Hertfordshire Local Flood Risk Management Strategy 2 (LFRMS2)

Executive Summary

Context and History

The first Local Flood Risk Management Strategy (LFRMS) for Hertfordshire was approved by the county council in February 2013 following the establishment of the Lead Local Flood Authority (LLFA) in May 2010. When the LLFA came into being, there was no consistent approach to the management of flood risk at a local level across the county. The LLFA has now been in place for seven years and the understanding of local flood risk across Hertfordshire has improved considerably.

Why is a strategy needed?

Flooding due to intense or prolonged rainfall is an environmental risk that needs to be understood.

Internal property flooding

Whether it involves residential or commercial property; infrastructure such as roads and substations; or other local amenities; flooding can cause substantial physical, financial and emotional damage; adversely affecting communities, the local economy and quality of life.

Flooding affecting the highway, Welwyn Garden City

The impacts of climate change will affect the level of flood risk across the county and is predicted to increase the frequency and severity of flooding.

Our understanding of flood risk needs to be applied to guide new development so that it can be located and designed to minimise flood risk and where possible reduce any existing risk for properties and residents.

Strategy Aim

Not only is the LFRMS a statutory responsibility of the LLFA under the Flood and Water Management Act (FWMA) 2010, but it provides the LLFA with a tool, through which it can provide an understanding of local flood risk in Hertfordshire and the actions that will be taken to manage it most appropriately within available resources.

Summary of revisions for LFRMS2

As a result of the LLFAs experience to date, there are a number of new additions and changes to the second LFRMS that include:

- The updating of background information.
- Proposals for strategic partnership working on flood risk.
- Proposals for working with community based groups.
- A commitment to publish the best available surface water flood risk data.
- Supporting the role of individuals in managing flood risk.
- Clarifying the circumstances under which the LLFA will investigate flooding.
- Updated policies to regulate ordinary watercourses.
- Clarification on the function of the register of structures and features.
- The establishment of a small projects fund.
- A new methodology for guiding investment in flood risk management schemes.
- Updated LLFA policies relating to Sustainable Drainage.

Understanding local flood risk

In Hertfordshire the main sources of flood risk are surface water, rivers and other watercourses (fluvial) and, less frequently, groundwater. The LLFA published the second Preliminary Flood Risk Assessment for Hertfordshire in 2017, this confirmed that local flood risk in Hertfordshire (mainly surface water) is not concentrated in a few locations but is distributed across the county. This assessment also considered flood risk from ordinary watercourses and groundwater which was found to represent only a small proportion of reported flooding.

Flooding in Robbery Bottom Lane, Welwyn

Types of flooding

Surface water flooding

Surface water flooding is caused when the local drainage capacity is unable to cope with the volume of

water experienced during periods of sustained or heavy rainfall. Flooding then results from overland flows causing ponding of water where it becomes obstructed or collects in low lying areas.

Surface water flooding in residential gardens, Puckeridge

Surface water flooding can be better understood through modelling the potential impact of storm events; this also gives an insight into the risk of future flooding. The national Risk of Flooding from Surface Water (RoFfSW) map is the best available indication of predicted surface water flood risk across Hertfordshire.

Number of properties at risk in the RoFfSW map

District / Borough	High Risk 1 in 30 (3.33% chance in any year)	Medium Risk 1 in 100 (1% chance in any year)
Broxbourne	1,242	4,227
Dacorum	4,188	8,213
East Herts	4,272	8,615
Hertsmere	3,347	6,665
North Herts	3,945	7,772
St Albans	3,667	7,661
Stevenage	1,911	3,944
Three Rivers	2,452	4,868
Watford	2,167	4,886
Welwyn-Hatfield	2,478	6,027
Total	**29,669**	**62,878**

A property is counted to be at risk, where any part of its boundary is touching the modelled flood outline in the RoFfSW map with a predicted flood depth of 150mm or greater

Fluvial Flooding

Fluvial flooding occurs when the capacity of a watercourse (river) is reached, causing water to spill out of the channel onto adjoining areas, known as the floodplain. In some locations, the floodplain of the river may be undeveloped or have more flood compatible uses such as farming, elsewhere development can have occurred within area designated as floodplain.

Larger watercourses are designated as Main River and the Environment Agency (EA) hold the necessary legal powers and responsibilities to manage the associated flood risk. The remaining watercourses are known as ordinary watercourses and in a shire county such as Hertfordshire the relevant district or borough council hold the legal powers.

The link below provides access to the following flood risks maps online:

- Flood risk from rivers or the sea
- Flood risk from surface water
- Flood risk from reservoirs

https://flood-warning-information.service.gov.uk/long-term-flood-risk

Groundwater Flooding

Groundwater flooding occurs when the water held underground rises to a level where it breaks the surface in areas away from the usual channels and drainage pathways. It is generally a result of extended periods of heavy rain, but can also occur as a result of reduced abstraction, underground leaks or the displacement of underground water flows. Once groundwater flooding occurs, the water can remain at the surface for an extended period of time.

Groundwater emergence and extensive ponding, Cow Roast, Dacorum

Sewer Flooding

Sewer flooding is caused when a blockage occurs in a sewer or by excess surface water entering the underground sewer network and the volume exceeding the available capacity. This can occur during periods of heavy rainfall when the drainage network becomes overwhelmed.

Surcharged manhole (the sewer system has reached its capacity and water escapes), Harpenden

Flooding from other sources

In addition to watercourses and sewers, there are some man-made features for which water levels can be regulated; these include reservoirs, canals and aqueducts. The EA has produced reservoir maps to show the largest area that might be flooded if a reservoir that holds over 25,000m^3 of water were to fail.

Flooding may also result from overtopping or breach of the canal network. Canals in Hertfordshire include the

Grand Union Canal, the Lee Navigation and the Stort Navigation. It is considered that there are no significant flood risks associated expressly with the canals.

Tring's Startops Reservoir Outflow Sluice

Who's involved in managing flood risk?

A range of legislation gives powers and duties to agencies and authorities to manage aspects of flood risk, with each organisation having a remit which covers one or more specific sources of flooding. The major pieces of legislation are included on page 15 of the LFRMS2 strategy consultation document.

The FWMA identifies certain organisations as 'Risk Management Authorities' (RMAs) which have specified responsibilities, duties and powers related to local flood risk management.

RMAs in Hertfordshire

Category	Organisations in Hertfordshire
Environment Agency	• Hertfordshire and North London Area • East Anglia Area • Thames Area
Lead Local Flood Authority	Hertfordshire County Council
District/borough councils	• Broxbourne Borough Council • Dacorum Borough Council • East Hertfordshire District Council • Hertsmere Borough Council • North Hertfordshire District Council • St Albans City & District Council • Stevenage Borough Council • Three Rivers District Council • Watford Borough Council • Welwyn-Hatfield Borough Council
Internal Drainage Boards	• Bedfordshire and River Ivel Internal Drainage Board (IDB)
Water and Sewerage Companies	• Anglian Water Services Ltd • Thames Water Utilities Ltd
Highway Authorities	• Hertfordshire County Council • Highways England

Regional Flood and Coastal Committees

There are two Regional Flood and Coastal Committees (RFCCs) covering Hertfordshire (Thames and Anglian Central). These are the focus for regional programmes of flood risk management projects funded through national grant-in-aid, local levies raised from local authorities and other local contributions.

LFRMS2 Principles for Flood Risk Management in Hertfordshire

The key principles of the Hertfordshire Local Flood Risk Management Strategy 2 are:

1. Taking a risk-based approach to local flood risk management
2. Working in partnership to manage flood risk in the county
3. Improving the LLFAs understanding of flood risk to better inform decision making
4. Supporting those at risk of flooding to manage that risk
5. Working to reduce the likelihood of flooding where possible
6. Ensuring that flood risk arising from new development is managed

Each principle has one or more aims associated with them and are complimented by policies and actions to focus, target and manage future work.

Principle 1: Taking a risk-based approach to local flood risk management

Aim 1: Flood risk will be actively managed and we will seek to predict and manage future risk as well as reacting to flood events.

This overarching principle is fundamental to anticipating and managing the potential for flooding.

Principle 2: Working in partnership to manage flood risk in the county

Aim 2a: Opportunities will be sought to work with others to better deliver management of local flood risk in Hertfordshire.

Aim 2b: Flood risk measures should be multi-beneficial as far as possible, integrating flood risk management solutions alongside sustainable development and incorporating social and environmental benefits.

The Flood and Water Management Act 2010 identifies that the management of local flood risk does not lie with any single organisation. This means that the LLFA has to work with other bodies to best manage local flood risk in Hertfordshire.

For organisations to take action to reduce flood risk they must demonstrate that the costs will be proportionate to the benefits. There is rarely a single source of funding available for a scheme and contributions will be needed from a variety of sources. Even in areas of relatively high flood risk, options for the management of any risk may not be viable due to an unfavourable cost benefit assessment.

Roles and Responsibilities in Flood Risk

	Primary Role	Others involved
Individual properties	Property owner	Thames Water Anglian Water Property management companies
Surface Water Sewers	Thames Water Anglian Water	Districts & Borough Councils / IDB Lead Local Flood Authority Environment Agency
Highways	Hertfordshire County Council Highways England	Thames Water Anglian Water Districts & Borough Councils / IDB
Ordinary Watercourses	Property owner	Districts & Borough Councils / IDB Lead Local Flood Authority
Main Rivers	Environment Agency	Property owner

Working in partnership with other risk management authorities and communities is therefore essential. This is addressed in Action 1 and 2 in LFRMS2.

Action 1: Work with community groups

The potential to work with and support community groups will be explored and a number of potential approaches developed as pilots where groups wish to participate.

Action 2: Set up a countywide strategic flood risk partnership

That a countywide strategic flood risk partnership is set up as a sub group of the Hertfordshire Infrastructure and Planning Partnership (HIPP), this would automatically include all the local authority risk management authorities (RMAs). The Environment Agency, Thames Water, Anglian Water and other RMAs would be invited to attend. There would also be the additional benefit of links to other significant stakeholders in the county such as the Local Enterprise Partnership.

Principle 3: Improving our understanding of flood risk to better inform decision making

Aim 3a: Information on sources of flood risk in Hertfordshire will continue to be developed and improved.

Aim 3b: Flooding information will be risk based, with areas predicted to be at most significant risk analysed in more detail as part of a prioritised programme.

Aim 3c: All reports of flooding will be appropriately investigated so that the historic record of flooding helps to provide a clearer understanding of flood risk in the county.

Aim 3d: Information on flood risk will form the evidence base to help focus local resources and funding.

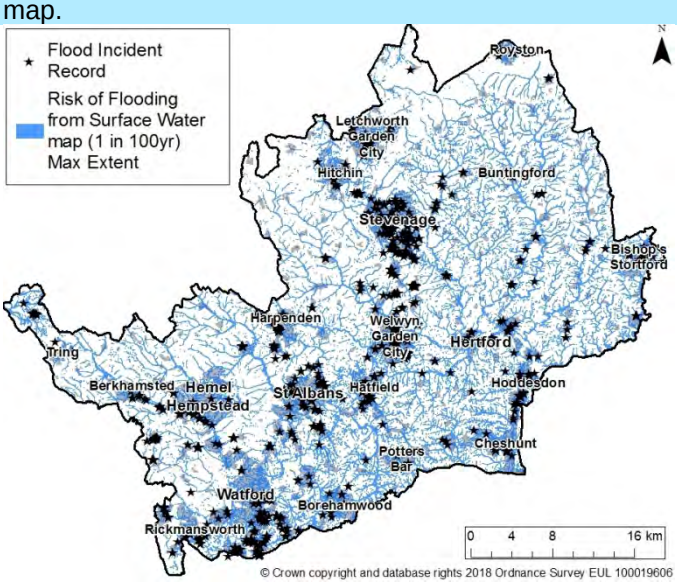
To properly manage flood risk, the impacts of both past and future flooding needs to be understood. The LLFA will take a proactive approach to flood risk, and to do this, the potential for future flooding needs to be evaluated. This has led to the introduction of Policy 1 and 2 in LFRMS2.

Policy 1: Using the Risk of Flooding from Surface Water (RoFfSW) map

The RoFfSW map will be used as the starting point for assessing the potential for surface water flood risk.

Policy 2: Update the national RoFfSW mapping

To make the best available surface water flood risk data held by the county council publically available. Locally derived surface water flood risk modelling will be submitted to the Environment Agency to be incorporated as part of the annual updating process of the RoFfSW map.



Flood Incident Record and the RoFfSW map

The above map shows how records of historical flooding support the validation of predicted flood risk in the RoFfSW map.

Action 3 in LFRMS2 looks at the impact of groundwater abstraction on flood risk.

Action 3: Ensure the LLFA is consulted on any proposals to reduce groundwater abstraction

The LLFA will ask to be consulted by the Environment Agency and water supply companies on any proposals to reduce groundwater abstraction as this could have an impact on flood risk linked to groundwater for areas in the vicinity.

Principle 4: Supporting those at risk of flooding to manage that risk

Aim 4a: Communities should understand the information available to them on flood risk.

Aim 4b: The support available to communities should aid flood preparedness and resilience.

Aim 4c: Information on local flood risk will be made available to assist in preparing for flood events.

Aim 4d: The cause of flood events will be effectively investigated and published.

Aim 4e: The roles and responsibilities of the various organisations involved in managing flood risk before, during and after in a flood event will be clear.

Resilience and response

Resilience and response is best considered in the context of the flood risk management cycle. They are an intrinsic aspect of managing flood risk as there will always be some level of flood risk that cannot be removed.

Flood Risk Management Cycle

The LLFA is not an emergency responder and residents of Hertfordshire should be prepared to protect their property if it is at risk. It is important to understand the limitations of the responders that do attend flooding such as the fire and rescue service will prioritise their attendance to flooded sites if there is a risk to life, e.g. if electrics are likely to be flooded.

Fire & Rescue Service responding to property flooding, Puckeridge

In order to support communities, the LLFA has introduced Action 4 in LFRMS2.

Action 4: Make up-to-date information readily available for individuals and communities
Individuals and communities will be made aware of the role that they have to play in managing their flood risk and up to date information about flood risk is made available to help inform their decisions.

This will be supported with published information, campaigns and work with the members of Hertfordshire Resilience. Consideration will be given to what support needs to be given to those groups which would be most significantly impacted by flooding.

This will ensure that up-to-date information on property protection is available and that individuals and communities are aware of the role that they can play in managing their flood risk with the information provided helping to inform their decisions.

This will be supported with published information, campaigns and work with the members of Hertfordshire Resilience. Consideration will be given to what support needs to be provided to groups which will be most significantly impacted by flooding.

Section 19 Flood Investigations

The LLFA has a duty to carry out flood investigations under Section 19 of the Flood and Water Management Act 2010. Flood investigations aim to help those affected by flooding to understand why flooding occurred and which RMA can best advise on how the risk might be managed in the future. The investigation also highlights any roles and responsibilities of other organisations and individuals, including individual property owners.

The criteria used by the LLFA to determine if a site needs an Investigation is set out in in Policy 3 of LFRMS2.

Policy 3: Flood Investigation Criteria

Where property has been flooded and the cause is uncertain the LLFA will investigate sufficiently to identify the source(s) of flooding so that the relevant RMAs can be identified.

Where a single RMA holds the relevant powers the investigation will conclude with a brief description of the flooding and a summary of the action that the RMA has already taken and/or proposes to take.

A more detailed investigation will be carried out where more than one RMA is identified as holding relevant powers and the following criteria are met:

- Internal flooding has occurred at a property on more than one occasion in a ten year period.
- Internal flooding of five or more properties has occurred during one flooding incident.
- Internal flooding of a business property.
- External flooding of land adjacent to a property has occurred more than five times in a ten year period.
- A critical service has been affected by flooding.
- Roads and railways have been impassable for over ten hours due to flooding.
- Flooding potentially posed immediate, direct and real risk to life.

Principle 5: Working to reduce the likelihood of flooding where possible

Aim 5a: Flood risk management funding is directed to areas most at need or where solutions will be most effective, and flood risk management will guide other funding decisions and be appropriately prioritised alongside other needs.

Aim 5b: Information on local flood risk will be used to allow informed decisions to be made on the level of funding allocated to flood risk management resources within Hertfordshire.

Aim 5c: Structures and natural features such as watercourses which have an impact on the management of local flood risk should be identified, appropriately monitored and maintained.

Aim 5d: Potential funding for flood risk management projects will be prioritised according to cost-benefit and a range of weighting factors to take into account the evidence of flooding and sustainability of the proposed solution. This will ensure that resources are dedicated in areas where it will be most effective.

This principle and associated aims will be implemented through a range of activities including, Surface Water Management Plans (SWMPs) and options studies as well as assessments of the functioning of ordinary watercourses and existing flood risk assets.

Surface Water Management Plans (SWMPs)

The LLFA is improving its understand surface water flooding, through strategic level studies, known as SWMPs; these are undertaken at the district authority scale. This is to reflect the district's role in local planning and to reflect their status as risk management authorities. The SWMPs help to understand the extent of flood risk and any options for managing it. They outline the preferred long term strategy for managing surface water in a particular location as well as further developing partnership working.

Outputs from each SWMP include: a detailed risk assessment; flood modelling and mapping of vulnerable areas; and an action plan which explores the most cost effective way of managing surface water flood risk in the long term. SWMPs will identify and prioritise practical actions to mitigate flood risk and will have other applications e.g. for planners and others involved in the development process.

Surveying of property threshold levels for use in flood modelling

Ordinary Watercourses: Inspection, regulation and betterment

Ordinary watercourses are generally smaller watercourses which form an important part of the overall drainage network across the county. As well as having a drainage function, many watercourses also have benefits for amenity and wildlife.

Before building any new flood risk management scheme it is important to ensure the satisfactory function and condition of watercourses and other existing assets that will make a contribution to reducing flood risk.

Inspection

The LLFA has an inspection and monitoring plan for ordinary watercourses; this inspection regime is based upon an indicative risk score (high, medium or low) applied to a reach (100m length) of ordinary watercourse. This risk score provides an indication of the probability and severity of flooding arising from that ordinary watercourse to properties, roads and other critical infrastructure. The risk score determines the inspection priority and frequency: LFRMS2 is proposing that High risk watercourses will be inspected every 5 years, Medium risk watercourses, every 7 years and Low risk watercourses being inspected on notification of an issue.

Watercourse flowing out of bank, Robbery Bottom Lane

Ordinary watercourses risk classification

District / Borough	Length of ordinary watercourses (km) by risk score		
	High	Medium	Low
Broxbourne	6.19	21.27	53.24
Dacorum	2.04	15.26	32.80
East Herts	23.39	102.66	385.46
Hertsmere	2.01	18.12	72.47
North Herts*	7.64	67.75	200.19
St Albans	2.96	22.74	22.29
Stevenage	1.64	3.15	2.08
Three Rivers	1.85	23.97	27.94
Watford	1.56	2.41	2.92
Welwyn Hatfield	2.85	31.71	117.05
Total (km)	**52.11**	**308.50**	**916.44**

** excludes IDB area*

Details on how the ordinary watercourse risk score is defined and how it guides the inspection routine are set out within the Ordinary Watercourse Service Standards: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/ordinary-watercourses/ordinary-watercourses.aspx

Structure with culvert across an ordinary watercourse, Oxhey Woods

Regulation

Since 2012, Hertfordshire County Council, as the Lead Local Flood Authority, has been the consenting and enforcing body for works on ordinary watercourses in the county (except in the Internal Drainage Board (IDB) area at the very north of the county). The County Council will use the available powers to ensure that the contribution

of ordinary watercourses to the management of flood risk is achieved.

Policy 5 within LFRMS2 sets out the powers available to the LLFA to manage consenting and enforcement of works in ordinary watercourses. This policy requires that any proposed works, either permanent or temporary, which may affect the flow within an ordinary watercourse will require the prior written consent from Hertfordshire County Council under Section 23 of the Land Drainage Act 1991. This is regardless of any planning permission that may exist on the site.

Betterment

As a statutory consultee in the planning process, the LLFA has an opportunity to improve the ordinary watercourse network to meet Water Framework Directive targets for water quality and ecological purposes. Conservation and enhancement of the natural environment are important parts of planning and consenting for any new development. Each consent process represents an opportunity to restore the ordinary watercourse to its natural state and characteristics. Policy's 7 and 8 in LFRMS2 aim to ensure that the LLFA is able to deliver betterment to the ordinary watercourses network in Hertfordshire, and will also make sure construction does not occur on or near to existing culverts.

A map of the ordinary watercourses in Hertfordshire can be viewed under "Water Management Map" at: https://gisinfo.hertfordshire.gov.uk/

Neglected and unsuitable structure in an Ordinary Watercourse

Asset Register

The LLFA is required to keep a register of structures and features which may significantly affect local flood risk. The Asset Register is publically available on the county council website and identifies the location and type of asset. The LLFA must also maintain a linked record which has details of ownership and condition.

The current register of Structures and Features can be viewed here: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/managing-flood-risks.aspx

Recording assets helps to determine their condition and if they have been maintained. A significant number of assets which have not been managed for a number of years have already been identified across Hertfordshire by the LLFA. Investment in maintaining or replacing an asset should be prioritised in the same way as flood risk management schemes being put in place for the first time. Policy 9 and Action 5 in LFRMS2 set out how the LLFA will use the asset register to manage failing assets.

Policy 9: Using the asset register to manage failing assets

The LLFA will use the production of the asset register as a means to identify and promote management of assets that are in failing condition or which are not being adequately maintained and could significantly affect local flood risk.

Action 5: Performance indicators linked to the asset register

In support of 9, the LLFA will develop suitable performance indicators linked to the asset register considering aspects such as target condition and an inspection programme.

Image taken from a CCTV survey of a cracked and failing asset

An asset will be considered as a candidate for inclusion on the asset register if failure or removal of the asset would lead to flooding. Policy 10 in LFRMS2 sets out the criteria the LLFA will use to determine the designation of structures and features that have a significant impact on local flood risk.

Policy 10: Designation of structures and features that have a significant impact on local flood risk

Designation will be considered where there is uncertainty about the continuing existence of structures or features which meet the criteria for inclusion on the asset register and one or more of the following criteria are met:

- Urgent intervention is needed to prevent loss of the asset;
- Change of ownership could prejudice understanding of the function of the asset; and
- A similar outcome to designation cannot be achieved through other means.

Small projects fund

Within LFRMS2 the LLFA is proposing to establish a small projects fund to undertake small scale works where it is not possible to identify those responsible for the required action. This could include maintenance on ordinary watercourses where the riparian owner cannot be identified or works on a critical flood risk asset where the responsible body cannot be determined. It is intended that this fund will only be used where responsibility cannot be assigned or when alternative sources of funding cannot be obtained.

Ordinary watercourse bordering back gardens, Bushey

Action 6 and Policy 11 within LFRMS2 propose that the LLFA themselves fund low cost, low risk schemes without the need for a detailed appraisal, which would likely be a disproportionate amount of the total cost.

Action 6: Small Projects Fund

That the LLFA establishes a projects fund to facilitate small flood risk projects which would have a positive impact on local flood risk. The criteria for eligibility would be kept as simple as possible on the basis that the projects would be low cost, low risk and not justify extensive investigation or appraisal.

Policy 11: Application of a Small Projects Fund

The fund is only applied to projects where ownership and or responsibility for maintaining the asset cannot be reasonably established.

Action 7 within LFRMS2 deals with how this fund will be applied to works to an ordinary watercourse.

Action 7: Ordinary watercourse powers

In cases where it is felt to be advantageous for the fund to be applied to manage flood risk associated with ordinary watercourses. If after consultation with the relevant district or borough council, it is felt more appropriate for the LLFA to carry out the work then it will be proposed that the district or borough council delegate the relevant powers as provided for in section 13 of the Flood and Water Management Act 2010.

New flood risk management schemes

The dispersed nature of flood risk in Hertfordshire has an effect on the ability to manage it through the development of schemes, just as it has an impact on the ability to respond to flooding events.

Findings from Section 19 Flood Investigations has shown that in the majority of locations, although flood risk to property has been demonstrated, there is no potential to develop a neighbourhood scale scheme to manage the risk. This is due to schemes not meeting the basic cost-benefit requirements or the balance between scheme costs and the eligibility for grant contributions means that it is unlikely that funding can be raised.

The costs of scheme development are high and often serve to prove that a scheme cannot be implemented. This scheme development funding could be directed towards property resilience measures where appropriate and may be a better use of the money.

To date, no property resilience measures have been implemented by the LLFA as it has been left as a decision for individual property owners.

In the future, the LLFA will need to explore alternative approaches to large surface water projects and schemes, such as:

- **Natural Flood Management (NFM)** — This is an approach based on generally small scale projects aimed to slow flows in surface water catchments and watercourses.

Potential for Natural Flood Management, Long Marston

- **Catchment wide property level flood risk initiatives** — Aggregating small scale flood risk across a catchment and seeking funding to support owners to reduce the flood risk to individual properties.

Boundary wall and flood gates, Bishop's Stortford

- **Retrofitting Sustainable Drainage Systems (SuDS)** — A similar approach to NFM but in more developed catchments. Again likely to be small scale projects each making a contribution to managing surface water across a catchment rather than as a single measure to reduce flood risk to specific properties.

Action 8 within LFRMS2 sets out how the LLFA will explore the potential for such alternative approaches. Action 9 looks at the additional benefits that could be achieved from flood risk schemes.

Action 8: Implementing new flood risk management schemes

The potential for Natural Flood Risk Management to be applied in Hertfordshire will be explored by the LLFA through the project supported by Thames RFCC which is initially based on two pilot areas; Long Marston and Harpenden.

The LLFA will explore with the RFCCs the potential for funding schemes that could be used to support action by individual property owners in areas where larger engineered structures are not viable.

Working with Thames Water Utilities Ltd and Anglian Water Services the LLFA will seek to identify areas for the retrofitting of SuDS where there is insufficient capacity in surface water sewers.

Natural Flood Management Scheme, Stroud

Action 9: Appraising schemes – additional benefits

Linked to Aim 2b, when appraising schemes for implementation, benefits that could be delivered in addition to flood risk objectives will be considered, and potential partners made aware of the potential for funding or contributions in kind.

Prioritising investment

Some areas of Hertfordshire will still be able to compete for national funding for flood risk management schemes. Where investment in new schemes is to be made, it needs to be allocated to the areas where it will have best effect. Funding for neighbourhood scale schemes (the protection of multiple properties) will need to be sought from a variety of sources in order for them to be delivered. For larger schemes the funding will almost certainly be sought from the national Flood and Coastal Erosion Risk Management Grant in Aid (FCERM GiA) scheme, administered by the Environment Agency. These grants can be used for a variety of projects from initial studies to the construction of substantial defences.

The national grant scheme is based on a formula which requires costs and benefits to be satisfied in order for a grant to be available. The level of funding is dependent on the value of benefits delivered by the scheme, e.g. the number of properties which will have reduced flood risk. Schemes can be fully or partially funded meaning additional funding will often need to be sought.

Due to resource and funding limitations, a methodology is needed for the LLFA to determine the order in which areas are worked on. This is stated in Policy 12 of LFRMS2 (Prioritising Investment). This methodology follows the prioritisation decision tree set out in the strategy and includes the following criteria:

- The number of properties affected by flooding and the level of flood risk.
- The availability of funding and the likelihood of that funding being realised.
- The opportunities for realising multiple benefits from a scheme.

The guidance and process by which the LLFA submits flood risk management projects can be seen at: https://www.gov.uk/guidance/flood-and-coastal-defence-funding-submit-a-project

Principle 6: Ensuring that flood risk arising from new development is managed

Aim 6a: New development must manage its own flood risk, not contribute to flood risk in the local area and must take into account the effects of climate change.

Aim 6b: New development must make appropriate arrangements for the management and maintenance of features put in place to manage local flood risk.

Aim 6c: Where possible, new development should contribute to reducing any existing flood risk within the local area.

Hertfordshire County Council as the LLFA for Hertfordshire is a statutory consultee on surface water drainage in relation to major planning applications. This role is to ensure that new major development does not contribute to increased flood risk from surface water and that surface water arising from the development is managed in a sustainable way; prioritising the use of sustainable drainage systems (SuDS).

Retention basin, Hoddesdon

The role of advising Local Planning Authorities (LPAs) on major planning applications is a new service that commenced in April 2015.

Information on the LLFA's Sustainable Drainage Systems (SuDS) guidance, including the SuDS Policy Statement, Guidance for Developers, Climate Change allowance and SuDS Design Guidance for Hertfordshire, can be seen at: https://www.hertfordshire.gov.uk/services/recycling-waste-and-environment/water/surface-water-drainage/surface-water-drainage.aspx

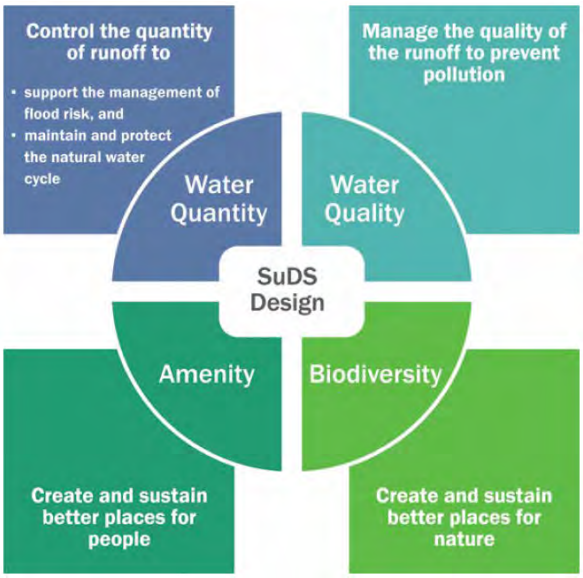
The LLFA's statutory consultee role only relates to major applications; however Action 10 of LFRMS2 sets out the intention to work with LPAs on where it would be desirable to consult the LLFA on minor applications.

Action 10: Working with LPAs on minor applications

The LLFA will explore with the LPAs how best to define areas where it would be desirable to consult the LLFA on minor applications and what information should be secured from the applicant.

To assist developers and LPAs, the LLFA has developed a set of policies within LFRMS2. The 9 policies, available within the LLFA's SuDS Policy Statement, cover:

SuDS 1 Run-off Destination (disposal hierarchy)
SuDS 2 Peak Flow and Volume Control – Greenfield Sites
SuDS 3 Peak Flow and Volume Control – Previously developed sites
SuDS 4 Flood Risk Within & Outside the Development
SuDS 5 Managing Overland Flow Routes
SuDS 6 Maximise Resilience and Source Control
SuDS 7 Management of drainage during the construction period
SuDS 8 Maintenance, Structural Integrity & Construction
SuDS 9 Sustainability and additional design criteria



The four pillars of SuDS Design (The SuDS Manual C753, Ciria)


SuDS attenuation basin, Bourne End, Dacorum

Development and Watercourses

In two tier local authority areas, the Flood and Water Management Act 2010 resulted in powers relating to ordinary watercourses being divided between the LLFA and district or borough councils. The LLFA holds the powers of consenting and enforcement under Sections 23, 24 and 25 of the Land Drainage Act 1991 and district or borough councils hold the powers to manage flood risk from ordinary watercourses under Section 14A. Although the district and borough councils are all subject to the same duties and have the same powers available to them, they do not operate to a standardised approach to flood risk management activity linked to Ordinary Watercourses across the county.


Unconsented works in an Ordinary Watercourse, Bishop's Stortford

Only three of the ten district or borough councils in Hertfordshire have taken up the powers to develop by-laws for the operation of ordinary watercourses. The LLFA does not routinely advise on minor planning applications and there are no policies specific to the operation of watercourses in district Local Plans.

Action 11 in LFRMS2 is seeking to deliver a consistent approach to Ordinary Watercourse Regulation across the county.

Action 11: Ordinary Watercourse regulation

That the LLFA works with district and borough councils to develop a consistent framework across the county for the regulation of activity relating to ordinary watercourses.

Where a district or borough council is not using the relevant powers available to them there is an option under Section 13 of the Flood and Water Management Act 2010 for a RMA to make arrangements for a flood risk function to be exercised on its behalf by another RMA. Therefore, where appropriate, the LLFA will request the transfer of the relevant powers within Section 14a of the Act from the district or borough council.

Monitoring and updating the strategy

The proposal within the consultation draft of LFRMS2 is that progress will be reported annually to the relevant Hertfordshire County Council member panel and published online as an annual report.

A partial review and refresh of the strategy will take place after 5 years in 2024.