8: Reducing Flood Risk

Impact on Flood Risk

Our flood model has been used to determine the best 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 14 shows the extent of the predicted 1 in 200 year flood (the flood which has a 0.5% chance of happening in any given year) with the proposed flood scheme in place. Our model predicts that flooding is greatly reduced by the scheme.

Flood Scheme Limits

The flood scheme has been designed to protect as much of Comrie from flooding as possible. However, some areas remain outside the limits of the scheme.

The majority of these areas have been analysed and are not at risk of flooding in the 1 in 200 year design flood.

A small number of areas remain at risk and the model has been used to understand the impact here. Owners of any properties that may remain at risk have been contacted individually with further detail where necessary.

Changes in Depth and Speed of Flooding

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. This is important for considering the erosion protection measures which are described on display board 6.

Changes in flood depth are predicted to be limited to land where no buildings are present, so the overall impact is considered to be low.

Residual Risk

The 1 in 200 year flood outline following construction of the proposed flood scheme is shown in Figure 14.

A flood scheme can never completely eliminate the risk of flooding. Our model has therefore also been used to assess the risk of more extreme events than the 1 in 200 year flood (i.e. the flood that have a less than 0.5% chance of happening in any given year). This allows the Council to prepare for future potential flooding events.

Figure 14: *Defended flood outline*