

## **ITEM 10a Appendix 2 (11 pages)**

### **SRA Enhanced Programme 2021-22 – Proposal Summaries**

#### **Workstream 1: Dredging and River Management**

##### **W1 – River Sowy-King’s Sedgemoor Drain Enhancements Scheme (Phase 1)**

###### ***SRA Reference: LP-GD2-b***

The first phase of a major project to increase the capacity of key parts of the Sowy and King’s Sedgemoor Drain through work in these rivers’ channels and on their banks. Important side-stream structures will also be upgraded. This project will be delivered for Somerset Rivers Authority by the Environment Agency in the second half of 2021. On top of Growth Deal money from the Heart of the South West Local Enterprise Partnership and sums specially reserved in previous SRA annual budgets, some extra funding is being sought through the SRA’s Enhanced Programme 2021-22 to help ensure the project’s success.

Providing more capacity in the Sowy-KSD system, so that it can be used more effectively, is a key aim of Somerset’s 20 Year Flood Action Plan, which is overseen by the SRA.

Sowey-KSD works have so far included:

- the creation of new river channels under the A372 at Beer Wall near Othery, along with tilting weirs;
- the installation of a new water level control gate near Chedzoy;
- de-silting bridges to increase channel capacity at Parchey and Dunball;
- removing obstructive masonry from under Dunball Old Bridge, which carries A38 traffic southbound, to help smooth the flow of water towards Dunball Sluice;
- nearly 100 water level control structure improvements on the Westmoor and Moorlinch Raised Water Level Areas and a big new culvert at Egypt’s Clyse on Othery Rhyne

All these works are part of an ongoing programme to reduce flood risks across 150 square miles, including moors upstream of Langport and moors west of the River Parrett. People, homes, farms, businesses, land and infrastructure will all benefit from a greater level of protection.

##### **W1 – Bridgwater Tidal Barrier**

###### ***SRA Reference: EA17***

Bridgwater Tidal Barrier is a major project led by the Environment Agency and Sedgemoor District Council. Designed to help protect more than 11,300 homes and 1,500 businesses, it

has three main elements: a tidal barrier on the River Parrett at Chilton Trinity, 2.67 miles (4.3km) of new flood defence banks and 1.74 miles (2.8km) of raised banks downstream at Chilton Trinity, Combwich and Pawlett, and fish and eel passage improvements at 12 sites upstream of the barrier.

Most funding for this major project will come from central government major project funding. However, a local contribution towards the project is also required to secure the national funding. Sedgemoor District Council is responsible for assembling a local match-funding package. The council is seeking a contribution from the SRA in recognition of the important role the Barrier will play in protecting Somerset residents, homes and businesses.

## **W1 – Dulverton Weir and Leat Flood Alleviation Scheme (Phase 1)**

### ***SRA Reference: LASWT01***

A study to establish how flood risks in Dulverton could be reduced by restoring the town's medieval weir and the Leat that loops off it. Dulverton has a long history of flooding. Over the last five years, Dulverton Flood Action Group has been called out 12 times to set up flood defences.

The weir across the River Barle is 150 metres wide. It diverts water from the river into a complex Leat system created in the past to provide power for various mills, which are nowadays mostly homes. Leat water flows alongside and under properties in Dulverton, then re-joins the Barle on the other side of town.

Both the weir and the Leat are eroded and damaged. The first phase of work to be funded by Somerset Rivers Authority will include:

- flood alleviation modelling
- carrying out ecological surveys
- finalising designs for repairs and improvements
- getting any necessary approvals
- putting the second phase of work out to tender, and agreeing costs
- seeking funding for the second phase

This work will be delivered for the SRA by Somerset West and Taunton Council, which owns the weir and Leat. If all goes well, a second phase of extensive repairs and improvements will follow, with more funding from the SRA and possibly other bodies. Dulverton Leat Trust has then agreed in principle to lease the restored weir and Leat from the council, and to accept responsibility for all future maintenance and costs.

## **W1 – Somerset Levels Strategic Mitigation**

### ***SRA Reference: LP-SAM***

A Strategic Approach to Mitigation project is being led for the SRA by Natural England. Its three main aims are to reduce costs and risks, to enable flood risk management schemes in the county to go ahead, and to secure a wide range of environmental benefits. Specifically

on the Somerset Levels, and in relation to major projects such as dredging and ongoing River Sowy-King's Sedgemoor Drain enhancements, Natural England has identified a series of actions that need to be implemented.

SRA funding is therefore being sought for 1) the development of a protocol for monitoring the condition of the Somerset wetlands, 2) the development of a methodology for mapping wider wetland areas of critical importance to winter waterfowl, 3) initiating the updating of Water Level Management Plans and establishing operational protocols including a set of Environmental Trigger points across Somerset, and 4) developing alternative solutions to the current suite of Raised Water Level Areas.

## **Workstream 2: Land Management including Natural Flood Management**

### **W2 – Hills to Levels: Somerset Land Management and Natural Flood Management**

#### ***SRA Reference: FWMDCLM01-22***

Somerset Rivers Authority continues to fund the biggest range of natural flood management (NFM) activities in the UK, as part of Hills to Levels. Plans for 2021-22 include more schemes in the Mendip District Council area, following on from earlier SRA-funded sub-catchment analyses across Mendip.

There are seven main elements, all to be delivered for the SRA by the Farming and Wildlife Advisory Group SouthWest (FWAG SW), except for the NFM schemes in Mendip (see below) for which Mendip District Council will take responsibility, while working in partnership with FWAG SW.

**1 NFM schemes countywide:** Design and implementation of 20 small-scale natural flood management schemes to hold back water in upper catchments and reduce peak flows.

**2 NFM schemes in Mendip:** Four nature-based schemes in sub-catchments with flooding problems analysed for the SRA in two earlier Mendip-wide investigations. These projects will deliver a range of NFM measures including (where appropriate) 'Stage Zero' techniques of river restoration. In parts of sub-catchments that are more built-up, schemes may make some use of Sustainable Drainage Systems (SuDS) techniques. Some existing flood alleviation features may be replaced, repaired or restored (for example, ponds).

**3 Match funding:** Match funding for five NFM projects to hold back water and reduce peak flows, namely:

- the Environment Agency's Hills to Levels Multi-Benefits project in the sub-catchments of the Upper Washford, Merriott Stream, North Petherton Stream, Back Stream and Halse Water
- the Environment Agency's Water Environment Grant (WEG) Merriott Stream de-culverting initiative

- Natural England's WEG West Sedgemoor Catchment initiative
- the Somerset Frome Water Environment Improvement Fund
- a major scheme in the Wallbridge area of Frome, involving Section 106 money from developers

**4 Highways referrals:** Funding for responding to 40 referrals of cases where better land management could help to fix problems such as roads flooding because of run-off from fields. In such cases it makes sense to address causes as well as symptoms. Extra SRA funding enables this to happen with partners working together to tackle issues beyond their usual limited remits.

**5 Soil husbandry:** Funding for increased uptake of better soil management techniques and cropping changes to improve the infiltration of water and reduce run-off on 35 farms. Including 10 split field trials, 15 soil husbandry reports and five workshops.

**6 Online NFM auction:** An online auction countywide, excepting only land in lower-lying Internal Drainage Board areas, as the main purpose of natural flood management (NFM) activities in Somerset is to slow the flow of water down through higher parts of river catchments. Farmers will be able select for themselves different NFM activities, pick out parts of their land where they believe those activities will produce the best flood prevention results for themselves and for local communities and then bid for funding for those activities. Previous auctions have led to hundreds of successful bids for various extensive improvements.

**7 Modelling and monitoring:** Modelling and/or monitoring at sub-catchment scale to demonstrate the effectiveness of natural flood management measures that have already been installed.

## **W2 – River Aller Upper Catchment Floodplain Restoration**

### ***SRA Reference: FWLM04***

The National Trust's Riverlands project in Porlock Vale is developing innovative approaches to working with natural processes. At Tivington Farm in the upper catchment of the River Aller it is proposed to restore and re-naturalise 125 hectares.

Re-connecting ditches and headwater tributaries to their floodplain will slow the flow of water. This will help to reduce flood risks for nearly 100 properties downstream in places including Allerford and Bossington. It will help to reduce regular flooding of the A39 between Porlock and Minehead, and to protect several B roads and smaller lanes. It will also substantially benefit wildlife and the local landscape and environment.

This project is part-funded by the EU's Interreg2Seas programme and by the Environment Agency. Match-funding is being sought from the SRA for works including modelling and design.

## **W2 – Somerset Beaver Strategy**

### ***SRA Reference: FWLM06***

Beavers are being re-introduced across the UK because their activities can bring many benefits. These include reduced flood risks, better water quality, and habitat and biodiversity improvements. Beavers are popular with the public, one poll finding 76% in favour of the creatures being re-introduced. However, in some places and situations, beavers can damage property and infrastructure, and have unwanted effects on farming and other land and river uses.

A few beavers are already living inside enclosures in the catchments of the Somerset Frome and the River Aller. Recognising that further initiatives are inevitable, a Somerset Beaver Strategy would seek to establish how the county could get as many benefits as possible from beavers, while preventing or countering any drawbacks. This would be done through working with a wide range of organisations and people to build understanding, consensus and support.

The development of a beaver strategy would be jointly funded by the SRA with South West Wildlife Trusts, so that lessons can be learned from elsewhere in the region, particularly as regards fishing interests.

This proposal involves the Farming & Wildlife Advisory Group SouthWest, Somerset Wildlife Trust, the National Trust, the Beaver Trust, and Exeter University. These partners would liaise with bodies including the Environment Agency, Natural England, Somerset Drainage Boards Consortium, the National Farmers Union, the Country Land & Business Association, fisheries organisations and angling clubs, and local flood groups.

## **W2 – Somerset Natural Flood Management Mapping and Targeting**

### ***SRA Reference: FWLM05***

There is a growing interest in – and demand for – natural flood management (NFM) measures across Somerset. This proposal is designed to review what has been achieved by the SRA and others over the last six years, to strengthen coordination between different organisations and individuals, and to better target future activities in key areas. The Farming & Wildlife Advisory Group SouthWest (FWAG SW) is seeking SRA funding to enable work with Westcountry Rivers Trust on:

- 1.** Mapping ALL existing Somerset Natural Flood Management (NFM) schemes by type of intervention.
- 2.** Producing NFM targeting maps to identify sites and sub-catchments offering the greatest potential for NFM and future flood-friendly Land Management delivery (based on slopes, types of soil and catchment, hydrology, etc).
- 3.** Zoning the most suitable and effective NFM measures in different areas.

4. Ground-truthing potential larger sites to determine the feasibility of NFM, checking in-field and making initial contact with landowners.

## **W2 – Natural Flood Management for Doniford Catchment Farms**

### ***SRA Reference: WWT01***

A bid from the Wildfowl & Wetlands Trust (WWT) and the Farming & Wildlife Advisory Group SouthWest (FWAG SW) to enhance a Green Recovery Challenge Fund (GRCF) project in West Somerset. The GRCF is funded by Defra and administered by the National Lottery Heritage Fund. The GRCF West Somerset project will help communities in Bicknoller, Elworthy, Sampford Brett and Stogumber to create parish-level NFM opportunity maps, establish parish NFM action groups and deliver NFM measures.

Extra SRA funding is being sought by the WWT and FWAG SW to enable complementary work with farmers and landowners, chiefly developing whole farm NFM plans and delivering a series of NFM measures. The main local aim is to help tackle the long history of flooding problems suffered by Doniford catchment communities. Partners' wider ambition is to create a parish-based model for action that could be reproduced across Somerset.

## **W2 – Somerset Trees for Water Action Fund**

### ***SRA Reference: FWLM03-22***

The SRA first funded Trees for Water in the Enhanced Programme for 2020-21. It is a tree and hedge planting action fund designed to help local communities reduce flood risks resulting from surface water run-off issues. The project is run by Reimagining the Levels in collaboration with the Farming & Wildlife Advisory Group SouthWest (FWAG SW). Despite the challenges of the coronavirus pandemic, the project has had a successful year with many useful sites being volunteered.

Further SRA funding is now being sought to enable the project to continue. In 2020-21 Trees for Water targeted Mendip and South Somerset. It is now proposed in 2021-22 to include Somerset West and Taunton and Sedgemoor.

Trees for Water is particularly designed to suit strategically important sites not large enough for Countryside Stewardship grants and not special enough in conservation terms to concern Natural England. This Action Fund is meant to be flexible, bespoke and un-bureaucratic.

## **Workstream 3: Urban Water Management**

### **W3 – Burnham On Sea Water Management Investigation**

***SRA Reference: LASWT01***

An investigation into flooding problems in a popular part of Burnham on Sea. This study will focus on the large area that feeds into the lakes at Apex Leisure & Wildlife Park and Haven Holiday Park, and include a survey of the lakes themselves.

The aim is to identify improvements that will provide better protection against flooding and more effective long-term management of local drainage systems. Around 100 properties in the Maple Drive area of Burnham could particularly benefit.

This project is being led for Somerset Rivers Authority by Sedgemoor District Council.

### **W3 – Minehead 25-Year Action Plan**

***SRA Reference: LLFA26***

Many properties and businesses in Minehead are at risk of flooding, and there is increasing concern locally about proposed developments soon putting extra pressure on drainage systems already struggling to cope. Climate change also makes flooding more likely.

Somerset County Council is therefore asking the SRA to part-fund the urgent development of a 25-year action plan for tackling flood risks from all sources in and around Minehead. The county council and Wessex Water say they will put £60,000 towards this work. Other partners involved would include the Environment Agency, Somerset Drainage Boards Consortium (which covers part of Minehead), Somerset West and Taunton Council and the Farming & Wildlife Advisory Group SouthWest. This kind of collaboration is in line with the SRA's remit of encouraging extra partnership working.

Action plan efforts would include gathering data and evidence, constructing an integrated catchment model for Minehead, and developing a costed programme of priority projects.

### **W3 – River Sheppey Catchment Action Plans for Croscombe and Shepton Mallet**

***SRA Reference: MDCLLFA01***

The sub-catchments of Croscombe and Shepton Mallet are historically prone to flooding. The most recent event occurred in October 2020 when 19 properties flooded internally and many roads including the A371 were submerged and made impassable. Numerous different factors interact in these sub-catchments in ways that are not fully understood. Part of the problem is a complex network of culverts – especially beneath listed buildings – which is difficult to access, monitor and maintain.

To better grasp the issues involved and find solutions, an integrated study of the whole River Sheppey catchment is required. The SRA is therefore being asked by Mendip District Council to fund a major detailed investigation, in line with its remit of enabling extra partnership working. Mendip would work with organisations such as the Environment Agency, Somerset County Council, Wessex Water, the Farming & Wildlife Advisory Group SouthWest, Shepton Mallet Town Council, Croscombe Parish Council Flood Committee and the Darshill and Bowlsh Conservation Society.

The study would include reviews of all existing information about local flooding problems, new CCTV and walkover surveys, new flow route and capacity assessments and catchment modelling. Costed action plans combining a wide range of measures would then provide the basis for detailed funding bids and effective improvements

## **Workstream 4: Resilient Infrastructure**

Four programmes of enhanced maintenance are being planned by Somerset County Council's Highways Department. The aim is to help keep roads open in places highly susceptible to flooding, make them safer, preserve access for communities, and safeguard properties from flooding, all in line with the objectives of Somerset's 20 Year Flood Action Plan. These works benefit residents, businesses and visitors. Where possible, they are dovetailed with the Hills to Levels system of highway referrals to reduce run-off from land onto roads.

### **W4 – Somerset Enhanced Maintenance: Gully Emptying**

***SRA Reference: LHA03-22***

Gullies in places most at risk of flooding across Somerset are cleansed once a year by Somerset County Council. Extra SRA funding means that around 20,000 gullies can be emptied twice a year.

### **W4 – Somerset Enhanced Maintenance: Drain Jetting**

***SRA Reference: LHA04-22***

Extra SRA-funded drain jetting targets places across Somerset at high risk of flooding. Drains are usually only jetted by Somerset County Council on a reactive basis: that is, once they have become blocked. Pro-active jetting is designed to stop drains from getting blocked in the first place, by removing silt and debris.

## **W4 – Somerset Enhanced Maintenance: Silt-trap Emptying**

***SRA Reference: LHA122-22***

Silt-traps are designed to reduce flood risks by collecting silt washed out from land near roads, so highway drainage systems are not jammed with sludge. Somerset has 79 silt-traps at places known to be susceptible to flooding. Extra SRA funding enables Somerset County Council's Highways Department to carry out a programme of pro-active cleansing, so that traps themselves do not get blocked up, but work as they should.

## **W4 – Somerset West and Taunton Enhanced Maintenance: Trash Screen Clearing**

***SRA Reference: LHA130***

Extra SRA-funded trash screen clearing targets just under 40 places countywide. Trash screens are usually only cleared by Somerset County Council on a reactive basis: that is, once they have become blocked and already caused people problems. Pro-active clearing is designed to stop screens from getting clogged up in the first place.

## **W4 – A358 Combe Florey Drainage Improvements**

***SRA Reference: LHA133***

Part of the A358 near Combe Florey is flooding more often across both lanes because of run-off from adjacent agricultural land. Large quantities of fine soil are spreading on to the road and blocking drains, which cannot cope with the volumes coming down.

The A358 is one of only two main routes into – and out of – West Somerset. It is also a county freight route. Repeated flooding inconveniences and potentially endangers road users.

SRA-funded efforts are being made to encourage better land management practices by local landowners, to reduce run-off from nearby fields. Options for natural flood management (NFM) interventions are also being investigated. However, while NFM measures may help, it is not believed they will entirely fix problems.

Somerset County Council's Highways Department is therefore proposing to install a new filter drain system, to make structural repairs where need be, and to re-profile sections of the carriageway so that better use can be made of existing assets. Roadside ditches and grips would also be cleared or re-constructed to enable surface water to discharge more effectively from the highway.

## **W4 – Creech St Michael Culvert Upgrade**

***SRA Reference: LHA134***

Surface water flooding is a long-standing problem for the residents of Charlton Road in Creech St Michael near Taunton. Somerset County Council's Highways Department would use SRA funding to help around 30 local properties by installing a new culvert. The existing system cannot cope with the volume of water that flows down a ditch and has to make two 90-degree turns.

## **W4 – Beckington Drainage Improvements**

***SRA Reference: LAMDC07***

A two-phase project following on from a major SRA-funded investigation into almost every aspect of flooding and foul sewer problems in Beckington. The aim is to reduce the risks of future widespread flooding in the village, particularly along Goose Street, Warminster Road, Frome Road and Church Hill. In recent years surface water flooding has occurred in these areas in January and November 2011, in May, October, and December 2012, and in December 2013.

This project is being led for the SRA by Mendip District Council. Phase 1 will focus on detailed designs for high priority improvements to Beckington's existing drainage system, including culvert repairs and new manholes to allow for more inspections and better long-term maintenance.

Phase 2 will focus on delivery. As well as drainage system repairs and improvements, some upstream natural flood management measures will seek to reduce the amounts of sediment and debris getting into culverts and impeding their usefulness. Wessex Water will reduce the number of foul sewer mis-connections: this work is being funded by Wessex Water. Once new manholes are in place, previously inaccessible parts of the drainage system may be CCTV-surveyed. This may lead to further works, depending upon what is found.

An intensive educational campaign about riparian responsibilities will be mounted. Its aim will be to make residents aware of what they must do in future to look after their parts of Beckington's improved drainage system. Wessex Water also wants people to stop clogging up pipes and sewers with fat, wet wipes and other unsuitable materials.

## **Workstream 5: Building Local Resilience**

### **W5 – Building Local Resilience across Somerset**

#### ***SRA Reference: FAPW501-22***

Alongside practical moves to help Somerset get better prepared for flooding, Somerset Rivers Authority will encourage greater understanding of flood risks, the implications of climate change, and the responsibilities of property owners and land managers.

Key elements to be funded by the SRA in 2021-22 include:

- funding for the continued employment until March 2023 of the SRA's Community Engagement Officer and Community Engagement Support Officer
- community film project about flooding in Somerset developed in partnership with Somerset Film, using archive film of historic flooding
- fund for resources that will help the Community Engagement team to deliver projects
- focus on boosting the resilience of small businesses
- engagement with schools in areas at risk of flooding (coronavirus restrictions permitting)
- developing links between existing flood groups, and encouraging new groups
- helping Climatewise (an international insurance industry initiative based at Cambridge University) to study the economic impacts of climate change and flooding in Somerset through the lens of insurability

The Community Engagement team will continue to lead existing SRA projects such as trialling very localised flood gauges in West Somerset, and continue to work in partnership on big projects led by others such as Adapting the Levels. Where SRA partners need help with local communities on SRA-funded projects, the team will help in various ways to achieve success.