

GOODMAN'S FIELDS: WILDLIFE SKY GARDENS
ALDGATE EAST, LONDON, UK
BERKELEY HOMES (NORTH EAST LONDON) LTD.

BIG Biodiversity Challenge Award Category: Innovation Award

Project overview

The Goodman's Fields development is located in Aldgate East on the edge of the City of London. The wildlife sky gardens are located on the North West Block. They are made up of a network of biodiverse habitats which are not usually found on high-rise developments.

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

In 2013 the London Wildlife Trust (LWT) completed a survey of the site and surrounding area which concluded it was in an 'Area of Deficiency' for sites of nature conservation importance. A Species Indicator Report was produced to inform the design and specification of the 1,983m² allocated for biodiverse roofs on the apartment blocks. There were no specific planning conditions relating to the biodiverse roofs.

What were the reasons behind this project?

The project was submitted for planning in 2011 and therefore predates recent environmental policy on net gain. The initial driver for the wildlife sky gardens was a need to achieve an ecological enhancement for BREEAM. As Berkeley had successfully worked with the LWT on another project, they were seen as the ideal partner to help achieve this at Goodman's Fields. The project team identified the opportunity to take an innovative approach to green roofs – experimenting with habitats and substrates not usually found 9 stories up, and exclusively created for biodiversity.



One of the completed living roofs. Photo taken May 2018 – approximately a year after the gardens completion. Bird and bee boxes can be seen attached to the fencing. Rocks and gentle south facing slopes provide basking space and shade for invertebrates. The pathway provides access for maintenance and occasional educational visits.

All images taken by the Berkeley Group.

What were the biodiversity measures taken?

An innovative approach to habitat creation in a dense urban area was taken. Different substrate types and depths were used to create new spaces for local and migrating species to forage, shelter and breed, without interference from people or pets. The result are two tower block roofs unlike any other, each with distinct characteristics.

The 'dry' garden incorporates habitats typical to the South Downs as the roof is likely to have a similar climate. It contains three different substrates, unusual for a London rooftop;

- Alpine brownfield - mix of low growing UK native perennials
- Chalk meadow - mix of native wildflower and grasses
- Dry acid heathland - heathers with native UK grasses and grassland perennials

The 'wet' garden contains pebble beds which collect rainwater, woodland planting, and large rocks providing shade, increasing the habitat area for insects and birds. Blue and yellow flowers provide forage for four bee hives located on the adjacent apartment block roof.

Native tree species which are able to tolerate the exposed conditions of the roof, such as Hawthorn, have been used across both roofs. Multiple bird, bat and solitary bee boxes provide shelter for these species. This includes local priority species such as black red starts, which are targeted in the Tower Hamlets Biodiversity Action plan. The on-going maintenance of the gardens is undertaken by the Goodman's Fields' managing agent.

The success of the roofs over the first year has made them an ideal venue for educational tours for both Berkeley staff and wider industry professionals, such as landscape architects and ecologists. A video, available on the Berkeley website and vimeo, has been created to share the measures taken and showcase their success. Hopefully this will lead to more rooftops where high value and unusual habitat mixes are used – increasing the opportunities for multiple species to thrive.



Above: Aerial view of both roofs, showing the three habitat circles (different substrates) on the 'dry' roof, and the pebble rainwater collection beds on the 'wet' roof. Below: details of the 'wet' roof. Both photos taken May 2017 shortly after their completion.



Further information

A Species Indicator Report was prepared by the LWT using GiGL Ecological Data. This report, along with other planting guides produced by the LWT, was used to inform the design. The concept design was developed by Murdock Wickham. The detailed design was taken forward to include these recommendations and incorporated in the specification for the landscaping contract.

The gardens were installed between Spring 2016 and Spring 2017. Once complete, the LWT were invited to review the gardens to confirm that they had been completed in line with the original recommendations.

“There are green roofs and then there are the Goodman’s Field green roofs. These really are rather unique roofs for London ... A variety of wildflower beds showcasing a variety of London habitats are not what one expects to find” - David Mooney (LWT).

Now that the gardens have established themselves, the next steps are to better understand and quantify the benefit they provide to wildlife to support continued learning and improvement. Current ideas to achieve this include carrying out an invertebrate survey and installing wildlife cameras.

The initiative has been used to promote the Berkeley Group’s commitment to achieving a net biodiversity gain on all new developments. It is hoped that the gardens will demonstrate to the industry what can be achieved in terms of biodiversity enhancement on new build developments in urban areas, and to promote an ‘outside the box’ approach to habitat creation. Through early engagement with experts, a willingness to learn from them, and continued monitoring of these gardens for lessons learnt, this approach to living roofs could be replicated on other projects, and an even wider range of habitats and planting delivered successfully.



Pollinator centric planting of blue and yellow flowers and native trees on the rooftops.



Both photos taken May 2018.

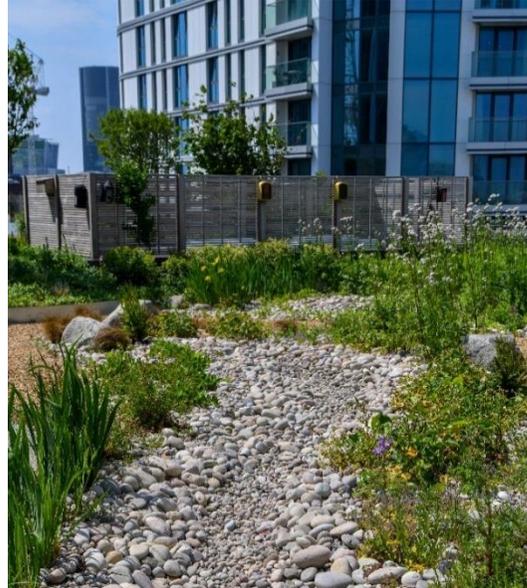


Project Team

Developer: Berkeley Homes (North East London) Ltd.
Landscape Architects: Murdoch Wickham / Fabrik
Landscaping Contractor: Acer Landscapes Ltd.
Ecological Consultants: London Wildlife Trust

What was the motivation for carrying out the enhancement?

The development of the gardens was put forward by the Goodmans Fields project team as an optional commitment under the Berkeley Group's Our Vision strategy in 2014. This was prior to the launch of the commitment to achieve a net biodiversity gain on all new developments in May 2016. This initiative therefore went above and beyond the requirements of the business when it was being planned, experimenting with rooftop habitat creation.



Left: Rainwater collected in the circular pebble beds