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1

Buildings



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PICTURE POSTCARD 07

Renovating and revitalising Alvar Aalto's Finlandia Hall in Helsinki

BUNGALOW 08

Architect Nick Hayhurst's North Sea East Wood transforms a 1980s Norfolk bungalow

SOCIAL HOUSING 12

Satish Jassal Architects breaks the boundaries of a challenging north London site

HEADQUARTERS 16

BIG's new waterside Copenhagen HQ is a gratifying act of defiance in the practice's home city

On the cover

The Escher-like interior of BIG's new HQ in Copenhagen, photographed by Laurian Ghinitoiu

OFFICES 24

St Pancras Campus, Caruso St John's first UK foray into commercial development, is respectful of its locality

EYE LINE 2025 33

RIBAJ's annual competition showcasing drawing skills is now open for entries

WATERFRONT 34

At Belfast Harbour, can new water's-edge developments create cohesive urban fabric?

2

Intelligence



DAVID CHURCHILL

PLANNING 43

Russell Curtis of RCKa on the need for bold thinking around infrastructure

LIFE SCIENCES 44

Amid falling demand for science-related space, new buildings must be people-centred, finds Josephine Smit

NET ZERO 48

As the UK Net Zero Carbon Buildings Standard launches, Stephen Cousins draws practical lesson from three projects

SPEC: ENVELOPE AND CLADDING

Our technical section in this issue focuses on imaginatively outward-facing buildings

ESCAPADE 54

Twelve Architects' hospitality development shows contrasting faces

GREENHILL BUILDING 60

An agricultural exterior to an arts centre, by Chris Dyson Architects

COWLEY MANOR 63

De Matos Ryan's stone-clad pavilion on the site of an old swimming pool

COSTED 69

Nicola Sharkey, Gleeds' UK insights & research lead, on cladding costs

3

Culture



JULIO PIATTI

PHOTOGRAPH 73

A 'brutalist bothy' offers a window onto the ocean

LEADER 75

Architects can learn from the parade of food trucks on our streets, reckons Eleanor Young

PRESIDENT 77

In the hyper-generalist AI era, architects' expertise can push positive change, says Muiyiwa Oki

RESTORATION 78

What does Notre Dame mean to France?

PROFILE 82

Creative differences have fuelled Nathan Coley's public art above London's updated sewer systems

OBITUARY 89

Richard Gibson, who set up a practice in Shetland

PARTING SHOT 90

Felix Augenfild's Fire Island beach house

'The idea was to develop sheet materials without using the adhesives and toxins that come from industrial processing and end up in our waterways and soil'

Material Cultures discusses reusing timber byproducts: ribaj.com/sustainable-sheet-materials





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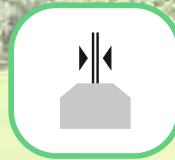
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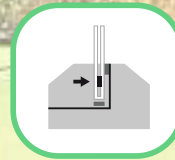
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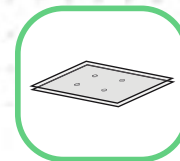


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1: Buildings

**FINLANDIA HALL,
HELSINKI**
ALVAR AALTO AND
ARCHITECTS NRT
Read the full story:
ribaj.com/finlandia-hall



Alvar Aalto's late masterpiece, the congress and concert venue Finlandia Hall in Helsinki, has reopened after a three-year renovation. Commissioned by the City of Helsinki in 1962, the main building with its majestic concert and event spaces opened in 1971; the congress wing followed in 1975 shortly before Aalto's death in 1976. The Hall features many of his core design themes. The union of white marble and cobalt-blue tiles runs through the building. The main concert hall's asymmetric shapes continue into the facade. The foyer, with its grand marble stairs, is one of Aalto's most notable interior spaces. Furniture, lighting, railings and other details were painstakingly and holistically designed.

The renovation has been overseen by Helsinki-based Architects NRT, and includes technical and sustainability upgrades, and restoration of original surfaces and furnishings. A large area was carved under the next-door park to allow for technical facilities and extra kitchen space. Crucially, the work has also involved creating new public spaces: a café, restaurant, design shop, large exhibition space and two apartments anyone can book. For partner and lead architect Teemu Tuomi of Architects NRT, this is 'a change of direction... with the renovation, we succeeded in bringing to life Finlandia Hall's new strategy of opening itself to the city'.

Alongside reimagining the venue's place in Helsinki's landscape comes a proposal this year to recognise Finlandia Hall and 12 other Aalto buildings across Finland as a UNESCO World Heritage Site. Today, this magnificent hall will serve as an important backdrop for encounters between the people of Helsinki, carrying with it the message of architecture's ongoing power to unite. ●

Hanna Harris is chief design officer for the City of Helsinki

Star quality

Architect Nick Hayhurst's North Sea East Wood transforms a 1980s Norfolk bungalow

Words: John Jervis Photographs: Kilian O'Sullivan

Walking up and out from the centre of Cromer, a seaside resort on the north Norfolk coast, you encounter a generic postwar suburb with a jumble of standard house types and, near its crest, a 1980s brick bungalow with gabled roofs. To one side of its H-plan, a smallish extension with a 'hobbit-like elevation' – architect Nick Hayhurst's words – has recently appeared.

Wrapped around one wing of the original building, this new addition has a distinct character bestowed by a tightly packed flint dressing, without the usual brick quoins. Two large picture windows give glimpses into – and through – the structure, while an angled chimney stack rises above, undercutting

IN NUMBERS

153m²

Gross internal area

113

kWh/m² annual energy use

20.6

kWh/m² annual gas use

78 litres

potable water use
per person per day





Site plan

the modernity of the plate glass. For those with a Tolkien-free childhood, a crofter's cottage might be a more telling comparison.

Purchased by Hayhurst's parents in 2017, the bungalow's considerable yet untapped potential has been unlocked at a modest cost – little over £2,000 per m². Internally, it has been entirely stripped out, insulated and remodelled, with a portion of its floorplan opened up and one wing expanded, taking a starlike form. At the centre of the original plan, a slim kitchen has been inserted. New, south-facing sliding glass doors ensure its inviting atmosphere, assisted by the removal of a rear conservatory; a small external shade tempers direct sun. Another full-height glass door and ribbon glazing wind around the adjoining dining area, which occupies one of the star's points, aiding the creation of an 'outdoor room' where the conservatory once stood. All these spaces share attractive views of the garden rising behind the site (it has a fall of one in six), and of East Wood at the top.

Despite the social pleasures of the open plan – Hayhurst's parents claim a record of 23 guests – the new living space has internal distinctions that allow for retreat. On one side of the wood-burning stove, past a side-facing picture window, a cosy TV area-cum-guest bedroom occupies the original north-facing front bay. On the other side, a raised and shelved reading area incorporates the other picture window. Both spaces benefit from wide, freshly revealed views over Cromer towards the North Sea, where the occasional tanker loiters.

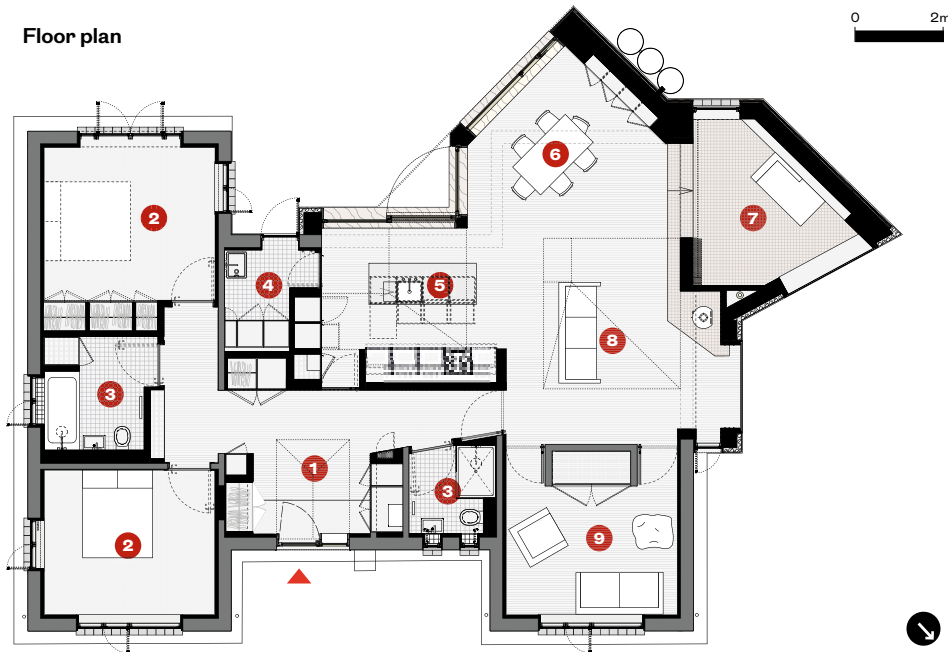
As well as exposing these diverse views, which led to the property's rechristening as North Sea East Wood, the remodelling delivers light and scale. Above the kitchen is a large dormer window framing a rectangle of forest

The new kitchen and the living area are illuminated and augmented by a dormer window and skylight.



Opposite and this image The two new stepped picture windows at the front of the property, and a view of its rear.

Floor plan



- 1 Entrance hall
- 2 Bedroom
- 3 Bathroom
- 4 Utilities
- 5 Kitchen
- 6 Dining
- 7 Reading area
- 8 Family seating area
- 9 Living/guest bedroom

Suppliers

Picture windows

Norwich Glass

Replacement windows/doors

Velfac

Timber windows and doors

The Joinery Workshop

Library and hearth tiles

Norfolk Pamments

Planting

Stark Garden Design

Credits

Client

Private

Architect

Hayhurst & Co

Main contractor

AJ Cooper Builders

Structural engineer

Iain Wright Associates

Top right New dormer window and ribbon glazing at the rear of the property.

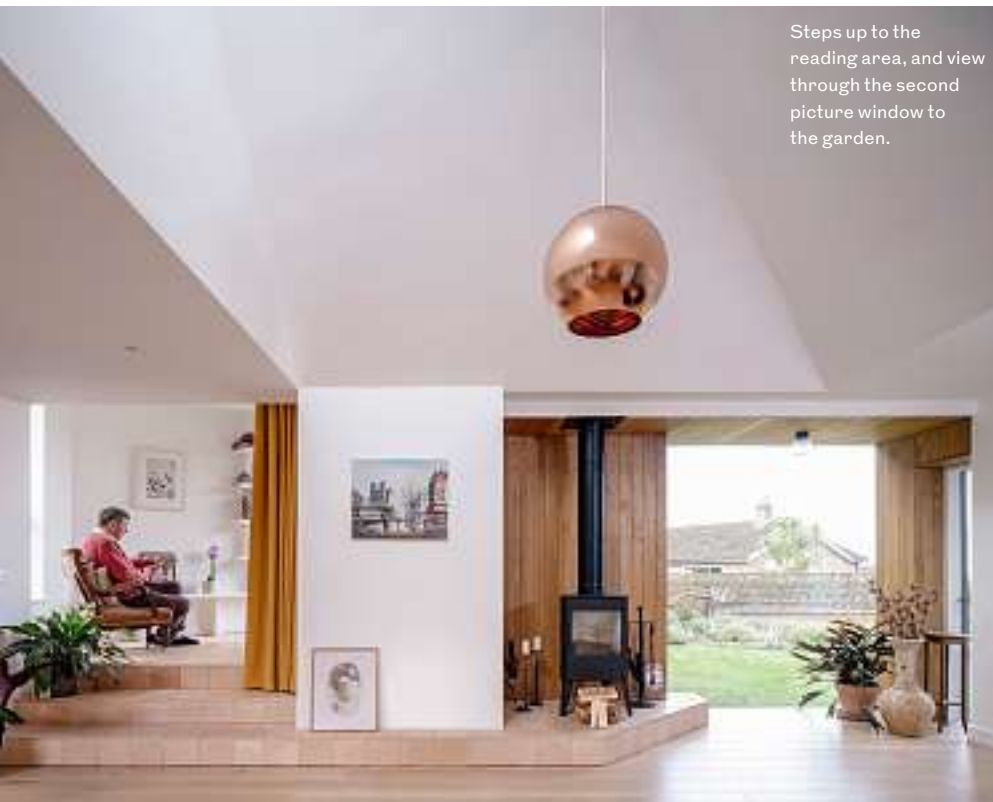
Bottom right The picture window in the reading area frames a view across Cromer to the sea.



and providing welcome height. Moving through to the new space, the original roof has been opened out to create a large cone-shaped void with a carefully placed skylight. Apart from light and space, the results are a stack effect and an engaging silhouette, but the roof retains its timber frame – sustainability was prioritised throughout the project. To one side, a standalone garage was removed to expand both garden and outlook, but its walls provided hardcore for the extension's slabs while its clay tiles were reused as cladding in place of flint on the extension's flank. Another batch of its tiles covers the tacky faux woodwork of the original gables.

The project isn't flashy but it has character and dignity amid its anonymous neighbours, and transforms the bungalow into a delightful and adaptable new home for its retired owners, whether enjoyed on their own or shared with visitors. On reaching my own home, I find my recording of Hayhurst's tour of the property has failed, but really, North Sea East Wood speaks for itself. ●

Steps up to the reading area, and view through the second picture window to the garden.



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Lay of the land

A new red-brick development of council homes in Haringey makes creative use of a difficult plot, and adds a feel of solidity in the neighbourhood

Words: John Jervis Photographs: Richard Chivers

Below View along Tramway Mews towards the apartment blocks, with intergenerational homes on right.

To reshape bits of London, finding scraps hidden behind shops, or on the fringes of housing estates, leaving your mark on the city, must be a gratifying feeling. It's a particular speciality of Satish Jassal Architects, a practice that spun out of a commission for a 'Brick House', just 3.6m wide, on the site of a barber's shop near the North Circular. A productive niche harnessing infill sites for clients across north London followed, aided by success gaining planning permissions ('I must have the right manner,' he says), before 'Haringey Council just called me up, through the planning department'.



A decade on, Jassal has just completed Rowan Court, an ambitious group of 46 council homes for Haringey: 31 apartments (four wheelchair-accessible), four maisonettes and 11 townhouses (one wheelchair-accessible). It's a series of smart red-brick blocks, referencing the area's traditional materials and detailing, delivered to a high quality on a council budget despite Covid's intervention. But the project's primary achievement, as Jassal acknowledges, is as a piece of place-making, realising and expanding the opportunities presented by another tricky site, a mess of various generations of council housing on an estate just round the corner from Seven Sisters.

The practice was approached in 2019 to deliver 12 homes on a neglected triangle of land, which had been left over by the imposition of a series of postwar blocks on the estate's large but irregular site. But an initial inspection of this fenced-off plot, which backs onto a Transport for London-owned ecological corridor, led Jassal to propose an expanded site and scheme. The suggestion was received warmly by the council's planning department, generally respected for its progressive approach. 'The great thing about council work,' says Jassal, 'is that they tend to own the land around, so you're not always restricted to the red line – you can go further out.'

An improved PTAL (public transport accessibility level) rating was needed to gain permission for the increased density. Luckily, at one corner of the estate, another overgrown wedge of land led to a conveniently placed tram passage piercing the messy line of 19th-century terraces, enabling access to Seven Sisters Road with its transport routes. This forbidding patch, once a tram shed, was rehabilitated with landscaping and lighting, and a wide double-sided pedestrian street (Tramway Mews) was run east to reach it, replacing a previous hammerhead for vehicles. On one side are two two-storey townhouses, dropping down to a single one-storey wheelchair-accessible home at the far end, preserving light for the Victorian terrace. On the other are four potential 'intergenerational homes': maisonettes

Credits

Client London Borough of Haringey

Design and Build contractor

Formation Design and Build

Project manager JJC Advisory

Planning consultant MC Planning

Landscape Groundworks

Sustainability Icenii

Ecology Tom Haley Ecology

Fire BB7

Transport Scott White and Hookins

Acoustics Auricel

Sustainable urban drainage Sweco

Daylight and sunlight Right of Light Consulting

Trees Arboricultural Solutions

Structural Alan Baxter

M&E Hyrock

with duplexes above one-bed flats, which can be knocked together. 'There's no policy requirement; it was just an idea I put forward,' Jassal says. 'Through my work in community housing, I know many people, particularly those from Indian backgrounds like myself, want to live in intergenerational households – if you can keep families together, some cultures really feel the benefits.'

This approach to the massing and mixing of housing types, and to developing streetscapes, was applied

The main block with attached apartments to left and community garden in front.



across Rowan Court, catering to a wide range of needs, achieving an attractive townscape, and respecting St Ann's Conservation Area across the train tracks. The dominant element, however, remains the 23-apartment block designed for the original plot. This has a clear relationship to the postwar blocks opposite, matching their six storeys, though stepping back to diminish the appearance of height. An extra parapet houses solar panels and air-source heat pumps, helping the

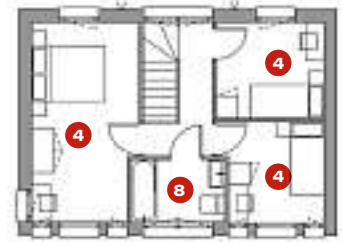
development achieve over 80 per cent towards net zero in operation. Parking for 96 bicycles and a small shared courtyard are also provided.

Attached to this main block are a further eight apartments in two three-storey blocks, while a brand new terrace of eight townhouses stretches west from the original site – one more part of Jassal's extended masterplan. This replaces a row of neglected garages, further addressing the pressing need

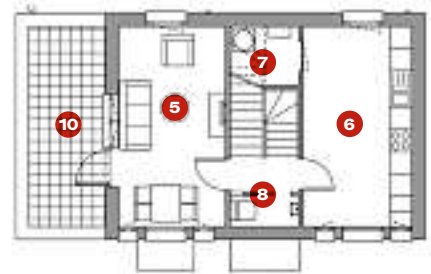
for family-sized social homes with their own entrances. In front, a generous landscaped 'Seven Sisters Square' replaces the previous grass-and-tarmac patch with its severe ring of benches, with the encircling road also now pedestrianised in part. To one side, a community garden has been developed with residents, complete with a vegetable patch and a plethora of personal ornaments. Throughout, extensive modelling and drawings were produced



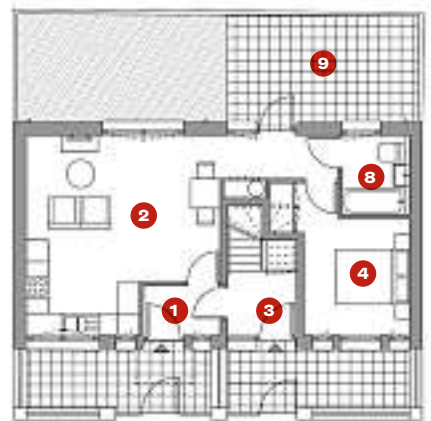
Second floor duplex plan



First floor duplex plan



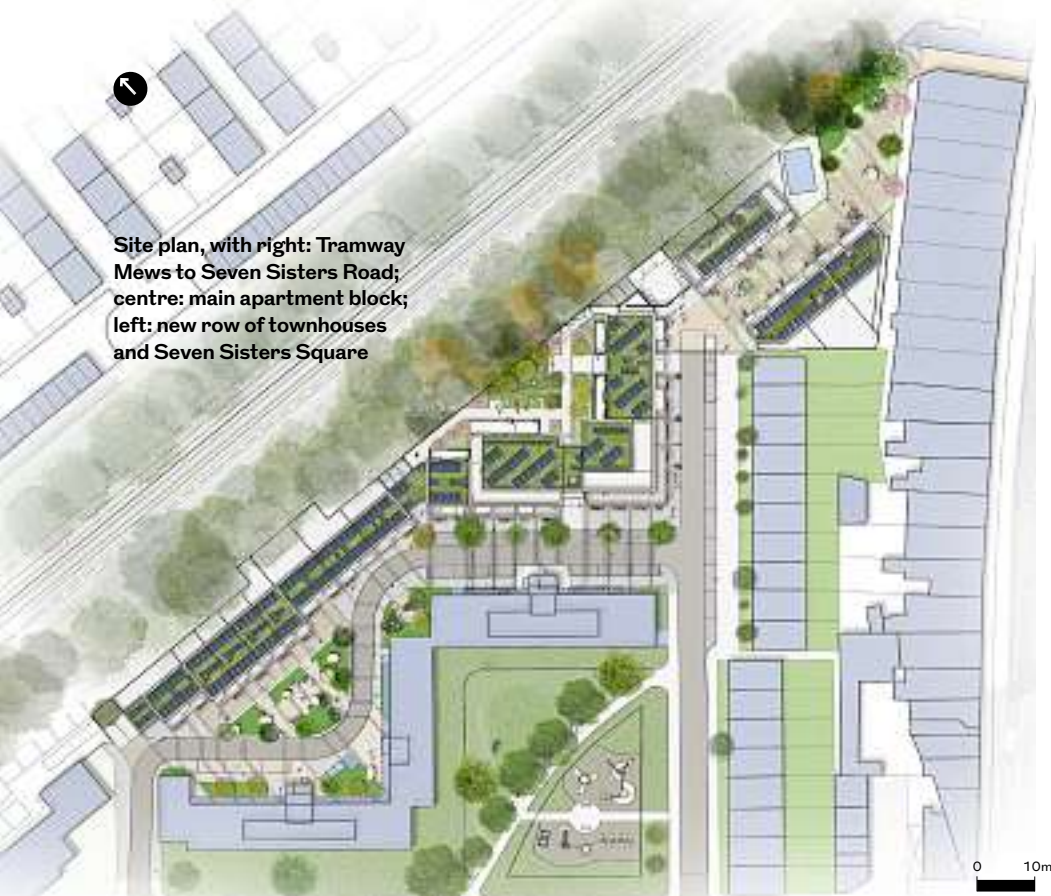
Ground floor apartment plan



Intergenerational home

- | | |
|-------------------------|---------------|
| 1 Entrance to apartment | 6 Kitchen |
| 2 Living/kitchen | 7 Storage |
| 3 Entrance to duplex | 8 Bathroom/WC |
| 4 Bedroom | 9 Rear garden |
| 5 Living/dining | 10 Terrace |

Left Facade of a new townhouse with white piers.



in a running bond, but with a vertical bond rising around tripartite windows, separated by glazed white bricks. The latter also run as slim horizontal strips across the facades, in a nod to London's 19th-century streets, and also an echo of the concrete decks facing them.

Human scale and contextual qualities, achieved in place of novelty, are key to Jassal's goals of providing a rich environment to enhance lives at Rowan Court, while rejuvenating the original estate. Such comprehensive and proactive placemaking, with its focus spread across masterplanning, housing types, public realm and streetscape, as well as detailing, is in contrast to much social-rent housing. 'People usually reduce such buildings to an absolute minimum, punching windows in industrial cladding,' Jassal says. 'We've demonstrated that, even with budget pressures, you can achieve more. But it's not just one thing; lots of different ingredients have to come together. It's not an easy process, but you can see the benefits.' Asked if he was surprised by his aptitude at achieving this exacting combination, he says: 'As a small BAME practice, I wouldn't be here if I didn't believe in myself – and you can't really be nervous if you're an architect.' ●

for community consultations, in part to allay concerns around loss of public space, ones mitigated by the forlorn reality of that space. 'What you have is residents taking ownership of these places, looking after them, and feeling part of a community – so these become community spaces,' Jassal says.

He takes satisfaction in introducing some of the aesthetic and practical qualities of private schemes at Rowan Court. 'One thing I think is important is that all of the homes are at least dual aspect – some are triple aspect – and we've managed to achieve that without incorporating deck access, which is too often seen as a solution for social housing, but wouldn't be accepted elsewhere,' Jassal says. The use of brick is another private-sector parallel. It is relatively simple and affordable for contractors to deal with, ages gracefully, and matches the nearby Victorian terraces and the postwar blocks opposite.

Subtle variations in detailing give the individual buildings character, though en masse Rowan Court has a touch of the 1930s power station, aided by this common materiality, its setbacks, its geometries and its rhythm. 'Brick is a material with presence, in particular through its depth, creating a sense of permanence,' says Jassal. Here, it is used

Suppliers
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Windows Dermal Windows
Air-source heat pumps Joule

IN NUMBERS

£12m
Total contract cost
4,050m²
GIFA

Below Row of new townhouses with Seven Sisters Square in the foreground.

81%
Predicted CO₂ emissions savings



BIG's new waterside Copenhagen HQ is a gratifying act of defiance, in the home city upon whose architecture the practice has had such an impact

Words: Morten Birk Jørgensen **Photographs:** Laurian Ghinitoiu

Super size me

The unmistakably BIG-esque volume in long view from the historical harbour on the tip of Sundmolen.

IN NUMBERS

£4,880m²
GIA

60%
Reliance on
renewable energy

1,500m²
Pocket park

300
Number of employees
in Copenhagen

140m
Internal staircase

When BIG appeared in the mid-2000s, it catalysed what has been called a 'new wave' in Danish architecture. Large parts of the field were still dominated by earnest men, steadily exhausting their beloved Danish modernism. With a conceptually driven approach, cultured at OMA in Rotterdam, founder Bjarke Ingels brought a more playful attitude. Colourful and geometrically compelling models seduced an entire generation of architects. Meanwhile, Ingels' open-minded and cartoon-like building concepts instituted a new enthusiasm for architecture among Copenhageners, paving the way for numerous now well-established architectural offices.

Having successfully turned its view abroad for a good decade, Bjarke Ingels Group has now reconsolidated in Copenhagen with a notable office building for itself – a 'headquarters' as it is called, with a hint of megalomania. The building sits at the tip of a broad pier in the North Harbour. Apart from water, it is surrounded by warehouses reused by creative businesses, and an extensive recent housing development. North of the pier is the Copenhagen shipping terminal, with its stacked containers and crane constructions. These function as a backdrop for the prominent structure in long views from the harbour's historic heart.

Conceptually, the building starts as a 40m² plan. For the external walls, deep concrete beams around 20m long are stacked with slight overlaps, leaving half the facade as openings and generating a bold chequerboard pattern. Geometric order is further

Below The irregular plot skews the cube and leaves space for a pocket park.



A generous entrance space displays models of iconic BIG projects.

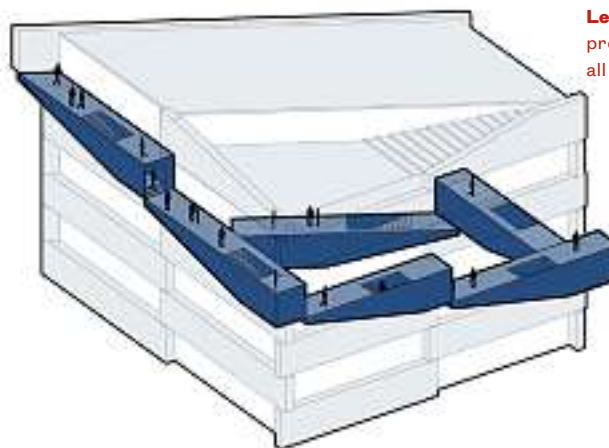


disturbed by the tapering pier, which produces an irregular plot and a chamfer in the plan. This results in an odd number of beams, with just a single one on the shortest side. Ingels' eyes light up when explaining how the introduction of one triangular beam on each level solved this problem, preserving the concrete-always-meets-glass system. These triangular beams are extruded to form a 140m-long external fire stair winding all around the building, offering balcony spaces on all floors.

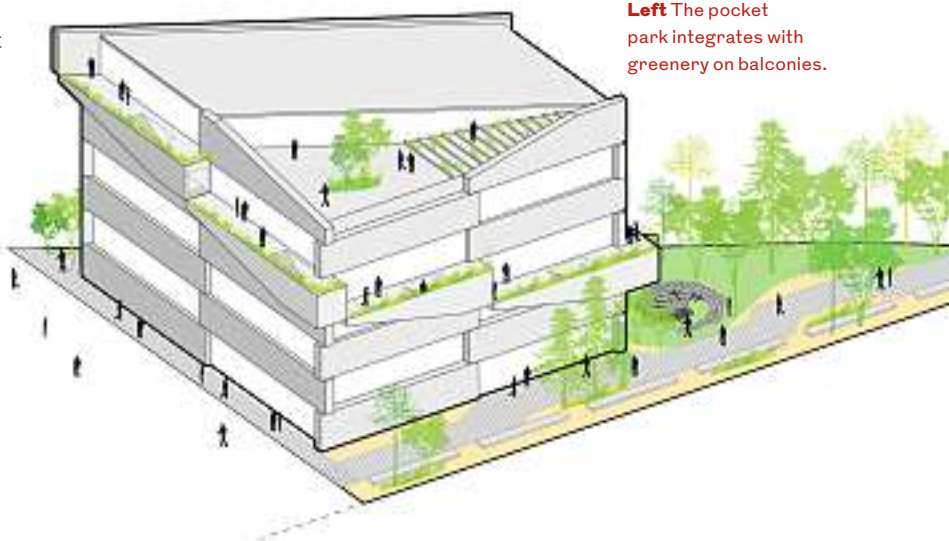
The internal organisation eschews the standard office building's central core, pushing all servant functions to the northern facade and leaving a giant internal volume. To create a single work environment, workspace is arranged over six open decks spanning this void, arranged at half-storey intervals so that the overall height of the building is just 27m. These decks are supported from the external walls and a single central column. Placed at diverse angles, they produce a great spatial variety and a thoroughly dynamic office-scape.

The decks are connected by a black steel staircase that acts as a bold sculptural element. While its flights appear straight, meeting the angled decks called for a sophisticated geometry. It culminates in the flight connecting level 5 with levels 6 and 7, where the steps wind to allow for a triangular platform halfway without disturbing the appearance of a straight run. This is the energising geometric play on which BIG was founded.

If BIG was once accused of lacking interest in materials and details, its new building proves



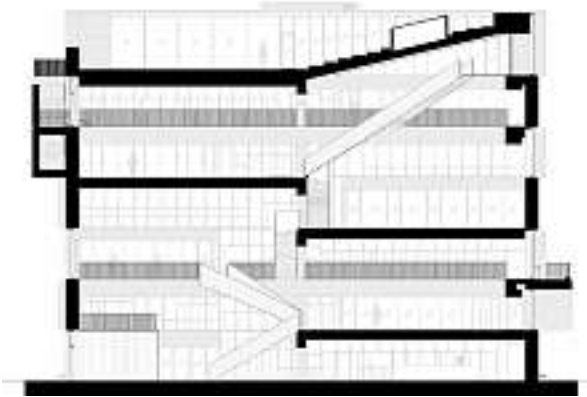
Left The external stair provides balconies on all floor levels.



Left The pocket park integrates with greenery on balconies.

Buildings Headquarters

Section AA



otherwise. Exposed concrete is neatly cast in-situ. Slender profiles of raw aluminium frame the outlooks to sky, water, city and industry. The northern interior wall is clad in luxurious pine planks, also adapted to make cupboard doors, perforated HVAC inlets, and shelves for innumerable small, white diagrammatic models.

A minimalistic yet characterful balustrade in different finishes edges the many balconies. On a small, pleasing pine mezzanine by the entrance, it has a brassy-looking chromate conversion coating; elsewhere it is blackened or galvanised steel. Felt panels are suspended between downstand beams to regulate acoustics and hide services, and perfectly match the colour of the concrete slabs. Beige rather than grey curtains match the softer tone of concrete with reduced lime content. The central column is given a classical symbolic weight by the use of natural stone from various quarries, with the softest Italian Carrara on top, over Swedish marble and landing on the strongest Norwegian granite carrying the heaviest load on the ground floor.

I am drawn by the sculptural and aesthetic qualities of the volume and the materials. The overall figure is plain, but destabilised by the



Collaborators: Pihl & Søn, LM Byg, Aalborg Portland, Centrum Pæle, Connex, El-team Vest, Energy Machines, Skel.dk, Paschal Stillads, Kjellerup VVS, HB Trapper, Eiler Thomsen, Deko, Brønnum, Primatag, Optimus, Krak Bau, Alt om Fugning ApS, YOUR PARTNER, Kvadrat Acoustics, GOTESSONS, Akustik Miljø, Dansk Belægningsenterprise, NO.BA Studio, Ceramica Cielo, TONI Copenhagen, Dinesen Floors A/S, Influit, Helden, Artelia Group, DTU, Popl, Rambøll, EcoBeton Danmark ApS, PD Elevator, Fritz Hansen, Muller van Severen, Alufam, Artemide, Funktioner, Windowmaster, Byggeweb, Viasol, Schüco, Anker & Co., E. Nielsens Mekaniske Stenhuggeri A/S, Allremove, Miele, SHURE, Shack Trapper, BoConcept

diagonals and winding balconies, setting it in motion. It is a welcome antidote to the neoclassical movement presently haunting the Nordic countries. It refuses aesthetic compromise and thereby stands out from the vast majority of urban development in Copenhagen.

Nevertheless, a statement this bold isn't made with impunity. With its distinct, straightforward architectural approach, BIG has become a pet aversion for many. For these critics, there was great joy when the HQ proposal was initially rejected by city authorities with the comment that 'the parties do not find the building aesthetically satisfactory and wish furthermore a more climate-friendly choice of materials'. Following a discussion on the role of architectural representations in the planning process and politicians' authority as aesthetic judges, however, the plan passed. Unusually, the final building appears much like the first renders, and the municipality has subsequently awarded it an official prize.

While measures have been taken to improve energy consumption in use – including solar and geothermal systems – and the structure uses new UniGreen concrete that gives a 25 per



A variety of views are framed by the facade, here looking through the harbour exit towards Øresund.

Above The BIG HQ's displaced decks are connected by bold black steel stairs.

Below Parallel to the northern facade, a pine cabinet divides the open space from meeting rooms, a model workshop and more.





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Buildings Headquarters



cent reduction in embodied carbon, it is fair to say that this is not an architecture primarily conceived to counter the crises of our time. For an architectural practice, building its own office is an artistic and ideological manifesto. In that light it is remarkable – alarming, even – that BIG has not used the opportunity to make a clear statement on architecture's relevance in a green transition.

As Ingels reasonably points out, though, all buildings on the harbour piers – including high-profile recent additions – are concrete constructions in disguise. The office blocks are generally wrapped in some thin metal, while the more reserved housing blocks are clad in brick in '50 shades of brown', as he once teasingly characterised them. Revealing the concrete in the facade of the BIG HQ may come with aggravated aesthetic connotations, but it is no worse for the climate.

In a more local environmental improvement, the building is surrounded by a pocket park with lyme grass and pine trees, which grow well in the



Above left The BIG HQ's boldness corresponds with the container terminal to the north.

Above right Afternoon sun on west-facing balcony with view towards the North Harbour development area.

Below left The pavements, benches and pocket park extend the building concept, underlining the experience of a gesamtkunstwerk, or total work of art.

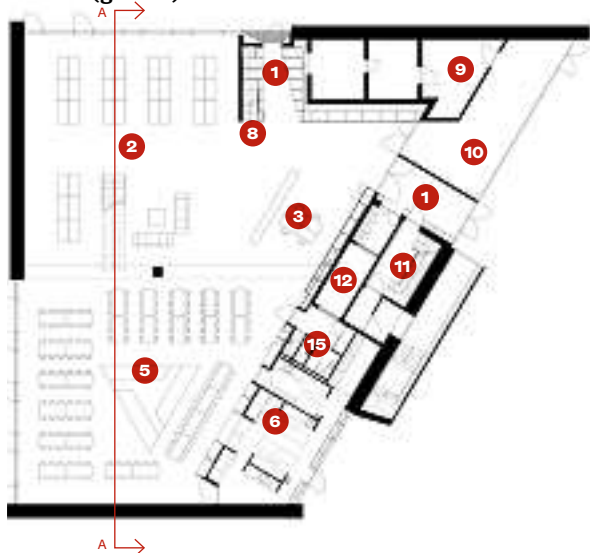
Below A bench stretches out from the concrete beams on the ground floor, here along the quiet northern facade.

tough climate and sandy soil. In the centre of the park, a work by Californian sculptor Benjamin Langholz comprises stones organised in a logarithmic spiral, rising inwards on steel poles. One is drawn to climb the stones, which become increasingly unstable the higher one ascends: a delicate balance between play and gravity. By finishing the pier tip with this little public garden, the BIG HQ has made it a destination of great value for joggers and for creative workers' strolls.

Despite the material and tectonic gravity that BIG has picked up with this project, playfulness and humour have not been obliterated. They are subtler and sometimes more sophisticated here, though, than in many previous projects. The entrance door would fit unnoticed in *The Fifth Element*. Adjacent exhausts are sculpted as the morse code for BIG. It's a cute, geeky touch, but when an architect has such global impact, playing comes with an obligation to engage in pressing problems. It is harder to identify evidence of that.



Level 1 (ground)

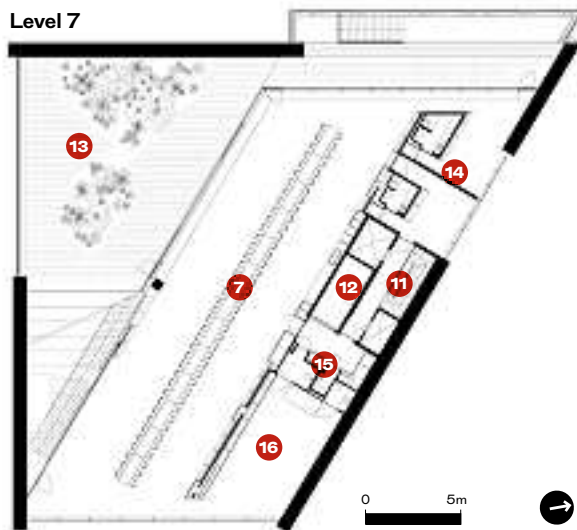


- 1 Entrance
- 2 Exhibition space
- 3 Reception
- 4 Meeting rooms
- 5 Canteen
- 6 Kitchen
- 7 Office
- 8 Stairs
- 9 Recycling
- 10 Bike parking
- 11 Stairwell
- 12 Lift
- 13 Terrace
- 14 Bathrooms
- 15 Toilets
- 16 Technical room

Level 5



Level 7



Top right A conference room on the top floor provides access to the roof terrace.

Right The building is entered on the west facade and is surrounded by water on the other three.



In other ways, BIG has nonetheless taken on an unusually large responsibility. Reflecting each initial letter of the firm's multi-disciplinary offer, dubbed LEAP, it has handled landscape, engineering, architecture and product design in-house. As a work of architecture, the HQ is correspondingly consistent, uncompromising and sharp-edged, from details to the overall volume. It is something like a *gesamtkunstwerk*, or total work of art, so reconnecting the practice to the modern Danish architectural culture it has revolutionised.

The potential of the *gesamtkunstwerk* as an architectural strategy is limited in today's world. But for this particular project it seems justified, and it is certainly gratifying to experience. It is furthermore an honourable act of defiance in a field whose influence is increasingly marginalised in the processes of building. Engaging so unambiguously in that battle demonstrates the drive and power that BIG possesses.

The building's top floor was originally thought of as Ingels' private residence, but was later integrated into the office, with access to a large roof terrace. From up here, 'BIGsters' can now overlook the city whose architecture they have transformed. The BIG HQ lives up to this status by adding one of the most self-confident and successful monuments in the Copenhagen harbour. ●





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Commercial break



St Pancras Campus, Caruso St John's first UK foray into commercial development, is keen to respect its specific locality

Words: Chris Foges Photographs: Filip Dujardin



Left Royal College Street
facades of red sandstone
and roughened concrete

Architect Peter St John does not mince words about the standard of commercial development in London: 'unsophisticated' and 'depressing' are among the printable judgements. Offices tend either to glassy banality or gauche attention-seeking, and have a deadening effect on public space. 'There aren't many commercial buildings one can really admire,' he says. 'It's not an area of great creativity.'

St Pancras Campus is Caruso St John's first foray into the field in this country, and the architects set out with an agenda. 'We wanted to do something that respects the scale of the city and makes reference to the particular architecture of the neighbourhood,' says St John. 'It's about looking closely and doing things that are specific.'

Arranged as three weighty buildings covering a 70m by 80m urban block between Royal College Street and St Pancras Way, the campus is conceived as a microcosm of the familiar European city – the sort of place where the 35-year-old practice has done much of its work – but with a London accent. Alongside a substantial office block are two apartment buildings. In the bases of each block there are retail spaces and rugged light industrial units. Threaded between them are public routes and a small landscaped piazza.



Camden Council required that the scheme comprise about one third housing

- | | | |
|--------------------|----------------|-----------------|
| 1 Cycles | 5 Retail | 9 Courtyard |
| 2 Plant | 6 Office | 10 Market flats |
| 3 Attenuation | 7 Foyer/café | 11 Social flats |
| 4 Light industrial | 8 Service road | 12 Event space |

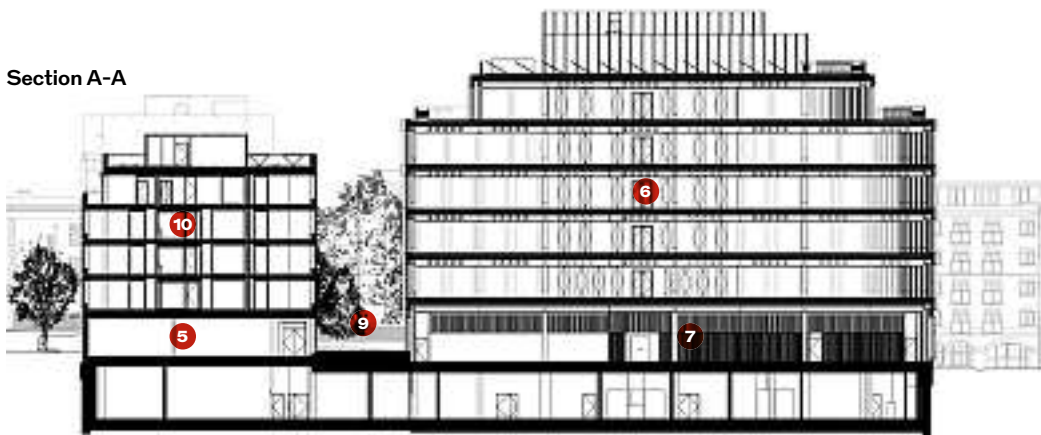
'The mix is the interesting thing,' says St John. 'You can make something that feels truly urban.'

That opportunity was born out of particular circumstances. The developer, W+RE, is committed to building well, but specialises in offices and would happily have stuck to that. Camden Council, however, required that the scheme comprise about one third housing – with nearly half for social rent – while retaining the quantity of makers' space that previously filled the site in single-storey workshops. Decent budgets help, of course, and the project benefits from rising values rippling out from the nearby King's Cross regeneration area.

That is bringing rapid change to the immediate environs – a patchwork of waves of historic development. To the west are 18th-century gridded brick and stucco terraces. At its north-east corner the site meets a bridge over Regent's Canal, which attracted industry from the 19th century. To the south is a 20th-century layer of low-density sheds and larger lumps of post-war reconstruction.

By splitting the development into separate buildings with a site-wide

Section A-A



This image A metal-lined road serving industrial units leads into the planted courtyard.

Bottom left View from Regent's Canal.



Basement floor plan



0 10m



Ground floor plan



Sixth floor plan



Typical upper floor plan



Planted roof terrace.

basement, Caruso St John could adjust its scale to the surroundings. The office block filling the southern end of the plot rises to seven storeys but with pronounced set-backs from the fourth floor. Approaching along Royal College Street, you don't see the building until you are almost on it.

The architects were concerned that homes should have equal prominence and not be hidden in the hinterland. Five and six-storey blocks fill out the remaining corners of the squarish plot. Deep balconies look onto streets on three sides. Together with the roof terraces of the office building, they should enliven the upper levels.

Activity at ground level comes from views into workspace from every side and the public spaces that help to tie the campus into its setting. A sheltered courtyard between the office and residential buildings is open to the street at either end and makes a pleasant place to linger, with benches and planted beds. Other routes into this pocket park are formed by a service road through the office building and a pedestrian path between the housing blocks. Their narrowness recalls alleys and mews.

Street facades also make subtle reference to their context. There is allusion to the area's red and white Victorian buildings – from the adjacent Golden Lion pub to St Pancras station – in the trabeated facades of the office building. Spandrels of russet sandstone sit between hefty ground-bearing piers of chalky, rough-textured concrete.

Left A fall in the site created the opportunity for a lofty ground-floor café.

Building confidence with timber: what makes STA Assure a necessity

With timber combining sustainability and design flexibility, the STA Assure programme is redefining confidence in structural timber construction



Architects face ever-increasing challenges in delivering designs that balance aesthetics, performance and sustainability. Structural timber, with its low-carbon footprint and design flexibility, is an obvious solution to meet these demands, but how can architects ensure the systems they specify deliver on quality, safety and regulatory requirements? The Structural Timber Association (STA) isn't just an association – it's about gaining access to a network of expertise, technical resources and quality assurance systems designed to empower architects, designers, builders and installers. The STA Assure programme is redefining confidence in structural timber construction.

The quality assurance scheme is built on an independent audit process that ensures member organisations not only meet but exceed current legislation. Recognised by warranty providers, insurers and key stakeholders, STA Assure aligns with the Dame Judith Hackitt review, addressing critical concerns about competency and quality post-Grenfell.



Above Pre-fabricated trussed rafter roof and spandrel panel construction being lifted into position.

'The STA has brought together timber-frame manufacturing to support architects with high-performance and innovative timber-based systems for low-carbon sustainable construction. Their manufacturer-led, tested solutions form part of their wider technical support, essential for designers to meet tighter regulatory requirements. It is reassuring to have the STA Assure accreditation that ensures you are working with qualified and competent professionals.'

– Matt Hoad, associate partner, technical director, HTA Design LLP.

The STA is recognised across the construction industry, warranty providers, insurers, and government bodies for its commitment to quality and competency. The association also has a wealth of technical data and provides many invaluable resources, such as the 16 Steps to Fire Safety, the Pattern Book for Fire Safety and the Design Guide for Separating Distances.

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Above Cross-laminated timber structure during construction.





These elements recur at smaller scale in the apartment buildings, where Caruso St John added brown brick that echoes nearby houses and green tiled facades behind the loggias – a nod to the decoration of a pub across the canal.

Office facades are composed on a heroic scale, with the concrete piers giving expression to an unusually large 12m structural grid and consequently beefy steel frame. Square ‘knots’ at every floor level articulate structural connections within, and lend an almost classical note. There’s also a deliberate evocation, says St John, of Camden’s optimistic 1960s housing schemes.

If there’s a lot going on, it comes together – in every sense – at the corners. Due both to the irregular plot and a steep fall across the site, all are

Above left
Office lift lobby.

Above right
The foyer. Oak battens have painted sides, continuing the rich colour that permeates the scheme.

Below A 12m grid in the office block allows future adaptation. Pairs of large portrait windows between columns contribute to a sense of scale in the facades.

IN NUMBERS

£100m
Construction cost

37
months on site

24,360m²
GIA
16,300m² office,
3,300m² light industrial
4,000m² residential
760m² retail

33
Apartments
(14 affordable)

slightly different. In the office building, sandstone folded to make Miesian inverted junctions is coupled with pairs of conjoined concrete piers, tied with extra ‘knots’ in intricate flourishes that catch the eye in oblique views.

Corners of the residential blocks also received special attention. At the canal bridge, flat brickwork meets the ends of open loggias in an ambiguous asymmetry. ‘We tried to create “faces”, not just facades,’ says St John. ‘It gives the buildings more figure and feels unusual because housing is normally “background”.’

Look closely and a wealth of rich detail emerges, even in the humbler ‘backs’. Stone fascias extending from balconies are recessed neatly into brickwork. Green tiles meet brick in precise mitre joints. Glazing is set flush with masonry. ‘When you inset a window it looks familiar and banal,’ says St John, ‘but continuity of the surface can be used to shape buildings in a more sculptural way’.

Such an abundance of diverse incidents is held together by the clear coherence of an architectural system. Unlike similar-sized London developments, where picturesque variety is contrived by parcelling out pieces to different architects, here a formal order is confidently asserted. ‘We were trying to achieve a piece of designed urbanism,’ says St John, ‘in which all the different purposes had dignity.’

A certain grandeur carries through into the interiors. In the office building, this comes from a distinctly industrial scale and character. The high-ceilinged



Buildings Offices



lobby is a happy by-product of the industrial units behind. Visitors might pick up a hint of warehouses in the dark-stained floor of end-grain larch blocks. Walk through to the internal roadway, and its lining of shiny corrugated metal is a glamorous play on the utilitarian cladding of the old sheds. On the upper floors, huge black-painted castellated beams have a powerful presence, and are threaded with service ducts whose intricate layout approaches art.

Natural materials add warmth and comfort to common parts. Grey felt ceilings soften the acoustic, and oak battens line walls. They might

Above left Deep loggias shade big windows in the flats.

Above 'Apartments have a distinctly European layout and identity, reflecting our experience,' says Caruso St John director Rod Heyes.

Below Residents' lobbies run through the buildings to give views from the street to the courtyard.

Credits
Client W·RE
Architect Caruso St John Architects
Structural, civil and facade engineer AKTii
Services, fire and sustainability engineer Norman Disney Young
Landscape architect Jonathan Cook Landscape Architects
Project manager Blackburn & Co.
Cost control Exigere
Main contractor BAM

also represent unseen efforts to reduce energy use: air-source pumps supply all heating, and insulation exceeds code. The structure is, of course, carbon-intensive, but timber was precluded by regulation, says St John, who would now prefer to work on reuse than new buildings.

Across the sheltered little square, the housing represents another form of responsible development. Though W·RE has never developed homes before, it opted for the long-term commitment of build-to-rent for its own portion. The interior specification of social rent flats in the second block is different but the facades and common parts are identical.

Lobbies evoke the gracious living offered by 19th-century apartment buildings in central Europe. Glazed oak screens open onto beautiful floors of inlaid grey terrazzo, and walls lined in tiles of almost iridescent green. With sandstone balustrades and canal views from the roomy loggias, it makes some of the finest social housing seen in years.

This will be a good place to live or work. Caruso St John's creative approach to difficult problems has created something rich and distinctive for inhabitants. The campus is good for the city beyond its perimeter, too, helping to anchor a neighbourhood in transition. It shows that with imagination and collective will, speculative commercial development can take from its place, and give back in equal measure. ●



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Eye Line 2025: call for entries

RIBA's annual, international competition showcasing students' and practitioners' drawing and rendering skills is now open for 2025 entries

Is your gift for visual expression as sharp as your imagination? Eye Line, RIBA's annual, international competition showcasing drawing and rendering skills, is open for 2025 entries. As ever, we are asking for images, in student and practitioner categories, which brilliantly convey architecture, in any medium or combination of media.

We are seeking the finest work, here and internationally, from those at the sharp end of representation. Images of all kinds, from hand-drawn concept sketches to technically proficient and layered renders, are eligible. 'Drawing' includes any method by which the power of an architectural idea is communicated, whether of existing buildings or works of the imagination, and AI entries will be considered if they are declared as such.

Practitioners and students are eligible to enter different categories:

- Student category: images made by people in architectural education, or who are submitting work executed before final qualification.
- Practitioner category: images made by architects who are fully qualified and working in practice or academia, whether for real-world projects or exploring ideas or experiences.

EYE LINE RULES

We seek the best 2D representations of a building design or concept via visual means. They may be hand- or digitally drawn, incorporating collage or any combination or overlay of methods. Video and straight photography are excluded. AI entries to the Eye Line competition should be stated as such.

→ Enter in either the student or practitioner category. The RIBA Journal reserves the right to

reallocate entries to a different category if deemed necessary.

- Maximum of three images per entry, from different projects or all from the same one.
- Joint entries on which more than one person has worked are eligible, with authors stated.
- All entries must be uploaded via the link below. We cannot accept physical works. Images must be at 300dpi, file size maximum 25MB.
- Work must have been produced within the three years up to the



Winning entries will be published in the July/August RIBA and on ribaj.com, and we hope to have a winners' party and show at the RIBA. Our colleagues at RIBA's Drawings and Archives Collection inspect winners for potential inclusion in their famous archive.

Last year's student winner was the National University of Singapore's Kun Yi James Lim, whose fractured plan and elevational images, shot through by rays of sun, aimed to give expression to fleeting moments or past remembrances – a Proustian projection of human experience. Practitioner winner was Welcome to Tribuneville, from Luis-Miguel Lus-Arana, a professor at Spain's University of Zaragoza. His epic, 3m-long drawing, showing 60 entries from the 1922 Chicago Tribune Tower competition, is an obsessive menagerie of building types and styles, imagining a new, fantasy quarter for the Windy City.

Every year we are gratified by the originality, wit and talent in evidence with Eye Line, our international, free-to-enter drawing and visualisation award. Practitioners and students – show us your best work and seize the opportunity to join a prestigious cohort of past winners! ●

Above Last year's practitioner winner was Luis-Miguel Lus-Arana's epic reimagining of Chicago.

competition closing date and must not previously have been entered for Eye Line.

Enter at: ribaj.com/eyeline/enter

INFORMATION REQUIRED

- Title of work(s) if applicable, and medium.
- Name of the author(s) of the entered work.
- Name of organisation where author works or studies.
- Email, postal address and phone number.

→ Dimensions of the original work as presented, in mm.

→ Date work was completed.

KEY DATES

Deadline: Friday 9 May 2025, 14:00 BST

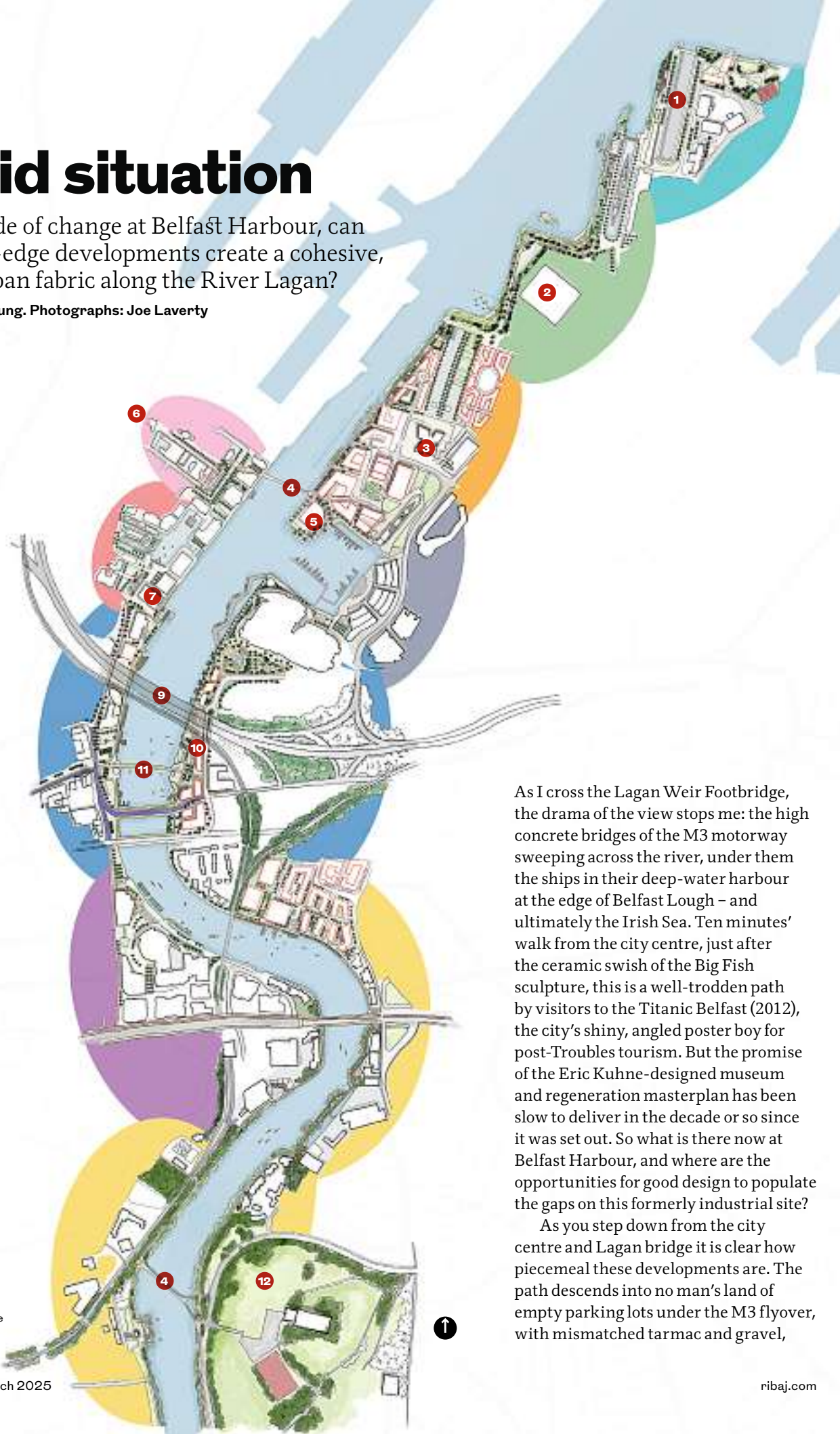
Judging: End May 2025
Winners and commendations published: RIBA July/August 2025 and online.
Exhibition opens (provisional): August/September 2025
Correspondence: eyeline.ribaj@riba.org

eye line

A fluid situation

After a decade of change at Belfast Harbour, can new water's-edge developments create a cohesive, inclusive urban fabric along the River Lagan?

Words: Eleanor Young. Photographs: Joe Laverty

- 
- 1 Thompson Dry Dock
 - 2 Titanic Studios
 - 3 Titanic Belfast
 - 4 Proposed new bridge
 - 5 Hickson's Point
 - 6 Sailortown
 - 7 City Quays
 - 8 SSE Arena
 - 9 M3 motorway flyover
 - 10 Queen's Quay Kiosk
 - 11 Lagan Weir Footbridge
 - 12 Ormeau Park

As I cross the Lagan Weir Footbridge, the drama of the view stops me: the high concrete bridges of the M3 motorway sweeping across the river, under them the ships in their deep-water harbour at the edge of Belfast Lough – and ultimately the Irish Sea. Ten minutes' walk from the city centre, just after the ceramic swish of the Big Fish sculpture, this is a well-trodden path by visitors to the Titanic Belfast (2012), the city's shiny, angled poster boy for post-Troubles tourism. But the promise of the Eric Kuhne-designed museum and regeneration masterplan has been slow to deliver in the decade or so since it was set out. So what is there now at Belfast Harbour, and where are the opportunities for good design to populate the gaps on this formerly industrial site?

As you step down from the city centre and Lagan bridge it is clear how piecemeal these developments are. The path descends into no man's land of empty parking lots under the M3 flyover, with mismatched tarmac and gravel,

It has jumped from industrial wasteland to corporate – people have never had a sense of ownership

Along the River Lagan's north side (left), the harbour gets into its commercial stride. On the other side (right) is green foreshore and sculpture-enclosure for the Great Light, a 130-year-old lighthouse optic.



run through with a busy set of roads. But there is change in the air – and on the ground. Into this underwhelming context a deliciously spare and engineered coffee kiosk has landed, its warm orange-yellow sails signalling to the city centre that this is a place worth a visit. I start my tour here with its architects, two Belfast-based practices which have impressed RIBA as Future Winners in recent years: OGU and MMAS. Under the bright sails, which soften the Northern Irish weather, gather Sunday runners, cyclists fuelling up, tourists and parents with pushchairs.

It is one of the early manifestations of the ambition from the city to make better use of the waterfront. The Bolder Vision for Belfast document, drawn up in 2019, identifies this in one of its four key actions: 'Embrace the River Lagan and Waterfront: capitalise on one of the city's most defining, but underused assets, the River Lagan, by strengthening connections from the city centre to the east and its surrounding communities

Below The gantry cranes of shipbuilder Harland & Wolff still dwarf most buildings, but not the ship-painting hall turned film studio.



– enhancing connectivity across and around the River Lagan.' Queen's Quay Kiosk builds visual connections and offers a reassuring staging point along the leisurely length of the harbour.

I visit a year on from the publication of a more detailed study of the waterfront by Denmark-based Schulze+Grassov: *Embracing the Belfast Waterfront*. It picks up on the value of such temporary interventions as the kiosk to activate the space, and the use of local design talent – and in the long term, an advisory design panel. The overarching concept is of a Belfast waterfront promenade, looping around 10km of waterfront, bordered by myriad buildings.

The bulk of the land, and a significant proportion of Belfast itself, is owned by Belfast Harbour. It holds more than 800 hectares, from Thompson Dry Dock where the Titanic was fitted out, to the working harbour, and the office development of City Quays on the north bank of the Lagan where the public realm is getting an upgrade with a series

of linked projects, starting with City Quays Gardens, designed by Gillespies, with Consarc. Substantial parcels of land are leased out, with pockets of development such as the Titanic Distillery, which has brought copper stills and new life to a historic pump house with the work of Belfast-based Like Architects.

The 75-hectare Titanic Quarter is leased by Harcourt Developments. It was kicked off by the Titanic Belfast, and by Eric R Kuhne & Associates' masterplan (2005). It plays host to the huge SSE Arena, its bulk sharply delineated by terracotta, which brings the area to life as the Belfast Giants take to the ice or James Blunt takes the stage. The paint hall for ships has been turned into film studios (as Game of Thrones fans will know), and given a new grey and yellow striped addition. There are already flats here, flanking a small marina, and in the old drawing offices of shipbuilder Harland & Wolff, you can enjoy the Titanic Hotel's generous



Above Titanic Studios is one of the many buildings butting up against an empty site.

Bottom right The kiosk is also a staging post and a promise of more, where the harbour path disappears off under the flyover.

Below The precise frame of Queen's Quay Kiosk acting as a gathering point.



gentility. Alongside it, the Loft Lines' 780 homes plus offices, designed by Todd Architects, are climbing into the sky – sparking an ongoing controversy about the view to Titanic Belfast from the motorway being hidden. The distinctive yellow Harland & Wolff crane gantries are still visible.

So back to Embracing the Belfast Waterfront. The vision was brought together for Maritime Belfast, which started life delivering Titanic Belfast. Now it is charged with protecting and enhancing the seagoing heritage, while animating it with an annual festival and small projects, helped by a retainer from Belfast Harbour. Making the vision more powerful is that it was brought into being by a task group that included city, government infrastructure and transport bodies, the harbour itself and the biggest active developer which controls the Titanic Quarter. The waterfront has been accepted as a character area in the local plan. This, says Oliver Schulze of Schulze+Grassov, gives architects and planners 'a chance



to make a contribution'. There can now be architectural design standards, which Schulze sees only patchy evidence of in what exists so far.

Underpinning plans to embrace the waterfront are two new bridges, one upriver where there is already work visible on either bank, alongside new housing and businesses at the Gasworks. The other bridge will land among rather dreary offices at Sailortown. But its reach should be much further than that.

OGU and MMAS are working on a project to enliven the public space near where the new bridge will land (think cycle workshop and coffee). The route will also connect Sailortown's community, marooned between water and motorway with goods traffic thundering past, and North Belfast – Northern Ireland's second most deprived area – to the Titanic Quarter. Across from Sailortown, the bridge will meet Hickson's Point, which pushes out into the River Lagan, an idea posited years ago by architect and urban thinker

Belfast is cut up in so many ways – the waterfront connects the city and allows communities to come together at the water's edge

Below The Loft Lines, designed by locally based Todd Architects, under construction next to Titanic Belfast.

Mark Hackett, that seems to be finding its moment. Ambition is high, says Sean Dolan, senior development manager with Belfast City Council: 'We have done a feasibility study, it needs to be a world-class bridge... unique in design.'

The prominence of Hickson's Point, which is visible from three sides, ensures it has a future worth debating. It already has consent for a 30-storey tower. But Schulze+Grassov is advocating for some kind of public gesture, a cultural building or perhaps a park. Schulze emphasises the harbour's importance as transcending sectarian divides. 'Belfast is cut up in so many ways, down so many division lines,' he says. 'The waterfront connects the city and allows communities to come together at the water's edge.'

One stumbling block for building at Hickson's Point – as on much of the harbour land – has been the cost of remediation, an estimated £6m here. Northern Ireland has no Homes England to sink money into this. The



Gasworks site upstream was subsidised by the European Union, but that route no longer exists. 'Remediation costs are our biggest hurdle,' says Dolan. 'They are probably why we are not delivering city centre living at the quotient we would want.' He can identify 3,500 residential units approved by planning but not yet being built out. This issue with viability applies even to student housing, a market on the up, fuelled by the move of Ulster University into the city.

Beyond housing there have been some big ideas: Ritchie Studio worked on concepts for the giddy, 12m-deep Thompson Dry Dock. Maccleanor Lavington is making plans for Clarendon Dock on the river's corporate north side. But perhaps there are stepping stones needed first. John McIlduff, creative director of the Belfast 2024 cultural programme, points to the leap in use and the problems this has inadvertently left in its wake. 'It jumped from industrial wasteland to corporate,' he says. 'People have never had a sense of ownership. And the disconnect between developed areas makes it hard to navigate.' He adds to that diagnosis risk-averse planning on traffic, and floods cutting the city off from the river – although Belfast is not alone in this, with flood walls appearing in many riverside cities.

One project McIlduff commissioned for Belfast 2024 – DRIFT, again from OGU and MMAS, and MacEwen Award-shortlisted – floated people on the river to let them feel part of it. And that architect-team's other work, of kiosks and pavilions, is helping knit people and fabric together. Perhaps this could be a new moment for the harbour, with the public green space at City Quays Gardens completing, and Under the Bridge, an urban sports public realm project tucked under the motorway flyovers, out for design tenders. Maybe next is an investment in water sports – and water quality to match.

That is a long-term project though. Until then there should be no arguing with the privilege of a river view and the quality of light that generates, even on a dull day. Now the architecture has to step up to match it. ●



ELYSE KENNEDY

Above The floating DRIFT took people down and onto the water next to Waterfront Hall in 2024, and will be refloated in 2025.



City Quays, Belfast Harbour's £275 million commercial-led development, includes RPP's 16-storey offices, a new hotel and a 900-place car park.



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The background of the entire page is a dark space scene. On the left side, a white rocket is shown ascending diagonally towards the top left. At the bottom left, a portion of a planet's horizon is visible, showing a bright orange and yellow glow. Scattered throughout the dark space are numerous small, distant stars.

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2: Intelligence

**TO GET THE UK
BUILDING, WE WILL
NEED BOLD THINKING**
RUSSELL CURTIS

Since taking power last summer, the government's barrage of announcements around tackling Britain's sclerotic planning system, and how it intends to 'back the builders, not the blockers', has been head-spinning to say the least.

Bold changes to the National Planning Policy Framework were adopted, as promised, in December; there has been no let-up during the post-festive fug. Since the beginning of 2025, we have witnessed a flurry of striking reforms, including changes to planning committees, reforms to judicial reviews, brownfield passports, development around stations, and a slew of individual approvals for data centres, solar farms and power lines.

There can be no doubt that, when it comes to critical national infrastructure, the current way of doing things doesn't really work. We have failed to build a single new reservoir in more than 30 years, yet water scarcity is often a justification for refusing new homes. Planning is not solely responsible, but doubtless the delay and uncertainty of Britain's discretionary system is a contributing factor: the cost of the Lower Thames Crossing application alone has exceeded £300 million; you could build a mile-long tunnel for roughly the same amount.

Change is necessary: we need renewable energy, and we need pylons to move it around. We need water piped to where people live. This will involve negotiations and compromises – but finally it's a matter of how, not if, it happens.

Despite this, things aren't so straightforward when it comes to housing. New towns, with the best will in the world, are 10 to 15 years away. Green belt will be tangled up for the next half-decade. The immediate opportunity is the rapid intensification of our towns and cities, but we'll need an equally ambitious approach. Perhaps pre-approved design codes for suburban corners? Minimum building heights close to stations? A national policy that recognises character is not immutable, and change is both inevitable and necessary? Such bold thinking is required. After all, housing is infrastructure too.

The next parliament is not that far away. It's time to get building. ●

'The cost of the Lower Thames Crossing application alone has exceeded £300 million; you could build a mile-long tunnel for roughly the same amount'



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Left Russell Curtis is a founding director of RCKa architects, founder of the London Practice Forum and chair of Barnet's quality review panel. His work on spatial mapping and planning policy has gained national media attention and led to TV and radio appearances.



Breathing fresh life into places where science takes shape

Demand for science-related space has been falling at key locations in the South East and elsewhere – but a focus on the people who use these buildings, and on flexibility and utility, offers a recipe for success, finds Josephine Smit

Life sciences has become one of real estate's most talked-about markets and is one of eight sectors where the government plans to go for growth. Its sights are set on the golden triangle of Oxford, Cambridge and London, and the potential to grow the first two locations into a science supercluster.

Yet since the heady days of post-pandemic investment, the sector has lost some lustre, with oversupply of space afflicting even the USA's top life sciences destinations. A dip in venture capital funding, essential to develop bright ideas into treatments, products and businesses, and high UK interest rates have had an impact. Last year, property consultant Savills reports, take-up of science-related space in Oxford fell by 24 per cent and in London by 17 per cent.

This is also a competitive global market. In Europe and elsewhere, locations are snapping at the UK's heels, as those speaking at this year's MIPIM will debate. 'The European building design and construction market has a substantial pharmaceutical manufacturing component, which of course involves the life sciences,' says Thomas Vonier, senior architect at Paris-based Chesapeake Strategies, a committee member with the RIBA Europe chapter, which launches at Venice Biennale. He points to the architectural specialisms that have developed in this area.

The economic climate has limited science firms' growth ambitions in the UK, says Tom Mellows, head of science at Savills, 'making them much more



Design, construction
& technology

cautious about outlaying capital on anything other than their research'. Now venture capital is starting to flow back to the sector, which needs to continue to create balance between demand and the UK's significant future supply, he says.

'The London market is really strong, but it's so predicated on ensuring that significant volumes of capital can keep flowing into the broader ecosystem of organisations spinning out of universities and growing,' says Jack Sallabank, director of research consultancy Future Places Studio (FPS), which has studied the capital city's sector. He continues: 'That's out of the control of the real estate market, which has stepped up to the plate and delivered space where there was a shortage.'

In growing supply, the market has developed its understanding of what science needs, from the lab bench where a PhD student develops a good idea, to start-up labs, grow-on space and the HQs of big pharma and research bodies. Adaptability is recognised as essential, as are good amenities. 'There's probably a greater appreciation that scientists are normal people who like normal stuff,' says Sallabank. 'They want access to good coffee, bars and public realm.' This is very obvious in the development of the Francis Crick-supported lab space for discovery research in London Euston, with Gensler.

'There had been a focus on purely the functionality of buildings in the sector,' explains Emily Slupek, head of project management at Savills Oxford. 'There's a recognition now that alongside the science, you need to consider people, with placemaking, wellbeing and quality as high priorities.'

Designing for science and people

That perspective is echoed by Eugene Sayers, head of science at Sheppard Robson. 'The new wave of buildings has raised the bar in what a science-based occupier can expect,' he says. 'Design definitely has an increased profile now.'

Ask Sayers what clients want and he highlights a universal workplace aspiration: 'a magnet that will attract or retain staff, occupiers or tenants'.

Science now also needs to be prominent, so schemes commonly incorporate expanses of glazing to enable colleagues and public to see scientists at work. The approach is evident in the practice's design for a new global oral health innovation centre for consumer health company Haleon, under development in Weybridge, Surrey. The business is set to move, from a traditional building with offices at the front and laboratories hidden to the rear, to a new 8,000m² building with R&D at its heart.

'We have labs grouped together, which makes sense in terms of energy husbandry, and offices separated, which allows us to naturally ventilate them,' explains Sayers. Offices and laboratories are separated by an atrium in what Sayers calls 'a yin and yang plan with a continuous path' facilitating chance conversations among workers. Shared facilities are located towards the building's centre, with workers retreating out to the perimeter to undertake quieter tasks. A roof garden and terraces provide space for relaxation.

Left Haleon Innovation Centre, designed by Sheppard Robson, has spaces for relaxation.

Below Gensler-designed, Francis Crick-supported lab space.



Alongside the science, you need to consider people, with placemaking, wellbeing and quality as high priorities

Such designs reflect clients' keenness to foster scientific interaction and joint working. That was one driver behind a campus in Melbourn, Cambridgeshire, designed by Sheppard Robson and its interiors group ID:SR for science incubator TTP. TTP brings together scientists in varied disciplines for research projects and its new building is arranged for optimum collaboration and flexibility, with 15m x 15m modules that can be open or closed labs, flexible space or amenity. 'As the science challenge changes, [it] adapts,' Sayers says.

Creating space that's flexible enough in its architecture, interiors and servicing to accommodate different types of business and science is a 'constant preoccupation', he admits: 'Businesses are volatile, so the flexibility has to accommodate growth and shrinking and sometimes acquisition, much more than in a classic office occupation.' Decisions need to be made on how far to 'front load' the building, with infrastructure such as gas lines. That's where early discussions with stakeholders are key. 'The brief is often very complex,' with tricky competing requirements, Sayers says. 'Making sure the difficult issues aren't shied away from is important.'

A sector defined by change

'The purpose of the science world is to adapt and keep experimenting,' says Ed Hayden, director and head of life sciences at Scott Brownrigg. 'We're constructing buildings whose fabric is designed to last for 50 years, so are trying to give longevity and sustainability in a sector which is constantly changing.'

Long life, loose-fit is essential to the design response, particularly for



SCOTT BROWNRIGG

speculative buildings with multiple tenants, he says. The practice's design for the Daubeny Project, for the Oxford Science Park (TOSP), provides 42,000m² of space in three buildings that are interconnectable and each have space for a café and co-working space at ground level. They can therefore be let to a single tenant, as three HQs or sub-divided for 24 tenancies. Flexibility can also be enhanced by such features as removable wall and floor sections for tenants needing access for large equipment.

Design and build is the common project procurement route, with speculative schemes generally built to shell and core for optimum adaptability and sustainability. 'It's slightly different to an office building where you know what's needed inside,' says Hayden. 'Tenants will then adopt a traditional procurement route for internal works and we'll monitor compliance, being the landlord's guardians of the fabric, or acting for tenants.'

Scott Brownrigg is working on the 17 Columbus Courtyard office-to-lab conversion in London's Canary Wharf, and is routinely asked to examine city buildings' repurposing potential. Often local factors, such as proximity to

housing, rule out it out, but the practice is exploring the reuse of redundant retail space in Cambridge as micro-scale 'urban labs'. 'Some retail space is well suited to laboratories, as it has high floor loadings and goods yards for deliveries,' Hayden explains. The latter is a vital but often poorly considered factor in the design of life sciences facilities, he says: 'If you can't get an articulated truck to the back of your building safely, it very much limits what science you can do.'

Whether new build or refurb, buildings – and their equipment – have a high environmental impact, with a 2023 study by FPS pointing out that labs typically consume five times more energy, for their equivalent floor area, than office blocks. As well as BREEAM

Long life, loose-fit is essential to the design response, particularly for speculative buildings with multiple tenants

Above The three interconnected buildings of Scott Brownrigg's the Daubeny Project, for Oxford Science Park – ready for flexible letting.

Outstanding and WELL certification, Scott Brownrigg is targeting a 40 per cent improvement on Part L of the building regulations for the Eastpoint life sciences campus in Oxford, for client Railpen. A fabric-first approach, including self-shading facades to limit solar gain, and rooftop photovoltaics, are being deployed to realise that aim.

Environmental and financial costs could become even bigger design priorities. 'The economics of delivering these buildings has got harder,' says Savills' Mellows. 'Build costs have gone up and commercial real estate values have dropped, so developing schemes' viability has got more challenging.' That is prompting Savills to work with developers to, Slupek says, 'challenge some of the commonly accepted norms for laboratory buildings and reflect on necessity and value over convention.'

'More knowledge has been gained in the sector to know where compromises can be made,' she says. 'It's a constantly evolving picture.' ●

Durability and sustainability make aluminium ready for starring roles

Architects need building materials that balance looks, longevity and strong environmental credentials. Q-railing's Easy Alu ticks all the relevant boxes

Q-railing

As architects and designers strive towards net-zero buildings, every element specified must contribute to sustainability goals. Q-railing's Easy Alu aluminium railing system is an innovative solution that seamlessly integrates aesthetics, durability and environmental responsibility.

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Above right Easy Alu Juliet balconies, Tottenham Court Road Apartments, London.

Below Q-railing's Easy Alu System in perforated metal plate, glass and vertical bar infills.



Modularity and efficiency

Q-railing's Easy Alu system is designed with efficiency in mind. Its modular components allow for quick, low-waste installation, reducing on-site material consumption and labour time.

Prefabrication ensures precise assembly with minimal cutting, further decreasing construction waste and maximising resource efficiency. The result? A cost-effective, eco-friendly balustrade system that meets the demands of modern, sustainable architecture.

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At the end of its life cycle, Easy Alu is 100 per cent recyclable with no loss of quality, making it a key player in the circular economy. Unlike traditional railing materials, aluminium can be endlessly repurposed, reducing waste and conserving resources. By choosing Q-railing's Easy Alu, architects can achieve striking, future-proof designs that actively contribute to net-zero targets – without compromising on style or performance.

'As well as the already popular Easy Alu railing system, we are supporting green wall installations with bespoke product designs to be used in exterior facades or interior atriums,' says Darryl Holloway, architectural sales manager at Q-railing. 'We also understand the importance of sustainability information, with EPD certificates being produced to support architects and designers in specifying the right systems for their designs,' he adds. ●



Making net zero building the reality

The UK Net Zero Carbon Buildings Standard aims to get everyone onboard with tough but achievable targets. Stephen Cousins asks architects on three projects targeting net zero about their challenges, and tips for getting there



Conservation
& heritage

Decarbonising the UK's building stock quickly enough to keep temperature rise within the critical global 1.5°C threshold requires radical action. This is common knowledge, yet inconsistent interpretations of what a net zero carbon building is, and how it should perform, still cloud project briefs and expectations, raising the spectre of yet more leaky and inefficient properties.

Industry efforts to dispel the confusion and clear the way forward

include the recent launch of a pilot UK Net Zero Carbon Buildings Standard, which sets out for the first time how to robustly prove that built assets are net zero carbon and in line with UK climate targets.

The single methodology, developed and agreed by a cross-industry team, which includes RIBA, BRE, LETI, the Royal Institution of Chartered Surveyors and the UK Green Building Council, contains detailed requirements for all major building types, and both new build and retrofits. It is the most thorough attempt to date to set science-based limits on upfront embodied carbon and operational energy, with minimum targets for on-site renewables and other aspects.

The trailblazing standard consolidates and expands upon the RIBA 2030 Climate Challenge's approach of asking signatories to meet key energy, carbon and potable water targets. It does so by defining a fundamental pass/fail requirement for fossil fuel-free sites, and setting operational energy limits based on in-use building energy consumption at 80 per cent occupation.

This is great news for architects wanting to cut through spurious claims around net zero and to accelerate the shift to reducing carbon. Lessons can also be learned from exemplar projects already delivered in the field. As the schemes explored below demonstrate, it's never as simple as installing a few extra solar panels on the roof...

Hermitage Mews, Crystal Palace

Architect: Gbolade Design Studio

In-use performance: Designed to exceed RIBA 2030 Climate Challenge targets for both operational and embodied carbon

Characterised by its distinctive sawtooth roofline and split-level floor plans, the mix of eight terraced and semi-detached houses at this south London development is fossil-fuel free, harnessing roof-mounted solar PV, air-source heat pumps for heating and hot water, and an MVHR system to ensure low energy use and good occupant comfort levels.

Right Fossil-fuel free Hermitage Mews by Gbolade Design Studio used modelling to reduce upfront carbon and operational energy use.



GBOLADE DESIGN STUDIO

A fabric-first approach with 450mm-thick insulated walls, triple-glazed windows, thick roofs and floors enable an average U-value of $0.10\text{W/m}^2\text{K}$. Initial plans to cut embodied carbon through a primarily timber construction required a rethink because of client concerns, following the post-Grenfell ban on combustible external wall materials in buildings taller than 18m, that the properties might not sell.

The free design modelling tool FCBS Carbon was used in early design to compare the embodied carbon impact of either using masonry, brick and block construction, or a mix of brick and block walls with timber superstructure.

This 'gave a clear steer that a timber superstructure was still going to help us move towards net zero reductions', says Tara Gbolade, co-founder and director of Gbolade Design. It also reduced the building's weight, cutting the volume of concrete needed in the foundations, she adds. The focus was on using glulam beams, or hybrid steel plate/timber flitch beams, for structure. All internal floors and walls and the roof are timber.

Plans to use 100 per cent wood fibre insulation in walls and roofs had to alter after Russia's invasion of Ukraine tripled timber prices. Luckily, there was enough waste wood fibre on site to finish the roofs, with wall insulation switched to an 84 per cent recycled glass product with low embodied carbon.

Gbolade says the use of ArchiCAD's dynamic energy performance modelling gave a 'strong idea of the direction of travel for materials' as designs moved on. Working closely with MEPH consultants Mesh Energy became critical in order to move towards compliance with the RIBA 2030 Climate Challenge, which can be tested once the project has a year of bills to scrutinise.

'As an industry, a shift to a more collaborative design process is necessary; the architect can't keep designing in isolation, then issue the drawings to the structural and MEPH teams to develop,' says Gbolade. 'There needs to be a more iterative process until we are well versed in what we're trying to achieve and how we need to achieve it.'



Below Bere Architects' design for the Brambles included a strong focus on reducing winter heat loss.

The Brambles, Hertfordshire

Architect: Bere Architects

In-use performance: Passivhaus Plus certified, generates ~3x more energy than it imports from the grid each year

This all-electric timber-clad home, which was completed in 2020, takes most of its power from rooftop solar PV. This is topped up in the gloomiest winter months by a home battery that draws 100 per cent renewable energy from the grid via a unique tariff focused on wind power.

A Passivhaus design, with a strong focus on thermal efficiency and airtightness, minimises the Brambles' energy demand. A reversible electric heat pump provides hot water for

bathing and kitchen use in the home, with an integrated 100 per cent fresh air ventilation system supplying supplementary heating or cooling by extracting warmth from the air as it circulates.

'Space heating and cooling use so little energy that they are only a secondary requirement,' explains Justin Bere, director of Bere Architects. 'Peak power from the heat pump [a Pichlerluft PKOM4] is 1.8kW when the temperature is sub-zero outside – compare that to the typical electric kettle, which consumes around 2-3kW, and a comparable ordinary house would use a 10-12kW gas boiler.'

A focus on winter heat loss – which is by far the biggest factor affecting energy

consumption in the UK's domestic dwellings – was crucial to driving down operational energy. However, the Brambles' complex building form posed a challenge when designing to avoid cold bridging. For example, maintaining a line of insulation around a deep timber beam, spanning above the ground floor living room and under a set-back balcony on the first floor, meant introducing a couple of steps up to the balcony in order to create space for extra insulation surrounding the structural element.

Embodied carbon was reduced principally through the use of a panellised engineered timber frame and beams filled with cellulose insulation. But Bere says operational energy was by far the biggest influence on energy efficiency, dwarfing embodied carbon over the building's lifespan.

'There is a terrible amount of carefully crafted misinformation that seems designed to make people confused and complacent about the relationship between operational energy and embodied energy,' says Bere. 'Where products and materials have been scientifically assembled in a building to minimise operational energy, as in a Passivhaus, any reductions in embodied carbon can undermine the building's operational efficiency.'

The Brambles has been undergoing extensive post-occupancy evaluation to verify its energy performance. Bere admits that monitoring costs 'a lot' of money, adding that the 'simplest thing a practice can do is get hold of the client's electricity bills for a year and see if total energy consumption and total exported energy is what was expected'.

Embodied carbon was cut principally through the use of a panellised engineered timber frame and beams filled with cellulose insulation

Entopia, Cambridge

Architect: Architype

In-use performance: Already complies with the 2050 energy requirement for a retrofit set by the UK Net Zero Carbon Buildings Standard, based on in-use data

This exemplar retrofit transforms a five-storey former 1930s telephone exchange into a vibrant headquarters for the University of Cambridge Institute for Sustainability Leadership.

Believed to be the largest EnerPHit-certified (the Passivhaus standard for retrofit) office building in the UK, the scheme cuts heating demand by 75 per cent versus an average office, and makes a 5x improvement on airtightness set out under building regulations. A canopy of photovoltaic panels on the rooftop terrace generates an anticipated 11,740kWh of electricity per year.

'Central to achieving net zero, and the only reliable way to deliver a performance gap-free building, in my view, is Passivhaus,' says Seb Laan Lomas, associate at Architype. 'It's a quality assurance methodology, measured in use – the airtightness requirement is a performance contract, so the contractor knows they're going to be held accountable if they don't deliver, which is a game changer on site.'

Plans to replace the building's 97 mock-Georgian windows with more efficient continuous triple-glazed ones drew scepticism from planners, who had concerns this would damage the original

character within a local conservation area. Architype used its modelling to show how removing transoms and mullions, and optimising the frames, would improve operational efficiency, thermal comfort, and daylighting. 'Having accurate measurements enabled a data-driven dialogue with planners, which, combined with the fact the council had declared a climate emergency, meant we got consent,' says Laan Lomas. Happily this approach is replicable, with 87% of local authorities having made such declarations.

The architect points to gaps around fire testing and the open availability of data related to bio-based materials as key barriers to delivering low embodied and upfront carbon projects. 'We have gone on a big journey post-Grenfell around fire certification, and there are significant gaps in industry data – it's a huge barrier that's pushing timber projects to concrete and steel,' he says.

Any project targeting net zero needs early client and design team alignment, he adds. On Entopia the directors of all companies involved signed a document committing to targets for operational and embodied carbon and health. 'That was vital to get everyone travelling in the right direction,' Laan Lomas says. ●

For more on the UK Net Zero Carbon Buildings Standard, visit: nzcbuildings.co.uk/home

Below Accurate measurements and modelling secured consent for changes to windows on the Entopia retrofit.



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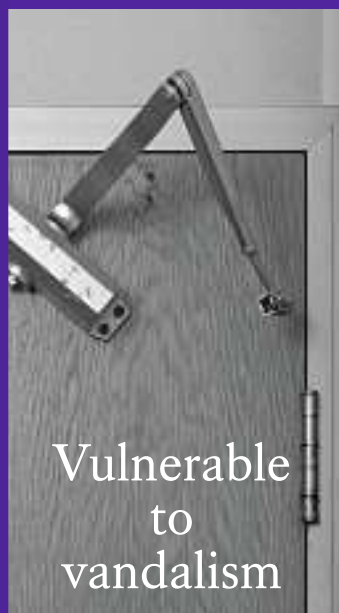
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Norconsult's new Sotra Bridge embodies a fully digital approach to infrastructure

Discover how this Autodesk Design & Make Award winner used digital processes to build Norway's Sotra Bridge, showcasing ways AECO firms can overcome challenges using data insights, cloud technologies, and innovative design. By Mark De Wolf

This is an excerpt from an article that originally appeared on Design & Make with Autodesk, a publication dedicated to inspiring design, construction, manufacturing, engineering, and media and entertainment leaders.

- In Norway, the world's first fully digital suspension bridge spans 900 metres and connects Sotra Island to Bergen.
- The new Sotra Bridge was designed in only two years and involved experts across three continents.
- To create this engineering feat, a global team leveraged digital solutions including Autodesk Revit, Civil 3D, Inventor, Navisworks, Autodesk Platform Services, and the Autodesk Construction Cloud.

Architecture, engineering, construction and operations (AECO) firms have been tested lately by climate change, a pandemic, geopolitical unrest and economic ups and downs. The best have



Rendered for reality: The digital design of the new Sotra Bridge highlights the precision of virtual modelling in physical infrastructure development. Image courtesy of Norconsult.

passed with flying colours. Technology provided some solutions; expertise and creativity did the rest. In a sector where more than 64% of companies describe themselves as digitally mature, pairing cloud platforms with innovation and adaptability has helped AECO punch through and excel, racking up notable successes along the way.

One project making the most of AEC's data-led approach is Norway's new Sotra suspension bridge – winner of a 2024 Autodesk Design & Make Award for Most Innovative Use of Autodesk Platform Services. The design, engineering and project management for the bridge, now in construction, have all been carried out entirely in the digital realm by architecture and engineering firm Norconsult Norway, without relying on traditional drawings. Using a Design and Make cloud platform made it possible to capture and connect huge volumes of data for 3D modelling, reporting, cost control, and facility management. APIs helped create custom end-to-end workflows as well as analyse and optimise digital designs.

Digital designs for physical spans

New Sotra Bridge is a major component of Norway's National Road 555 Sotrasambandet project, a public-private partnership initiative with a budget of 19.8 billion NOK (£1.4 billion) and currently the largest infrastructure project by contract value in Europe.

When it opens its four lanes to traffic in the summer of 2027, the 900 metre (nearly a half-mile) suspension bridge will tower over the fjord separating Sotra Island from the rest of Norway's Atlantic archipelago. With towers soaring 145 metres above sea level, the bridge links Sotra with the 9.4-kilometre (5.8-mile) highway from nearby Bergen.

The project was run by the Sotra Link consortium, with design responsibility awarded to Norconsult, with partners Webuild, FCC Construcción, and SK Ecoplant handling construction.

Proving that digital processes can de-risk delivery and give clients greater visibility into progress was key to securing buy-in. 'Our clients



Above The new Sotra Bridge will span majestically across Norway's fjords, echoing a leap into the future of digital infrastructure. Image courtesy of Norconsult.

want to receive a bridge that is built on best practices, and in the best state possible,' says Vegard Gavel-Solberg, group manager for bridge projects at Norconsult. 'Digital models really help in reducing errors during construction because they enhance each contractor's understanding of tasks and their grasp of the bigger picture.'

With the state-backed project's big budget and Norway's reputation for eco-friendly construction, there was no doubt the bridges would be designed and built well. But multiple complexities related to the location ensured the project would be no simple feat.

'One of the challenges in Norway is that it's a snowy country,' says Gavel-Solberg. 'And we have a lot of weather. We have a lot of rain. We have a lot of snow. We have a lot of topology. This introduces consequences for how we need to design bridges in Norway, to optimise the big economic picture during the lifespan of the bridge.'

Scan the QR code (left) to learn how Norconsult embraced cutting-edge digital solutions to design a sustainable bridge for extreme conditions. Discover how they reduced paper use by 99.5% and managed 60M data points to future-proof the Sotra Bridge. ●



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Far from formulaic

A new hospitality development at Silverstone F1 circuit, Escapade, modifies its cladding to act as a bridge between bucolic woods on one side, and the roar of motorsport on the other, finds Jan-Carlos Kucharek

Escapade is a new, high-end hospitality offer that sits on the eastern fringe of the Silverstone F1 racetrack in Northamptonshire. Designed by Twelve Architects for client Arklight, the concrete and steel-frame chalets are designed to give direct views of the racing action – not least the British Grand Prix – via trackside terraces, as well as enabling more relaxed enjoyment of bucolic woodland nearby.

Part of a bigger outline permission for this vast, flat site, the serviced chalets not only offer parking for up to four cars; trackside units were required to be able to be subdivided, optimising flexibility and revenue potential for big-ticket events. As Twelve director Lorraine Stoutt Griffith explains, these demands had to be accommodated within its highly specific context. 'There was a lot

to think about, given we were straddling ancient woodland on one side and an F1 race track on the other,' she says. 'The flatness also meant there are long views and a lot of sky, and while the taller part of the site is where the grandstand and new hotel are, this end is more remote, leading to discussions with planners about reducing impacts on the woods.'

This resulted in Twelve's masterplan of 15 two-storey blocks up against the tracks, set into a bund, with 10 similar blocks behind and between them, to allow for perforate views on to the track. To their east are 21 single-storey units, sited in a designed context of swales to engage with rural landscape to the north.

Stoutt Griffith explains that the unusual trackside/woodland disparity was a driving factor in the form and cladding choices for the chalets. 'It's true



that motor racing associations might be with shiny metal and bright colours, but because of protected woodland nearby, we also wanted something modern and crisply detailed but softer.' Twelve opted for 'twisted' monolithic stacked blocks for trackside chalets to reflect the site's 'dynamism' and used a dual approach to

envelope design – emphasising expanses of glass and metalwork by the track, with a more natural palette on ‘rural’ faces.

Twelve homed in on vertical timber in two layouts. Charred yakisugi was considered, but dismissed as ‘dark – even oppressive’. Grey Siberian larch was the preferred option but was ruled out on cost grounds, with the firm deciding on Finnish Lunawood pressure-treated Nordic pine. Twelve overcame aesthetic and durability concerns by specifying the silicon-based SiOO:X protection coating in mid-grey, giving the desired ‘weathered’ look while limiting moisture ingress to the softwood. ‘Pine is more knotty and characterful than larch but the coating tones that down – and makes it more robust,’ says Stoutt Griffith.

On these elevations, the interstitial 120mm steel frame system (SFS) is wrapped in two forms of pine rainscreen cladding: 150mm-wide, vertical tongue and groove boards and 43mm ‘hit and miss’ battens spaced at 150mm centres, interfacing along a diagonal line in elevation. The SFS build-up it sits in front of is packed with infill Rockwool and a 150mm Knauf Rocksilk Rainscreen slab. Stoutt Griffith adds that the elevational treatment ‘works in the same way as the plan “twist”, breaking down the units’ scale’. With bedrooms

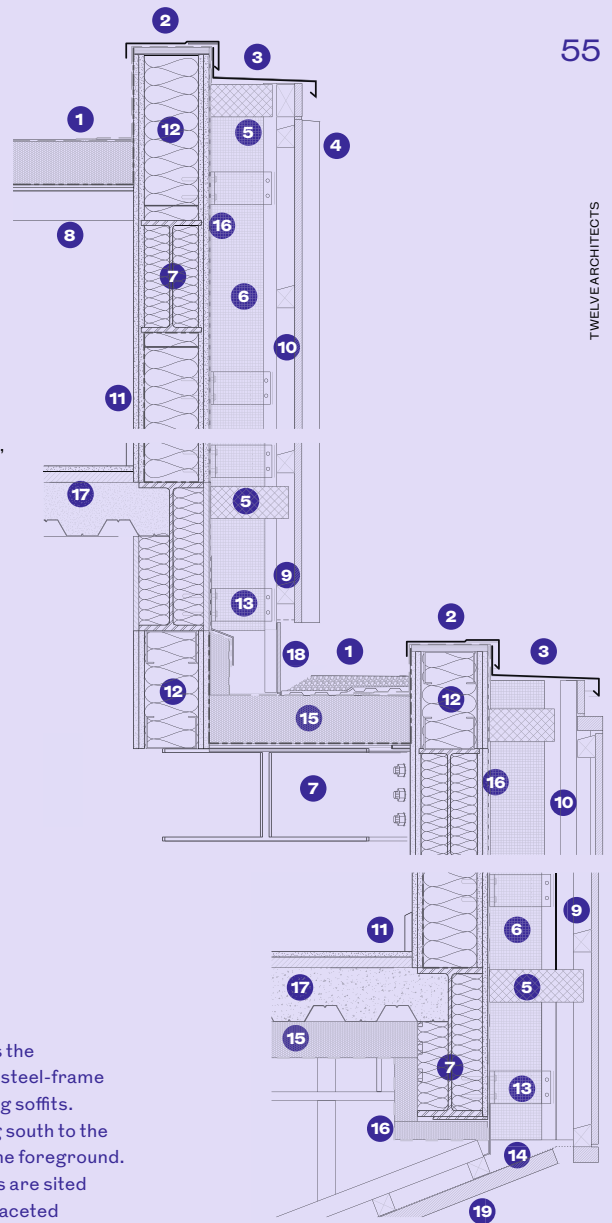
Detail section through side wall

- 1 50mm stone ballast
- 2 Axter roof kerb detail to parapet
- 3 Secondary aluminum capping with PPC finish
- 4 43 x 69mm Thermowood battens cut to slope on top edge
- 5 Horizontal cavity barrier with 30-minute fire resistance integrity
- 6 150mm Knauf Rocksilk RainScreen Slab, fitted around fastframe brackets
- 7 Steel structure coated in intumescent with 60-minute fire resistance
- 8 12.5mm Gyproc Soundblock with 25mm Isover spacesaver
- 9 Timber cladding battens cut to 15-degree slope, black painted
- 10 Ventilation gap
- 11 Vapour control layer to back of insulation
- 12 150mm mineral wool insulation between steel frame system members
- 13 Cladding brackets with verticals rail by Inopera
- 14 Light gauge steel angle as cladding soffit support
- 15 100mm Kingspan Kooltherm K110 insulation
- 16 Breather membrane
- 17 Composite deck below resilient flooring
- 18 8mm Equitone Natura panel upstand
- 19 Thermowood soffit cladding

Opposite The west elevation displays the monolithic drama of the timber-clad, steel-frame units, with cladding even running along soffits.

Below left The Escapade site looking south to the Silverstone track, with woodland in the foreground.

Below Chalet units and their terraces are sited nail-bitingly close to the action, with faceted shading helping to create a more dynamic form.



TWELVEARCHITECTS

on plan to the side and rear, diagonal orientation of adjacent units avoids one bedroom window overlooking another. This is helped by Twelve’s idea of creating the units’ monolithic look by running battens in front of recessed full-height glazing, increasing privacy.

The formal dynamism goes back to the form of the SFS, where 11.3m rearside and 10.4m trackside overhangs on both sides of the ground floor garages’ concrete box are achieved by using steel sections supporting the composite steel floor slab of the lower stacked unit. These steel UC 203 x 203mm props are only apparent on the development’s ‘quiet’ side, with the bund used to conceal the garages and the props on the track side.

For Twelve, this meant running the timber cladding along the composite slab soffits on both sides. ‘Being exposed





JACKHOBHOUSE

to the elements, the soffits are visible back to the concrete base,' Stoutt Griffith adds. To that end, 100mm of rigid insulation and a breather membrane are fixed beneath the composite deck, with a continuous light-gauge steel angle supporting at the soffit edge.

Creating the effect that walls are sitting on the bund required good detailing at their interface. Avoiding moisture ingress meant not sitting the bottom face of timber battens in the grass, so Twelve bolted a steel angle to the top of the concrete box to hold the grass back from the cladding's edge, gravel-filled to create a form of French drain right above the concrete's spray-applied waterproof membrane. At the top, timber battens are cut at an angle to avoid rain sitting on exposed faces.

Twelve wanted a clear distinction between the development's front and rear faces, to reflect their radically different contexts. On the western, track side, a complex geometry of anodised aluminium framing forms a canopy that adds extra movement to this facade – and act as a privacy screen between units. But wanting to keep the screen perforate, the firm ran with a Soltis Horizon 86 mesh by Serge Ferrari. 'It all adds drama and shadow, emphasising the twisting and hanging,' notes Stoutt Griffith.

Here too, it was obvious glass walls were needed to give views of terraces and racetrack beyond. The same thinking drove the desire for the thinnest frame sections possible, though this was tempered by cost. Sub-contractor Arkay Windows went with an AluK SV156 aluminium sliding door system, specified with a thicker central strut enabling that all-important partitioning of the units by

an internal, folding wall. Sections were sprayed in an anodised bronze finish in RAL7013, a soft brown/grey Twelve felt worked with the landscape. Project acoustician RBA recommended double-glazed laminated glass with an acoustic interlayer of 47dBA reduction, but Stoutt Griffith conceded its effect might only be felt on the sides and rear: 'The fact is that no glazing could deal with the noise coming from the track – but we figured guests would be there to experience that.' For those seeking the quiet life in the single storey units at far east of the site, 'the earth bund does a lot of work to dampen the sound of the engines.'

On the rear elevation, the drama of the plan shift and overhang was augmented by creating a large, recessed picture window to main bedrooms. 'We had a lot of space in section, around 450mm, beneath the composite slab once we had included the soffit insulation, and thought we could play with that,' recalls Stoutt Griffith. 'We wanted the facade to feel less flat, so we used a chamfered pressed aluminium fascia to create more depth.' It did result in less insulation at the glass line where it interfaces with the intumescent-sprayed floor beam, but units still met an overall U-value of 0.18.

Procured in the metalwork package, the sub-contractor came up with the idea of workshop bonding the four corner mitres to avoid the usual unsightly site interface, so that here simple horizontal or vertical junctions occur on side runs, where they can be better lined up. The architect concurred: 'They didn't want a junction on the mitre, and it's ended up creating a much neater detail.'

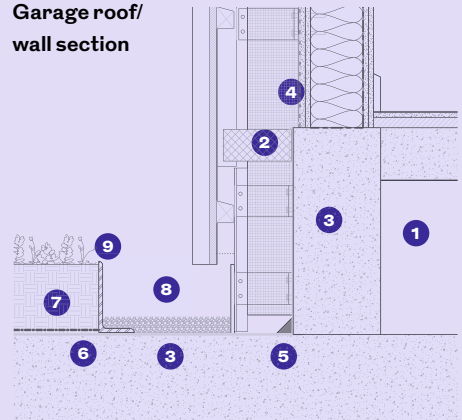
The development and its clubhouse, also by Twelve, are ready for July's Grand

Left Trackside chalets, on their bund-hidden concrete boxes, create a curving defensive wall to shield the 'quieter' side of the development.
Below Overhangs on both sides of the concrete box required props for structural stability.



TWELVEARCHITECTS (2)

Garage roof/
wall section



- | | |
|--|--|
| 1 Void level O1 to garage | 5 FIS Teknocem HBR 50 x 50 fillet |
| 2 Horizontal 30-minute FR cavity barrier | 6 FIS Hydroflow HM25 below green roof |
| 3 FIS Epoflex MMA spray-applied membrane to slab and upstand | 7 Green roof to landscape architect spec |
| 4 Breather membrane laps over spray membrane | 8 Gravel boundary to edge of green roof |
| | 9 Steel angle to green roof |

Prix. Given the units' crisp detailing and repetitive nature, I ask if the architect considered offsite prefabrication. Stoutt Griffith says Twelve looked into it and liked the quality, but felt shoehorned into designing 'truck-sized modules'. This, and the overhangs' engineering complexity, led the practice to stick with a traditional build approach.

There were other concerns, too. 'It's a tricky one for a client,' Stoutt Griffith says. 'Done that way, it would require a lot more money up front to make and finish them before being 'plugged in' on site; traditional procurement, like the design and build adopted here, enables more measured release of project funds.' It certainly does not seem to have affected quality, yielding a high-tech finish both client and architect are happy with. ●

Creating a full-colour experience

Selecting the right colours enables architects and designers to devise spaces that do not just look great but are functional and accessible, and tools from Dulux Trade make that process a whole lot easier



Bringing colour and inclusivity to spaces

With so many options to choose from, it can be difficult to decide which colours to use, and where to place them. To help architects, specifiers and designers create functional and inclusive spaces that are also beautiful, Dulux Trade has a range of colour tools available. In this article, Dawn Scott, senior colour designer at Dulux Trade, explains more.

Colour and Contrast Design Guide

Dulux Trade's Colour and Contrast Design Guide is a digital tool that helps professionals create designs that are functional, inclusive and compliant with the visual contrast guidelines set out in the Building Regulations Approved Document M, volume 2, and British Code of Practice: BS8300-2:2018. It enables architects, specifiers and designers to create and save colour schemes, share them with clients, or print them for reference.

Colour Schemer

The Dulux Trade Colour Schemer can be used to create and visualise colour schemes for projects across any sector. After selecting a specific sector, users can choose whether they want to 'be inspired' with ready-made colour schemes or

create their own mood board. There is also an option to ensure compliance with the Equality Act 2010, by creating contrast to aid visually impaired people.

BIM colour plug-ins

To ensure that specifications accurately represent the designer's vision, it is vital to include as much detail as possible. With Dulux Trade's full range of BIM colour plug-ins, professionals can add preferred paint colours to specifications quickly and easily.

The plug-ins are free to use and compatible with AutoCAD, Revit and Sketchup. These colour tools have been designed to help architects, specifiers and designers plan beautiful and inclusive colour schemes for their projects. ●



To find out more about these tools, scan the QR code or visit: specifier.duluxtradepaintexpert.co.uk

For additional support, specifiers can also get in touch with one of Dulux Trade's expert team of colour consultants: duluxtradepaintexpert.co.uk/en/content/dulux-trade-commercial-colour-service-consultants





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*The review for implementation of Schedule 3 to The Flood and Water Management Act 2010, January 2023

The Forge, Upton Park, uses an innovative Blue40 Roof System that restricts and delays runoff from the site, equating to 60% of the equivalent green field flow rate.

ARCHITECT | RM_A

Photo: Ben Luxmore



Beyond the rustic exterior

Harrow Arts Centre's new Greenhill Building, which replaces a dilapidated Portakabin, combines low-carbon structural elements with a no-nonsense fibre-cement cladding that pays tribute to its site's agricultural legacy, explain its architects Chris Dyson and Mathew Witts

The Greenhill Building at Harrow Arts Centre (HAC), by Chris Dyson Architects, is a fully cross-laminated timber (CLT) two-storey events space in north-west London. This method, which was more typical in education and commercial buildings when it was proposed in 2019, was chosen as an affordable, low-carbon alternative to structural steel. The entire main build, lightweight and fabricated off site, was completed in under nine months.

The building replaces a crumbling Portakabin to the rear of the arts centre's grand Grade II-listed Elliott Hall. It provides the spaces for yoga classes, art clubs and celebrations which the local community asked for during consultations, and supports HAC's financial sustainability ambitions. The design is inspired by the site's legacy of agricultural buildings, which informed the L-shaped plan around a 'yard' and the red corrugated facade, made from a fibre cement more often found on farms.

→ Agricultural cladding

The building is clad in Eternit's standard corrugated fibre cement sheets, which were cut to shape and installed on site. Panels overlap by 150mm, with visible joints masking the seams beneath. There are two sizes specified: a standard height/width, and wider version.

We used a long panel on all the corners to stretch to the centre of the windows, then standardised panels everywhere else. In that way, it looks like every structural bay is divided by two and the joint is visible at the centre line of each bay. It's a straightforward material to apply (and remove for repairs), which is why it's so popular for farm buildings.

Installation required no specialist teams or equipment; our carpenters fitted the panels directly, screwing them onto battens with great care and, despite it being such a basic material, with careful attention to detail. This included dipping the silver screw heads in paint matched with the cladding.



The facade system layers CLT structure, insulation, timber fire break, and a waterproof membrane beneath the corrugated exterior, and the junctions are capped with powder-coated aluminium to provide durability and a more polished edge.



↑ Windows

The building was designed for a high degree of flexibility. Although we started with larger windows on the first floor, we reduced them to enable the main upstairs studios to be subdivided along the central beam if needed. Each space would then have a north-facing rooflight and an openable window, avoiding the need for mechanical ventilation.

To bring extra daylight into the building, we designed a large window to follow the profile of the staircase, using only two irregular-shaped panels. The project was won through a competition, but planning and delivery coincided with the Covid-19 pandemic when material costs rose significantly and the



2019
Appointment year

21,030m²
HAC campus area

460m²
GIA

£1.8 million
Budget

9 months
Base build construction

93%
Estimated reduction in CO₂ emissions per year
from Building Regs part L baseline

design team had to be pragmatic and inventive to keep the building within the council's budget. The windows are standard, off-the-shelf products (Westcoat System aluminium/timber composite), and the rooflights are Velux – and because these were integral to the whole-building natural ventilation strategy, they weren't value engineered.

↙ Drainage

The roof is coated in grey Sarnafil membrane, and collects and channels water into a spitter above the gutters that drains straight into a new tank we created to address a longstanding problem with flooding on the site.

Downpipes, like the facade's other metal components, were of particular interest to Harrow's design and conservation officers. At first they asked for all external metalwork to be white, the colour used across the rest of the HAC campus, but we felt the cladding of our building, being agricultural and bolder in colour, did not suit this more Victorian, domestic treatment. We were also aware the cladding would fade over time so we wanted a neutral colour to complement the facade as it weathered – as a result, we chose anthracite grey.

We also wanted all the metal components to match each other. The facade had to be cost-effective, so restricting ourselves to a handful of colours and textures gave us more control over its final appearance. To standardise the project's metal

components, we specified downpipes of PPC-coated aluminium, the same material as the parapet cappings and the external faces of the windows.

↓ CLT envelope

The form of the building is a pure expression of its design and structure. The choice to construct it entirely from CLT was driven by cost efficiency and the low-carbon environmental strategy.

The structure was prefabricated to precise specifications and rapidly assembled inside a cube of scaffolding – it went from a concrete slab to an enclosed structure in around two weeks. This accelerated timeline cut construction costs by minimising on-site labour, as a conventional brick and steel frame building would have added five months.

Yet we had to find savings elsewhere. Working with engineers and fabricators, we managed to reduce the amount of timber by 25 per cent by adjusting dimensions of beams and heights. To cut costs further, we used non-visual grade timber, which hasn't had its knots and stains smoothed out. Outside, this is covered in cladding, but internally, we revealed it to show the life of the wood. ●



Credits

Architect Chris Dyson Architects

Client London Borough of Harrow on behalf of Harrow Arts Centre

Structural, civil and MEP engineer Webb Yates

Landscape Kinnear Landscape Architects

Signage and wayfinding Studio Emmi

QS and contract administrators PT Projects

ALMA VERT

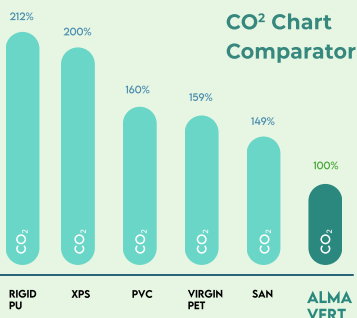
ALMA VERT is a thermal bridging block made from raw materials derived from production waste sources, primarily recycled PET plastic. Once the product reaches the end of its life cycle, it can be recycled for reuse, contributing to a circular economy.

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The Alma Vert bridging blocks in different density classes (**115 kg/m³**, **200 kg/m³**, and **350 kg/m³**) are designed for various applications depending on both the structural and thermal requirements.



KEY ADVANTAGES, ALL IN ONE PANEL STRENGTH, INSULATION, PROTECTION

KEY FEATURES

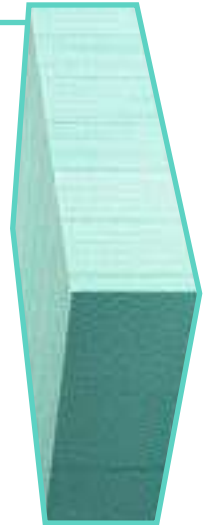
Environmentally Friendly: Made from 100% recycled materials, contributing to sustainable building practices by supporting circular economy principles and reducing CO₂ emissions.

Moisture Resistance: Closed-cell foam structure that prevents moisture ingress, reducing the risk of thermal degradation and extending the lifespan of the insulation.

Breathable Material: Permeable to water vapour diffusion, helping prevent condensation and promoting healthier indoor air quality.

Lightweight: Easy to handle and install, reducing transportation and installation costs while speeding up construction timelines.

Customisable Sizes: Available in various thicknesses and dimensions, providing design flexibility for a wide range of building applications.



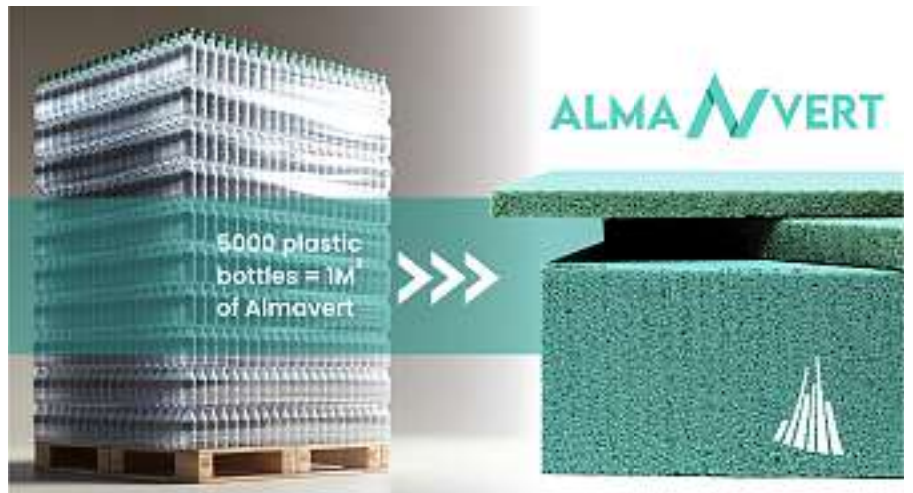
ECO 



BLOG POST



The Importance of Addressing Thermal Bridging in Retrofit Builds





Going in at the deep end

When De Matos Ryan was asked to create extra family rooms at a Grade II-listed country hotel, it devised a stone and timber-framed pavilion on the site of an old swimming pool, writes Andrew Pearson

A new bedroom extension at Cowley Manor, a country house hotel in the Cotswolds, places a contemporary masonry pavilion on the site of a long-lost ballroom. It features a structural timber frame and solid facades built using local stone to minimise environmental impact; the stone's arched and scalloped stone bays are a contemporary reinterpretation of the Italianate frontage of the main house.

Inside, five guest rooms feature timber-lined walls that reimagine the carved wood panelling, long since lost, that would have adorned the lavish reception rooms of the original house.

How did De Matos Ryan come to be involved with this extension to the Grade II-listed country house hotel?

We were first involved with Cowley Manor in 1999, when new owners wanted to turn it into a hotel. At the time,

it was a nursing home. Historically it had been the home of James Horlicks, of bedtime drink fame – it wasn't built for him but he invested in the property, doubling the size of the house and adding a ballroom.

In 1928, under new owners, the ballroom was demolished to create a courtyard swimming pool and terrace. This was later filled with gravel and fenced off when the property became a nursing home. We did a complete reimagining of the manor house to create a country house hotel within the 55 acre Grade II*-listed parkland.

How did you decide on the location for the new pavilion?

Post-pandemic, the owners wanted to add more family rooms. We suggested a pavilion on the site of the former swimming pool, which we felt was possible from a planning

and conservation point of view. The Cotswold stone walls of the swimming pool courtyard had also been built incorrectly, causing them to spall so badly they were impossible to repair.

The conservation officer wanted the courtyard walls taken down and

Above Self-supporting stone is tied back to brick at ground-floor level, and to timber at the first floor.

Below The pavilion aims to be a modern interpretation of the Italianate manor.



HIMACS wraps the Drum at Sheffield Uni

HLM's mini-campus building for the University of Sheffield is clad in 500 sheets of HIMACS solid surfacing, catching a fascinating interplay of shadow and light

HI·MACS

The Drum is the heart of learning and socialising in the Wave, HLM Architects' 16,600m² building for the Faculty of Social Sciences at the University of Sheffield. Its inviting, organic form at the centre of a light-flooded atrium benefits from 500 sheets of HIMACS solid surfacing in Alpine White, catching a fascinating interplay of shadow and light throughout the day. Over 1,300 individual sections of HIMACS were thermoformed to precise shape by fabricator 3G Joinery & Shopfitting, with over 80 different radii to create a sleek and seamless aesthetic.

Amy Hipwell, interior designer at HLM Architects, explains why HIMACS was the clear choice for the project: 'The cladding material needed to be durable and low maintenance with the ability to be curved and appear seamless. This central feature of the atrium is not only visible from every area within the Wave but it's also accessible from every level.'

The Wave was built to meet future growth and provide a world-class, sustainable, inspiring and collaborative environment. A mini-campus, it has brought together faculties from 18 separate buildings into one cohesive space, with the Drum at its core. Its elliptical form comprises three levels of lecture theatres, surrounded by



Above The elliptical Drum section of the Wave building benefits from the complex thermoforming capability of HIMACS in Alpine White.

Below The UV resistance and easy-care durability of HIMACS mean that the curvaceous cladding will look good for the long term.



VOX MULTIMEDIA

mezzanines with breakout facilities.

Amy adds: 'The concept focused on wellbeing and the use of natural materials. The cladding needed to contrast against these softer finishes. With the amount of daylight through the atrium roof, it was important that the colour wouldn't be affected over time. It became clear that this was the right material, as it would still look impressive in years to come.'

HIMACS is renowned worldwide for its spectacular facades. Its capacity for complex thermoforming makes it ideal for curvaceous projects and truly exceptional architecture. Hardwearing, durable, fire-resistant and silica free, HIMACS has an outstanding safety profile together with valuable performance and maintenance benefits. Non-porous and resistant to stains, graffiti and UV light, and joined with inconspicuous seams, HIMACS offers unbeatable hygiene and clean air properties, guaranteed by certifications complying with LGA, NSF international standard and Greenguard. ●

Designer and architect: HLM Architects
Fabricator: 3G Joinery & Shopfitting Ltd
HIMACS Supplier: James Latham
Material: HIMACS cladding in Alpine White S028
[@himacseurope](http://www.lxhausys.com/uk)

built afresh. Our view was that this was rebuilding for the sake of rebuilding – it would have been a costly, unsustainable exercise without adding value to the building. So, rather than rebuilding the stone wall, we set out to build a new building that would complement the character of the listed manor.

We gained permission to erect a two-storey pavilion using the swimming pool's footprint. In 2022 the hotel was sold to the Experimental Group, which gave us the go-ahead for the extension.

How do you overcome the challenges of building on the site of a former swimming pool?

There are concrete ground beams that span across the former pool, part-supported on the original structure. These support a new concrete ground floor slab supporting a relatively simple two-storey structural timber frame of sustainable, UK-sourced Douglas fir.

Designed by Price & Myers, the timber is married with structural steelwork portals at the ground floor front to support the stonework wall of the floor above. It would have been easier to use steel throughout, but we wanted the building to have a sustainable, low-carbon, natural aesthetic. The frame was prefabricated at Timber Workshop's Devon premises, brought to site and assembled in about eight days. It is independent of the outer stone box in terms of differential movement.

Why solid stone walls?

The stonework is, in effect, a ready-made, low-energy material, which forms the building's self-finished and self-supporting external skin. Initially, from a cost point of view, we proposed building the pavilion in cast stone. But the conservation officer was against that approach. Their view was that the pavilion was integral to the existing building, which was built from solid stone, and that the pavilion should be constructed in the same way. In hindsight, I'm pleased they thought so.

On a sunny day, light and shadow play on the pilasters and carved arches of the original building's facade. We

wanted our building to have depth too, so the front and side walls on the first floor feature scalloped bays complete with solid-stone, load-bearing, arched openings at the front supported on solid stone piers. This is not thin cladding – some stones are more than 500mm deep.

How are the walls constructed?

From ground to the first floor parapet, the walls on all four sides are full-filled cavity construction, consisting of a self-supporting stone outer leaf tied back through insulation to a blockwork inner leaf, which carries the loading from the upper stonework walls.

Above the parapet on the first floor there is no blockwork inner leaf, so the scalloped stonework of the front and side outer walls is supported on 650mm deep coping stones set on top of the parapet wall. Here the stonework is tied back to the timber frame. There is a gap between the stonework and the Tyvek membrane that wraps around the insulated timber construction of the inner leaf.

Scalloping the pavilion's upper walls and pulling them back from the



PATRICK LOQUENEUX

Above Arched openings show the thickness of the load-bearing stone wall, with some blocks measuring 500mm deep.

Below This approach is counterpointed by the pavilion's structural timber frame being on full display internally.



DE MATOS RYAN/HUFTON+CROW

The first balcony with an EPD

Sapphire Balconies has introduced Environmental Product Declarations (EPDs) covering all stages of the balcony life cycle and providing an in-depth analysis of its products' environmental impact



SAPPHIRE BALCONIES



SAPPHIRE BALCONIES

With the navigation of building safety regulations and meeting sustainability goals creating an ever-more demanding construction environment, sustainability needs to be at the forefront of our minds from concept to completion. With this in mind, Sapphire Balconies has taken a bold step in becoming the first in the balcony sector to provide Environmental Product Declarations (EPDs) covering all stages of the balcony life cycle.

What is an EPD?

Environmental Product Declarations are third-party verified documents that communicate transparent and comparable information about the environmental performance of products. They provide detailed information on the life-cycle environmental impact of a product, including information on the production process, materials used and waste generated. By providing an objective, comprehensive and comparable assessment of the environmental impact of a product, EPDs help companies and consumers make informed decisions and take actions to reduce their environmental footprint.

Left Sustainable balconies at One Lime Street, Dublin.

Above Offsite manufactured balconies in storage.

Why is it important that balconies are EPD verified?

Sapphire took the bold step of becoming the first company in the balcony sector to create full EPDs covering all stages, from the cast-in anchor to the full balcony, soffit and balustrade. We remain committed to continued research and creating new EPDs for each new generation of balcony products we create.

By being transparent about the environmental impact of our products, we hope to drive positive change in the construction industry and encourage others to follow suit. We have created separate EPDs for our thermally broken balcony anchors and Cassette® Balconies. These EPDs provide an in-depth analysis of each product's environmental impact, allowing customers to understand the impact of their material choices and balcony method.

What's next?

Sapphire's cross-departmental team is dedicated to achieving sustainability goals across our entire product line and EPDs are a colossal move towards true transparency in the external envelope space.

For more evidence of our sustainable product line, visit our website to learn about Sapphire's Next Generation suite of balconies: <https://balconies.global/our-product/the-next-generation-balcony/>

perimeter to create a first floor balcony made our lives harder, so the arches are built up from precast concrete beams supported by the steel-strengthened portal sections of timber frame.

The ground floor walls are flat. The stonework arches are self supporting, but the blockwork inner leaf is supported above the arches on concrete lintels. At the rear, we took down the spalled stone courtyard wall and put up a new blockwork wall, stone-faced to cut costs.

Where did the stone come from?

This is a solid masonry box driven by planning. Having to work with stone made us think this could lead to a more sustainable building. Farmington Masonry used stone sourced from the nearby Hartham Park quarry. It had the CNC technology to shape the stonework and the masons to install it. We didn't do embodied carbon calculations because there was no other material option and no quarry closer that was able to supply the large dimensioned blocks.

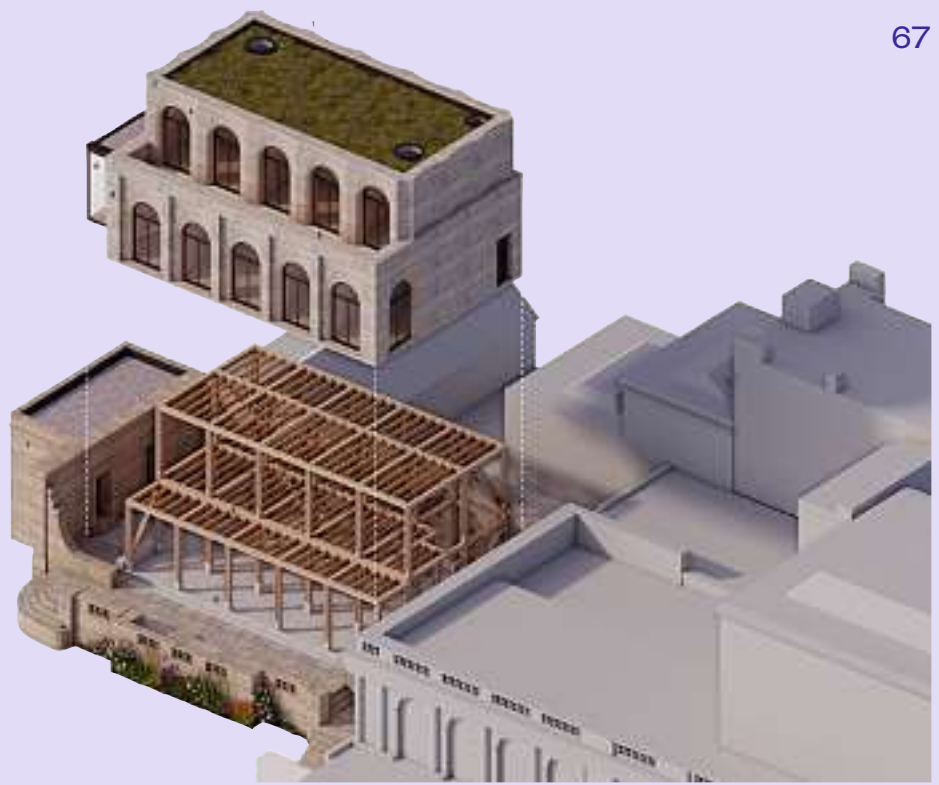
The stonework is contractor-designed – how much input did De Matos Ryan have into its appearance?

Call us control freaks, but we drew every stone. One of the things we were keen on was that this building related to the main building. When they first extended the manor house, they did not change the stone coursing. Our building follows the same course lines as those of the existing building. The stone's vertical rhythm is also based on the existing – as are the quoin stones of the arches.

The stonework contractor's fabrication drawings did include some slight modifications, but these were only to make construction of the wall more straightforward.

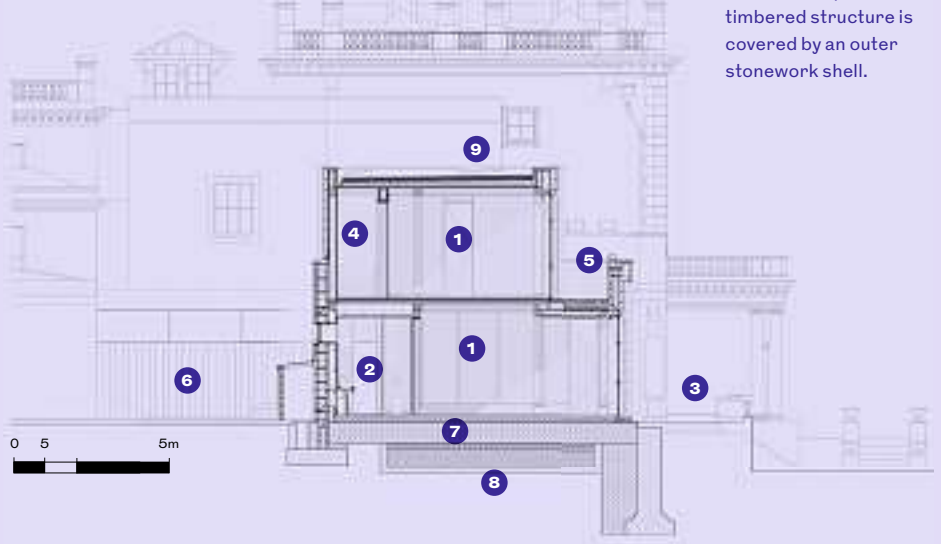
With so much stone, how did you meet Part L of the Building Regulations?

The building is highly insulated. The thickness of insulation exceeds that required under building regulations. The envelope's thermal performance is calculated up to the Tyvek membrane. The solid stone wall, meanwhile, is simply an outer shell.



DE MATOS RYAN (2)

Cross section



Above A simple timbered structure is covered by an outer stonework shell.

Why line the rooms in timber?

Historically a lot of the rooms in the original house were timber panelled. In trying to move away from the generic and ubiquitous plasterboard/painted wall finish for our low-carbon timber-framed building, we decided we wanted a timber internal finish without the need to paint, decorate and skim.

The walls are finished in maple-veneered engineered plywood. Birch ply provides the decorative finish between joists. All the timber is finished with a Class O-rated Envirograf clear intumescent paint coating. This does add a slight white tint, which helps unify the different timbers used. ●

- 1 Bedroom
- 2 Bathroom
- 3 Terrace
- 4 Stairwell
- 5 Balcony
- 6 Service yard
- 7 Concrete floor slab on RC beams
- 8 Former swimming pool below
- 9 Rooflights

Above Cross-section showing the timber-frame and stonework walls. The original Italianate manor, which inspired the design, can be seen beyond.



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Costed

Nicola Sharkey, UK insights and research lead at Gleeds, advises on product costs

There are key considerations when selecting cladding to ensure compliance, safety, sustainability and aesthetics.

With increasingly stringent regulations, particularly around fire safety, choices must align with legislation and best practice. Building height is a critical factor: since 2018, combustible materials have been banned on the external walls of buildings over 18m, with a near-complete ban on facades of buildings above 11m from 2022. Restrictions apply to buildings that contain flats, hospitals, residential care premises, boarding school dormitories, student accommodation, hotels, hostels and boarding houses. Cladding must meet fire safety classifications, European Class A1 or A2-s1, d0.

The government has set a deadline of 2029 for the remediation of unsafe cladding, with legal consequences for non-compliance including fines or criminal sanctions. Buildings over 11m must be remediated or have an approved remediation plan with a confirmed timeline in place by this date, while all higher-risk buildings (18m and above) in government-funded schemes must be fully remediated within the set timescales.

Sustainability is also a critical factor. Cladding systems can lower energy consumption and reduce carbon footprints through better thermal insulation, reducing heating and cooling demand. Materials of high recycled content can reduce waste, while natural materials such as FSC-certified wood support responsible resource use. Some materials, for example metal, can be recycled at the end of their life cycle, supporting the circular economy.

The rates below cover the supply and installation of cladding. These rates are based on the UK average for Q1 2025, and represent typical pricing, although actual costs may vary depending on specific requirements.

PANELLED WALLING	£ each
Precast concrete panels; including insulation; lining and fixings generally 7.5m x 150mm thick x storey height	
Standard panels	340-410/m²
Reconstructed stone-faced panels	400-500/m²
Brick-clad panels (prime cost £350/1,000 for bricks)	390-480/m²
Natural stone-faced panels (Portland stone or similar)	750-1,100/m²
Marble or granite faced panels	950-1,500/m²

TILES	£ each
Concrete plain tiles; including battens and underlay	55-80/m²
Clay plain tiles, machine-made; including battens and underlay	55-75/m²
Fibre cement artificial slates; including battens and underlay	55-80/m²
Natural slates; including battens and underlay	140-200/m²

RAINSCREEN	£ each
Tongued and grooved tanalised softwood boarding; including timber battens 25mm thick to walls	60-80/m²
Western red cedar timber shingles, preservative treated in random widths; not including subframe or battens	
To walls	80-100/m²
Western red cedar tongued and grooved wall cladding on and including treated softwood battens on breathable membrane, 10mm backing board and 50mm insulation board, fixed to Metsec steel frame system, including sealing all joints etc	
26mm thick wall cladding; boards laid horizontally	140-160/m²
High pressure laminate single skin cladding with secondary support/ frame system, including adhesive fixed panels, open joints, insulation and aluminium subframe	
8mm thick panels	325-425/m²
Terracotta cladding, including insulation, vapour control membrane and aluminium support system	
400 x 200 x 30mm tile cladding; to walls	450-650/m²

CURTAIN WALLING	£ each
Stick curtain walling system; proprietary solution. Polyester powder coated solid colour finish. Floor to ceiling glass sealed units with 6 mm low-e coated toughened inner pane, air filled cavity and 6mm clear monolithic heat strengthened outer pane, retained by external pressure plates and caps. Includes glass-fronted solid spandrel panels, all brackets, membranes, fire stopping between floors, trade contractor preliminaries and external access equipment	
Flat system	450-525/m²
Extra over for:	
High performance coating in lieu of low-e coating (to assist in solar control)	65-75/m²
Inner laminated glass to be heat-strengthened laminated (to mitigate thermal fracture risk)	65-75/m²
Outer glass to be heat-strengthened laminated in lieu of monolithic heat-strengthened	65-75/m²
Ceramic fritting glass on surface	75-85/m²
Flush glass finish without external face caps	75-85/m²
Typical coping detail	400-450/m
Typical sill detail	325-375/m
Intermediate transom (per transom)	75-100/m
Unitised curtain walling system; proprietary solution. Polyester powder coated solid colour matt or natural anodised finish. Floor to ceiling glass sealed units with 8.8mm low-e coated laminated inner pane, air filled cavity and 8mm monolithic heat strengthened outer pane, retained by external beading system. Includes solid spandrel panels, all brackets, membranes, fire stopping between floors, trade contractor preliminaries and external access equipment	
Flat system	1,400-1,600/m²
Extra over for:	
High performance coating in lieu of low-e coating (to assist in solar control)	65-75/m²
Inner laminated glass to be heat strengthened laminated (to mitigate thermal fracture risk)	65-75/m²
Flush glass finish without external face caps (often referred to as structural silicone glazing (SSG))	90-100/m²
Typical coping detail	400-450/m
Typical sill detail	325-375/m

Reach for the sky

Human expertise combines with advanced manufacturing techniques to create The Rooflight Co's products, as featured in numerous award-winning buildings

Right People – and their skills – have been at the core of The Rooflight Co's success, rewarded by the fact that it is now employee-owned

A clear view up to the sky and a space flooded with daylight – even in the most constrained locations. These factors have turned rooflights into one of the most aspirational features of new builds and refurbishments. It's why they can be seen in a string of award-winning projects, from Henning Stummel's Tin House in London's Shepherd's Bush to Ann Nisbet's Cuddymoss in rural North Ayrshire.

'You can realise design possibilities with toplighting that you can't get with windows,' explains Peter Daniel, innovation director at The Rooflight Co.

Tin House and Cuddymoss are just two of many projects undertaken by The Rooflight Co. Whether heritage or contemporary, bespoke or standard, pitched, flat or walk-on, all their rooflights are made at its base in the Cotswolds. Design and manufacturing teams combine their human expertise, oversight and hand finishing with advanced manufacturing technologies.

'Our approach is all about attention to detail, about doing things the right way,' says head of architectural insights Keeret Eden. 'We've brought a lot of processes in house so that we can control quality.'

The company, officially registered as

The Metal Window Company but trading as The Rooflight Co, is best known for its authentic steel recreations of Victorian cast-iron rooflights. It was the need for such a product for his own designs that saw architect Peter King, working with wife Val, create the Conservation Rooflight and the firm that made it. That product remains a mainstay of the business, sold in its thousands each year. The company's broad expertise in the heritage sector has led it to work on such individual projects as the Victorian Derby Roundhouse, for which it made 48 bespoke trapezoidal rooflights, and, more recently, Rochdale Town Hall, Blenheim Palace and St Anne's College, Oxford.

The Conservation range has been joined by the Conservation Plateau, a flat-roof product for heritage applications, the Neo contemporary flush-fit rooflight and the aluminium-framed Neo Advance, the contemporary flat-roof counterpart and its walk-on Skywalk+. The company has, meanwhile, gone through its own evolution. In 2019 Peter and Val King stepped away from the business, placing it in the ownership of its 40 employees.

The company's foundational values have shaped its approach to working with

designers. 'Architects have very different needs,' says Eden. 'Some are interested in Passivhaus, some in heritage applications and some in premium contemporary solutions.' But, she adds, for almost everyone, sustainability is key.

The company's sustainability is confirmed by its Planet Mark and BCorp statuses. Having design and manufacture on site helps the firm's committed employee-owners to bring a focus to all aspects of product and performance. Low-e glazing and argon gas cavity fill result in whole-window U-values between 1.0 to 1.4W/m²K, but the company's ability to tailor its products allows it to produce triple or even vacuum-glazed rooflights. 'Whatever the architects' vision, we'll work with them to realise it,' says Daniel. ●



THE ROOFLIGHT CO.



1 HANDS-ON DESIGN

For bespoke rooflight solutions, the company's designers review a project's parameters and create an early design. Working in Onshape and SolidWorks, they consider factors ranging from aesthetics and planning constraints to performance requirements, installation and access. The design team can tweak or combine classic designs to create individual solutions or turn to the firm's library of past designs for prevalent features like pyramids. 'For more complex projects, we design from scratch, modelling in detail and using that information for manufacture, working closely with our fabricators,' explains design manager Kathryn Müller.



2 THE COATING PROCESS

Frames arriving from the Stoke-on-Trent based fabricator are inspected before being shotblasted and cleaned to give a good, dust-free surface. A 70-micron primer coat layer is spray-applied and the frame oven heated at 185 degrees for eight minutes to melt and bond the powder coating. Once the frame cools, its topcoat is applied in the same way. Paint thickness is measured at every stage. 'Our minimum is 140 microns on a finished frame, but I typically achieve between 180-190 microns,' says expert manufacturing technician Dicki Sollis. Blacks and greys are the most popular coating colours but the company has met orders for reds, yellows and blues.



3 GLAZING

Insulated glazing units are entirely made in-house to assure their BSI Kitemark status. First, the glass is washed, dried and checked to ensure it is blemish-free. Then the aluminium spacer bar separating the glass panes is half-filled with desiccant and fitted to the primary seals and inner and outer glazing. This creates the cavity, which is 90 per cent filled with argon gas. The company uses two types of edge seal: structural silicone for contemporary applications and hot-melt for heritage. The workshop's output extends to 3m-long and walk-on units with a standard insulated glazing unit being made in just eight minutes.



4 CNC CUTTING

The aluminium-framed Neo Advance rooflights are manufactured in-house from patented extrusions. Fixing-holes, vents and other essential openings in the frames are drilled using advanced CNC technology, which works to an accuracy of 0.1mm. Under the design-for-manufacture approach, each element of the rooflight is equipped with a unique job number, which unlocks all relevant information. The machine can then be programmed with the precise number, type and dimensions of openings it must cut, and how it must position the jig blocks needed to cut different profile types. The process is managed by a single operator.



5 FINAL ASSEMBLY

Rooflight elements are now ready to be assembled into integrated units. As glazing units can be quite large, vacuum lifting gear is routinely used for safe handling. For contemporary aluminium designs, the thermal barrier is bonded to the frame before the insulated glazing unit is lowered into position and structurally bonded into place. A final application of a structural weather seal neatly completes the rooflight ready for final quality-control checks. A similar process is employed for steel rooflights.



6 FINISHING DETAILS

Visual authenticity is critical for heritage rooflights, as is thermal performance. The Victorian-style glazing bars of the Conservation products are therefore purely aesthetic, presenting no risk of heat loss. Bars are added for an authentic look inside and out. As a final detail, the silicone sealant is hand-trimmed to recreate the effect of traditional putty. 'Because the silicone is hand-finished, each rooflight has a unique hand-crafted touch,' says innovation director Peter Daniel. 'The closing stage is to ensure each rooflight has passed through the independently verified quality control system to ISO 9001, resulting in consistent premium rooflights handcrafted to precision.'

Opposite The Rooflight Co's Cotswold base, in Bourton-on-the-Water.

'Because the silicone is hand finished, each rooflight has a unique hand-crafted touch'

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3: Culture



Architectural historian Barnabas Calder may have brought it to wider attention in his book *Raw Concrete*, but this remote West Highland folly he termed a 'Brutalist bothy' has been part of the folklore of Achmelvich since the 1950s.

The bemused landowner who allowed eccentric Norwich architect David Scott to build it is long gone. But his daughter, who seemingly owns the caravan park nearby, remembers, as a girl, the months he spent on it – and that locals had looked on him as mad. The story goes that once it was finished, Scott spent just one weekend in his cement bed before he left, never to return; months of solitary effort salted by a lifetime of absence.

But its strange lack of scale drew Andy Stagg, who was curious enough to make the long journey north to spend a summer's day and night in its aggregate grip. With walls formed of sand and pebbles from the beach below, it can at times be hard to see where rock stops and concrete starts. But as a guide, he recalls of his first approach, openings are the size of a glass block and to its chimney it's not a fathom and a half. But a narrow, sea-facing entrance stretches tall, as if in welcome to an Isle of Lewis Calanais stone, through which dazzling reflections can briefly ripple, turning dark concrete into an Aladdin's cave of light. ●

Jan-Carlos Kucharek

Andy Stagg
Hermit's Castle, 2023

Fuji GFX medium
format camera with
Pentax 645 lens



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'Kiosks and vans bring an energy all of their own, despite a lack of plumbing, the discomfort of working them and the complexities of power and hygiene'



Learning from the temporary

The parade of food trucks on our streets has lessons for architects, argues Eleanor Young

Carnivals for me are young farmers prancing around in fancy dress on the back of a trailer. The big band plays and crowds jostle in close. There was something of this to the February farm protest filling London's Whitehall, and all roads to it, with a bright herd of tractors, trumpeting their way through the city streets revelling in their remarkably tuneful, and loud, horns.

Life on the street is often temporary and transitory – and at its best celebratory and communal. We have learned a lot from meanwhile uses, from the joyful sheds of Jan Kattein and from the outdoor eating revolution. But it feels like there is more juice to be squeezed from temporary interventions that work to signal that spaces are for people.

A recent cycle in and around Belfast Harbour was a reminder of the value of small-scale injections of life into streets and spaces that are not quite as much fun as they could be (see page 34). Next to a flyover a kiosk built of steels, plus good coffee and space to gather, puts that place onto the map; in a miserable commercial square the enclosure of that space with colonnade and bike fixing will bring life too.

I remember my first food-van food-revelation, more than two decades ago on an equally dismal parking lot on the MIT campus, just across the cold Charles River in Boston, US. Amazing pieces of architecture – by Frank Gehry, Fumihiko Maki and others – were opening around it. But it was the deliciousness from the van that drew the student crowds.

This odd relationship between the temporary and permanent is visible walking into the city in Bristol, where office blocks with apparently empty ground floors line the street. No life in there. But there is a coffee van perched on a corner, with a barista blowing on his hands in

a futile attempt to warm them. No retreating behind glass doors and insulated walls here.

Planners might exhort architects to animate their ground floors with commercial or public uses. But kiosks and vans bring a life and energy all of their own, despite a lack of plumbing, the discomfort of working them and the complexities of ensuring power and hygiene.

The economics of entrepreneurship drive these moveable, temporary-ish outlets. But it is the very fact that they are camping out, along with passers-by, that makes them accessible and convenient. They are in your face, asking to be used, in a way that often our buildings – with their focus on warmth, security and internally driven programmes – neglect.

In doing so, they miss out on the energy of interactions with their location and the people in it. There is something to learn from the parade of temporary buildings in our cities. ●

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Delve Architects' green-tiled garden studio pays tribute to the couple who commissioned it

House extension
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Below At Trafford Park, Manchester, a churros van opens up and brings light to the shade.



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It's time to go deeper

Amid the hyper-generalist era that AI is ushering in, architects have opportunities to be experts pushing for transformative change, argues Muiyiwa Oki

It's 2025, and my friend – let's call him Jose – quips, every time he's about to lose an argument, 'Let's see what ChatGPT has to say about that.' It's funny, but also a sign of the times. We live in the era of the hyper-generalist, where artificial intelligence (AI) begins to democratise information so thoroughly that everyone knows a little about a lot. Expertise, once a mountain, now feels like the movie *Holes* (2003), a landscape of shallow puddles stretching to the horizon: broad, but lacking depth.

But when everyone else is going broad, going deep has value. For me, the future belongs to folks with a focus on hyper-specific niches. It's true for culture, technology and certainly architecture. Our ability to lock in, to resist distraction, will signal purpose and clarity. That will make architects indispensable in the age of the hyper-generalist.

Take Tokyo. Unlike the many cities that have succumbed to samey global retail chains and AI-curated trends, Tokyo thrives on its hyper-specific identities. Our recent Royal Gold Medal recipient SANAA, the established Tokyo-based collaborative practice, embodies an obsessive commitment to detail that resonates beyond aesthetics. Its specificity on minimalist, human-focused space speaks to a deep understanding of architecture's power to shape society. Our values should be heading not towards homogenised skylines but towards spaces reflecting singular, evocative ideas.

Rethinking value: beyond the building envelope

Value and fees in architecture are traditionally placed as premiums based on past performance. I'd argue they need to be discounted on future revenue, growth and benefits to our clients and users.

To support this shift, we must harness new technologies and analytical tools that demonstrate this discount, and push our influence well beyond the building envelope. Our integration of advanced computational tools, generative AI and reciprocal systems analytics opens exciting possibilities. Consider the concept of policy impact analytics, a framework that leverages data-driven insights to inform policy decisions through to design outcomes. This approach not only optimises project delivery but enables architects to contribute



upstream to policymaking and planning. In this new era, our profession can extend its reach to deliver measurable outcomes, around health, environmental sustainability or social equity.

Recent events remind us of the stakes. The tragic loss, and now rebuilding efforts, following the fires in Los Angeles, California, underscores the importance of measuring and predicting the future value that transcends mere aesthetics. The real value of our work must be assessed through its long-term impact on community wellbeing and environmental resilience. This means designing buildings and places that do not only serve immediate needs but foster sustainable growth and public safety over time.

Architects are uniquely positioned to address some of society's most pressing challenges, by linking advanced design with policy impact and whole-ecosystem evaluation, to move beyond a narrow focus on physical building envelope. Reimagined through this lens, architecture becomes a vehicle to deliver transformative economic, environmental and social value.

As we enter this generative pre-trained transformer (GPT) era, I invite fellow architects and stakeholders to reimagine our role. Let us champion a model that prizes deep expertise and innovation, and is rooted in rigorous, purposeful analysis. The era of the hyper-generalist may be upon us, but we have an opportunity to be experts who shape the skylines – and the future. We can rebuild architecture as a career that is both inspiring and viable economically, socially and environmentally – where professionals can pursue personal aspirations alongside ambitions to be agents for lasting change. ●

Above Royal Gold Medallist SANAA's New Kagawa Sports Arena in Japan (2024). The practice's consistent creation of minimalist, human-focused space speaks to a deep understanding of architecture's power to shape society. See SANAA profiled at ribaj.com/sanaa.

HONORARY FELLOWS

This coming month, we announce our 2025 Honorary Fellows, a title given annually to non-architects who have made a significant contribution to architecture. Congratulations to this year's cohort, a diverse collection of changemakers whose dedication and passion continue to shape the built environment for the better.

Our Lady returns

The joy over the restoration of Paris's Notre-Dame cathedral prompts some introspection about its true meaning to France, writes Andrew Todd

Do heavily restored monuments like Notre-Dame de Paris retain their capacity to absorb and reflect collective emotions? How can such work avoid amnesia, defeating their eponymous purpose, 'monere', to remind?

Our Lady is a beautiful gem woven into the psychophysical fabric of the city and state. She is the national 'kilometre zero', the omphalos, the sacred geographical tethering-point in our constitutionally secular country. Her rootedness amplified our shock at her conflagration.

The joy at the cathedral's recovery prompts some introspection; caring for the past should involve being honest about the present. Even before the appalling 2019 fire she had reeled with historical jolts. As a secular 'temple of reason' after the revolution, her choir hosted a living lawn, like an odd land-art installation. Napoleon's auto-coronation also required heavy revision, draping the entire building with tapestries and bling – a historic site transformed for the purpose of power projection.

Victor Hugo's 1831 novel *Notre-Dame de Paris* charged the crumbling edifice with new meaning and esteem. Capitalising on this collective favour, Prosper Mérimée (librettist of *Carmen* and one of France's first inspectors of historic monuments) entrusted the cathedral's renewal to the youthful Eugène Viollet-le-Duc and Jean-Baptiste Lassus. Whereas the preceding century had ventured into the supposed objectivity of neoclassicism,

Right Lighting by Patrick Rimoux celebrates cleaned stonework and is intended to evoke the divine presence.



Viollet-le-Duc was obsessed with rescuing a specifically French quality from the medieval, adding the fanciful, retrograde flèche.

Viollet-le-Duc left a hefty conundrum for us. He singlehandedly invented the discipline of historic preservation but did so in a wildly inconsistent manner. Erudite and respectful of the past, he was also prone to megalomania. In Notre-Dame we get his care and wilfulness as an inextricable package, so compelling as to defeat the narcissistic attempts by our colleagues to make contemporary additions following the fire. Smarter voices (Nouvel, Koolhaas) bowed before it. Nothing to add, they said. Once the fanciful rooftop pools and kinky spires had been banished, the path to renewal – at least physically – was quite clear.

Much more complex – especially in France – is the question of how time is carried forward in these rejuvenated monuments. President Macron complimented Notre-Dame on a recovered 'blondness' and 'glow', characteristics that have more to do with the perky new lighting scheme than her newly cleaned grey stones; it rather sounded as if he was complimenting an older woman for fixing herself up.

One can hardly quibble with the urge to wipe off Notre-Dame's accidental soot, even if other patinas were lost in the process. However, the urge to purify and reboot to a non-existent



Left Stone vaulting has been repaired where the burning flèche – or spire – fell through.

originary point has plagued major renovations in France. Both Chartres and Paray-le-Monial now manifest a dodgy youthfulness, botoxed to the keystones and covered in slap, all features bright as a button, whether baroque or early medieval, all conversations between time frames extinguished by a presumptuous present leaning into a fictitious past.

How Notre-Dame was ritually reawakened, propelled forwards again, is therefore a question of considerable interest. Paris already had one vast medieval mystery play last year in the form of the Olympics opening ceremony, threading through the city along the river. Notre-Dame featured and was victim of an egregious elision: dancers performing on her scaffolding segued directly into malletiers assembling suitcases at Louis Vuitton's HQ downriver – to my mind, an overreaching product placement by a leading donor to both the Games and the renovation.

The Olympics ceremony was so joyously eccentric and inclusive that it is hard not to see Notre-Dame's reopening as the revenge of the



Above In bespoke robes, Archbishop Ulrich leads a service for Paris firefighters.

JULIO PIATTI

ageing white conservative male. Archbishop Laurent Ulrich battered the door with a phallic crosier sporting a huge blue bauble, a ceremonial object that bordered on sci-fi kitsch. Once inside, among world leaders, he implored the cathedral organ to 'awaken', which it did, with blasting improvised turns reminiscent of Sun Ra.

I'd like to think that the cathedral will shrug off these shenanigans. She is not a luxury product to be flaunted by patrons, or a prop for politicians; she is playing a longer, more universal game. The real protagonists of this rebirth hold axes, chisels and adzes, not camp wizards' staffs. My friends in the pseudo-holy French guild of craftsmen and artisans, the Compagnons du Devoir, raged like wounded beasts after the fire, fired up to apply their skills in the service of a higher purpose.

While the billionaire class clucked about enabling craft excellence, a vast eco-pirate hive began to buzz, enthused by the exclusive use of zero-carbon bio-materials, and fashioning handmade splices and grafts of old and new.

This was anything but Luddite: drone-gleaned LIDAR models found pertinence at scale alongside hand craft in their reconstruction work. Serendipity played a part too. While students at the Chaillot Historic Monuments School in 2014, architects Rémi Froment and Cédric Trentesaux had undertaken a hand-drawn survey of Notre-Dame's entire 'forest' roof structure, thereby allowing its identical reconstruction. Froment ended up running the rebuild job.

Perhaps the key lesson of this phase of Notre-Dame's exalted existence is prospective rather than nostalgic. If we are to adapt to the effects of our self-made onslaught on nature, our future building sites will have to look much more like this loving hands-on eco-community than assembly lines of oil-enabled, high added-value products sourced from afar. Let's hope that the vast craft kinship engendered at kilometre zero can spread across the country and beyond. ●

Andrew Todd is an architect based in France



Left The organ has its own historic listing, and a key role in the reopening with special concerts until June 2025.

Right A bronze altar by Guillaume Bardet is among new liturgical furnishings.

JULIO PIATTI



LIAM HOARAU

FAKRO GB champions sustainability with innovative eco-friendly products

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Below FAKRO non-opening triple and quadruple-glazed flat roof windows (DXF DU6/DU8). Sort Trae, Thurgoland, Barnsley. Photo: Dug Wilders Photography.

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Reducing environmental impact

From design to production, FAKRO prioritises eco-conscious practices to minimise its environmental footprint. The company employs energy-efficient manufacturing processes, reduces material waste, and adheres to strict environmental standards. Many FAKRO products also qualify for green building certifications, such as BREEAM,



Above FAKRO non-opening triple and quadruple-glazed flat roof windows (DXF DU6/DU8). Sort Trae, Thurgoland, Barnsley. Photo: Dug Wilders Photography.

making them a preferred choice for environmentally conscious architects and builders.

One notable example of this commitment is the Sort Trae Passivhaus in Thurgoland, South Yorkshire. This exceptional new-build project features FAKRO's triple-glazed flat roof windows, which maximise natural light while delivering outstanding thermal performance – ideal for a home built to Passivhaus standards. The integration of FAKRO roof windows in this steeply sloping site demonstrates how the company's products seamlessly combine energy efficiency with innovative design.

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For more information about FAKRO's eco-friendly products, visit fakro.co.uk.

About FAKRO

FAKRO is a global leader in the design and manufacture of roof windows, loft ladders and accessories. With over 30 years of experience, the company is dedicated to combining innovation, quality and sustainability to transform living spaces around the world.



Invited to create public art atop London's sewers, Nathan Coley butted against a rules-based world at odds with his own – but differences have borne fruit

Words: Flo Armitage-Hookes Portraits: Alexander Hoyles

Friction powered

'Yeah, I became a pain in the arse,' chuckles Turner Prize-shortlisted artist Nathan Coley. For nine years, Coley has been at the heart of a new 4,000m² public space on the River Thames at Blackfriars – acting both as agitator and collaborator among architects, engineers, councillors and client.

Works are almost complete, and five vertical concrete sculptures punctuate the elongated riverside site. All but one fold to traverse the ground, creating areas for sitting or stages for performing. Water cascades down the central piece, which, buckled and grooved, stands in a recessed pool. Hoarding still conceals much of the area, so I have to squint from across the river and peer down over Blackfriars Bridge.

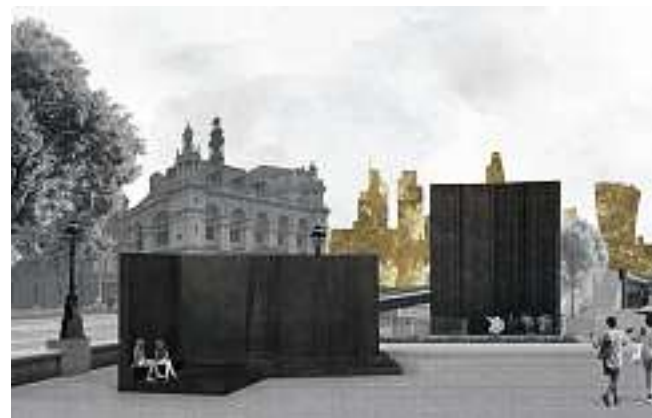
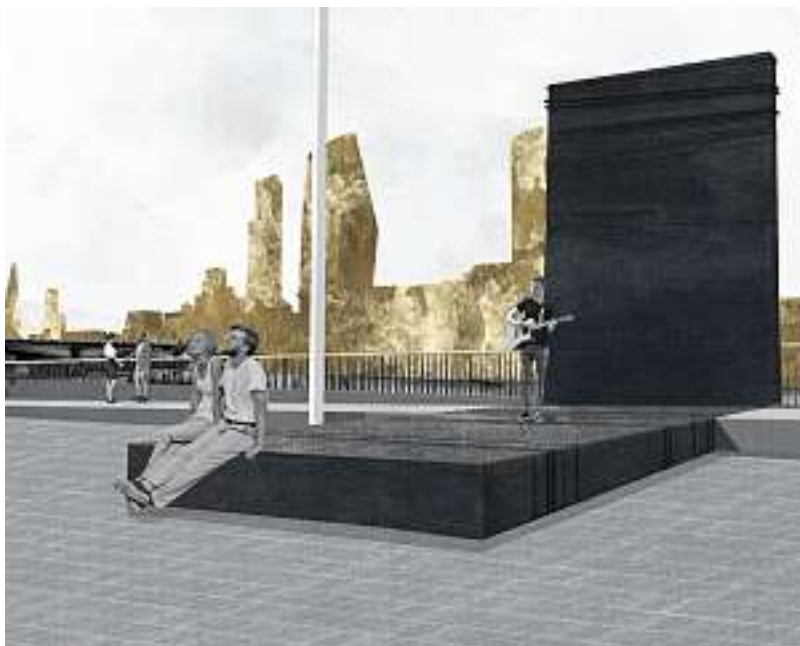
Below Concrete sculptures frame and disturb London landmarks.

Below right The pieces create spaces for sitting, playing and performing.

Two of the sculptures sit flush against the new river wall and even drop down into it, as if they've slipped. From the south side, they appear like dark rectangles which, as I walk, animate and disrupt the opulent facades behind. At certain angles, they jostle up against the Shard, Tate Modern and St Paul's Cathedral – and hold their own.

Part of the colossal £4.5bn Super Sewer project by Tideway to update London's overstretched sewer system, Bazalgette Embankment at Blackfriars is one of the largest sites created to cover, access and ventilate the new subterranean infrastructure. Hawkins\Brown was tasked with transforming these pockets into meaningful public realm: connecting users to the water, responding to the locale and commissioning artwork for each location. Coley was invited to interview for the opportunity and was interested by the chance to work with other professions over a long period and for the art, design and landscaping to develop together.

The sculptures, between 4m and 9m high, mark the otherwise silent, unseen engineering



STUDIO NATHAN COLEY (2)

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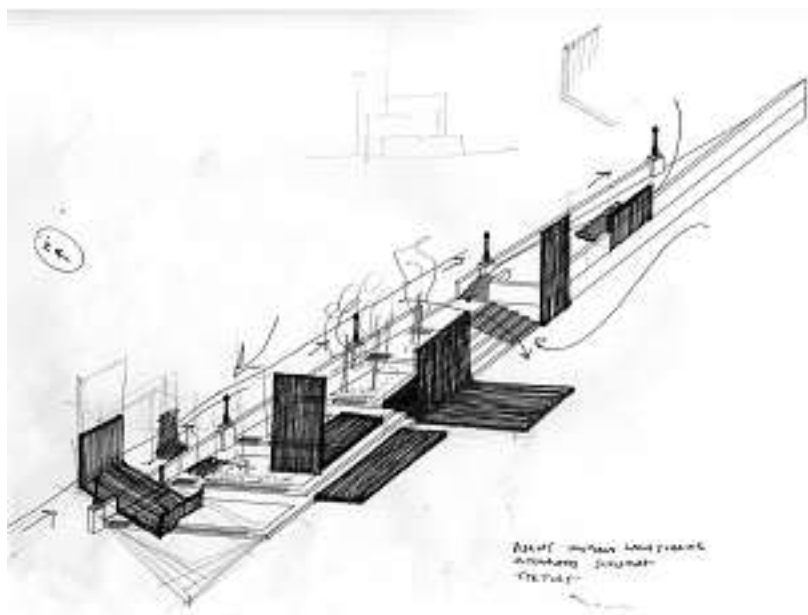
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triumph beneath. Yet they actively don't narrate it. 'I made a conscious decision early on that the work wasn't going to be about the history of the site... there's a place for that, but it's not what I'm interested in as an artist,' asserts Coley. Instead, the pieces are abstract objects that invite use and have evolved from their immediate context.

Coley isn't a stranger to architecture. He's well versed in the history and politics of public space – 'I'm the king of all that kind of stuff' – and his practice explores said spaces and structures, and how people relate to and articulate through them. Works are often sited in the public realm, whether illuminated text on scaffolding, a poured concrete bandstand or a camouflaged church. His studio includes a trained architect and sits above wood, metal and ceramics workshops. The team of three design, draw, 3D model and oversee construction, and are better-placed than most artist studios to join an architectural and engineering project. Yet, as Coley admits, Bazalgette Embankment's scale was unprecedented.

'Architecture is a profession with rules about designing and billing and time and structure.

Above left Coley had hoped a sculpture would extend beyond the site boundary.

Above right There Will Be No Miracles Here by Nathan Coley Studio, illuminated text work, 2006.

Below Bazalgette Embankment offers 4,000m² new riverside public realm.



And I've created this rather eccentric world where none of those things are fixed,' muses Coley. 'If we're really collaborating, then what are the boundaries and what are the rules?' As outsiders, studio members were not versed in the quiet conventions and expected approaches, and found themselves repeatedly in meeting rooms, around a circular table, with team leaders presenting and juniors quietly typing behind laptops. This might have made a wallflower out of meeker characters, but it intrigued and galvanised Coley.

'I got frustrated that I was looking at the world in a way which became a set of problems,' he recalls, 'so I introduced Ban the Plan'. This was a set of workshops Coley chaired that prohibited a bird's-eye view of the site. 'There's a great shot from the south of the river of how the sculptures fit with each other, in relation to the buildings behind and river in front,' he says. 'We don't learn that by looking down at or being on the site.' Coley set the agenda and hosted the meetings on neutral ground, at neither the architect's nor engineer's office. He also made a point of asking junior team members what they thought. 'I would always say, what do you think? You drew it. We came up with the idea and did a bit of a sketch, but you drew it into the BIM model.' Apparently the meetings aroused curiosity among younger architects at Hawkins\Brown, and they started dropping by.

Throughout the project, Coley tried to tease apart patterns of operating, inviting others to dip their toes into his world. Partly this was to create opportunities and space for the unexpected, partly to explain and defend his ideas, and partly – I'm certain – because of a sense of mischief.

In Coley's Glasgow studio, I run my hand over a material sample for the sculptures. Black basalt and quartz aggregate flecks and mottles the limestone concrete, creating a rough texture and seductive glimmer. The beautiful and rigorous



detailing seems to have hung on small moments of persuasion and personal appeals. Coley recounts endless interactions with engineers that began with 'Could we?', 'Why not?', 'Are you sure?' or 'Can you find a way?'. He says: 'I like to think I can look people in the eye and say, I know you work for this big multinational company, but can you and I do this together?' Often, this evoked excitement and new possibilities: the concrete was cast deeper than originally thought possible and tighter tolerances were accommodated so a groove in a sculpture exactly aligned with the river wall handrail. Other times, it was less effective. The studio wanted a sculpture to cross the site line and migrate onto the street, but planning permission won't budge. 'Rarely do you get everything you want – and maybe quite rightly,' concedes Coley.

He grins cheekily when recalling the back and forth with engineers, yet selects his words carefully at key conceptual points. He's serious about creativity and the strange moments that interest him. Daydreaming, romance and

Right Original ideas are still evident in the finished objects.

Below View of the Twins sculpture during installation, looking south.

Bottom right Coley challenged architects and engineers to think and operate differently.



STUDIO NATHAN COLEY (2)

catching ideas come up in conversation, but it's evident Coley is also spatially and ergonomically minded. Describing the site, he uses whatever's to hand – water bottles, models, his cup of tea, my phone – to communicate how the sculptures relate to each other, their context and users.

The studio has come away with a real admiration for architects and recognises how difficult it is to hold onto ideas over such a long period and while they pass through so many hands. The project has made Coley more aware of how he works and likely made others more cognisant of how they work too.

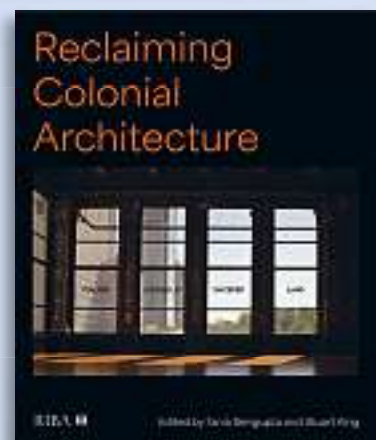
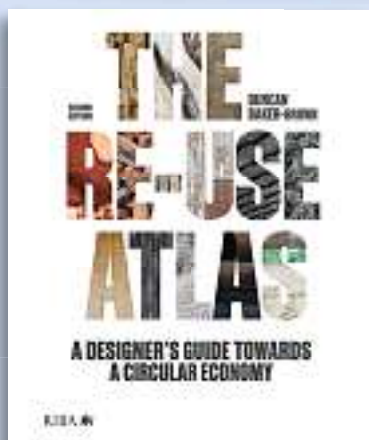
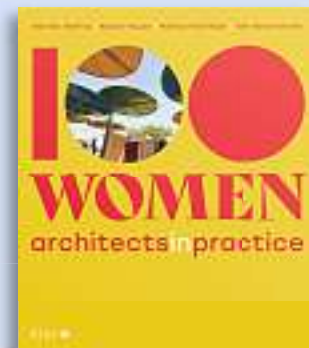
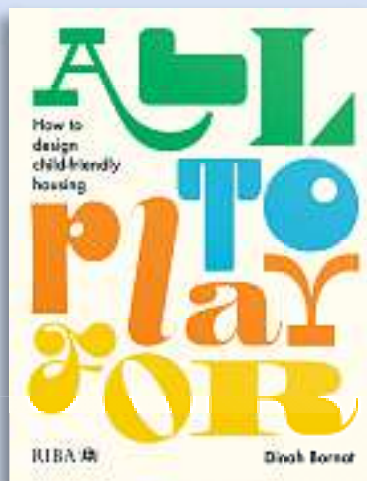
Bazalgette Embankment opens later in 2025 and is certainly an advert for artist and architect involvement in large-scale projects. What could have just been the land on top of some pipes is a generous, integrated and exciting offer to the city. It must have taken bravery by Tideway and Hawkins\Brown to invite in a provocateur and allow themselves to be challenged by Coley. They could very easily have held an artist at arm's length and dropped pre-made sculpture into pre-decided spaces. Instead, it seems, a place well worth visiting, looking at and spending time has emerged from the collaboration and the friction. ●



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The architect left his self-designed London house for Shetland where he set up his award-winning practice

CREDIT: GIBSON FAMILY



Richard Gibson 1935–2024

Richard and Victoria Gibson moved to the Shetland Isles in 1968. I am not exactly clear what initially drew them to the isles other than having a spirit of adventure. In the early years they presented a refreshing challenge to the embedded conventions and values of pre-oil Shetland. What is certain is that they brought colour to Shetland in both an abstract and literal sense.

At the time, Shetland was already a busy place with a thriving fishing industry. But no one had dreamt of the investment that was to come, and the Sullom Voe Oil Terminal was only in gestation. In later years Richard delighted in telling of the wheeling and dealing in the planning of the terminal that proved to have a massive impact on the isles.

Educated at the Architectural Association and the Slade School of Art respectively, Richard and Victoria left their self-designed London house to venture north, Richard swapping his job in Camden's architect department for the role of deputy county architect on Shetland.

A couple of years later, in 1972, he took the risk of setting up what proved to be a professionally well-respected and enduring island-based practice in Lerwick: Richard Gibson Architects, renamed Née Gibson Architects after his retirement in 2016.

Its varied body of work included urban and rural schemes for a local housing association, such as the award-winning John Jamieson Closs and Grödiens. Local authority projects included civic, education and care-related buildings. Hamnavoe Primary School was the earliest nationally acclaimed work. Conservation work was approached with respect, accomplishing sensitive community reuse for listed buildings such as Haa houses and water mills.

Richard had a rather casual unhurried air,

never pushy and always courteous and calm. He managed a remarkable alchemy of successfully entrusting employees with freedom to design and run projects with care. Like the qualities of the man, the buildings his practice produced were understated and well considered. His design approach was primarily one of integration and context rather than the more rigorous modernism of his London peers. If there is value in making comparison, then his design approach was closer to that of his late friend Ted Cullinan.

Richard's 50 years of practice in Shetland left well-crafted buildings dotted throughout the isles. They make a significant contribution to the townscape of Lerwick and Scalloway today. This is, of course, a more meaningful legacy for local people than the approval of architectural peers but Richard had that too, frequently collecting prizes for design, including the RIAS lifetime achievement award in 2010.

The Vadill housing scheme in Lerwick was to be the last project that Richard personally ran, and is a fine testimony to his skill in resolving a complex and awkward site in the town with a deceptively simple radial layout.

Richard and Victoria were very much a team. Throughout their long marriage they supported one another in his practice and her successful knitwear business. They had six children: Emma, Carn, Fred, Ben, Amy, and Rock who sadly died. The family messed with boats and played barefoot at their off-grid weekend 'Tardis' of a bunkhouse on the west coast of Shetland. Much of this converted ruined croft house was hand-built over a decade. The result is a building that has a delightful light touch – a credit to a decent, capable man who lived a good life. ●

Nick Brett is a former co-director of Richard Gibson Architects

IN MEMORIAM

Keith William Campbell
ELECTED 1954, CHESHIRE

Brian Swinburne
ELECTED 1958,
COUNTY DURHAM

Denis Anthony Thompson
ELECTED 1971, BELFAST

William Harrison
ELECTED 1979, LONDON

John Edward Coward
ELECTED 1989, CUMBRIA

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Fire Island Pines Beach House, Brookhaven, New York

Like the fictional protagonist of the recent award-winning film *The Brutalist*, many architects forced to leave Central Europe in the late 1930s to escape Nazi persecution chose to emigrate to the United States. Geographically distant from expansionist Germany and from the theatre of the imminent conflict, the country offered them safety and the opportunity to rebuild their lives and their careers. One of these architects was Austrian-born Felix Augenfeld (1893-1984), who had studied at the Technische Hochschule in Vienna and then established a successful practice with Karl Hofmann. In addition to the practice's

architectural work, Augenfeld also designed interiors, textiles and furniture. His best-known work is perhaps the desk chair designed for Sigmund Freud, whose son Ernst, also an architect, was a close friend of Augenfeld. In 1938 Augenfeld, who was of Jewish ancestry, decided to leave Vienna for London and, a year later, for New York. Most of his work in the United States consisted of interior design and furniture; among his architectural projects is the beach house he designed for himself on Fire Island, an island not far from New York City. ●

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