AIR W1, SIR ROBERT McALPINE

BIODIVERSITY ENHANCEMENT OVERVIEW

A mixed-use development in the West End of London, AirW1 for The Crown Estate and Stanhope encompasses retail, office, residential and restaurant space. Setting a new sustainability benchmark for a central London development, the building includes two combined heat and power plants (one of which is a hydrogen fuel cell), photovoltaics, a biodiverse roof, bee hives and an absorption chiller. The team saw that the project presented an opportunity to deliver a multi-million pound redevelopment which put modern, responsible and sustainable practices at the heart of its design whilst ensuring the highest level of sensitivity to the surroundings.

At AirW1, Sir Robert McAlpin's Sustainability Manager worked with ecologists to include a biodiverse roof, bird and insect boxes as well as two permanent bee hives.

Biodiverse roof
A 257m^2 area of biodiverse roof was installed comprising a 230m2 linear loop between the running tracks of the BMU and 27m2 across two small rectangular areas in the southeast corner.
The biodiverse roof is a sedum and wildflower based system on an extensive biodiverse roof substrate. There are 14 sedum species which are plugged and hydroplanted. Wildflowers, herbs and wild vegetables were over seeded. The Sir Robert McAlpine sustainability manager worked with the ecologist to ensure that non-invasive, local and nectar rich plants were specified and installed.

Bird boxes
Six Schweglar Brick Boxes were installed which are suitable for the Black Redstart, Pied Wagtail, and the House Sparrow. Four Schwegler No.17 boxes were also installed and these are suitable for the Common Swift. These species will also benefit from the biodiverse roof as it provides a foraging habitat.

Fact box

Company name:
Sir Robert McAlpine

Project name:
Air W1

Location:
London

Biodiversity enhancement:
- Biodiverse roof
- Bird boxes
- Bee hives
- Insect hotels

Size:
257 m^2 biodiverse roof
10 bird boxes

Cost:
£2,500 to buy bees and bee hives
£800/y to fund the bee keeper

Tips:
- Liaise early with the designers to ensure that it is incorporated and designed in, rather than a design change.
- Get an ecologist's advice on the best species for a specific location
- Employ a bee specialist
- Insect hotels are an effective way to connect with the local community and provide education on urban biodiversity

Year completed:
2014

Categories:

- Large scale permanent
- Pollinator
- Community engagement

Bee Hives
Sir Robert McAlpine paid for the bee hives and their installation with the winnings received for a sustainability award. The bee hives were a joint venture by Stanhope, Sir Robert McAlpine and the Crown Estate, with Stanhope sponsoring the required water source and the Crown Estate funded the upkeep and on-going maintenance of the bees and hives. A volunteer apiarist visited site during the planning stage to ensure that the optimum location could be found on the roof. They pointed out the need for the permanent water source which was subsequently installed on the roof.

Insect hotels
Insect hotels were placed next to the biodiverse roof as a safe place for insects such as bumble bees. A Sir Robert McAlpine initiative, the insect hotels were made of waste materials donated by different members of the team including the lead architect who donated bamboo from his garden. A trade contractor also bought in hay from his horse stables. Local school children made the 'hotels' using VOC and formaldehyde-free materials. This formed part of the biodiversity workshop carried out with the schools by four Sustainability Managers from Sir Robert McAlpine.

Community interaction
AirW1 organised a workshop on honey bees for the Soho Parish School after having two WBC bee hives installed on the project roof. The 2 hour workshop took place at the school with 41 children from years 5 & 6. The children were given a presentation covering the importance of honey bees, interesting bee facts and the break down of a hive. Children were quizzed on their knowledge of bees and were shown pictures of the new hives on the AirW1 roof.

The main highlight for the children was building four Bee Hotels in groups of 10. A local SME contractor supplied small hammers, nails and some pieces of plywood cut to size. Instructions were given to the children who were assisted by the Sir Robert McAlpine staff. Once the frames were completed the boxes were filled with bamboo canes, blocks of wood with holes drilled in and straw to create an inviting home for solitary bees and other insects. The children were then able to paint the boxes with VOC free paint.

Pictures of the enhancements