



“Royal HaskoningDHV’s innovative techniques and commitment to benefiting the environment, ensured a sustainable outcome that fits with the Wicken Fen Vision. The new bridge will improve public access to our magnificent countryside, increasing opportunities for local residents and visitors to enjoy the unique land and skylines of the fens.”

Chris Soans, Property Operations
Manager for Wicken Fen

Bridging Wicken Fen’s 100 year vision

One of the most important wetlands in Europe, the Wicken Fen National Nature Reserve on the outskirts of Cambridge in the east of England, has been owned and managed by the National Trust since 1899. Wicken Fen is one of the few remaining fragments of fenland wilderness in East Anglia and is home to over eight thousand species of plants and animals many of them rare and endangered.

Now a major National Trust scheme is underway to dramatically extend the reserve. The Wicken Fen Vision, the largest conservation project of its kind in lowland England, will lead to the creation of a landscape scale nature reserve covering an area of approximately 53km² between Cambridge and Wicken Fen. The Vision will see the restoration and creation of new wildlife habitats whilst providing a ‘green lung’, a vast area of countryside for public access and recreation.

Not a project expected to complete overnight - the National Trust anticipates transformation of the area could take 100 years.

Bridging the Vision – sustaining wildlife – connecting communities Benefiting wildlife

The area designated for the Wicken Fen Vision is traversed by six ‘lodes’. The lodes are man made waterways connecting fen edge villages to the River Cam. Believed to date from Saxon times, the Lodes were most probably dug to protect the rich grazing lands from seasonal flooding.

The Lodes were also a major transportation route in what was once a remote and isolated area. Integral to the creation and success of the Wicken Fen Vision, a 38m bridge has been constructed over one of the six waterways, Reach Lode, to make it possible for the National Trust to manage the new wildlife habitats more effectively and improve public access to previously inaccessible areas of countryside.

Royal HaskoningDHV was commissioned by the National Trust in September 2008 to provide advice and a range of expert services for construction of the bridge and associated habitat creation.

These included environmental scoping, flood risk assessment, geotechnical engineering and quantity surveying. The team provided preliminary and detailed designs for the bridge, the approach embankments, and a 2km cycleway across nearby Burwell Fen. The team also procured contractors and managed construction works.



Bridging Wicken Fen's 100 year vision

Benefiting communities

The Reach Lode Bridge forms a major link in the Lodes Way, a 14.5km virtually traffic-free greenway between Bottisham and Wicken which forms part of National Cycleway 11.

The new route improves links between local communities and enhances access to the countryside for local residents and visitors alike.

The Lodes Way is being developed in partnership with sustainable transport charity Sustrans, using part of a £50 million Big Lottery Fund grant to develop new cycling and walking routes throughout the UK.

Our role – sustainable solutions – creating new habitats

David Bone, Senior Consultant at Royal HaskoningDHV, said: "Our multidisciplinary team of civil engineers, environmental scientists and flood risk experts provided a complete service, and managed all aspects of the project."

"A key concern for the National Trust was to ensure construction of the bridge had minimal impact on the environment and used sustainable processes. Using our innovative techniques we ensured the environment was protected, and had the added benefit of creating new wildlife habitats."

Construction of sloped ramps at either end of the bridge, to provide easy access for walkers, cyclists and horse riders, required substantial amounts of engineering clay. Available locally below the peat soil, this helped reduce construction traffic as very little material had to be transported from other locations. The depressions in the land created by the excavation then filled naturally from the waterway to form shallow ponds, creating new wildlife habitats. The bridge was designed to blend in with the surrounding landscape.

After liaison with local communities and stakeholders, a simple, elegant design was chosen that maximised the use of natural materials such as oak cladding. The bridge's essential structural steelwork is finished in silvery-grey which will blend with the oak cladding when it oxidizes over time.

A challenge was assessing the risk of flooding, as the bridge is located in flat, low-lying fenland terrain. Extensive liaison with the Environment Agency was required to minimise these risks. It was also necessary to ensure that construction works would not affect existing wildlife habitats. Species in the immediate vicinity included water voles and herds of wild roe deer and reducing impact to their habitats was essential before beginning construction.

Celebrating success

Reach Lode Bridge and its adjoining cycleway opened in September 2010. Hundreds of walkers, cyclists and equestrians gathered to mark the occasion, performed by representatives of four local communities, Lode, Reach, Burwell and Wicken. The residents played a giant game of Connect 4, to represent the important role the bridge will play in improving access links between these communities.

Members of the Royal HaskoningDHV project team cycled 40 miles from UK headquarters in Peterborough to take part in the commemorative celebrations.

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