

Crossrail Anglia
Stratford to Shenfield – office in Romford
 JV - Costain & Network Rail

BIG Challenge 2015 submission category: Temporary

Project overview

As part of a £150 million contract, Costain is delivering the works associated with the north-east spur of the Crossrail Programme on behalf of Network Rail.

The work will see station improvements along the 25 km at 13 stations between Stratford and Shenfield.

Platform extensions will allow longer, higher capacity trains to run and other works will include infrastructure improvements, such as extra train stabling capacity and turnback facilities that will improve the reliability of passenger services.

Other works include the reconfiguring of ticket offices, upgrading telecoms systems and the provision of step free access.

The route spans five local authorities, namely the London Boroughs of Newham, Redbridge, Barking and Dagenham, Havering and Brentwood Borough Council.



Photo: Site vegetation

The surrounding area is predominantly urban, consisting of industrial and residential properties. Areas of open space and amenity parkland are also present along the route.

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

Our biodiversity enhancement was undertaken at Chadwell Heath where the habitat was classed as 'low level ruderal scrub', which had a low potential to support a diverse range of species.

There was a large amount of illegally dumped waste and the area was overrun with vermin.

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

We required the area to facilitate the construction of a rail turnback facility at Chadwell Heath.

The risk of reptiles encroaching on the site was identified in ecology surveys undertaken beforehand and, therefore, reptile fencing was a necessity.

All other actions taken were done so to instil a proactive attitude towards biodiversity throughout the Project.

We have an important target of no net loss to biodiversity on the Project and, whilst these works are only

temporary, we believe that such a mentality would help us meet this challenging target upon project completion.

What were the biodiversity measures taken?

To create our site compound at Chadwell Heath, large amounts of fly-tipped waste needed to be removed.

Some of the waste was re-used to retain a soil embankment and provide walkways around the site. “Bug hotels” were constructed from waste pallets and rubble found on site and used coffee tins from the office.

Non-native Buddleia were removed and reptile fencing was erected to mitigate the risk of encroachment. However, a border was maintained around site to allow a safe passage for any reptiles.

Since site set-up, we have installed a bird bath and the workforce has been involved in planting a selection of native plants, specifically chosen for being good for pollinators.

The plants will be cared for by volunteers for the remaining three years of the project.



Photo: Reptile fence

They will then either be left in situ or relocated to another lineside location depending on the final plans for the site’s restoration.

Our work aligns to what it stated in the London Borough of Redbridge’s Biodiversity Action Plan, which earmarks the area surrounding Chadwell Heath Station for biodiversity enhancement. During the Project’s “Wildlife Week”, an ecologist gave a presentation on the importance of biodiversity and the role lineside ecology plans as wildlife corridors.

Wild flower seed packs were also handed out to project staff, which included instructions and materials to construct a “DIY bee hotel”.

The packs enabled staff to enhance biodiversity in other areas – in their local communities or in their own gardens.

The Project developed a lineside ecology pocket-sized guide to distribute to operatives.

This innovative approach gives the workforce the easily accessible tools to help to identify protected and invasive species and, importantly, follow the correct procedures.

Since the distribution of these pocket guides, ecology related observations have increased threefold.

How would you best describe the project?

An enhancement.

Further information

Firstly we had to sort through the waste to determine what we could reuse on site and what required removal.

When establishing the site, some of the leftover waste was used to create embankments and footpath barriers.

Once the site was cleared, the reptile fencing was erected prior to installing the site cabins.

The creation of our “bug hotels”, installation of the bird bath and flowering plants followed, once the site was established and during Costain’s “Wildlife Week”.

We believe the aims of our scheme have been met; it has put the importance of biodiversity on the project agenda.

We aim to have a net gain in biodiversity once we have completed our works on Crossrail Anglia and we need as many people on the project to align with what we are aiming to do so opportunities for enhancement are not missed.



Photo: Insect hotel

With continued effort from the operatives who helped out with the activities during ‘Wildlife Week’, we hope to see a marked increase in bees and other insects as a result of our work at Chadwell Heath.

We have received a lot of comments regarding the flowers, as they are in a prominent location on site which everybody can see when arriving at the site. We had limited ourselves to waste materials found on site for our ‘bug hotels’.

Whilst they are functional and already in use, we could have brought in other materials from elsewhere to make them a little bit more aesthetically pleasing.

What was your personal motivation for carrying out the enhancement?

We wanted to challenge the perception that the natural environment is a constraint on large infrastructure projects like ours.

In running this project our motivation was to hit home the message that such projects have the potential to enhance biodiversity, particularly rail projects where there are long lineside wildlife corridors.