

**(St Ursula's Academy)  
(Bristol)**

(Kier Construction Western and Wales)

BIG Biodiversity Challenge Award category: Community Engagement Award

**Project overview**

St Ursula's Academy is a Kier Construction Western and Wales (KCWW) project based in the northern suburbs of Bristol. The scope of works involved the phased demolition of a section of the primary school and the building of a new school in the existing grounds over a programme of 68 weeks, concluding in September 2016. The school sits in a 3.4ha site with large playing fields, gardens and broadleaf woodland on its periphery. The project cost is targeted at £7.7 million and has had between 30-115 individuals working on the site through the different phases of the programme.

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

Following ecological appraisal, the site was largely made up of improved amenity grassland (playing fields) a small broadleaf woodland on its western fringe and a mature treeline with ornamental shrubs on its southern perimeter.

An active badger sett (suspected to be an outlying sett) was found near the construction zone on the southern boundary.

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

The site has undergone a BREEAM ecological assessment which initially confirmed the parcel of land to be of poor ecological value. The outlying sett was found under a redundant porta-cabin near the construction zone and has subsequently been closed under license; an artificial sett was constructed as a compensation/offsetting measure. Further ecological enhancements have been employed at the site to improve biodiversity.



*Artificial badger sett constructed as compensation to replace a sett that had been closed*

### What were the biodiversity measures taken?

In the lead period (four weeks) before the sett closure KCWW 's project 'Biodiversity Champion' took the opportunity to engage with the school and its pupils to discuss the phases of the construction project and specifically the potential implications of such a project on its surrounding biodiversity. The school embraced this initiative and subsequently formed an 'Eco-council' made up of 14 students who would act as a conduit between the school and project and would ultimately feed into the process of building the artificial sett and ecological enhancements suggested by the BREEAM eco-assessment. Weekly meetings were held both in the classrooms and out on site between the project's biodiversity champion and the eco-council. Training sessions on wider site biodiversity, badger ecology, behaviour, sett structure and field signs were undertaken with 'truthing' exercises within the grounds of the school. Moreover, the eco-council played a fundamental part in the design of the new artificial sett where knowledge learnt in the classroom was applied out on site. The artificial sett was primarily constructed of surplus construction materials (drainage pipe as tunnels, wooden 'setting out posts' as chambers and ply sheets as chamber tops) that were already on site.

The eco-council were also invited on several construction site tours where project management explained the phases of the programme and construction process with due regard to the ecological and wider environmental benefits that have been incorporated into the build. One such benefit is a tree planting schedule which was designed to strengthen the woodland with a variety of tree species using both native and fruit-bearing non-native species which can offer a valued food source for invertebrates, birds and badgers as they flower and fruit at different times of the year to native species. A shrub-planting schedule was also devised, consisting of food plants such as blackcurrants and raspberries to act as a further food source for the site's increasing numbers and diversity of species.



*Eco-council training session on Badger ecology and behaviour*

Woodland is a priority habitat under the Bristol Habitat Action Plan (HAP) and by planting a mixture of different tree and shrub species this has provided better structural diversity within the woodland and better connectivity with the adjoining treelines and hedgerows.

### How would you best describe the project?

The project has proven to be a mixture of ecological enhancement and compensation which has provided a sound educational platform for students to learn from.

### Further information

Forming part of the longer term ecological management of the site, the eco-council have purchased a remote wildlife camera to monitor badger activity throughout the year and specifically, the new artificial sett. Within three weeks of the new sett being completed, footage of a sow and cub were captured, with the sow gathering bedding material to be used within the new sett.

Following the completion of site enhancements, a post construction BREEAM assessment was undertaken which uses the following calculation: (the total species x area of plot type) /total site area. The number of species on site before development was calculated using actual species lists from the habitat survey. Only native species or species of known value for wildlife have been included in the calculations for change in ecological value. Using this calculation quantifies the biodiversity net gain for the site from a pre-construction value of 4.52 species to a post construction value of 5.18 species.(net gain of .661 species) for the area.

The eco-council have shared the information learnt over the construction and reinstatement phases with their peers and the rest of the school via an assembly. This has only encouraged more students to join their group and continue to develop their ecological knowledge and interest in wider environmental issues.



*Eco-council site tour*

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

KCWW undertake several Educational Funding Agency (EFA) projects per year at different schools throughout the region. I believe that this is a golden opportunity to engage students in the construction phases and offer them a 'hands-on' learning experience in how the process can have a positive impact upon the natural environment. Not only does this stimulate their interest in nature it presents a different learning environment which many students flourish in.