SRA 2016-2017 Enhanced Programme - Maintenance

Ref	Title	Outline of Scheme/Activity/Action	Objectives, Outcome & Benefits	Additional £s or work
IDB19	Maintaining dredged profiles	Carrying out on-going maintenance of those lengths of river once pioneer dredging has been completed. To cover maintenance of the original 8km of Parrett and Tone, and the 750m of the Parrett from Northmoor to the M5.	Maintenance of dredged profiles to avoid the need for capital dredging in the future.	+work
IDB25	Silt monitoring	On-going survey of Parrett and Tone profiles to ensure that maintenance dredging is targeted in the areas most in need.	Identify locations, equations and types of silt build-up to enable maintenance work to be better targeted. By collecting data to better understand the relationship between fluvial and tidal deposition and the associated locations and sources of silt, better management of conveyance can be obtained by optimising dredging activities and better understanding gained of the impact of other possible flood risk solutions (upper catchment).	+work
LLFA08	Computer Hydraulic Modelling	Further hydraulic modelling will be required to test the effectiveness of proposals and the interaction of works at various locations. This will require amending/extending the hydraulic model that the Agency have commissioned. Yrs 1 and 2 concentrate on Parrett, Tone and Brue; year 3 onwards develop other models.	Due to the complex nature of flooding and the way changes in one area can impact on other areas, it is essential that all options are tested in a hydraulic model, prior to being recommended for implementation, to assess their effectiveness (i.e the level of flood risk reduction acheived) and ensure no adverse impacts elsewhere. Modelling all works in a comprehensive model of the system will enable effectiveness, and hence value for money, to be assessed and demonstrate to the wider community that measures being proposed do not have adverse impacts elsewhere, or, that there are adverse impacts.	+work
EA05	Intermittent Asset Maintenance	Proposed asset repairs likely to include: Bridge repairs (countywide); North Drain inlet (near Wells); South Hill sluice penstock (north of Burnham–on–Sea); Huntworth Brook (near Bridgwater); Rode Bridge de-silting (River Frome); Spring Gardens channel maintenance (near Frome); Vallis flow guage repairs (Mells River); Witham Friary flow guage repairs (Frome); Frome removal and relocation of guage (St Leonards Weir, Frome). These are all assets owned by the EA, whose funding bids for maintenance can fall short of what's required. Unfunded asset repairs are normally placed on an EA national priority list. Note: the SRA's proposed asset repairs may change, if the EA's list changes.	Asset maintenance and improvement is crucial for the accurate and timely delivery of data and information that shapes and strengthens operational response to flooding and potential flooding. Without SRA funding, the Environment Agency would be reliant on landowners undertaking work or having assets handed to them, or data could be taken from donor sites elsewhere which might be inaccurate for certain locations. This in turn could give rise to problems such as the inappropriate issuing of alerts (causing needless worry to communities). There is also a value, well-recognised by people across Somerset, in maintaining and improving assets so they perform reliably when required.	+£
LATDBC01	Upper Tone Strategic Flood management Scheme	The Upper Tone scheme will work by 'storing' water in the upper catchment of the River Tone (above Taunton) in times of flood, releasing this in a controlled and gradual fashion and reducing peak water levels downstream. The scheme will store approximately 1.8 million cubic metres of water. The water storage area would only be used during flood events – most of the time it would be dry and could be maintained for agriculture. Following outline feasibility, the next steps are detailed feasibility, land acquisition and obtaining all necessary consents to enable the project to be delivered.	The proposed project would store a substantial volume of water in the upper catchment of the River Tone, reducing peak flows downstream during flood conditions. It will allow planned development – housing, employment land and regeneration sites – approximately 4,350 new homes and nearly 10,000 new jobs, in the town centre and at new employment sites – to be safely brought forward. It will mitigate the effects of climate change. Without such a scheme, existing properties and business premises will face unacceptable levels of flood risk and associated human and economic consequences.	+work
LHA01	CW1 - Countywide de-silting of structures	Focused on problem areas countywide, a scheme to de-silt waterways beneath engineering structures, i.e. road bridges/culverts. It is proposed that each year a list of priority schemes is identified. Possible opportunity of joint delivery with IDB09.	Silting-up is a problem because it can cause damage to an engineering structure (bridge, culvert, etc) or flooding. Desilting increases the flow of water through a structure. It reduces the risk of structural damage caused by pressure, or by floating debris colliding and getting stuck. It also cuts the risk of flooding on roads and in nearby properties. This will also reduce the risk of motorists becoming stuck and requiring resource to rescue them, making inappropriate manoeuvres on the highway, wasted journeys, increased traffic on other roads, highways emergency callouts. SRA funding is required because a lack of Somerset County Council revenue funding means that desilting is not done as a routine operation.	+work
IDB09	Highway culverts inspections and remedial works in IDB areas	Carry out inspections of circa 700 culverts which cross public highways and, focused on problem areas, repair/remove blockages/increase capacity where appropriate or replace life-expired structures. Possible opportunity of joint delivery with LHA01.	To improve conveyance and flood risk management by having a better understanding of structures which have dual functions (flood risk and highway) and where responsibilities are sometimes unclear. Culverts are all vulnerable to potential blockages from debris and vegetation and many were not designed to accommodate the structural loading of modern traffic. There is significant potential for water flow capability to be lost, either by blockage or collapse, and this results in local flooding and traffic disruption. This programme will prioritise the most vulnerable and strategically important culverts for preventative maintenance and so help prevent disruption to residents and travellers.	+work

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EA03	River Isle - Isle Brewers bank repairs and badger damage	The village of Isle Brewers near Fivehead benefits from an existing flood alleviation scheme (FAS) which protects a number of properties. Maintenance is undertaken annually and consists of grass cutting and asset (i.e. flap valves and penstocks) maintenance. Funding via FDGIA is sufficient for this work only. A routine Environment Agency asset inspection highlighted that some banks have badger damage. Funding will repair this damage and exclude the badgers using DEFRA-approved contractors. Other works could include deployment of badger mesh to discourage re-habitation of the banks.	This repair work will ensure that the standard of flood protection afforded to the village of Isle Brewers by the existing defence is maintained.	+£
LHA04	CW4 - Countywide Enhanced maintenance - Drain Jetting	This is an enhanced maintenance regime focused on problem areas, in addition to that currently delivered by SCC to alleviate localised highway flooding.	In conjunction with the programme of gully emptying, the cleaning of highway drains from road gullies to outfall alleviates local highway flooding, with associated safety benefits to highways users.	+£
LHA05	CW5 - Countywide Enhanced maintenance - Road Sweeping	This is an enhanced maintenance regime, focused on rural problem areas, in addition to that currently delivered by SCC to alleviate localised highway flooding.	It is known that the effectiveness of highway drainage systems is severely impeded by debris and detritus accumulating on highway drains, with resulting localised flooding. Road sweeping would offer safety benefits to highway users as well as preventing future clogging of highway drains.	+£
EA10	West Somerset Streams - annual maintenance (versus EA funded biannual)	The EA currently undertakes routine maintenance work on various main rivers in West Somerset. Reduction in funding has meant that this work can only be delivered on a bi-annual rather than an annual basis. SRA funding will allow an annual maintenance regime to be reinstated on Doniford Stream, Horner Green, Traphole Stream and Washford Stream, plus a one-off pioneer work programme to be undertaken.	As a high proportion of watercourses in West Somerset are classified as 'Rapid Response Catchments', it is important to ensure that channel conveyance is maintained leading to maximum flood water discharge capacity. A number of flood alleviation schemes are in place which provide an enhanced level of protection, but the removal of debris and vegetation from within channels is seen as a priority by the West Somerset Flood Action Group.	+£
IDB21	Additional de-silting / dredging	Removal of silt from smaller main river channels and viewed rhynes identified at an IDB workforce workshop in 2014. Over 250km across IDB areas identified (locations need to be cross-checked against EA's engine rhyne desilt programme).	Increased conveyance.	+work
LASDC02	Funding for programme of Enhanced Maintenance of SDC Flood relief and drainage assets	In the last 18 months Sedgemoor District Council (SDC) has been undertaking an audit of flood relief and drainage schemes within its area. This has involved reviewing historic records and archived material. This process is on-going and is identifying a number of old flood relief schemes that are in SDC's area which may require maintenance or upkeep. Many of these schemes need investigating and possible maintenance undertaken to keep them in good order/ensure they continue to work effectively. Funding required to undertake surveys and assessments of schemes and to instigate maintenance if it is appropriate for SDC to undertake works. Possible opportunity for joint delivery with IDBs and/or Somerset County Council.	The aims and objectives are to ensure that where previously unknown flooding and drainage infrastructure is identified that has been unmaintained, and if Sedgemoor District Council is the appropriate responsible authority, that a budget is available to undertake surveys and, if necessary, carry out maintenance to ensure that these schemes remain effective mechanisms for preventing flooding and drainage problems. In doing this, the objective is to protect property and other infrastructure that may be affected if these systems fall into complete disrepair. The work is additional to Sedgemoor's current maintenance of land drainage schemes, structures and channels at locations including Wedmore, Blackford, North Petherton, Cheddar, North Newton, Greinton and Goathurst.	+work
LHA06	CW6 - Flood alert systems	Flood warning and flood telemetry systems have been improving in recent years and several providers now offer sophisticated flood detection devices that provide real-time information. This project proposes to try out flood alert systems in Somerset. Devices that react to water on a road and trigger warning signs of flooding can be provided by Skanska and fitted in low spots along highways. SRA funding provides solar-powered signs and on-going maintenance.	If water height is monitored in real time, and pre-determined danger levels are reached, information can be sent back to a service provider, warnings can be automatically triggered via text and email and flashing signs and diversions can be activated. Technology also allows for warnings to be broadcast via text message and email to numerous third parties. Emergency services could be alerted, or local radio stations. Multi-level warnings can be generated according to the height of the water. Levels can be configured to suit the particular nature of a site or a local authority's requirements. For example: open, closed to cars, closed. Such a system could significantly reduce the risk of vehicle damage or personal injury, particularly when it is dark.	+work
LLFA05	SuDs Inspections	Major developments are required to use SuDs for surface water drainage, but no authority is funded to inspect the construction of SuDs to ensure they comply with approved plans. SRA funding will be used to to inspect new SuDs schemes to ensure compliance and review existing SuDs schemes including: Blackbrook Barton; Chelston Business Park; Farriers Green, Monkton Heathfield; Cotford St Luke (all Taunton Deane): East Huntspill (Sedgemoor): Houndwood, Street; North of Wells Road, Glastonbury (Mendip): New Barns, Wincanton; Canal Way, Ilminster; Land adjacent to hospital, South Petherton (all South Somerset).	The objectives of this proposal are two-fold. First to ensure that new SuDs that are not adopted by a Water & Sewage Company, Highway Authority or other public body are constructed and therefore function as designed and approved. The second objective relates to existing schemes and is the assurance that these SuDs schemes are functioning as designed and approved. A report will examine the effectiveness of schemes, and what actions (if any) need to be undertaken. It will study whether schemes have been adequately designed, whether they were constructed as designed, whether there are any deficiencies, and whether they are being adequately maintained. It will confirm whether the public perception that SUDs schemes are not working, and are a major cause of downstream flooding, is correct, or provide evidence to the contrary.	+work

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IDB17	West Sedgemoor and Aller Moor Viewed Rhynes Enhanced Maintenance	Carrying out maintenance of all viewed Rhynes in West Sedgemoor and Aller Moor on an annual basis rather than a biennial basis.	Increased conveyance.	+£
LLFA01	CCTV Surveys of privately owned drains	Surveys on culverts on private property where it's suspected there are issues with the flow of water and/or a lack of information about important watercourse networks. Accurate knowledge will enable requests to riparian owners to remedy problems - and/or enforcement.	Greater understanding of where there are blockages will enable these problems to be put right, by requesting riparian owners to remedy the problems or carry out enforcement. Lead Local Flood Authority officers often get involve in neighbourhood disputes. It is often very difficult to ascertain ownership of culverted watercourses without carrying out a CCTV survey. Furthermore, enforcement cannot be taken against anyone unless proof is obtained about the location of culverts.	+work
LLFA10	Encouraging urban and village runoff reduction	Slow the Flow' and natural flood management projects are seeking to reduce flooding by holding back the flow from rural areas but runoff from urban areas, especially those areas constructed before the advent of SuDs, also contributes to flooding. This activity seeks to address this by a campaign to raise awareness of steps that individuals can take and encourage them to do so.	The objective is to raise awareness of the steps that individuals can take to reduce runoff and hence flooding. A publicity campaign showing the benefits of water butts, rainwater harvesting, replacing concrete drives with permeable paving, etc, will be undertaken to encourage uptake by showing the benefits.	+work
LLFA11	Sponge EU Project	A demonstration project to retrofit SuDs to a large retail park/industrial estate in Taunton or Bridgwater to show what can be achieved in an urban area. If the application is successful, the project will be 60% funded by the EU 2 Seas Programme.	The objective is to raise awareness of the steps that owners of large impermeable areas can take to reduce runoff and hence flooding. A SuDs retrofit will be undertaken to demonstrate the environmental and flood risk benefits that can be achieved. Runoff from urban areas, especially those areas constructed before the advent of SuDs, contributes to flooding. This activity seeks to address this.	+work
LLFA12	BugLife Project	The environmental charity BugLife wish to undertake a small rain garden demonstration project to show the environmental and runoff reduction benefits that can be achieved. The project will be 50% funded by Wessex Water.	The objective is to raise awareness of what can be achieved through the installation of a rain garden. BugLife will then use the results of the installation to encourage others.	+work
LASSDC06	South Somerset enhanced and programmed maintenance	SSDC will review nearly 40 sites where programmed maintenance of flood alleviation schemes is currently carried out and determine whether the work can be made even more effective by doing more to the existing sites or indeed extending the scope. This work could be one-off maintenance operations but could also include reviewing 55 debris capture screens. The design and construction of these screens will be looked at to identify if these could be improved and as such be able to more readily maintain flows. Watercourses in selective areas will be looked at where, for whatever reason, any effective maintenance is currently not carried out and actioned as necessary.	The aims of this proposal are to investigate sites where SSDC carries out planned maintenance works and verify effectiveness. It would also include a H&S review and replace screens, etc, as necessary to improve H&S. It would provide information on existing planned maintenance and verify the effectiveness. It would also seek to improve efficiencies by improving the designs and replace as appropriate. This will have a knock-on effect on improved H&S of sites. The outcome will be delivered by producing records of which sites have been reviewed and where further action is needed and how that action is to be pursued.	+work
IDB20	Tree work	Removal of trees and woody vegetation from channels identified at an IDB workforce workshop in 2014. Over 60km across IDB areas identified. Needs to be assessed on evidence on a case-by-case basis.	Increased conveyance. Work has not been carried out before, as necessary, because of higher priority projects and limits on existing funding. If the work is not done now then the channels' capacity will go on getting smaller, thereby increasing flood risk to local areas. Access for routine maintenance will also continue to become more	+work
LLFA13	Planning Requirements	What developers can be asked to provide is laid down in planning legislation and the extent to which planning requirements can be created is not widely understood. The project will set out how planning requirements to reduce runoff can be determined and the extent they can be created.	Runoff from new development is controlled through the planning process and what developers can legitimately be required to provide is set out in planning legislation and guidance. This needs to be better understood so that it's known to what extent planning requirements can be created, eg by requiring rainwater harvesting on all new development. If requirements are not possible, this needs to be clearly explained to the public. If it is considered that changes to legislation are required, the route for doing so needs to be set out.	+work
LLFA04	Riparian enabling and enforcement	Increased resource to ensure that riparian owner responsibilities for ditch maintenance are carried out.	The aim of this proposal is to work with communities to ensure that watercourses are maintained throughout the county and flood risk is reduced. A riparian enabling and enforcement officer will take a proactive approach to engaging communities and farmers and provide advice to ensure that the flow of water is maintained in ordinary watercourses and that flood risk is reduced. The alternative is a volunteer scheme but it is difficult for a volunteer to carry out enforcement.	+£
LHA03	CW3 - Countywide Enhanced maintenance - Gully emptying	Focused on problem areas, an enhanced maintenance regime in addition to that currently delivered by SCC to alleviate localised highway flooding. This programme calls on a wide variety of data, such as Environment Agency surface water flooding maps, historical records of highway service requests, highway maintenance history and so on. It's propose to cleanse gullies every six months at locations across the county which are most susceptible to flooding.	This programme of gully emptying is designed to mitigate high risk areas (top 20%; ie between 4,000 and 7,000 gullies) and to alleviate localised highway flooding, with associated safety benefits to highway users. It willl keep roads open, communities accessible and safeguard properties from flooding.	+£

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FWRS05	Natural Flood Management: Slow the Flow	There is growing demand through the West Somerset Flood Group for Natural Flood Management advice and support. There is currently no funding for Land Management advice in West Somerset or Frome catchments because they don't connect to the Levels.	Alleviate local flooding in quick-response catchments of West Somerset, working with and through the West Somerset Flood Group. Alleviate local flooding in Frome catchments. Use the SRA's Heart of South West Local Enterprise Partnership Growth Deal money to give capital grants for natural flood management schemes where small-scale soft engineering is necessary.	+work
FAPWS01	WS5: Building Local Resilience (9 objectives/work programmes)	Continued employment of one community resilience development worker to provide inspiration, support, advice, information and practical help to communities, households, businesses, and landowners across Somerset to encourage and enable them to become more resilient. - Project to use community development principles of engagement, participation, inclusion, self-determination and partnership.	Objectives: 1) To encourage and enable every town and parish in Somerset at risk of flooding to engage with local resilience planning and, beyond production of plans, to encorage and enable communities to move forward with preparedness / adaption at household, business & community level. 2) To develop a model of "a resilient community" to set minmum standards, promote best practice & improve understanding of risks & expectations. 3) To build on the work of Community Resilience In Somerset Project (CRISP) to develop and share tools, techniques and materials to support community resilience activities and to create an ongoing programme of events and training to embed community resilience. 4) To establish an annual or bi-annual Community Resilience Forum to maintain and support a developing network of dedicated voluntary community leaders.	+work