

AN OLYMPIC LEGACY FOR LONDON



MASTERPLAN FOR THE LONDON 2012 OLYMPIC AND PARALYMPIC GAMES AND LEGACY LONDON, UK

In 2003 BuroHappold Engineering was appointed as the principal engineer for the AECOM consortium selected to masterplan the transformation of Lower Lea Valley, one of Europe's most deprived areas, into the site of the London 2012 Olympic and Paralympic Games, and to develop the masterplan for the site's future legacy. We have been playing a major role in this extremely complex East London regeneration project ever since.

Our initial assessment of the site revealed it was criss-crossed by significant civil engineering features; major water mains, high voltage electrical cables, canals, railways, roads and bridges. Its industrial heritage had left the area with polluted ground waters and land, and the river valley posed flood challenges that added to the poor provision of utilities and transport connectivity.

The designs for the Games, with its central circulation area and, for its legacy transformation, which included the replacement of temporary venues to allow

residential and commercial development, were developed in tandem to ensure that over 80% of the original platform for the Games would benefit this revitalised quarter of London. The award-winning masterplans also anticipated future changes in requirements for renewable energy inputs, climate change regulations, building regulation codes and waste reduction targets.

BuroHappold integrated the outputs of eighteen different, inter-related workstreams to create a robust, co-ordinated and efficient infrastructure design package. On winning the bid for the 2012 Olympic Games the consortium recommenced work with the newly created Olympic Development Agency. Once the revised planning application had been approved, this provided the catalyst for our further involvement on the Legacy Communities masterplan and framework in the Lower Lea Valley, with the London Legacy Development Corporation (LLDC).

CLIENT
Olympic Delivery Authority (ODA)

DURATION
2003 - ongoing

SERVICES PROVIDED BY
BUROHAPPOLD
Masterplanning, site remediation, hydrology, ecology, waste management, utilities, security, topographical design, earthworks modelling, river engineering, flood risk assessment and prevention, energy and sustainability strategies, bridge engineering, highways design and traffic engineering, fire engineering design and risk assessment, inclusive design

BuroHappold further developed the urban infrastructure strategies for the future development sites of the Olympic Park (now known as the Queen Elizabeth Olympic Park), including water resource and flood risk management, energy and infrastructure design, carbon management and inclusive design. These were based on our in-depth knowledge of the site, and supported by detailed analysis and modelling. Our ongoing involvement enabled the client to make informed decisions and helped focus the choice of option studies, saving critical time and resources.

During the planning of the central Olympic precinct, attention was given to ensure that the large areas of public domain required for the safe and comfortable passage daily of over 250,000 spectators could be reduced to provide a more intimate environment for the future legacy developments. Bridges were one particular example of this thinking. We started by defining the positioning and span arrangements for all of the Olympic Park bridges, then produced a family of highway bridge, footbridge and land bridge designs that were elegant, efficient, and low cost to build and maintain. They also featured temporary additions that could be demounted after the games in order to scale down this important infrastructure element to meet legacy needs.

In addition to infrastructure design, BuroHappold provided a full range of engineering services for the two largest buildings on the Park: the 80,000 seat Olympic Stadium and the 1.2m ft² ICT-resilient International Broadcast and Press Centre, and their transformation into legacy modes as a premier football and athletics venue, and HereEast, the creative hub for innovators and digital makers.

