

## Leeds Flood Alleviation Scheme Frequently asked questions

### 1. Who is actually in charge of the Phase 2?

The flood alleviation scheme is led by Leeds City Council in partnership with the Environment Agency.

Construction contractors BMMjv, Arup and Thomas Mackay are delivering the scheme on behalf of Leeds City Council.

### 2. What standard of protection will Phase 2 of the Leeds Flood Alleviation Scheme deliver?

The standard of protection that will be provided by Phase 2 is currently unknown as it is dependent on the business case, the options available and is subject to consultation.

### 3. What are the timescales for the different stages of phase 2?

Activity	Estimated duration	Estimated date
Feasibility & Business case	12 months	complete December 2017
Submit Business case		December 2017
Specimen Design	6 months	complete June 2018
Detailed Design & Build Tender & Award	4 months	complete October 2018
Start Detailed Design		November 2018
Commence Construction Works		Early 2019

### 4. Can it be done quicker?

We are committed to getting the work done as quickly as possible but it is crucial that further investigation and design work is done first to ensure that Leeds gets the best scheme possible. Options for early interventions and quick wins, or possibly a phased approach to the scheme, will also be considered as part of the feasibility study.

### 5. What stage is the work at now?

The contract has now been awarded to BMMjv (a joint venture between BAM Nuttall and Mott MacDonald), for the feasibility and business case development of the flood alleviation scheme. The estimated completion date for this phase is December 2017.

### 6. Will I get to comment on the proposed options?

We will be holding an 8 week consultation from late September. The consultation gives people the opportunity to share views on the different options. We would also like to get further information on the potential environmental and recreational opportunities we could provide as part of the scheme. To keep up to date with the progress of phase 2 please sign up to our quarterly newsletter by email [LFAS@leeds.gov.uk](mailto:LFAS@leeds.gov.uk) or follow us on twitter @leedsfas

### 7. When is work likely to start?

The detailed design of the Phase 2 scheme is currently programmed to be completed late 2018. The work will then go out to tender, with construction expected to commence early 2019

#### **8. What flood risk reduction measures will be used?**

We do not currently know what specific measures will be used because we are only at the feasibility stage. We do however know that we will be taking an integrated catchment approach. This means that although the primary aim of the scheme is to reduce the risk of River Aire flooding in Leeds, including areas such as Kirkstall and Stourton (outside of the Phase 1 area), we will look at the upper catchment to identify opportunities where we can work with others to reduce flood risk along the River Aire beyond the Leeds boundary. We will consider using a combination of upper catchment natural flood management (NFM) options and localised engineered defences.

Engineered options could include: flood defence walls, embankments, flood storage areas, conveyance improvements (including alterations to bridges, weirs and culverts), bypass channels and overland flow routes.

#### **9. What is NFM?**

Natural flood management aims to protect, restore and emulate the natural functions of catchments, floodplains and rivers. A wide range of techniques can be used to reduce flood risk by slowing and attenuating flow whilst achieving other benefits. Examples include: woodland planting, restoring peat moorlands and improving floodplain connectivity all help reduce flood risk to communities downstream.

However, it should be understood that Natural Flood Management does not exclude the use of engineered solutions and although the measures vary in approach and scale, the underlying idea is to slow, store and filter water to reduce flood peaks and limit damage.

NFM: ‘...techniques that aim to work with natural hydrological and morphological processes, features and characteristics to manage the sources and pathways of flood waters. These techniques include the restoration, enhancement and alteration of natural features and characteristics, but exclude traditional flood defence engineering that works against or disrupts these natural processes...’ (SEPA, 2015<sup>1</sup>).

WwNP: ‘...taking action to manage fluvial and coastal flood and coastal erosion risk by protecting, restoring and emulating the natural regulating function of catchments, rivers, floodplains and coasts...’ (Environment Agency, 2012<sup>2</sup>)

#### **10. How much will Phase 2 cost?**

The projected cost of Phase 2 is under development and will be determined as part of the feasibility study. The majority of the scheme will be funded by the Government with further contributions likely to be required from local developers and beneficiaries. Additional private contributions may also be required for localised enhancements that are not required as part of increasing flood resilience.

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**11. Has funding for Phase 2 been secured?**

The Government has committed £65 million to fund the Phase 2 scheme, initially providing £35 million between now and 2021. Further funding will then be provided to complete the scheme.

**12. Is this a watered down version of the £188 million flood defence scheme cancelled in 2010?**

Phase 2 will build on much of the work previously done to understand flood risk in Leeds and will also take an integrated catchment approach (looking for opportunities across the entire River Aire catchment), using the latest modelling techniques and exploring opportunities which have arisen since 2010.

This work will identify new opportunities for integrated catchment management, working upstream to reduce peak flood flows through Leeds, together with the potential construction of new defences along the River Aire within the Leeds boundary.

**13. What other flood recovery work is being done in the Leeds area following Storm Eva?**

The Environment Agency identified 35 repair jobs in the Leeds local authority area, of which 29 are now complete. The remaining six will either be completed before December or temporary measures will be put in place to ensure that the same standard of protection as that in November 2015 will be provided throughout the winter period. The work has involved assessing and repairing damaged flood defences, walls and structures so that we can continue to protect communities. Works include building temporary defences such as those in the Kirkstall Road area, repairing permanent defences, clearing obstructions and removing gravel, debris and vehicles from rivers.

Two new flood warnings are now in place for Wortley Beck. These went live on 27 October 2016. There is already an existing warning area in this location which is currently being remodelled to better reflect the current flood risk in the area.

A pop-up shop will be opening in Kirkstall as part of Kirkstall Regeneration. This facility will not only provide an opportunity for the local community to see the plans for the Leeds FAS Phase 2, but also allow the public to meet and discuss areas of concern with staff from the LFAS project team as well as the River Stewardship Company and other community groups. It will also be a way to keep updated on the progress of the scheme.

New telemetry will also be installed at St Aidan's country park near Castleford. This will provide a greater understanding of how the washlands operate during high river levels and flood events.

**14. Could this funding be better spent on xyz in Leeds?**

There are conditions on the external grants which require the funding to be spent on this scheme alone. Under the conditions the scheme must safeguard 22,000 jobs whilst creating 150 direct jobs during the construction.

The £10m council contribution could theoretically be spent on alternative projects within Leeds, but this initial funding contribution by the council (approved 10th Feb 2012) was essential in helping secure the external funding and without this commitment the scheme would not have been possible.

Previous EA study, estimated economic damage of £450m should a flood event occur in the city centre. This includes the cost of physical damage, loss of confidence resulting in loss of existing businesses and loss of future development.

The defences will provide the city centre and over 3,000 homes and 500 businesses with protection against flood events from the River Aire and the Hol Beck. It will protect 300 acres of development land and open up key regeneration opportunities in the South Bank area. The scheme will also key transportation infrastructure which feeds the city including access from M621 to the south of the city, access to the M1 from the east of the city and also protect Leeds Station and the new south station entrance.

**15. I have looked at the existing works in the city centre and am concerned about xyz, what is being done and if nothing is being done how do I report this?**

Phase 1 of the Leeds Flood Alleviation Scheme was designed to protect residents from flooding from the River Aire between Leeds Station (the Dark Arches) and Thwaite Mills, and along the Hol Beck to Marshall Street.

Leeds City Council and the Environment Agency are currently seeking funding to support Phase 2 from Newlay Bridge in Horsforth to the Dark Arches in the City Centre

If you have any questions about the scheme please contact us on our Helpline number 0113 222 4407 or visit our website [www.leeds.gov.uk/fas](http://www.leeds.gov.uk/fas)

**16. Will the defences ever be upgraded to a higher standard of protection?**

The ambitious aspiration is for phase 3 of the scheme to upgrade the Standard of Protection for phases 1 and 2 to 1 in 200 year SoP.

**17. The recent floods caused problems upstream, will this scheme address this? If not, is anything being done upstream?**

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**18. Are you increasing flood risk downstream?**

Our specialists carry out thorough assessments during the design stage of a flood alleviation scheme to ensure that flood schemes are not protecting one community at the expense of another.

Mitigation works have already been installed on Phase 1 of the project - from Leeds train station to Thwaites Mill which provide a 1 in 100 year SoP (see definition of SoP below). Mitigation works have also been implemented in Woodlesford to give the area a 1 in 200 year SoP, whilst the impact on the remaining downstream areas is negligible due to the large areas of designated floodplain.

**19. Will my insurance premiums reduce as a result of this project?**

Insurance companies are aware that currently areas upstream of Leeds Train Station do not benefit from flood defences. They will be informed, through EA information, about the new flood defences. It is likely that each company will use this information in a different way so it is important to contact a number of companies for a quotation.

**20. How can I protect my property from flooding before the works are constructed?**

Although it is impossible to completely flood-proof a property, you can adapt a building to try to prevent flood water getting in and damaging walls, floors and contents.

You can also make improvements so even if flood water gets into a building, it causes less damage and makes drying-out and cleaning faster and easier. The Environment Agency website has useful guidance around:

- keeping flood and groundwater out
- reducing flood and groundwater damage
- buying flood protection products

<https://www.gov.uk/prepare-for-flooding>

#### **21. How do I find more information about the project?**

You can leave your email to receive our quarterly newsletter by email

Visit our website [www.leeds.gov.uk/fas](http://www.leeds.gov.uk/fas)

Visit and follow our twitter @LeedsFAS

### **Leeds Flood Alleviation Scheme Phase 1**

#### **22. What standard of protection will Phase 1 provide?**

The finished Phase 1 scheme will provide a 1 in 100 year standard of protection plus an allowance for climate change to 2069 in Leeds city centre for the River Aire and Hol Beck.

#### **23. What does Standard of Protection (SoP) mean?**

SoP specifies the level of protection offered to a specific area from flooding, usually described in terms of flood event return periods. Generally, the higher the figure used in the description, the greater the level of protection.

For example: an area defended to a 1 in 100 year SoP means it is protected against a flood event that has a 1% probability of occurring in any one year. It is important to understand that a 1 in 100 year event may not happen once every 100 years, nor does it mean if a flood of that magnitude has not occurred for 99 years that it will happen the following year. It refers to the likelihood or probability of an event of that intensity occurring in any one year. A flood may also occur more than once in a year.

#### **24. What does allowance for climate change mean?**

To provide resilience to flooding in the future, flood defence schemes are constructed with an allowance for climate change. This ensures the standard of protection provided by the scheme will not decrease until after the date identified as the climate change allowance.

For example, a 1 in 100 year SoP with a climate change allowance to 2069, means that a minimum of 1 in 100 year level of protection will be provided up until 2069. After this point, due to predicted changes in rainfall intensity, rising sea levels and increased river flows etc. the level of protection provided may start to fall below a 1 in 100 SoP.

#### **25. When is Phase 1 due to be complete?**

Phase 1 is due to be completed in September 2017.

**26. Would a completed Phase 1 have protected against the Boxing Day 2015 floods?**

December 2015 was the wettest calendar month in the UK since records began in 1910. Using data recorded at the gauge on the River Aire in Armley it is estimated that the flood event was greater than a 1 in 200 year event.

Due to the additional climate change allowance included within the design it is likely that if the Phase 1 scheme had been completed, the city centre would have been protected from the Boxing Day floods. **This is difficult to say for certain however, as we can only estimate the impact of the Boxing Day scenario on a completed Phase 1 scheme.**