Olympic Delivery Authority

Sustainable design and construction update

November 2009

Green

Sustainable venues

Olympic Park venues are being designed and built to be as energy efficient and sustainable as possible. For example, the Velodrome is almost 100 per cent naturally ventilated, uses natural light to reduce energy consumption and rain water will be collected from the roof for flushing toilets and irrigation.

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Green transport

To reduce the number of lorries on the roads and the resulting carbon emissions, the Olympic Delivery Authority (ODA) is using rail and water routes to get materials delivered to site and waste taken away. Currently more than 50 per cent of materials, by weight, is delivered by rail including aggregate, kerbs and drainage units and waste is being taken away by barges through the recently dredged waterways and a new lock and water control structure.

Green energy

The new Energy Centre and network being built on the site will provide efficient and low-carbon power by using new technology including biomass boilers and a Combined Cooling Heat and Power (CCHP) plant to capture the heat generated as a by-product of electricity production. A new 120m-high wind turbine will also help contribute towards a 20 per cent renewable energy target.

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Reuse

No materials leave the site if they can be reused or recycled in another way, reducing waste and the amount sent to landfill. During demolition, 97 per cent of the material was reclaimed to be reused in the creation of the Olympic Park. For example, the re-design of a key walking and cycling route, The Greenway, has used materials including bricks, paving stones, cobbles, man-hole covers, timber sleepers and tiles that were salvaged from the demolition stage.

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Recycle

In one of the biggest clean-up operations of its kind, the ODA is cleaning and reusing thousands of tonnes of soil which would otherwise have to be transported off site. A 'soil hospital' has been set up on the Olympic Park which shakes and cleans the soil free from contaminants such as tar, oil and petrol, and produces clean material which can be used in the creation of the correct land levels, foundations and parklands.

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Conserving water

The Olympic Park sports venues will use at least 40 per cent less water than equivalent buildings through initiatives such as low flush toilets, waterless urinals and rain water harvesting from roofs. The Aquatics Centre's systems will be built to recycle the water that has been used to clean the swimming pool filters to then flush the toilets, whilst other venues are installing rain water harvesting facilites.

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Protecting wildlife

Existing wildlife and habitats on the site are being protected during the construction phase, including translocating thousands of newts and hundreds of frogs. The Park and its venues are being designed to create 45 hectares of wildlife habitats and will include reedbeds, grasslands, ponds, woodlands, 525 bird boxes, 150 bat boxes and artificial otter holts.

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Sustainable sourcing

The ODA is committed to using materials which are sustainably sourced and minimise impacts on the environment. A panel of timber suppliers has been set up for contractors across the Park that guarantees to supply only legal and sustainably sourced timber.

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Brownfield to greenfield

The Olympic Park site is being transformed from an area scarred by industrial use and years of neglect to a new urban park with improved infrastructure and world-class sporting facilities. More than 4,000 trees, 74,000 plants, 60,000 bulbs and 300,000 wetlands plants will be planted to create a new open green space for London, the largest planting project ever undertaken in the UK.

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Low carbon

To reduce the embodied carbon of venues on the Olympic Park, the on-site concrete batching plant supplies low-carbon concrete to all contractors working on the project. This is achieved by substituting raw materials needed to make the concrete mix with secondary or recycled materials such as by-products from coal power stations and steel manufacture, and recycled glass.

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LOTTERY FUNDED

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department for culture, media and sport

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LONDON DEVELOPMENT AGENCY

The construction of the venues and infrastructure of the London 2012 Games is funded by the National Lottery through the Olympic Lottery Distributor, The Department for Culture, Media and Sport, the Mayor of London and the London Development Agency.

Reference number ODA 2009/308. Published November 2009.