

# Gloucestershire County Council

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## Local Flood Risk Management Strategy

Annual Progress and  
Implementation Plan  
2016/17

## Document Status

This annual progress and implementation plan has been produced to consider progress against actions in the adopted Local Flood Risk Management Strategy, and to identify proposed measures to manage flood risk in the county for the forthcoming year.

### Amendment Record:

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1	First Draft	July	PS
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# 1. Introduction

1. Gloucestershire County Council's Local Flood Risk Management Strategy was published in 2014. It identified the extent of flooding in Gloucestershire, established priorities for managing flooding, and identified how GCC will work together with Risk Management Authorities<sup>1</sup>, other stakeholders, and local communities to manage flood risk. It is important to note, that in keeping with our statutory duties, the Strategy focused on flooding from surface runoff, groundwater and ordinary watercourses, whilst considering the linkages with other sources of flooding. However, as part of our leadership role we identified flood risk which is the operational responsibility of other organisations and will continue to work closely in partnership to support reduction in flood risk across the county irrespective of source. The Strategy was made up of several documents, which are outlined in Table 1-1 below.

**Table 1-1 Documents generated as part of Local Strategy**

Name of Document	Purpose of document and summary of contents
Main Document	This is the main strategy document which details the objectives of the Local Strategy and our approach to working in partnership. It also sets out our understanding of flood risk and how we'll prioritise investment in specific locations. It considers broad actions we will take with our partners across the county to manage flood risk. This is supported by a series of Annexes which deal with some of the key issues in detail.
Summary Document	This provides an overview of the Local Strategy, including the background, key roles and responsibilities, and actions to manage flood risk.
Annual progress and implementation plan	Because there will inevitably be legislative, regulatory and financial changes over this period GCC will need to maintain some flexibility over the delivery period of the Local Strategy. To reflect future uncertainty and maintain flexibility, GCC will develop and maintain an 'annual progress and implementation plan'. The annual progress and implementation plan will provide more specific details on: progress against the Local Strategy objectives; changes which impact the delivery of the Local Strategy (e.g. funding opportunities or legislative changes), and; the priorities for investment for the forthcoming year.
Strategic Environmental Assessment (SEA) Environmental Report	The SEA is a process for considering the potential environmental impacts of addressing flood risk.

<sup>1</sup> Risk Management Authorities are defined in the Flood and Water Management Act as the LLFA, district/borough councils, the Environment Agency, water and sewerage companies, the highways authority and Internal Drainage Boards. Their roles are discussed in Section 2 of the Local Strategy

2. The Main Document and Summary document provided an overview of the objectives for managing flood risk, set out the key roles and responsibilities, identified the extent of flood risk, and identified actions we will take in partnership with others to reduce flood risk. The actions we proposed were divided into those we will take across Gloucestershire and those we will take in specific locations prioritised by the level of flood risk and cost benefits.

3. As part of the Strategy we outlined the need for an 'annual progress and implementation plan' which would set out:

- a summary of progress since the previous annual progress and implementation plan was published;
- an up to date prioritisation list based on most vulnerable locations<sup>2</sup> for the forthcoming year, and;
- An up to date list of the actions carried out in each parish.

4. This document is the annual progress and implementation plan. It sets out action we intend to take subject to available resource and funding. It considers those actions we proposed to take across Gloucestershire and those we will take in specific locations prioritised by the level of flood risk.

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<sup>2</sup> This could be based on new information being available due to better modelling and mapping, or a flood incident within a parish or ward.

## 2. Actions we propose to take across Gloucestershire

5. The Main Document of the Strategy identified actions we will take across Gloucestershire to manage and reduce flood risk, and ensure we have appropriate processes and procedures in place. Table 2-1 summarises the agreed actions, the progress to date, and the proposed activities for the forthcoming year to meet these actions. Since the publication of the Main Document, these actions have been altered to take in to account legislative and policy changes by Government, and progress made by the LLFA.

**Table 2-1 Progress against proposed action across Gloucestershire**

Measures	Responsibility	How will we measure success	Timescale for action (from LFRMS)	Progress (Summer 2016)	Planned activities 2017/2018
Undertake further studies to improve our understanding of local flood risk, and in response to flooding incidents	GCC in partnership with Risk Management Authorities (RMAs)	Completion of studies which identify potential mitigation measures to alleviate flooding. Further hydraulic modelling to understand future risks due to climate change	Ongoing with annual progress updates to assess whether objective is being delivered.	<ul style="list-style-type: none"> <li>A study has been completed investigating the causes of flood risk and any possible alleviation schemes for 19 parishes across the county. These parishes were chosen because they were “high” or “medium-high” in the parish prioritisation work but had no alleviation work completed.</li> <li>This study has led to our Prioritised Flood Alleviation Scheme (PFAS) list which will help decide which schemes will be funded in the future. See section <b>Error! Reference source not found..</b></li> </ul>	<ul style="list-style-type: none"> <li>Schemes identified from the PFAS list will require investigations into their feasibility. This includes data collection, modelling and parish consultation and will be continuing throughout the year.</li> </ul>
Undertake S.19 Investigations (of flooding incidents) where criteria are met. The purpose of these investigations is to establish the relevant RMA and whether they have responded appropriately. The criteria for a S.19 investigation is 5 or more properties flooded, 2 or more businesses flooded, 1 critical service flooded, whether there are safety concerns or a transport link is impassable for a significant period.	GCC in partnership with RMAs	Completion and publication of S.19 Investigations	Ongoing	<ul style="list-style-type: none"> <li>To date, GCC have carried out no S.19 investigations.</li> </ul>	<ul style="list-style-type: none"> <li>Undertake S.19 Investigations when appropriate within 3 months of flooding which meet the criteria.</li> </ul>
Deliver consenting and enforcement role in relation to the Land Drainage Act 1991 and the Flood and Water Management Act 2010. This responsibility has been delegated to the district and borough councils except for Gloucester City which GCC still hold.	GCC in partnership with RMAs	Consent applications will be subject to rigorous scrutiny prior to approval / rejection Enforcement action will be undertaken when necessary and must comply with protocol	Ongoing	<ul style="list-style-type: none"> <li>No changes made to the consenting and enforcement procedure since the previous Annual Progress and Implementation Plan.</li> <li>GCC in continuous discussion with the district councils regarding the procedure and any issues that arise.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to work with the district councils to monitor consenting and enforcement activities.</li> </ul>
Develop consistent approach for designating structures	GCC in partnership with RMAs	Agreed protocol between designating authorities	March 2017	<ul style="list-style-type: none"> <li>To date, GCC have not designated any structures so no clear procedure has been developed.</li> </ul>	<ul style="list-style-type: none"> <li>Draft designation procedure.</li> </ul>
Collate flood data from parish councils and other RMAs	GCC in partnership with RMAs	Establishment of process to collate additional data. Collection of additional flood data	Ongoing	<ul style="list-style-type: none"> <li>The district councils are in agreement to update the Flood Data Register when a report of a flood is made and when an asset is identified.</li> <li>SWIM is still being developed and is not yet available for Gloucestershire.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to pursue SWIM</li> </ul>
Seek to increase funding from external sources	GCC in partnership with RMAs	Seek to increase in external contributions towards funding applications over the next 5 years	Ongoing	<ul style="list-style-type: none"> <li>We continue to work with the Environment Agency and other organisations to encourage partnership working and funding.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to appeal for external sources of funding for all schemes, projects, investigations and studies.</li> </ul>

Measures	Responsibility	How will we measure success	Timescale for action (from LFRMS)	Progress (Summer 2016)	Planned activities 2017/2018
				<ul style="list-style-type: none"> <li>Successful applications for contributions from the Regional Flood and Coastal Committee Local Levy include the Priors/Oakley scheme.</li> </ul>	
Populate S.21 Asset Register	GCC in partnership with RMAs	S.21 Asset Register populated and available for public inspection	Ongoing	<ul style="list-style-type: none"> <li>There are currently 177 registered assets in Gloucestershire.</li> <li>The asset register (in spreadsheet format) is available for public inspection upon request.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to work with Risk Management Authorities to add further records to the asset register where appropriate.</li> </ul>
Develop risk-based approach for maintaining assets	GCC in partnership with RMAs	Asset management programme in place with sufficient funding for delivery	<p>Programme to be agreed by Local Cabinet Members (LCM) in November 2015</p> <p>Subject to the success of the approval, projected implemented of schemes is financial year 16/17 and onwards.</p>	<ul style="list-style-type: none"> <li>Schedule 3 has not been implemented so LLFA does not own any assets that need maintaining.</li> </ul>	<ul style="list-style-type: none"> <li>This item will be removed from the next Annual Progress and Implementation Plan until Schedule 3 is enacted or it is necessary to begin maintaining assets.</li> </ul>
Undertake ditch mapping and clearance with parish councils	GCC in partnership with district and parish councils	<p>Targeted parishes and wards have more comprehensive mapping of location and condition of drainage ditches, including pinch points.</p> <p>More drainage ditches across the county being cleared by riparian owners</p>	Ongoing	<ul style="list-style-type: none"> <li>Investigating the possibility of partnership working with Gloucestershire Rural Community Council (GRCC).</li> </ul>	<ul style="list-style-type: none"> <li>Identify and work with parishes in Stroud and Forest of Dean Districts to establish their interest in the project.</li> </ul>
Undertake pilot to assess green infrastructure	GCC in partnership with district councils and water companies	Successful implementation of a pilot study	Pilot study to be established during 2014/15	<ul style="list-style-type: none"> <li>This pilot has been successfully completed and resulted in Retrofit SuDS in the form of rain gardens in Oakley, Cheltenham.</li> </ul>	
Statutory consultee to all Local Planning Authorities for major developments	GCC	Provide statutory consultee comments on surface water management and surface water flood risk for all major planning applications in Gloucestershire to the relevant Local Planning Authority (LPA)	Ongoing	<ul style="list-style-type: none"> <li>A Gloucestershire SuDS Design and Maintenance Guide has been produced and is available at: <a href="http://www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=63334&amp;p=0">http://www.gloucestershire.gov.uk/extra/CHttpHandler.ashx?id=63334&amp;p=0</a></li> </ul>	<ul style="list-style-type: none"> <li>Continue with statutory consultee role.</li> <li>Continue to provide pre-application advice within resources available.</li> </ul>
Raise awareness of flood risk management	GCC in partnership with district councils	Increase in amount of media activity related to flood risk management	Ongoing	<ul style="list-style-type: none"> <li>Updated the "Waterside living" leaflet and copies distributed to all parishes and wards in Gloucestershire.</li> </ul>	<ul style="list-style-type: none"> <li>Develop a communication strategy by Autumn 2016 which will begin an annual press release in Autumn to remind people of their duties as riparian owners and of the risk of flooding.</li> </ul>
Meet regularly with Risk Management Authorities and ensure good lines of communication between organisations	GCC in partnership with RMAs	By the frequency and attendance of the meetings	Ongoing	<ul style="list-style-type: none"> <li>These meetings have been carrying on throughout the year and have been a useful way to update the RMAs on the work that is ongoing.</li> </ul>	<ul style="list-style-type: none"> <li>Hold 4 monthly LLFA liaison meeting with all district councils and relevant parties present.</li> <li>Hold 6 to 8 week meeting with all district and borough council drainage engineers.</li> </ul>
Work with Civil Protection Team to raise awareness of flooding and ensure joined up approach	GCC	Evidence of local communities becoming more prepared for flooding (e.g. preparation of community flood plans). Civil Protection Team have access to latest mapping to inform planning	Ongoing	<ul style="list-style-type: none"> <li>The Flood Risk Management Team have been represented at two CPT meetings this year.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to work alongside CPT and attend any of their promotional events throughout the year.</li> </ul>
Develop a robust scoring matrix for prioritising a rolling programme of works	GCC	Schemes are developed and funded based on most at risk and cost effectiveness	Ongoing	<ul style="list-style-type: none"> <li>Scoring matrix refined based on new information that has a higher level of detail. This is named Prioritised Flood Alleviation Schemes (PFAS) list.</li> <li>The PFAS list is directly linked to the Priority Parish list allowing them to influence each other.</li> </ul>	<ul style="list-style-type: none"> <li>Use this list to help decided which future schemes get funding.</li> </ul>
Keep parish prioritisation up to date	GCC	Ranked parishes based on flood risk that reflects known flood issues and most recent flood maps	Ongoing	<ul style="list-style-type: none"> <li>Modelled flood risk scoring matrix has been refined to include differences in residential and non-residential properties.</li> <li>It has also been updated to better represent the</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the historic flood data is updated alongside the Flood Data Register.</li> <li>Investigate the potential to separate the critical infrastructure from non-residential properties and</li> </ul>

Measures	Responsibility	How will we measure success	Timescale for action (from LFRMS)	Progress (Summer 2016)	Planned activities 2017/2018
				levels of risk (See Appendix, Section 4.2)	incorporate into scoring matrix. <ul style="list-style-type: none"> <li>Keep the actions updated to reflect the work that has been completed in each parish.</li> </ul>



## 3. Location-specific actions

### 3.1. Parish prioritisation

6. The methodology for the parish prioritisation is defined by the Strategy and has been refined since the previous Annual Progress and Implementation Plan was published. It now differentiates between residential and non-residential properties at risk allowing the LLFA to prioritise residential properties over non-residential. While the LLFA recognises that protecting non-residential properties (i.e. retail and warehouses) is an important aspect of Flood Risk Management, the focus is placed on protecting people's homes.
7. Another modification to the prioritisation method is the scoring system which has been refined to better reflect the different levels of risk (this is further explained in Section 4.2).
8. The current prioritisation can be found in Table 3-1.

**Table 3-1 2016/2017 Prioritised Parishes and Wards**

Parish or Ward	District	FDR number of properties internally flooded	FDR number of properties affected	uFMfSW number of high risk (in 30 year) properties	Initial Calculated Risk	Revised calculated risk	Actions
Abbeydale Ward	Gloucester	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-High	Scheme in progress
Adlestrop CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Alderley CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Low	-
Alderton CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Aldsworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Alkington CP	Stroud	Less than 5	5 - 25	50 - 75	Medium-Low	Medium-Low	-
All Saints Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Alvington CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Ampney Crucis CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Ampney St. Mary CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Ampney St. Peter CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Andoversford CP	Cotswold	Less than 5	5 - 25	50 - 75	Medium-Low	Medium-Low	-
Arlingham CP	Stroud	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-High	-
Ashchurch Rural CP	Tewkesbury	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	Study complete
Ashleworth CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Ashley CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Aston Subedge CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Avening CP	Cotswold	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-Low	-
Awre CP	Forest	Less than 5	5 - 25	75 - 100	Medium-High	High	Study complete
Aylburton CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Badgeworth CP	Tewkesbury	Less than 5	Less than 5	Greater than 100	Medium-Low	Medium-High	SWMP complete
Bagendon CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Barnsley CP	Cotswold	Less than 5	5 - 25	Less than 5	Low	Low	-
Barnwood Ward	Gloucester	Less than 5	Less than 5	5 - 25	Medium-High	High	Scheme in progress
Barrington CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Barton and Tredworth Ward	Gloucester	Less than 5	Less than 5	Greater than 100	High	High	SWMP complete
Batsford CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Battledown Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Baunton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Benhall and the Reddings Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Low	Low	-
Berkeley CP	Stroud	Less than 5	Less than 5	5 - 25	Medium-Low	Medium-Low	-
Beverston CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Bibury CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Bishop's Cleeve CP	Tewkesbury	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	Scheme in progress
Bisley-with-Lypiatt CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Blaisdon CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Bledington CP	Cotswold	Less than 5	5 - 25	75 - 100	Medium-Low	-	Scheme complete
Blockley CP	Cotswold	Less than 5	Less than 5	Greater than 100	Medium-High	-	Scheme complete
Boddington CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Bourton-on-the-Hill CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Bourton-on-the-Water CP	Cotswold	Less than 5	Less than 5	Greater than 100	High	-	Scheme complete
Boxwell with Leighterton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Brimpsfield CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Brimcombe and Thrupp CP	Stroud	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	-
Broadwell CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Brockworth CP	Tewkesbury	Less than 5	Less than 5	Greater than 100	Medium-Low	Medium-High	SWMP complete
Bromesberrow CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Brookthorpe-with-Whaddon CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Low	SWMP complete
Buckland CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Cainscross CP	Stroud	Less than 5	5 - 25	Greater than 100	High	-	Scheme complete
Cam CP	Stroud	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	Study complete
Chaceley CP	Tewkesbury	Less than 5	5 - 25	5 - 25	Low	Low	Scheme in progress
Chalford CP	Stroud	5 - 25	Less than 5	Greater than 100	Medium-High	High	-
Charlton Kings Ward	Cheltenham	Less than 5	Less than 5	50 - 75	Medium-High	Medium-High	Scheme in progress
Charlton Park Ward	Cheltenham	Less than 5	Less than 5	5 - 25	Medium-High	Medium-High	-
Chedworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Cherington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-

\*The “Calculated Risk” remains the same for parishes or wards where a flood alleviation scheme has not been completed. A “Revised Calculated Risk” takes in to account where scheme have been completed to address known flood risk issues, this is signified by a “-”. The remainder of the parishes and wards are reprioritised accordingly.

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Chipping Campden CP	Cotswold	Less than 5	Less than 5	Greater than 100	High	-	Scheme complete
Churcham CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Churchdown CP	Tewkesbury	Less than 5	Less than 5	Greater than 100	Medium-High	High	Scheme in progress
Cinderford CP	Forest	Less than 5	5 - 25	Greater than 100	High	-	Scheme complete
Cirencester CP	Cotswold	5 - 25	5 - 25	Greater than 100	High	High	Study in progress
Clapton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Coaley CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Coates CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Coberley CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Cold Aston CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Coleford CP	Forest	Less than 5	Less than 5	Greater than 100	High	-	Scheme complete
Colesbourne CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
College Ward	Cheltenham	Less than 5	Less than 5	50 - 75	High	-	Scheme complete
Coln St. Aldwyns CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Coln St. Dennis CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Compton Abdale CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Condicote CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Corse CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Cowley CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Cranham CP	Stroud	Less than 5	Less than 5	Less than 5	Low	Low	-
Cutsdean CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Daglingworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Deerhurst CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Medium-Low	-	Scheme complete
Didmarton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Donnington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Dowdeswell CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Down Ampney CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Down Hatherley CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	SWMP complete
Driffield CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Drybrook CP	Forest	Less than 5	Less than 5	Greater than 100	Medium-Low	Medium-Low	-
Dumbleton CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Duntisbourne Abbots CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Duntisbourne Rouse CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Dursley CP	Stroud	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	-
Dymock CP	Forest	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Eastington CP	Stroud	Less than 5	5 - 25	50 - 75	Medium-Low	Medium-Low	-
Eastleach CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Ebrington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Edgeworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Elkstone CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Elmbridge Ward	Gloucester	Less than 5	Less than 5	5 - 25	Medium-High	-	Scheme complete
Elmore CP	Stroud	Less than 5	Less than 5	Less than 5	Low	Medium-Low	-
Elmstone Hardwicke CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
English Bicknor CP	Forest	Less than 5	Less than 5	Less than 5	Low	Low	-
Evenlode CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Fairford CP	Cotswold	Less than 5	Less than 5	50 - 75	Medium-High	-	Scheme complete
Farmington CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Forthampton CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Frampton on Severn CP	Stroud	5 - 25	5 - 25	5 - 25	Medium-High	-	Scheme complete
Fretherne with Saul CP	Stroud	Less than 5	Less than 5	5 - 25	Medium-High	Medium-High	-
Frocester CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Gorsley and Kilcot CP	Forest	Less than 5	Less than 5	Less than 5	Low	Low	-
Gotherington CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Grange Ward	Gloucester	Less than 5	75 - 100	5 - 25	Medium-High	Medium-High	SWMP complete
Great Rissington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Great Witcombe CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	SWMP complete
Gretton CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Guiting Power CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Ham and Stone CP	Stroud	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-Low	-
Hamfallow CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Hampnett CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Hardwicke CP	Stroud	Less than 5	5 - 25	50 - 75	Medium-Low	Medium-Low	SWMP complete
Harescombe CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Haresfield CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Low	-

\*The “Calculated Risk” remains the same for parishes or wards where a flood alleviation scheme has not been completed. A “Revised Calculated Risk” takes in to account where scheme have been completed to address known flood risk issues, this is signified by a “-“. The remainder of the parishes and wards are reprioritised accordingly.

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Hartpury CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Hasfield CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Hatherop CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Hawling CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Hazleton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Hesters Way Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Hewelsfield and Brockweir CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	Scheme in progress
Highnam CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Hillesley and Tresham CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Low	-
Hinton CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Horsley CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Hucclecote CP	Tewkesbury	Less than 5	Less than 5	Less than 5	Low	Low	-
Hucclecote Ward	Gloucester	Less than 5	Less than 5	5 - 25	Medium-High	Medium-High	Scheme in progress
Huntley CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Icomb CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Innsworth CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	SWMP complete
Kemble CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Kempley CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Kempsford CP	Cotswold	Less than 5	Less than 5	50 - 75	Low	Medium-Low	Scheme in progress
King's Stanley CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Kingscote CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Kingsholm and Wotton Ward	Gloucester	Less than 5	Less than 5	5 - 25	High	-	Scheme complete
Kingswood CP	Stroud	Less than 5	5 - 25	75 - 100	Medium-Low	Medium-High	-
Lansdown Ward	Cheltenham	Less than 5	Less than 5	5 - 25	Medium-High	High	SWMP complete
Lechlade CP	Cotswold	Less than 5	Less than 5	5 - 25	Medium-High	High	-
Leckhampton Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Leigh CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	-	Scheme complete
Leonard Stanley CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Little Rissington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Littledean CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Long Newnton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Longborough CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Longford CP	Tewkesbury	5 - 25	5 - 25	Less than 5	Medium-High	Medium-High	SWMP complete
Longhope CP	Forest	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	-
Longlevens Ward	Gloucester	Less than 5	Less than 5	Less than 5	Medium-High	High	SWMP complete
Longney and Epney CP	Stroud	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Lower Slaughter CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	-	Scheme complete
Lydbrook CP	Forest	5 - 25	5 - 25	Greater than 100	High	High	Scheme in progress
Lydney CP	Forest	Less than 5	5 - 25	Greater than 100	High	High	Scheme in progress
Maisemore CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Maiseyhampton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Matson and Robinswood Ward	Gloucester	Less than 5	5 - 25	5 - 25	Medium-High	High	-
Maugersbury CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Mickleton CP	Cotswold	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	-
Minchinhampton CP	Stroud	Less than 5	Less than 5	Greater than 100	Medium-High	High	-
Minsterworth CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Medium-Low	Medium-Low	-
Miserden CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Mitcheldean CP	Forest	Less than 5	Less than 5	Greater than 100	Low	Medium-Low	Study complete
Moreland Ward	Gloucester	Less than 5	5 - 25	5 - 25	High	High	Study complete
Moreton Valence CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Moreton-in-Marsh CP	Cotswold	Less than 5	5 - 25	Greater than 100	High	High	Scheme in progress
Nailsworth CP	Stroud	Less than 5	Less than 5	Greater than 100	High	High	Scheme in progress
Naunton CP	Cotswold	Less than 5	Less than 5	50 - 75	Low	Low	Scheme in progress
Newent CP	Forest	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	Scheme in progress
Newland CP	Forest	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-High	Study complete
Newnham CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
North Cerney CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
North Nibley CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Northleach with Eastington CP	Cotswold	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-High	-
Northway CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-Low	SWMP complete
Norton CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	SWMP complete
Notgrove CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Nymphsfield CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Oakley Ward	Cheltenham	Less than 5	Greater than 100	Less than 5	Medium-High	-	Scheme complete

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Oddington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Owlpen CP	Stroud	Less than 5	Less than 5	Less than 5	Low	Low	-
Oxenhall CP	Forest	Less than 5	Less than 5	Less than 5	Low	Low	-
Oxenton CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Ozleworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Painswick CP	Stroud	Less than 5	5 - 25	50 - 75	Medium-Low	Medium-Low	Scheme in progress
Park Ward	Cheltenham	Less than 5	Less than 5	5 - 25	Medium-Low	Medium-High	-
Pauntley CP	Forest	Less than 5	Less than 5	Less than 5	Low	Low	-
Pitchcombe CP	Stroud	Less than 5	Less than 5	Less than 5	Low	Low	-
Pittville Ward	Cheltenham	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-High	Study complete
Podsmead Ward	Gloucester	Less than 5	Less than 5	5 - 25	Medium-Low	Medium-Low	Scheme in progress
Poole Keynes CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Poultton CP	Cotswold	5 - 25	Less than 5	5 - 25	Low	Low	-
Prescott CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Prestbury Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	-
Preston CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Quedgeley Fieldcourt Ward	Gloucester	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	SWMP complete
Quedgeley Severn Vale Ward	Gloucester	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-Low	Scheme in progress
Quenington CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Randwick CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Redmarley D'abitol CP	Forest	Less than 5	Less than 5	50 - 75	Low	Medium-Low	-
Rendcomb CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Rodborough CP	Stroud	Less than 5	Less than 5	50 - 75	Medium-High	Medium-High	-
Rodmarton CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Ruardean CP	Forest	Less than 5	Less than 5	Less than 5	Low	Low	-
Rudford and Highleadon CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Ruspidge and Soudley CP	Forest	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-High	-
Saintbury CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Sandhurst CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-Low	SWMP complete
Sapperton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Sevenhampton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Sezincote CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Sherborne CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Shipton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Shipton Moyne CP	Cotswold	Less than 5	Less than 5	50 - 75	Low	Low	-
Shurdington CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	SWMP complete
Siddington CP	Cotswold	Less than 5	Less than 5	5 - 25	Medium-Low	Medium-High	-
Slimbridge CP	Stroud	Less than 5	5 - 25	5 - 25	Medium-Low	Medium-High	Study complete
Snowhill CP	Tewkesbury	Less than 5	Less than 5	Less than 5	Low	Low	-
Somerford Keynes CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
South Cerney CP	Cotswold	Less than 5	Less than 5	5 - 25	Medium-High	-	Scheme complete
Southam CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	Scheme in progress
Southrop CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Springbank Ward	Cheltenham	Less than 5	Less than 5	Less than 5	High	High	-
St. Briavels CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
St. Mark's Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Low	Medium-Low	-
St. Paul's Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Low	Low	-
St. Peter's Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	Medium-High	-
Standish CP	Stroud	Less than 5	Less than 5	50 - 75	Low	Low	-
Stanton CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Stanway CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Medium-Low	Medium-Low	Study complete
Staunton Coleford CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Staunton CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Staverton CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Stinchcombe CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Stoke Orchard CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	SWMP complete
Stonehouse CP	Stroud	Less than 5	Less than 5	75 - 100	Medium-High	Medium-High	-
Stow-on-the-Wold CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Stroud CP	Stroud	Less than 5	Less than 5	Greater than 100	High	High	Study complete
Sudeley CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Swell CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Swindon Village Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Medium-Low	-	Scheme complete
Syde CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Taynton CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-

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Teddington CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	-
Temple Guiting CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Tetbury CP	Cotswold	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-High	Study complete
Tetbury Upton CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Tewkesbury CP	Tewkesbury	5 - 25	5 - 25	50 - 75	High	-	Scheme complete
Tibberton CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Tidenham CP	Forest	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	Study complete
Tirley CP	Tewkesbury	5 - 25	5 - 25	50 - 75	Medium-Low	-	Scheme complete
Toddington CP	Tewkesbury	Less than 5	Less than 5	50 - 75	Low	Low	-
Todenham CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Tuffley Ward	Gloucester	Less than 5	5 - 25	5 - 25	Medium-Low	Medium-Low	Scheme in progress
Turkdean CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Twigworth CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Low	SWMP complete
Twyning CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Uckington CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	-
Uley CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Up Hatherley Ward	Cheltenham	Less than 5	Less than 5	Less than 5	Low	Low	-
Upleadon CP	Forest	Less than 5	Less than 5	50 - 75	Low	Low	-
Upper Rissington CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Upper Slaughter CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Upton St. Leonards CP	Stroud	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	-
Warden Hill Ward	Cheltenham	Less than 5	Greater than 100	Less than 5	Medium-Low	Medium-High	-
West Dean CP	Forest	Less than 5	Less than 5	Greater than 100	Medium-High	Medium-High	Study complete
Westbury-on-Severn CP	Forest	Less than 5	Less than 5	Greater than 100	High	High	Scheme in progress
Westcote CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Westgate Ward	Gloucester	Less than 5	Less than 5	5 - 25	High	-	Scheme complete
Weston Subedge CP	Cotswold	Less than 5	Less than 5	75 - 100	Medium-Low	-	Scheme complete
Weston Subedge CP (DET)	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Westonbirt with Lasborough CP	Cotswold	Less than 5	Less than 5	50 - 75	Low	Low	-
Wheatpieces CP	Tewkesbury	Less than 5	Less than 5	5 - 25	Low	Medium-Low	SWMP complete
Whiteshill and Ruscombe CP	Stroud	Less than 5	Less than 5	Less than 5	Low	Low	-
Whitminster CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Whittington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Wick Rissington CP	Cotswold	Less than 5	Less than 5	5 - 25	Low	Low	-
Willersey CP	Cotswold	Less than 5	Less than 5	50 - 75	Low	Low	0
Winchcombe CP	Tewkesbury	Less than 5	Less than 5	Greater than 100	Medium-High	-	Scheme complete
Windrush CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Winson CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	-	Scheme complete
Winstone CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Withington CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-
Woodchester CP	Stroud	Less than 5	Less than 5	5 - 25	Low	Low	-
Woodmancote CP	Tewkesbury	Less than 5	Less than 5	75 - 100	Medium-Low	Medium-Low	Scheme in progress
Woolaston CP	Forest	Less than 5	Less than 5	5 - 25	Low	Low	-
Wotton-under-Edge CP	Stroud	Less than 5	Less than 5	Greater than 100	High	High	Study complete
Yanworth CP	Cotswold	Less than 5	Less than 5	Less than 5	Low	Low	-

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### 3.2. Gloucestershire County Council Lead Schemes

9. There are a number of schemes that emerged from the Surface Water Management Plans in 2014 that GCC will be taking lead on. These are Priors/Oakley, Churchdown, Brockworth, Bishops Cleeve and Woodmancote.
10. The Priors/Oakley scheme proposes two flood storage areas (FSA) to the east of Cheltenham, which will capture excess surface water run off from the escarpment. The northern FSA will be located on Noverton Farm and have a maximum capacity of 14,000m<sup>3</sup>, while the southern FSA will be located on Priors Farm with a maximum capacity of 9,300m<sup>3</sup>. The scheme will cost around £1.6M and should benefit 179 properties with a further 35 properties to be investigated for Property Level Protection. The scheme has provisional Defra Grant in Aid (GiA) as well as Regional Flood and Coastal Committee (RFCC) Local Levy to help with funding. The design of the scheme has been completed And is awaiting planning permission and procurement of the works contract.
11. The scheme in Churchdown consists of a 500m long channel in the land to the south of Anne Hathaway Drive that will divert surface water flows into a culvert that runs alongside the M5 and under Brookfield Road. This scheme is estimated to cost around £124k and benefit up to 28 properties. The Brockworth scheme aims to store up to 8,000m<sup>3</sup> of excess surface water run off behind an embankment south of the Cirencester Road/A46 roundabout. It should benefit up to 30 properties and cost around £196k. Both schemes include GiA funding and Partnership funding through RFCC Local Levy. Landowner negotiations are still ongoing.
12. Finally, the Bishops Cleeve & Woodmancote scheme consists of a number of smaller scale works around Woodmancote. It includes creating/expanding storage areas to hold a total of 8,800m<sup>3</sup> of water and improving a number of highways and culverts to improve the conveyance of surface water. The scheme could cost around £1M, with contributions from GiA and RFCC Local Levy. A more detailed design of this scheme will need to be completed before any further progression can be made.
13. More details for all the above schemes can be found in the Surface Water Management Plans on the Gloucestershire County Council website: <http://www.gloucestershire.gov.uk/extra/swmp>.

### 3.3. Flood Alleviation Schemes with Gloucestershire County Council Contributions

14. GCC is also involved in partnership funding for schemes being managed by other RMAs. One particular project invested in is the Stroud Rural SuDS project, lead by Stroud District Council. The project aims to use Natural Land Management techniques to reduce flood risk while enhancing water quality and biodiversity in the River Froome Catchment. Such techniques include promoting water attenuation, infiltration and slowing channel flow using woody debris dams. These methods, when carried out catchment wide, should reduce the peak height of a flood as well as increasing the time taken to reach its peak. To date, up to twelve sites across the catchment have had work completed and there are plans to spread the project to other areas of Stroud District and the county in the future. For more information on the Stroud Rural SuDS project please visit the website: <https://www.stroud.gov.uk/rsuds>.
15. A list of some of the completed schemes GCC has contributed to in the past three years can be found in Table 3-2 while Table 3-3 has a list of schemes GCC has contributed to that are currently ongoing.

**Table 3-2 Completed flood alleviation schemes with Gloucestershire County Council contributions**

Area	Location	Scheme Details	Date completed
<b>Cotswold District</b>			
Bledington CP	Bledington	Bund and flow control	2014
Blockley CP	Blockley	De-silting, highway improvements	2014
Chipping Campden CP	Westington Mill	Flood bund	2014
Fairford CP	Fairford - Contribution	Fairford Flood Alleviation Scheme	2014
Moreland Ward	Northleach	Culvert repairs and balancing pond	2014
South Cerney CP	Robert Franklin Way	Overspill for River Churn bottleneck at abandoned railway bridge	2015
Weston Subedge CP	Weston Sub Edge	Culvert works	2014
Winson CP	Winson Mill	Second level culvert under highway	2015
Lower Slaughter CP	Lower Slaughter	Broad weir and culvert	2014
<b>Stroud District</b>			
Cainscross CP	Devereaux Crescent	Culvert clearance work	2016
Frampton on Severn CP	Frampton on Severn	Lower level of boating lake	2014
Painswick CP	Dillay Brook, Slad Brook and Sheepscombe Brook	Rural SuDS attenuation on Dillay Brook, Slad Brook and Sheepscombe Brook	2015
Haresfields CP	Haresfields	Ditch	2015
<b>Forest of Dean District</b>			
Cinderford CP	Steam Mills	Overflow weir	2014
Coleford CP	Berry Hill, Kells Meend	Enhancement works of Surface Water drainage at Berry Hill	2014
<b>Tewkesbury Borough</b>			
Bishop's Cleeve CP	Bramble Chase	Bank reinstatement	2013
Elmbridge Ward	Horsbere Brook	Channel reinstatement	2013
Hucclecote Ward	Horsbere Brook	Channel reinstatement	2013
Leigh CP	Leigh	Flood bund	2014
Tewkesbury CP	Prior's Park	Flood alleviation bund	2014
Tewkesbury CP	The Vineyards	Weir improvements	2014
Tirley CP	Tirley & Chaceley Parish	Re-opening outfall, watercourse and culvert alterations, and upstream attenuation.	2016
Winchcombe CP	Isbourne Catchment	Highway drainage scheme - Substantial work from 2007 event	
<b>Gloucester City</b>			
Kingsholm and Wotton Ward	Armscroft Park	Park wetland storage	2014
Moreland Ward	162/164 Bristol Road	Flood gates	2014
Quedgeley Severn Vale Ward	145 Bristol Rd	Clearance and repair of damaged drain.	2013
Westgate Ward	Blackditch, Milton Avenue	De-silting channel	2013
Westgate Ward	Rea Lane	High level outfall into the River Severn	2015
<b>Cheltenham Borough</b>			
Charlton Kings Ward	Property Level Protection	Property Level Protection	2013
Oakley Ward	Cromwell Road	Property Level Protection (Whaddon phase 2)	2013
Oakley Ward	Priors Farm Estate, Oakley	Priors Park Estate - SuDS retrofitting - 2 detention basins and 6 - 8 rain gardens.	2015



**Table 3-3 Current flood alleviation schemes with Gloucestershire County Council contributions**

Area	Location	Scheme Details
<b>Gloucester City</b>		
Abbeydale Ward	River Twyver	Renaturalise channel. Removing concrete channel and replacing with a two stage channel with wetland plants.
Barnwood Ward	Barnwood Park	Barnwood Park balancing pond improvement
Barnwood Ward	Cheyney Close / The Lampreys	Property Level Protection for up to 15/20 properties.
Hucclecote Ward	Porchester Road	Property Level Protection
Hucclecote Ward	Hucclecote Ward	Appleton Way Lagoon + Green Lane, Brookfield Road & Millbridge/Porchester Road culvert alterations
Kingsholm and Wotton Ward	Deans Walk	Bunding of the public open space to the rear of properties
Podsmead Ward	Podsmead Ward	Recreational park wetlands
Quedgeley Severn Vale Ward	Highclere Road, Quedgeley Severn Vale - Dimore Tributary	Highclere Road – Property Level Protection and flood alert/warning system
Tuffley Ward	St Peter's School	Retrofit SuDS
Tuffley ward	Stroud Road, Grange Road, Bybrook Road, Harwell Close	Earth bund extension and trash screen replacement. Access for clearing debris and maintenance at Stroud Road culvert. Divert surface water at the Bybrook Road and Grange Road to brook (also Grange Ward)
<b>Cotswold District</b>		
Kempsford CP	Whelford	Bypass channel, and small bund
Moreton-in-Marsh CP	Moreton	Flood relief ditch and culvert, and non-return valves
Naunton CP	Naunton	Property Level Protection
<b>Stroud District</b>		
Nailsworth CP	Brewery Lane	Removal of upstream culvert parapet wall and replacing with fence
Painswick CP	Lovedays Mill	Construction of bund to form attenuation pond
<b>Forest of Dean District</b>		
Hewelsfield and Brockweir CP	Brockweir	Re-instatement of flood bund
Lydbrook CP	Upper Lydbrook	Woodland SuDS
Lydney CP	Lakeside Avenue	Upstream attenuation/flow reduction via rural SuDS, redesign of trashscreen, reconnect downstream culvert pathway.
Lydney CP	The Willows	Upstream attenuation/flow reduction via rural SuDS, re-design of trash screen, reconnect downstream culvert pathway
Newent CP	Newent	Upstream attenuation/flow reduction via rural SuDS, redesign culvert
Westbury-on-Severn CP	Elton	Flood alleviation scheme identified details to be finalised.
<b>Tewkesbury Borough</b>		
Bishop's Cleeve CP	Multiple Locations	Surface Water Management Plans (SWMP) recommendations
Chaceley CP	Chaceley	Diversion of drainage channel & reopening outfalls
Churchdown CP	Anne Hathaway Drive	Surface Water Management Plans (SWMP) recommendations
Southam CP	Multiple Locations	Surface Water Management Plans (SWMP) recommendations
Woodmancote CP	Multiple Locations	Surface Water Management Plans (SWMP) recommendations
<b>Cheltenham Borough</b>		
Charlton Kings Ward	Southfield's	Flood bund and storage area

### 3.4. Potential Future Schemes

16. A list of prioritised flood alleviation schemes (PFAS) has been created to aid the decision making for future investment (**Error! Not a valid bookmark self-reference.**). The schemes are primarily based on a study into the flood risk of 19 “high” and “medium-high” parishes from our prioritised parish work. The parishes were chosen because no previous work was carried out to investigate what is causing the risk and what could be done to alleviate it. The study produced outlines of potential schemes in these parishes.

17. The prioritisation is based primarily on the following factors; number of properties benefitting from the scheme, types of properties (e.g. residential or non-residential), level of risk of the properties, and the cost of the scheme per property. The schemes ranked highest will be those benefitting a large number of properties at high risk and have a low cost per property.

18. The list will be used to help identify which scheme will be funded. However, there are still constraints when deciding which scheme is taken forward, the major one being the cost of the scheme. The schemes are at early stages of design at the moment so deciding which scheme to take forward will take some engineering judgement and more detailed design will determine the schemes viability and final design.

19. The list will be updated when new schemes are proposed and incorporated into it and when schemes have been completed and removed from it. It is linked with the parish prioritisation work both in terms of the scoring technique used as well as directly influencing each other.

**Table 3-4 2016/2017 Prioritised Flood Alleviation Scheme List**

Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
1	Gloucester	Podsmead Ward	Recreation Ground and Surrounding Area - Cut off channel (3)	Construction of a cut-off channel at Poplar Close and improvements to the manhole	-	120	£13,455
1	Gloucester	Podsmead Ward	Recreation Ground and Surrounding Area - Inlet improvements (2)	Improvements to the culvert inlet headwall at Poplar Close	-	120	£19,562
3	Gloucester	Podsmead Ward	Recreation Ground and Surrounding Area - Athletics track	Improvements to surface runoff at the athletics track	-	120	£100,386
3	Gloucester	Podsmead Ward	Recreation Ground and Surrounding Area - Drainage improvements (1)	Improvements to the drainage infrastructure at the recreation ground	-	120	£97,200
5	Stroud	Stroud CP	Slad Road - Slad Brook Watercourse	Improvements to the Slad Brook watercourse	-	115	£283,500
6	Forest of Dean	Coleford CP	Coleford Town Centre	Install channel drains and a new drainage network in the centre of Coleford	-	179	£405,996
7	Cotswold	Tetbury CP	London Road - Tesco Supermarket	Installation of SuDS at Tesco supermarket	-	122	£348,262
8	Stroud	Stroud CP	Slad Road - Folly Lane	Divert flows from Folly Lane to the Painswick Stream	-	115	£546,260
9	Cotswold	Tetbury CP	Northfield Road, London Road, Magdalen Road, Priory way, Chipping Street, and Gumstool Hill - Surface water diversion	Divert surface water flows to the Little Avon	-	122	£374,015
10	Stroud	Stroud CP	Slad Road - Slad Brook Culvert	Construct a sealed pipe drainage system from Folly Lane to the Slad Brook Culvert	-	115	£636,746
11	Stroud	Nailsworth CP	Brewery Lane - Culvert	Removal of the culvert and closing of Brewery Lane to through traffic	-	34	£31,205
11	Stroud	Nailsworth CP	Brewery Lane - Remove Obstacles	Remove obstacles from the streamchannel to assist flow conveyance	-	34	£23,438
11	Stroud	Nailsworth CP	Brewery Lane - Upstream Storage	Investigate opportunities for upstream flood storage and devise operational strategy	-	34	£30,360
14	Forest of Dean	Mitcheldean CP	Mitcheldean - Baynham Road	Intercept surface runoff at Baynham Road and installation of SuDS storage	-	121	£781,632
15	Forest of Dean	Mitcheldean CP	Mitcheldean - Unnamed Watercourse	Interception of surface water runoff and convey to unnamed watercourse at A4136 highway	-	121	£1,114,521
16	Stroud	Wotton-under-Edge CP	Knapp Road and Locombe Place	Construct a flood bund above Hentley Tor and Worlds End Lane to divert flow	-	97	£853,349
17	Forest of Dean	West Dean CP	Yorkley Slade	Construct a bund across the upper catchment and install drainage improvements	-	52	£153,349
18	Stroud	Cam CP	Spouthouse Lane	Improvements to the culvert headwall and trash screen	-	28	£81,000
19	Stroud	Nailsworth CP	Fountain Street and Tabrams Pitch - Hard Landscaping	Construction of street planting features and hard landscaping at Tabrams Pitch	-	24	£37,260

Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
20	Stroud	Chalford CP	Chalford Round House to Iles Mill	Dredge two pounds to remove heavy vegetation which fills water channel	-	16	£16,000
21	Gloucester	Hucclecote CP	Millbridge Rd and Porchester Rd - Culvert replacement	Replace Millbridge Road culvert and enlarge the downstream channel as far as Spencer Close	-	67	£247,050
22	Cotswold	Tetbury CP	Magdalen Road - SuDS at Sir William Romney School	Installation of SuDS at Sir William Romney's School	-	23	£64,832
23	Tewkesbury	Ashchurch Rural CP	Pamington - ditch	Construct a new drainage ditch at the eastern end of the village	-	22	£104,056
23	Tewkesbury	Ashchurch Rural CP	Pamington - eastern end of village	Install property level protection to the flood risk properties	-	22	£106,260
25	Gloucester	Hucclecote CP	Green Lane - Highway culvert	Alter highway at the Green Lane culvert to allow flood water to re-enter the watercourse	-	26	£12,398
26	Cotswold	Tetbury CP	Magdalen Road - Gullies	Installation of high capacity gullies	-	9	£31,157
27	Forest of Dean	Newland CP	Clearwell	Reconstruct the canalised Valley Brook channel through Clearwell	-	45	£445,050
28	Cotswold	Andoversford CP	Hunter's way/Station Road - Culvert replacement	Culvert replacement	-	30	£100,617
29	Gloucester	Hucclecote CP	Green Lane - Culvert removal	Remove the culverted section of Wootton Brook at Cousley Close	-	26	£29,325
29	Gloucester	Hucclecote CP	Green Lane - Culvert replacement	Replace the Green Lane culvert with a larger culvert	-	26	£36,936
31	Cotswold	Tetbury CP	Longtree Close, Wistaria Road, Romney Road and Chavenage Lane - Surface water drainage improvements	Surface water drainage improvements	-	24	£213,800
32	Cheltenham	Pittville Ward	Windsor Street and Little Cleevemount	Reduce road levels and create flood storage area in school playing field	-	38	£459,625
33	Gloucester	Podsmead Ward	Milton Avenue - Trash screen	Install a new trash screen to the open channel	-	21	£6,831
34	Cotswold	Willersey CP	The Quinary - Headwall	Reconstruct the headwall and wingwalls protruding into the watercourse	-	10	£16,560
35	Cotswold	Tetbury CP	Priory Way and Park Close - Gully work	Install high capacity gullies/ increase quantity of gullies	-	11	£35,289
36	Stroud	Stroud CP	Slad Road - Upper Catchment	Divert flows from the upper catchment towards Painswick Stream	-	115	£2,834,467
37	Gloucester	Podsmead Ward	Milton Avenue - Drainage improvements	Improvements to the surface water drainage system and storage pond	-	21	£12,903
37	Gloucester	Podsmead Ward	Milton Avenue - Flow paths	Improvements to overland flow path at Milton Avenue	-	21	£15,028
39	Cotswold	Tetbury CP	Longtree Close, Wistaria Road, Romney Road and Chavenage Lane - Land drainage improvements	Land drainage improvements	-	24	£290,703
40	Cotswold	Tetbury CP	Charlton Road and Linfoot Road - Watercourse capacity	Increase the capacity of the watercourse	-	11	£55,028
41	Forest of Dean	Mitcheldean CP	Mitcheldean - Industrial Estate	Construct a surface water pumping station at a low point in the industrial estate	-	121	£2,589,379
42	Forest of Dean	West Dean CP	Sling	Install drainage improvment measures	-	29	£221,169
43	Gloucester	Hucclecote CP	Brookfield Rd - Culvert replacement	Replace Brookfield Road culvert	-	18	£36,936
44	Cotswold	Willersey CP	The Quinary - New trash screen at railway	Install a trash screen to the historic culvert under the disused railway embankment	-	10	£41,934
45	Stroud	Chalford CP	Chalford	Watercourse management	-	5	£5,000
46	Stroud	Nailsworth CP	George Street - Gullies	Install a high capacity gully and new carrier drain to the Nailsworth Stream	-	19	£171,973
47	Cotswold	Tetbury CP	Charlton Road and Linfoot Road - Watercourse clearance	Develop a maintenance schedule for dredging and vegetation clearance	-	11	£83,354
48	Cotswold	Andoversford CP	Centre of Andoversford and Coln Park	Increase upstream flood storage northwards of the disused railway embankment	-	81	£1,566,729
49	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - Signage	Install signage to indicate flood depths	-	5	£8,785
50	Stroud	Haresfield CP	Haresfields	Retro fitting of SuDs measures (i.e. rainwater gardens, etc) to reduce flooding issues .	-	6	£11,600

Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
51	Stroud	Cainscross CP	Devereaux Crescent	Culvert maintenance	-	8	£45,000
52	Cotswold	Andoversford CP	Station Road and Gloucester Road - Flood defence walls	Construct flood defence walls and embankment	-	41	£1,050,655
53	Gloucester	Tuffley Ward	Langate House, Robinswood Hill, Tuffley	To retro-fit SUDS features including swales and ponds to provide attenuation and manage flows .	-	6	£15,000
53	Gloucester	Tuffley Ward	Robinswood Hill - Stroud Road, Tuffley	To carryout drainage improvements on Robinswood Hill in addition to the construction of swales and a number of ponds to provide attenuation and storage	-	6	£15,000
55	Cotswold	Andoversford CP	Station Road and Gloucester Road - IPP	Install property level protection to at risk properties	-	37	£834,141
56	Stroud	Nailsworth CP	Brewery Lane - Property Level Protection	Install individual property level protection to the flood risk properties	-	34	£1,051,215
56	Stroud	Nailsworth CP	Brewery Lane - training walls	Replacement of upstream and downstream training walls with flood wallsreaching higher level	-	34	£1,059,075
58	Cheltenham	Pittville Ward	Prestbury Road - light industrial units	Raised vehicle thresholds	-	36	£276,044
59	Tewkesbury	Ashchurch Rural CP	Aston-on-Carrant	Install high capacity gullies and drains to Carrant Brook	-	17	£223,788
60	Stroud	Slimbridge CP	Churchend replacement culvert	Replacement culvert along Churchend	-	11	£300,000
61	Cotswold	Tetbury CP	Northfield Road - IPP	Install property level protection to properties at a risk of flooding	-	16	£189,750
62	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - install coarse trash screen	Install coarse trash screen upstream of the ford	-	5	£20,286
62	Gloucester	Tuffley Ward	Forest View Road	Reinstating ditch which runs to the rear of properties	-	6	£20,000
64	Stroud	Wotton-under-Edge CP	Wortley Road - Commercial property	Replace the downstream culvert parapet wall with a guardrail and re-profile the highway	-	8	£70,780
65	Stroud	Nailsworth CP	Fountain Street and Tabrams Pitch - kerb re-setting	Re-set the kerb line along Fountains Road and install individual property protection	-	24	£344,735
65	Stroud	Nailsworth CP	Old Market and Spring Hill - Flood Walls	Construction of flood walls around the open channel section of the Nailsworth Stream	-	18	£265,275
65	Stroud	Nailsworth CP	Old Market and Spring Hill - Property Level Protection	Installation of individual property protection to the rear of the properties next to the bus terminus	-	18	£239,844
68	Stroud	Wotton-under-Edge CP	Holywell Road	Repair the existing masonry culvert	-	4	£14,400
69	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - Ground works	Remove footpath structure and culvert and enlarge opening in property boundary wall	-	5	£35,100
69	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - Trash screen replacement	Replace substandard trash screen at the property boundary wall	-	5	£35,190
71	Stroud	Nailsworth CP	Bridge Street	Individual property protection to the flood risk properties	-	13	£176,088
72	Forest of Dean	Awre CP	Blakely - Bridge Street	Remove th weir in Blackpool Brook located off Bridge Street	-	10	£1,065,188
72	Forest of Dean	Awre CP	Blakely - Moorfield Avenue	Construct a flow control structure and flood defense embankment upstream of the old mill	-	10	£647,041
74	Cotswold	Tetbury CP	Longtree Close, Wistaria Road, Romney Road and Chavenage Lane - IPP	Install property level protection to properties at a risk of flooding	-	24	£415,932
75	Forest of Dean	Westbury-on-Severn CP	Broad oak - Pumping Station	Install a package pumping station and construct a flood storage area	-	21	£391,072
76	Forest of Dean	West Dean CP	Phipps Bottom and Whitecroft - Propert Level Protection	Install flood protection measures to flood risk properties	-	9	£227,700
77	Forest of Dean	Newland CP	Redbrook - Property Level Protection	Install individual property level protection to the flood risk properties on Newland road	-	16	£471,339
78	Forest of Dean	West Dean CP	Parkend	Use the recreation ground for flood storage	-	39	£598,973
79	Tewkesbury	Ashchurch Rural CP	Natton - railway embankment	Construct a new culvert through the railway embankment	-	21	£259,586
80	Gloucester	Hucclecote CP	Millbridge Rd and Porchester Rd - IPP	Install property level protection to at risk properties	-	58	£1,099,032
81	Tewkesbury	Ashchurch Rural CP	Aston-on-Carrant West end of village	Construct a flood defense embankment at the western end of the village	-	17	£280,361



Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
81	Tewkesbury	Ashchurch Rural CP	DSDC Ashchurch	Construct a new drainage system at the MoD site	-	62	£3,839,319
83	Forest of Dean	Westbury-on-Severn CP	Broad oak - Property Level Protection	Install property level protection to flood risk properties	-	11	£378,422
84	Cheltenham	Pittville Ward	Wellington Square	Package pumping station	-	7	£67,620
85	Cotswold	Andoversford CP	Hunter's Way - Flood defence embankment	Construct flood defence embankment upstream	-	30	£710,156
85	Cotswold	Andoversford CP	Hunter's way - IPP	Install property level protection to at risk properties	-	30	£702,075
87	Cotswold	Tetbury CP	London Road - IPP	Install property level protection to flood risk properties	-	36	£878,922
88	Forest of Dean	West Dean CP	Phipps Bottom and Whitecroft - Whitecroft industrial units	Construct flood defense wall adjacent to the industrial units at Whitecroft	-	10	£310,824
89	Gloucester	Barton and Tredworth Ward	63 Jersey Road	The installation of individual property level protection measures	-	1	£5,000
90	Cotswold	Tetbury CP	Charlton Road and Linfoot Road - Drystone wall	Replace existing drystone wall at the boundary of Linfoot Road with a flood defence wall	-	11	£722,813
90	Cotswold	Tetbury CP	Priory Way and Park Close - IPP	Install property level protection to flood risk properties	-	11	£307,395
92	Forest of Dean	Westbury-on-Severn CP	Upper Ley - Embankment	Construct a flood defense embankment around the village	-	18	£545,695
93	Cotswold	Tetbury CP	Gumstool Hill - Culvert	New culvert from Chipping Street to Gumstool Hill	-	15	£374,834
93	Cotswold	Tetbury CP	Gumstool Hill - IPP	Install property level protection at The Chipping and Gumstool Hill	-	15	£268,686
95	Cotswold	Tetbury CP	Charlton Road and Linfoot Road - IPP	Install property level protection to properties at a risk of flooding	-	9	£222,387
95	Cotswold	Tetbury CP	Magdalen Road - IPP	Install property level protection to flood risk properties	-	14	£675,510
97	Forest of Dean	Tidenham CP	Sedbury and Tidenham - Wyedean School	Interception and diversion of surface water flows from Wyedean School	-	17	£648,520
98	Gloucester	Hucclecote CP	Green Lane - Upstream flood storage	Increase upstream flood storage near Hathorn Road	-	26	£562,500
99	Gloucester	Hucclecote CP	57 & 59 Churchdown Lane, Hucclecote	The installation of individual property level protection measures	-	2	£10,000
100	Gloucester	Kingsholm and Wotton Ward	Castlevilla, Sandhurst Lane	The installation of an earth bund, flood barriers and pump.	-	2	£15,000
100	Stroud	Stroud CP	Wallbridge	Install high capacity gullies on Bath Road and install new kerbs at upper section of Wallbridge	-	6	£147,817
100	Stroud	Nailsworth CP	George Street - Property Level Protection	Individual property protection to the flood risk properties and package pumping station	-	13	£313,578
103	Gloucester	Podsmead Ward	Shelly Avenue, Tennyson Avenue and Shakespeare Avenue	Install individual property protection to the flood risk properties	-	38	£736,230
104	Stroud	Cam CP	Alexandra Close	Excavate a deeper ditch and construct a new inlet headwall on the existing culvert	-	1	£5,063
105	Forest of Dean	Westbury-on-Severn CP	Upper Ley - Property Level Protection	Install property level protection to flood risk properties	-	9	£246,675
106	Cotswold	Willersey CP	The Quinary - IPP	Install individual property protection to the flood risk properties	-	10	£166,980
107	Forest of Dean	Tidenham CP	Sedbury and Tidenham - Day House Farm	Construct flood defense bund around Day House Farm	-	9	£506,394
108	Gloucester	Hucclecote CP	Green Lane - IPP	Install individual property protection to the flood risk properties	-	14	£286,143
109	Gloucester	Barton and Tredworth Ward	Tredworth School	Retro fitting of SuDs measures (i.e. rainwater gardens, etc) to reduce flooding issues .	-	2	£20,000
109	Stroud	Wotton-under-Edge CP	Wortley Road - Dyers Brook	Replace the existing culvert and raise the downstream channel walls	-	8	£396,035
111	Gloucester	Matson and Robinswood Ward	Finlay Community School, Finlay Road	Retro fitting of SuDs measures (i.e. rainwater gardens, etc) to reduce flooding issues .	-	2	£20,000
112	Forest of Dean	Coleford CP	Crucible Close and Stepbridge Road	Improve drainage infrastructure at the Industrial estate	-	26	£661,644
113	Forest of Dean	West Dean CP	Bream	Install flood protection measures to flood risk properties	-	9	£227,700
114	Gloucester	Hucclecote CP	Brookfield Rd - IPP	Install property level protection to at risk properties	-	16	£368,115

Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
115	Cotswold	Andoversford CP	Coln Park - Drain and pumping station	Install improved drainage and pumping station	-	24	£732,499
115	Cotswold	Andoversford CP	Coln Park - IPP	Install property level protection to properties at a risk of flooding	-	24	£527,505
115	Cotswold	Andoversford CP	Coln Park - Raise thresholds	Raise the thresholds of flood risk properties	-	24	£1,184,274
118	Cotswold	Willersey CP	Campden Lane - IPP	Install individual property protection to the flood risk properties	-	8	£242,880
118	Cotswold	Willersey CP	Campden Lane - Land drain	Install land drain, high capacity gullies and new drainage ditch	-	8	£185,742
120	Forest of Dean	Awre CP	Blakely - Nibley	Construct a flood defense embankment to protect low lying properties at Nibley	-	6	£365,359
121	Tewkesbury	Ashchurch Rural CP	Natton	Construct a flood defense earthwork around the flood risk properties	-	21	£530,681
122	Stroud	Wotton-under-Edge CP	Wortley Road - property level protection	Individual property protection to the flood risk properties	-	5	£140,415
123	Forest of Dean	Newland CP	Newland - Culvert	Excavate new channel and replace existing highway culvert	-	6	£177,758
123	Forest of Dean	Newland CP	Newland - Property Level Protection	Install individual property level protection to the flood risk properties	-	6	£151,800
125	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - Culvert work	Increase the size of the culvert openings	-	5	£82,266
125	Cotswold	Tetbury CP	Cotton's Lane and Cutwell - IPP	Install property level protection to properties at flood risk	-	5	£135,861
125	Tewkesbury	Ashchurch Rural CP	Walton Cardiff - Brook Cottage	Install property level protection at Brook Cottage	-	1	£10,419
128	Stroud	Nailsworth CP	Electricity Sub-Station off A46 at Dunkirk Mills	Individual property protection to flood risk properties	-	1	£7,590
129	Tewkesbury	Stanway CP	Hailes	Construct a flood defense embankment around the flood risk property	-	17	£623,641
130	Forest of Dean	Awre CP	Blakely - Electricity Sub-station	Flood protection to the electricity sub-station off The Smithy	-	1	£8,369
131	Forest of Dean	Westbury-on-Severn CP	Westbury-on-Severn - A48	Construct a new culvert under the A48 highway	-	5	£69,377
132	Forest of Dean	Coleford CP	Electricity Sub-Station off New Road	Construct dwarf wall and concrete slab	-	1	£11,270
133	Forest of Dean	Newland CP	Redbrook - Electricity sub-station	Protection works to the electricity sub-station at Tinman's Green	-	1	£10,589
133	Stroud	Dursley CP	Caswell Mews	Watercourse realignment	-	1	£5,000
135	Gloucester	Podsmead Ward	Woodrow Way	Construct a walled compound and improved base slab for the sub-station	-	1	£11,529
136	Forest of Dean	Coleford CP	Electricity Sub-Station off Newland Street	Construct dwarf wall and concrete slab	-	1	£13,727
137	Cotswold	Willersey CP	Willersey Industrial Estate - Flood relief culvert	Install a flood relief culvert through the railway embankment	-	6	£283,378
137	Cotswold	Willersey CP	Willersey Industrial Estate - IPP	Install property level protection measures to the industrial units	-	6	£220,110
139	Forest of Dean	West Dean CP	Berry Hill	Construct flood bund, new culvert and outfall at The Gamekeeper's Inn	-	4	£245,811
139	Forest of Dean	Awre CP	Blakely - Doctors Surgery	Flood protection to the Doctor's surgery off Millend	-	1	£36,514
139	Stroud	Cam CP	Alexandra Close - Kingshill Lane	Improve surface water drainage along Kingshill Lane	-	1	£103,170
142	Cotswold	Andoversford CP	STW asset	Construct flood defence wall and embankment	-	1	£307,484
142	Gloucester	Podsmead Ward	Ramsdale Road	Construct a walled compound and improved base slab for the sub-station	-	1	£13,943
142	Tewkesbury	Ashchurch Rural CP	Walton Cardiff - M5	Restrict the volume of flow through the M5 culvert	-	1	£43,828
145	Forest of Dean	Westbury-on-Severn CP	Westbury-on-Severn - Railway Embankment	Constrict flows through the upstream culverts passing through the railway embankment	-	5	£77,625
145	Forest of Dean	Westbury-on-Severn CP	Westbury-on-Severn - Upstream of A48	Construct a flow control structure and flood defense embankment upstream of the A48 highway	-	5	£466,121
147	Forest of Dean	Coleford CP	Electricity Sub-Station off Market Place	Construct dwarf wall and concrete slab	-	1	£19,593
148	Cotswold	Tetbury CP	Sewage Treatment Works	Construct a flood defence wall and embankment around the STW	-	1	£501,227

Rank	District	Parish / ward	Location	Proposed method of alleviation	Comments	Total number of residential and non-residential properties benefitting	Estimated Scheme Cost
149	Gloucester	Hucclecote CP	Porchester Road Electricity Sub-Station	Construct a walled compound and new base slab for the sub-station	-	1	£18,630
150	Stroud	Cam CP	Electricity Sub-Station on Everlands	Construct a dwarf wall around the sub-station and improve the slab against water ingress	-	1	£10,984

## 4. Appendix

### 4.1. Table of definitions

**Table 4-1 Table of definitions**

	Definition
FDR	Flood Data Register – An application used by the LLFA to record property flooding
FDR number of properties internally flooded	The number of properties recorded on the LLFA's Flood Data Register (FDR) that have been reported to have had a flooded living space (e.g. living room, bedroom, kitchen, conservatory) and excludes outbuildings (e.g. Garages and sheds)
FDR number of properties affected	The number of properties recorded on the LLFA's Flood Data Register (FDR) to have been affected by flooding. This includes the flooding of outbuildings, gardens and driveways.
GiA	Grant in Aid – A source of funding provided by Defra. Funding is applied for and if accepted, the scheme is placed in the Environment Agency's 6 year plan where the allocated funds are divided accordingly.
Calculated Risk	The calculated level of risk from all sources of flooding relative to all parishes within Gloucestershire
Revised Calculated Risk	The calculated level of risk from all sources of flooding relative to all parishes within Gloucestershire after considering if a substantive flood alleviation scheme has been completed to reduce the flood risk.
Actions ( <i>see below for description of each action</i> )	The current or existing flood risk related actions that have been undertaken for each parish. The options are
Scheme complete	A substantial flood alleviation scheme has been completed that the LLFA has fully funded or contributed to
Funded scheme in progress	A feasible scheme has been fully funded and is currently being implemented.
Study in progress	The LLFA is producing or has commissioned a study to understand the flood risk for this parish, the mechanisms for the flood risk or potential scheme.
SWMP report complete	The LLFA has produced Surface Water Management Plans (SWMP) across six key locations across Gloucestershire, which are now complete. The parish has been included in the SWMP study boundary
Scheme identified – Funding required	A feasible scheme has been developed, however it is currently unfunded or the LLFA has not financially contributed to it due to its lack of viability and/or external funding.
Scheme identified – Provisional funding	A feasible scheme has been developed and is progressing, however requires further funding
PFAS list	Prioritised Flood Alleviation Scheme list – A tool to help identify areas for future funding.
PLP	Property Level Protection – Alterations made to a property to protect it from internal flooding.
Previously ranked as "x"	This denotes a change in rank of the parish since the previous rendition of the prioritisation process, and has not had a scheme or investigation carried out since the change. The LLFA will pursue an investigation as and when funds allow.
uFMfSW	Updated Flood Maps for Surface Water – Most recent model outputs generated by modelling carried out nationally by the Environment Agency that utilises the latest technology and advances in flood risk science.



## 4.2. Parish Prioritisation Methodology Summary

20. The scoring matrix for the parish prioritisation has been refined since the release of the previous Annual Progress and Implementation Plan. The modelled risk now distinguishes between residential and non-residential properties at risk, with residential properties given priority. This has been updated to reflect the emphasis we have on protecting people's houses.

21. The weighting has also been altered to further differentiate between the levels of risk (e.g. Flood Zone 3 and Flood Zone 2). These changes can be seen in Table 4-2.

Table 4-2 Parish Prioritisation methodology - scoring matrix and weightings

Dataset	Sub-data used	Thresholds and scoring												Weighting	
		Number of properties	Score	Number of properties	Score	Number of properties	Score	Number of properties	Score	Number of properties	Score	Number of properties	Score		
														Residential	Non-Residential
Environment Agency Flood Zones (Fluvial)	Flood Zone 3 (1 in 100 yr boundary or 0.1% Annual Event Probability)	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	1	0.25
	Flood Zone 2 (1 in 1000 yr boundary or 1.00% Annual Event Probability)	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.5	0.125
Updated Flood Maps for Surface Water (Surface water)	1 in 30 year event (3.33% Annual Event Probability)	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	1	0.25
	1 in 100 year event (1% Annual Event Probability)	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.5	0.125
	1 in 1000 year event (0.1% Annual Event Probability)	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.25	0.0625
Environment Agency groundwater flood risk	Groundwater Flooding - Properties located within 1km square where more than 75% of the area is at a risk of groundwater flooding.	<1	0	1<200	2	200<400	4	400<600	6	600<800	8	800+	10	0.5	0.125
	Groundwater Flooding - Properties located within 1km square where equal to or more than 50% and less than 75% of the area is at a risk of groundwater flooding.	<1	0	1<200	2	200<400	4	400<600	6	600<800	8	800+	10	0.25	0.0625
	Groundwater Flooding - Properties located within 1km square where equal to or more than 25% and less than 50% of the area is at a risk of groundwater flooding.	<1	0	1<200	2	200<400	4	400<600	6	600<800	8	800+	10	0.25	0.0625
	Properties located within 1km square where less than 25% of the area is at a risk of groundwater flooding.	<1	0	1<200	2	200<400	4	400<600	6	600<800	8	800+	10	0.25	0.0625
FDR (Historic)	Number of residential properties flood internally	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	1	
	Number of residential properties affected by flooding	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.5	
	Number of commercial properties flood internally	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.25	
	Number of commercial properties affected by flooding	<5	0	5<25	2	25<50	4	50<75	6	75<100	8	100+	10	0.125	
Programme of works	Actions taken within parish	n/a													

### 4.3. Prioritised Flood Alleviation Schemes List

22. The list is prioritised based on the following criteria:

- Number of properties benefitting from the scheme
- Level of risk the properties are in
- Type of property
- Whether they are at risk of internal flooding or being affected
- Where the parish lies on the parish prioritisation list
- The cost of the scheme per property

23. The scheme is given a score for the number of properties found in each level of risk, which is weighted towards smaller schemes as these are the most common and often the most feasible option (Table 4-3). This score is then multiplied by a series of values based on the above criteria (Table 4-6 - Table 4-8). The level of risk is based around the definitions in Table 4-10, however, it is not expected that this detail of modelling is carried out in each scheme so when entering a new scheme into the list the engineer will use their professional judgement to decide what level they are in. The final scores are ranked to produce the final list.

**Table 4-3 PFAS list – Number of properties score**

Number of properties at risk of flooding	Score	Number of properties at risk of flooding	Score
0	0	<=15	6
<=2	1	<=20	7
<=4	2	<=30	8
<=6	3	<=50	9
<=8	4	>50	10
<=10	5		

**Table 4-4 PFAS list – Type of property and risk level score**

Type of property at risk		Level of Risk Category		
		High	Medium	Low
Residential		1	0.5	0.25
Non-Residential		0.25	0.125	0.0625
Critical Services	High	1	0.5	0.25
	Medium	0.5	0.25	0.125
	Low	0.25	0.125	0.0625

**Table 4-5 PFAS list – Internal flooding or affected score**

Are the properties being Flooded or Affected?	Score
Flooded	1
Affected	0.5


**Table 4-6 PFAS list – Position in priority parish list score**

Position in Priority Parish List	Score
High	1
Medium-High	0.95
Medium-Low	0.9
Low	0.85
-	0.8

**Table 4-7 PFAS list – Cost per property score**

Cost per property score	Score
<=£500	1
<=£1,000	0.9
<=£2,000	0.8
<=£3,000	0.7
<=£5,000	0.6
<=£7,500	0.5
<=£10,000	0.4
<=£12,500	0.3
<=£15,000	0.2
>£15,000	0.1

**Table 4-8 PFAS list – Level of risk definition**

Level of risk definition			
Type of risk	High	Medium	Low
Fluvial	Flood Zone 3	Flood Zone 2	Flood Zone 1
Surface Water	Up to 1 in 30	Up to 1 in 100	Up to 1 in 1000
Groundwater		>=75%	<75%