Canal & River Trust

KIER

ARUP

Working in Partnership

Design updates since 23rd March 2021: Spillway design and dam strengthening

This panel provides an update on what we've been working on regarding the spillway and dam strengthening since we shared our chosen spillway design.

Spillway design and model

Since the announcement of the preferred option for the spillway, we have continued to develop the design of the new spillway structure. This included working with a specialist company to build a 1:25 physical scale model of the proposed spillway design. We have used this model to confirm that the spillway can safely carry the flows that are likely to be experienced at the dam following a range of rainfall events.

A video of the model being tested can be viewed by visiting our website. We will use the results of the model testing to finalise the design details of the spillway. A Qualified Civil Engineer is undertaking checks at every stage of the project to make sure the design meets the required standards.

Physical model - spillway chute

Dam strengthening works

As part of the design process and ensuring future safety, in addition to developing the new spillway, we have been undertaking ground investigations to fully understand the composition and resilience of the dam. This investigation is being used to inform assessments of how the dam could be affected in extreme events, such as an earthquake.

As a result of this detailed analysis, we anticipate delivering further improvements to parts of the dam to ensure it is upgraded so it is more resilient to such an event, should this occur. We are working to develop the design of these strengthening works, which are planned to be completed after the spillway. We will share further details of the improvement works in the future.

Physical model - weir and tumblebay