



Northamptonshire Local Flood Risk Management Strategy Action Plan Update 2019

Northamptonshire County Council
December 2019

1. ACTION PLAN UPDATE

Northamptonshire Local Flood Risk Management Strategy

- 1.1. Northamptonshire County Council (NCC) is the Lead Local Flood Authority (LLFA) for all of Northamptonshire. In this regard, NCC is required to develop, maintain, apply and monitor the application of a strategy for local flood risk in the area.
- 1.2. The overarching aim of the Northamptonshire Local Flood Risk Management Strategy (LFRMS) is to provide a robust local framework that employs a full range of complementary approaches towards managing and communicating the risks and consequences of flooding arising from surface runoff, groundwater and ordinary watercourses in Northamptonshire and the surrounding area.
- 1.3. The full report and associated documents can be found in the flood library of the NCC Flood Toolkit at <http://www.floodtoolkit.com/pdf-library/>.

Action Plan

- 1.4. The LFRMS includes an Action Plan, which highlights the key objectives of the LFRMS and the associated actions required to achieve them. It also draws out previously identified actions within flood and water technical documents related to Northamptonshire, which have not yet been implemented.
- 1.5. The Action Plan identifies actions from all partners within the County, to provide an overview of proposed flood risk management activities within Northamptonshire. As well as information provided directly from partners, the Action Plan includes a number of potential flood alleviation schemes that require further investigation. This is to assess their viability and this will be compiled from information drawn from a number of different sources including:
 - those submitted for government funding in the past but have been unsuccessful;
 - schemes recommended within technical documents; and
 - potential improvement works identified by Northamptonshire Highways.
- 1.6. In addition to the specific actions set out in this Action Plan, the following activities will be given precedence in the highest priority wards as set out in the Northamptonshire LFRMS Update GIS & Prioritisation report:
 - Data collection and registration of existing assets, particularly focussed on ordinary watercourses and surface water features;
 - Designation of assets, which are considered by all risk management authorities to have a significant flood defence function;
 - Involvement in community flood resilience projects, subject to available funding.
- 1.7. Estimated costs for discrete projects and flood alleviation schemes have been included wherever applicable, along with potential funding sources.
- 1.8. It has been agreed that the Action Plan will be updated annually. Any new actions will be identified and included in the Plan. Existing actions will be updated where new information is available. Completed actions will be retained within the Plan to ensure that a record is kept of all completed works.

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 1 – Collaborative Approach								
Adopt a collaborative approach to managing local flood risk by working with local partners and stakeholders to identify, secure and optimise resources, expertise and opportunities for reducing flood risk and increasing resilience to flooding								
The Lead Local Flood Authority (LLFA) will explore opportunities for Flood Awareness Campaigns	Continue to explore opportunities for future community engagement events and awareness sessions.	Ongoing	Ongoing	Currently being delivered through the Pathfinder programme	Associated costs unable to be specified but funding from external RFCC Local Levy Pathfinder project	Northamptonshire County Council (NCC) via FCERM Local Levy, Environment Agency (EA), Local Authorities (LAs), Water and Sewerage Companies (WaSCs)	NCC (EA, LAs, WaSCs)	LLFA
The LLFA will continue to promote partnership working	Continue to promote partnership working, maintaining communication between all partners and stakeholders through the Flood and Water Management Framework.	Ongoing	Ongoing	Currently being delivered through Strategic Flood Risk Management Board and Local Flood Risk Operational Group	N/A	N/A	NCC (EA, LAs, JPU, Joint Delivery Units (where applicable and relevant), WaSCs, Internal Drainage Board (IDB), Highways England (HE), River Nene Regional Park (RNRP), Fire and Rescue Services)	LLFA
The LLFA will train council staff in each of the call centres to enable advice to be given to the public in a flood incident	Training of council staff to enable correct advice to be given to the public in a flood incident, ensure right questions are asked and information is recorded correctly and is saved on a database.	Ongoing	Ongoing	Training provided to all call centres, further training to take place when required.	N/A	N/A	NCC (LAs, EA, WaSCs)	LLFA
The LLFA will investigate flooding incidents in accordance with Section 19 of the Flood and Water Management Act (2010)	Undertake formal investigations of flood incidents that occur and meet the thresholds set to produce a Flood Investigation Report (FIR). Continue to send monthly reminders for partners to provide records of flooding incidents.	As and when the threshold is met	Ongoing	62 investigations published to date	£10-15k per annum	NCC LLFA Grant	NCC (EA, LAs, WaSCs, HE)	LLFA
The LLFA will publish their register of flood risk assets on an interactive mapping system, in accordance with Section 21 of the Flood and Water Management Act (2010)	Format all data on flood risk assets so that it can be published on the Northamptonshire County Council interactive mapping system, to allow members of the public to identify these assets in their community. Maintain and update the system thereafter.	Ongoing	Ongoing	Asset data published on NCC interactive mapping and www.floodtoolkit.com updates ongoing	N/A	N/A	NCC	LLFA
Share flood risk mapping generated from LA Surface Water Management Plans (SWMPs) with local resilience forum (LRF), emergency planners and other appropriate organisations	Organise a workshop to ensure the emergency planning process takes into account new flood risk mapping and modelling generated as part of the SWMP development. Also include involvement from other appropriate organisations to help disseminate the results.	2019-20	Ongoing	Work aligned with ongoing Multi Agency Flood Plan update	N/A	N/A	NCC (LAs, LRF)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Engage with local authority planners to promote appropriate surface water flood risk management in new developments	Organise a series of workshops to engage with local authority planners and set out the aspirations of the LLFA with regard to surface water flood risk management in new developments. These aspirations are detailed in the document, ' Local Standards and Guidance for Surface Water Drainage in Northamptonshire '.	Ongoing	Ongoing	Future training to be delivered when required	N/A	N/A	NCC (LAs, WaSCs)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 2 – Local Flood Risk								
Develop a greater understanding of local flood risk by improving the scope of local knowledge and understanding of current and future local flood risks								
Develop improved Geographic Information System (GIS) tools for the LLFA	NCC's existing GIS tool for planning will continue to be developed to include the results of new strategies, plans and studies, to ensure that surface water and other local sources of risk are accurately presented and can be used to inform planning decisions. Procedures will continue to be developed to ensure consistency of data held by partners.	Ongoing	Ongoing		N/A	N/A	NCC	LLFA
The LLFA will continue to develop and implement actions in highest priority areas	The following activities will be given precedence: <ul style="list-style-type: none"> Data collection and registration of existing assets, particularly focussed on Ordinary Watercourses and surface water features; Designation of assets which have a significant flood defence function; Establishing regular, proactive culvert inspection and maintenance regimes on council owned assets; and Working with LAs to establish proactive inspection and maintenance regimes on their assets. 	Ongoing	Ongoing		N/A	N/A	NCC (EA, LAs, WaSCs, HE)	LLFA
Incorporate key structures identified by hydraulic modelling from LA SWMPs into the asset register	Following completion of the SWMPs for the district and boroughs in Northamptonshire, key structures that could affect flood risk have been identified through hydraulic modelling. These will be included into the existing asset register held by the LLFA.	2019-20	Ongoing	Work progressing to update the asset register	N/A	N/A	NCC (LAs)	LLFA
NCC will update (or support the LAs in undertaking updates to) the Level 1 SFRAs and Local Plan Part 2s	To support Local Plan Part 2 development and update the original Level 1 SFRAs in light of legislative changes and the introduction of the National Planning Policy Framework, in order to assess the risk to Northamptonshire from flooding from all sources, now and in the future, taking account of the impacts of climate change, and to assess the impact that land use changes and development in the area will have on flood risk.	Ongoing	Ongoing	SFRAs completed for all areas. LPP2 support ongoing.	£15k revenue generation for NCC	LAs	NCC (JPUs, BCW, CBC, DDC, ENC, KBC, NBC, SNC)	SFRAs
Anglian Water Services (AWS) will undertake a survey/ CCTV investigation of highest risk areas of surface water drainage network	AWS have an on-going programme of proactive CCTV work being carried out across the region, linked to sewer rehab and infiltration management. A risk-based approach is being taken to the prioritisation of work, including in the Billing catchment.	Ongoing	Ongoing		Not yet determined	AWS	AWS (NBC, EA, NCC)	AWS
Water and Sewerage companies will continue to investigate and address flood risk issues	This will be achieved by: <ul style="list-style-type: none"> Reducing the risk of flooding to properties on the 'at risk' register; Removing surface water from sewers; Reducing flood risk to water and sewerage company assets; Working closely with flood risk management partners; Ensuring adequate inspection and associated maintenance; Improving the understanding of flood risk by raising customer awareness, improving communication and education. 	Ongoing	Ongoing		Not yet determined	WaSCs	WaSCs (EA, LAs, NCC)	WaSCs
Kettering Borough Council (KBC) will carry out a SWMP for Kettering Borough	To gain a better understanding of surface water flooding mechanisms within Kettering Borough, the identification of Critical Drainage Areas and potential schemes for the subsequent development of priority flood alleviation measures. There will be close links with the Green Infrastructure Strategy for the Slade Brook, and assessment of opportunities for strategic use of SuDS within the Alledge Brook catchment and for attenuation at Glendon Hall and within the Thorpe Malsor and Cransley Reservoir catchments.	2017-19	Completed		£45k (funding secured and paid in previous years)	KBC, NCC, EA	KBC and AECOM, (NCC, EA, AWS, NNJPU, ENC)	Kettering and Wellingborough SFRA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
NCC will carry out a SWMP for the Borough of Wellingborough	To gain a better understanding of surface water flooding mechanisms in the Borough of Wellingborough, for the subsequent development of priority flood alleviation measures. To include the identification of areas where targeted maintenance and improvements to watercourses and drainage systems are required. Planners to be informed of areas identified to be vulnerable to surface water flooding.	December 2016	Completed		£75k (delivered to estimate)	NCC, FCERM GiA	NCC (BCW, EA, AWS, NNJPU)	Kettering and Wellingborough SFRA
NCC will carry out a SWMP of East Northamptonshire	To gain a better understanding of surface water flooding mechanisms in the District of East Northamptonshire, for the subsequent development of priority flood alleviation measures. This includes the identification of areas where targeted maintenance and improvements to watercourses and drainage systems are required. Planners to be informed of areas identified to be vulnerable to surface water flooding.	December 2016	Completed		£75k (delivered to estimate)	NCC, FCERM GiA	NCC (ENDC, EA, AWS, WNJPU)	East Northants SFRA
NCC will carry out a SWMP of South Northamptonshire	To gain a better understanding of surface water flooding mechanisms in the District of South Northamptonshire, for the subsequent development of priority flood alleviation measures. To include identification of areas where targeted maintenance and improvements to watercourses and drainage systems are required. Planners to be informed of areas identified to be vulnerable to surface water flooding.	December 2016	Completed		£75k (delivered to estimate)	NCC, FCERM GiA	NCC (SNC, EA, WaSCs, WNJPU)	Daventry and South Northants Level 2 SFRA
NCC will carry out a SWMP of Daventry District	To gain a better understanding of surface water flooding mechanisms in the District of Daventry, for the subsequent development of priority flood alleviation measures. To include identification of areas where targeted maintenance and improvements to watercourses and drainage systems are required. Planners to be informed of areas identified to be vulnerable to surface water flooding.	December 2016	Completed		£75k (delivered to estimate)	NCC, FCERM GiA	NCC (DDC, EA, WaSCs, WNJPU)	Daventry and South Northants Level 2 SFRA
Corby Borough Council (CBC) will carry out a Flood Risk Management (FRM) Plan of Corby	To gain a better understanding of surface water flooding mechanisms within Corby, the identification of Critical Drainage Areas and potential schemes for the subsequent development of priority flood alleviation measures. Establish ownership and maintenance regimes and a long-term action plan to manage and target local flood risk, particularly in higher risk areas.	2015	Completed		£75k (delivered to estimate)	CBC, FCERM GiA, Local Levy	CBC (NCC, EA, Anglian Water Services (AWS), local residents and riparian owners)	Corby SFRA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 3 – Enhance the Natural and Historic Environment								
Adopt a sustainable approach to reducing local flood risk, seeking to lessen the risk of localised flooding using mechanisms that are economically viable, deliver wider environmental benefits and promote the wellbeing of local people								
The LLFA will continue to inform new and update development plan policies	Ensuring planning officers are aware of ongoing changes in national and local policy. Ensure lines of communication and roles & responsibilities are clear. Inform planning officers of the outputs of this Strategy.	As and when new plans are produced	Ongoing		N/A	N/A	NCC (EA, LAs, JPUs and Joint Delivery Units)	LLFA
The LLFA will continue to promote the environmental actions outlined in Objective 3	Promote environmental actions including: de-culverting, natural flood risk management, blue/green infrastructure identified in Green Infrastructure Plans, increased tree cover, catchment sensitive farming.	Ongoing	Ongoing		N/A	N/A	NCC (EA, LAs, JPUs, WaSCs, NE, IDB, Wildlife Trust (WT), HE)	LLFA
River Nene Regional Park to work towards key aims of the Nene Valley Catchment Partnership	<ol style="list-style-type: none"> 1. Overseeing the realisation of the of the Nene Integrated Catchment Management Plan 2. Achieving improvements in water quality across the catchment 3. Enabling co-ordinated efficient delivery of river improvement projects 4. Supporting cross-boundary working 5. Contributing to the development and improvement of green infrastructure links throughout Catchment 6. Providing a mechanism to 'pool' funding to deliver multi-functional projects 7. Informing the development of suitable planning policy 8. Improving access to and amenity of the river corridor 9. Maintaining the profile of the River Nene and its tributaries and communicating openly with all stakeholders 	Ongoing	Ongoing		Not yet determined	Catchment Partnership funding	RNRP (Nene Valley Catchment Partnership members)	RNRP
The LLFA to promote the actions resulting from Water Framework Directive (WFD) investigations for heavily modified waterbodies	Water Framework Directive waterbody investigations resulted in a number of actions to improve the status of heavily modified waterbodies, to be explored as opportunities arise.	Ongoing	Ongoing		Not yet determined	Not yet determined	NCC (EA, riparian owners, developers)	EA
Billing Brook Lakes Sustainability Project	Natural restoration of a series of lakes on Billing Brook that have undergone significant siltation and decline in water quality and biodiversity as a result of development over the past few decades	2019-20	Ongoing	Detailed design agreed, funding secured and contractor appointed. Start scheduled for Sept 2019 and completed by March 2020	£250k	s106 Developer contribution, EA Water Environment Improvement Fund, Community funding, Northampton Borough Council, Mick George Skips CLF	Community (Growing Together Northampton) (EA, NBC as landowner, Wildlife Trust, NCC)	EA
Brampton Branch Integrated WFD and Flood Risk Management catchment based approach	The EA has identified a number of measures for the Brampton Branch WFD operational catchment, including attenuating water, catchment sensitive farming and sediment traps, plus the use of natural processes. Identify any flood risk management benefits achieved from implementing the measures i.e. to manage surface water flooding. Aim for an integrated catchment approach/vision bringing together multiple benefits.	Dependent on availability of WFD/ FCERM GiA funding	Ongoing	RNRP is working with a country estate to start to address some of these measures. A Catchment Partnership Farming Advisor has been recruited by RNRP to promote this catchment-based approach.	Total Scheme cost estimate approx £3.9M. Individual measures will cost less and can be implemented separately	FCERM GiA/ WFD WEIF	EA (NCC, River Nene Regional Park (RNRP) landowners, Local Enterprise Partnerships (LEP)s, developers, Wildlife trusts and groups)	EA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
River Ise Integrated WFD and Flood Risk Management catchment based approach	The EA has identified a number of measures for the River Ise WFD operational catchment, including attenuating water, catchment sensitive farming and sediment traps, plus the use of natural processes. Develop partnerships to attract funding and joint delivery of the measures. Identify additional flood risk management benefits of implementing the measures i.e. to manage surface water flooding. Aim for an integrated catchment approach/vision bringing together multiple benefits.	Dependent on availability of WFD/ FCERM GiA funding	Ongoing	A Catchment Partnership Farming Advisor has been recruited by RNRP to promote this catchment-based approach.	Total estimated scheme cost of £3.7M. Individual measures will cost less and can be implemented separately.	FCERM GiA/ WFD WEIF	EA (NCC, RNRP, landowners, LEPs, developers, Wildlife trusts and groups)	EA
Middle Nene integrated WFD and Flood Risk Management catchment based approach	The EA has identified a number of measures for the Middle Nene WFD operational catchment, including attenuating water, catchment sensitive farming and sediment traps, plus the use of natural processes and restoring River Nene morphology. Identify additional flood risk management benefits of implementing the measures i.e. to improve backwater conveyance and making space for water. Aim for an integrated catchment approach/vision bringing together multiple benefits.	Dependent on availability of WFD/ FCERM GiA funding	Ongoing	RNRP has been successful in gaining a HLF grant to improve up to 13 backwaters for WFD and improve flow conveyance. A Catchment Partnership Farming Advisor has been recruited by RNRP to promote this catchment-based approach.	Total Scheme cost estimate approx £15M. Individual measures will cost less and can be implemented independently.	FCERM GiA/ WFD WEIF	EA (NCC, RNRP, landowners, LEPs, developers, Wildlife trusts and groups)	EA
Upper Nene WFD and Flood Risk Management catchment based approach	The EA has identified a number of measures for the Upper Nene WFD operational catchment, including attenuating water, catchment sensitive farming and sediment traps, plus the use of natural processes. Develop partnerships to attract funding and joint delivery of the measures. Identify additional flood risk management benefits of implementing the measures i.e. to manage surface water flooding. Aim for an integrated catchment approach/vision bringing together multiple benefits	Dependent on availability of WFD/ FCERM GiA funding	Ongoing	A Catchment Partnership Farming Advisor has been recruited by the RNRP to promote this catchment-based approach.	Total Scheme cost estimate approx £2.4M. Individual measures will cost less and can be implemented independently.	FCERM GiA/ WFD WEIF	EA (NCC, RNRP, landowners, LEPs, developers, Wildlife trusts and groups)	EA
Willow Brook Integrated WFD and Flood Risk Management catchment based approach	The EA has identified a number of measures for the Willow Brook (tributary of River Nene) WFD operational catchment, including attenuating water, catchment sensitive farming and sediment traps, plus the use of natural processes. Develop partnerships to attract funding and joint delivery of the measures. Identify additional flood risk management benefits of implementing the measures i.e. to manage surface water flooding. Aim for an integrated catchment approach/vision bringing together multiple benefits	Dependent on availability of WFD/ FCERM funding	Ongoing	A Catchment Partnership Farming Advisor has been recruited by the RNRP to promote this catchment-based approach.	Total Scheme cost estimate approx £0.4M Individual measures will cost less and can be implemented independently.	FCERM GiA/ WFD WEIF	EA (NCC, RNRP, landowners, LEPs, developers, Wildlife trusts and groups)	EA
River Ise Site of Special Scientific Interest (SSSI) Improvements	The River Ise is the only riverine SSSI in Anglian Region, Northern Area. This project is to deliver the Diffuse Water Pollution Plan for the Ise SSSI and other works to ensure it reaches favourable condition. Also benefits WFD by reducing diffuse inputs and ensures the Ise stays at good status.	2015-2020, dependent on FCERM GiA and WFD GiA funding	Not yet started		Scheme cost estimate approx £80k	FCERM GiA/ WFD WEIF	EA (NCC, RNRP, landowners, LEPs, developers, Wildlife trusts and groups)	EA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Harpers Brook catchment NFM Project	The aim of this project is to better understand the nature of flood risk across the Harpers Brook catchment, and undertake work with the Catchment Partnership to consider potential alleviation measures, including working with land owners and implementing NFM measures.	2020-2022 Dependent on funding	Ongoing	The Rivers Trust have performed a story boarding exercise and works should start in 2020, depending upon funding.	Unknown	FCERM, GiA/ WEIF/ HLF	RNRP (NNJPDU, Rivers Trust, landowners, NCC, Wildlife trusts)	RNRP
The LLFA will assess the potential impact of flooding on designated heritage sites	Working in partnership to assess the potential positive, negative and neutral impacts of flooding on designated heritage sites, improve understanding of flood risk and to inform updates of the prioritisation assessment.	2015	Completed		N/A	N/A	NCC (English Heritage, LAs)	LLFA
River corridor habitat improvement for WFD compliance at Gretton	The EA has identified required improvement to river corridor habitats in terms of geomorphology; cover and food supply for fish, invertebrates and other aquatic fauna; water quality; and sediment quality. As well as delivering physical improvements, the works will demonstrate what is possible on the rest of the river within a reasonable economic cost.	2014-2019, dependent on FCERM GiA and WFD GiA funding	Completed	The project is largely complete except a short reach for which no funding is currently available.	£100k (delivered to estimate)	FCERM GiA/ WFD WEIF	EA (NCC, landowners, LEPs, developers, Wildlife trusts and groups)	EA
The LLFA will assess the potential impact of flooding on designated environmental sites	Working in partnership to assess the potential positive, negative and neutral impacts of flooding on designated environmental sites, improve understanding of flood risk and to inform updates of the prioritisation assessment.	2014	Completed		£7.5k (delivered to estimate)	NCC	NCC (WT, NE, EA)	LLFA
Investigate potential for improving Hardingstone Dyke	Various WFD issues have been identified. LLFA is working with partners to investigate improvement options.	2018-19	Completed		£8k	WFD GiA, University of Northampton and LLFA	NCC (EA, University of Northampton)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 4 – Preparedness and Resilience								
Reduce the harmful consequences of local flooding to communities and human health through proactive actions, activities and education programmes that enhance preparedness and resilience to local flood risk, and contribute to minimising community disruption								
Pathfinder III – LLFA to work with further 30 communities to develop their resilience	The project's approach will be to help communities to understand their flood risk and enable them to generate local resilience solutions. This round will focus on improving resilience in urban communities.	2019-2021	Anticipated start early 2020		£200k	RFCC Local Levy	NCC (parish councils, communities, EA, LAs, WaSCs)	LLFA
Ox-Cam Property Flood Resilience (PFR) Pathfinder	Northamptonshire County Council has secured £700k of funding to deliver a project to increase the uptake of PFR across the Ox-Cam Arc area, in collaboration with other Lead Local Flood Authorities in the region. This will involve engagement with residents, businesses and the wider industry, creation of a demonstration property and professional services hub to provide training on PFR.	2019-2021	Ongoing	Various consultants recruited and business and residents identified for engagement	£700k	Environment Agency / Defra	NCC (LLFAs in the Ox-Cam Arc, EA, Water Companies, RFCCs)	LLFA
The EA to maintain current flood forecasting / warning service	Maintain the current flood forecasting / warning service through ongoing review of community based Flood Warning Areas. Reviews will take place following improvements to the forecast models or following post incident performance analysis. This service is underpinned by the maintenance of flow gauging stations and rain gauges located throughout the catchment. EA to investigate opportunities to link with rain gauges that are being installed through NCC's Pathfinder project or other similar opportunities.	Ongoing	Ongoing		N/A	N/A	EA (NCC)	FRMP update 2017
The EA to deliver targeted community engagement to encourage sign up to flood warnings	Working with LRF partners, continue to deliver targeted community engagement to encourage people to sign up to receive flood warnings and understand what action to take to protect themselves and their property on receipt of a flood warning. EA will also target communities that benefit from existing defences to ensure that they understand the purpose of these defences and the flood warnings and are aware of the residual risk of flooding. EA will continue to provide flood warnings primarily through the Floodline Warnings Direct (FWD) service but will investigate and develop different tools for community engagement including the use of social media. EA will also learn from the outcomes of the NCC's Pathfinder project and implement recommendations as appropriate.	Ongoing	Ongoing	During 2018/2019 engagement has been targeted towards areas of Northampton with regards to decommissioning of sirens and promoting sign up to FWD.	N/A	N/A	EA (NCC)	FRMP update 2017
Undertake further Groundwater Flood Risk Assessment in highest priority wards to inform preparedness and mitigation	Undertake further groundwater flood risk assessment within the wards identified as at greatest economic risk from groundwater flooding. Develop a high level strategy for raising awareness of the risk within these communities and for mitigating against potential flooding	As funding becomes available	Not yet started		Not yet determined	NCC, community	NCC (EA, community)	Northamptonshire Ground Water Flood Risk Study
NCC will review and update the Multi Agency Flood Plan (MAFP)	Northamptonshire County Council will work with the Local Resilience Forum (LRF) to review and update the Multi Agency Flood Plan (MAFP) and disseminate outputs of any studies undertaken. LRF will continue to develop business continuity, emergency and evacuation plans, and review essential and critical infrastructure protection, to inform the MAFP.	2019-2021	Ongoing	An officer has been appointed and a review of the existing MAFP commenced.	Not yet determined	LRF	NCC (LRF, LAs, EA)	LLFA
Development of Groundwater Flood Risk Forecasting	Develop a groundwater flood risk monitoring and forecasting system, potentially through installation of up to 3 new boreholes within the county. The Groundwater Flood Risk Study outputs should be used to set up cumulative rainfall alarms as further warning.	April 2017 – 2021	Ongoing	All 3 boreholes are complete; two years of monitoring now being undertaken	£50k for boreholes and 2-years of data collection	FCERM GiA / Lcoal Levy, Partnership	NCC (parish councils, communities, EA, LAs, WaSCs)	Northamptonshire Ground Water Flood Risk Study
Billing and Cogenhoe Evacuation Procedures	Keep the multi-staged evacuation procedure, recently implemented by the management team of Billing Aquadrome and Cogenhoe Caravan Park, under joint review and exercise as appropriate.	Ongoing	Ongoing		N/A	N/A	EA (NCC)	FRMP update 2017

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Highways England drainage improvements	Series of drainage improvements to the A14, A43, A45 and A5 including installation of ditches, drains and attenuation ponds, to reduce risk of flooding.	2017-2021	Ongoing		Not yet determined	HE	HE	HE
Hogs Dyke, Raunds Refurbishment Project	EA will work with professional partners and the community to undertake a comprehensive review of the existing flood risk management assets, including the culverts, to understand the flood risk and investigate appropriate solutions to sustain the standard of service that they provide.	2019 - 2024	Not yet started		Scheme cost: £500k-£1M	Local Community, FCERM GiA and Partnership	EA (NCC, ENC, community)	Welland and Nene FRMP
Dallington Brook Flood Storage Area Performance	Explore amendments to the performance of Dallington Brook Flood Storage reservoir to reduce flood risk downstream	Dependant on funding	Not yet started	Initial Assessment work completed by EA Project Delivery Unit. Results of this assessment are now being reviewed to inform details of possible scheme, timescales and costs.	Not yet determined	FCERM GiA, NCC, EA, LAs, WaSCs	EA (NCC, LAs, WaSCs)	EA
Investigation into Flooding at Kislingbury	There are numerous locations within Kislingbury where, during heavy and prolonged rainfall, surface water and foul water flooding occurs behind the main river defences, flooding the main road and restricting access to properties. The investigation will look at the cause and potential solutions.	Dependent on funding	Investigations complete. Works not yet started.	Initial highway investigations and CCTV have taken place to better understand the problem to support funding bid.	Estimate £20k for the investigation	NCC, Flood and Coastal Erosion Risk Management Grant in Aid (FCERM GiA), AWS	NCC (EA, AWS, SNC, Community)	LLFA
Nether Heyford Flood Alleviation Scheme	A pre-feasibility study report undertaken in August 2008 concluded that Nether Heyford is at risk of flooding from Heyford Brook due to insufficient capacity of the drainage system. EA will continue to work with professional partners and the community to manage flood risk in for Nether Heyford. This will involve findings from the existing studies, comprehensive review of flood risk from the main rivers and investigation of appropriate solutions to manage this risk.	2023-2028, dependent upon suitable solution identified within the FCERM project and GiA funding	Ongoing	Initial assessment completed April 2017 revised detailed modelling, which has now been included in the EA's published flood mapping. Revised mapping shows extent of flooding in the village reduced from the 2008 pre-feasibility study. Project proposal updated and delayed to determine cost-effective solutions for properties at risk. In the interim, additional localised repairs and routine maintenance have been completed.	Scheme Cost: Unknown	Local Community, FCERM GiA, AWS, Partnership	EA (AWS, NCC, community)	Welland and Nene FRMP

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Nene Lock Reversal cessation	Study to investigate the requirement for Nene Lock Reversal and the mitigation required to end this practice. may be required for Health and Safety. Reversing locks for flood discharge may be beneficial during the early stages of a flood to delay the onset of flooding. There are however numerous health and safety risks associated with this practice. It is envisaged that mitigation is required to ensure there is no negative impact on flood risk management	2016 onwards	Ongoing		Unknown	FCERM GiA, Partnership	EA (LAs, NCC)	FCERM GiA funding bid
River Nene Structures	Study to investigate the flood risk benefits provided by structures on the navigable River Nene and to determine the future maintenance requirements and long-term funding strategy.	Initial Study 2019-2021	Ongoing	Funding/engagement officer to be in post 2019-2021	TBC	FCERM GiA, Local Levy, Partnership	EA (LAs, NCC)	FCERM GiA funding bid
Welland and Nene Property Level Resilience	EA and NCC will continue to work in partnership with residents to secure funding for the survey and installation of property level resilience measures to properties that are at high risk of flooding and have experienced recent flooding. The project will focus on properties where traditional flood risk management schemes could not be economically justified. Locations are likely to include: Scrivens Hill, Woodford Halse; High Street and Broughton Road, Pytchley; Burcote Fields, Towcester; Whiston Road, Cogenhoe; Grafton Underwood; Hellidon; Quinton.	2019-2021	Ongoing	Framework is now in place, property level surveys are being carried out 2019/2020 with delivery in 2021 depending on funding.	£250k	Local Community, FCERM GiA, AWS, partnership	EA (NCC, residents)	Welland and Nene FRMP
Wootton Brook Flood Alleviation Scheme	EA will work with professional partners and communities along Wootton Brook to develop and secure funding for a flood alleviation scheme. This will involve using findings from existing studies and additional work to undertake a comprehensive review of flood risk and investigating appropriate solutions to manage this risk.	2017 onwards	Ongoing	A capital project is being developed alongside Natural Flood Management in the rural catchment. Funding has been secured for the Natural Flood Management project and this in combination with the capital project will reduce flooding to people and properties. Funding options for the essential capital scheme are still being explored.	Scheme Cost: £1M	FCERM GiA	EA (NCC, developers, community)	Welland and Nene FRMP
Wootton Brook NFM	EA have secured funding through a national pilot programme to deliver a Natural Flood Management Project in Wootton Brook. The purpose of the pilot programme is to develop the evidence base around natural flood management measures.	2018-2021	Ongoing	Delivery is expected to start in Autumn 2019 following landowner discussions.	Scheme Cost - £250k	FCERM GiA	EA (NCC, community)	EA Partnerships and Strategic Overview team.

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Harpers Brook Flood Alleviation Scheme	EA will work with communities and professional partners along Harpers Brook to develop and secure funding for a flood alleviation scheme. This will involve findings from existing studies, a comprehensive review of flood risk and investigation into appropriate solutions to manage this risk.	Dependent upon FCERM GiA funding, yet to be determined. Local levy has been secured to investigate appropriate solutions during in 2019-2021	Ongoing	Capital Flood Alleviation scheme to be considered alongside a Pilot Project being developed by the EA in the Harpers Brook Catchment, focused on a Partnership Approach to Catchment Management.	£102k	FCERM GiA/local levy	EA (NCC, CBC, Community)	Welland and Nene FRMP
Harrowden Brook Flood Storage Reservoir Study	Study to investigate the potential opportunity for reducing flood levels downstream of the Wellingborough North site by enhancing the Harrowden Road flood storage reservoir in Wellingborough. This will facilitate future growth in the catchment.	Related to growth	Not yet started		Study Cost: £75k-£150k	FCERM GiA, Developer	BCW (NN JPU, NCC, EA, Developer)	NN FRMS
Swanspool Brook, Flood Storage Reservoir Study	A study into the Wilby Flood Storage Reservoir, which currently exists on Swanspool Brook in Wellingborough, located upstream of the A4500. The Flood Storage Reservoir has a standard of protection of 2% (1 in 50 likelihood). Further investigations are required to assess any options for improvement. This will facilitate future growth in the catchment.	Related to growth	Not yet started		Study Cost: £50k-£100k	AWS, BCW, NCC, EA	BCW (NN JPU, NCC, EA, Developer)	NN FRMS
Flood Attenuation Measures for development in Northampton	Attenuation storage required to mitigate for surface water flooding and additional discharge into watercourses around Northampton because of future development. Schemes to be assessed by developers and details to be provided as part of the planning process. Schemes/locations include Waterside development at Brampton Branch and St Peter's Way, Becketts Park, Avon Nunn Mills Ransome Road, Southbridge West, Nene Meadows, and upstream between Weedon and Kissingbury.	Related to growth	Ongoing		To be determined	NBC, Developer, regeneration funding	NBC (NCC, JPU, AWS, EA, Developer)	Northampton CAAP drainage study and West Northants Water Cycle Strategy
Flood Attenuation Measures for Northamptonshire Sustainable Urban Extensions (SUEs) and Strategic Employment Sites (SESs)	Attenuation storage required to mitigate the impacts of the proposed development at each of the Sustainable Urban Extensions (SUEs) and the Strategic Employment Site (SES) in Northamptonshire. Schemes to be assessed by developers and details to be provided as part of the planning process.	Related to growth – as and when planning applications are submitted	Ongoing		To be determined	LAs, Developer, regeneration funding	LAs (NCC, AWS, JPUs, EA, Developer)	Northampton SFRA, NNJCS and WNJCS
Chacombe Flood Alleviation Scheme	Chacombe Brook runs through gardens and there are many low-lying properties along the bank of the brook. The flooding from the brook is flashy. A means of resolution other than by watercourse improvements or attenuation is not feasible – due to the responsiveness of the catchment, individual property protection will not be effective.	Dependent on FCERM GiA funding	Not yet started	Submitted to FCERM programme	PAR cost: £30k Scheme estimate: £290k	SNC, Local Community, FCERM GiA, EA	NCC (EA, SNC, Community)	FCERM GiA funding bid
Surface Water Flood Risk Improvement Works at Berry Lane, Wootton	Improve highways drainage in Berry Lane area of Wootton to reduce risk of flooding to properties.)	Dependent on FCERM GiA funding	Not yet started	Submitted to FCERM programme	Scheme estimate: £350k	NCC, FCERM GiA, AWS	NCC (SNC, AWS, EA, Community)	FCERM GiA funding bid

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Surface Water Flood Risk Improvement Works at East Street, Long Buckby	Properties along East Street are at risk of flooding from agricultural runoff and surface water, a number have flooded internally. Provide drainage channel to manage exceedance flows. Informed by draft OBC.	Outline Business Case (OBC) completion 2019. Scheme 2020	Ongoing	OBC being progressed towards submission. Construction expected 2020.	OBC: £25k Scheme estimate: £200k	OBC: NCC, FCERM GiA, Local Levy Scheme: FCERM GiA, Local Levy	NCC (DDC, AWS, EA, Community)	FCERM GiA funding bid
Flood Risk Improvement Works at Duck End & Freeman's Lane, Denford	A small watercourse running through Denford has flooded properties, exacerbated by surface water runoff from agricultural land around the village. Natural Flood Management measures along the watercourse will reduce frequency of flooding. Informed by S19 Flood Investigation and draft OBC.	OBC completion Autumn 2019. Scheme 2020	Ongoing	OBC being progressed towards submission. Construction expected 2020.	OBC: £25k Scheme estimate: £40k	OBC: NCC, FCERM GiA, Local Levy Scheme: NCC, FCERM GiA, community	NCC (ENDC, AWS, EA, Community)	FCERM GiA funding bid
Flood Risk Improvement Works at High Street, Charwelton	Surface water and an ordinary watercourse regularly flood Charwelton, resulting in internal property flooding and closure of a key highway route. Subject to funding, a comprehensive solution may include increasing capacity of existing culvert, combined with additional storage. An alternative, less ambitious scheme may include improvements to overland flow routes along High Street. Informed by S19 Flood Investigation, SWMP and pre-feasibility study.	OBC completion 2020. Scheme dependent on FCERM GiA funding.	Ongoing	Submitted to FCERM programme	Scheme estimate: £1.2-1.5M (culvert scheme) or £50k (alternative)	NCC, FCERM GiA	NCC (DDC, TW, EA, Community)	FCERM GiA funding bid
Blackmile Lane, Grendon Flood Risk Management Scheme	Blackmile Lane in Grendon has been flooded due to extreme volumes of runoff. Informed by S19 Flood Investigation and draft OBC.	Dependent on FCERM GiA funding	On hold	Recent investigations have highlighted uncertainties in the source and mechanisms of the flooding. Capital scheme likely to be put on hold to monitor the situation. Affected residents potentially to be offered inclusion in future PFR programme.	OBC: £20k Scheme estimate: £80k	NCC, FCERM GiA, community	NCC (BCW, AWS, EA, Community)	FCERM GiA funding bid. Project appraisal report.
Sywell Flood Risk Management Scheme	Holcot Lane and Stonelea Road have flooded from agricultural runoff. Proposed to reinstate and upgrade field drainage.	Dependent on FCERM GiA funding	Not yet started	Initial survey and outline design of solution undertaken	Scheme estimate: £5k - 10k (dependant on final solution)	NCC, FCERM GiA	NCC, BCW, AWS, EA, Community	FCERM GiA funding bid
Flood Risk Improvement Works at Creaton Road, Hollowell	Investigate potential for works at Creaton Road, Hollowell, to reduce risk of flooding to properties from surface water. Informed by S19 Flood Investigation. Initial assessment suggests property level resilience may be preferred solution.	Dependent on FCERM GiA funding	Not yet started		To be determined, estimate £75k-£150k	NCC, FCERM GiA	NCC (DDC, AWS, Community)	LLFA
Flood Risk Improvement Works at Bedford Road, Northampton	Investigate potential for works at Bedford Road, Northampton, to reduce risk of flooding to properties and the highway from surface water. Informed by S19 Flood Investigation.	Dependent on FCERM GiA funding	Not yet started		To be determined	NCC, FCERM GiA, AWS	NCC (NBC, AWS, Community)	LLFA
Flood Risk Improvement Works at Weedon Bec	Investigate potential for works at Weedon Bec, to reduce risk of flooding to properties from surface water and culverted watercourses. Informed by S19 Flood Investigation.	Dependent on FCERM GiA funding	Not yet started		Scheme estimate: £200k	NCC, FCERM GiA, AWS	NCC (DDC, AWS, Community)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Flood Risk Improvement Works at Woodford Halse and Hinton	Several locations within Woodford Halse and Hinton are at risk of flooding from surface water and ordinary watercourses. Propose to provide attenuation storage and property level resilience to properties at Upton Close. Informed by S19 Flood Investigation and draft OBC.	OBC completion 2020. Scheme dependent on FCERM GiA funding	OBC ongoing	OBC being progressed towards submission.	OBC Cost: £25k Scheme estimate: £220k	OBC: NCC, FCERM GiA, Local Levy Scheme: NCC, FCERM GiA, TW	NCC (DDC, TW, Community)	LLFA
Flood Risk Improvement Works at Grimscote	Reduce risk of flooding to properties in Grimscote from surface water through ditching/channel improvements. Informed by S19 Flood Investigation and draft OBC.	Scheme dependent on FCERM GiA funding	OBC drafted. Scheme not yet started	Draft OBC completion subject to confirmation of funding	Scheme estimate: £100k	NCC, FCERM GiA, community	NCC (SNC, Community)	FCERM GiA funding bid, Project appraisal report
Flood Risk Improvement Works at Harpole	Investigate potential for works at Harpole, to reduce risk of flooding to properties from surface water and ordinary watercourses.	Dependent on FCERM GiA funding	Not yet started	Recent investigations have not been able to identify a viable capital flood alleviation scheme. Affected residents potentially to be offered inclusion in future PFR programme.	To be determined, estimate £400k	NCC, FCERM GiA	NCC (SNC, Community)	LLFA
Flood Risk Improvement Works at Harrington Road, Kelmars	Investigate potential for works at Harrington Road, Kelmars, to reduce risk of flooding to properties from surface water.	Dependent on FCERM GiA funding	Not yet started		To be determined, estimate £80-170k	NCC, FCERM GiA	NCC (DDC, Community)	LLFA
Flood Risk Improvement Works at Port Road, Upper Harlestone	Investigate potential for works at Port Road, Upper Harlestone, to reduce risk of flooding to properties from surface water. Informed by S19 Flood Investigation.	Dependent on FCERM GiA funding	Not yet started		To be determined, estimate £90k	NCC, FCERM GiA	NCC (DDC, AWS, Community)	LLFA
Flood Risk Improvement Works at Chelveston	Investigate potential for works at Chelveston, to reduce risk of flooding to properties from surface water.	Dependent on FCERM GiA funding	Not yet started	Recent investigations have not been able to identify a viable capital flood alleviation scheme. Affected residents potentially to be offered inclusion in future PFR programme.	To be determined, estimate £160k	NCC, FCERM GiA	NCC (ENDC, AWS, Community)	LLFA
East Brook Culvert, Kettering - Condition Survey	To review the current condition of the East Brook Culvert which runs through the length of Kettering and to determine the risk and extent of flooding to properties should the culvert fail, whilst determining necessary works and future responsibilities.	2019-20	Ongoing	CCTV survey completed Autumn 2019. Works to take place in 2020	£135k £725k required in future years	Local Levy, AWS, EA, KBC, NCC	KBC (NCC, AWS, EA)	KBC
Kettering Rain Water Garden (SuDS) Schemes	To continue to review locations where rain water gardens can be implemented, to responsibly and positively discharge surface water in local communities without increasing the volume of water that discharges through artificial systems.	As opportunities arise	Ongoing		To be determined	KBC, Partnership	KBC (NCC, AWS, EA)	KBC
Flood Risk Improvement works at Yelvertoft	Reduce risk of flooding to properties in Yelvertoft from combination of main river and surface water flooding. Informed by S19 Flood Investigation.	2024	Not yet started	Submitted to FCERM programme	To be determined	FCERM GiA, Local Levy	EA (NCC, AWS, DDC)	EA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Flood Risk Improvement works at Warren Bridge, Oundle	Investigate potential for works to reduce flood risk from surface water and ordinary watercourse. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Prefeasibility study undertaken and Submitted to FCERM programme	To be determined, estimate £80k	FCERM GiA	NCC (ENDC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Windsor Close, Towcester	Investigate potential for works to reduce flood risk from drainage systems. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Submitted to FCERM programme	To be determined, estimate £80k	FCERM GiA	NCC (SNDC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Benefield Road, Oundle	Investigate potential for works to reduce flood risk from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Recent investigations have not been able to identify a viable capital flood alleviation scheme. Affected residents potentially to be offered inclusion in future PFR programme.	To be determined, estimate £20k	FCERM GiA	NCC (ENDC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Boothville, Northampton	Investigate potential for works to reduce flood risk from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Recent investigations have not been able to identify a viable capital flood alleviation scheme. Affected residents potentially to be offered inclusion in future PFR programme	To be determined, estimate £20k	FCERM GiA	NCC (NBC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Raunds	Investigate potential for works to reduce flood risk from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Submitted to FCERM programme	To be determined, estimate £10k	FCERM GiA	NCC (ENDC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at DIRFT	Investigate potential for works to reduce flood risk to commercial properties. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Submitted to FCERM programme	To be determined, estimate £80k	FCERM GiA	NCC (DDC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Barton Seagrave	Investigate potential for works to reduce flood risk from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Submitted to FCERM programme	To be determined, estimate £50k	FCERM GiA	NCC (KBC, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Irthlingborough	Investigate potential for works to reduce flood risk from surface water and ordinary watercourses.	2020	Investigations ongoing	Investigations have identified blockages and misconnections in surface water drainage which are to be removed.	To be determined	NCC	ENDC (NCC, Community)	ENDC SWMP

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Flood Risk Improvement works at Rushden	Investigate potential for works to reduce flood risk from surface water and ordinary watercourses.	Dependent on funding and progress with Enterprising East Northants (ENDC-led town centre schemes)	Not yet started	Prepare business case to promote scheme, in association with Rushden town centre regeneration proposals	To be determined, estimate £395k	FCERM GiA	ENDC (NCC, Community)	ENDC SWMP
Rushden long term town centre regeneration plan	Incorporate flood risk management into a long term plan for reconfiguration of the town centre to reduce flood risk. Develop a town centre masterplan that incorporates deculverting of the watercourse through central Rushden and making space for water.	Dependent on funding and progress with Enterprising East Northants (ENDC-led town centre schemes)	Not yet started	Seek progress through enterprising East Northants project	To be determined	ENDC	ENDC (NCC, AW)	ENDC SWMP
Flood Risk Improvement works at Thrapston	Investigate potential for works to reduce flood risk from surface water and ordinary watercourses.	Dependent on funding	Not yet started	Prepare business case to promote scheme	To be determined, estimate £270k	FCERM GiA	ENDC (NCC, EA, Community)	ENDC SWMP
Flood Risk Improvement works at Deanshanger	Investigate potential for works to reduce flood risk from surface water and ordinary watercourses.	Dependent on funding	Not yet started	Prepare business case to promote scheme	To be determined, estimate £180k	FCERM GiA	SNDC (NCC, AW, Community)	SNDC SWMP
Flood Risk Improvement works at Swanspool	Investigate potential for works to reduce flood risk from surface water and ordinary watercourses.	Dependent on funding	Not yet started	Prepare business case to promote scheme	To be determined, estimate £320k	FCERM GiA	BCW (NCC, AW, Community)	BCW SWMP
NCC county-wide Property Flood Resilience (PFR) project	To investigate whether NCC could lead the delivery of PFR to properties across the county where appropriate and capital schemes are not feasible. Future projects would then need to be determined.	Initial review - 2018	Ongoing	Initial review commenced and will be informed by learning from other PFR schemes in the County.	Initial review: £2k Future schemes: to be determined	Initial review: NCC Future schemes: FCERM GiA, community	NCC (EA)	LLFA
Flood Risk Improvement works at Mill Road/ Paddock Road/ Windmill Close, Woodford	Investigate potential for works to the rear (south) of 75-105 Mill Road, Woodford, NN14 4HL, to reduce risk of flooding to properties from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Not yet started	Prefeasibility study undertaken, indicating lack of financially viable scheme, to consider engagement with landowners and alternative funding routes.	£200-300k	FCERM GiA, AWS, ENC community funds	ENC (NCC, AWS, EA, Woodford PC)	ENC
Flood Risk Improvement works at Middleton Cheney	Undertake drainage works in Middleton Cheney to reduce the risk of flooding to properties from surface water. Informed by S19 Flood Investigation.	2019-2020	Due to be completed April 2020	Design underway to improve drainage to soakaway serving the area affected	£50k	FCERM Grant	NCC (LLFA and Highways)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Flood Risk and Water Quality improvement works at College Street, Irthlingborough	Investigate issues within Irthlingborough following pollution incidents in open watercourses and potential flood risk	2019-2020	Concrete blockage to be removed by April 2020	Two sources of pollution have been identified and stopped. Works due to be undertaken to remove concrete blockage	£38.5k	FCERM Grant	NCC (LLFA, Highways, EA Anglian Water)	LLFA
Flood Risk Improvement works at Ashley Village	Undertake drainage works in Ashley Village to reduce the risk of flooding to properties and the highway from surface water.	2019-2020	Due to be completed April 2020	Design underway to improve drainage to area through installation of new culvert connections	£35k	FCERM Grant	NCC (LLFA and Highways)	LLFA
Carlsberg Sluice	Options to refurbish or replace the structure need to be considered and the appropriate solution implemented to ensure that the standard or protection offered by the Northampton Flood Defences is not compromised. The area is also at risk of surface water flooding and all sources of flooding should be considered.	2021-2024 but dependent on funding	Not yet started	There is need to clarify which properties sit within the benefit area for this project and the Northamptonshire County Council surface water project ANC501E/000A/138 A - St Leonard's Road. Grant in Aid is therefore capped accordingly.	Tbc	FCERM GiA,, Ptnership funding	EA (NCC, businesses)	EA
Flood Risk Improvement Works at Helmdon	Reduce risk of flooding to properties in Helmdon from surface water through improvements to drainage ditches, raising sections of the highway and creating formalised flow routes. Informed by S19 Flood Investigation and completed Project Appraisal Report.	2017	Complete		£39k (delivered to estimate)	NCC, FCERM GiA, community, AWS	NCC (SNC, AWS, Community)	LLFA
Flood Risk Improvement Works at Syresham	Reduce risk of flooding to properties in Syresham from surface water through reinstatement and regular maintenance of drainage ditches and formalisation of overland flow routes. Informed by S19 Flood Investigation and completed Project Appraisal Report.	2017	Complete		£51k (delivered to estimate)	NCC, FCERM GiA, Local Levy, community, AWS	NCC (SNC, AWS, Community)	LLFA
Flood Risk Improvement Works at Gainsborough Road, Corby	Replace AWS grille at Gainsborough Road, Corby, to reduce risk of flooding to properties and the highway from the culverted ordinary watercourse. Informed by S19 Flood Investigation.	May 2016	Complete		£6k (delivered to estimate)	AWS	AWS (NCC, CBC, Community)	LLFA
Flood Risk Improvement Works at Gainsborough Road, Corby	Replace NCC grilles at Gainsborough Road, Corby, to reduce risk of flooding to properties and the highway from the culverted ordinary watercourse. Informed by S19 Flood Investigation.	April 2016	Complete		£7k (delivered to estimate)	NCC, CBC, FCERM GiA	NCC (CBC, Community)	LLFA
Flood Risk Improvement Works at Stanford Road, Cold Ashby	Highway drainage improvement works at Stanford Road, Cold Ashby, to reduce risk of flooding to properties from surface water.	October – November 2015	Complete		£185k (delivered to estimate)	NCC	NCC (DDC, AWS, Community)	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
The LLFA to undertake a pilot project to 'package' the project appraisal process for flood alleviation schemes	This project will take a package of 8 disparate communities through the FCERM Appraisal and Approval Process. The communities are: <ol style="list-style-type: none"> 1. Grafton Underwood 2. Manor Road, Grimscote 3. Station Road, Helmdon 4. School Lane, Quinton 5. Wappenham Road, Syresham 6. Whiston Road, Cogenhoe 7. Blackmile Lane, Grendon 8. Hellidon, Daventry All 8 communities have experienced internal property flooding, resulting in the need for a formal S19 Investigation. The project will look at the delivery of efficiencies and thereby maximise the outcomes of this project.	September 2015 – April 2016	Complete		£83k (delivered to estimate)	Defra grant	NCC (parish councils, communities, EA, LAs, WaSCs)	LLFA
West End, Silverstone Flood Alleviation Scheme	Improvements are required to the Church Street culvert situated downstream of properties in West End, Silverstone. Existing culvert new box to be replaced by new box culvert to increase capacity within the watercourse and benefit 12 properties by reducing flood levels, and property-level protection to be provided to one property downstream.	Completed July 2015	Complete		Scheme Cost: £347k incl. long-term maintenance (delivered to estimate)	NCC as LLFA, FCERM GiA, Local Community	NCC (EA, Community)	FCERM GiA funding bid
The LLFA to undertake a Community Resilience Pathfinder project to develop community flood resilience	The tools and guidance will then be available to other communities through a web portal. The project's approach will be to help communities to understand their flood risk and enable them to generate local resilience solutions. The flood toolkit can be found at: www.floodtoolkit.com	April 2015 completion	Complete		£300k (delivered to estimate)	Defra grant	NCC (parish councils, communities, EA, LAs, WaSCs)	LLFA
The LLFA to take forward the findings of the Community Resilience Pathfinder project to 30 new prioritised communities	The project's approach will be to help communities to understand their flood risk and enable them to generate local resilience solutions.	2017-2019	Complete		£270k	RFCC Local Levy	NCC (parish councils, communities, EA, LAs, WaSCs)	LLFA
The LLFA will explore flood warning opportunities	Explore the potential to create warning systems, to assist in understanding of 'real time' flooding incidents.	April 2015	Complete		£25k (delivered to estimate)	Partnership	NCC (EA, LAs)	LLFA
Flood Risk Improvement Works at West End, West Haddon	Investigate potential for works at West End, West Haddon, to reduce risk of flooding to properties from surface water and culverted watercourses. Works to include upgrading AWS system, installation of additional gullies and reprofiling of associated footway. Informed by S19 Flood Investigation.	2015	Complete		£314k (delivered to estimate)	NCC, FCERM GiA	AWS (DDC, NCC, Community)	LLFA
NCC will review and update the Multi Agency Flood Plan (MAFP)	Northamptonshire County Council will work with the Local Resilience Forum (LRF) to review and update the Multi Agency Flood Plan (MAFP) and disseminate outputs of any studies undertaken. LRF will continue to develop business continuity, emergency and evacuation plans, and review essential and critical infrastructure protection, to inform the MAFP.	2015	Complete		£3k (delivered to estimate)	LRF	NCC (LRF, LAs, EA)	LLFA
Kings Sutton Windsor Close Flood Alleviation Scheme	To alleviate the risk of flooding to properties at Windsor Close in Kings Sutton. Scheme will include a new culvert with additional capacity across Banbury Lane into a new ditch to Black Brook, and modified field levels behind Windsor Close to allow for additional storage and flood routing.	2014	Complete		£148k (delivered to estimate)	SNC, Local Community, EA, FCERM GiA	SNC (NCC, EA, Community)	FCERM GiA funding bid
Surface Water Flood Risk Improvement Works at Woodland Avenue & Grosvenor Road, Barton Seagrave	The estate is currently drained by soakaways, which cannot cope with the volume of runoff, resulting in a risk of flooding to properties. Reduce the risk of flooding by improving highways drainage, installing new system throughout estate.	2014	Complete		£2815k (delivered to estimate)	NCC, FCERM GiA	NCC (KBC, AWS, EA, Community)	FCERM GiA funding bid

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Surface Water Flood Risk Improvement Works at Silver Street North, Chacombe	One property is regularly affected by poor drainage. Improve drainage capacity by installing culvert around property which could drain to a soakaway.	2014	Complete		£25k (delivered to estimate)	NCC, FCERM GiA	NCC (SNC, AWS, EA, Community)	FCERM GiA funding bid
AWS and EA will undertake investigation into the maintenance and clearance of surface water outfalls on the River Nene	Regular inspections of outfalls. AWS are responsible for 31 flap valves in the Northampton area along the River Nene. An asset review will ensure that the outfalls are maintained on a regular basis, based on the need and their risk.	2018	Complete	Asset review has been undertaken and maintenance plans have been reviewed and updated accordingly.	N/A	Partnership	AWS (EA, NBC, NCC)	Northampton SWMP
Flood Risk Improvements Works at Cottingham Road, Corby	Investigate potential for works at Cottingham Road, Corby to reduce flood risk.	Dependent on funding	Complete	NCC investigated and deemed to be solely the property-owner's responsibility	Scheme estimate £10k	Property owner	CBC (AWS, EA, Community)	Corby Flood Risk Management Study
Surface Water Flood Risk Improvement Works at Hall Yard, Kings Cliffe	Improve highways drainage along Hall Yard, Kings Cliffe to reduce risk of flooding to properties.	Dependent on FCERM GiA funding	Removed from programme	Recent investigations have not been able to identify a viable capital flood alleviation scheme.	Scheme estimate: £188k	NCC, FCERM GiA	NCC (ENDC, AWS, EA, Community)	FCERM GiA funding bid
Skew Bridge, Refurbishment Project	EA will work with professional partners and the community to undertake a comprehensive review of the existing flood risk management assets, including the culverts, to understand the flood risk and investigate appropriate solutions to sustain the standard of service that they provide. The potential re-development of the town centre and development proposals upstream may provide opportunities to reduce flood risk and improve river corridor habitats.	Post 2021, dependent upon FCERM GiA funding, yet to be determined	Removed from programme	No longer on programme as initial investigations have identified the condition of the culvert not as bad as originally envisaged.	Scheme cost: £500k-£1M	Local Community, FCERM GiA and Partnership	EA (NCC, ENC, community)	Welland and Nene FRMP
River Cherwell Flood Risk Management Scheme, Woodford Halse	Investigate potential for works on the River Cherwell, to reduce the risk of flooding to properties in Woodford Halse from the main river. Engage with the EA to support the development of a River Cherwell Flood Risk Management Scheme business case.	Dependant on funding	Removed from programme	Removed from programme as EA Thames Region do not propose to progress a scheme for the River Cherwell.	PAR: £30k Scheme estimate: £330k	PAR: Defra grant fund	EA (DDC, NCC, Community)	Daventry SWMP
Corby Culvert – Sewage Works additional storage and vegetation clearance	Mitigation measures are required within Corby Borough to manage future flood risk and to facilitate development. Works are required near the sewerage treatment works to mitigate for a proposed increase in discharge, to accommodate new development by creating additional flood storage and vegetation clearance.	2019-2020	Removed from programme	Works are not likely to be required as there is no longer an expectation that the discharge from the works will be increased beyond the current consented discharge in this growth plan period	Scheme cost: £400k	CBC Developer funding	CBC (AWS, NN JPU, Developer, NCC, EA)	Corby Water Cycle Strategy. Phase 2 – Detailed Strategy. Technical Report, Corby Water Cycle Strategy Update: Corby Culvert Options Assessment

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Kings Sutton, Wales Street (Black Brook) Flood Alleviation Scheme	There are 17 properties at risk of flooding along Wales Street in Kings Sutton, which would benefit from a flood alleviation scheme on the Black Brook. Property Flood Resilience (PFR) products are being installed at properties at risk of flooding.	2017-19	Complete	Works funded by the grant have been completed, although two properties are undertaking additional measures to be complete early 2020.	Scheme Cost: £390k	Local Community, FCERM GiA, EA, SNC	NCC (SNC, EA, Community)	FCERM GiA funding bid
Surface Water Flood Risk Improvement Works at Cosgrove Road, Old Stratford	Poor highways drainage has resulted in surface water flooding of properties on Cosgrove Road. Improve highways drainage by installing new system along entire length of Cosgrove Road.	Dependent on FCERM GiA funding	Removed from programme	This was identified as a potential proactive scheme. Removed from programme due to lack of a viable solution.	Scheme estimate: £260k	NCC, FCERM GiA	NCC (SNC, TW, EA, Community)	FCERM GiA funding bid
Surface Water Flood Risk Improvement Works at Main Road, Shutlanger	Improve highways drainage to reduce the risk of flooding to properties, by upgrading existing antiquated system along Main Road. May also require some upgrade of culverts along watercourse.	Dependent on FCERM GiA funding	Removed from programme	This was identified as a potential proactive scheme. Removed from programme due to lack of a viable solution.	Scheme estimate: £330k	NCC, FCERM GiA	NCC (SNC, AWS, EA, Community)	FCERM GiA funding bid
Flood Risk Improvement Works at Elmington A605	Surface water and agricultural runoff pose a risk of flooding to properties along A605, and regularly result in closure of this key highway route. Improve capacity of field drainage and small watercourses upstream of Elmington and downstream to the Nene.	Dependent on FCERM GiA funding	Removed from programme	It is understood that ditch reinstatement has taken place which has removed the need for wider works.	Scheme estimate: £200k	NCC, FCERM GiA	NCC (ENDC, AWS, EA, Community)	FCERM GiA funding bid
Flood Risk Improvement works at Deenethorpe, Corby	Investigate potential for works to reduce flood risk from surface water. Informed by S19 Flood Investigation.	Dependent on funding	Completed.	Land drainage works undertaken by landowner to resolve flood risk to properties.	To be determined, estimate £50k	FCERM GiA	NCC (CBC, Community)	FCERM GiA funding bid

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 5 – Flood Risk and Development								
Minimise the increase in local flood risk that may arise from new development by producing guidance, setting standards, promoting the sustainable use of water and supporting the development of local policies and guidance, discouraging wherever possible surface water runoff in new and future developments and where possible influencing or supporting developments that seek to reduce existing flood risk								
The LLFA will increase its knowledge and understanding of groundwater flood risk in the County and produce relevant guidance	The LLFA will continue to increase its knowledge and understanding of the extent of groundwater flood risk across the county. Produce guidance to assist planners and developers considering new development in areas, which may be at risk of groundwater flooding.	Ongoing	Ongoing		N/A	N/A	NCC (EA, LAs)	LLFA
Develop and share Local Standards and Guidance for Surface Water Drainage in Northamptonshire	As part of the new statutory duties with regards reviewing major surface water drainage applications, the LLFA will develop bespoke Local Standards and Guidance for Surface Water Drainage in Northamptonshire. This will be shared with LAs and developers and continually reviewed and updated when required.	Ongoing	Ongoing	Event held in October 2019 to get feedback on Local Standards and service improvements. Update to Local Standards anticipated 2020.	N/A	N/A	NCC	LLFA
Explore opportunities for revenue income through the review and provision of technical advice for minor planning applications	Set up a chargeable surface water drainage review service to generate revenue income from minor developments. This will cover flood data information requests and a technical flood advice service.	Ongoing	Ongoing		Generating circa £12k per annum	Applicants	NCC	LLFA
The LLFA will set up a Statutory Consultee service to the planning application process for Surface Water Drainage	Northamptonshire County Council as LLFA will set up a Statutory Consultee service for major applications to the planning process for Surface Water Drainage.	15 th April 2015 onwards	Complete		£120k (delivered to estimate)	Applicants, Defra, NCC	NCC (LAs, EA, JPUs, WaSCs, IDB)	LLFA
The LLFA will create guidance leaflets in relation to flood risk	Create a series of leaflets/guidance notes, to assist in all forms of communications. Subjects to include: local sources of flood risk, flood risk and development, riparian responsibilities, WFD, insurance etc. Published on the Flood Toolkit at: http://www.floodtoolkit.com/pdf-library/	2015	Complete		N/A	N/A	NCC	LLFA
Delivery of consenting role for ordinary watercourses	The LLFA will seek to delegate duties for consenting on ordinary watercourse to the Bedford Group of IDBs to improve service delivery and efficiencies	2012	Complete		£20k per annum (delivered to estimate)	LLFA	NCC (IDB)	IDB

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 6 – Economically Sustainable Approach								
Ensure the financial viability of flood related schemes through the development of appropriate policies and assessment tools to ensure that flood risk management measures provide value for money whilst minimising the long-term revenue costs. Seeking to use natural processes where possible or source the costs of any maintenance from the financial beneficiaries of the development								
Funding arrangements	LLFA to continue to develop and establish short and long term funding arrangements to deliver the requirements of the Flood and Water Management Act. This to include generating revenue income from proactive projects, bidding for relevant funding as and when the opportunity arises, to support future projects and flood alleviation schemes i.e. Flood Defence Grant in Aid funding.	Ongoing	Ongoing		To be determined	To be determined	NCC (IDB, LAs, Joint Delivery Units (where applicable and relevant), WaSCs, EA)	LLFA
Influence funding arrangements	LLFA to ensure Infrastructure Development Plans, Community Infrastructure Strategies and Transport Infrastructure Plans are influenced by the LFRMS and that developer funding is sought where considered appropriate and necessary. When information or studies become available, any schemes, including their costs, will be identified and added to the Infrastructure Delivery Plan or Community Infrastructure Levy list.	Ongoing	Ongoing		To be determined	To be determined	NCC (IDB, LAs, Joint Delivery Units (where applicable and relevant), WaSCs, EA)	LLFA
Funding Toolkit	Develop a Funding Toolkit for individuals, communities and businesses that will help to identify bespoke flood related funding sources at a local, regional, national and international level.	Ongoing	Ongoing	Updated regularly	Initial £7.8k to develop in 2014. No costs for updates.	Pathfinder I	NCC	LLFA

Action	Aim/Benefits	Time Scale	Progress	Comments	Estimated Cost (£)	Potential Funding Source	Lead and Partners	Source of Information / Further Ref
Objective 7 – Riparian Responsibilities								
Encourage flood management activities by private owners of ordinary watercourses and flood defence structures as well as limit the development of constrictions on ordinary watercourses								
The LLFA will actively encourage Flood Risk Management activities by riparian owners	The LLFA will actively encourage Flood Risk Management activities by riparian owners. This will include making riparian owners aware of their roles and responsibilities. Other flood risk management authorities will also use their permissive powers to reduce flood risk as appropriate.	Ongoing	Ongoing		N/A	N/A	NCC (LAs, EA, WaSCs, IDB)	LLFA

