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NATURE IN THE CITY

AS NEW URBAN DEVELOPMENTS INCREASINGLY FEATURE GREENERY IN THEIR DESIGN, SIMON FROST LOOKS AT THE WAYS ARCHITECTS AND DESIGNERS WORLDWIDE ARE BRINGING NATURE BACK INTO CITIES.

BELOW LEFT
Emilio Ambasz's ACROS building in Fukuoka, Japan.

ABOVE AND BELOW
The Garden Bridge will offer new views of St. Paul's Cathedral, as well as being a sight to behold in itself.

'Green over grey' – that's how Argentine architect and designer Emilio Ambasz describes his work. A pioneer of green architecture, he was covering buildings in gardens and burying them under grassy knolls in the 1970s, long before sustainability became the burning issue it is today.

Now the grey of the concrete jungle is slowly turning green across the world, as architects and designers bring the country into the city, complementing building materials with grasses, plants and trees.

Adding greenery has proven psychological benefits for urban dwellers surrounded by cold hard stone, but it isn't just about making the metropolis a prettier place to live in. Cities account for just 2% of global landmass, but are the source of two-thirds of our carbon emissions. More than half of the world's population live in cities, and urban numbers are growing – if estimates are to be believed, 70% of us will be city dwellers by 2050.

Cities have to reduce their carbon footprint, and increasing sequestration by planting trees is one obvious way to help achieve it.

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THE GARDEN BRIDGE, LONDON

As *MADE* goes to press, actress Joanna Lumley and designer Thomas Heatherwick are awaiting final approval for their grandiose Garden Bridge project, which, if successful, will span the River Thames from Temple to Queen's Walk between Waterloo and Blackfriars bridges in central London.

A 'floating paradise garden', as Lumley calls it, the design features tranquil, meandering walkways where urbanites and tourists alike can take a slow and soothing wander across the river through a faux-wild garden of some 270 trees and landscaped beds. Intended as a peaceful haven within the racing heart of the city, it is hoped it will even provide a new breeding habitat for birds and a foraging haunt for bats.

Lumley refers to Heatherwick as 'the da Vinci of our day'. One of the UK's most respected designers, he was the brains behind the grand cauldron at the 2012 London Olympics and London's New Routemaster bus. He teamed up with Arup and garden designer Dan Pearson to develop Lumley's idea.

Spanning 366m in length and measuring 30m at its widest point, the bridge will be supported by two mushroom-like piers, which form planters for the more substantial vegetation. It's all finished in a copper and nickel alloy, which was chosen for both its aesthetic and non-corrosive qualities.

The Garden Bridge won a competitive tender run by Transport for London in 2012 and, if all goes well, construction will begin in 2015, and it will be open to the public in 2018. But critics have labelled it a costly vanity project, noting that although it will create new views, it will obscure existing ones, too, and that the necessity for more practical bridges exists further east along the Thames.

However, championed by heavyweight supporters, including Mayor Boris Johnson, it appears likely that by the time you read this, the final permission required from Lambeth Council will have been granted.

THE HIGH LINE, NEW YORK CITY

Often mentioned in discussions of the Garden Bridge is New York City's High Line, a 2.33km-long stretch of disused railway that has been converted into a linear park. The third and final phase of the park opened in September 2014, following the first two stretches, which opened in 2009 and 2011, respectively.

The High Line had been abandoned for decades, but the redevelopment led by design studio Diller Scofidio + Renfro has turned it into one of Manhattan's most popular attractions, and has also helped to regenerate the surrounding areas – new developments by architects Jean Nouvel, Frank Gehry, Neil Denary and Shigeru Ban have all sprung up nearby since the High Line's revival, which attracted almost five million visitors last year.

Planting on the High Line focused on native species, often incorporating those that had naturally grown on the rail bed. Perennials, grasses, shrubs and trees were chosen for their hardiness, sustainability, and variation in texture and colour. Stephen Burks, a designer in New York, says, 'Some of the things that I love about the High Line, in terms of design, is the way that they've seamlessly integrated the design elements with nature and with elements that look like it just kind of happened. It's almost as if this very beautiful paved surface with finger-like projections into the lawns just landed here among the wild grasses and trees… it's a great work of landscape architecture.'

OPPOSITE
The High Line has turned a disused railway into a popular destination and regenerated the surrounding areas.

BELOW
The 11th Street Bridge Park has been designed by Dutch firm OMA and Olin.

11TH STREET BRIDGE PARK, WASHINGTON, DC

Part-High Line and part-Garden Bridge, the commission for the 11th Street Bridge Park in Washington, DC, was recently awarded to Netherlands-based OMA and Olin.

Like the High Line, it's an elevated park that will be built on existing infrastructure, using the piers that previously supported a freeway spanning the Anacostia River. Like the Garden Bridge, it's a crossing that is intended, as OMA and Olin put it, as 'more destination than elevated thoroughfare'.

The scope of the project is ambitious – as well as being a new green space, it will be home to cafés, performance spaces and environmental education centres. The river itself is blighted with storm runoff, industrial waste and sewage, but the bridge will incorporate a water treatment centre, with the aim of making the river a place where people can swim and fish safely by 2025. Waterfalls at either end of the bridge will demonstrate how plants can clean water, and the educational centre will offer real-time information on the progress of the river's health.

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ABOVE AND RIGHT

Trees growing from the top of these homes will bring native species back into Ho Chi Minh City. The rooftops will be accessible green spaces.

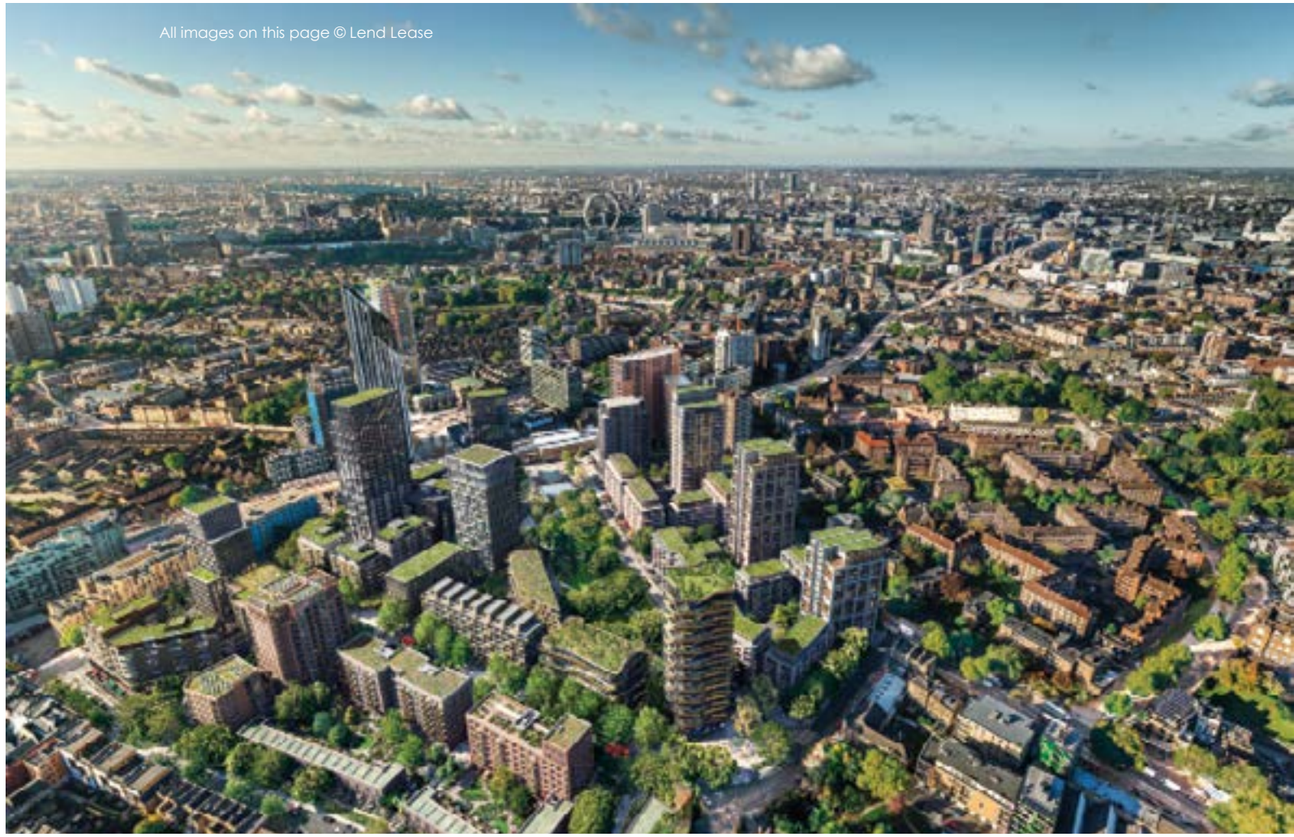
OPPOSITE

Lend Lease's Elephant and Castle development will significantly add to London's green coverage.

HOUSE FOR TREES, HO CHI MINH CITY, VIETNAM

Since its founding in 2006, Vietnamese architectural firm Vo Trong Nghia has been confronting the decline in greenery caused by rapid urbanisation, by covering its buildings in trees. Green space makes up only 0.25% of the area in Ho Chi Minh City, the country's largest city, which, before urbanisation, was a flourishing tropical rainforest. As a way of redressing this imbalance, the company has recently made prototypes of its House for Trees concept – a home that resembles a large plant pot.

Vo Trong Nghia designed five concrete homes, each housing a different species of tropical tree on a thick soil layer incorporated into its roof. As well as sequestering carbon, the homes function as storm water basins – which means that, if incorporated widely, they would reduce the risk of flooding. The houses were built to a tight budget to be feasible for use in high-density urban areas.



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ELEPHANT PARK, LONDON

Cross-laminated timber (CLT) has seen its market grow threefold in the last two years as developers work to meet sustainability quotas. Combine the use of wood with the creation of new green spaces and, as Lend Lease claims, you can create an urban area with zero net carbon gain.

Lend Lease is carrying out a massive regeneration in central London's Elephant and Castle that uses a CLT structure in two of the new buildings, as well as creating the city centre's largest new park in more than 70 years.

What is striking from aerial schematics of the development, set to be completed in 2025, is the amount of greenery in every crevice available – gaps between the green-roofed buildings are filled with trees. The project incorporates a woodland walk and play trail, and a biodiverse rain garden designed to reduce runoff, using the water to feed gardens before flowing into a natural drainage system.

At the topping-out ceremony for the first part of the new development in March 2014, Councillor Fiona Colley described the project as 'a great example of what we want to bring to the whole of the Elephant – high-quality housing for all that blends in with its surroundings, with plenty of green space'. It's green over grey in cities worldwide. ○