Bandon, Co Cork

Flood Alleviation Project

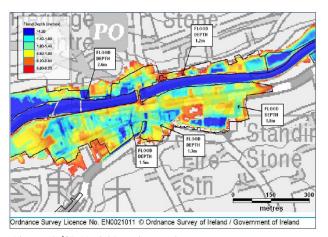
JBA

Contract Brief

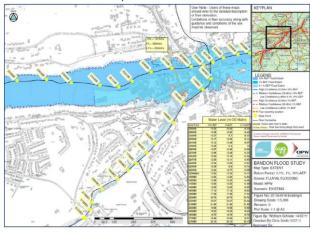
Consultants were required to undertake a study of the flooding situation in Bandon, Co Cork in order to bring forward proposals for a scheme of flood alleviation measures to reduce the severity of flooding there. The scheme will be designed to protect against flooding with a 1% exceedance probability.

The brief included a feasibility study with attendant surveys, hydrological and hydraulic modelling and design of various remedial options, resulting in the outline design of a preferred scheme along with the completion of a Cost benefit Analysis Report. The scheme was brought forward to public consultation, including detailed design and contract tendering and supervision.

The tender was submitted in conjunction with WYG Ireland.



Above: 1D/2D Model Development Below: Flood Extent Map for Bandon Town



Description

JBA primarily focused on Stage 1 of the contract. Flows for the Bandon River and its tributaries were estimated using the FSU techniques. A Single Site Analysis was carried out, using the Bandon Gauge as Donor Site. Design flows were estimated for each hydrological estimation point and checked with the hydraulic model predictions.

A linked 1D-2D ISIS-Tuflow model was developed for Bandon town, with a 1D routing model constructed for the downstream channel as far as the estuary. From this, a range of scheme options were simulated, including upstream storage, defences, dredging and a compound channel.

Indicative flood risk and hazard mapping was produced using a combination of both 1D (ISIS) and 2D (TUFLOW) modelling approaches. Based upon an economic, environmental and cultural analysis, a preferred scheme was chosen. It recommends the use of both defensive and dredge elements.

Successes

- Successful engagement with the public at the early stages of the project has helped to ensure acceptance of the final scheme
- Trial implementation of the Flood Studies Update.
- · The project is still ongoing, so the scheme has not been tested on the ground.

24 Grove Island Corbally LIMERICK Co Limerick Tel 061 345 463

JBA Consulting Engineers and Scientists Ltd

Reg no: 444752

For more information

www.jbaconsulting.com

Please call 061 345 463 or email: elizabeth.russell@jbaconsulting.com

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