Guiding the way at Ashridge Farm

CASE STUDY

As the construction industry looks for ways to mitigate its impact on biodiversity, one highways project led by Balfour Beatty implemented a number of innovative solutions to help preserve and protect local habitats. Linking a new housing estate to the wider road network, the contractor called upon ACO Water Management to establish safe routes for the animals when navigating roads.

Ashridge Farm

THE PROJECT
Ashridge Farm, Wokingham

THE BRIEF
To provide a system which can protect wildlife from the road and ensure habitats remained connected

THE SOLUTION
ACO Wildlife Guide Walls and Climate Tunnels

Biodiversity Net Gain

The construction industry's impact on UK biodiversity is now starting to be realised. According to the National Biodiversity Network's most recent State of Nature report, the UK has experienced a 41% decline in species since the 1970s. The Government has responded, with the release of the Environment Act 2021, putting further emphasis on mitigating the impact the built environment is having on biodiversity.

Containing provisions for the protection and improvement of the environment, the Environment Act includes the formal introduction of Biodiversity Net Gain (BNG). With the Environment Act now in place, a number of organisations, including Balfour Beatty, have already established practices to mitigate the impact on biodiversity.

When tasked to construct a new 550m carriageway to connect a new housing estate to the wider road network, Balfour Beatty wanted to ensure its impact on biodiversity was minimised. The development saw the contractor landscape a 4.5-hectare open space, which included features to protect and improve the diversity of local wildlife.

The ambitious project involved the creation of an 'eco pond', which is designed to attract crested newts, dragonflies, damselflies and grass snakes, as well as otters and a variety of birds.

One of the primary challenges for any highways project when looking to protect wildlife is ensuring safe passage for mammals and amphibians across busy roads. With the help of ACO Water Management, Balfour Beatty installed a number of innovative initiatives to help the local wildlife thrive.

Guiding the Way

Initially, ACO Water Management was introduced to support with the design, supply and installation of its KerbDrain system. However, it soon became apparent that its team could add further value thanks to the introduction of its wildlife protection products, as Terry Wilkinson, Specialist Design & Application Engineer at ACO, explains:

"We have a long-standing relationship with Balfour Beatty and at first we were tasked to supply our KerbDrain to remove standing water from the road network. We helped with the design and sizing of our award-winning system across the road. However, when we understood the wildlife mitigation requirements of the site we quickly realised we could add a lot more value to the project.

"We invited the team to learn more about our wildlife range, which included guide walls and access tunnels, and how the products can integrate together. These are specifically designed to protect wildlife, encouraging amphibians to safely make their way across the roads.

ACO's Climate Tunnel can be installed flush with or below the road surface. For Ashridge Farm Road, both options were selected. The slotted ACO Climate Tunnel was installed at surface level, offering ambient conditions between the tunnel and open air thanks to the natural light and moisture levels achieved through the holes. A second Climate Tunnel was installed underneath the road, offering an additional safe passage for the animals.

The tunnels were complemented with ACO's Guide Walls, which help prevent small animals from climbing into the danger area. One key feature of the ACO Guide Wall is that it suppresses vegetation growth, providing a clear pathway for small animals. With Balfour Beatty introducing a range of biodiversity measures across the project, including ponds and grass verges, the introduction of both the Guide Walls and Climate Tunnels ensured further safety measures were in place to protect the local habitats.

Wildlife Protection

One of the challenges when building wildlife tunnels – particularly when designing for amphibians – is avoiding traditional concrete thanks to its dry, caustic properties. When using this material, surface residue can build up, harming amphibians with potentially fatal consequences. Alternative materials, such as polymer concrete, should be sought, as recognised in the Design Manual for Roads and Bridges (DMRB). Polymer concrete is also supported in various guidance, including the Somerset Highways Biodiversity Manual and Gloucestershire Highways Biodiversity Guidance. All of the products in ACO's Wildlife range are made from polymer concrete, offering added protection to the surrounding wildlife.

The Ashridge Farm Road formed part of the wider North Wokingham Distributor Road network and was completed in 2022. Chris Hall, Portfolio Director at Balfour Beatty, said: "We are very passionate about finding the most effective ways to mitigate the impact on biodiversity. Working with ACO, we have been pleased with the innovative solutions implemented and are confident the plans in place will help protect the local wildlife and encourage it to flourish."

With the project now complete, details have been added to the Habitat Matters mapping system, an open-source platform that hosts, collects, rates and analyses data pertaining to biodiversity and habitats in urban and semi-urban environments.

For more information on ACO's Wildlife range, visit www.aco.co.uk/wildlife

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