(Hawkswood School)
(Chingford, North East London, UK
(KIER CONSTRUCTION LONDON

BIG Biodiversity Challenge Award category: Medium Scale Permanent

Project overview
Kier has been appointed by the Department for Education as the building contractor for a new modular build of a school and to demolish the existing school. The development will involve clearance of existing habitats within the site boundary including improved grassland, introduced shrub, scattered trees and bare ground in order to facilitate the creation of a plaza and soft play area. The programme will take 60 weeks with a value of £5m and the site covers approximately 1.5 hectares.

What were the biodiversity conditions on site, prior to the enhancement?
The site is surrounded by a Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC), Epping Forest. The SSSI supports a nationally outstanding assemblage of invertebrates, a major amphibian interest and an exceptional breeding bird community. The SAC is designated due to the presence of stag beetles.

Were there any specific conditions that led to you carrying out this work?
Granted full planning permission on the 16th of February, A construction Environmental Management Plan (CEMP) for biodiversity has been implemented which includes a method statement and mitigation strategy to protect breeding birds and bats that are currently on site currently and breeding birds. It also includes measures to minimise impacts on retained habitats and adjacent designated sites.

The development proposal will result in the demolition of the existing school which would impact a soprano pipistrelle maternity roost with the previous bat survey carried out a maximum of 57 soprano pipistrelle were recorded. Non mitigated impacts would involve the destruction of a maternity roost, potentially resulting in the killing and injury of bats during construction.

Existing school building with 57 soprano pipistrelle bats due to be re-homed and the building demolished, part of the demolition phase

What were the biodiversity measures taken?

Due to the project being located in a highly sensitive environmental area,
Various environmental measures has to be taken on site to reduce the impact of the construction/demolition activities on the local environment.

An Ecological Clerk of Work has been appointed on the job to undertake all necessary survey and provide some guidance prior to starting and during the project,

Part of the bat mitigation measures was to provide 4 Schwegler bat boxes to be plotted around the local trees on site. As part as an on-going wood recycling programme with Kier London, the National Community Wood Recycling scheme built the required boxes from timber recycled from the construction industry. See the appendices for the certification from the scheme.

One of the school's office building will remain in its current state. This building will be used to construct a dedicated bat access into the cavity wall on the west-facing elevation at roof level. The roof of the building will be adapted so that a timber fascia board covered with bitumen can be installed at roof level to partially overhang the parapet. Bat access to the cavity wall will be provided via a soffit vent 20mm wide beneath the timber fascia board, to mimic the structure of the existing roost entrance. This should provide acceptable bat habitat to allow the bats currently roosting the main school building to relocate before the demolition phase of the project starts.

We also have installed three bat bricks into the existing building just below the timber fascia to help provide more ease for the soprano pipistrelle to gain access to the cavity.

One of many Trees with a timber recycled Schwegler bat box

Part the design has been incorporated with the provision of new artificial lighting on site which will comprise four low-level bollards and low level lights in the car park, activated by motion sensors to minimise light pollution for the bats.

How would you best describe the project?

Hawkswood project as a great bat mitigation scheme, where Kier Construction London who have created suitable new homes to allow the bats to remain in their local environment.

Further information

The new roost will be maintained for a minimum of 5 years to maintain the mitigation part of the licence, any bats found during soft strip works will be captured and moved by the licenced bat Ecology Clerk of Works to the provided bat boxes located around the site.

A local search was common, with one known maternity roost within the site, it was the second most frequently recorded bat species in a 2km radius of the site according to commissioned data searches.

What was your personal motivation for carrying out the enhancement?

The personal motivation would be: being involved on the project from the start having meetings with the Ecological Clerk of Works, Kier's Internal Environmental Adviser, learning about the bats, how important they are in the UK, and why they are so well protected. I knew these tasks had to be carried out in accordance with the bat licence provided by Natural England, but I enjoyed going the extra mile to create new homes to ensure the bats could remain on site through the whole duration of the project.

Building 1 - The building will be adapted to provide compensatory roosting habitat., See appendix for the design of the building.

Hedgehog + Silt fence installed all around the site, a 5m exclusion zone part of the local stream and habitats

An acoustic fence was installed to help keep the noise down for the wildlife and to respect the surrounding neighbours

An owl box got made out of the spare wood we had left on our site out of a fun project for when the school relocate into their new school they can spot the owl box in the far distance of the woods.

A bug hotel made out of recycled pallets, rotten branches, degrading timber implemented and top soil on the top pallets to make sure it grows.