

Appendix 1B - LFRMS Appendix C - Action Plan

OBJECTIVE	MEASURE	ACTIONS	LEAD
<p>1 Identify investment and funding opportunities to develop and deliver a programme of flood alleviation schemes which will take forward innovative actions that help to bolster resilience to flooding and climate change.</p>	<p>1 Continue to improve the borough-wide understanding of current and future flood risk, including the likelihood and consequences, and inform the prioritisation of flood alleviation schemes</p>	<p>1 Review/update the Surface Water Management Plan using new data</p>	<p>Highways</p>
		<p>2 Review/update the Strategic Flood Risk Assessment Level 1 &</p>	<p>Spatial Planning</p>
		<p>3 Continue to undertake flood alleviation studies where relevant, to better understand the flooding mechanism</p>	<p>Highways</p>
		<p>4 Develop a list of flood alleviation schemes of differing scales using the understanding of current and future flood risk</p>	<p>Highways</p>
	<p>2 Develop a funding strategy which identifies investment and funding opportunities to develop and deliver a programme of flood alleviation schemes</p>	<p>1 Monitor funding streams available for flood alleviation measures</p>	<p>Highways</p>
		<p>2 Develop a list of funding streams, types of applications required and dates for submission of applications</p>	<p>Highways</p>
		<p>3 Prepare/submit a business case to Finance for capital funding to implement small interventions</p>	<p>Highways</p>
		<p>4 Support the Infrastructure Delivery Plan by providing progress on various schemes that involve S106 and CIL money</p>	<p>Highways + Spatial Planning</p>
	<p>3 Identify opportunities to achieve environmental net gain through de-culverting, natural catchment management and other measures</p>	<p>1 Generate list of potential locations for de-culverting</p>	<p>Highways + Parks</p>
		<p>2 Assess the potential for multiple benefits of de-culverting in identified locations</p>	<p>Highways + Parks</p>
	<p>4 Explore options to reduce carbon footprint and environmental impact in the design, building and maintenance of flood alleviation schemes</p>	<p>1 Attend the EA carbon calculator and reporting training</p>	<p>All Croydon Teams</p>
		<p>2 Always consider carbon footprint and environmental impact during all stages of a scheme</p>	<p>All Croydon Teams</p>
		<p>3 Understand the council's aspirations with regards to carbon reduction</p>	<p>All Croydon Teams</p>
	<p>5 Identify innovative solutions that help to bolster resilience to flooding and climate change</p>	<p>1 Investigate innovative solutions that help to bolster resilience to flooding and climate change</p>	<p>Highways</p>
		<p>2 Collate a list of innovative solutions to help with resilience to flooding and climate change</p>	<p>Highways</p>
	<p>6 Investigate benefits and costs of different resilience actions and property level protections that could be effective in Croydon</p>	<p>1 Collate a list of different resilience actions and property level protections that could be effective in Croydon</p>	<p>Highways</p>
		<p>2 Investigate the benefits and costs of the different resilience actions and property level protections</p>	<p>Highways</p>

				3	Raise awareness of the different resilience actions and property level protections	Highways + Development Management
				4	Undertake trial of the different resilience actions and property level protections to demonstrate their benefits, effectiveness, and costs	Highways
2	New development and regulated activities will contribute to making places more resilient to flooding using Nature Based Solutions where possible and achieving environmental net gain, today and in the future.	1	Ensure appropriate guidance for developers is available to make places more resilient, use Nature Based Solutions, achieve environmental net gain and promoting retrofitting SuDS.	1	Review/update the Advice to Planning Applicants for proposed major developments	Highways
				2	Review/update the Standing Advice used by the LPA for assessing proposed minor developments	Highways
				3	Investigate and collate a list of nature-based solutions that could be effective in Croydon	Highways
				4	Develop a guidance on the costs of installing and maintaining different types of SuDS	Highways
				5	Identify ways to increase awareness of SuDS and promote retrofitting of SuDS	Highways
				6	Ensure that all the information related to water/wastewater management plan is available online e.g.: -Surface water management plan – final report	Highways + Development Management
				7	Ensure that the borough's flood risk information needed for sequential tests is readily accessible online	Highways + Development Management
		2	Continue to monitor the risk of individual and cumulative flood risk to and from developments and review ways to facilitate more sustainable design and post-construction changes.	1	Continue to monitor the risk of individual and cumulative flood risk to and from developments	Highways + Development Management
				2	Identify ways to increase awareness of the flood risk to owners of developments	Highways + Development Management
				3	Improve understanding of the flood risk to and from developments, to inform necessary changes to policy/guidance documents	Highways + Development Management + Spatial Planning
				4	Explore ways to facilitate more sustainable design and post-construction changes	Highways
		3	Ensure the technical review of SuDS applications including the use of Nature Based Solutions as part of the LLFA Statutory Consultee Role for planning applications.	1	Quantify the resource time needed to assess drainage strategies/FRAs submitted as part of planning applications	Highways
				2	Provide training needed to assess drainage strategies/FRAs submitted as part of planning applications	Highways + Development Management

				3	Review employment or procurement needed to successfully deliver the LLFA Statutory Consultee role	Highways
		4	Monitor and record planning application against SuDS Hierarchy to ensure that nature-based solutions are prioritised.	1	Develop a tracking system to monitor number of applications (major & minor), types, date received, date responded, type of response etc	Highways
		5	Continuous working with the Environment Agency, other partners, and other bodies (such as Association of Directors of Environment Economy Planning & Transport, Town and Country Planning Association and the Royal Town Planning Institute) to develop the planning skills and capabilities.			
		6	Identify and promote development-related funding mechanisms to support the delivery of flood alleviation schemes.	1	Collate a list of potential developments to seek for funding	Highways + Development Management
				2	Explore how S106 agreement funding can be utilised to deliver flood alleviation schemes	Highways + Development Management
3	Develop and implement best practice for recording, inspecting and managing flood assets, considering the changing environment	1	Invest in developing and improving in-house information management to enable knowledge sharing between the different teams and externally	1	Create an inventory of the asset information held by the council and the format	Highways
				2	Collate all assets into a single system i.e. Confirm OnDemand	Highways + ICT
				3	Map all flood assets including ordinary watercourses in the corporate GIS system	Highways + ICT
				4	Develop a system for the Contact Centre/Technical Support to better record the different types of flooding	Highways
				5	Ensure that the most up-to-date flood maps/data are available or accessible to all users	Highways
				6	Provide inputs for producing the Strategic Flood Risk Assessment that supports the local plan	Spatial Planning
				7	Improve inter-team collaboration for communicating flood issues in the borough with the residents	Highways + Spatial Planning + Emergency Planning
		2	Raise profile and understanding of groundwater as a flood risk	1	Ensure emergency planning procedures consider response to groundwater events	Emergency Planning
				2	Develop a strategy for groundwater management within the borough	Highways
				3	Carry out detailed study of groundwater presence and flood mechanisms in Croydon	Highways
				4	Sign up to receive groundwater information from the Environment Agency especially, in relation to the Caterham Bourne	Highways + Development Management

		5	Improve groundwater information on the council website and develop a leaflet/flyer for residents/businesses	Highways
		6	Explore the possibility of installing monitoring boreholes in areas susceptible to severe groundwater flooding within the borough	Highways
		7	Engage with SES Water to provide borehole data from Kenley Water Treatment Works	Highways
3	Collate and develop guidance on costs of installing and maintaining different SuDS types	1	Raise aware of the SuDS Design and Evaluation Guide on the council website	Highways + Development Management
		2	Identify and compile a list of SuDS systems that are suitable for implementation in Croydon	Highways
		3	Develop guidance on the costs of installing and maintaining different types of SuDS	Highways
		4	Provide regular training about SuDS systems and its benefits -	Highways
		5	Promote the use SuDS systems within schemes implemented by the council i.e. highways, parks, public realm, housing etc	All Croydon Teams
4	Develop a programme to assess the effectiveness and working conditions of all the Council's existing drainage infrastructure, and put in place a robust maintenance/renewal programme that will ensure that the risk of flooding is reduced	1	Review/improve existing cyclical gully cleansing programme, targeting most silted and hotspot areas	Highways
		2	Develop a Confined Space Programme to target drainage assets in flood hotspot	Highways
		3	Develop a maintenance programme for the linear drainage assets in the borough	Highways
		4	Develop a maintenance programme for the footpath gullies in the borough	Highways
		5	Continue to review/improve the gully repairs programme	Highways
		6	Explore the possibilities of installing silt/water level monitoring sensors in hotspots	Highways
		7	Review and work with the supplier of the gully management system to make improvements where necessary	Highways
		8	Develop a programme to replace damaged linear drainage systems with a robust product	Highways
5	Investigate flood events to understand their source and impacts and apply the learning to inform the Council's and other RMAs' flood management procedures	1	Review/update the existing flood investigation protocol	Highways
		2	Continue to prepare Section 19 flood investigation reports where appropriate	Highways
		3	Continue to update the flood incident register with new information	Highways

				4	Share lessons learnt with relevant teams in the council and other RMAs	Highways + Emergency Planning	
4	We will communicate effectively with infrastructure owners, businesses, and the community to ensure they understand the potential impact of flooding on their lives and livelihoods. They will therefore be better prepared to respond to flooding and will take action to make their properties more resilient to flooding and climate change.	1	Review effectiveness of emergency procedures and ensure our capabilities are known throughout the council and our commissioned services	1	Review existing emergency procedures and identify actions to take forward	Emergency Planning	
				2	Circulate copy of the emergency procedures to relevant teams within the council	Emergency Planning	
				3	Review and update emergency procedures on the council	Emergency Planning	
		2	Regularly liaise with Network Rail, Thames Water and other infrastructure owners to discuss areas where their infrastructure falls in Croydon's flood hotspots		1	Engage with Network Rail regarding planned maintenance to their assets within the Caterham Bourne and Merstham Bourne catchments	Highways
					2	Engage with Network Rail and Thames Water with regards to finding a solution to the surface water flooding at Station Approach, Purley Oaks Road	Highways
					3	Engage with Thames Water and TfL to determine whether the sewer condition or affiliated assets are influencing flood risk in Purley Cross	Highways
					4	Engage with Thames Water with regards to agreeing ownership of the soakaway assets in the New Addington area	Highways
					5	Engage with Thames Water with regards to finding a solution for the foul sewer flooding on Kent Gate Way	Highways
					6	Engage with Thames Water regarding planned maintenance/upgrade to their surface water sewer network in hotspots/CDAs	Highways
					7	Engage with Thames Water regarding their DWMP Programme	Highways
					8	Identify/collate other problem areas within the borough relating to the assets of Network Rail and Thames Water	Highways
					9	Invite representatives of Network Rail and Thames Water to the internal flood group meetings	Highways
		3	Engaging with the public and improving digital communication to encourage resident led initiatives and provide an efficient warning system	1	Continue to attend flood action group/residents' association meetings	Highways	

				2	Expand the information available on the council website	Highways + Development Management + Emergency Planning				
				3	Encourage residents/businesses to sign up to the EA flood warning service	Highways + Emergency Planning				
				4	Explore opportunities to make outputs from Datasphere & Hydromaster available to residents/businesses	Highways				
				5	Promote available advice and guidance documents e.g. Thames Water, Environment Agency, Water UK etc	Highways				
				6	Compile a list of flood alleviation initiatives that residents/businesses could implement privately or community wide	Highways				
				4	Identify riparian owners and raise awareness of their responsibilities	1	Undertake regular surveys of watercourses to identify riparian owners	Highways		
						2	Engage with owners of properties near watercourses to ensure they understand their maintenance responsibilities	Highways		
						3	Undertake regular inspections to ensure that maintenance of the channels, trash screens and other related assets are being carried out	Highways		
						4	Ensure adequate information about riparian owner responsibilities are available on the council website	Highways		
						5	Promote riparian owner responsibilities at flood action group/residents' association meetings	Highways		
						5	Develop flood plans that better coordinate preparing and responding to incidents	1	Liaise with the Emergency Resilience Team to develop flood plans	Highways + Emergency Planning
						2	Undertake regular reviews of the flood plans to ensure they are fit for purpose	Emergency Planning		
						3	Undertake regular drills to test the flood plans and update as necessary	Emergency Planning		
						5	Enable sustainable growth by taking account of social, economic, environmental and flood risk opportunities and challenges	1	Establish the impact of planned growth on flooding hotspots/CDAs	1
								2	Review planning policies to understand where growths are planned within the borough	Highways + Development Management
								3	Work with the LPA to ensure that new developments are steered away from areas identified as high risk of flooding	Highways + Development Management
				2	Identify how investments in flood resilience can minimise the local economic impacts of flooding, improve investor confidence and enable sustainable growth	1	Develop a list of potential measures that could be implemented to alleviate flooding in hotspots/CDAs	Highways		

				2	Undertake cost benefit analysis of the measures	Highways
				3	Develop a list of flood alleviation measures that have been identified could minimise the local economic impacts of flooding	Highways
				4	Develop a business case for funding (both internal & external)	Highways
		3	Integrate long-term adaptive approaches into the spatial plans and growth strategies	1	Identify and develop a list of long-term adaptive approaches	Highways + Spatial Planning
				2	Regularly review spatial plans and growth strategies to ensure long-term adaptive approaches are included	Spatial Planning
		4	Delivering wider environmental objectives			
6	Be at the forefront of understanding current and future flood risk in Croydon, contributing to and applying UK research and innovation on better understanding and managing flood risk	1	Upskilling and training for staff on new innovations surrounding flood risk management	1	Identify training opportunities available (internal & external) and ensure teams across the council are made aware	All Croydon Teams
				2	Encourage knowledge sharing in teams across the council	All Croydon Teams
				3	Undertake regular online research to identify new innovative ideas surrounding flood risk management	Highways
		2	Monitor future updates and guidance on flood risk about UK Climate Change projections, planning and development design and flood risk management good practice, communicate these across the Council's teams and ensure policies and practices take account of them	1	Discuss any updates and guidance at the internal flood group meetings	All Croydon Teams
				2	Regularly review policies and practices to ensure these contain the most up-to-date information available	All Croydon Teams
				3	Develop a list of the policies and practices that should be regularly reviewed and identify the appropriate period for review	All Croydon Teams
7	Collaborate with Risk Management Authorities in and around Croydon to jointly manage flood risk.	1	Work with multi-agency partners to enhance local arrangements for flood planning and response	1	Identify the Risk Management Authorities with interest in and around Croydon	Highways
				2	Identify the roles and responsibilities of the Risk Management Authorities	Highways
				3	Pursue collaborations through LoDEG to develop ways of anticipating and managing flooding in London	Highways
				4	Organise a catchment wide working group for planning and research purposes	Development Management
				5	Continue to meet with groups (RFCC)	Highways
		2	Continue to meet regularly and work with the other five South West London Boroughs	1	Ensure Croydon's issues are resolved within the South-West London Partnership meetings	Highways
				2	Identify opportunities to jointly address cross border flood management	Highways
				3	Identify technical knowledge sharing opportunities	Highways

				4	Identify opportunities where services can be jointly procured	Highways
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