

MASTER ACTION PLAN

Group	ID	Action			Priority Ranking	Cost			Benefit	Potential Funding Source	Timing			Comments	Responsibility				EU Related?	Review		Location	Linkages		
		What?	How?	Where?		Investigation / Feasibility	Capital	Other			Timeframe	Start Date	Approx. Duration		Lead Organisation	LLFA Dept.	Primary Support	Other Stakeholders		Frequency	Next Review Date		CDA ID	Related Action IDs?	Related Partners' Action IDs?
General Flood Risk Management Actions	1	Look for opportunities to reduce flood risk whilst upgrading the existing drainage network	Review capital works programmes in consultation with NCC, GYBC and AWS	Study Area Wide	High	-	-	-	Maximise benefits of planned capital works	NCC / GYBC / AWS	Medium	2013	1-2 years		NCC	Highways	Norfolk Highways and Anglian Water	GYBC	No	Annually	2014	N/A	N/A	N/A	
	2	Ensure current emergency response to study area surface water flooding is appropriate	Liaise with local resilience groups to review procedures and local risks in relation to surface water flooding (including a possible warning system for high intensity localised rainfall)	Study Area Wide	Medium	-	-	-	Emergency response based on best available information	NCC and GYBC	Short	2013	1 year		NCC and GYBC	Resilience Team	Local Resilience Forum		No	N/A	N/A	N/A	N/A	N/A	
	3	Install a series of hydrometric monitoring systems across the study area to improve understanding of local rainfall patterns, link to warning systems when rainfall intensities exceed agreed threshold levels and provide evidence for local flooding investigations	Identify suitable sites on GYBC / NCC owned land (e.g. schools, libraries or council buildings) and install rainfall gauges with remote telemetry links to GYBC / NCC systems	Study Area Wide	Low	-	-	-	Increased awareness of flood risk within community, improved warning systems and improved evidence base for flooding investigations	NCC / GYBC / AWS	Medium	2013	1-2 years		NCC	FWM Team	GYBC	Anglian Water		No	Annually	2014	N/A	N/A	N/A
	4	Improve community awareness of flooding from all sources	Social media platforms such as Google+, Facebook or Twitter are utilised as a way of communicating with local residents and providing information on local flood and water management activities.	Study Area Wide	Medium	-	-	-	Increased awareness of flood risk within community	NCC / GYBC	Short	2013	Ongoing		NCC	FWM Team	GYBC			No	Annually	2014	N/A	N/A	N/A
	5	Consider retrofitting flood resilience and resistance measures to properties areas at risk of surface water flooding	Work with communities to install low cost resilience / resistance measures using local skills and resources.	Study Area Wide	Medium	-	-	-	Reduction in the impact of flooding	Property Level Flood Protection (Defra), FDGIA	Long	2013	10 years		NCC and GYBC	FWM Team	Building Control	Local Residents, NCC		No	Annually	2014	N/A	N/A	N/A
	6	Determine whether services (e.g. power, telecommunications) are resilient to surface water flooding	Identify areas that are at risk of multiple sources of flooding and join up benefits of resilience / resistance to increase opportunities for third party funding	Study Area Wide	Medium	-	-	-	Community resilience to flooding	Service providers	Medium	2013	3 year		NCC and GYBC	FWM Team	Resilience Forum			No	Annually	2014	N/A	N/A	N/A
	7	Installation of additional road gullies or alternative drainage systems to reduce standing water depth and duration	As part of highways improvement programme include additional construction task of installing additional gullies or alternative drainage systems where feasible and required. Consultation with Anglian Water may be required.	Study Area Wide	Medium	-	-	-	Reduction in the probability of flooding	NCC/GYBC/Developer contributions / other?	Medium	2013	Ongoing		NCC	FWM Team	Anglian Water and NCC Highways	GYBC		No	Annually	2014	N/A	N/A	N/A
	8	Determine areas within the study area which are appropriate for retrofitting SUDS solutions through current redevelopment / regeneration plans or within community owned properties (such as schools, libraries and council buildings)	Permeable paving, rainwater harvesting, water butts and rain gardens can be easily incorporated into urban regeneration / redevelopment schemes. These solutions can be proposed with confidence if general areas within GYBC have already been identified as suitable.	Study Area Wide	Medium	£5k	-	-	Will assist in reducing runoff volumes and improving quality of water discharging to watercourses	Developer contributions / other?	Medium	2013	1-2 years		NCC	FWM Team		Environment Agency		No	Annually	2014	N/A	N/A	N/A
Strategic Planning Policy Actions	9	Consider implementation of Surface Water Flood and Water Quality Management policies	Development Control Review and Monitoring of policy implementation	Study Area Wide	High	-	-	-	Mid-long term reduction in flood risk and improvement in water quality	Private developer	Ongoing	2013	Local Plan Period		GYBC	Planning Strategy		Environment Agency, NCC		No	Annually	214	N/A	All Strategic Planning Policy Actions	N/A
	10	Consider implementation of specific policy relating to site based flood risk assessments for surface water that is similar to the current practice of the Environment Agency for fluvial/tidal/coastal flood risk	Development Control Review and Monitoring of policy implementation	Study Area Wide	High	-	-	-	Mid-long term reduction in the probability of flooding	NCC, GYBC and Private developers	Ongoing	2013	Local Plan Period		NCC (as LLFA and Ikley SAB)	Planning Strategy	GYBC	Environment Agency		No	Annually	2014	N/A	All Strategic Planning Policy Actions	N/A
	11	Consider recognition of preferred overland flow paths and use of these as Urban Blue Corridors within local strategic planning policy	Designate preferred overland flows within the Local Plan and control development to ensure compatibility with identified local flood risk	Study Area Wide	Medium	-	-	-	Reduced flood impacts over time	NCC, GYBC and Private developers	Ongoing	2013	Local Plan Period		NCC (as LLFA and Ikley SAB)	Planning Strategy	GYBC	Environment Agency		No	Annually	2014	N/A	All Strategic Planning Policy Actions	N/A
Maintenance	12	Ensure drainage systems are operating at capacity - maintenance of gullies	Review existing gully clearance/maintenance schedules and if necessary revise/prioritise those within "wet" areas of	Study Area Wide	High	-	-	-	Reduction in high frequency but low impact surface water flooding	Norfolk Highways	Ongoing	2013	Long		Norfolk Highways	Highways		Anglian Water		No	Quarterly	2014	N/A	All Maintenance Actions	N/A
	13	Gully Cleaning - Improving "Visibility" - Targeted based on risks identified in SWMP	Clearly identify gullies prone to flooding (possibly painted yellow)	Study Area Wide	Medium	-	£25k	-	Improved maintenance regimes. May promote residents and ground sweeping teams to maintain them	Norfolk Highways	Medium	2014	1 year		Norfolk Highways	Highways		NCC		No	Annually	2015	All CDAs	All Maintenance Actions	N/A
	14	Gully Cleaning - Enforcement Powers - Targeted based on risks identified in SWMP	Encourage gully cleaning contractors to use powers to enforce movement of parked cars to ensure all gullies are regularly cleared.	Study Area Wide	Medium	-	<£25k	-	Improved maintenance regimes	Norfolk Highways	Medium	2014	1 year		Norfolk Highways	Highways		NCC		No	Annually	2015	All CDAs	All Maintenance Actions	N/A
	15	Gully Cleaning - Timing of Cleaning Rounds - Targeted based on risks identified in SWMP	Coordinate timing of gully cleaning rounds to ensure that they do not coincide with school opening and closing times and other peak times that would prevent gaining access to gullies.	Study Area Wide	High	-	<£25k	-	Improved maintenance regimes	Norfolk Highways	Medium	2014	3 months		Norfolk Highways	Highways		NCC		No	Annually	2015	All CDAs	All Maintenance Actions	N/A
	16	Clear Blocked Gullies - Targeted based on risks identified in SWMP	Focus attention on the maintenance of gully pots in the identified Critical Drainage Areas (CDAs) which are considered to be high risk	Study Area Wide	High	-	-	-	Reduction in the frequency of flooding	Norfolk Highways	Medium	2014	1 year		Norfolk Highways	Highways		NCC		No	Annually	2015	All CDAs	All Maintenance Actions	N/A
	17	Ensure drainage systems are operating at capacity - maintenance of Anglian Water sewers	Anglian Water to consider SWMP findings within AMP programme and incorporate if flooding identified as drainage serviceability issue.	Study Area Wide	High	-	-	-	Use of existing assets to maximise flood mitigation benefits	Anglian Water	Ongoing	2013	Long		Anglian Water	FWM Team	NCC Highways and GYBC	Anglian Water		No	Quarterly	2014	N/A	All Maintenance Actions	N/A
	18	Maintain ditches on GYBC owned land	Review existing maintenance schedules and if necessary revise/prioritise area of historic blockage (may require public consultation)	Study Area Wide	High	-	-	-	Use of existing assets to maximise flood mitigation benefits	GYBC	Ongoing	2013	Long		GYBC	FWM Team	IDBs	Anglian Water and Environment Agency		No	Quarterly	2014	N/A	All Maintenance Actions	N/A
	19	Create a clear policy for enforcement of maintenance on high risk ordinary watercourses / ditches by riparian owners	Implement powers as allowed by FWMA for LLFAs	Study Area Wide	High	-	-	-	Use of existing assets to maximise flood mitigation benefits	NCC	Ongoing	2013	Long		NCC	FWM Team	Environment Agency			No	Quarterly	2014	N/A	All Maintenance Actions	N/A
	20	Review all natural assets to ensure the environmental integrity of the area(s) are not compromised by surface water runoff and any changes from development or flow regime	Undertake monitoring of areas (water quality, debris, flora/ fauna, etc)	Study Area Wide	High	-	-	-	Maintain environmental benefits	NCC and GYBC	Ongoing	2013	Long		GYBC/NCC	FWM Team	Environment Agency,		Yes	Quarterly	2014	N/A	All Maintenance Actions	N/A	
	21	Undertake a detailed feasibility study to confirm significant level of flood risk predicted by SWMP study and use as justification for possible partnership funding	Engage consultant to complete detailed study and work with partners to investigate funding opportunities	High Priority CDAs (South Yarmouth, Northgate, Caister and Hemsby)	High	£40k	TBC	TBC	Improved understanding of flood mechanisms and potential funding opportunities for mitigation solutions	FDGIA / NCC / EA / AWS	Short	2013	6months		NCC	FWM Team	EA and GYBC	Anglian Water, Local Residents		No	6months	Mid 2014	N/A	22	N/A
22	Complete consultation with local residents, businesses and landowners to obtain historic incident information and increase knowledge of local issues	Public consultation	High Priority CDAs (South Yarmouth, Northgate, Caister and Hemsby)	High	£20k	TBC	TBC	Refine understanding in high impact areas	NCC and GYBC	Short	2013	3months		NCC	FWM Team	GYBC	Environment Agency, Anglian Water		No	N/A	N/A	N/A	N/A	N/A	
23	Review all benefits of proposed schemes and identify links with partner organisation goals	Joint investigation of mitigation solutions that have multiple benefits	High Priority CDAs (South Yarmouth, Northgate, Caister and Hemsby)	High	£15k	TBC	TBC	Partnership working with others to achieve multiple benefits for local flood risk mitigation and river water quality improvement	NCC / EA / Anglian Water / EU	Short	2013	4months		NCC	FWM Team	EA and GYBC	Anglian Water	Yes - WFD / HRA	Quarterly	2014	N/A	N/A	N/A	N/A	
All CDA Actions	24	Use SWMP mapped outputs as an evidence base to require developers in areas at risk of flooding to demonstrate compliance with NPPF to ensure development will remain safe and will not increase risk to others	Development Control Policy	All CDAs	Medium	-	-	-	Mid-long term reduction in the consequences of flooding	Private developer	Ongoing	2013	Local Plan Period		NCC/GYBC	Planning Strategy	Building Control			No	Annually	2014	N/A	N/A	N/A
	25	Investigate (confirm) whether flooding incidents have occurred in CDAs and other areas identified as being at risk of flooding	Review flooding reports, then conduct survey of local residents (e.g. mail drop, door knocking) to update database	All CDAs	Medium	-	-	-	Validate model outputs, resident 'buy in'	NCC and GYBC	Short	2013	1 year		GYBC	FWM Team	Local Resilience Forum	Local Residents NCC		No	N/A	N/A	N/A	N/A	
	26	Monitor flood risk related problems and manage future development using proposed CDA preferred options to minimise impact on flood risk	Development control policy and monitoring of flood risk incident register	All CDAs	Medium	-	-	-	Proactive management of potential flood risk in areas of higher risk probability	NCC and GYBC	Ongoing	2013	Ongoing		GYBC	FWM Team	NCC Highways	NCC		No	Annually	2014	N/A	29	N/A
	27	Work proactively to monitor the condition of ordinary watercourses and associated culverts and review maintenance practices as required	Assess condition of ordinary watercourses	All CDAs	High	-	-	-	Understanding of culvert condition and associated potential collapse risk	NCC/GYBC	Ongoing	2013	Ongoing		NCC/GYBC	FWM Team	EA	Local Residents		No	Monthly	2014	N/A	28	N/A
	28	Work proactively with the EA and local IDBs to monitor the condition of Main Rivers, culverts and Defences.	Share condition assessment information and jointly review other information as it becomes available	All CDAs	Medium	-	-	-	Understanding of standard of defences	EA / NCC / GYBC / IDB	Ongoing	2013	Ongoing		EA	NCC		Local Residents		No	Monthly	2014	N/A	27	N/A
29	Engage Norfolk Highways to monitor any future flooding and assess the associated risk on all Major Roads	Maintain regular contact with relevant parties to share flood risk information	All CDAs	High	-	-	-	Understanding of local flood risk and potential impacts	Norfolk Highways	Ongoing	2013	Ongoing		NCC	Highways	Norfolk Highways			No	Quarterly	2014	N/A	26	N/A	
Transport Infrastructure risk assessment	30	Carry out a flood risk assessment for roads highlighted to flood during extreme events e.g. major roads (A Roads) and determine if any specific contingency or traffic management plans are required	This should include determining the standard of protection currently provided and, if necessary, carrying out further investigation/ modelling to improve the level of understanding.	Study Area Wide	Low	-	-	-	Refine understanding of flood risk on key routes	NCC/GYBC	Medium	2013	6 months		NCC/GYBC	N/A	Norfolk Highways			No	Annually	2014	N/A	N/A	N/A
	31	Carry out a flood risk assessment for pedestrian underpasses and provide signage for those at risk of flooding.	Review of topography and model results to determine risk to users	Study Area Wide	Low	-	-	-	Refine understanding of flood risk in pedestrian underpass	NCC/GYBC	Medium	2013	6 months		NCC/GYBC	N/A	Norfolk Highways			No	Annually	2014	N/A	N/A	N/A