

**WERRINGTON BROOK IMPROVEMENT PROJECT  
PETERBOROUGH, CAMBIDGESHIRE, UK**

ENVIRONMENT AGENCY, PETERBOROUGH CITY COUNCIL, ANGLIAN WATER, PECT, RIVERCARE

**BIG Biodiversity Challenge Award Category: Small scale**

**Project overview**

The Werrington Brook Improvement Project is designed to improve water quality in an urban watercourse whilst reducing maintenance requirements and providing better safer access to the waters’ edge. It enhances the green corridor to encouraging wildlife and increase use of the brook as a recreational area for the local community.

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

The original water course was a low gradient, steep-sided, over-wide trapezoidal drainage channel. This resulted in slow moving water flow and limited plant life on the banks. Water-quality and species diversity was poor with low oxygen levels and biodiversity and pollinators for wildlife was very limited.

**What were the reasons behind this project ?**

The project objectives are to address the physical and chemical characteristics of Marholm Brook, Paston Brook and Werrington Brook, a sub-catchment of the River Welland to improve the water quality as measured by the Water Framework Directive’s (WFD) scale of Ecological Status. Overall WFD status was moderate with failing elements of low oxygen levels and high phosphates as well as morphology. Additionally, these improvements contribute directly to the Peterborough City Council’s objective of achieving a sustainable maintenance solution at Cuckoo’s Hollow, a valued local lake and green space amenity located in Werrington, a suburb of the city.



Werrington Brook improvements Map – Aubretia Reach is located at Number 3

### What were the biodiversity measures taken?

The project included new access maintenance strips in areas to facilitate maintenance, this is the 3<sup>rd</sup> reach where access strips have been incorporated into the design. This had the added benefit of generating material for creating the berms and channel narrowing features designed within the reach. This was all part of the ‘material neutral’ ambition for this project, all material generated on site was re-used in the construction with only riffle stone being imported from a quarry within the region. Designing in the access strip also helped light into the channel through reducing the bank gradient and provided public access nearer the water edge. The new bank was then enhanced by planting native marginal species on the berms and bank toes increasing a more diverse flora. The pools were designed in to help trap sediment that can then be targeted as areas for maintenance in the long term, along with being valuable habitat and refuge for fish in low water levels. The pools also intercept the sediment before it reaches the 3-acre lake, Cuckoos Hollow, reducing the frequency and financial burden of high cost maintenance of desilting. The riffles provide areas of broken water to aid oxygenation as well as new habitat for flow-loving invertebrates such as mayflies.



*Before (top Left), During (bottom Left) and After (bottom Right) the Works – Aubretia Reach*

### Further information

The Werrington Brook project design features combine to improve hydro-morphology and sinuosity, increasing energy in which was previously a low gradient, uniform, heavily modified water body. The design also delivers ecosystem services that processes pollutants, reduces phosphates, improves dissolved oxygen and introduces sustainable sediment management. The berms, pools and riffles have been designed in a sequence appropriate to the gradient and linked to the outfalls of surface water and other drains to make the brook more resilient and improve flow in periods where water availability is limited but in a way that does not increase flood risk. The access strips also provide a new access point for the local community to enjoy and experience life and movement within the brook not seen before. It will draw them in and connect them to the brook bringing wellbeing and health benefits to those users.

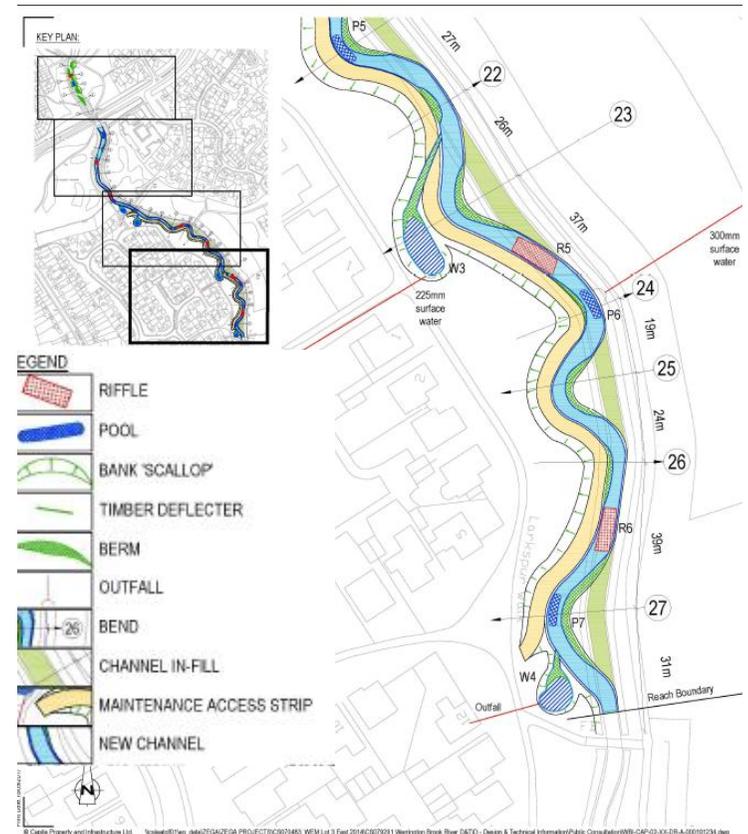
Much of the projects post works monitoring will be undertaken by representatives of Werrington RiverCare Group. This are local community groups that have been working with the project, assisting in water quality monitoring, species counts in meadows adjacent to the brook and running quarterly community engagement events along the brook and regular litter picks. They have also assisted with the consultation events held in the local hall ahead of each phase of the works.

### Project Team

- Environment Agency, Peterborough City Council, Anglian Water
- Capita
- PECT, RiverCare

### What was the motivation for carrying out the enhancement?

The Werrington Brook Improvement Project was an opportunity for a partnership of organisations to come together to realise significant benefits to sustainability, water quality, biodiversity for the River Welland catchment. In addition the works would bring enhancements to an urban watercourse for the local community and wildlife. The result is a long-term legacy of self-sustaining riverine habitat and community involvement that will protect and enhance this small part of Peterborough for future generations.



Aubretia Reach Design Drawing