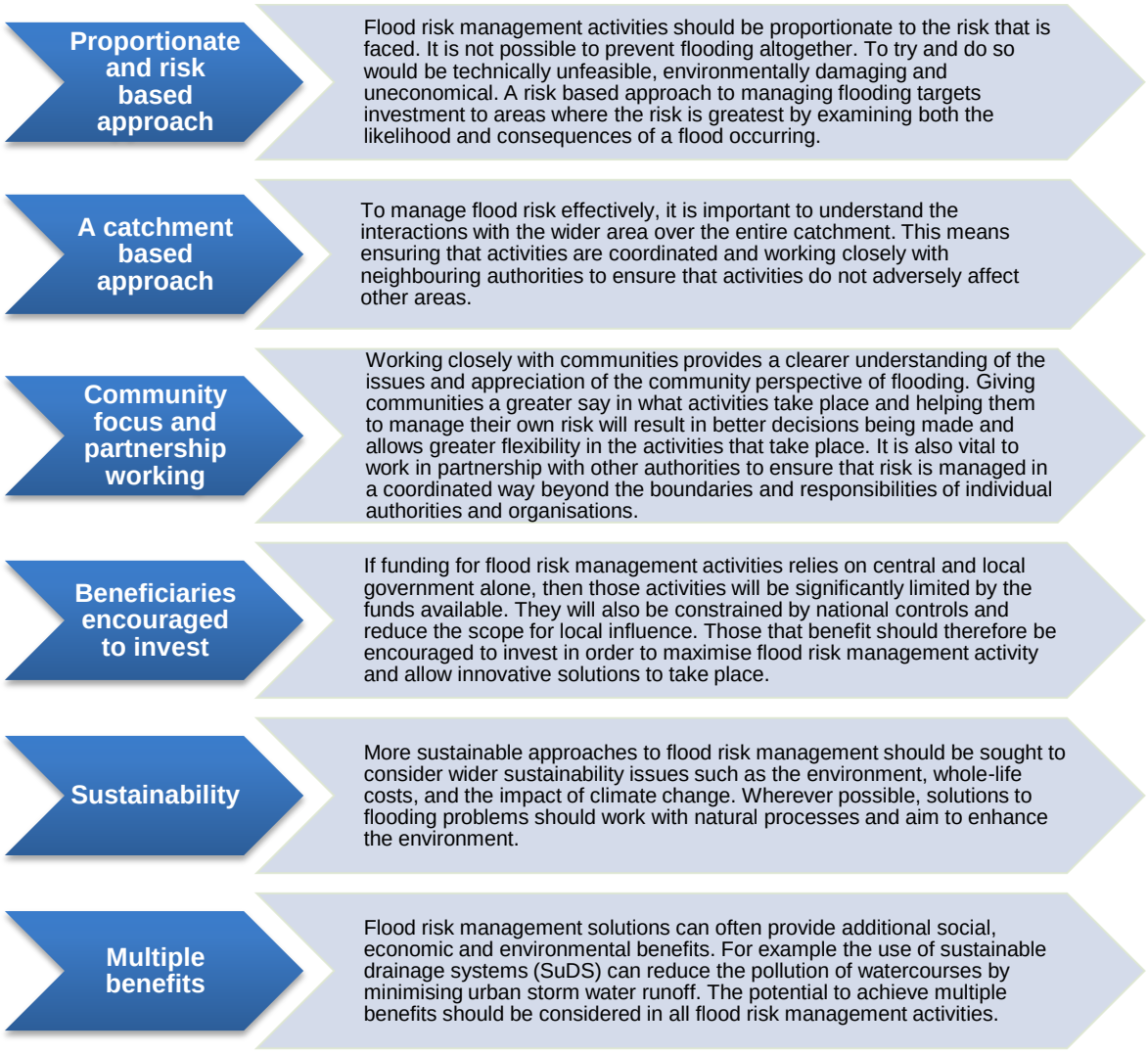


Figure 4-2 Guiding Principles for Local Flood Risk Management

5. DELIVERY OF LOCAL FLOOD RISK MANAGEMENT

5.1 Overview

5.1.1 This section sets out how the local flood risk management objectives will be delivered 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 as provided in Appendix B. These will help to improve the understanding of flood risk across the Borough and inform the way flood risk is reduced and planned for, and to increase resilience against the impacts of climate change.

5.1.2 In delivering flood risk management, there is the opportunity to help deliver 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; further details are provided in Section 6.

5.1.3 Specifically this section outlines:

- The delivery of local flood risk management in the London Borough of Merton to date (Section 5.2),
- How Merton Council will deliver their legislative duties under the Act (Section 5.3),
- How the London Borough of Merton local flood risk management objectives will be delivered (Section 5.5),
- How regional and local planning policies will be delivered (Section 5.4),
- How local flood risk management measures will be prioritised (Section 5.6),
- How local flood risk management measures will be funded (Section 5.7), and,
- Steps communities, residents and businesses can take to prepare for flooding (Section 5.8).

5.1.4 The Merton Council website[39] provides the latest information on flood risk management in Merton.

5.2 Delivery of Local Flood Risk Management to Date

5.2.1 As the LLFA, Merton Council has been undertaking a number of activities to deliver duties under the Act and take a proactive approach to delivering local flood risk management in Merton. Some of the key activities undertaken to date are outlined in Figure 5-1.

[39] Merton Council Flood and Water Management Website: http://www.merton.gov.uk/environment/flooding.htm

Flood Risk Management Activities Delivered in the London Borough of Merton

- Production of a Surface Water Management Plan,
- Production of a Preliminary Flood Risk Assessment,
- Setting up and attending quarterly meetings of the South West London Strategic Flood Group (Section 5.3),
- Closer working between council departments on flood risk management (Section 5.3),
- Undertaking cleansing of gullies in identified 'higher risk' areas on an annual basis, where funding is made available – the higher risk areas were based on those roads that were reported as flooding during the July 2007 surface water flooding event. In addition for future cleansing programmes, higher risk may also include areas where there are reported regular drainage issues. Roads affected, and therefore forming part of the 'higher risk' areas, are identified in Figure 1 in Appendix A,
- Securing funding through the Drain London project, administered by the Greater London Authority (GLA) , and undertaking investigations into flooding risk, mechanisms and potential mitigation schemes in the higher risk areas (further information is provided below),
- Securing funding from the Environment Agency (April 2014) to undertake investigations into flooding risk, mechanisms and potential mitigation schemes in the higher risk areas of Cottenham Park (CDA 005) and Ascot / Seeley Road (CDA 013),
- Improving understanding of local flood risk through collating historic and emerging information on local flood risk and mechanisms, working with neighbouring authorities and Risk Management Authorities, and attending capacity building workshops run by Defra and the Environment Agency,
- Setting up procedures and delivering legislative duties as required under the Act and the Regulations (Section 5.3), and,
- Joint commission, with the South West London Strategic Flood Group, to deliver the South West London Flood and Water Management Act 2010 Roadmap, identifying the required legislative duties, proposed delivery route for these and opportunities for joint working across South West London Boroughs.

Figure 5-1 Flood Risk Management activities undertaken in Merton to date

5.2.2 Merton Council was successful in allocating funding from the GLA as part of the Drain London Project to undertake investigations into the surface water flooding risk, mechanisms and potential mitigation options for four of the higher risk CDAs in Merton, namely West Barnes (CDA 001), Raynes Park (CDA 002), Colliers Wood (CDA 011) and East Mitcham (CDA 012). The outcomes from the studies has improved the understanding of flooding mechanisms in each of these areas and provided improved information on flood risk. Whilst a number of flooding mitigation options were considered for each of the risk areas, the benefits these provided compared to the cost of the schemes did not result in any schemes being put forward that could meet national funding priorities for implementation. Therefore, opportunities for smaller scale surface water measures will be reviewed as opportunities arise, e.g. through resurfacing of roads or public realm improvements, and continuation of existing maintenance initiatives, such as cleansing of gullies in higher risk gullies, will continue where funding is available.

5.3 Delivery of Legislative Duties

5.3.1 Under the Act, Merton Council has a number of duties and powers relating to the management of local flood risk. The existing procedures in place and the proposed measures to deliver these are outlined below.

Forge Partnerships and Lead on Local Flood Risk Management

Merton Council Local Flood Risk Management Coordination

5.3.2 Local flood risk management within Merton Council is led by the Traffic and Highways Team. The Traffic and Highways Team meet regularly with representatives from Leisure and Culture Development, Leisure and Culture Greenspaces, Development Control, Property Management and Review, Facilities Management, Business Improvement, Future Merton, Merton Priory Homes, Emergency Planning, Housing Strategy and Communications to discuss progress with undertaking Merton Council's duties as an LLFA and any other issues relating to flood risk management within the Borough.

South West London Strategic Flood Group

5.3.3 The Strategic Flood Group was formed in 2011 and reports to the Thames Regional Flood and Coastal Committee. The Group comprises the six LLFAs covering South West London, namely, London Borough of Croydon, The Royal Borough of Kingston upon Thames, London Borough of Merton, London Borough of Sutton, London Borough of Richmond upon Thames and London Borough of Wandsworth, and the Environment Agency and Thames Water Utilities Ltd.

5.3.4 The Group meet quarterly to share best practice and understanding of flood risk across South West London, and, where possible, provide coordinated and collaborative management of flooding.

Regional Flood and Coastal Committee

5.3.5 The Thames Regional Flood and Coastal Committee[40] was established in accordance with the Act and is composed of elected members appointed by each LLFA and independent members appointed by the Environment Agency with relevant experience in the Thames Region. The Committee has three primary functions:

- To ensure there are coherent plans for identifying, communicating and managing flood and coastal erosion risks across the Thames catchment,
- To promote efficient, targeted and risk-based investment in flood and coastal erosion risk management that optimises value for money and benefits for local communities, and
- To provide a link between the Environment Agency, Merton Council (LLFA), Risk Management Authorities, and other relevant bodies to create mutual understanding of the flood and coastal erosion risks.

5.3.6 An elected member from the South West London Strategic Flood Group sits on the Thames RFCC.

[40] Environment Agency Website: Thames Regional Flood and Coastal Committee https://www.gov.uk/government/groups/thames-regional-flood-and-coastal-committee

Investigate Flood Incidents

5.3.7 Under Section 19 of the Act, Merton Council as the LLFA, has a duty to report and investigate flooding incidents that are considered to be 'significant'. For all flood incidents deemed 'significant', Merton Council must investigate which Risk Management Authorities have relevant flood risk management functions and whether the Authority has carried out, or intends to carry out, those functions. Where an investigation is carried out, Merton Council will subsequently publish the report on Merton Council's website and notify the relevant Risk Management Authorities.

5.3.8 Merton Council has defined a number of criteria which will determine whether a flood incident should be deemed significant, and therefore requires investigation. A flood investigation will be initiated should any of the criteria in Figure 5-2 occur during a flood event.

London Borough of Merton Flood Investigation Criteria

Risk to loss of life

- There is a considered risk of loss of life, injury or health implications

Risk to residential property

- **Two or more** residential properties flood internally

Risk to commercial property

- **One** commercial property over 250 square metres floods internally or
- **Two or more** commercial properties (of any size) flood internally

Risk to critical infrastructure property

e.g. *hospitals, schools, emergency services, electricity installations, water supply etc*

- **One or more** critical infrastructure property:
  - were flooded internally, and/or,
  - were rendered inoperable due to impassable access; and/or,
  - resulted in loss or potential loss of service or causing or potentially causing flooding to other property.
  - *Critical infrastructuire defined as hospitals, schools, emergency services, electricity installations, water supply, sewage treatment etc.*

Risk to transport

- A section of:
  - **Major Highway, Major Rail Link or Tramlink** becomes impassable, and / or
    - *Major Highway is defined as TfL operated roads (TLRN), Strategic Road Network (SRN), Principal Road Network and Distributor Roads*
  - **Minor Highway** becomes impassable to emergency vehicles or Minor Rail Link becomes impassable.
    - *Minor Highway is defined as Unclassified Road Network including Local Access Roads and Private Streets*

Risk to environment and cultural sites

e.g. parks, ponds, Sites of Special Scientific Interest, Special Areas of Conservation etc.

- Merton Council officer deems an investigation to be necessary due to environmental or cultural risk

Figure 5-2 London Borough of Merton Flood Investigation Criteria

5.3.9 Upon becoming aware of a flood incident, initial information will be recorded in order to determine whether any of the criteria set out in Figure 5-2 has been met. Should this be the case, a formal flood investigation will be initiated.

5.3.10 Should an emergency response be required, the Duty Civil Contingencies Officer will respond to the incident, in accordance with the Multi-Agency Flood Plan. Should an emergency response not be required, details of the flood incident will be forwarded to the appropriate Merton Council officer to progress.

5.3.11 There are several situations which, whilst causing flooding, will not prompt a formal investigation. However, they may warrant an investigation by other Risk Management Authorities even though they do not meet or warrant investigation by the LLFA. This will be assessed on an incident-by-incident basis. Examples include,

- Flooding close to residential dwellings where no internal flooding occurs. This includes flooding of residential gardens, paths and driveways,
- Flooding caused by blocked gullies or culverts, except where this leads to flooding meeting the criteria set out in this guidance document,
- Flooding of footpaths, roads and transport routes where the routes are still passable and / or are not causing flooding to residential and non-residential properties and infrastructure,
- Flooding of parks/amenities which are not listed as environmental or cultural sites,
- Flooding caused by a burst water main, and,
- Flooding caused from any part of the sewerage system, unless wholly or partly caused by an increase in the volume of rainwater entering or otherwise affecting the system.

5.3.12 Where the determination will not result in a formal investigation the Investigating Officer will attempt to assist members of the public in identifying the source of flooding and advise accordingly.

5.3.13 All flood incidents which are reported to Merton Council will be recorded in Merton Council's Flood Incident Database, regardless of whether the flood incident has been deemed to be significant, to assist in understanding local flood risk and building an evidence base to take forward future projects or schemes, where funding is available.

Maintain an Asset Register

5.3.14 Merton Council has compiled a register of ordinary watercourses, drainage ditches and other structures or features relevant to flood risk within the Borough. For each flood risk asset, key information has been compiled where possible, for example; dimensions, current condition, ownership and maintenance responsibility. Merton Council has broadly prioritised the flood risk assets based on their potential flood risk and consequence of failure within the Borough. The register has been compiled so as to be available for public inspection upon request and ways of making this information more accessible in the public domain will be explored as part of ongoing local flood risk management activities.

SuDS Approving Body

5.3.15 The Act includes a commitment to bring in further legislation to make it compulsory for developments and redevelopments to include SuDS to manage surface water runoff. Suitable surface water mitigation measures will need to be incorporated into new and redevelopment plans in order to reduce and manage surface water flood risk to, and posed by, the proposed development and provide wider environmental benefits.

5.3.16 SuDS are surface water management measures that take account of water quantity (flooding), water quality (pollution), ecological and amenity issues. SuDS aim to mimic nature and typically manage rainfall close to where it falls. SuDS can be designed to slow water down (attenuate) before it enters watercourses, provide areas to store water in natural contours and allow water to soak (infiltrate) into the ground or evaporate. Benefits can include reducing flood risk, minimising diffuse pollution, maintaining or restoring natural flow regimes, improving water resources and enhancing amenity. Incorporation of SuDS measures can contribute to sustainable development and improve urban design, by balancing the different issues that influence the development of communities, whilst delivering wider environmental benefits.

5.3.17 When enacted, Schedule 3 of the Act will establish Merton Council as the SuDS Approving Body (SAB) for the London Borough of Merton, and give the Council statutory responsibility for approving drainage applications and, in some cases adopting and maintaining, the approved drainage systems. Under this remit, they have power to refuse approval, and therefore prevent the commencement of the development until an approved drainage application has been submitted.

5.3.18 Developers will be required to submit a drainage application to the SAB for any works that have a drainage implication, either as a stand-alone application or as part of a combined planning application. The drainage application must contain the full design, construction, operation and maintenance details of a drainage system to manage surface water which demonstrates compliance with the National SuDS Standards.

5.3.19 Figure 5-3 outlines the likely process that developers would follow for SuDS approval.

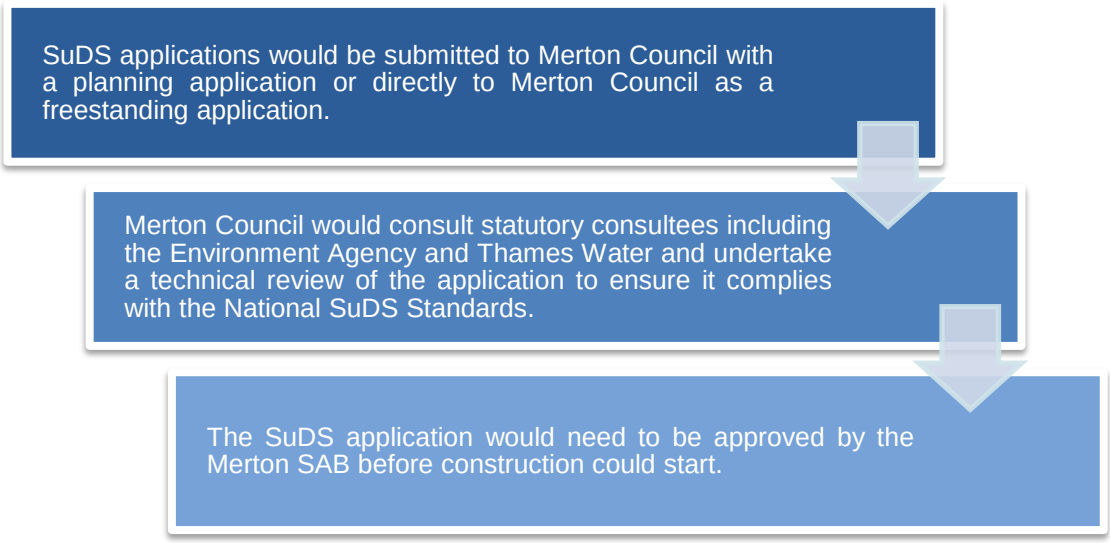


Figure 5-3 The SuDS Approval Process

5.3.20 Merton Council will review the requirements for SuDS Approval and SAB as information is made available from Central Government and provide guidance for developers (Appendix D).

Merton Council's Traffic and Highways Services and Development Control departments would take the lead on SuDS Approval and SAB, and will work to put procedures in place in advance of the commencement date. Information will subsequently be provided through Merton Council's website.

Powers to do Works and Designate Structures

5.3.21 Merton Council has defined the process for deciding when a structure should be designated, and how this will be carried out. The process will be reviewed annually by the Traffic and

Highways Team and agreed with other Council departments as required. Merton Council's website provides a link to a Defra guidance note on designating features.

Regulation of Ordinary Watercourses

5.3.22 Merton Council has developed a procedure for assessing and consenting works within ordinary watercourses. Merton Council's website outlines the responsibilities of riparian owners and provides information on what defines an ordinary watercourse and main river. Merton Council's website should be consulted in the first instance for guidance on how to proceed should a riparian owner wish to apply to the Council, for ordinary watercourse consent.

5.4 Delivery of Regional and Local Policies

5.4.1 The London Plan is the overall strategic plan for London, setting out a fully integrated economic, environmental, transport and social framework for the development of London to 2036. Its policies guide decisions on planning applications, in conjunction with Merton Councils Local Plan which is in general conformity with the London Plan.

5.4.2 Flood risk is one element which planning application decisions are based on. A number of policies relevant to the delivery of local flood risk management, both from the London Plan and Merton Councils Local Plan, have been provided in Appendix C.

5.5 Delivery of Local Flood Risk Management Measures

Overview

5.5.1 Keeping people safe and protecting life is always the priority for flood management. Beyond this there are a number of measures that can be taken to manage the risk and impacts of flooding on local communities, businesses, infrastructure, heritage and the environment in line with the delivery of the Strategy objectives.

5.5.2 A number of measures have been considered as part of the public engagement process and through discussions with Merton Council and Risk Management Authority officers in forming this Strategy to deliver the local flood risk management objectives in Merton over future years.

Public Priorities for Future Flood Risk Management in Merton

5.5.3 As part of the public engagement undertaken in developing this Strategy (Appendix E), residents, communities and businesses were asked to identify how they thought the local flood management priorities they identified, could be achieved within Merton. The following were preferred by respondents:

- More maintenance to reduce surface water flooding,
- Improved communication on the flood risk in their local areas and how they can better prepare themselves for a flood event,
- Working with planners to ensure new development does not make flooding worse, and
- Focussing work on areas that are at risk of flooding.

Measures to achieve Local Flood Risk Management

5.5.4 Table 5-1 outlines the measures identified to deliver the local flood risk management objectives for the London Borough of Merton and the flood risk management guiding principles that they achieve.

Table 5-1 London Borough of Merton Local Flood Risk Management Objectives and Measures

Objective	Measures proposed to deliver the objectives	Guiding Principles
1. Identify areas at highest risk of flooding from local sources and develop a prioritised action plan in line with the principles of the Strategy	• Facilitate reporting of flood incidents by communities, residents and businesses • Maintain a centralised database of flooding incidents • Improve understanding of groundwater flood risk and flooding mechanisms across the Borough • Review and maintain the Merton Local Flood Risk evidence base • Pursue opportunities for undertaking further detailed investigation into local sources of flooding within the Borough • Develop and maintain a prioritised Action Plan for Local Flood Risk Management Activities, in line with available funding • Develop and maintain a defined process for designating structures which have an impact of local flood risk	• Proportionate and risk based approach
2. Work with Risk Management Authorities and stakeholders to identify ways of managing flood risk in those areas at greatest risk within the Borough	• Establish effective communication, data sharing and flood risk management arrangements with flood Risk Management Authorities and other stakeholders • Define a clear set of criteria and protocol outlining when and how a flood incident will be investigated • Continue to support the South West London Flood Group and seek opportunities for collaborative working and sharing of best practice across South West London Boroughs • Continue to hold cross-departmental meetings to understand and manage local flood risk across the Borough • Monitor and update the Multi-Agency and Severe Weather Flood Plans with information on local flood sources	• Catchment based approach • Community focus and partnership working
3. Work with planners and developers to ensure no increase in risk of flooding from new development	• Set up the SuDS Approving Body (SAB), when enacted, in line with the Flood and Water Management Act 2010 to ensure the appropriate implementation of SuDS within new developments • Review policies in strategies and plans in line with emerging flood risk evidence	• Sustainability • Multiple benefits
4. Maximise available resources and funding to target those areas at greatest risk	• Identify and review funding streams available for flood risk management within the Borough • Identify beneficiaries for schemes and measures and seek opportunities for partnership funding from national, regional and local funding sources • Seek opportunities to work with council departments to deliver local flood risk management benefits, to maximise resources and funding available	• Beneficiaries encouraged to invest
5. Prioritise maintenance activities to reduce surface water flooding	• Maintain and regularly update Merton's Flood Risk Asset Register • Review ongoing gully cleansing regime for higher risk areas, where funding is made available • Advise riparian owners on their rights and responsibilities and ensure inspections, maintenance and enforcement of flood risk assets is undertaken, where required	• Proportionate and risk based approach
6. Advise communities, residents and businesses on the level of flood risk affecting them and how they can better protect themselves and their property	• Raise awareness of the flood risk in Merton and provide information on what actions residents and businesses can undertake themselves • Liaise directly with communities and businesses to encourage use of flood resilience measures • Work with the Environment Agency to encourage residents and businesses to sign up to Flood Alerts and Warnings • Consider innovative ways to raise awareness, through close liaison with the Council Communications Team • Raise profile of wider benefits of flood risk management activities to residents and businesses	• Community focus and partnership working • Sustainability • Multiple benefits

Short Term Actions

5.5.5 In the short term (the first 2 years of the Strategy), local flood risk management will focus on those activities outlined in Figure 5-4.

Short Term Actions for the Delivery of Flood Risk Management in the London Borough of Merton

- Communication and education,
- Building flooding evidence and understanding,
- Continued delivery of investigations and schemes in higher surface water risk areas (CDAs) where funding has been secured, namely Cottenham Park (CDA 005) and Ascot / Seeley Road (CDA 013),
- Developing the Council's flood risk management website to provide more flood risk advice, establishing a regular review process to allow for updates,
- Publishing information on the Merton website and in My Merton on how the public can report flooding incidents (current and historical), how they can find out about risk to their properties and what they can do to manage that risk,
- Maintaining a centralised database of flooding incidents,
- Prioritising flood risk structures and features in the Merton Asset Register in line with latest flood risk information,
- Undertaking a further round of gully cleansing of prioritised locations in the period September 2014 - March 2015,
- Attending South West London Strategic Flood Group Meetings and continuing collaborate working, and,
- Identify and review funding streams available for flood risk management within the Borough.

Figure 5-4 Short Term Flood Risk Management Actions

Medium Term Actions

5.5.6 In the medium to longer term (years 3 to 6 of the Strategy), as flooding evidence and understanding increases, projects and schemes will be identified, developed and progressed, where funding allows, to address local flood risk in those areas at greatest risk. CDAs have been identified as areas within the Borough with a higher risk of surface water flooding and schemes within these areas will be prioritised.

5.5.7 The types of future schemes and mitigation for the different sources of flooding are likely to include those outlined in Table 5-2, though this list is not exhaustive.

Table 5-2 Example Measures for Managing Local Flood Risk	
Flood Source	**Example Measures**
Surface Water	• Defined schemes or projects for specific areas of highest flood risk, which could include SuDS (particularly with new developments). Examples include; green roofs, soakaways, swales, permeable paving, rainwater harvesting and detention basins. • Communication and Education. • Planning control and policies, e.g. controlling paving of front gardens for new developments in line with national and local policies (Appendix C). • Individual actions, e.g. de-paving of front gardens. • Designing for exceedance approaches - using urban areas and infrastructure to help manage local flooding. Guidance is available in the CIRIA Surface Water Management Guidance (C738a)[41]. • Property Level Protection & Resilience Measures – Guidance on Property Level Flood Resilience for Property Owners[42] is available, and further information is provided through independent organisations including the National Flood Forum and the Environment Agency. • Highways maintenance regimes.

Groundwater	Groundwater is particularly difficult to mitigate and manage. Engineering solutions to mitigate groundwater flooding are limited because of the large volumes of water and spatial areas involved, and because it is not contained or channelled.
	Potential measures could include:
	• Controlling groundwater levels in the subsurface through pumping.
	• Controlling groundwater levels at the surface by channelling and diverting the flow of water at the surface away from sensitive downstream receptors and dealing with pinch points where water is forced through a narrow corridor, such as an existing culvert, to avoid water backing up.
	• Dealing with the consequences of groundwater flooding through:
	  • Strategic level actions, such as establishing a Community Flood Action Group of household level protection, or,
	  • Site specific (property owner) actions, such as sealing floors, lower parts of walls and opening and installing sump and pump systems.
	Guidance on how property owners can help themselves to reduce the impact of flooding from groundwater[43] is available via the Environment Agency website.

Ordinary Watercourses	Poor maintenance of ordinary watercourses has the potential to increase the risk of flooding in the future. Due to an expected lack of funding for maintenance of ordinary watercourses in the future, prioritisation of ordinary watercourses within the Borough, along with gullies and other flood risk assets will be key to maximise the positive impact of flood risk management activities carried out by Merton Council. As such, appropriate measures might be:
	• Work with landowners and riparian owners to ensure they are aware of their rights and responsibilities and fulfil those.
	• Ensure appropriate management and maintenance of watercourses is undertaken by riparian owners, e.g. keeping watercourses clear of debris and vegetation to ensure that the flow of water is not impeded.
	• Ensuring culverts and trash screens are not blocked through regular inspection, particularly when heavy rainfall is expected.
	• Undertaking works to:
	  • increase the size of culverts, where this does not increase flood risk downstream,
	  • develop additional storage for flood water, and
	  • de-culvert watercourses, where feasible to do so.

[41] Digman, C., Ashley, R., Hargreaves, P. and Gill, E. (2014) Managing urban flooding from heavy rainfall – encouraging the uptake of designing for exceedance. Recommendations and summary. CIRIA, C738a. http://www.ciria.org/Resources/Free_publications/c738.aspx
[42] White, I., O'Hare, P., Lawson, N., Garvin, S., and Connelly, A (2013) Six Steps to Property Level Flood Resilience – Guidance for Property Owners. Manchester, UK. http://www.bre.co.uk/filelibrary/pdf/projects/flooding/Property_owners_booklet_v2_web_(2).pdf
[43] Environment Agency (2011) Flooding from Groundwater, Practical advice to help you reduce the impact of flooding from groundwater: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297421/flho0911bugi-e-e.pdf

Planning for Climate Change

5.5.8 Merton Council will seek to use the best available information and evidence on climate change to inform ongoing local flood risk management.

5.5.9 In taking forward local flood risk management measures Merton Council will:

- Seek to understand how climate change might impact flood risk to communities and businesses,
- Assess how climate change impacts on flood risk may affect the London Borough of Merton objectives for managing flooding over the longer term,
- Explore what options could be used to manage those impacts of climate change on flood risk, and
- Raise awareness within communities and businesses on the causes and potential impacts of climate change and how they can reduce these by taking action now.

5.6 Prioritising Local Flood Risk Management Measures

5.6.1 It is not possible to prevent all flooding, and with the effects of future climate change, limited resources and funding, flood risk management work will need to be prioritised. The approach must be proportionate and risk based and all authorities have to ensure that environmental consequences are taken into account.

5.6.2 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.

5.6.3 Each measure in this strategy has been split into a number of actions (as outlined in the Action Plan in Appendix B) and these have been prioritised as High, Medium or Low based on current understanding of local flood risk and resources and funding available to address this across the Borough.

5.6.4 As understanding of flood risk improves specific mitigation schemes and activities will be developed to address flood risk in those areas at greatest risk. This will require a clear protocol in terms of identifying which actions or schemes should be taken forward given the limited local and national funding streams. In these cases the following will be important considerations:

- **Risk** - the risk of doing nothing in terms of economic, social and environmental terms,
- **Consequence** - how many people or properties the measure or scheme could impact, e.g. an individual property, ward or the Borough as a whole, and
- **Deliverability** - including costs and technical deliverability, e.g. providing information on flood resilience measures via the council website would be cheaper and technically easier to implement than designing and implementing a large flood alleviation scheme.

5.6.5 Moving forward, to ensure funding and resources are targeted to those areas and actions of highest importance Merton Council will prioritise local flood risk management activities based on the following, where:

- There is a historic and ongoing flood risk from local flooding sources,
- Funding is available,
- There is an identified benefit to properties, communities, businesses and / or infrastructure,
- Funding is made available by partners, where perhaps traditional funding sources are not available or cannot fully fund the cost of the measure,
- The measure delivers benefit and mitigation to areas identified as being at risk through London Borough of Merton's Strategy, SWMP, SFRA or PFRA, and
- Schemes deliver multiple benefits, including wider environmental benefits.

5.6.6 The prioritisation of schemes and actions will be reviewed six-monthly based on available funding, resources and local priorities.

5.7 Funding for Local Flood Risk Management

5.7.1 Local flood risk management measures will require funding from a variety of sources, both internal and external to the Council. The primary funding sources to date have been through central government funding, however, there are significant pressures on these funding sources in the current economic climate, and in the future there will be greater emphasis on LLFAs to fund activities and schemes from their own or alternative local sources of funding. There are a number of routes through which central government funding may contribute towards flood risk management activities, as detailed in Figure 5-5 and summarised below.

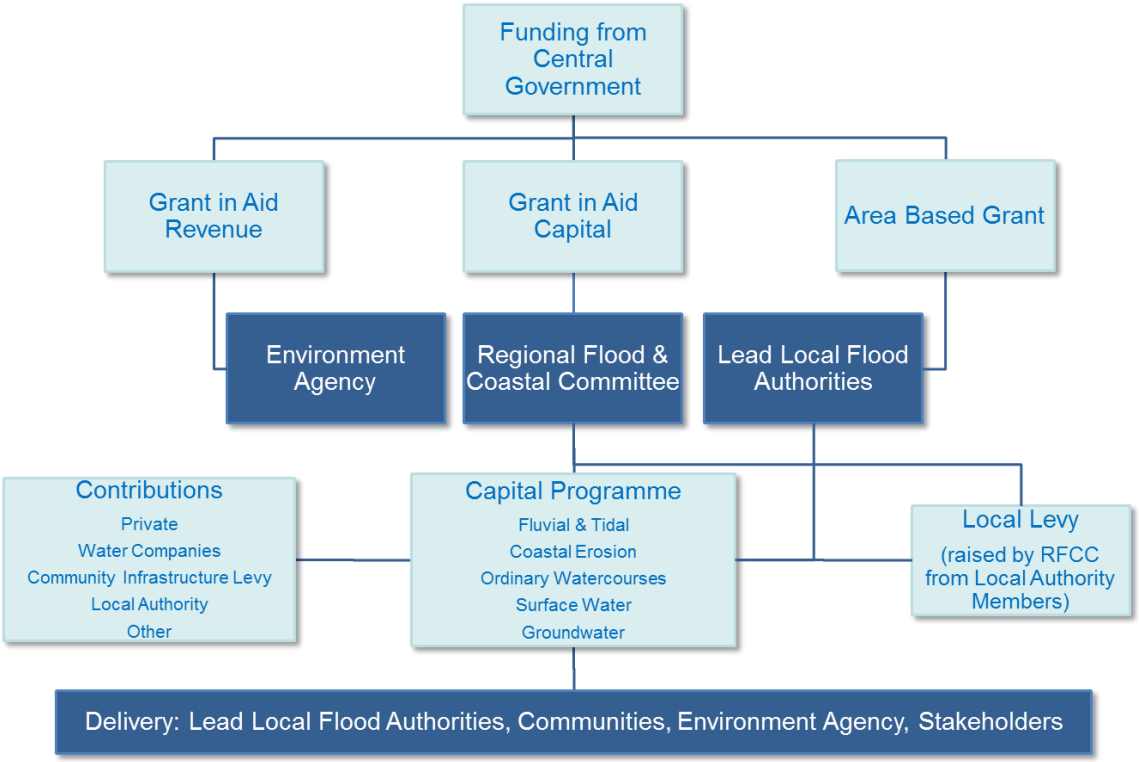


Figure 5-5 Summary of LLFA Potential Funding Streams

Funding for LLFA Responsibilities

5.7.2 The Government has committed funding annually to support LLFAs in their 'new' flood management roles up to 2015. The funding is provided through 'Area Based Grants', which have been allocated by the Department for Environment and Rural Affairs (Defra) based on the individual flood risk each local authority faces. Beyond this period funding commitments are unclear and there are likely to be pressures on further funding given the significant challenges local government faces within the current spending review.

Funding for LLFA SuDS Approving Body Preparation

5.7.3 Defra has made additional funding available, for 2014-2015, to assist LLFAs in setting up and preparing for their role as a SAB under Schedule 3 of the Act. The funding is intended to assist LLFAs to put the required systems, procedures and resources in place to fulfil their duties as a SAB, when they are enacted. The funding is a one-off payment and it is intended that future funding of this duty will, at least in part, be funded through application fees, prescribed by central government, for SuDS applications.

Funding for Flood Risk Management Studies and Schemes (Projects)

5.7.4 In the main, flood risk management projects are funded by a combination of the following funding streams, which give priority to the protection of residential properties:

- National funding – Flood and Coastal Erosion Risk Management Grant in Aid (FCRM GiA),
- Regional funding – Local Levy, and
- Local / other funding contributions.

Flood and Coastal Erosion Risk Management Grant in Aid (FCRM GiA)

5.7.5 Flood and Coastal Risk Management Grant in Aid (FCRM GiA) is the capital budget set aside by central government for flood defence projects across England. Following consultation during 2011, Defra introduced a new approach to the funding of flood risk management capital projects. This approach was termed the 'Flood and Coastal Resilience Partnership Funding' approach. The key benefits of the approach are:

- Communities, through their Regional Flood and Coastal Committees (RFCCs), can take decisions on which projects should progress, based on local willingness to contribute towards the benefits that would be delivered,
- The programme of capital works will be prioritised based on the damages being prevented by the project, and,
- A higher proportion of capital projects can be eligible for some government funding, subject to resources being available.

Local Levy

5.7.6 This funding is raised by way of a levy on local authorities within the boundary of each RFCC. The Local Levy is used to support, with the approval of the committee, flood risk management projects that are not considered to be national priorities and hence do not attract full national funding through the FCRM GiA.

5.7.7 The Local Levy allows locally important projects to go ahead to reduce the risk of flooding within each committee's area.

Other Sources of Funding

5.7.8 In order to maximise the benefits of the new approach to funding of flood risk management capital projects, Merton Council will need to work closely with other organisations and bodies to attract alternative sources of funding. It is important to note that the likelihood of securing FCRM GiA of Local Levy can significantly increase when other sources of funding are secured.

5.7.9 In taking forward flood risk management activities Merton Council will need to consider securing funding from alternative sources, including Central Government, other Risk Management Authorities, stakeholders, private beneficiaries and contributions in kind. European and environmental grants may also be accessible where flood risk management schemes can deliver multiple benefits.

5.7.10 One of the key aspirations of Merton Council is to maximise multi-beneficial outcomes of new schemes or activities. This could open up more avenues of internal revenue than purely flood risk management, particularly where measures address existing core activities for the Council.

5.7.11 Table 5-3 highlights possible sources of funding that could contribute to the delivery of site specific and localised flood risk management projects or schemes.

Table 5-3 Possible sources of alternative funding for local flood risk management

Funding Source	Description
Private Contributions	Voluntary contributions from private organisations / individuals who benefit from flood risk management projects. This could include local businesses and landlords.
Water Company Investment	Water companies are able to contribute to some types of flood risk management projects where it can be demonstrated that joint benefits can be obtained and/or there is increased resilience for their assets.
Community Infrastructure Levy (CIL)[44]	A locally set general charge which local planning authorities can choose to implement. Levied on developers, per square metre of certain types of development across an authority's area. Local communities set their own priorities on how majority proportion of this funding is allocated.
Developer Contributions through Section 106 Agreements	Planning obligations, or 'Section 106 Agreements' are a well-established mechanism for securing funding for agreed issues arising from a development proposal.
Other	There are a multitude of alternative funding sources available depending on the type of activity or scheme being proposed. For example, this could include delivery of WFD objectives, and will be dependent on the activity or scheme seeking funding.

5.7.12 It is clear from the above that funding to deliver capital projects will need to be sought from a variety of sources as government funding will be limited each year and is likely, in many cases, to be a contribution towards project costs rather than full funding. Timeframes for accessing funding sources will also strongly influence decisions to implement particular measures as well as the viability of certain options. Any projects are therefore likely to be developed through partnership working, with partners and organisation with relevant flood risk responsibilities or assets relating to the project engaged in the production of the scheme.

[44] Inside Government Website, Community Infrastructure Levy https://www.gov.uk/government/policies/giving-communities-more-power-in-planning-local-development/supporting-pages/community-infrastructure-levy

Partnership working may also provide opportunities for reduction in costs through shared benefits.

5.7.13 Further information on the different funding sources is available in the Defra guidance document 'Partnership Funding and Collaborative delivery of local flood risk management'[45].

Maintenance Activities

5.7.14 In the current financial climate, there are significant pressures on the Council budget and funding for maintenance activities. Using the Strategy Action Plan, historic flood evidence and communication with residents, Merton Council will look to prioritise maintenance for those assets which have the greatest effect on local flood risk and in those areas most at risk to maximise effectiveness of limited funding. At the same time, Merton Council will seek to identify riparian owners and ensure works are carried out in line with their responsibility as a riparian owner.

5.8 What can communities, residents and businesses do to prepare for flooding?

Protecting Properties from Flooding

5.8.1 The National Flood Forum provides advice for homeowners and businesses on how to protect their property from flooding. This includes Property Level Protection (PLP) which includes measures such as installing barriers or replacing carpets with waterproof tiling.

5.8.2 The Environment Agency[46], Association of British Insurers[47] and Flood Protection Association[48] also provide information on how residents and businesses can prepare their property for flooding.

Get Insurance

5.8.3 Advice on how to obtain flood insurance is provided by the National Flood Forum. Where properties are difficult to insure, the British Insurance Brokers' Association can help find a broker that specialises in these properties. Defra provides guidance on how to obtain suitable flood insurance in high risk areas[49].

5.8.4 Insurance companies often ask for an Insurance Related Request Letter if a property is at risk of flooding to decide if they will offer an insurance policy and how much it will cost. The letter can be obtained from the Environment Agency, free for individuals and £60 for businesses. PLP measures can help towards getting property insurance and reducing the premium or excess. Where measures have been installed, a Flood Risk Report[50] should be completed to inform insurers or buyers how the measures affect flood risk to the property.

[45] Halcrow Group Ltd for Defra (2012) Partnership funding and collaborative delivery of local flood risk management. http://randd.defra.gov.uk/Document.aspx?Document=9958_FD2643_Partnershipfundingguide.pdf
[46] Environment Agency (2009) Prepare your property for flooding, A guide for householders and small businesses https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/292943/geho1009brdl-e-e.pdf
[47] Association of British Insurers website: https://www.abi.org.uk/Insurance-and-savings/Topics-and-issues/Flooding/Preparing-for-a-flood
[48] The Flood Protection Association website: http://thefpa.org.uk/flood-protection/
[49] Defra (2012) Obtaining flood insurance in high risk areas https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69578/pb13082-flood-insurance.pdf
[50] Environment Agency (2012) Flood Risk Report https://publications.environment-agency.gov.uk/ms/EbMpeA

6. DELIVERY OF WIDER ENVIRONMENTAL OBJECTIVES

6.1 Overview

6.1.1 In delivering the Strategy and local flood risk management there is the opportunity to contribute to the achievement of wider environmental objectives. In order to address this requirement a Strategic Environmental Assessment (SEA) of the Strategy has been undertaken in accordance with the European Union adopted Directive 2001/42/EC[51] on the assessment of the effects of certain plans and programmes on the environment (the 'SEA Directive'). Alongside this a Habitats Regulations Assessment[52] (HRA) Screening has been undertaken to assess the impacts of implementing the Strategy policies and measures on European Designated Sites.

6.1.2 Both the HRA and the SEA were developed alongside this Strategy and have been used to inform sustainable decision making throughout.

6.2 Strategic Environmental Assessment

SEA involves the systematic identification and evaluation of potential environmental impacts of specified plans and programmes before deciding which are adopted. Consideration should be made with regards to both the positive and negative impacts of options on wildlife and habitats, populations and health, soil, water, air, climate factors, landscape, cultural heritage and the inter-relationships between these receptors.

6.2.1 The first stage of the SEA was to produce a combined Scoping Report for all six South West London Local Flood Risk Management Strategies[53] to set out the framework for undertaking a SEA for the Strategies and the scope of the assessment. The next step was to produce the Environment Report[54] for the London Borough of Merton that identifies the likely significant effects of the implementation of the Strategy on relevant environmental receptors. It also identifies how the Strategy can contribute to the achievement of wider environmental objectives, including WFD objectives.

SEA Outcomes

6.2.2 The key findings of the SEA process are set out in the Environment Report for the Strategy. This broadly outlines how the local flood risk objectives and the identified measures might be expected to affect a number of different aspects of the environment (referred to as 'receptors').

6.2.3 The SEA found that the Strategy is predicted to have positive impacts on the environment in the short and long term (i.e. beyond the life of the Strategy), since the Strategy takes a proactive approach to reducing and managing local flood risk within the London Borough of Merton. Each of the Strategy objectives successfully supports the range of environmental objectives identified within the SEA framework, achieving a positive outcome for each SEA objective.

6.2.4 The majority of Strategy objectives are likely to have indirect beneficial effects on the environment as they relate to improving knowledge, understanding and high level management of local flood risk rather than actual works or actions that could have an effect on the ground.

[51] European Union (2001) Strategic Environmental Assessment Directive http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32001L0042:en:NOT
[52] Capita URS for the London Borough of Merton (2014) South West London Local Flood Risk Management Strategy – Habitats Regulations Assessment Screening for the London Borough of Merton
[53] Capita URS for the South West London Flood Group (2014) South West London Local Flood Risk Management Strategy SEA - Scoping Report
[54] Capita URS for the London Borough of Merton (2014) South West London Local Flood Risk Management Strategy SEA - Environment Report for the London Borough of Merton

6.2.5 Overall, the Strategy objectives and measures are considered to be beneficial for the environment, due to the likely outcomes of improved local flood risk management and subsequently reduced local flood risk to the natural and built environment within London Borough of Merton.

Figures 7 and 8 in Appendix A show the potential impact of flooding from surface water, groundwater and rivers, on critical infrastructure and the environment and heritage sites, respectively, in the London Borough of Merton.

6.3 Habitats Regulations Assessment

6.3.1 A HRA screening assessment (as required by Article 6 of the EC Habitats Directive 1992 (92/44/EEC)[55], and Regulation 48 of the Conservation (Natural Habitats &c) Regulations 1994[56]) was undertaken as part of the Strategy development. This screening exercise assessed the potential impacts of implementing the Strategy objectives and measures on European Designated Sites (Special Areas of Conservation, Special Protection Areas and Ramsar sites) within the London Borough of Merton and additionally any European sites outside the Borough that are designated for features that could potentially be significantly affected by measures or policies within the Strategy.

HRA Outcomes

6.3.2 The key findings of the HRA Screening assessment are set out in the Habitats Regulations Assessment for the Strategy[57]. The assessment found that the Strategy will have no likely effects on any European sites. The Strategy objectives all promote measures to avoid or reduce flooding events that arise on land not normally subject to natural flooding. Therefore no further HRA is required.

6.3.3 Figures 8a, 8b and 8c in Appendix A show the potential impact of flooding from surface water, groundwater and rivers, respectively, on the environment in the London Borough of Merton.

6.4 Water Framework Directive

Overview

6.4.1 The Strategy will complement work that is currently underway to comply with the requirements of the European WFD[58]. Although a formal WFD assessment is not a statutory requirement of the Strategy, WFD requirements have been considered as part of the SEA process, including where opportunities to improve WFD status exist.

6.4.2 The Environment Agency is responsible for preparing management plans for river basin districts in England and Wales. The plans outline the characteristics of the river basin district, identify the pressures that the local water environment faces, and specify the actions that will be taken to address any problems before 2015.

6.4.3 For the Thames River Basin District, the density of the population together with relatively low rainfall means that the water environment is stressed, with less water per person than many Mediterranean regions. This leads to over-extraction, and the high risk of pollution. Many of the rivers within the Thames river basin have been heavily modified as a consequence of development, flood risk management and for navigation. As a result only 23% of the assessed water bodies covered by the Thames River Basin Management Plan are regarded having an

[55] European Union (1994), The Habitats Directive, http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
[56] HMSO (1994), The Conservation (Natural Habitats &c) Regulations 1994, http://www.legislation.gov.uk/uksi/1994/2716/contents/made
[57] Capita URS for the London Borough of Merton (2014) South West London Local Flood Risk Management Strategy – Habitats Regulations Assessment Screening for the London Borough of Merton
[58] European Union (2000) Water Framework Directive 2000/60/EC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0060:EN:NOT

ecological status of at least “good”. There are no water bodies in the Thames river basin that were considered to exhibit “high” ecological status.

6.4.4 Flood risk management activities are expected to have a significant impact on the ability of the UK to comply with the requirements of the WFD, as flood protection can involve substantial alteration to the natural properties of a river. The Thames River Basin Management Plan encourages the use of sustainable drainage systems as a means of reducing the physical impact of flood risk management works on the ecological status or potential of water bodies.

Outcomes

6.4.5 Within Merton, the River Wandle and Beverly Brook have been assessed to have poor ecological status under the WFD, primarily due to high levels of phosphate and poor fish habitat[59]. Both these waterbodies are defined as being ‘Heavily Modified’. The waterbodies must reach good ecological status by 2027.

6.4.6 Improving fish habitat, particularly on the River Wandle can be achieved by deculverting (opening up a watercourse to daylight) and setting development back from watercourses. In addition, the removal of or modifications to weirs or other barriers in the watercourse would aid fish migration upstream to areas where they might breed and/or lay eggs. Merton Councils Local Plan and the London Plan both set out policies which contribute towards achieving the WFD targets and are provided in Appendix C.

6.4.7 The Strategy seeks to alleviate local flood risk by encouraging best practice for the maintenance of flood prevention and drainage assets, however this practice may sometimes have adverse effects on biodiversity, for example clearance of vegetation may lead to habitat loss along river corridors and deterioration in water quality. There may be opportunities for multi beneficial schemes which have positive effects on water quality and subsequently biodiversity from small-scale measures such as implementation of SuDS or changes in drainage. There may also be cumulative benefits to biodiversity and water quality through strategic management of local flood risk, as enabling natural flood patterns to continue or extend in some areas can improve wetland habitats.

6.4.8 Other plans and strategies provide mitigation to avoid impacts on designated sites, protected species and habitats as part of flood prevention measures. However, cumulative impacts may arise where a number of measures combine to alter hydrological systems or land use. For instance, many small changes to water levels may result in overall gains or losses in freshwater habitats or there may be cumulative effects on a particular species or type of habitat.

6.4.9 Implementation of the SAB and requirement for new developments to incorporate SuDS under the Act will play an important role in contributing to the delivery of the Thames River Basin Management Plan and WFD objectives. Increased communications with riparian owners and improved mapping of the drainage ditches within the London Borough of Merton will also contribute to the WFD by identifying clear riparian responsibility and improving management of local watercourses that drain into larger river systems.

6.4.10 In assessing this Strategy for WFD compliance, the measures proposed are unlikely to have negative environmental effects and will not cause deterioration to water bodies. However, as projects and schemes are developed these may require site specific environmental assessment to identify any potential environmental effects (positive and negative).

[59] Environment Agency (2009) Thames River Basin District River Basin Management Plan

7. STRATEGY DELIVERY, MONITORING AND REVIEW

7.1 Delivery

7.1.1 An Action Plan has been developed that details the measures and actions that will be taken to deliver the Strategy (Appendix B). For each measure a number of actions have been identified and for each of these the proposed funding route, timescale for implementation, and delivery lead and partners have been identified.

7.2 Annual Monitoring

7.2.1 The Action Plan will be the key mechanism through which progress in meeting the Strategy will be monitored. Merton Council proposes to monitor progress against the Strategy Action Plan annually. This will involve assessing which actions have been delivered, and determining whether there has been any change to the prioritisation of actions. Findings from this monitoring process will be presented to the South West London Strategic Flood Group.

7.2.2 Progress against the Strategy Action Plan will be reported to Elected Members through an Annual Monitoring Report submitted to the Sustainable Communities Overview and Scrutiny Panel Committee.

7.3 Review

7.3.1 The Strategy has been developed to deliver a short to medium (6-year) improvement plan to establish a sound evidence and knowledge base upon which to develop a longer-term investment plan for local flood risk management activities in the London Borough of Merton.

7.3.2 The Action Plan will be reviewed on an annual basis or following a significant flood event and updated, where applicable, to reflect current priorities, funding availability and timescales for delivery. Updates to the Action Plan will be discussed and agreed by the Traffic and Highways Team, as the lead for flood risk management, in collaboration with representatives from other departments with an interest in flood risk management across the Council.

7.3.3 It is proposed that the Strategy will be formally reviewed in 2020, and thereafter every six years (as a minimum) to coincide with the requirement under the Flood Risk Regulations 2009 to revise the Flood Risk Management Plan.

7.3.4 However, the Strategy should be viewed as a dynamic strategy and may require review more regularly to recognise specific changes. Potential triggers for a review of the Strategy may include:

- Occurrence of a significant and widespread surface water flood event,
- Significant changes to datasets or information which may alter the understanding of risk within the study area,
- Significant amendments to the legal responsibilities and/or roles and functions of Risk Management Authorities and/or other organisations,
- Annual Monitoring identifies that the Strategy is not achieving its objectives,
- Changes to relevant national and European legislation, or
- Change in funding availability which has a significant effect on the Strategy Action Plan.

GLOSSARY AND ABBREVIATIONS

Term	Definition
The Act	The Flood and Water Management Act 2010: http://www.legislation.gov.uk/ukpga/2010/29/contents
Aquifer	A source of groundwater comprising water bearing rock, sand or gravel capable of yielding significant quantities of water.
Attenuation	In the context of this strategy – the storing of water to reduce peak discharge of water.
Catchment Flood Management Plan	A high-level planning strategy through which the Environment Agency works with their key decision makers within a river catchment to identify and agree policies to secure the long-term sustainable management of flood risk.
Category 1 Responders	As defined under Schedule 1 of the Civil Contingencies Act, Category 1 responders are “core responders” in the event of an emergency and include emergency services, local authorities, health bodies and Government agencies including the Environment Agency.
Civil Contingencies Act 2004	Aims to deliver a single framework for civil protection in the UK and sets out the actions that need to be taken in the event of a flood. The Civil Contingencies Act is separated into two substantive parts: local arrangements for civil protection (Part 1) and emergency powers (Part 2).
Climate Change	Long term variations in global temperature and weather patterns caused by natural and human actions.
Critical Drainage Area	A discrete geographic area (usually a hydrological catchment) where multiple and interlinked sources of flood risk (surface water, groundwater, sewer, main river and/or tidal) cause flooding during severe weather thereby affecting people, property or local infrastructure.
Culvert / culverted	A channel or pipe that carries water below the level of the ground.
DG5 Register	A water-company held register of properties which have experienced sewer flooding due to hydraulic overload, or properties which are 'at risk' of sewer flooding more frequently than once in 20 years.
Flood Zone 1	Low Probability of Flooding. In accordance with the NPPF, land assessed as having a less than 1 in 1000 annual probability of river or sea flooding (<0.1%) in any year.
Flood Zone 2	Medium Probability of Flooding. In accordance with the NPPF, land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1-0.1%), or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5-0.1%) in any year.
Flood Zone 3a	High Probability of Flooding. In accordance with the NPPF, land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of sea flooding (>0.5%) in any year.
Flood Zone 3b	Functional Floodplain. In accordance with the NPPF, land where water has to flow or be stored in times of flood.
Environment Agency	Environment regulator for England and Wales. Risk Management Authority responsible for management of flood risk from main rivers, tidal and coastal sources of flooding and Reservoirs.
Flood Defence	Infrastructure used to protect an area against floods as floodwalls and embankments; they are designed to a specific standard of protection (design standard).
Floodplain	Area adjacent to river, coast or estuary that is naturally susceptible to flooding.
Flood Resilience	Resistance strategies aimed at flood protection.

Term	Definition
Flood Risk	The level of flood risk is the product of the frequency or likelihood of the flood events and their consequences (such as loss, damage, harm, distress and disruption).
Flood Risk Assessment	Considerations of the flood risks inherent in a project, leading to the development actions to control, mitigate or accept them.
Flood Storage	A temporary area that stores excess runoff or river flow often ponds or reservoirs.
Flood Resilience	Resistance strategies aimed at flood protection.
Flood Zone	The extent of how far flood waters are expected to reach.
River flooding	Flooding by a river or a watercourse.
Functional Floodplain	Land where water has to flow or be stored in times of flood.
Greenfield	Previously undeveloped land.
Groundwater	Water that is in the ground, this is usually referring to water in the saturated zone below the water table.
Highways Act 1980	Sets out the main duties (management and operation of the road network) of highways authorities in England and Wales. The Act contains powers to carry out functions / tasks on or within the highways such as improvements, drainage, acquiring land etc.
Hydraulic Modelling	A computerised model of a watercourse and floodplain to simulate water flows in rivers too estimate water levels and flood extents.
Infiltration	The penetration of water through the grounds surface.
Infrastructure	Physical structures that form the foundation for development.
Land Drainage Act 1991	Sets out the statutory roles and responsibilities of key organisations such as Internal Drainage Boards, local authorities, the Environment Agency and riparian owners with jurisdiction over watercourses and land drainage infrastructure. Parts of the Act have been amended by the Flood and Water Management Act 2010.
Local Flood Risk	Defined in the Flood and Water Management Act 2010 as flooding from surface runoff, ordinary watercourses and groundwater.
Lead Local Flood Authority (LLFA)	The statutory body defined under the Flood Risk Regulations 2009 and Flood and Water Management Act 2010 responsible for the management of local flood risk, namely surface water runoff, groundwater and ordinary watercourses.
Local Planning Authority (LPA)	Body that is responsible for controlling planning and development through the planning system.
Main River	Watercourse defined on a ‘Main River Map’ designated by DEFRA. The Environment Agency has permissive powers to carry out flood defence works, maintenance and operational activities for main rivers only.
Mitigation Measure	An element of development design which may be used to manage flood risk or avoid an increase in flood risk elsewhere.
Multi-Agency Flood Plan (MAFP)	Plan outlining how responding parties under the Civil Contingencies Act and key voluntary response organisations will work together on an agreed coordinated response to severe flooding in the London Borough of Merton.
National Strategy	National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England, developed by the Environment Agency.

Term	Definition
National Planning Policy Framework (NPPF)	National Planning Policy Framework (NPPF) for England, published by the Development for Communities and Local Government. This sets the government's planning policies for England and how these are expected to be applied.
National Planning Practice Guidance NPPG)	Technical guidance to support the National Planning Policy Framework for England, published by the Development for Communities and Local Government. In particular, the guidance on Flood Risk and Coastal Change advises on how planning can take account of the risks associated with flooding and coastal change in plan-making and the application process.
Ordinary Watercourse	A watercourse that does not form part of a main river. This includes “all rivers and streams and all ditches, drains, cuts, culverts, dikes, sluices (other than public sewers within the meaning of the Water Industry Act 1991) and passages, through which water flows” according to the Land Drainage Act 1991.
Overland Flow	Flooding caused when intense rainfall exceeds the capacity of the drainage systems or when, during prolonged periods of wet weather, the soil is so saturated such that it cannot accept any more water.
The Regulations	The Flood Risk Regulations 2009: http://www.legislation.gov.uk/uksi/2009/3042/made
Residual Flood Risk	The remaining flood risk after risk reduction measures have been taken into account.
Return Period	The average time period between rainfall or flood events with the same intensity and effect.
Riparian Owner	Anyone who owns land or property alongside a river or other watercourse. Responsibilities include maintaining river beds/banks and allowing flow of water to pass without obstruction.
Risk	The probability or likelihood of an event occurring.
River Catchment	The areas drained by a river.
Sewer Flooding	Flooding caused by a blockage or overflowing in a sewer or urban drainage system.
Standard of Protection	The flood event return period above which significant damage and possible failure of the flood defences could occur.
Sustainability	To preserve /maintain a state or process for future generations.
Sustainable Drainage System (SuDS)	Methods of management practices and control structures that are designed to drain surface water in a more sustainable manner than some conventional techniques.
SuDS Approving Body (SAB)	Statutory body responsible for the approval of Sustainable Drainage System (SuDS) systems in new planning applications, when enacted under the Flood and Water Management Act 2010.
Sustainable Development	Development that meets the needs of the present without compromising the ability of future generations meeting their own needs.
Tidal	Relating to the actions or processes caused by tides.
Tributary	A body of water, flowing into a larger body of water, such as a smaller stream joining a larger stream.
1 in 30 year event	Event that on average will occur once every 30 years. Also expressed as an event, which has a 3.33% probability of occurring in any one year.
1 in 100 year event	Event that on average will occur once every 100 years. Also expressed as an event, which has a 1% probability of occurring in any one year.

APPENDIX A – FLOOD RISK MAPS

APPENDIX B – ACTION PLAN

APPENDIX C – LONDON PLAN AND MERTON LOCAL PLAN POLICIES

Table E.1: Summary of relevant plans, programmes and policies
The London Plan – Draft Further Alterations to the London Plan 2014 https://www.london.gov.uk/priorities/planning/london-plan/draft-further-alterations-to-the-london-plan
• Policy 5.10 Urban Greening • Policy 5.11 Green Roofs and Development Site Environs • Policy 5.12 Flood Risk Management • Policy 5.13 Sustainable Drainage • Policy 7.13 Safety, Security and Resilience to Emergency
London Borough of Merton Local Plan: Core Planning Strategy (2011) http://www.merton.gov.uk/environment/planning/planningpolicy/ldf.htm#core_strategy
• Policy CS 13 Open space, nature conservation, leisure and culture • Policy CS 14 Design • Policy CS 15 Climate Change • Policy CS 16 Flood Risk Management
London Borough of Merton Local Plan: Sites and Policies Plan (2014) http://www.merton.gov.uk/environment/planning/planningpolicy/ldf/sitesandpoliciesplan.htm
• Policy DM D2 Design considerations in all development • Policy DM EP4 Pollutants • Policy DM DF1 Support for flood risk management • Policy DM F2 Sustainable urban drainage systems (SuDS) and wastewater and water infrastructure

APPENDIX D – SURFACE WATER MANAGEMENT (SUDS) APPROVAL GUIDANCE FOR DEVELOPERS

Position Statement – August 2014

When enacted, Schedule 3 of the Flood and Water Management Act 2010 will establish Merton Council as the Sustainable Drainage Systems (SuDS) Approving Body (SAB) for the London Borough of Merton, and give the Council statutory responsibility for approving Drainage Applications and, in some cases adopting, the approved drainage systems.

Defra are committed to the delivery and implementation of the SAB, and Merton Council will review the requirements for SuDS Approval and SAB set up as information is made available from Central Government.

Guidance for developers will be provided in advance of the SAB duties commencing and will outline the Council's requirements and expectations for drainage applications and SuDS systems in Merton.

APPENDIX E – SUMMARY OF COMMUNITY ENGAGEMENT

Purpose, Methodology and Response

Purpose

Merton Council wished to engage with the local community at an early stage in developing its Local Flood Risk Management Strategy ('the Strategy') to gather information on local flooding incidents, flood preparedness, perceptions of flooding and local priorities for local flood risk management. The information collated through this exercise has been used to provide an evidence base to inform the Strategy.

Engagement Approach

A survey was developed to gather views and evidence, which was available online between 4th November 2013 and 31st January 2014.

Questions included in the survey covered 5 broad areas:

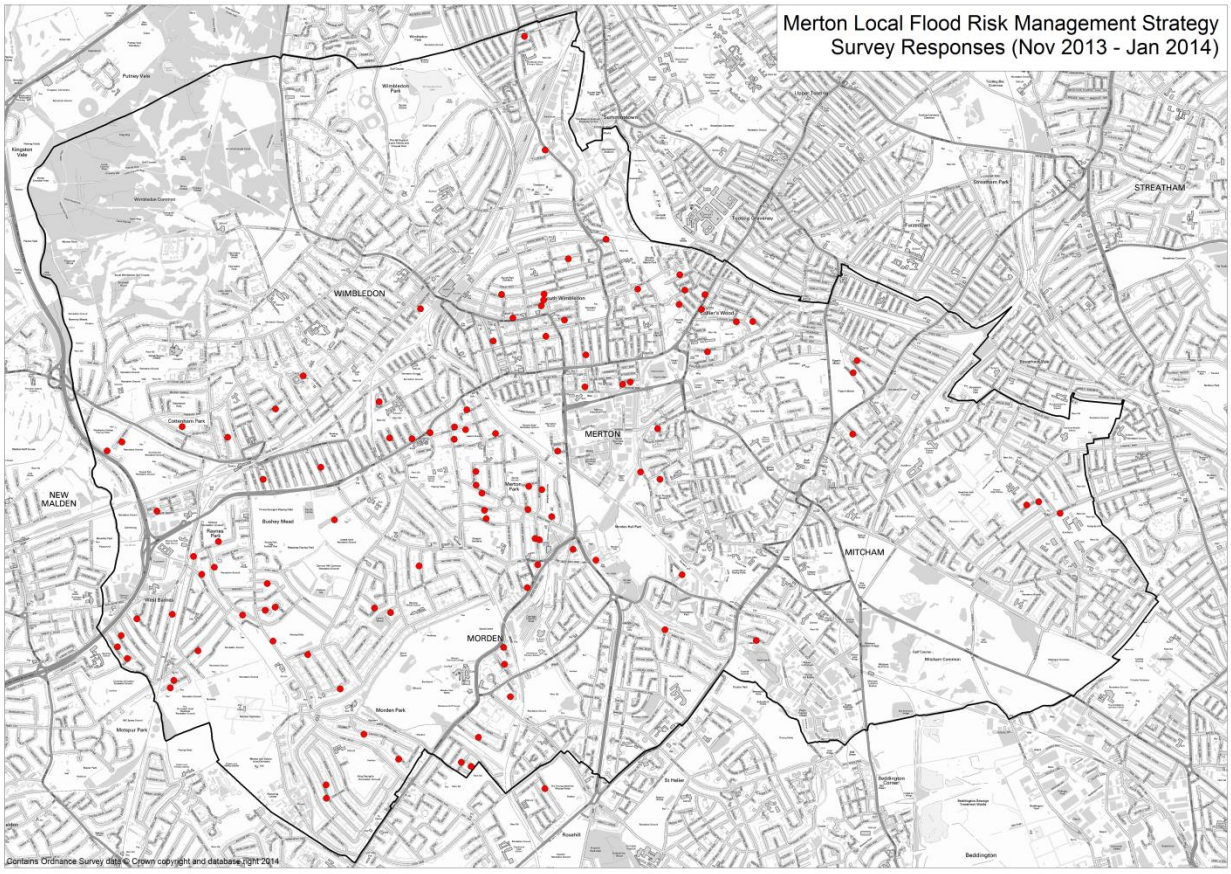
- Current understanding of flooding in the London Borough of Merton,
- Previous experiences of flooding,
- Communication of flood risk information,
- Priorities for flood risk management, and
- Funding for flood risk management.

To promote the survey, Merton Council carried out the following activities:

- A background to the Strategy and purpose of the survey, along with a link to the online survey, was emailed to resident associations,
- A Twitter announcement,
- An article published in the My Merton Council magazine which is delivered to homes in the Borough,
- Hard copies of the survey were printed and delivered to libraries and community centres, Ward Councillors (for distribution to residents if requested) and individual residents, where they contacted the Council to request a copy,
- A dedicated page created on the council website,
- Banner ads on the council website, and,
- An email was sent to Ward Councillors.

Response Rate

In total the council received 166 completed surveys and 6 letters and e-mails in response to this engagement process. Figure C-1 illustrates the distribution throughout the Borough of respondents to the survey.



Contains Ordnance Survey data © Crown copyright and database right 2014

Figure C-1 Strategy Survey Responses

General Caveats

The results of this engagement are not statistically representative of the views of London Borough of Merton residents due to the nature of the methodology used. The level of response, information gathered and views obtained provide a useful indicator of wider opinion and any important issues that will need to be considered.

Due to the software used and the different response options open to respondents, it was possible for people to submit more than one response. This has been monitored during the engagement period and analysis and it does not appear to have been abused or be a significant issue affecting the response.

Percentages used in this analysis have been rounded and may not add up to exactly 100%. For some survey questions, respondents could select more than one response which also means that percentages, if added together, can total more than 100%.

Current understanding of flood risk in Merton

Respondents were asked to identify what they thought were the main sources of flooding in their local areas. Figure C-2 illustrates the perceived greatest sources of flooding in Merton.

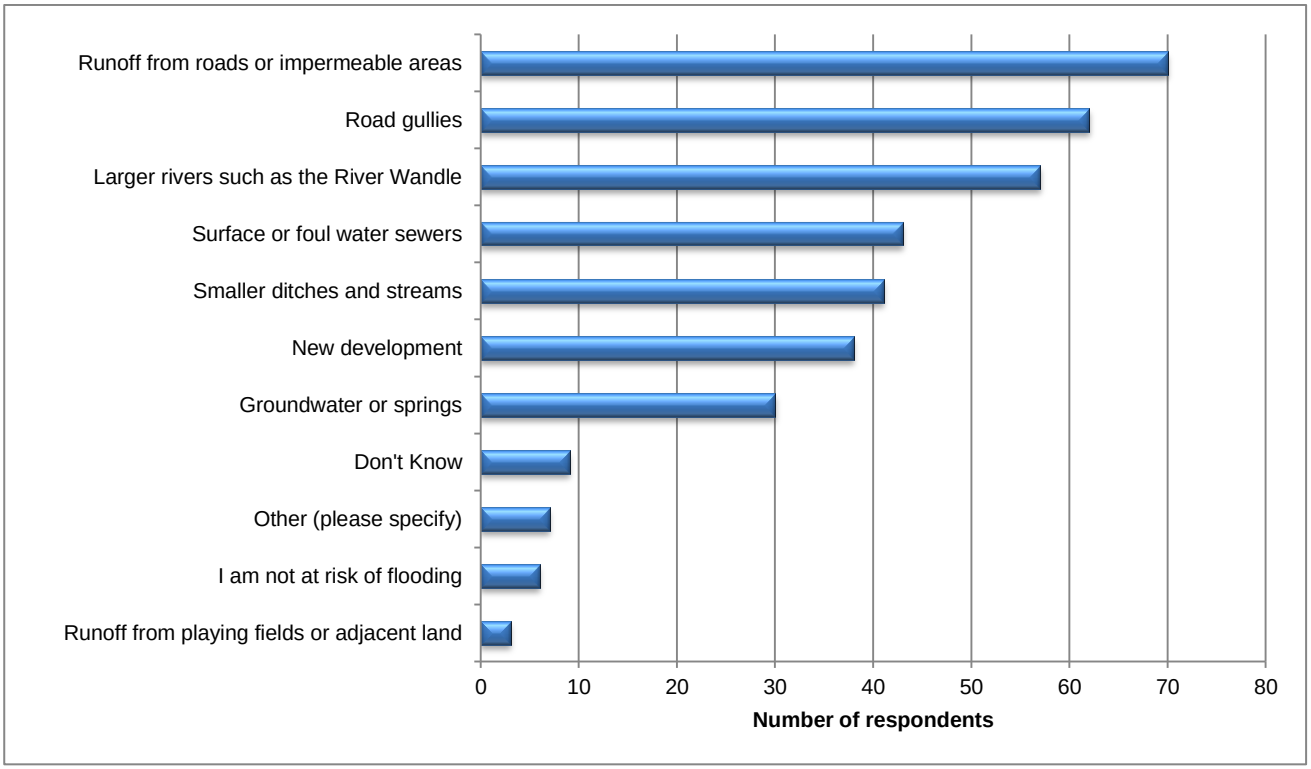


Figure C-2 Sources of local flooding identified by survey respondents

Responses from the public survey indicate that respondents are not concerned about one single source of flooding, but instead a number of different sources were identified as sources of flooding in the local area. Runoff from roads and new development, as well as blocked gullies, sewers, large rivers and smaller ditches and streams were all identified as sources of flooding by a significant percentage of respondents.

Historic records held by Merton suggest that flooding from surface water is the most prevalent source of flooding throughout the Borough. This is reflected in the survey, with runoff from roads or impermeable surfaces, new development and blocked road gullies identified by a large percentage of respondents as sources of flooding. However the survey results indicate that there are a number of other identified sources of flooding.

Experiences of Flooding in Merton

Respondents were asked to provide information about previous flooding incidents. 63 respondents (38%) said that they had been directly affected by flooding in Merton in the last ten years, 52 of which provided details on the perceived causes of the flooding. The causes of flooding were not always known and the responses were varied, although the three causes of flooding most frequently identified were as follows;

Reported flooding sources	Number of respondents	% of respondents
Heavy Rainfall	43	83%
Blocked Roads and Drains	29	56%
Blocked Sewers	16	31%

Respondents who had experienced flooding were asked to indicate in what way they were affected by the flooding incident. The most commonly affected receptors were:

Most commonly affected receptors	Number of respondents	% of respondents
Local Roads	40	63%
Gardens	38	60%
Property (Internally)	16	25%

Communication of flood risk information

A key outcome from the survey was that respondents would like to receive more information on a number of topics, for example the existing local flood risk, how this is being managed and how to better protect themselves and their property from flooding. Figure C-3 illustrates the key topics which respondents would like to receive greater information on.

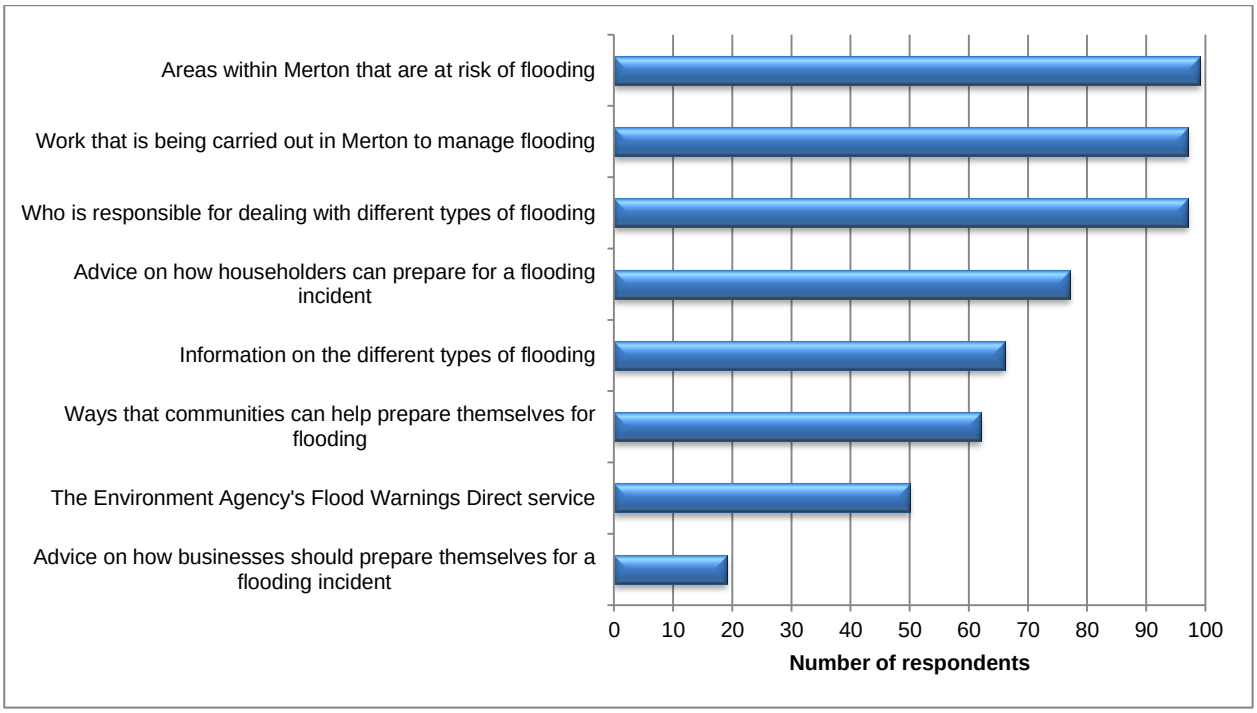


Figure C-3 Key topics on which respondents would like to receive further information

Respondents were asked to indicate how they would like to receive information about flood risk management in Merton. The preferred methods of communication were;

Method	Number of respondents	% of respondents
Council Website	81	60%
Council Magazine	80	59%
Leaflet / Newsletter	80	59%

Priorities for Flood Risk Management

Respondents were asked to indicate how concerned they were about different consequences of flooding, ranging from not at all concerned to very concerned. Figure C-4 illustrates that respondents are most concerned about maintenance of watercourses and/or flood prevention assets as well as the effect new development may be having on flood risk.

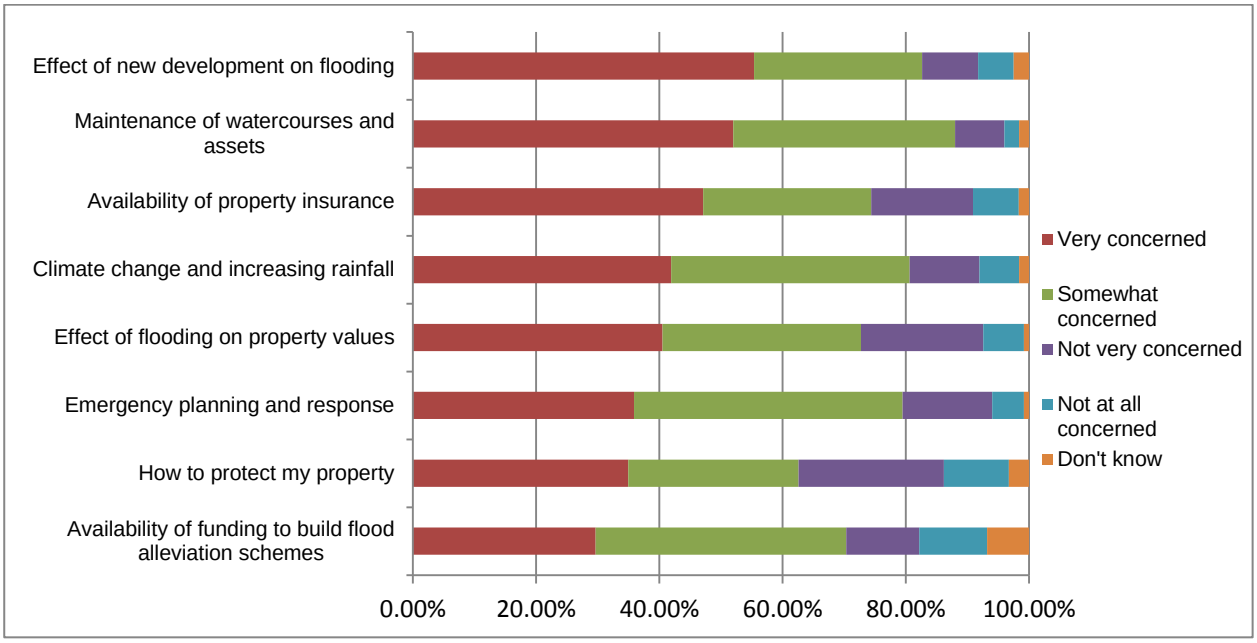


Figure C-4 Level of concern in relation to consequences of flooding

Keeping people safe and protecting life is always the priority for flood management. Beyond this respondents were asked to identify what the priority for flood risk management within the Borough should be. The top three flood risk management priorities for residents and businesses in Merton were identified to be:

Priority	Number of respondents	% of respondents
Protecting homes	113	84%
Reducing the flood risk to critical infrastructure	111	82%
Keeping transport networks functioning	58	43%

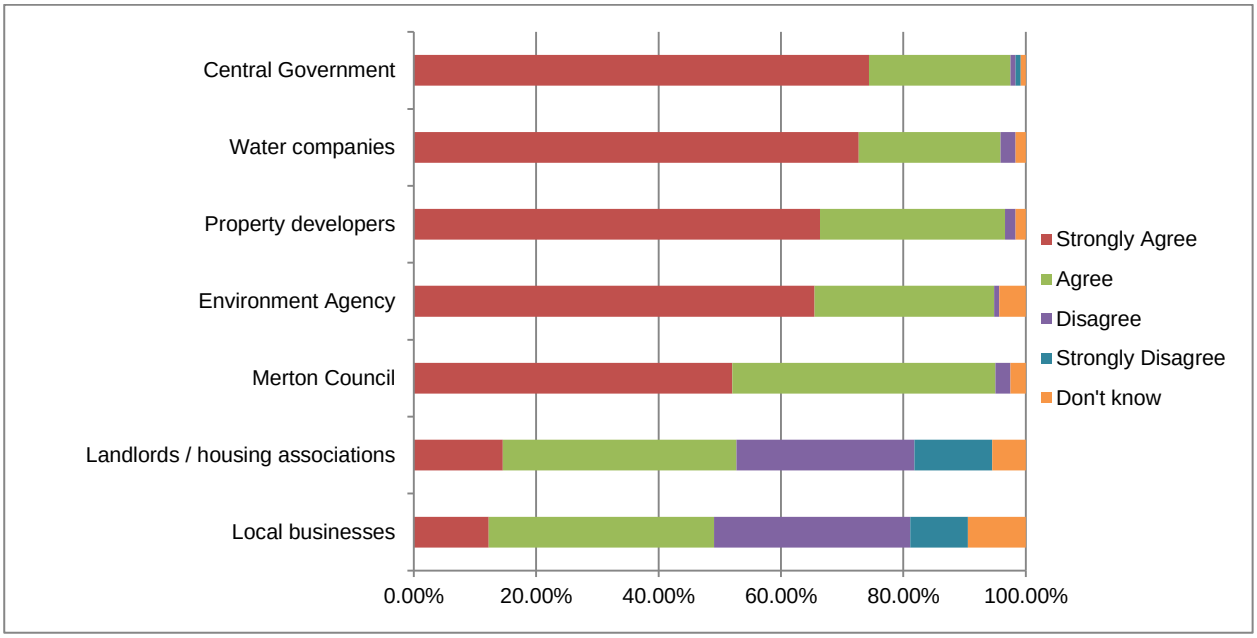
Having identified the priorities for flood risk management within Merton, respondents were subsequently asked how they thought that flood risk management would be best achieved in Merton. The following approaches were preferred by respondents:

Priority	Number of respondents	% of respondents
More maintenance to reduce surface water flooding	101	77%
Working with planners to ensure new development does not make flooding worse	74	56%
Focusing work on areas that are at risk of flooding	60	45%

Funding for Flood Risk Management

The Department for Environment, Flood and Rural Affairs (Defra) is the main source of funding for flood prevention measures. The funding available is normally divided across projects nationwide on a cost / benefit basis. This means that where local businesses and communities are to benefit from flood prevention measures, the government asked for contributions from those who benefit, which can greatly improve the likelihood of a project receiving funding.

Respondents were asked to what extent they agreed or disagreed that different organisations should contribute financially to flood alleviation schemes. Figure C-5 indicates that respondents believe the greatest responsibility with regards to flood management funding lies with central and local government, as well as the Environment Agency, water companies and property developers.



C-5 Respondent support for funding source options

How has the survey feedback influenced the Strategy?

- Respondents to the survey indicated that they would like to receive more information on the flood risk in their local area and how they can better prepare themselves for a flood event. A large number of respondents indicated they are concerned about how to protect their property. In order to educate people about the sources of flooding in Merton, the council is committed to publishing more information on local flood risk and what residents, businesses and communities can do to better prepare themselves for flooding through property-level resilience measures.
- Merton Council is committed to increasing understanding of local flood risk and prioritising flood risk management work in areas of highest flood risk to maximise the effectiveness of available funding.
- The council has taken on board respondents concerns regarding road drainage through establishing measures to prioritise gully cleansing work in areas of highest flood risk, and by committing to exploring opportunities to maximise resources and funding available for such works.
- Respondents showed concern about the impact of local development, as well as the paving over of gardens on surface water runoff. An objective of the London Borough of Merton Strategy is to work with planners to minimise the impact of flooding from new development. The council will continue to hold cross-departmental meetings to understand and manage local flood risk across the Borough and will seek to improve information sharing between council departments, Risk Management Authorities and local stakeholders.