

Information/Discussion Paper

Overview & Scrutiny Committee – 25 March

2024 Flood Risk Management Overview

This note contains the information to keep Members informed of matters relating to the work of the Committee, but where no decisions from Members are needed.

1. Why has this come to scrutiny?

- 1.1 The Cheltenham Borough Council (CBC) flooding team (flood risk officer and support officer) were appointed in September 2022. Prior to this work streams were shared between a flood resilience officer and the Publica flood risk management team through a technical support contract, following the retirement of the CBC flood risk engineer in 2020. The officers sit within the climate emergency team and their main responsibility is to improve the Borough's resilience to flood risk, in both existing and future climates.
- 1.2 The flooding team has been called to scrutiny by councillors to better understand the role of CBC in flood risk management, specifically:
 1. Examining role in national and local flood risk management plans and strategies.
 2. Progress on mitigations since 2007.
 3. Role in flood mitigation (including biodiversity and nature-based solutions).
 4. Involvement in the planning process.
- 1.3 The priorities and actions of the team and partner Risk Management Authorities (RMAs) are presented in this paper, with a focus on the items listed in paragraph 1.2.

2. Summary of the Issue

- 2.1 Flooding can cause damage to property and infrastructure. The risk and impacts of flooding can result in significant stress to people and communities. Flooding is the most common and widespread natural hazard to occur in the UK. In catchments such as Cheltenham, urbanisation and historic modification to watercourses has increased flood risk in many areas.
- 2.2 Numerous flood events have occurred, but the 2007 summer floods are the most significant in living memory, particularly in Gloucestershire where impacts were devastating. In Cheltenham 50-100 properties were flooded in June and 600 in July. Cheltenham was also affected by the impacts the floods had on utilities in the region with many homes without water or power. The 2007 floods changed the approach to flood risk management on a national and local scale. The Flood and Water

Management Act 2010 gave more power and responsibilities to Risk Management Authorities (RMAs) to plan flood risk mitigation.

- 2.3** Climate change is expected to increase the frequency and severity of extreme weather events such as flooding and drought. Cheltenham will likely experience wetter winters and hotter summers. Summers are expected to be drier with regards to total rainfall, but high intensity convective storms are likely to become more frequent. These are the storms that pose greatest flood risk to the small, urbanised Cheltenham catchments (flash flooding). Cheltenham is identified nationally as a flood risk area *“because the risk of flooding from surface water is significant nationally for people, the economy or the environment (including cultural heritage).”* The River Chelt through Charlton Kings has been designated as a rapid response catchment by the Environment Agency as it has the potential to cause flash flooding which poses a threat to life¹.
- 2.4** As an RMA, the local planning authority, and a significant land/asset owner in the Borough, CBC have a significant role in flood risk mitigation. This is discussed in more detail within this paper.

3. Flood risk management strategies and plans.

- 3.1** Following the 2007 floods the government asked Sir Michael Pitt to undertake a review of the lessons to be learned. Amongst the recommendations of the Pitt review was an update to legislation to address all sources of flooding, include a wider brief for the Environment Agency (EA), and give more power and responsibilities to councils to protect communities through robust building and planning controls. The implementation of the Flood and Water Management Act 2010 was one of the actions taken by parliament following the review. Under the Act the EA has a strategic overview role and Lead Local Flood Authorities (LLFAs) were established. The Gloucestershire County Council (GCC) flood risk management team are the LLFA for Gloucestershire and they delegate some of their responsibilities to CBC. The Act places a duty on all RMAs to co-operate with each other especially as flood issues can often be from multiple sources. In 2023 the UK government announced their commitment to implement schedule 3 of the Flood and Water Management Act. Full details are yet to be announced but it is likely that LLFAs will become sustainable drainage approval bodies, responsible for approving and adopting drainage systems on new developments. GCC may require further support from CBC depending on the scope of the process. Currently the LLFA and CBC flooding function as consultees in the planning process.
- 3.2** Strategies and plans relevant to CBC flooding are summarised in Table 1. This list is not exhaustive and there are other strategies, risk assessments, plans and Acts that are relevant to flood risk management. Under the Flood and Water Management Act, the EA and LLFA are required to develop, maintain, apply, and monitor flood risk management strategies at national and local scale, respectively. CBC must act in a manner consistent with national and local strategies when exercising its flood risk management functions. The CBC flooding strategy is presented in Figure 1 and section 5 of this paper details the current workplan. The appendix of this paper shows measures from the local strategies and plans linked to works undertaken by CBC flooding.

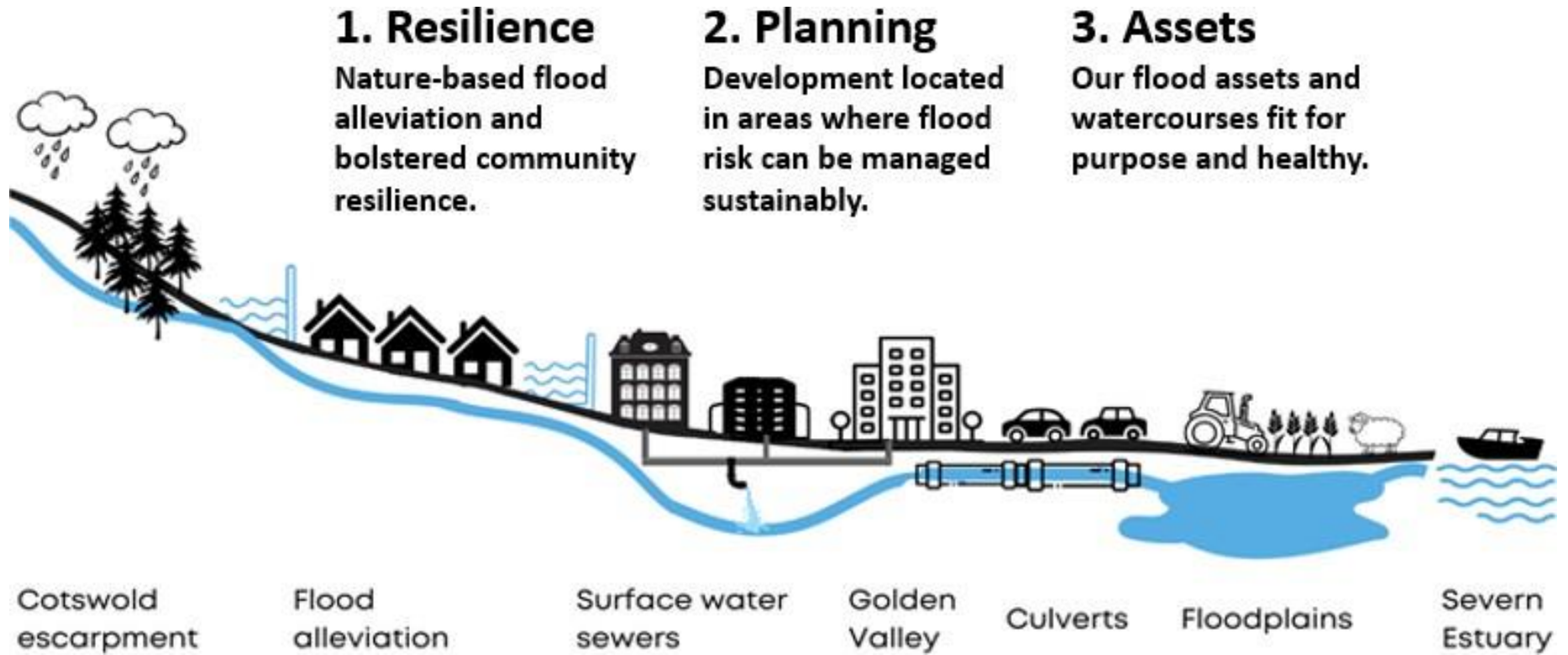
¹ [Severn River Basin District Flood Risk Management Plan 2021 to 2027](#)

3.3 Table 1: Flood risk management strategies and plans

Strategies		
Flood risk management	National Flood and Coastal Erosion Risk Management Strategy for England	<p>Core ambitions are:</p> <ol style="list-style-type: none"> 1. Climate resilient places. 2. Growth and infrastructure resilient to climate change. 3. A nation ready to respond and adapt to flooding. <p>Describes what needs to be done by all RMA's but also highlights need for collaboration with individuals, communities, the third sector, businesses, farmers, land managers and infrastructure providers.</p>
	LLFA Local Flood Risk Management Strategy	<p>Outlines how the LLFA provides leadership and coordinates flood risk management in Gloucestershire. The strategy objectives with links to flood risk management works undertaken by CBC is presented in Appendix A.</p>
Planning	National Planning Policy Framework	<p>CBC are the local planning authority and are responsible for preparing local plans. The Cheltenham Strategic Flood Risk Assessment (SFRA) is used as a guide by the authority and developers to locate development in lower flood risk areas. The EA, LLFA, and CBC flooding are consultees to the planning authority depending on the location and type of development. Involvement in the planning process is described in more detail in section 6 of this paper.</p>
	CBC Strategic Flood Risk Assessment	
	The Joint Core Strategy and Strategic Local Plan	
Climate adaption	CBC Climate Emergency Action Plan: Pathway to Net Zero	<p>CBC climate obligations include developing resilience. This includes flood mitigation, adaptation, planning natural space for people and environment and water resource management.</p>

Plans		
Catchment plans	Severn River Basin District Flood Risk Management Plan 2021 to 2027	Catchment scale flood risk management plans, produced by the EA and RMA partners are high-level planning tools that set out objectives for each river catchment. Within this plan Cheltenham is identified as a flood risk area. CBC are the responsible authority for three of the Cheltenham measures and objectives within the plan which are listed in Appendix B.
	Cheltenham Surface Water Management Plan	Produced by the LLFA. Provides a framework for RMAs to understand the causes of surface water flooding and agree the most cost-effective way of managing that risk. The purpose of the plan is to make sustainable surface water management decisions that are evidence based, risk based, future proofed and inclusive of stakeholder views. Numerous flood alleviation schemes have been delivered (or are in progress) using the SWMP, refer to section 4 of this paper for more details.
Emergency response plans	<p>CBC emergency response plan</p> <p>Multi-Agency Flood Plan (MAFP)</p> <p>CBC flood response plan (Annex A MAFP)</p> <p>Charlton Kings Rapid Response Plan</p>	<p>The Local Resilience Forum includes CBC, who are category 1 responders for emergencies. CBC flood plans are coordinated by the emergency planning team, but the CBC flooding team have tasks delegated within the plans.</p> <p>The Charlton Kings catchment also has a rapid response plan to accompany the CBC flood plan, as it is designated as a rapid response catchment by the Environment Agency.</p>

3.4 Figure 1: CBC flooding strategy



4. Progress on mitigations since 2007.

4.1 Mitigations described in this section include Flood Alleviation Schemes (FAS), maintenance, improved understanding of risk, community resilience, appropriate development, and infrastructure.

4.2 Flood Alleviation Schemes (FAS):

Figure 2 highlights FAS that have been implemented since 2007. The River Chelt FAS was in place in 2007 but has had improvements made since. The figure highlights the lead authority for each scheme but in almost all cases these schemes have been delivered and funded through partnerships. Sewer capacity improvements made by Severn Trent Water are not shown on the map but there has been over £7 million invested across Cheltenham² and there continues to be significant investment made. GCC Highways drainage improvements are also not shown, of which there are numerous. CBC also coordinated the implementation of individual property flood resilience measures at a total of 45 properties across Whaddon and Charlton Kings using government funding.

Figure 2 also shows drainage improvement schemes implemented by CBC to reduce flood risk since 2007. This includes upgrading culvert capacity, debris screens (to mitigate culvert blockages) and retrofit of Sustainable Drainage Systems (SUDS) into the urban environment. An example being the Priors Farm Estate in Oakley (shown below) where retrofit SUDS provide water quality, biodiversity, and amenity benefits as well as flood risk management³.



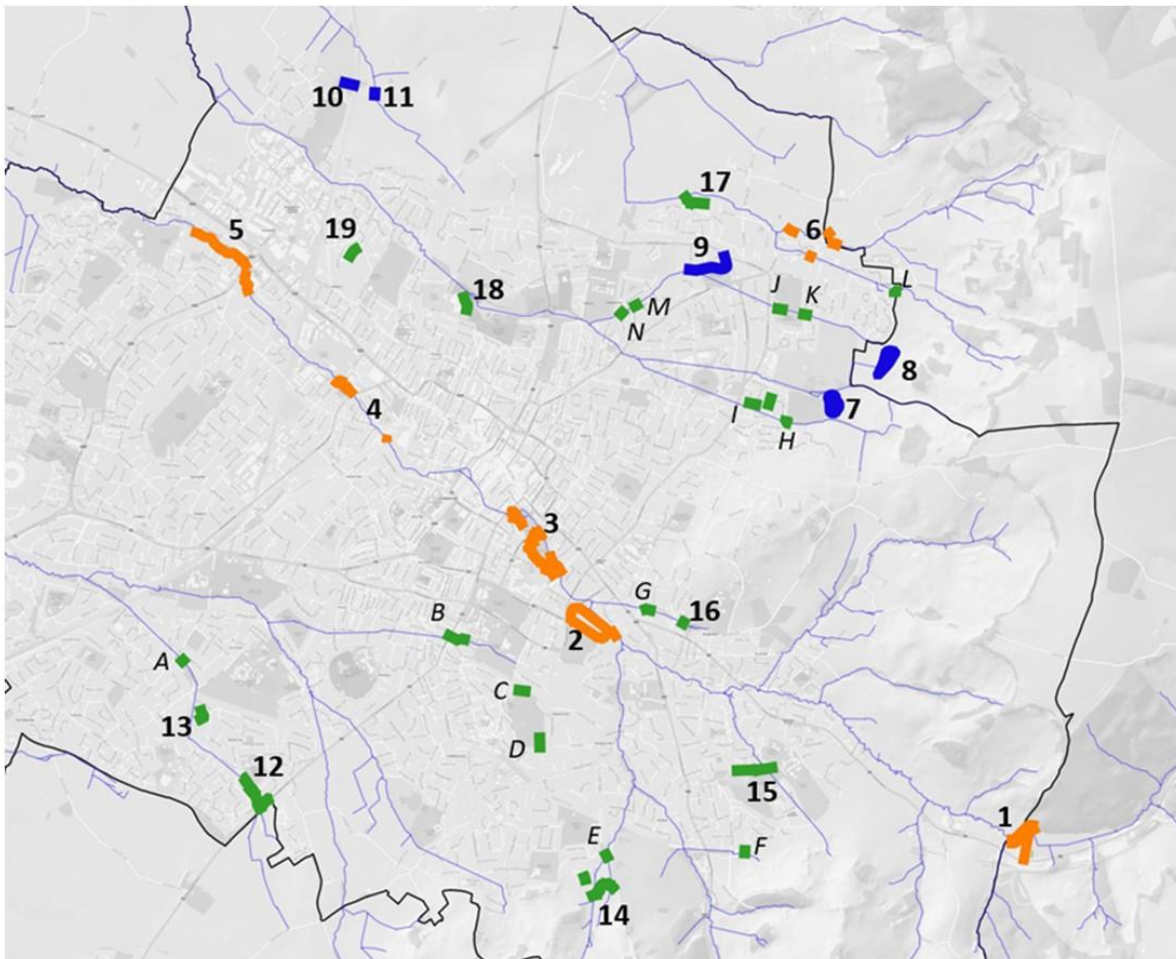
In addition to completed schemes, the current schemes are at either a feasibility or design stage:

1. Cromwell road SUDS retrofit, GCC.
2. Warden Hill SUDS retrofit, GWT/CBC.
3. Natural Flood Management feasibility at Upper Hearne Brook, CBC/GCC.

² Severn River Basin District Flood Risk Management Plan 2021 to 2027.

³ Images from project case study: https://www.susdrain.org/case-studies/pdfs/suds_awards/007_18_03_29_susdrain_suds_awards_priors_farm_estate_suds_retrofitting_project_cheltenham.pdf

4.3 Figure 2: Flood alleviation schemes (FAS) and drainage improvements implemented.



█ EA scheme █ GCC scheme
█ CBC scheme — River network
 Borough boundary

Flood alleviation schemes

1. Dowdeswell reservoir
2. Cox's Meadow
3. Sandford Park
4. Flood Walls
5. Keirle Walk Flood Wall
6. Prestbury
7. Whaddon Priors
8. Whaddon Noverton
9. New Barn Close
10. Swindon Village School
11. Hyde Lane Culvert
12. Warden Hill Farmfield
13. Warden Hill Weavers
14. Southfield Brook
15. Beeches
16. St Edwards School
17. Apple Orchard Linden Close
18. Leisure Centre
19. Stanwick Gardens

Drainage improvements and SUDS retrofit

- A. Alma road debris screen
- B. Naunton parade culvert
- C. Naunton park SUDS
- D. Asquith Allotments
- E. Sandy Lane debris screen
- F. Timbercombe gate debris screen
- G. Oak Avenue culver upgrade
- H. Imjin Road debris screen
- I. Priors Farm estate SUDS
- J. St Marys School debris screen
- K. Fawley Drive debris screen
- L. Noverton Brook debris screen
- M. Oakland Avenue debris screen
- N. Overbrook Drive debris screen

4.4 Maintenance of watercourses and assets

It is vital that flood risk management assets remain 'fit for purpose.' Section 5 describes the operational responsibilities of RMA in Cheltenham. The EA maintains an asset condition database⁴ on 'Main Rivers.' CBC have maintained watercourses and assets we are responsible for and have also used permissive powers to carry out maintenance to reduce flood risk in watercourses where riparian landowners cannot be identified.

In 2023 the CBC flood officer obtained EA asset inspection accreditation and the flooding team have developed a maintenance plan to catalogue all CBC watercourses and flood assets and make informed risk-based decisions on maintenance. Natural Flood Management (NFM) has been successful in the UK and is becoming increasingly popular. Through mimicking nature's own methods, downstream impacts of flooding can be reduced through a wide range of land and watercourse management techniques to slow the flow and hold back water, where appropriate to do so. Obstructions, whether natural or human-caused, may have a positive effect by slowing flows and reducing flood risk downstream whilst creating habitat. Consideration therefore needs to be given to the implications of both removing obstructions and leaving them in situ. This will depend on location within the catchment (with upstream areas usually being more strategic areas to hold back water) and the adjacent receptors at risk. Within the maintenance plan, some reaches of watercourse are therefore identified with a natural based approach to maintenance. This aligns with CBC aspirations for improving biodiversity and reducing carbon emissions. Next steps for the maintenance plan are to include long term asset costs and incorporate the plan into the CBC risk framework.

The LLFA maintain the Whaddon FAS and provide a waterside living leaflet for riparian watercourse landowners. GCC highways have developed a risk-based approach to their gully cleaning programme⁵.

4.5 Improved understanding of risk

Technological advances have significantly improved flood modelling and mapping of flood risk. The LLFA maintain a Flood Online Reporting Tool (FORT)⁶. CBC use risk maps published by the EA and FORT to make informed decisions across planning, maintenance, investigations, and feasibility for alleviation schemes.

The EA and Met office created the national flood forecasting centre in 2009 and the UK is now considered amongst the world leaders in flood forecasting. There are now nine live river level gauges in Cheltenham and CBC uses this data, daily Flood Guidance Statements, and the EA's flood warning service to inform decisions regarding emergency planning and post-event investigations.

Understanding risk is an area of continuous improvement and there is still much progress to be made, particularly in surface water flood risk mapping and forecasting under different climate scenarios.

⁴ <https://environment.data.gov.uk/asset-management/>

⁵ <https://www.gloucestershire.gov.uk/highways/roads/flooding-drainage-and-gullies/>

⁶ <https://swim.geowessex.com/glos/>

4.6 Community resilience

The EA maintain a flood alert and warning service within Cheltenham and the LLFA and local resilience forum provide an online *Flood Guide*⁷ and an *Are you ready?*⁸ guide for residents, respectively. The flood guide includes property level flood protection guidance for home/business owners.

CBC flooding attend community events, update website guidance, produce infographics and coordinate a network of twelve flood wardens who provide additional resilience to their communities before, during and after events.

The Local Resilience Forum includes CBC, who are category 1 responders for emergencies. CBC flood plans were updated in 2021 and are coordinated by the emergency planning team, but the CBC flooding team have responsibilities delegated within the plans. before, during and after flood events, which are summarised below:

Before: Inspect and maintain CBC flood assets and watercourses. Monitor warnings and river levels.

During: Liaison with partners, incident logging, inspection, and reactive maintenance (where safe to do so).

After: Post-event inspection and maintenance, investigation and reporting, liaison with partners.

4.7 Infrastructure mitigations

Following the 2007 floods, Severn Trent Water have mitigated water supply security by investing in flood defences at the Mythe water treatment works and a 17km long bypass water main to improve overall network resilience.

National grid instigated a flood resilience programme to ensure that its electricity substations are protected and remain operational during extreme flood events. This included construction of a new flood wall at the Walham substation.

⁷ <https://www.gloucestershire.gov.uk/planning-and-environment/flood-risk-management/flooding-information/>

⁸ <https://glosprepared.co.uk/wp-content/uploads/2018/11/Are-you-ready-booklet-Web-version.pdf>

5. CBC role in flood mitigation

- 5.1 The CBC flooding team work collaboratively with other departments and RMA partners to build resilience through a range of work streams, described in Table 2. Involvement in planning has increased in recent years as sustainable drainage (SUDS) is advocated at new developments. Whilst this is a positive development with regards to mitigation, an increase in these review duties alongside staff turnover, funding, and recent prioritisation of establishing a maintenance plan (to ensure existing schemes remain fit for purpose) has meant limited resource availability to progress new CBC-led flood alleviation schemes. This is mirrored countywide according to the latest strategy update by the LLFA⁹:

“District flooding officers continue to be an essential part of the wider / external team and provide a crucial role in flood response and investigation, consenting and enforcing work on ordinary watercourses and community liaison. Quite simply we could not achieve what we do without them, and likewise they depend on our support to carry out their indispensable work, but an increase in reactive duties matched by changes in staff structure has meant that their ability to engage with and initiate flood alleviation schemes has been impacted”.

CBC flooding are exploring options to streamline reactive duties to enable resource to deliver more nature-based solutions (examples below¹⁰). Some existing schemes provide habitat and a balance between flood risk management, amenity, and recreation. For example, the Oakley SUDS retrofit and the Cox’s Meadow and Beeches FAS. There is almost unlimited potential in Cheltenham to implement more SUDS retrofit and RMAs/planners should push for these to be considered at the forefront of any transport and built environment project. Rural Natural Flood Management (NFM) has been successful in the Stroud District and although Cheltenham has less rural land there are still appropriate sites upstream of the urban area. CBC plan to work closely with the new Gloucestershire NFM delivery group to implement NFM in the most effective areas.



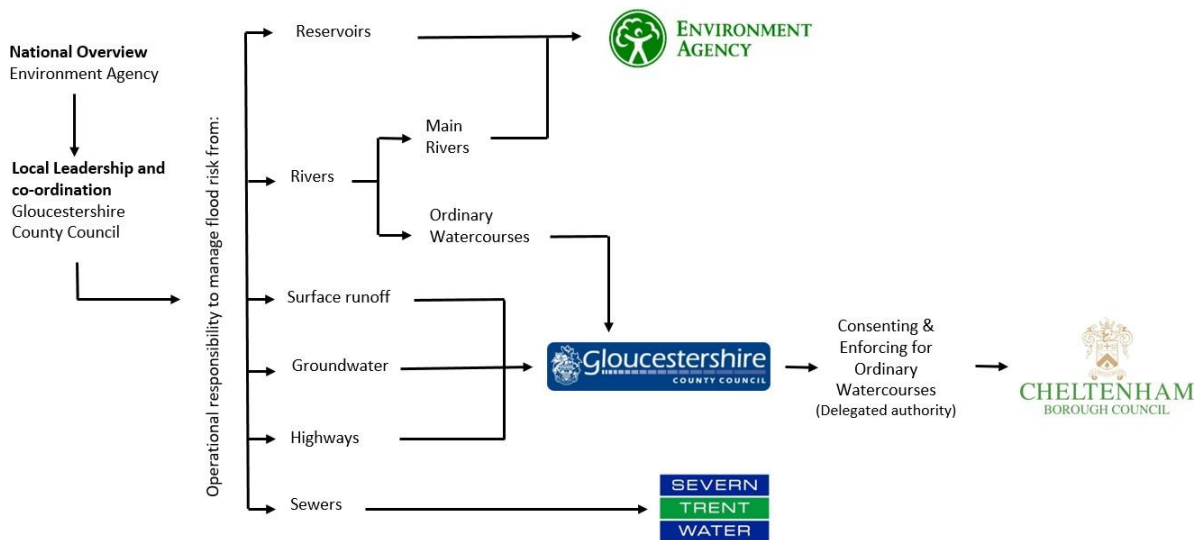
⁹ GCC LFRMS [Annual Progress and Implementation Plan \(22/23-23/24\)](#)

¹⁰ Clockwise from top left: 1. NFM image from Stroud District Council, 2 to 4 rain gardens in highway, public space, and schools (Images from Susdrain case studies)

5.2 The LLFA coordinate quarterly Gloucestershire RMA partnership meetings and Flood Risk Management delivery group meetings which CBC attend. CBC also coordinate a local flood risk management group in Warden Hill which is attended by RMAs and councillors. CBC work in partnership with the LLFA to deliver alleviation schemes and are part of the Gloucestershire NFM delivery group and Severn Vale Catchment Partnership.



5.3 Figure 3 shows the operational responsibilities of RMAs in Cheltenham. For rivers, the relevant RMA has permissive powers, but not a duty, to carry out maintenance and improvement works. Maintenance is usually the responsibility of riparian landowners unless recognised formally as an asset managed by an RMA. CBC are the riparian owner for numerous reaches of watercourse and assets in Cheltenham. Larger rivers are designated as 'Main River,' and these are shown on the Main River Map¹¹. All other rivers, streams, drainage channels and ditches are known as Ordinary Watercourses.

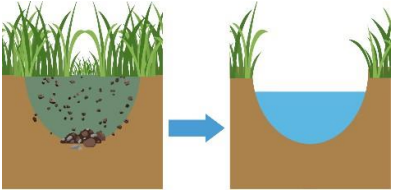

5.4 *Figure 3: Overview of RMA operational responsibilities to manage flood risk in Cheltenham.*






¹¹ [Main River Map](#)

5.5 Table 2: CBC flooding current workplan.

Strategy	Workstream	Description	Summary of works 2023	Planned activities 2024-2025
Planning	Consultation	<p>Consultee for non-major developments to ensure flood risk and sustainable drainage design is incorporated.</p> 	<ul style="list-style-type: none"> • Technical review and commentary on 90 consultations. All comments were provided within consultation deadline. • Technical support provided on selected major developments including Golden Valley. 	<ul style="list-style-type: none"> • Work with planning to identify gaps in the consultation process and <i>Strategic and Local Plan</i> policies on flooding and sustainable drainage. Aim to increase influence on SUDS that also incorporate biodiversity improvements. • Work with planning and RMAs to identify need for updated SFRA as part of the <i>Strategic and Local Plan</i>. • Training for support officer to improve capability and resilience of the team.
	Consenting and enforcement	<p>LLFA delegate consenting and enforcement duties on ordinary watercourses to CBC flooding</p> 	<ul style="list-style-type: none"> • 69 enforcement cases. Mainly the removal of debris causing either a flood or environmental risk. • 6 land drainage consents for new watercourse structures. 	<ul style="list-style-type: none"> • BAU. Contract extended to 2026 with an increased payment to CBC to continue these works.

Strategy	Workstream	Description	Summary of works 2023	Planned activities 2024-2025
Assets	Watercourse and asset management	<p>CBC owned / maintained land includes:</p> <ul style="list-style-type: none"> • 17km of watercourse (including culverts), • 21 debris screens, • 8 flood alleviation schemes (each consisting of multiple assets). • 10 Sustainable drainage systems (each consisting of multiple assets). 	<ul style="list-style-type: none"> • Version 1 of maintenance plan completed which catalogues watercourses and assets and a plan for their future maintenance. Primarily focusses on flood risk but also incorporates habitat value and carbon emission reduction where possible by identifying reaches where a NFM approach can be adopted. • Inspection of all watercourses and assets and commission of any necessary maintenance. Risk-based inspection schedule incorporated into maintenance plan. • CBC flood officer obtained EA T98 asset inspection accreditation. Relevant assets mapped in EA format and inspection programme started. • Invasive species such as Himalayan Balsam have been mitigated (see projects workstream for more detail). 	<ul style="list-style-type: none"> • Version 2 of maintenance plan to include T98 asset inspections and longer-term risks/lifetime asset costings. Incorporate risks and mitigations into CBC risk framework. • Consider tendering a maintenance contract based on the plan including feasibility of using UBICO. • Future versions of maintenance plan to include best practice habitat management where possible to further promote biodiversity on watercourse corridors.
Resilience	Community engagement	<p>Raising awareness of flooding and enabling communities to take their own actions towards building resilience.</p> 	<ul style="list-style-type: none"> • Reinvigorated CBC flood warden scheme with support from Gloucestershire Rural Community Council using a grant from the local resilience forum. New wardens recruited and meetings held every 6 months. • <i>“Green your property to reduce flooding in your community”</i> infographic created and distributed at engagement event in Warden Hill. 1000 copies distributed to houses in Warden Hill by parish council. 	<ul style="list-style-type: none"> • Increase flood warden coverage geographically and drive recruitment in high-risk areas. • Infographic social media posts to raise community awareness of property level flood mitigation and water management. • Consider further community engagement events including schools.

Strategy	Workstream	Description	Summary of works 2023	Planned activities 2024-2025
Resilience	Projects / partnership schemes	Collaborating with partners to deliver nature-based solutions to flood risk management in the Borough. 	<ul style="list-style-type: none"> • Warden Hill flood risk management group looking to implement retrofit SUDS where feasible. Working collaboratively with Gloucestershire Wildlife Trust (GWT) • Working collaboratively with GCC on potential SUDS retrofit on Cromwell Road and Natural Flood Management opportunities. • Collaboration with CBC Greenspaces to implement SUDS features in public parks (Naunton, Weavers and Benhall). • <i>“Reclaim the River”</i> Himalayan Balsam invasive species project in collaboration with greenspaces and climate emergency team. This has involved: <ul style="list-style-type: none"> ○ 7 volunteer sessions to pull balsam. Approximately 4km of watercourse managed including litter removal. ○ Letter drops to 121 riparian owners to raise awareness of responsibilities. 	<ul style="list-style-type: none"> • Work with relevant CBC teams and partners to further progress on implementing nature-based flood management solutions. • Research carbon sequestration potential for natural flood management schemes to support CBC net zero targets.
	Enquires, land charges and FOI	Responding to CON29 land charge enquires related to flooding and drainage and other public enquires regarding flooding and watercourses. 	<ul style="list-style-type: none"> • All land charge CON29 questions answered on time (over 600 property searches). • All Enquiries and FOI requests responded to on time. • Flood issue investigations undertaken and reported through relevant channels / RMAs. 	<ul style="list-style-type: none"> • Streamline and automate processes where possible to increase resource availability for projects.

Strategy	Workstream	Description	Summary of works 2023	Planned activities 2024-2025
Resilience	Emergency response and recovery	Supporting CBC emergency planning team 	<ul style="list-style-type: none"> • Actions in the emergency response plan have been undertaken before and after events/forecasts. 	<ul style="list-style-type: none"> • Work with emergency planning, parish councils and flood wardens to identify potential updates to the plan based on latest best practice guidance.

6. Involvement in the planning process

6.1 CBC flooding are consulted on non-major development at the discretion of planning officers. Typical consultations include:

1. Developments of 1 to 9 dwellings.
2. Buildings, structures or car parks with a site area < 1 ha and floor space < 0.1 ha.
3. Structures in areas of high flood risk.

The LLFA are statutory consultees for major development and the Environment Agency are consulted on both major and non-major development, depending on the site location with regards to flood zones and rivers. CBC flooding are also consulted on some major developments including Golden Valley. CBC flooding are not typically consulted on minor developments such as householder extensions and driveways as drainage matters for these developments are dealt with directly by planning officers and building control using defined guidance.

6.2 CBC flooding review of applications includes:

1. In accordance with the requirements of the NPPF, ensuring that proposed development is appropriately located and designed to mitigate flood risk. Considering the vulnerability of its users and flood risk elsewhere throughout its lifetime.
2. Ensuring new development incorporates sustainable drainage design to mitigate flood risk and water quality issues elsewhere in the catchment.

6.3 Applications are required to produce flood risk assessments for all development within EA flood zones 2, 3 or 3b (areas at risk of flooding from rivers). In flood zone 1, CBC flooding request flood risk assessments if the site is at risk from other sources of flooding (usually surface water flooding). CBC request revisions to the flood risk assessment, site layout, or mitigations where required during the review process.

6.4 Sustainable drainage strategies must follow the SUDS hierarchy (which promotes infiltration and avoids discharge to sewers wherever possible) and aim to reduce post-development flows to the 'greenfield runoff rate' for rainfall events up to and including the 1 in 100 (including a 40% increase applied to design rainfall for climate change based on current guidance). Water quality mitigations are also required where relevant. CBC also request that drainage strategies include biodiversity and amenity benefits as these also make up the four pillars of SUDS and rainwater collection/re-use which is recommended in the Climate Change Supplementary Planning document¹². We plan to explore options to make these aspects of the design more enforceable as they are often overlooked by developers and rules are less defined compared to flooding and water quality aspects.

¹² [Climate change supplementary planning document](#)

7. Conclusions

CBC play a key role in flood risk management in the Borough which is managed by numerous RMA's. Notably CBC are the only RMA that operate solely within Cheltenham. As a significant landowner, the local planning authority, an RMA, and a provider of services such as housing and refuse collection, CBC have a significant influence on the land use activities that impact flooding and waterway health.

In addition to statutory works, CBC and partners should continue to deliver schemes and bolster community resilience to ensure the future well-being and prosperity of the town in the face of climate change. Considerable progress has been made since 2007 and the town is now better defended and prepared, but people and property remain at risk. Due to cost and practicality, alleviation schemes can only be designed to hold back a specific amount of water and therefore further nature-based solutions with holistic benefits to the environment can complement existing alleviation schemes and provide mitigation to undefended areas by slowing the flow of runoff through the Cheltenham catchments.

There also needs to be an understanding that there may not be cost-effective alleviation solutions at a communal scale for all areas. Effective community engagement is therefore also vital to ensure our communities understand their risk, prepare, and consider property-level resilience measures where required.

Background Documents

[National Flood and Coastal Erosion Risk Management Strategy for England](#)

[Severn River Basin District Flood Risk Management Plan 2021 to 2027](#)

[GCC Local Flood Risk Management Strategy](#)

[Cheltenham Surface Water Management Plan](#)

[CBC Strategic Flood Risk Assessment](#)

[CBC Climate Emergency Action Plan: Pathway to Net Zero](#)

Contact Officer

James Mogridge, Flood Risk and Drainage Engineer
flooding@cheltenham.gov.uk

Accountability

Cllr Alisha Lewis, Cabinet Member for Climate Emergency

Appendix A: LLFA Local flood risk management strategy objectives

Breakdown of objectives	Outcome	CBC workstream	Planned activities
Strategic objective 1: Improve our understanding of local flood risk			
Identify hotspots of flooding across Gloucestershire using historic and predicted flood risk data	Highest priority locations will be identified which will inform prioritisation and resource allocation	Projects/ partnership schemes and emergency response	Log reported incidents on FORT, collaborative with RMAs to identify locations
Undertake further studies in areas of greatest flood risk (e.g., GCC or district/borough-led studies)	An improved understanding of flooding and an assessment of potential mitigation measures		Lead and support flood investigations, working collaboratively with RMAs.
Establish and maintain a register of assets and designate assets which have a significant effect on flood risk	An improved understanding of assets and their impact on flood risk. Assets which have a significant effect on flood risk will be protected	Asset maintenance	Update maintenance plan and share up to date asset data with LLFA
Map flood incidents and investigate incidents which are 'locally significant'	Better capture of historic flood incident data will improve decision-making due to better understanding of flooding	Emergency response	Log reported incidents on FORT and support LLFA with investigations.
Strategic objective 2: Put in place plans to manage these risks			
Identify and plan local investment needs in flood risk management in Gloucestershire on an annual basis, in partnership with other RMAs	Investment will be co-ordinated, targeted and planned on an annual basis, which will be used to identify funding requirements annually	Projects/ partnership schemes	Support and input into LLFA plan
Ensure local flood risk management achieves wider benefits for local communities & the environment, works with natural processes, and contributes to achieving environmental objectives (e.g., Water Framework Directive)	Flood risk management measures will consider wider potential benefits to local communities and work with natural processes to achieve multiple benefits, leading to social, economic and environmental benefits. Flood risk management activities will seek to improve the natural and built environment		Work collaboratively to deliver more nature-based solutions
Ensure new capital schemes have appropriate maintenance regimes in place which are adhered to.	Flood risks schemes will be adequately maintained, ensuring the function as designed	Asset maintenance	Update and implement asset maintenance plan.

Breakdown of objectives	Outcome	CBC workstream	Planned activities
Strategic objective 3: Avoid inappropriate development and ensure that new development does not increase flooding elsewhere			
Ensure local planning authorities use the 'Locally Agreed Surface Water Information (including ordinary watercourses) to support spatial planning	Local planning authorities will use the best available information on local flood risk to inform spatial planning	Planning	Ensure latest available flood risk data is used
Work closely with County and District planners (including other organisations where relevant) to avoid inappropriate development in areas of flood risk and ensure development does not increase risk elsewhere	Local planning policy will take account of local flood risk in allocating development. Development will be safe and not increase the risk of flooding elsewhere		Ensure latest available flood risk data is used and input to Strategic and Local Plan.
Ensure the design, construction, operation and maintenance of Sustainable Drainage Systems in new developments and redevelopments meet national standards	New developments will have surface water drainage which meets national standards, ensuring adequate drainage provision is in place		Ensure sustainable drainage systems are incorporated to new developments during the consultation process
Seek earlier consultation with developers to ensure they are cognisant of drainage requirements at an early stage of site master planning	Drainage will be considered at an earlier stage of the development process, helping to ensure a more optimal drainage strategy for development sites		Engage with developers at early stage to promote best practice sustainable drainage systems.
Strategic objective 4: Increase public awareness of flooding and encourage communities to take action			
Work in partnership with communities to build awareness of local flood risks	Communities will be better informed of their vulnerability to flooding	Community engagement	Build flood risk awareness through events, comms, and flood warden scheme. Support and provide input to local resilience forum and community plans
Work with communities to develop an understanding of how they can adapt to change and better protect their properties	Communities will know what action they can take to reduce their vulnerability to flooding		
Work with communities to be actively involved in local flood risk management, e.g., through the role of flood wardens	Communities will play an active role in local flood risk management.		

Breakdown of objectives	Outcome	CBC workstream	Planned activities
Strategic objective 5: Ensure close partnership working and co-ordination with other risk management authorities and the public			
Ensure that all risk management authorities' roles and responsibilities are clarified and that there is ongoing partnership working to realise these roles and responsibilities and to maximise joint working and funding opportunities	Risk management activities will be well co-ordinated, with all partners having clarity about their responsibility, whilst ensuring close working relationships between risk management authorities	All	Continued collaboration with RMAs, build relationships and share information.
Establish and develop mechanisms to facilitate effective sharing of information between risk management authorities	Relevant information will be shared between risk management authorities to assist in local flood risk management, wherever possible		
Improve co-ordination and partnership working with local communities, through parish/town councils and local flood action groups	Local communities will be more involved in flood risk management, making best use of local knowledge and expertise	Community engagement	Build relationships with local communities. Share and enable knowledge and expertise.
Strategic objective 6: Support response to, and recovery from, flooding incidents			
Encourage the formation of local flood action groups and volunteer community flood warden schemes to assist in planning local responses to flooding	Local communities will be better prepared for flooding, which will enable a quicker response should a flooding incident occur	Community engagement	Continue to grow flood warden scheme and support local flood action groups where established.
Encourage local communities to sign up to flood warnings where available	Local communities will have advance warning of likely flooding, which will help them to respond and recover more quickly		Build flood risk awareness through events, comms, and flood warden scheme.
Support communities and individuals in the event of floods and recovery thereafter	Local communities will recover more quickly in the event of a flooding incident	Emergency response	Support communities and local resilience forum in event recovery

Appendix B: River Severn FRMP Cheltenham flood risk area measures

Measure	Responsible authority	Description	CBC status / planned activity
Engage with heritage stakeholders and partners to identify opportunities to increase the flood resilience of heritage assets in Cheltenham	Gloucestershire County Council	By 2024, Gloucestershire County Council and Cheltenham Borough Council and the Environment Agency will engage with heritage stakeholders and partners to identify opportunities to increase the flood resilience of heritage assets in Cheltenham to inform works that stakeholders can carry out themselves and/or any future bids for public funding in the Cheltenham, Severn Flood Risk Area.	Work collaboratively with GCC
Expand the flood warning service to areas at risk which are not currently covered, and encourage sign up in Cheltenham	Environment Agency	Between 2021 and 2027, the Environment Agency will expand the flood warning service to areas at risk which are not currently covered and encourage sign up in Cheltenham to reduce the impact of flooding in the Cheltenham, Severn Flood Risk Area.	Community engagement when EA expand service
Investigate and if viable progress a flood risk management scheme in Charlton Kings	Environment Agency	Between 2021 and 2027, the Environment Agency will investigate and if viable progress a flood risk management scheme in Charlton Kings to reduce flood risk in the Cheltenham, Severn Flood Risk Area.	Work collaboratively with EA
Investigate and, if viable, carry out works at Sandy Lane in Cheltenham	Cheltenham Borough Council	By 2027, Cheltenham Borough Council will investigate and, if viable, carry out works at Sandy Lane in Cheltenham to reduce flood risk in the Cheltenham, Severn Flood Risk Area.	Southfield Brook Flood Alleviation Scheme delivered and operational
Investigate flood risk, and if viable, carry out works in Pilley in Cheltenham	Cheltenham Borough Council	By 2027, Cheltenham Borough Council will investigate flood risk, and if viable, carry out works in Pilley in Cheltenham to reduce flood risk in the Cheltenham, Severn Flood Risk Area.	Feasibility study showed flood alleviation scheme unlikely to be cost-effective. Property level flood resilience and/or alternative interventions (natural flood management in upper catchment and/or urban SUDS retrofit) to be explored.
Investigate the feasibility, and if viable progress implementation, of surface water attenuation on Upper Hearne Brook in Cheltenham	Cheltenham Borough Council	By 2027, Cheltenham Borough Council will investigate the feasibility, and if viable progress implementation, of surface water attenuation on Upper Hearne Brook in Cheltenham to reduce flood risk in the Cheltenham, Severn Flood Risk Area.	Alleviation scheme proposed but no longer considered feasible due to potential adverse impacts. Feasibility of alternative natural flood management measures being investigated.

Measure	Responsible authority	Description	CBC status / planned activity
Maintain schemes delivered as an outcome of the Surface Water Management Plan (including the Priors and Oakley FAS) in Cheltenham	Gloucestershire County Council	By 2027, Gloucestershire County Council will maintain schemes delivered as an outcome of the Surface Water Management Plan (including the Priors and Oakley FAS) in Cheltenham to reduce the risk of flooding in the Cheltenham, Severn Flood Risk Area.	Ongoing maintenance of existing alleviation schemes
Understand the potential impact of climate change and develop adaptive pathways for flood risk management in Cheltenham	Gloucestershire County Council	By 2027, Gloucestershire County Council will understand the potential impact of climate change and develop adaptive pathways for flood risk management in Cheltenham to improve flood resilience in the Cheltenham, Severn Flood Risk Area.	Work collaboratively with GCC
Work closely with communities and partners to identify and deliver preferred option(s) for a capital scheme in Pittville	Gloucestershire County Council	By 2025, Gloucestershire County Council will work closely with communities and partners to identify and deliver preferred option(s) for a capital scheme in Pittville to reduce the risk of flooding in the Cheltenham, Severn Flood Risk Area.	Scheme in progress
Work with key service and infrastructure providers to raise awareness of flood risk to their assets and to encourage them to develop plans in Cheltenham	Gloucestershire County Council	Between 2021 and 2027, Gloucestershire County Council and Cheltenham Borough Council and the Environment Agency will work with key service and infrastructure providers to raise awareness of flood risk to their assets and to encourage them to develop plans in Cheltenham to increase preparedness and manage flood risk in the Cheltenham, Severn Flood Risk Area.	Work collaboratively with GCC
Work with partners to engage with communities, increase preparedness and plan to address flooding issues in Cheltenham, including in the rapid response catchment of Charlton Kings	Gloucestershire County Council	Between 2021 and 2027, Gloucestershire County Council and Cheltenham Borough Council and the Environment Agency will work with partners to engage with communities, increase preparedness and plan to address flooding issues in Cheltenham, including in the rapid response catchment of Charlton Kings, to reduce current and future surface water and fluvial flood risk in the Cheltenham, Severn Flood Risk Area	Continuous improvement to flood plans and community engagement including through the flood warden scheme