Kings Cross Development Living Landscape Roof Strategy

Kings Cross, London

Argent LLP on behalf of King's Cross Central Limited Partnership (KCCLP)

BIG Challenge 2015 submission category: Large scale permanent

Project overview

The King's Cross development is a 67 acre urban site in central London.

The project being submitted involved the preparation of a Living Landscape Roof Strategy to facilitate the delivery of green and brown roofs on the estate to go above and beyond BREEAM and S106 requirements.

The following businesses and groups have been involved in the project to date: Argent Environment Manager and Development Project Managers, London Wildlife Trust, Global Generation and their Generators, Hampstead Heath, King's Cross Estates Services and King's Cross Long Leaseholders; One Housing Group, Urban Est, Camden Council.

The cost to date c.£13k for the development of the strategy, first year roof review and Global Generation enhancements.

There are ongoing costs for annual roof reviews and enhancements.

Photo: View from the roof of 1 St Pancras Square

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

The development site is on a 67 acre area of brownfield land in an inner-city setting and its ecology and nature conservation status reflected this.

The pre-development environment was categorised as a wasteland habitat, important for species such as the black redstart, as they are dependent on wasteland sites for reproduction.

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

There are a number of requirements within the King's Cross Planning Conditions and Section 106 relating to green/brown roofs. Including:

a) "…at least 15% of the roof area of new buildings to be green/brown roofs."

b) "…reasonably endeavour to, share information with London Wildlife Trust (LWT) regarding the design, installation and performance of such roofs to inform best practice and assist in regeneration projects elsewhere."

Recognising the importance of getting the delivery of roofs right before sharing the outcome with LWT we engaged LWT earlier on in the process to develop the Living Landscape Strategy to get the most out of the roofs that were going to be installed, both from a biodiversity enhancement but to understand any lessons that LWT could impart before our project was fully underway.

Furthermore, at King's Cross, the aspiration is to achieve BREEAM excellent or outstanding for new buildings.

This requires biodiversity enhancements through green/brown roofs and consideration of habitat through bat and bird boxes and provision for invertebrates – with BREEAM it is easy to consider your building as an island, development of this strategy recognised benefit of considering the impact of each building to create corridors across the estate.

What were the biodiversity measures taken?

At Argent, in partnership with London Wildlife Trust (LWT) and Global Generation, the aim is to work above and beyond the requirements of BREEAM and those set out in the Section 106.

Proposed treetop / rooftop Living Landscape connectivity

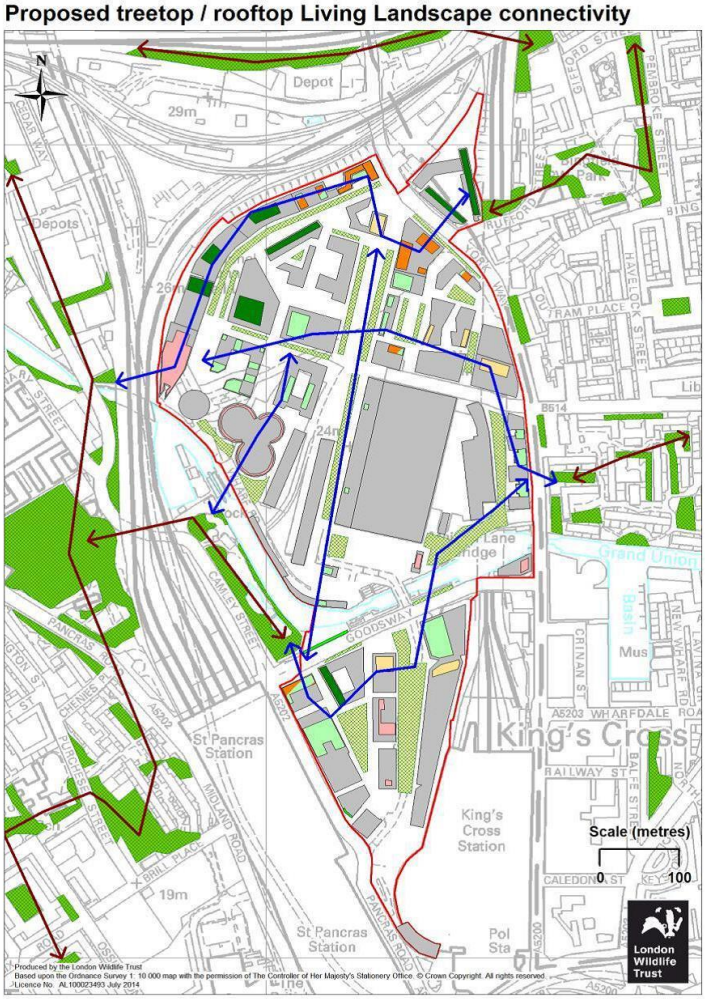

Photo: Rooftop living landscape connectivity

Working with LWT, potential sites for green or brown roofs and 33 appropriate roofs were identified to create a Living Landscape Strategy.

The scheme falls into the zone managed by the Camden Biodiversity Action Plan and is in line with items found in the plan.

In 2014 LWT reviewed the installed roofs and gave recommendations.

On a number of roofs these have been implemented and are managed by Global Generation; a charity that provide local children and teenagers with opportunities to work on sustainable projects within the site.

Taking on board the recommendations, each of the plots across the roofs were designed and installed by local children, using reclaimed materials from

Hampstead Heath, with the guidance of Global Generation and the approval of Argent. Outcomes of the project to date include:

- All development project teams are now using the Strategy as a tool to engage design teams and support specification of roofs to maximise opportunities for enhancing habitat and biodiversity.
- Global Generation and their Generators have been involved in implementing a number of the recommendations.
- Not all the roofs are yet performing as intended, due to a number of factors including installation and maintenance, however lessons learnt from the year one review are being incorporated into planning for future roofs.

LWT are scheduled to visit each of the roofs 1, 2 and 5 years after implementation. This is to ensure that the green/brown roofs are working as intended and to recommend enhancements where appropriate.

How would you best describe the project?

An enhancement.

Photo: DNA structure created by Global Generation

Further information

In the last decade there has been a significant move towards managing greenspace with greater consideration for connectivity within and to neighbouring environments.

This Living Landscape strategy has been developed by implementing a series of varying styles of roof treatments that are linked with ground level activities and the provision of bird, bat and insect boxes and habitat walls.

The green roofs and other complementary features are incorporated into the overall design so as to ensure wildlife is able to move freely through this new urban landscape.

Five habitat types were allocated to the 33 buildings with green roofs and planted terraces across the site. The habitat types were chosen for each roof to create wildlife corridors across and beyond the site.

These briefs going forward are being incorporated into building designs. A rolling monitoring programme is being undertaken to ascertain the success (or otherwise) of the green roof installations.

The monitoring will be undertaken in years 1, 2 and 5 as the new green roofs are introduced across the development.

Following a year one review of the green/brown roofs a number of recommendations were made to enhance the roofs.

The recommendations were discussed with Global Generation and the 'Generators' (young teens) involved in the charity, were engaged to design enhancement layouts for the plots, as well as a number of features, such as bug hotels for increased biodiversity.

Once these had been designed and approved by Argent and the building managers, following a professional presentation given by the Generators, they began work on implementing their designs. Lessons learnt to date include:

- Providing a framework for delivery teams hugely facilitates the implementation of appropriate green/brown roofs.
- There is a role within the business to follow the development and design of roofs to ensure installation aligns with specifications .
- Access to the roofs is key to enabling appropriate maintenance and review and needs to be considered at design.
- Green and brown roofs aren't magic, they don't just work, it takes time for roofs to establish themselves .

What was your personal motivation for carrying out the enhancement?

The site at Kings Cross provided an opportunity to go above and beyond the S106 and BREEAM, particularly for biodiversity, to truly benefit the local environment.

Furthermore, getting local charities LWT and Global Generation involved gives a broader platform for these groups as well as enabling young people to get involved in their communities in a new arena, on a roof, which is pretty exhilarating.