

The Replanting of Beech Gardens

To address the problem of water leaks in to basement buildings the roof was re-waterproofed across the entire area. This presented the opportunity to replant the gardens as a result of the need to gain access to the roof deck surface which required removal of the existing vegetation. As the Barbican Estate is a listed building, the gardens had to be replaced in their entirety, and to the pre-existing ground plan and layout. However, within the planting beds themselves there was a need to rethink the nature and content of the planting as under the original scheme an automated irrigation formed part of it yet, the new remit was abolish the automated irrigation and to plant up using drought tolerant planting.

In April 2014 Nigel Dunnett and The Landscape Agency were commissioned to undertake concept design development for the replanting of Beech Gardens.

The following principles have guided the production of the design concept:

Irrigation: Previously the gardens had a permanent irrigation system. This is no longer the case in line with the sustainability and resource use policies of The Corporation of London. The planting of the gardens therefore had to be robust and tolerant of low water availability. This will, of necessity, change the character of the gardens compared to their previous condition. It is envisaged that in severe conditions, some hand-watering will be possible, in accordance with water use restriction enforcements, but in general a principle is adopted that none or very limited additional watering will be required. As part of the drainage system underneath the substrate and planting a system was incorporated from ZinCo Green Roof Systems Ltd - a leading world supplier on sustainable drainage products. The system not only aides effective drainage but also incorporates a 'egg-box' like construction that retains water and thereby allows through capillary action, water to be taken up through the soil to be utilised by the rotting system of the various plants. Furthermore, special substrates which are light in weight yet moisture retentive have also been used throughout the planted beds to further assist with lessening water requirements.

Exposure and Aspect: The site is surrounded by residential tower blocks of different heights that cast shade across the site at different times of the day. The site is also elevated, and combined with the arrangement of the towers, this creates wind tunnel effects. Again planting had to be robust and tolerant of exposed conditions. The shade analysis indicated that different areas of the site received different amounts of sun at different periods of the day. It was therefore important that the planting reflected this. Rather than using the same plant mixes throughout the site, four different plant mixes were developed to reflect the sun and light conditions in the different zones within Beech Gardens.

Colour and human experience: Year-round visual interest is paramount and in this predominantly grey context, the importance of colour can not be overstated. The proposals worked with combinations of perennials, grasses and bulbs to provide a succession of colour and flowering from early spring through to late autumn. Winter interest is created through the selection of trees with effective winter bark. As well as the direct experience of people within the gardens, we have also considered the view from above in terms of the arrangement of trees and vegetation zones.

Biodiversity: Providing habitat and support for native wildlife is of paramount importance, and becomes particularly significant in high-density public and residential areas. This was achieved partly through inclusion of native plant species where appropriate, partly through the creation of a naturalistic vegetation character, and partly through the creation of a flower-rich landscape of great value to pollinating insects.

Maintenance, sustainability and cost-effectiveness: In addition to the significant reduction in water requirements, the plantings are designed to be simple to maintain. There is no seasonal bedding or replanting. Once established, the vegetation should require simple operations such as cutting back at the end of the

growing season, and one or two weeding events per year. This will enable the highest quality and most diverse planted landscape to be created, making the most of the resources available

Beech Gardens Pond.

As part of the same scheme the replanting of the existing pond had to be reinstated which is an integral and iconic component of Beech Gardens. Prior to its current situation, the lake was dominated by large, invasive rushes decreasing its biodiversity value and visual appeal. As part of the overall improvements to water conservation the pond is now automatically filled; this maintains a set water level whereas previously the pond was filled by hand which was not easily monitored and which resulted in water being wasted through over-filling. Therefore an exciting opportunity presented itself to lessen water wastage, replant the lake and create a more attractive, colourful and diverse water's edge.

By varying the depth of water the design creates a range of different habitats along the margin of the lake. Large areas of dense, diverse, native wetland planting are combined with more open 'beach' like areas. These areas comprise large cobbles and more sculptural, upright wetland species such as *Equisetum japonicum* and *Juncus effescus*. Plants have been selected to provide interest throughout the year with species such as *Lythrum salicaria*, (Purple Loosestrife) and *Iris pseudacorus* (Yellow Flag Iris) providing seasonal bursts of colour whilst species such as *Cyperus longus* provide an evergreen backbone. Floating aquatic plants have also been used on the water's surface to further enhance the ecological value and aesthetic appeal, including *Nuphar lutea*, the Yellow Water Lily, cited as a Flagship species to encourage in London's Standing Water Habitat Action Plan.