

9: Reducing Flood Risk

Impact on Flood Risk

The hydraulic model was developed to represent the watercourses around Kinross and identify the most suitable location for the proposed defences. This has been useful because adding defences in one location can change the flow of the river elsewhere. This also helps us understand the potential impacts on water levels upstream and downstream of the proposed flood scheme.

Figure 17 illustrates the predicted extent of the 1 in 200 year flood (the flood which has a 0.5% chance of happening in any given year) with the recommended flood scheme in place. Even though this flood is greater than any that have been experienced in Kinross, our model predicts that flooding is greatly reduced by the scheme.

Changes in Depth and Speed of Flooding

Some increases in flooding depths are predicted downstream of Kinross, east of BCA and Todd and Duncan. This is limited to land where no buildings are present and areas that are already predicted to flood without the scheme in place. The overall impact is therefore considered to be low and is incomparable to the positive benefit of the scheme to the business, properties and people of Kinross.

Fast flowing water has the ability to erode river banks and damage structures in the river, such as bridges and river bank protection. Our modelling work predicts that the proposed scheme does not significantly increase the speed of flood flows. Localised erosion measures have been incorporated into the flood scheme design where necessary.

Flood Resilience

The proposed flood scheme has been designed to mitigate flood risk to those areas most at risk of flooding in Kinross. Some areas remain outside the limits of the scheme.

This includes properties at the frontage of Loch Leven. Flood defences at this location would cut those properties off from the Loch so property flood resilience measures have been recommended instead.

The owners of these properties will be contacted individually to discuss the detail of this approach. Next steps will include detailed property surveys which specify the required bespoke measures for each property funded by the scheme. Leaflets are available from the Scottish Flood Forum describing the type of measures which will be considered.

Residual Risk

The 1 in 200 year flood outline following construction of the proposed flood scheme is shown in Figure 17.

A flood scheme can never completely eliminate the risk of flooding, as there will always be a residual risk of water overtopping the flood defences, should a greater flood occur.

In order to make the scheme adaptable to future climate change, the foundations for the proposed flood defences will be designed so as to allow them to be raised in the future. The proposed improvements to the Clash Burn culverts will also be designed to allow for future climate change.

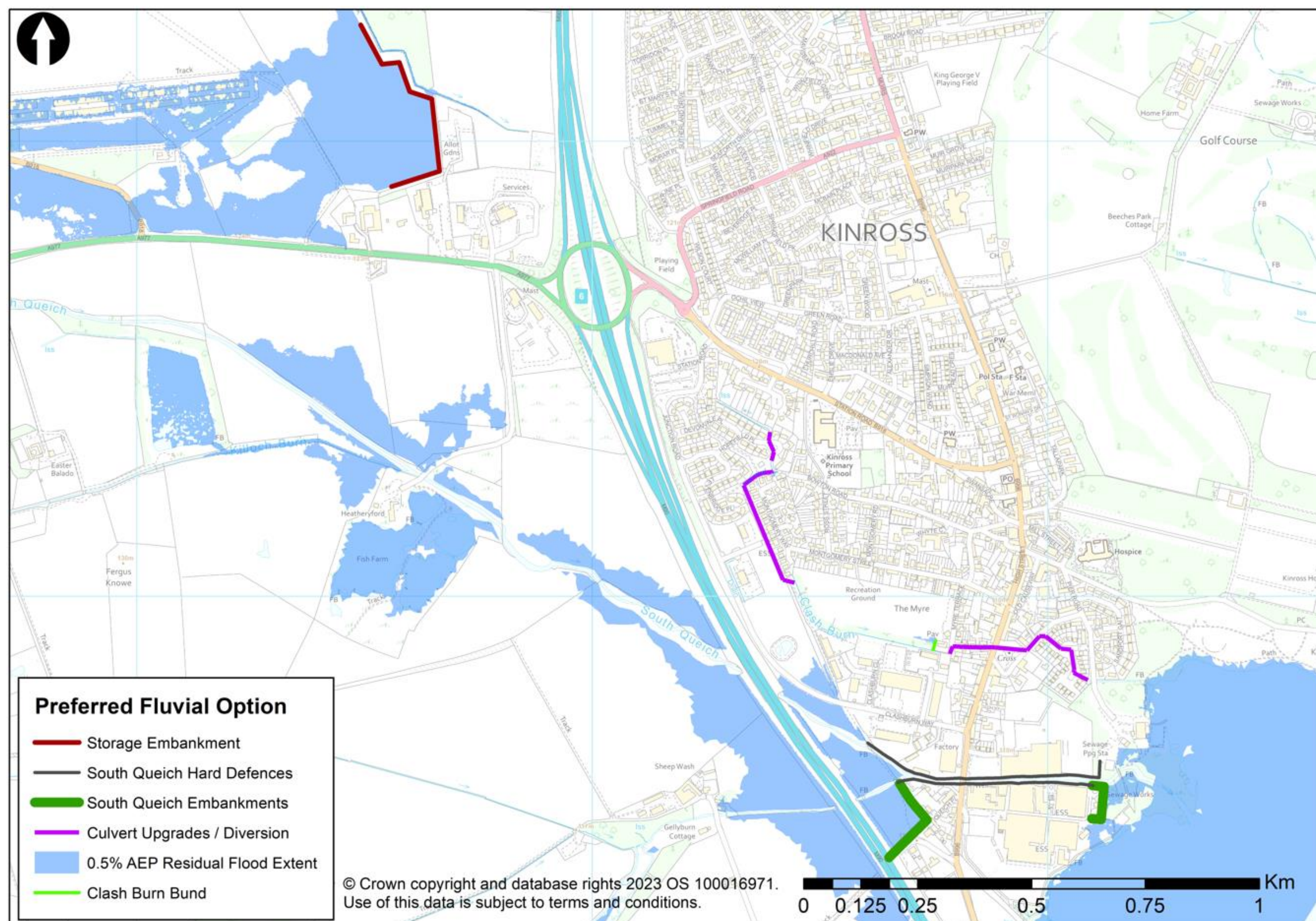


Figure 17: Post Scheme Flood Extent (1 in 200 year or 0.5% AEP flood)