

## Whittlesey Washes reservoir bank strengthening works Whittlesey, Cambridgeshire

Environment Agency, Interserve Construction Ltd, Royal HaskoningDHV

*BIG Challenge 2015 submission category: Small scale permanent*

### Project overview

3 year, £26M project to strengthen 16km of the 18km dam of the Whittlesey Washes Flood Storage Reservoir (the South Barrier Bank), between Peterborough and Guyhirn.

The work consists of reprofiling the bank by placing 335,000m<sup>3</sup> of locally sourced material. This will strengthen the bank to reduce the risk of a breach during a flood.

The rural flood storage reservoir protects hundreds of properties, roads, railways and more than 8,000Ha of high grade agricultural land in the fenland area to the south east of Peterborough.

The Washes is a Ramsar, SSSI, SPA and SAC designated site which required the construction work to only take place between July and November so as not to disturb the protected over-wintering and ground nesting birds.

The project has been delivered in 2 phases with 2 contractors - Interserve Construction Ltd in Phase 1



*Photo: Constructed scrape*

and Team Van Oord in Phase 2, employing approximately 50 staff.

### What were the biodiversity conditions on site, prior to the enhancement?

Conditions are already of a high standard, being a designated site and home to an RSPB reserve.

Discussions with RSPB identified aspirations to attract kingfishers and to create wetland scrapes to improve the transitional habitat between agricultural land and the designated site.

### Were there any specific conditions that led to you carrying out this work?

In addition to managing flood risk the EA are committed to creating a better place and enhancing areas where projects take place. Initially it was thought enhancement opportunities here were minimal.

However, in discussions with partners, enhancements were developed to suit the area. A kingfisher bank, wetland scrapes, reptile hibernacula and 100 trees were planted on Phase 1.

Phase 2 is committed to delivering an otter holt, barn owl boxes, bee houses, reptile hibernacula and planting 400 pollinating trees along the 18km bank.

Both contractors are committed in helping to deliver and meet environmental targets.

### What were the biodiversity measures taken?

Engaging the local community, interested partners and organisations helped us to identify areas of enhancement; we collected ideas via questionnaires sent to users of the Washes and public areas.

Getting the contractors and staff on board with understanding aims, encouraging their ideas for enhancement and buying into the enhancements delivery was key to implementation.

Working together with partners and contractors helped to source and use recycled materials to resource the project at no cost.

The kingfisher bank was constructed into the bank of a slow flowing stream (Counter Drain) with shallow areas of clear water and large overhanging branches for perching.

This new area of habitat has been created in an area where there is no specific UK BAP or local BAP, although the Counter Drain is a stream and therefore a potential BAP habitat.



*Photo: Constructed kingfisher bank*

The habitat has been created to attract the declining kingfisher to nest and breed between April and July.

The Kingfisher Bank can easily be replicated in the correct conditions. Kingfishers return year on year which results in biodiversity gain and will require little future maintenance, the partners involved have agreed to monitor and record kingfisher activity.

A project team member came up with a novel use for using waste tyres which were found on site; to create a reptile hibernacula.

This 'hidden' habitat has provided a safe refuge for reptiles and requires no future maintenance.

Wetland scrapes are manmade shallow depressions with sloping edges that seasonally hold water.

The locations, along the lower berm of the bank, for the scrapes were agreed with partners to provide additional marginal habitat for wading birds.

This will support the important designated habitats on the Washes during drier periods of the year.

**How would you best describe the project?**

An enhancement.

**Further information**

To create the Kingfisher Bank; vegetation was removed from a 5m long stretch of the bank and the face of the bank was required to be high enough to deter hunting animals and was designed to be vertical to minimise the risk of collapse.

The bank was built by driving recycled timber piles in an arc and then fixed with timber waling's to ensure stability.

Two pipes were introduced into the bank with a slow fall to the river to form potential nest sites. The bank was also scooped out at the base of the piles to draw water into the base. The bank was created 12 months ago and has been left for the kingfishers to naturally use and create their nests.

The kingfisher bank will require little future maintenance, although the partners involved have agreed to monitor and record kingfisher activity.

The RSPB have observed activity and 2 broods are currently using the habitat. The wetland Scrapes were easily created at no cost as



*Photo: Established kingfisher bank*

the plant and machinery required was already being used on site.

Material was excavated from the bank, to approximately 50cm above the water level in the Counter Drain, to create 20m<sup>2</sup> depression with shallow gradient slopes to provide easy access for bird and animal species.

Humps and hollows were created throughout to maximise diversity and it's been left to naturally recolonize by plant species.

**What was your personal motivation for carrying out the enhancement?**

As a civil engineer I appreciate the impact my work has on communities and the environment.

I actively seek any opportunities, be they small or large, to enhance and improve the environments I work in, and encourage my teams to contribute to creating a better place.