

w i l d e r a s s o c i a t e s

LANDSCAPE ARCHITECTURE • URBAN DESIGN • ENVIRONMENTAL DESIGN



Our Approach

Water is a matter of life and death; flooding, drought and erratic climate patterns are increasing pressure on food and natural resources. This is no longer just a problem for rural communities, but a global problem affecting an increasingly urban population and humanity as a whole. Modern technology is working with the complexities of nature and the impact of man's activities on the planet.

Our approach is to integrate water in all of its forms into the language of the city at building, park and street level. The traditional approach of removing water from streets as quickly as possible has led to the desertification of public spaces and a missed opportunity to re-connect with nature. We develop ideas and approaches that transform entire urban areas, residential masterplans or private gardens. Each scale of development has its own local issues and each client has particular concerns and goals.

We believe that design covers much more than style and appearance. We understand what drives development, defines value, retains interest and remains timeless. More importantly we care about how future generations may come to view our contribution to the environment and whether we achieved the most we could with the available resources.



London provides the perfect incubator for our work both here in the UK and overseas. It is a city founded on water and trade, with a legacy of infrastructure from the Industrial Revolution.

The planning system is uniquely powerful and visionary, setting standards for a more integrated approach to surface water management and green infrastructure. Based right beside the London Eye, we have built a diverse team of many different nationalities that approach urban planning with a global perspective. Our portfolio

of projects and clients is equally diverse, ranging from masterplans in Kenya, China and the UK, mining reclamation projects in Australia and Innovation Parks in the UK, China and Brazil. We are able to act as lead consultant or in a supporting role and we are able to offer aerial survey, terrain modelling and LVIA services.

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Urban Design
Innovation
Community
Health & Education



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Engineers: Arup
2011-2013



02. Wembley Northern Lands

London, UK

Client: Quintian Estates
Engineers: Arup
2010-2012



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Hamilton, Bermuda

Client: Sir Robert McAlpine
Architect: Swanke Hayden Connell
2010-2013



04. Creekside Deptford

London, UK

Client: Kitewood
Architect: Squire + Partners
2016-



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Client: Franshion Properties Ltd.
Architect: Fielden Clegg Bradley
2013-2014



06. Coworth Park

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2006-2011



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2016



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2015-2016



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Nairobi, Kenya

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2012-2013



10. Paddington Central

Westminster, London, UK

Client: Development Securities
Architect: Sidell Gibson/ KPF
Engineers: Faber Maunsell
2005-2007



11. Athletes Village

Stratford, London, UK

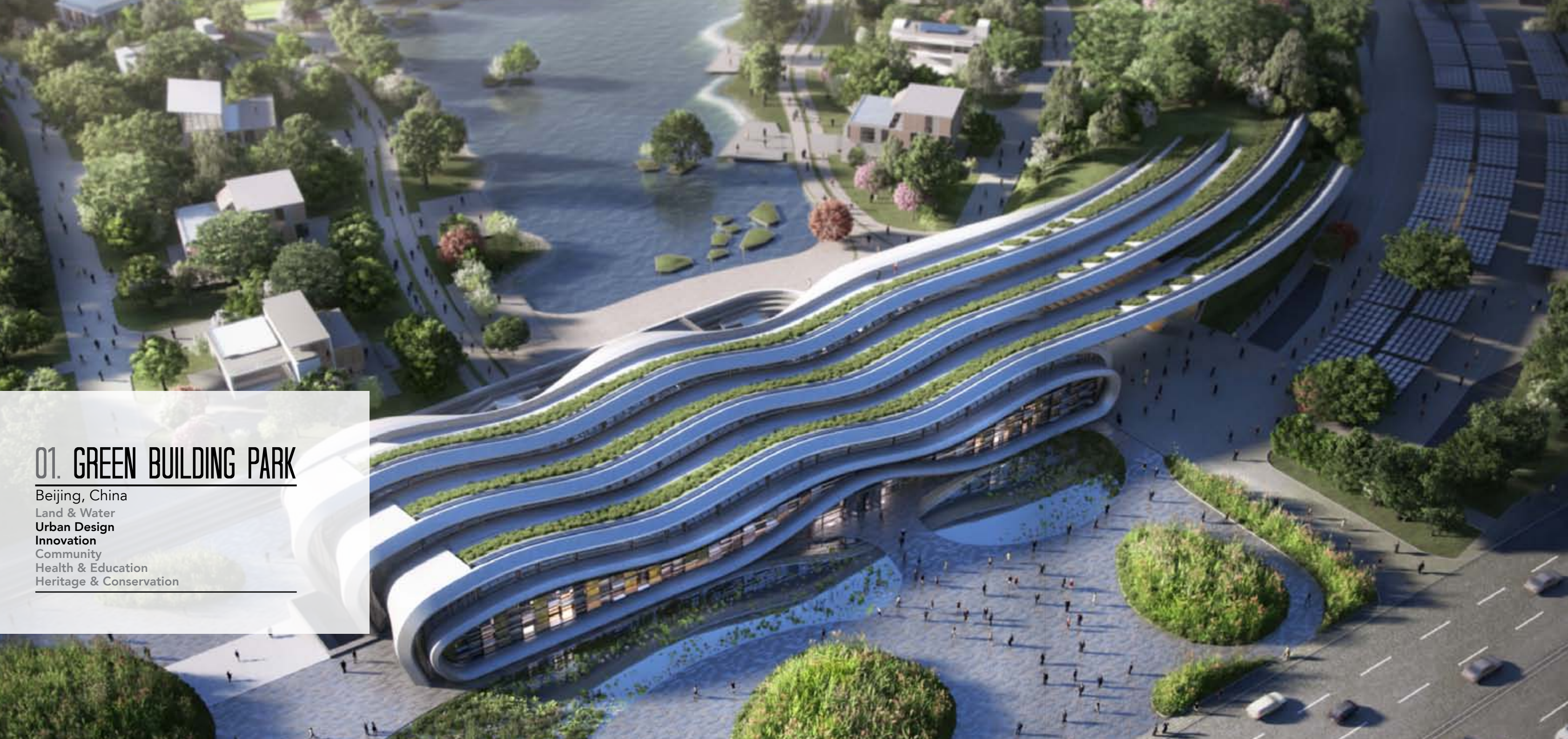
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2012



12. Natural History Museum

Kensington, London, UK

Client: Natural History Museum
Architect: Niall McLaughlin
Concept: Kim Wilkie
2014-



01. GREEN BUILDING PARK

Beijing, China

Land & Water

Urban Design

Innovation

Community

Health & Education

Heritage & Conservation

The Chinese Green Building Park in Beijing was the first of many urban regeneration masterplans in China. This scheme was an initiative by Vanke to move their R&D headquarters from Dong Guan to the political centre of China. The park, some 77 Hectares of land on Beijing's sixth ring, was designed to incorporate the latest approaches to urban masterplanning including stormwater wetlands, renewal energy systems, urban farming, a biofuel research centre, sustainable transport systems, a plant research centre and an innovative building to act as an international hub for dissemination of knowledge. Over 40 prototype systems were featured on the park and the proposed materials research lab would be the largest in the world for exploring new approaches to building construction technology.

Designed Over Dinner

Sometimes the best ideas are the first ideas. The initial concept for the Chinese Green Building Park was hatched over dinner in China following a site visit with BRE Director of Innovation and Enterprise Jaya Skandamoorthy. The scheme incorporates the principles of Greenprint, BRE’s sustainable planning framework.



▲ Concept sketch for the Green Building Park completed in two hours over dinner



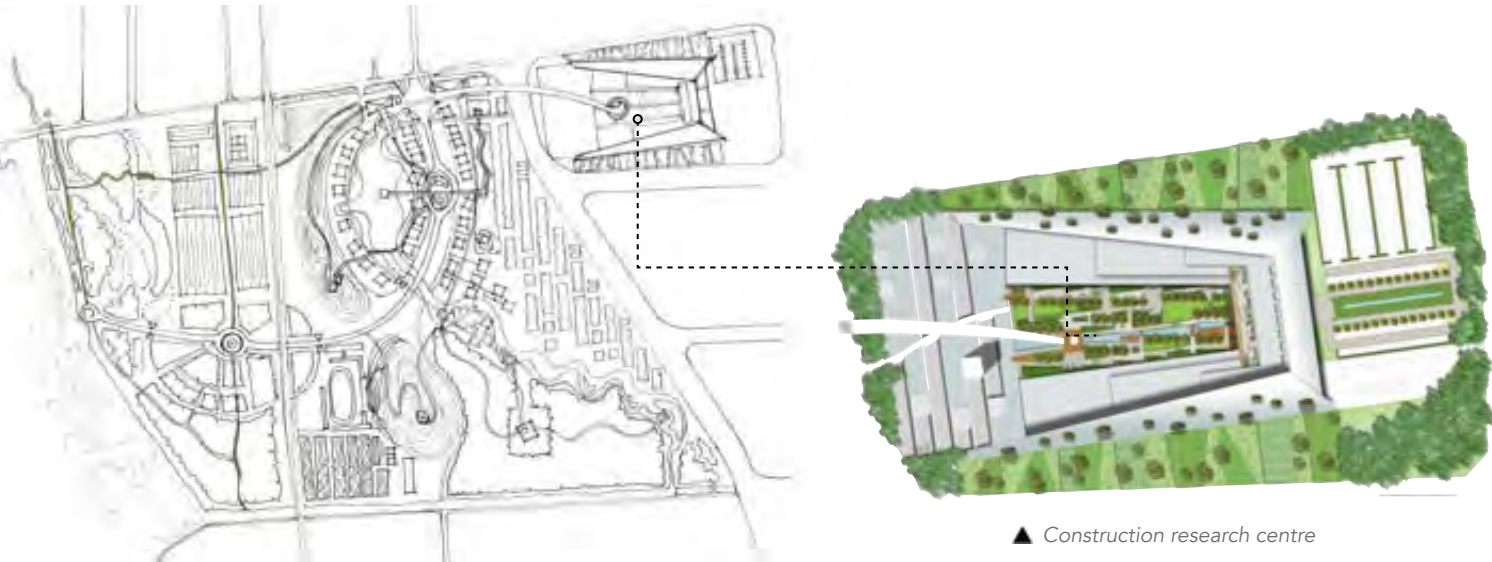
▲ Transport Strategy



▲ Circulation and Access



Natural assets including woodland and remnant orchards were used as cues for the masterplan. The re-use of existing site resources is a key to a sustainable masterplan. A noise barrier was created from re-used site rubble and topsoil from pond excavations and existing buildings were re-tasked as a bio-fuel processing and storage facility. The stormwater wetlands would replace those destroyed by the damming of a nearby river for a flood defence system.



▲ Construction research centre

“The re-use of existing site resources is key to a sustainable masterplan”

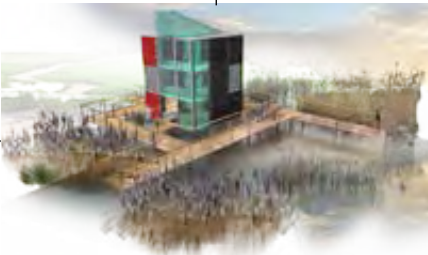
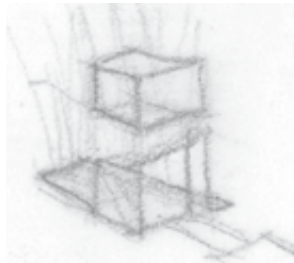


▲ Final Scheme Masterplan

Creating a place of discovery

Innovation Parks have a special function aside from being a place for people to relax and experience nature. They need to be able to communicate at a number of levels, to lay persons, academics and government officials. The park is designed with a series of information points with multiple layers of discovery at key locations such as the wetlands, woodlands, food research centre, and materials research centre. The pavilions have tiers of discovery from basic information to archives and a data collection centre so that information on climate change, energy yields and materials performance can be collected and disseminated to a global network of innovation parks being built by the Building Research Establishment.

▼ Wetland Pavilion





02. WEMBLEY NORTHERN LANDS

London, UK
Land & Water
Urban Design
Innovation
Community
Health & Education
Heritage & Conservation

Built around London's iconic Wembley Stadium, Wembley City accommodates over a million square feet of commercial office space, shopping, residential blocks and London Borough of Brent's new civic centre. The streets and squares of the scheme are designed to accommodate large crowds on match days without feeling desolate the rest of the time. The design of the public realm received a Commendation in the 2011 Landscape Institute Awards and has gone on to become a vibrant new quarter for London.

A Masterplan with a Vision

The original masterplan vision for the area around a new Wembley Stadium was conceived by Richard Rogers in 2003. Our involvement included the development of the public realm strategy for the Wembley retail outlet Centre and streets and squares for the land to the north of the stadium.



▲ Wide tree lines boulevards provide spatial containment without impeding pedestrian traffic on match days.

Multi- Layered Green Infrastructure

The scheme for Wembley Northern Lands incorporates green infrastructure at many different levels, from quiet residential courtyards at podium level, to busy boulevards and shopping precincts. The scheme incorporates green roofs and play spaces at roof level, helping to attenuate rainfall on the buildings and providing an improved microclimate and biodiversity.





03. BERMUDA HOSPITAL

Hamilton, Bermuda
Land & Water
Urban Design
Innovation
Community
Health & Education
Heritage & Conservation

The King Edward Memorial Hospital was the subject of a PFI bid with the focus on a sustainable building and new amenity spaces for patients to bring Bermudas healthcare programme into the 21st Century. The existing building consumed vast resources including a high energy demand and over 60% of the islands potable water. Our role went far beyond landscape architecture and we were able to offer consultancy that looked at the landscape areas as a resource management strategy, helping to collect water and cool the building through green roofs and external patient gardens. The landscape was designed to withstand tropical storms and had a chance to prove itself when hurricane Rafael struck in October 2012 with 145km/h winds.

Built for Resilience

Islands offer an unprecedented opportunity to demonstrate sustainability principles. As a closed system everything on the island comes from the island. Water is abstracted from a thin lense of fresh water perched above the limestone formations of the volcanic cay, all green waste is recycled into compost and due to strict import restrictions no soil or aggregates can be imported. All of the trees used on the scheme were transplanted from the site, all rainwater falling on the building as captured and re-used, grey water recycled. The building has its own sewage treatment plant and nutrient rich water from the process is used to irrigate the patient gardens while organic solids are used in the gardens. The scheme adheres closely to the principles of permaculture first developed by Australian Bill Mollison.

▼ Hospital entrance and drop off area



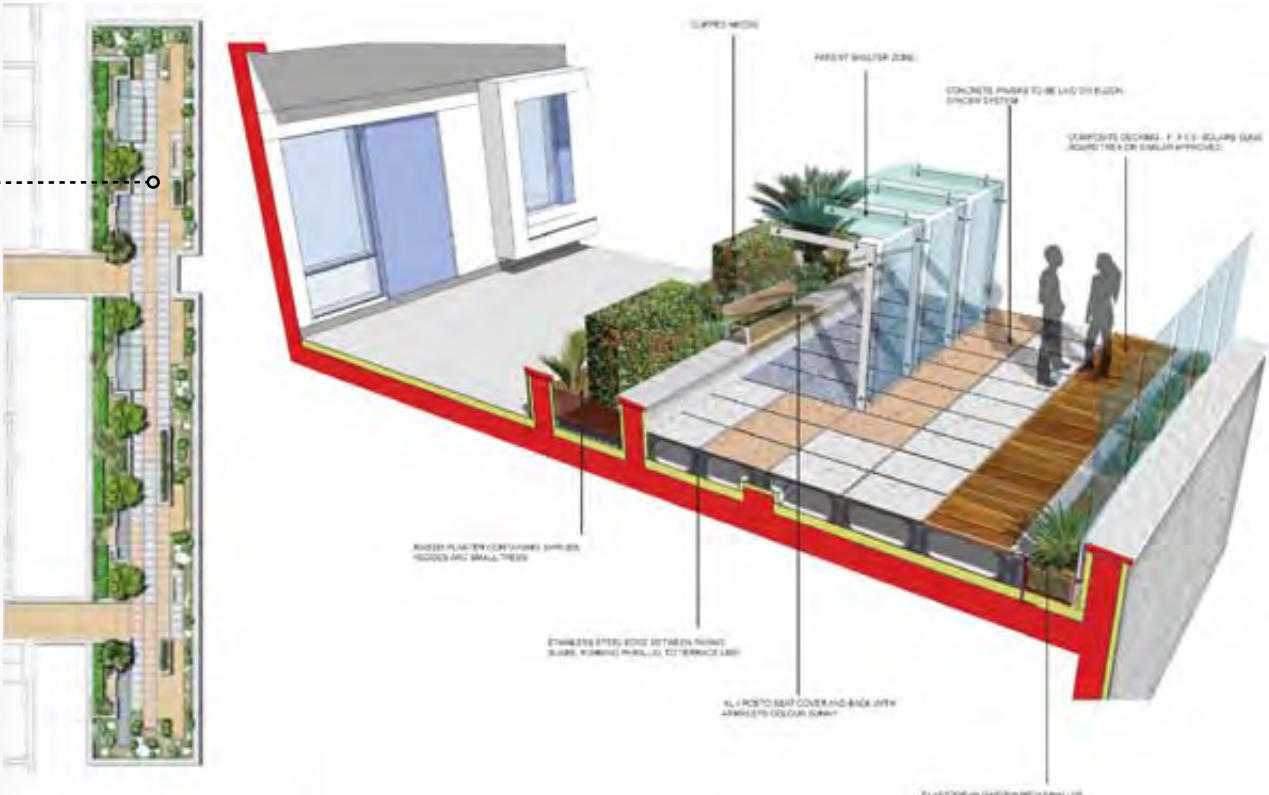
▲ Patient Garden



▲ Scheme Visualisation



▲ Completed Scheme



▲ Roof Deck Detail

The King Edward Memorial Hospital incorporates Bermudas first Green roof an approach aimed at reducing reflected light into the building from the projecting clinical wing at first floor level. The green roofs also help to improve the thermal performance of the building and protect the roof membranes from flying debris during tropical storms. The green roof system is also one of the first designed to withstand hurricane conditions and was developed in conjunction with Kevin Songer who has been developing green roof systems for the past 10 years in Miami Florida. The green roofs on the hospital have survived for five years without damage and use an outer layer of salt resistant plants to protect more sensitive plants on the inner core of the green roof areas.

04. CREEKSIDE DEPTFORD

London, UK
Land & Water
Urban Design
Innovation
Community
Health & Education
Heritage & Conservation



Deptford Creekside is a regeneration area with a difference. It is an area where modern architecture sits amid industrial decay where nature is reclaiming the landscape. In amongst the trendy cafes and the Sterling Prize winning Laban Dance Centre by Herzog de Meuron, community gardens and markets have sprung up in disused factory buildings and warehouses. The phase two extension of the Laban Dance school will incorporate the trinity Music School and the design concept by Wilder Associates incorporates the fluid movement of dance with the organic forms of erosion. Woven into the design, a thin band of green representing the resilience of nature has been woven into the form. The scheme invites nature to climb up and over the residential tower building in its relentless conquest of one of London's last remnants of the Industrial Revolution.

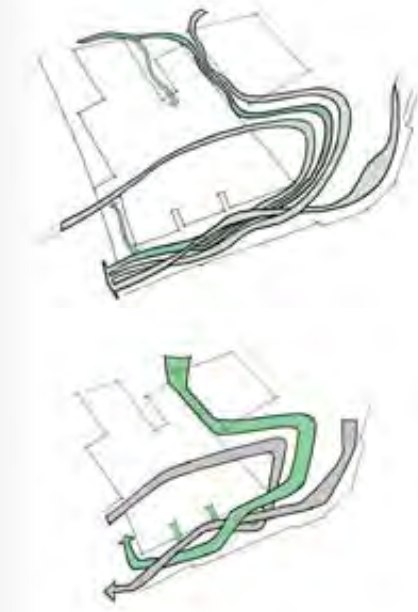
Muddy Boots and Dancing Shoes

The story behind the landscape design of Creekside Deptford is rhythm and movement that draws on the interplay between water and erosion, music, dance and nature. The fluidity of the design enables a multitude of uses, from performance art and markets to pop up festivals. The landscape has been allowed to erode the proposed architecture creating niches for retail units and cafes to spring up in the new residential quarter. The buildings reflect the fluid form of the landscape, which climbs up and over the buildings expressing itself in a variety of residential gardens and private terraces.

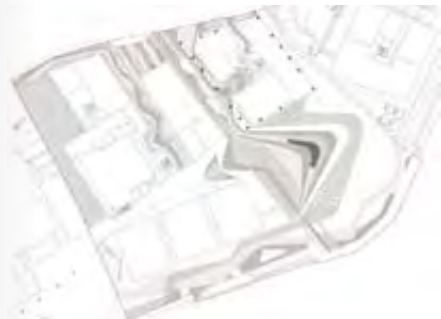
▼ Spatial Dynamic



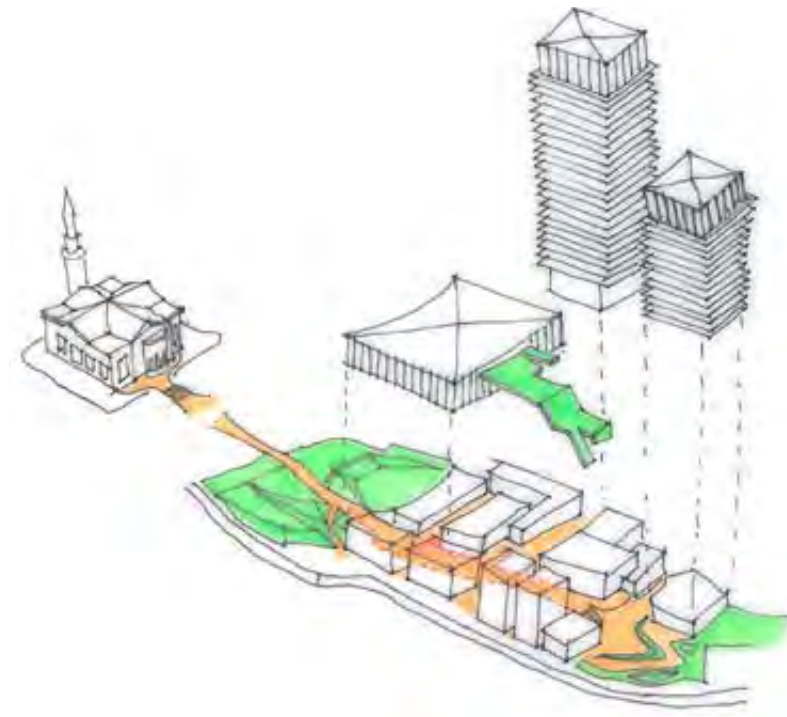
▲ Laban Dance Centre and Deptford Creek



▲ Early Concepts



▲ Erosion of the built form by the landscape



▲ The landscape meanders through and up onto the building forming a series of rooftop terraces



▲ Exploring the form of the civic space



05. LIVING LATTICE

Meixi Lake Eco City, China

Land & Water

Urban Design

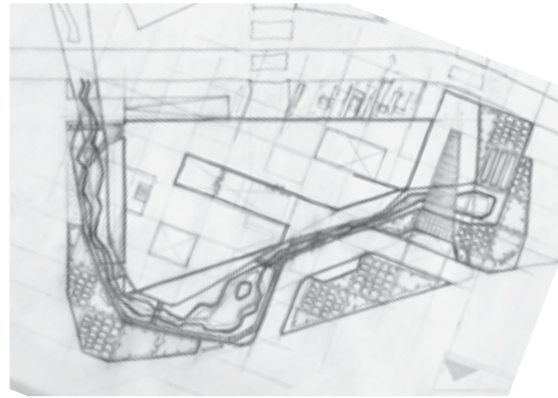
Innovation

Community

Health & Education

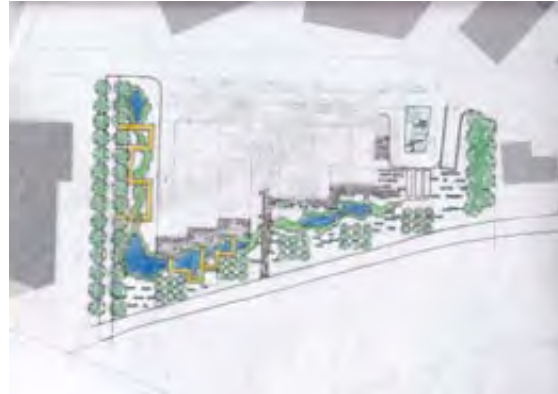
Heritage & Conservation

The name Living Lattice conjures up images of nature intertwined with architecture and that succinctly describes the concept for this building. Conceived as the headquarters for Meixi Lake Eco-City developer Franshion Property, the building is part office and part exhibition center. Achieving passive architecture in this part of China has always proven elusive. With high humidity, constantly overcast conditions and a temperature that ranges from 4°C to 40°C, the major energy demand is for comfort cooling. Could a building be designed that adapts to external conditions by changing its surface area and harnessing rainwater to support a green facade providing both shade and evaporative cooling?



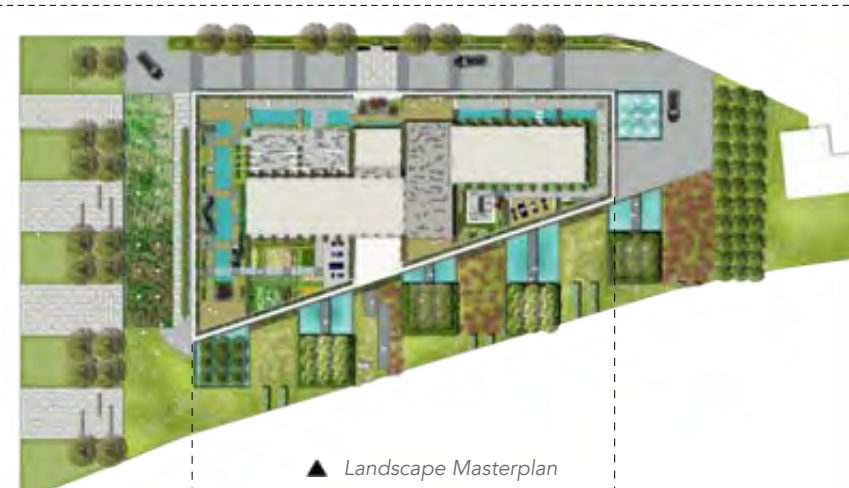
Dream Team

Every so often a project brings together the right people in the right place at the right time. The Meixi Lake Living Lattice project brought together architects Fielden Clegg Bradley, Engineers Atelier Ten, Sustainability Consultants Ecolntel and Wilder Associates to deliver a building for the developer of the Eco-City Franshion Property. The objective was to create a building that reduced energy consumption by 70%. The integration of green technology was a key component of the buildings success. Rooftop gardens help to pre-cool incoming air before moisture is extracted by a liquid desiccants. Gardens built into the building help to provide a stable temperature to the building by remaining closed in winter and opening up in summer to providing greater ventilation. Water recovered from the roof gardens and building is used to irrigate green facades that help to keep the building cool through evaporation and shading.



▲ Early concept development

“The integration of green technology is a key component of the buildings success”



▲ Landscape Masterplan



▲ Roof level plan showing bio-filtration system



▲ Building Components



▲ Section through the winter gardens

The winter gardens are a key component of the 'lattice' concept providing internal gardens during the cold and humid cool season and opening up to provide cross flow ventilation and access for staff in the hot and humid warmer months of the year. In 2014 the building was awarded BREEAM Outstanding and was recognised as one of the most energy efficient buildings in the world.



▲ Ground level gardens and bio-filtration ponds



06. COWORTH PARK

Sunnigdale, UK

Land & Water
Urban Design
Innovation
Community
Health & Education
Heritage & Conservation

England has a wealth of heritage assets and many country estates are finding new value as country clubs, resorts or educational establishments. Coworth Park was acquired by the Dorchester Group as part of their new brand of luxury resorts in the countryside. The former manor house, outlying stables buildings and gardens have been restored to provide a venue for weddings, conferences and sporting events. The estate boasts a spa, tennis courts, a croquet pitch and two professional polo pitches which are home to the Guards Polo Club. Restoration of historic elements such as the sunken garden and lime avenue has been complemented by new elements such as the terrace and rose gardens.



▲ Restoration Masterplan

A Mix of Old and New

Set in 240 acres of land, the former home of the 17th Earl of Lord Derby, the Georgian building takes centre stage within the transformed landscape that includes a restored sunken garden and Lime avenue. New features include the rose garden, terrace reflecting pool and new central courtyard for the refurbished stable block. The scheme was the recipient of a Landscape Institute Award for Heritage and Conservation in 2012.



▲ ▼ Sketch concept and finished stable block courtyard



▲ Spa Green Roof



▲ The courtyard of the restored stable block with ornamental grasses and Rhododendrons



The new Spa building features a sedum roof and the classic formal gardens have been complemented with new contemporary elements. The scheme also involved the construction of a new pond and areas of woodland coppice as part of the grounds restoration programme.





07. INNOVATION PARK GUI'AN

Guizhou, China

Land & Water

Urban Design

Innovation

Community

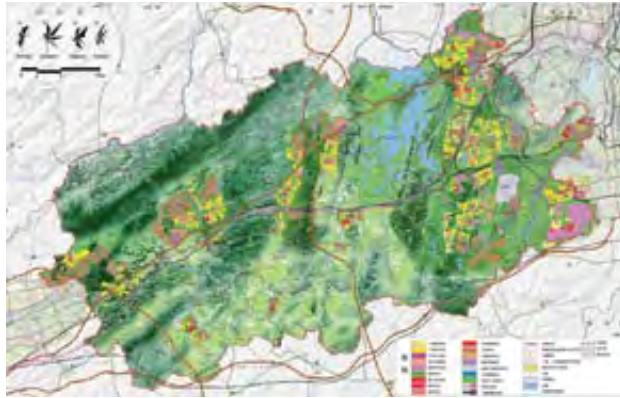
Health & Education

Heritage & Conservation

The Innovation Park, a collaboration between Wilder Associates, BRE and Tsinghua University, lies at the heart of Gui'an New District, a 1700km² new city that merges Guiyang and Anshun. The scheme, part of the BRE Global Innovation Park Network, sets out to demonstrate new approaches to surface water management. Culture and heritage also lie at the heart of the masterplan, with historic field patterns and tea plantation terraces incorporated into the design. The visitor center, a design by Tsingua Holdings Human Settlement Development Group, is a modern and passive building that incorporates local materials and craft skills into its fabric. The Innovation Park provides a platform for collaboration between Government, Academic and Industry specialists in the development of new construction technology.

Prototype for a Sponge City

In 2012 the president of China Xi Jinping declared that cities could no longer carry on exacerbating flooding through the creation of impermeable surfaces and increased runoff. He stated that cities must act like sponges, absorbing runoff through the creation of wetlands and a more porous approach to hard surfaces. Sponge Cities has become a byword for schemes that provide a model for surface water management in the urban environment. In 2015 Wilder Associates were invited to embark on an ambitious project to create a Sponge City prototype for Gui'an New District ahead of President Xi Jinping's address at the party conference in Guiyang City.



▲ Gui'an New District Masterplan



▲ Concept Development



▲ Masterplan



Existing site features, such as the historic tea plantation terraces, have been retained to providing bio-filtration systems for surface water runoff prior to collection in infiltration lagoons that enable surface water to migrate back into the water table. The site also separates grey water, black water and yellow water into separate treatment systems so that all water on the site is recycled. Bio-solids and nitrates from black and yellow water is re-used in the irrigation of crops on the food production terraces.



08. GRASMERE GARDENS

Whitstable, UK

Land & Water

Urban Design

Innovation

Community

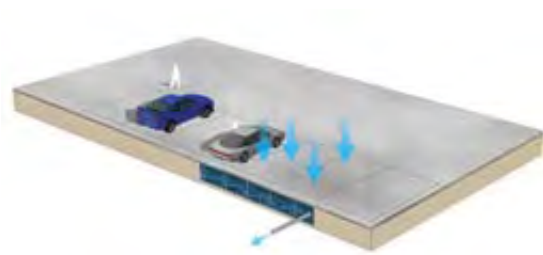
Health & Education

Heritage & Conservation

High demand for new housing, particularly in the southeast of England, has led to increased pressure to develop difficult or marginal sites. We are often involved in the design of new housing schemes in areas of flood risk or on the edge of Greenbelt. Grasmere Gardens in Kent lies on a site that is prone to flooding and naturally, neighbours are concerned that the development will increase that risk. Our scheme for the 17 Hectare site used our in-house drone surveying capabilities to analyse the topography and propose a system of swales and ponds that would slow down and attenuate rainfall during storms events. Woven into the masterplan are a series of green corridors and community parks that not only provide permeability and access but integrate nature into the heart of the development.



▲ Aerial survey work carried out by our sister company Survey Drone Ltd.



Collection



Conveyance



Attenuation



Filtration



Led by the Land

Topography lies at the heart of a well designed masterplan. In the case of Grasmere gardens we employed our in-house drone technology in mapping the site in order to understand how water moves across the site. The design of the streetscape and housing clusters enabled parts of the scheme to be designed from the inside out and public rights of way helped to determine the location of green corridors. Wilder Associates also carried out the Landscape and Visual Impact Assessment for the site using our drone to obtain accurate GPS positions of key viewpoints.

“The design of the streetscape and housing clusters enabled parts of scheme to be designed from the inside out”



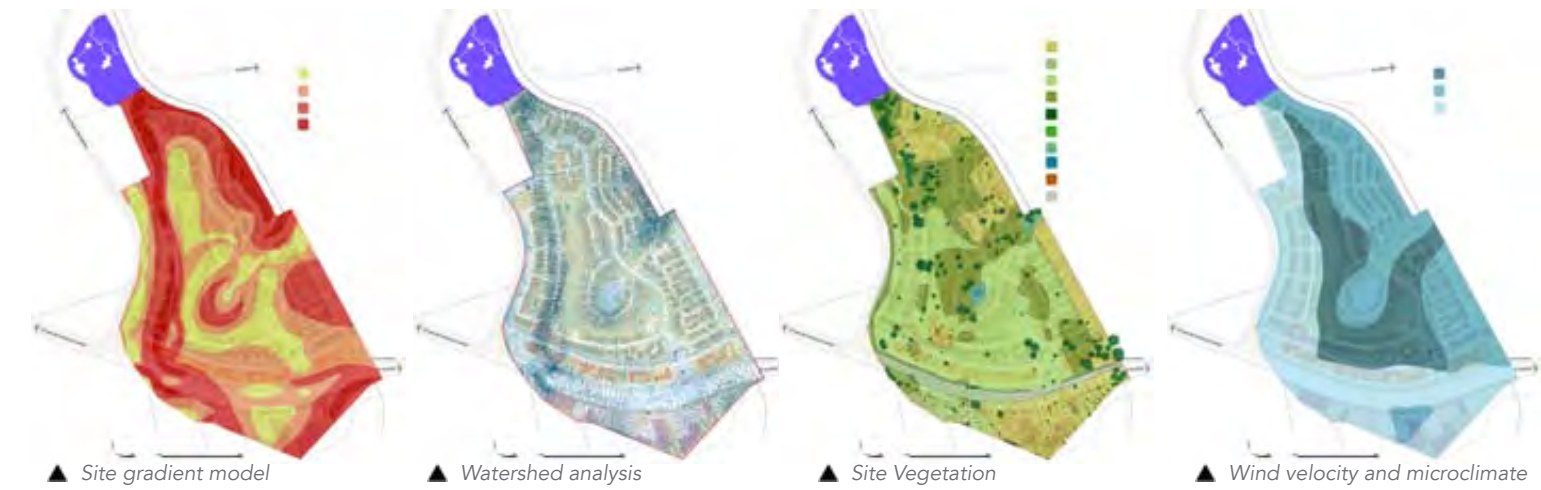


09. LIMURU HEIGHTS

Nairobi, Kenya

Land & Water
Urban Design
Innovation
Community
Health & Education
Heritage & Conservation

Sustainable housing becomes even more important in communities that have to be self-reliant. In Kenya, where the power supply is often intermittent and sewer networks overwhelmed, renewable energy and surface water management are key to a successful development. The Limuru scheme relies on passive housing with photovoltaic power as a key component of the power supply. Microclimate and topography have had a major influence on the layout of the masterplan informing the design of the surface water management strategy.

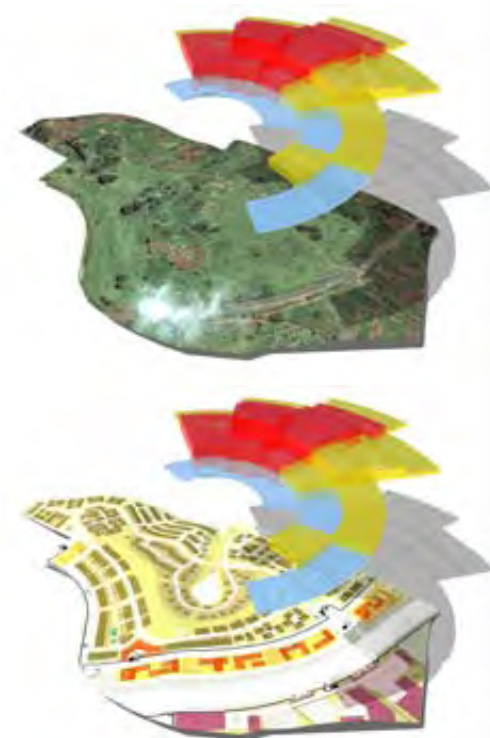


Working with Nature

The cooler uplands north of Nairobi are a favourite place for residents trying to escape the heat of the city. The elevated land also receives high rainfall, around three times as much as London and in a short period from April to May. This mini monsoon period leads to problems with erosion and flooding and often overwhelms sewage treatment works leading to raw sewage overflowing into rivers and streams. Limuru Heights was developed with self sufficiency in mind with ponds and lakes in place to capture runoff, and a small wetland to the north acting as a polishing lagoon for the sewage treatment works. The scheme also incorporates a ridge line park and arboretum and allotment gardens on the lush eastern slopes of the site.



▲ Masterplan draped over terrain model



▲ Microclimate assessment



▲ Site sections



▲ Concept for the central parkland spine



▲ Masterplan



10. PADDINGTON CENTRAL

London, UK

Land & Water

Urban Design

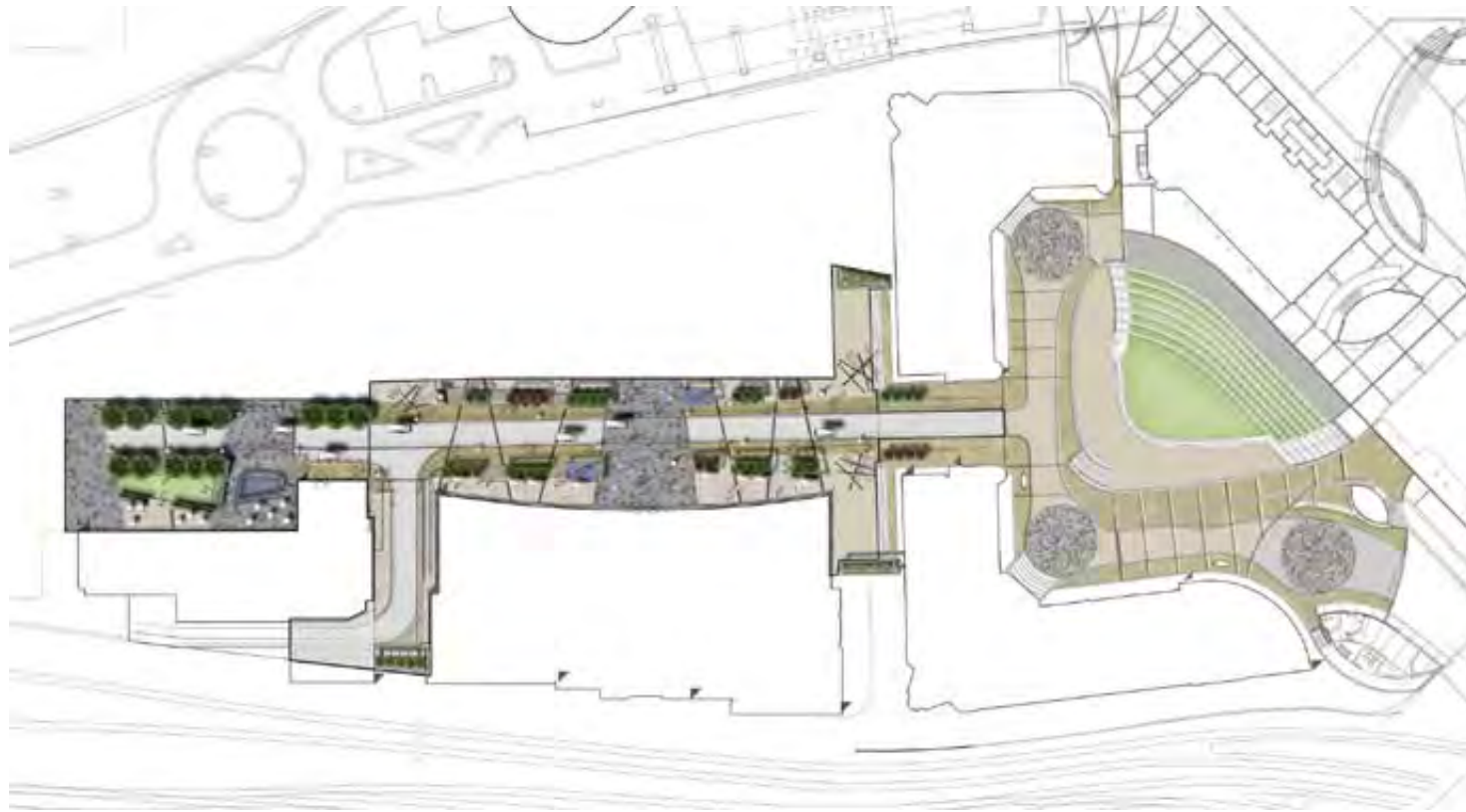
Innovation

Community

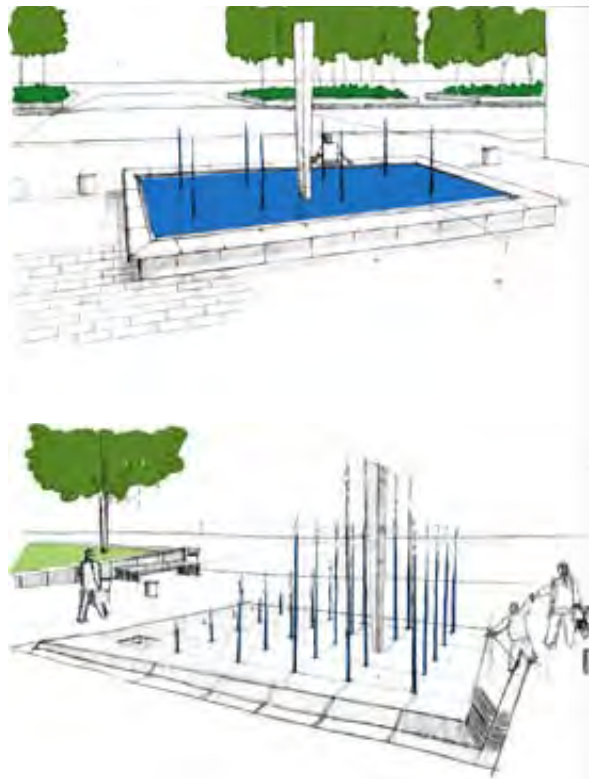
Health & Education

Heritage & Conservation

The Paddington Basin regeneration area has helped to create one of the largest commercial districts within the City of Westminster. The site is defined by transport and lies between the Grand Union Canal, the A40 Westway and Paddington Station and the arrival of the Heathrow Express has provided a catalyst for regeneration. Transport infrastructure also proved to be one of the major constraints, with building footprints having to work around existing tunnels, services and Crossrail works underway beneath the site. The streets and squares of the scheme were built some 13m above ground level and conceal a myriad of services and structural interfaces beneath a calm and serene landscape setting.



▲ Paddington Central Masterplan



▲ Design Process



▲ Scheme aerial view

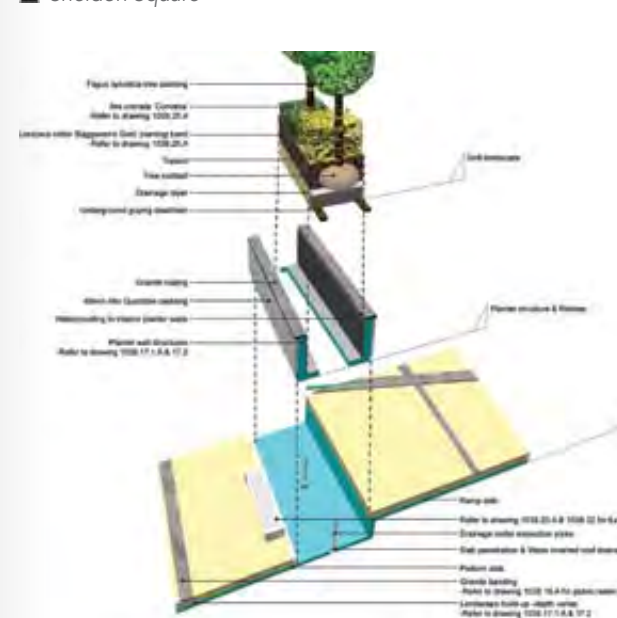


▲ Night scene in Sheldon Square

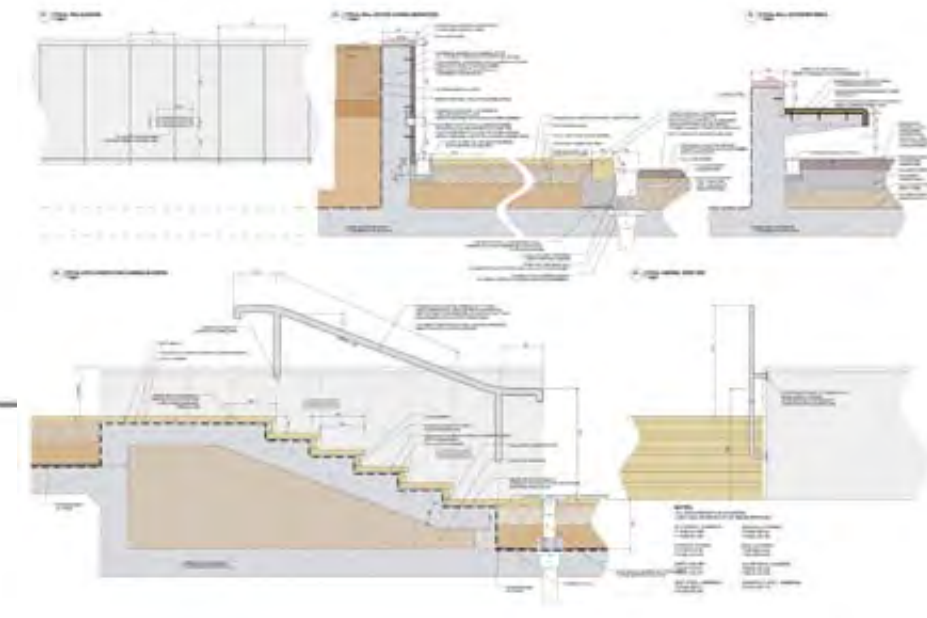
“Kingdom Street floats some 13m above the ground, concealing the transport infrastructure that defines the site”



▲ Sheldon Square



▲ Exploded axonometric detail for tree planters



▲ Planter and step details

Technical details and 3D models produced in order to explore service and structural interfaces on the scheme helping to co-ordinate between different disciplines in the design team. The resulting scheme provides a dialogue between the retail, commercial and hotel buildings in one of London's prime real estate locations. Sheldon Square (above) has become a hub for commuters and office staff, hosting festivals and cultural events and accommodating shops, cafes and a gym.



11. ATHLETES VILLAGE

Stratford, London, UK

Land & Water

Urban Design

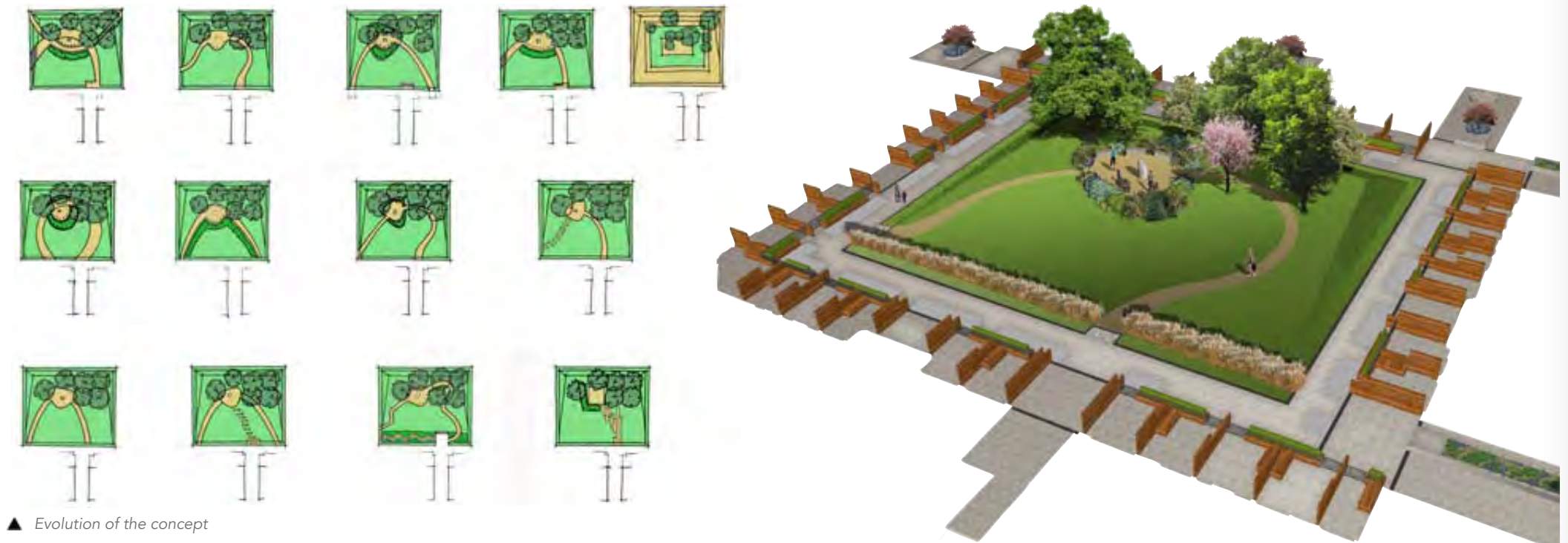
Innovation

Community

Health & Education

Heritage & Conservation

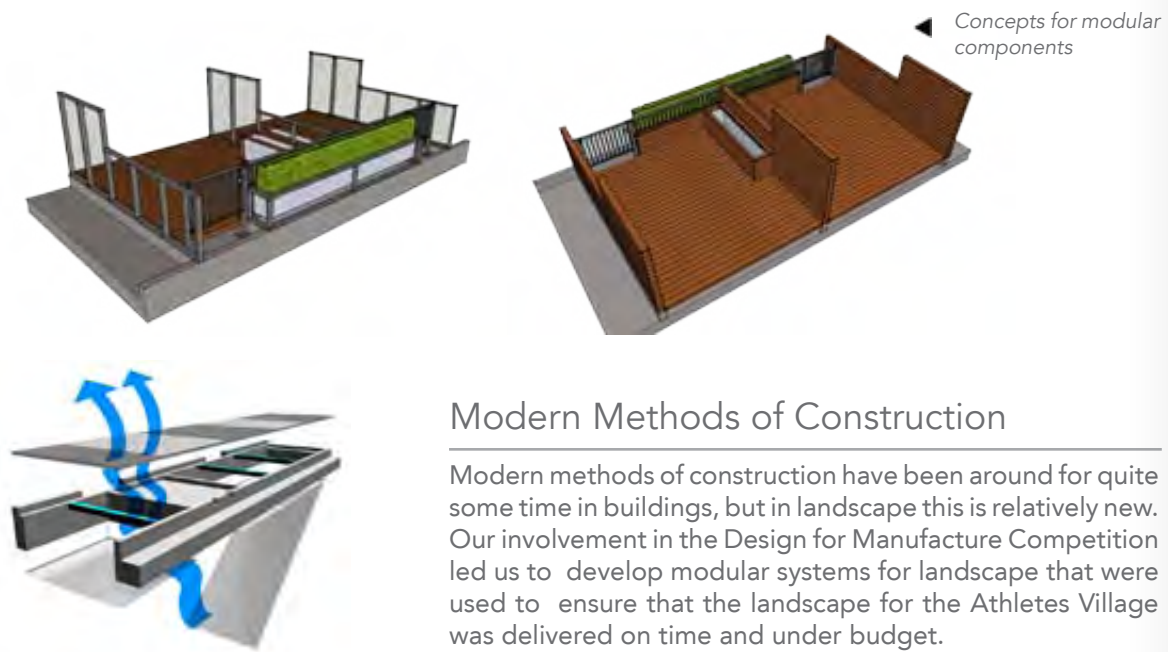
The 2012 Olympic Games provided an unprecedented opportunity for the development of London's East End. One of the largest regeneration projects in Europe, the construction of the London Athletes Village by Lend Lease aimed to be one of the most sustainable schemes in Europe. With tight and immovable deadlines the landscape was the last elements to be completed and had to be delivered quickly and efficiently. Our approach was to employ modular systems and to construct a large proportion of the landscape components off site to save time and money. By June 2011 our two podium deck landscape schemes for the Athletes Village were completed, a full six months ahead of schedule.



▲ Evolution of the concept



▲ Trees arrive on the podium deck



▲ Concepts for modular components

Modern Methods of Construction

Modern methods of construction have been around for quite some time in buildings, but in landscape this is relatively new. Our involvement in the Design for Manufacture Competition led us to develop modular systems for landscape that were used to ensure that the landscape for the Athletes Village was delivered on time and under budget.



▲ Porous surfaces were used throughout the scheme to dispense with drainage gullies



▲ Aerial photograph of the finished scheme

12. NATURAL HISTORY MUSEUM

Kensington, London, UK

Land & Water
Urban Design
Innovation
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Heritage & Conservation

The Natural History Museum is one of London's most famous landmark buildings and has become a victim of its own success receiving over 5 million visitors a year. The grounds have always been a somewhat leftover space, used for hosting ad hoc events such as ice skating, photography exhibitions or butterfly houses. In collaboration with Niall McLaughlin and Kim Wilkie, the competition winning scheme will transform the grounds into an outdoor extension of the museum, helping to organise pedestrian traffic and provide a fitting vision for the museums next 150 years. Built at a time when the foundations of the natural world were being shaken by Darwin's controversial publication on the origin of species, the museums grounds will now tell the story of the evolution of the earth, from its early formation to the emergence of life. The eastern end of the garden will allow visitors to discover the extinct, to see dinosaurs grazing in a primordial forest of ferns and cycads. The story in the west however will deal with the future of mans existence on the earth and ultimately his relationship with nature.

A Tale as Old as Time

The Natural History Museum in London houses one of the most extensive collections of plants, animals, fossils and rocks in the world and is only able to exhibit a tiny fraction of its collection at any one time. The new landscape is conceived as an extension of the museum, providing a living exhibit of the earth's 4.5 billion year history. While the eastern grounds will tell the story of all that has gone before human existence, the western grounds will explore man's relationship with the environment and how we must evolve in order to coexist with nature. The gardens will explore issues such as health and well being, water, soil and food. New planters either side of the main entrance will showcase plants from the Canary Islands, the first place that Darwin experienced new and exotic species prior to his trip to the Galápagos Islands.



▲ The geological wall extending from the new pavilion by Niall McLaughlin Architects

▼ Final concept for the grounds transformation program by Kim Wilkie and Wilder Associates



▲ Western Garden pond and food production terraces



▲ Proposed View from the Exhibition Road tunnel



▲ 'Dippy' the Diplodocus grazing in the primordial forest

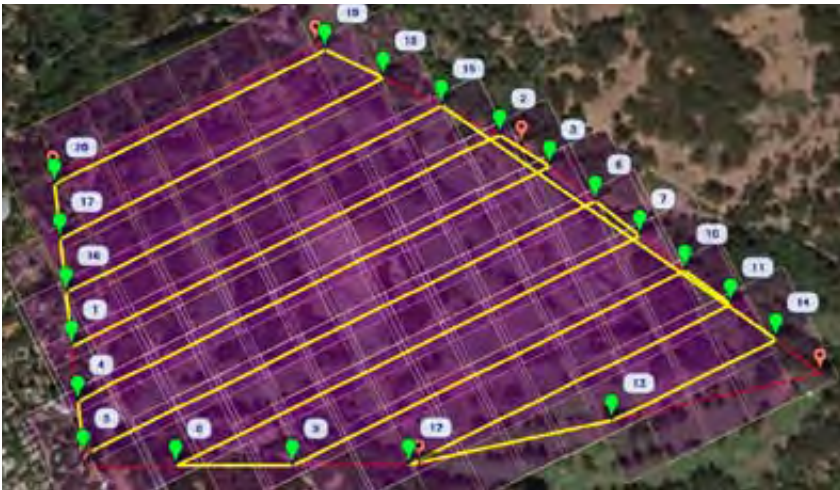
“The gardens will explore issues such as health and well being, water, soil and food”

The Future

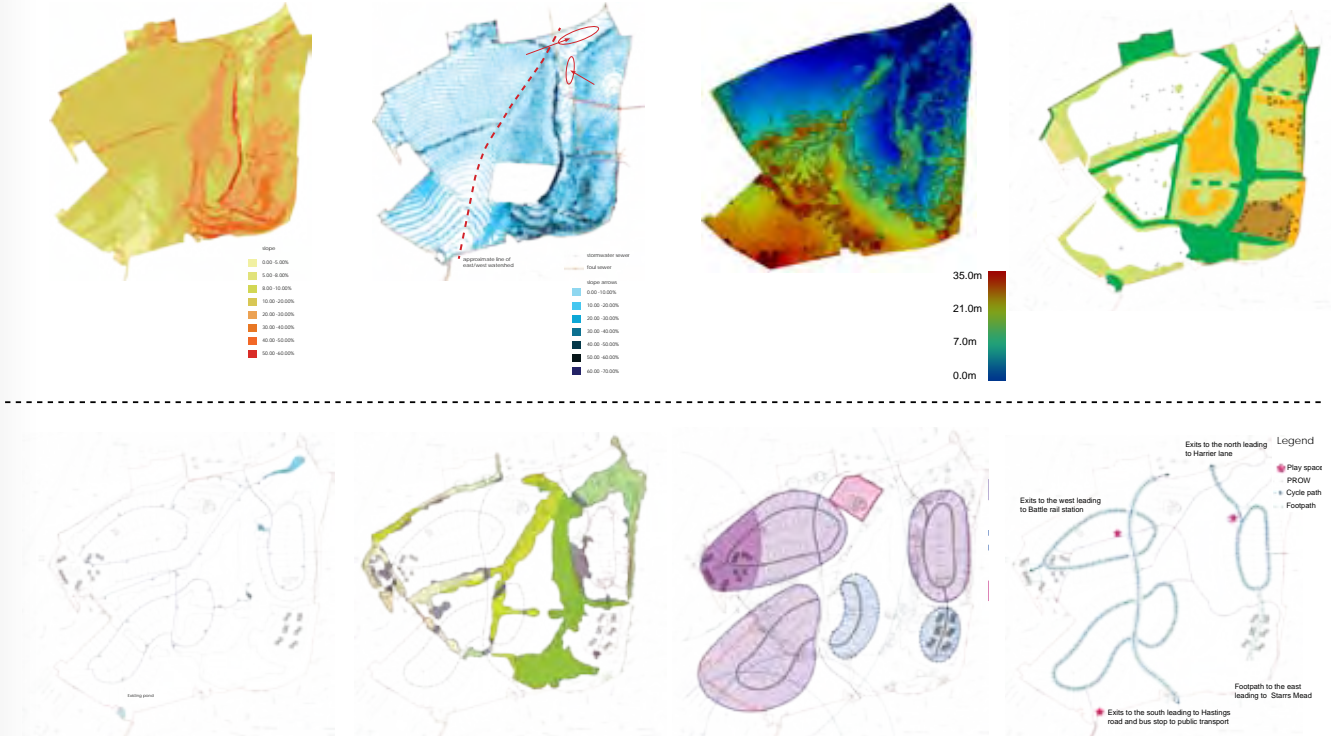
Topography plays an important role in the work that we do as landscape architects. Traditionally we have used terrain modelling as a tool for cut and fill calculations and for the modelling finished schemes. We have recently invested in drone technology as a tool for site assessment and it is now being employed on 80% of the projects that we work on. The drone technology along with advances in software have enabled us to create an interactive platform that the client and the design team can share in the early stages of site planning. We are also able to export site data into third party applications that allow us to study topography, hydrology and site context. We have employed the technology for landfill operators to measure site volumes and we have it to obtain accurate data for landscape and visual impact assessment. We are now looking into ways that the technology can be used to survey buildings, to analyse thermal performance and to document site progress during construction.



Our DJI Inspire 1 UAV takes off to carry out a site survey



Example of a site survey grid



Site analysis



Development concept

Case Study: Battle Hastings

A site near Battle in Hastings with significant topography and existing vegetation provided an ideal opportunity to employ the drone in assessing site constraints and opportunities. I took 14 minutes to survey the 14 Hectare site and the data collected enabled us to obtain accurate elevation data. We were able to export 3D data in order to map site gradients and watershed characteristics. Ultimately the technology will transform the way that land planning is carried out and we are already looking into new ways to visualise sites including the introduction of virtual reality. We are insured and certified by the Civil Aviation Authority to carry out commercial drone operations which is something that we now offer as a stand alone service to clients.



Site 3D models can be shared on a collaborative platform

wilder associates

LANDSCAPE ARCHITECTURE • URBAN DESIGN • ENVIRONMENTAL DESIGN



Elizabeth House, 39 York Rd, Lambeth, London SE1 7NQ

Tel: 020 3603 2260

www.wilder-associates.com