

# Flood Risk Management: Resilience and Adaptation 2019



We've selected a few news articles for you to read for free ahead of our upcoming event **Flood Risk Management: Resilience and Adaptation 2019**, returning to London on 5 December.

## DEFRA pledges £62m for flood defences in England

- 22 September 2019

A total of £62m in additional flood defence infrastructure funding across the Northern Powerhouse, Essex and Lincolnshire is aimed at protecting over 9,000 homes and businesses.

Thirteen communities across England with over 9,000 homes at risk from flooding, including many affected by the devastating 2015 floods, are to share £62.35m in DEFRA funding aimed at boosting existing flood defences and economic regeneration.

The funding, announced on 10 September, is in addition to the £2.6bn over six years up to 2021 already announced, aimed at enhancing protection for 300,000 homes across the country, said DEFRA.

It is seen by the Government as an important part of the UK's plan to show leadership in climate adaptation ahead of hosting crucial COP26 climate talks in 2020, as well as a means of ensuring greater resilience to the economic shock widely expected to follow Brexit through public infrastructure investments.

Most of the funding is to support development of 13 projects in the Northern Powerhouse, with seven of these in Yorkshire, four across Cumbria and Lancashire as well as

two in the North East, it added.

In West Yorkshire, £19m is slated for the Mytholmroyd, Hebden Bridge and Brighouse schemes in the Calder Valley, where more than 3,000 properties were badly affected by the 2015 floods. DEFRA said the latest boost meant that two projects at Hebden Bridge and Brighouse will now go ahead as of next year, and added that communities elsewhere in Yorkshire "will also receive additional funding with more money for the Tadcaster Flood Alleviation Scheme and additional funding for defences at Sowerby Bridge".

But the funding announced appears to fall well short of the £141m contribution called for by the West



Yorkshire Combined Authority earlier in September to fully unlock a £282m flood defence package planned for the Leeds City Region.

The second largest contribution of £22.8m will go to Cumbria and Lancashire for four projects in Kendal, Egremont, Flimby and Preston and South Ribble. The Kendal scheme proposes three phases, the first of them to provide

"a 1 in 50 level of protection for 1,480 homes and 1,151 businesses".

The funding round also allocates £6.3m to projects outside the Northern Powerhouse region, in Essex, where the River Roding project at Shonks Mill aims to afford better protection to 550 homes in Woodford and surrounding areas. In Lincolnshire, the so-called Lincoln Defences project is expected to cut flood risk to 1,842 homes and 424 businesses.

Since April 2015, the Environment Agency has completed more than 500 new flood and coastal erosion prevention schemes, enhancing protection for over 195,000 homes and thousands of businesses. DEFRA added that the Government is to lay out its policies for better protection against climate-change enhanced flood and coastal erosion in a government policy statement by the end of this year, allowing the Environment Agency to update its long term national strategy for flood and coastal erosion risk management...

To read the full story visit: [www.environment-analyst.com/dis](http://www.environment-analyst.com/dis)

## Sustainable SUDS solution for M56 runoff

- 22 September 2019

A new, efficient and compact SUDS system capable of filtering out metal pollution and fine particles has been installed along the M56 to

protect a stream in Cheshire from polluted runoff.

An innovative new sustainable urban drainage system (SUDS) that regulates and filters large volumes of polluted water in motorway runoff with a high degree of efficiency and durability has been installed by contractors BDB Special Projects along a heavily-used section of the M56 in Cheshire.

The Cheshire installation, to protect a stream exposed to runoff from an outfall draining a 1km stretch of the motorway, is the first SDS Aqua-Xchange™ system to be successfully installed in motorway filter drains – stone-filled trenches – opening the way for a roll-out to other motorways, trunk and flank roads.



SDS Aqua-Xchange™, with small land-take, manufactured by Somerset-based water infrastructure systems specialist SDS Ltd, is “an engineered pollution control and enhanced filter media which uses ionic exchange and filtration to remove soluble and solid pollutants from surface water runoff”, using efficient, naturally-occurring materials in the adsorption process. It can be either installed in roadside filter drains in new construction projects or retrofitted in linear developments in the form of a 250mm deep layer underneath standard aggregate, increasing treatment capacity and reducing flood risks downstream.

It is particularly useful in removing dissolved copper and zinc, as well as finer solid particles. SDS adds that it “captures pollutants that would otherwise pass through an upstream hydrodynamic separator or silt trap”, can be used without change throughout the year, and

that captured metals are retained even if road salt is applied in the catchment area.

It has a minimum 25-year performance standard.

### **West Yorkshire calls for £141m flood defence funding**

*- 23 September 2019*

Leeds City Region is looking to launch a £282m flood defence project but needs £141m government backing.

West Yorkshire Combined Authority has called on the Government to back a package of flood defence measures aimed at protecting the Leeds City Region.

It is calling for a £141m contribution to the programme, which would begin in 2021. The authority aims to safeguard some 3,300 businesses, 5,300 homes and more than 32,000 jobs, it says.

The authority argues the project, which would follow on from the first phase of the Flood Alleviation to Unlock Economic Growth Programme after the disastrous Boxing Day Floods of 2015, would also “would unlock development land which could provide 7,500 new homes and create 525 new jobs adding an estimated £100 million to the City Region economy over the next ten years”. It claims the project would also cut carbon emissions equivalent to removing 236 cars from the road every year, amid other environmental benefits.



**[The project] would unlock development land which could provide 7,500 new homes**

The programme includes several major projects, among them flood alleviation schemes in Tadcaster, Keighley and Hebden Bridge. If the authority is successful in obtaining the funding, it says £135m would be invested in 29 flood resilience schemes, with a total capital value of £282m in the City Region. The

remaining £6m would be invested in a natural flood management plan.

In its submission to HM Treasury and Defra, the authority says: “Leeds City Region is at a unique stage in its development with a series of key infrastructure investments coming forward in the future e.g. HS2, NPR and Housing Infrastructure Fund. It is critical that this investment is resilient and safeguarded. The City Region has a strong track record of delivering innovative and complex flood resilience management schemes on budget.”

### **Environment Agency sets up client support network**

*- 6 September 2019*

The agency has contracted £80m worth of client support for flood defence, other capital and improvement works, as well as initiating or commissioning research ranging from incentivising environmental performance to impact of sea level rise.

An £80m client support network is being set up by the Environment Agency under its Client Support Framework to help it deliver on its programme covering capital investment and improvement works on its flood defence assets, in addition to wider business requirements.

There were seven companies bidding for the framework, and this was tendered in two separate Lots. Capita Black and Veatch Consortium, Jeremy Benn Associates Ltd and Jacobs UK Ltd won contracts totalling around £27m under Lot 1 for “Technical Delivery Support”.

The second lot covering “Contract, Cost and Carbon Management Support includes AECOM Ltd, Arcadis Consulting (UK) Ltd, Capita Black and Veatch Consortium and Turner and Townsend Cost Management Ltd. The lot is worth a total of £53m.

In addition, Mott MacDonald Ltd won contracts under both Lots.

EA is also involved in a research



project with Cambridge University “exploring the potential use of incentives within environmental regulation”. It says this is research, “not a firm commitment to the future use of incentives” and it is seeking views via an online survey.



The EA survey is looking to gain a broader perspective as to how to incentivise environmental performance more effectively. It adds it is “especially keen to hear from those within the Combustion, Cement Lime & Minerals, and Chemicals sectors, as well as from people working within the broader supply chain of those sectors”. Contributors are invited to register at: <https://www.smartsurvey.co.uk/s/1UI0X/> before the survey closes on 15 September.

On 29 August, EA also announced the findings of a study commissioned from the Met Office assessing the implications of sea level rise out to the year 2300. This developed new projections of mean and extreme sea levels (composed of combined height of mean sea level, tide and surge, but excluding waves) over the period. The information generated will be critical for long-term planning and the UK’s adaptation response to increasing sea levels, it says.



### Sea levels are expected to continue to rise

The work found that “sea levels are expected to continue to rise past the end of the 21st century under all of the UKCP18 [UK Climate Projections 2018] greenhouse gas emission scenarios,” but vary by region. For London and Cardiff, the projection is for some 0.5m to 2.2m, 0.8m to 2.6m and 1.4m to 4.3m sea level rise for the low representative

concentration pathway (RCP2.6), medium–low (RCP4.5) and high (RCP8.5) emissions scenarios respectively. But the increase is substantially less in Edinburgh and Belfast as land levels are rising in the north, with corresponding ranges at 2300 of some 0.0m to 1.7m, 0.2m to 2.1m and 0.7m to 3.6m.

Even so, the study warns that “it is not possible to rule out substantially larger increases in sea level associated primarily with a potential acceleration in ice mass input from West Antarctica”.

It says flood risk posed by extreme sea levels “increases as a direct result of the increasing coastal water levels”. Rates of increase will vary with time and location, it adds.

On wave changes due to climate change, there is less certainty. It says the literature provides some evidence for “a decrease in future annual mean significant wave height (the average of the largest third of waves), but a potential increase in extreme wave heights for offshore waves around the UK”. Changes to water depth inshore as sea levels rise are expected to affect wave heights and the position of the surf zone, but these were not assessed in the report...

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### £25m Carlisle flood scheme goes ahead

- 8 August 2019

Construction of the first phase of a major flood protection scheme for homes and businesses in Carlisle has begun.

Work has started on a £25m flood protection scheme, to be completed by 2021, that will reduce flood risk for more than 1,600 homes and businesses in Carlisle, the Environment Agency has announced.

The first phase of the scheme, initiated on 31 July at Walkmill Crescent, near Botcherby Bridge, will cost £8m, cutting residual flood

risk following the previous scheme completed in 2005 to just 0.5% annually. This phase will protect more than 1,200 homes and 106 businesses.

The first phase works, following extensive local consultation over different options, include both building and enhancing flood defences at Melbourne Park, raising land at the entrance to Tesco off Warwick Road, and works to improve the flow of the water around Botcherby Bridge.



### The flood scheme [...] not only benefits the people of Carlisle, but also the environment

Other work will include enhancing wildlife habitats in Melbourne Park and recreation facilities, such as new park benches and entrance features. EA is also to plant extensive wildflower meadows with the aim of increasing populations of native birds, amphibians, small mammals and pollinators. The main beneficiaries will be native pollinators including butterflies, moths and bees, in turn sustaining insects that pollinate food crops.

EA says it is preparing to submit a planning application for the remaining phases in late 2019, and that this will be preceded by extensive public consultation.

Stuart Mounsey, Environment Agency Flood and Coastal Risk Manager for Cumbria, said: “The community of Carlisle have seen how devastating flooding can be. That’s why I’m so pleased we can start work to further reduce flood risk to more than 1600 homes and businesses. We have worked closely with our partners and the local community to develop an improved flood scheme which not only benefits the people of Carlisle, but also the environment.”

“It is hoped phase one of the scheme will be completed by the end of this year better protecting

Carlisle this winter against another Storm Desmond sized storm, with phase one delivering the greatest improvement to homes in the city."

He added: "This scheme will have the highest standard of protection outside London and York, and whilst we can never guarantee that there will never be future flooding, we hope that this scheme will bring peace of mind to the public."

### Leeds signs off on £76m flood scheme

- 1 August 2019

The next phase of a major flood prevention scheme along the River Aire near Leeds has been announced, involving mitigation measures in three places, habitat and amenity enhancement.

Leeds City Council has signed off on works for the next phase of the Leeds Flood Alleviation Scheme totalling £75.98m with BMMjv, a joint venture between BAM Nuttall and Mott MacDonald.



The works, announced on 29 July following planning approval earlier in July, are being overseen by Leeds City Council and the Environment Agency. They involve construction of linear defences along eight kilometres upstream along the River Aire from Leeds Station. The scheme is to focus on key areas around Leeds Industrial Museum at Armley Mills, Kirkstall Abbey and Kirkstall Meadows.

At Armley Mills, the defence works include construction of new protective walls, a new higher bridge aimed at improving water flow, as well as two new control structures that close when the river levels become too high, said BMMjv.

At Kirkstall Abbey, there will be a

new structure in front of Kirkstall Abbey Sluice Gates limiting the amount of water during peak flows down the goit channel. It says this structure will also serve as a walkway that "could open up new views".

The Kirkstall Meadows proposal is "to transform 2.4ha into a wetland habitat and also feature kingfisher banks, otter holts and wetland scrapes for fish". It added that "a new flood embankment will reduce flood risk to the adjacent railway line".

The work is to be funded by the EA's flagship Natural Flood Management programme, working in cooperation with partners and landowners to slow flow of rainwater into the river, reducing flood risk and mitigating impacts of climate change. This is to be achieved through measures such as creation of new woodland, wetlands and woody debris dams. Further planning approvals will be applied for as the catchment-wide programme develops, says the developer. There will also be landscaping works to enhance the environment and wildlife, as well as to improve amenity access, including two new bridges, footpath improvements and new natural areas.

The first step of work, sufficient to provide a one-in-100-year level of protection against the risk of flooding, can already proceed with funding already in place from the Government, Leeds City Council as well as other stakeholders. Discussions are also ongoing over further funding to deliver the full £112.1m phase two of the scheme, and a second step to follow, aimed at upgrading the whole scheme to a one-in-200-year level of protection, identified as necessary for Leeds after the Christmas 2015 floods.

Phase one of the scheme, including state-of-the-art moveable weir technology to protect Leeds city centre and areas downstream to Woodlesford, was completed in 2017 at a cost of £50m.

Commenting, Peter Charlesworth, project principal for Mott

MacDonald, said: "We are delighted to have secured this opportunity to continue our support to Leeds City Council and the Environment Agency. Building on solutions developed for Phase 1, this scheme will provide flood protection to properties and businesses along a further 14km length of the River Aire through Leeds as well as delivering significant environmental improvements."

Councillor Judith Blake, leader of Leeds City Council, said: "This is a hugely important milestone for Leeds, as it commits us to getting this vital work done and hopefully underlines our commitment to doing everything to can to make our residents and businesses safe from the risk of flooding as soon as possible."

Flood risk manager at the Environment Agency, Adrian Gill, added: "Our ambition is still to complete both steps of this second phase of the scheme. The first step will provide much better protection from the River Aire upstream of Leeds station through the Kirkstall area and out to Newlay."

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## Flood Risk Management 2019

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