

St Asaph Flood Risk Management Scheme

Natural Resources Wales is working with partner organisations and the community to design and deliver a new flood risk management scheme for St Asaph, which will reduce the risk of flooding from the River Elwy. The proposals will see the city's flood defences raised, but will also involve innovative projects upstream to manage flood risk naturally.

What causes flooding in St Asaph?

Flooding in St Asaph from the River Elwy is caused by high rainfall over the river catchment, resulting in increased water levels within the river which can eventually overtop existing defences through the city.

There is no tidal influence on flooding in St Asaph as the city is around 13 metres above sea level. Llyn Aled reservoir is located further upstream in the catchment and is operated in such a way that it does not affect flooding at St Asaph.

What is the current risk of flooding to St Asaph from River Elwy?

The River Elwy's flow increases quickly after heavy rain within the catchment. In November 2012 the city's flood defences were overwhelmed as persistent, intense rainfall, on very wet ground rainfall caused the river to rise over 3 metres above its normal level. This flood was estimated to have between a one in 100 and one in 200 chance of happening in any given year.

Following the flooding in 2012, we have completed work to identify the high flood risk areas throughout the city. Since 2012 we have raised the Roe Park embankment, cleared overgrown vegetation and removed trees where possible. We have also installed removable railings on Spring Gardens Bridge, and purchased and tested new demountable flood barriers that will be put up near the bridge when a flood warning is expected.

Current flood defences provide protection against a flood with a one in 75 chance of happening in any given year. Were the defences to be overtopped, around 500 properties and businesses could be at risk of flooding in St Asaph from the River Elwy.

Where are flood risk management improvements needed?

We are now planning a much larger scheme to further reduce the risk of flooding to St Asaph.

Flood risk management improvements are needed along the flood defences throughout St Asaph to reduce the risk of flooding, from New Inn to downstream of Spring Gardens.

What flood risk management improvements are needed for St Asaph?

The preferred option is to raise existing defences throughout the city, through a combination of higher embankments and walls. Defences will be raised by between 0.4 metres and 1.0 metres above existing levels, and a new section of two metre high defence will be

constructed upstream of St Asaph Bridge. Additionally, the Spring Gardens Bridge will be replaced with a higher span bridge so it does not impede the river channel during high flows.

What other options have we considered?

During our options appraisal we have considered the following options, and multiple combinations of each. These have either been ruled out on economic or environmental grounds, or have been shown to be less effective than the preferred option for reducing the flood risk to St Asaph. The options were:

- Replacing Spring Gardens Bridge without undertaking any defence raising work;
- Raising defences throughout St Asaph without replacing Spring Gardens Bridge;
- Lowering defences further downstream of Spring Gardens Bridge, so floodwater can spill onto the floodplain;
- Setting back defences further downstream of Spring Gardens Bridge;
- Removing all trees and vegetation along the river corridor;
- Creating a culvert adjacent to Spring Gardens Bridge to increase flow around the bridge (without replacing the bridge); and
- Creating up to two upstream storage areas to hold back a portion of the peak flows during a flood event.

What are the environmental impacts?

We have considered the environmental impact of all the options and will be undertaking a more detailed assessment of the impacts resulting from the preferred option.

Current considerations for the preferred option include:

- Minimising any impact on the river and riparian corridor for people and wildlife; this will include minimising impact to trees and habitats;
- The impacts on conservation areas and local heritage features (an archaeological desktop and walkover study has been undertaken);
- Landscape / visual impacts and public access; and
- Providing environmental enhancements, where possible, throughout the scheme.

What next?

We have now completed our appraisal of the options and arrived at a preferred option. We will now present our business case for the proposed scheme to the Welsh Government. Once we have secured funding, we will start the detailed design work for the scheme and submit a planning application to Denbighshire County Council.

We hope to secure planning permission for the scheme by the end of 2015. We currently anticipate that construction would start in early 2016 and take between 18 and 24 months.

What else is being done?

Work to improve flood defences within the town will be supported and enhanced by innovative projects upstream to manage floods risk naturally. Measures such as tree planting, de-compacting soil and blocking land drainage ditches will all play their part in holding back floodwater and making the area more resilient to climate change in the future.

Further Information

If have any questions or require any further information please visit our Flickr page online:

www.flickr.com/photos/natreswales

Or contact our Project Manager:

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