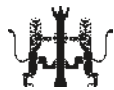


RIBA

J February 2014

The RIBA Journal

£7.95/€28/US\$30



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LSE's Student Centre café
by O'Donnell + Tuomey
Photo
Hugh Pearman



abc
Net average
circulation
27,613
Audit Period: 1/7/12 - 1/6/13

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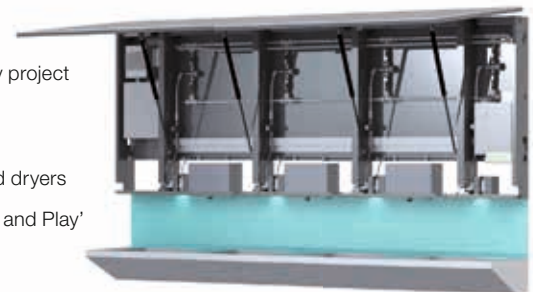
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1: Buildings

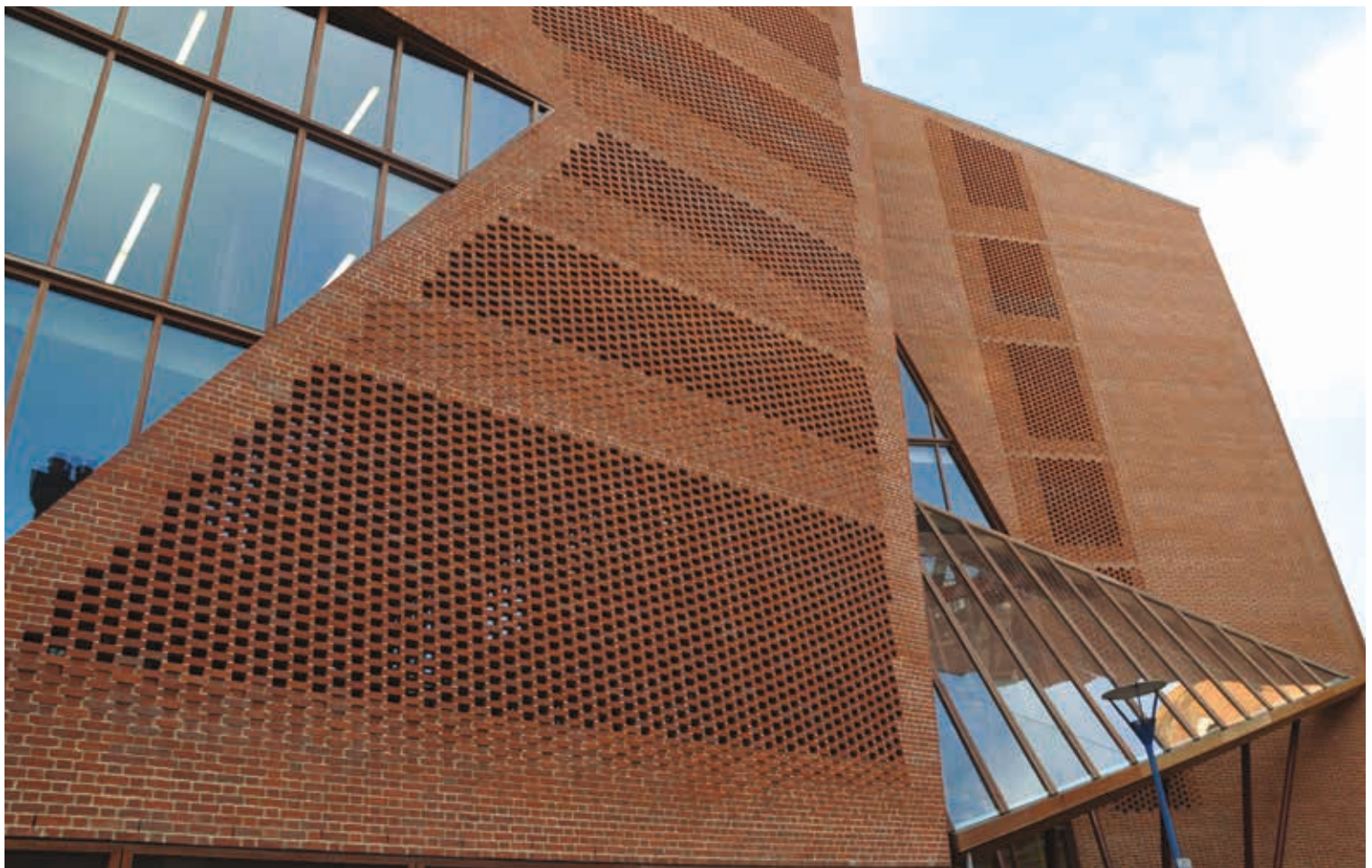
Neave Brown, of Alexandra Road fame, tells a story about an earlier set of north London homes he designed for a group of friends including Ed Jones and Michael and Patty Hopkins. Each wanted their own unique home. So with great pleasure he went to dinner with each and discussed what they wanted. Presenting the designs, again over dinner, he found his client-friends happy

with his interpretation of their brief. But one question, what do the other houses look like? Exactly the same, came Brown's answer.

At a time when designing from a distance is the norm, this is a comforting tale. If Maccreanor Lavington (page 26) gets to speak only to those who commission housing, rather than the social tenants themselves, then they have as good a chance of getting it right.

If marketers have more input into high end Mayfair flats (page 14) than their eventual well-heeled inhabitants then should that matter? But it is agreed that if designs are to really work for their users, an iterative process with those who run and inhabit the completed building is essential. And even if we, as users, may not always need anything different from our fellows, we still like to be asked. ●

O'Donnell + Tuomey's angled, intricate
and condensed Student Centre for the
London School of Economics, page 18.



HUGH PEARMAN

The Moor Market, Sheffield
Leslie Jones Architecture

Words Hugh Pearman

Main photograph Antony Oxley

The shopping street in Sheffield known as The Moor, having recovered from the city's infamous Blitz attacks of December 1940, has in recent years fallen into decline – partly due to retail competition from the city centre, partly because later development means that this now pedestrianised thoroughfare peters out near the city's ring road. Now it is being rejuvenated by majority landowner Scottish Widows in partnership with the city council and key to the plans is the new Moor Market, just completed by Leslie Jones Architecture.

Sheffield's markets are famous. Traditionally they were based at the other side of town, around the site of the riverbank castle. The Moor Market replaces the now-closed brutalist Castle Market, and is intended to draw people back to this end of the city.

This is coarse design-and-build commercial architecture but Leslie Jones – a venerable name in retail design, now rejuvenated following a management buyout – has made some key moves, not least using the site to

open up a new diagonal pedestrian route that goes some way to solving the dead-end nature of The Moor. Architecturally it is a parapeted box with standard retail units on the street front, enlivened by high-level basket-weave cladding panels of western red cedar on the other main elevations. This eccentricity is reinforced by a lean-to, gently-sloping, curving diagrid entrance to the market hall within, clad in triangular gold shingles, to flag up what would otherwise be an inconspicuous point of arrival. The market hall itself is pretty good inside – a large space of laminated timber trusses and beams. Daylight levels are good. Air handling is via yellow canvas diffuser tubes rather than the usual steel ductwork and grilles. Cables drop down to the proprietary market stalls through metal tubes.

Whatever your view on the closure of the multi-level Castle Market, the new single-level Moor Market works well – indeed was bustling with traders and shoppers the day I visited. Shopper numbers on the Moor generally were 30% up compared to the same month last year. You will look in vain for subtlety and fine detail here, but the market hall typology is by no means dead yet. ●

Below Shopping basket weave: unusual cladding detail on the market's exterior.

Below right Diagrid entrance to the market hall.

Opposite Inside, the laminated timber structure and yellow air diffusers provide a busy roofscape to the market activities.



MAGNUS WILLIS



HUGH PEARMAN







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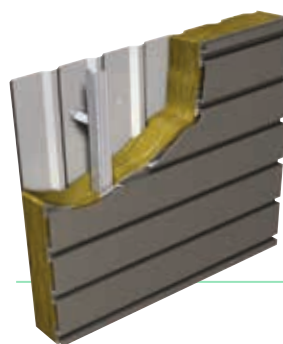
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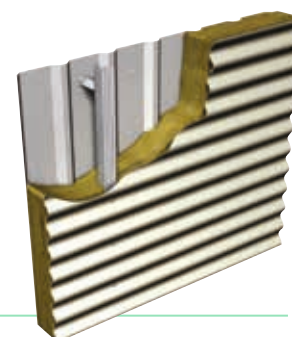
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**St Mary Woolnoth church,
City of London, 1716-24**
Architect Nicholas Hawksmoor
Photographer Hélène Binet
Words Hugh Pearman

*Unreal City,
Under the brown fog of a winter dawn,
A crowd flowed over London Bridge, so many,
I had not thought death had undone so many.
Sighs, short and infrequent, were exhaled,
And each man fixed his eyes before his feet,
Flowed up the hill and down King William
Street,
To where Saint Mary Woolnoth kept the hours
With a dead sound on the final stroke of nine.*

TS Eliot was a bank clerk, working for the Foreign Transactions Department at Lloyds in the City on £300 a year, when he wrote *The Waste Land*. At the bank he had ample opportunity to observe the masses of commuters

heading into the City from London Bridge Station. Hearing the 'dead sound on the final stroke of nine' at St Mary Woolnoth would presumably mean you were running late.

Hawksmoor's church commands a key road junction near Bank, its imposing baroque facade with stubby twin towers leading to a perfect 'cube within a cube' interior. But this photo by Hélène Binet ignores the obvious shots, instead choosing to concentrate on the private area within the tower, looking down to the bell and its mechanism. Binet, the favoured photographer of many a leading architect, works in analogue film rather than digital media, and seems particularly drawn to monochrome images with their potential for evocative contrast. In this case, she evokes not just the world of Hawksmoor but the world view of Eliot. The photo formed part of a Hawksmoor exhibition curated by Mohsen Mostafavi at the 13th Venice Architecture Biennale. ●



Late-flowering BSF

Gollifer Langston's Garden School in Hackney, London, is one of the last Building Schools for the Future projects. It's a good place to grow

Words: Eleanor Young Photographs: Tim Soar

A warm white block, with holes punched into the aluminium facade, the Garden School in Hackney is one of the last vestiges of New Labour's Buildings Schools for the Future programme. But more importantly for the autistic children of this deprived London Borough, it is a place of care and safety where visual timetables and an expertise in the pedagogy best suited to them can be administered. Architect Andy Gollifer inherited the outline for a scheme that united primary

and secondary special needs schools onto one site, among low rise Victorian terraces.

Headteacher Kt Khan might describe the children as challenging but so too were the neighbours, confronted with a bulk of accommodation and the needs of its pupils. In a move that worked for school and pupils as well as locals, play areas will be edged with insulating layers of green calm once the 32 trees and plants chosen for their sensory properties have grown. The front of the school was



Main picture A punched facade unifies staff room and main hall above a more open ground floor.

Below Primary school classrooms are sunk a little below street level in deference to the nearby terraces, but create a sense of a sheltered space (**far left**). Double height spaces in the foyer (**left**) and at the knuckle of the building bring in light and give it a lift.



brought forward to face an adjacent small park. Unlike its heavy set predecessor crouching at the back, the front terrace tucked behind a historic wall suggests openness and this is the intention – a cafe is to follow. One level up, a terrace for the 100 or so staff overlooks the park one way and low school roofs, rubble and planted brown-roof style, the other.

Inside, control is ever present in air lock delays on the front door, the minimisation of electrical sockets and a high adult to pupil ratio. But it is downplayed, with positive behaviours suggested rather than enforced by the design. A wall projecting into the classroom entrance helps reduce the sudden fearful experience of open space. Withdrawing rooms with low light and study carousels give a better chance for concentrated study. Wide corridors allow students to be accompanied by a member of staff each side if necessary. Sturdily-fenced small external spaces under

IN NUMBERS

£15.73m
project cost
(inc fees and externals)

£2,660/m²
build cost

4,923m²
gross internal area

150
pupil capacity

**BREEAM very
good rating**

**Form of contract
JCT design & build**

canopies has children bouncing off excess energy on trampolines even on a wet day. And, despite the sheer effort of creating a space and materials with it that are robust enough to withstand the daily punishment of these troubled children, there are moments of lightness and beauty throughout the building: the double height entrance, long east-west corridor for older pupils, little bits of borrowed light, good simple materials used with timber-framed curtain walling inside and warmth to the bricks. Gollifer points out that many of those materials are now off the standard list for schools use. As someone who was in on the start of more than a decade of educational investment with City Learning Centres (RIBA J February 2004, page 29), and has now seen it out, he has real fears for the future of school buildings. But while the children of the Garden School are here they will be well looked after. ●

Credits

Client London Borough of Hackney, local education partnership with Mouchel Babcock Education

Contractor McLaren Construction

Architect and landscape Gollifer Langston Architects

Structural engineer Mouchel Structures

M&E / sustainability Max Fordham

Cost consultant Cyril Sweett

Transport consultant Mouchel Transport

SEN educational specialist PSI; Liz Malcolm

Key subcontractors

Polycarbonate Duko UK

PV panels Evo Energy

Floor finishes Flood Flooring

Brickwork Grangewood

Timber flooring Junkers

Lifts Kone

Internal doors M&S

Contractors

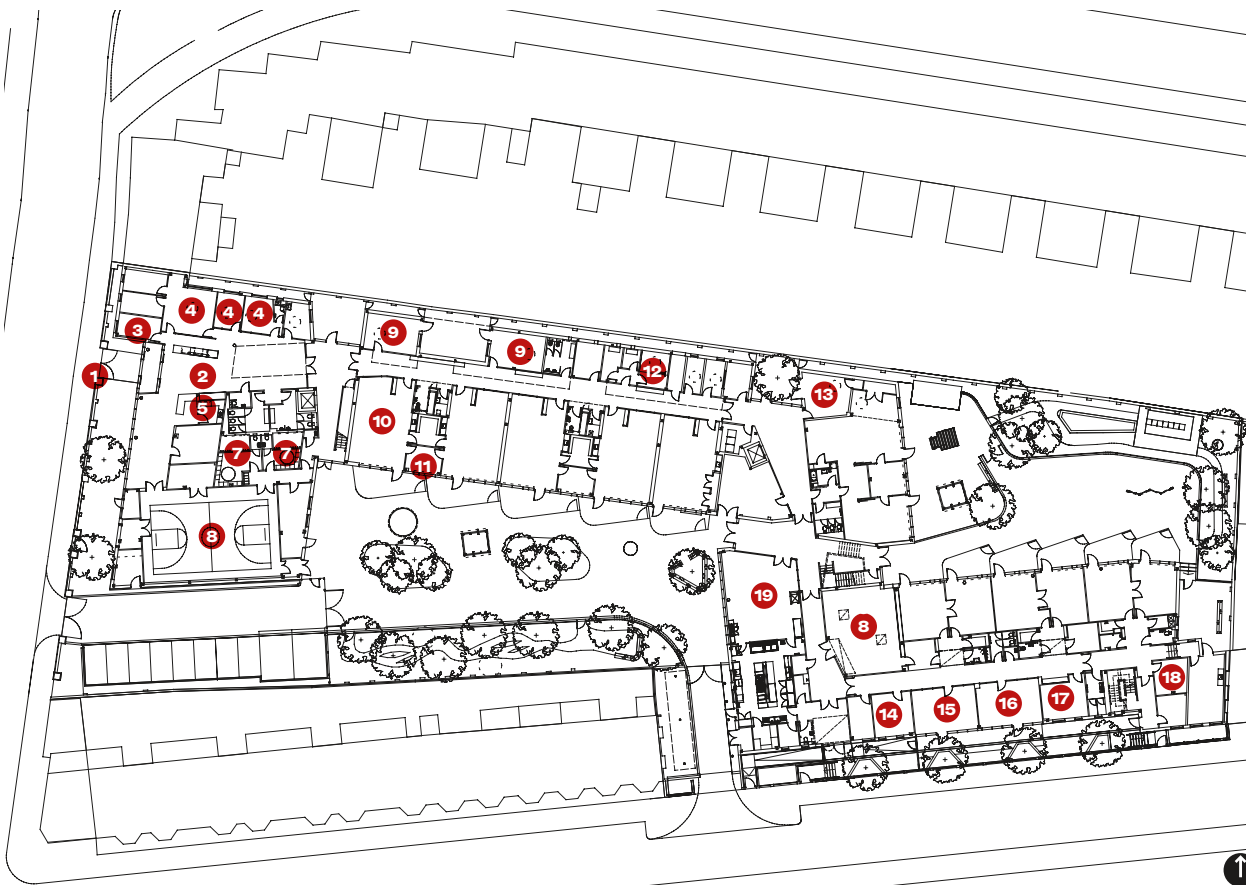
External doors Martin Roberts

Metsec framing Drytech

Windows MIS

Architectural Aluminium

Ground floor plan



Key

- 1 Main entrance
- 2 Reception/ foyer
- 3 Parents' room
- 4 Office
- 5 Cafe
- 6 Meeting room
- 7 Changing area
- 8 Hall
- 9 Nurture room
- 10 Classroom
- 11 Group room
- 12 Splash pool
- 13 Interactive space
- 14 Teaching resources
- 15 Primary art/ DT
- 16 Primary food technology
- 17 Therapy/ soft play
- 18 Sensory room
- 19 Dining



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Street life

A piece of infill by Squires brings tailor-made personality to one of London's smartest streets

Words: Hugh Pearman Photographs: Gareth Gardner and James Balston

Good background infill buildings, that's what all cities need. The landmarks can look after themselves. But this doesn't mean that the new insertion should lack character, far from it – look at any 19th or early 20th century commercial street and marvel at the level of invention and variety. Squire and Partners' recently-completed 10 Hanover Street,

in London's Mayfair, upholds this tradition.

Reading as two adjacent buildings, it contains offices and retail in one more conventional three-bay block, and an art gallery with apartments over in a separately-expressed slender slice. This rises a little above its neighbours to the east, so from that direction it resembles a mini-tower. Each floor has its

pale precast balcony front closely resembling Portland stone, with glass balustrades topped by a gilded handrail. A duplex provides a two-level capital to this columnar stack. If you walk down this incredibly upmarket street on your way to Hanover Square and look at nothing but the shop fronts, you'll miss what it's about. But if you glance up, you will find





Left Slice of life: conventional office block to the right, with the slender apartment stack separately expressed.

Far left Herringbone, meet chevron: metal shutters operating on bifold door mechanisms work with the wooden floor pattern.

a well-considered building which makes the most of its flank elevation as well as its street frontage.

The key design move here is to enliven the facades and give inhabitants privacy by means of full-height concertina perforated metal screens based on a bifold door mechanism. Dark bronze on the outside, crimson on the inside, these pull across the balcony frontages of the apartments. Fixed panels, mixed with strips of red glass, also clad the eastern elevation. The perforations take on a chevron or herringbone pattern, in a reference to the fact that this street used to be the home of military tailors. It's a perhaps spu-

rious rationale for a decorative device (this 'context' being something that has vanished, though Savile Row is nearby), but actually its idea of tailoring, with differently-coloured linings and a flash of gold, works neatly, while the perforations allow light and air in. The herringbone motif continues in the dark wood flooring inside the flats.

It's a simple but unusual device, and the architect can also point to the traditional use of window shutters in Mayfair as further justification. But however they got to this point, it does the trick nicely. Discreet but with a touch of bling, that's just right for round here. ●

Credits

Client Morgan Capital Partnership

Architects Squire and Partners

Structural engineer Waterman

M&E engineer MTT

Quantity surveyor WT Partnership

Contractor MACE

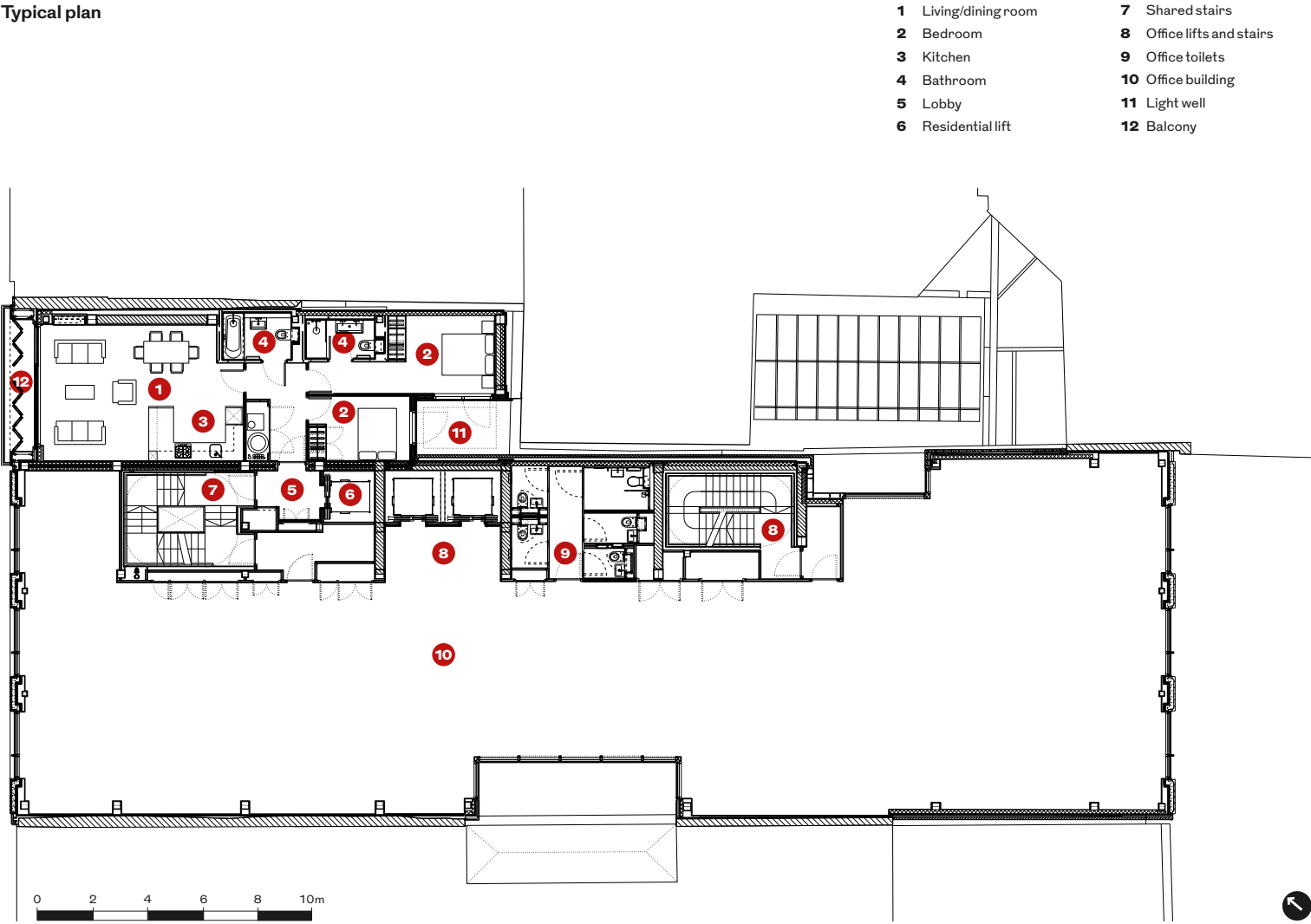
Suppliers

External shutter/aluminium rainscreen fabrication Astec Projects

Precast concrete balcony fabrication Loveld (Belgium)

Shutter frames/mechanisms Schüco

Typical plan

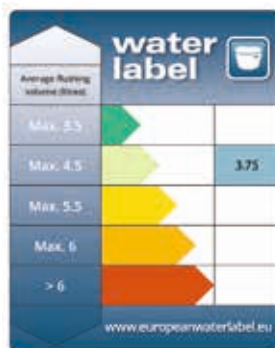


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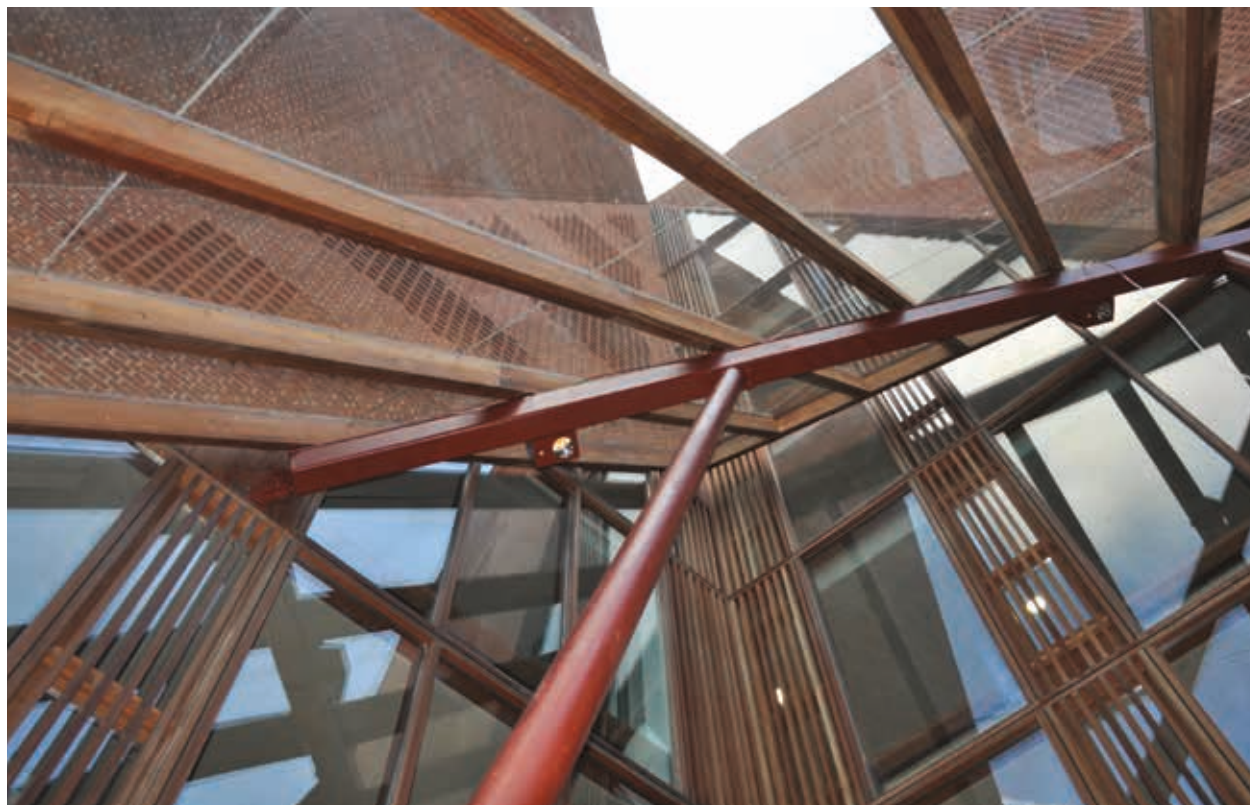
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Angles with poise

O'Donnell + Tuomey's Student Centre for the LSE zig zags out of the ground – a dramatic, angular statement layered with intense detail

Words Hugh Pearman

Opposite The building's folded facade expands into perforated openings with glazing set behind, plus areas of 'blind' textured brickwork. All in handmade brick.



Left The tectonic plates of the building's facade collide at the focus of the entrance canopy.



This is such a pleasure, and a bit of a guilty one at that. If Soho's Photographer's Gallery was its understated, low-budget introduction to London in 2012, then O'Donnell + Tuomey's new Student Centre at the London School of Economics is the exact opposite: a £24m statement of what might be called Total Architecture. Here we have a building that celebrates complexity and recalls something of the awkward-squad character of their former boss Jim Stirling in his 'Red Buildings' phase – though with far greater response to context and – one hopes – lower maintenance.

It's not as if there was no other way of doing this building. Easier options were available. Having opted for the folded-plate approach in the facades, letting the sightline and rights of light constraints determine the physical envelope, lesser architects would have been daunted by trying to achieve the form in brick. There was, surely, nothing in the brief that called for the most obsessive level of brick detailing I have ever seen on a modern building, requiring prodigious numbers of one-off 'specials', some very special indeed. It is even

more remarkable that this was all done on a design-and-build basis. If that facade was simplified, I can't imagine what it must have looked like before. Not that it's perfect – you can easily spot blemishes and inconsistencies – but in the realm of the handmade some roughness is acceptable. Differential weathering will add a further patina. Seeing the building during the winter's heavy rains demonstrated how some parts of the facade are drenched while others remain largely dry: this will inevitably affect its appearance as time goes by, which is not necessarily a bad thing and may even be intentional.

The site is tucked away in the warren of little old streets just south of the grand open space of Lincoln's Inn Fields, east of the broad Edwardian boulevard of Kingsway. So this is in a Dickensian fragment of old London. Assertive though the new building is when you concentrate on it, you could easily walk close by and not really notice it at all. It's all about the glimpsed, often angled, views you get from those narrow surrounding streets. The building does, however, generate a sense of tension. Partly this is to do with brick doing things

Opposite The luxury of austerity: the main stair is terrazzo and concrete, with painted steel and warm timber.

Below left Hardwearing materials in the interior include enamelled metal cladding to lift shafts.

Below centre It's all very hugger-mugger with surrounding buildings, seen here from student union offices.



IN NUMBERS

£24m
total contract cost

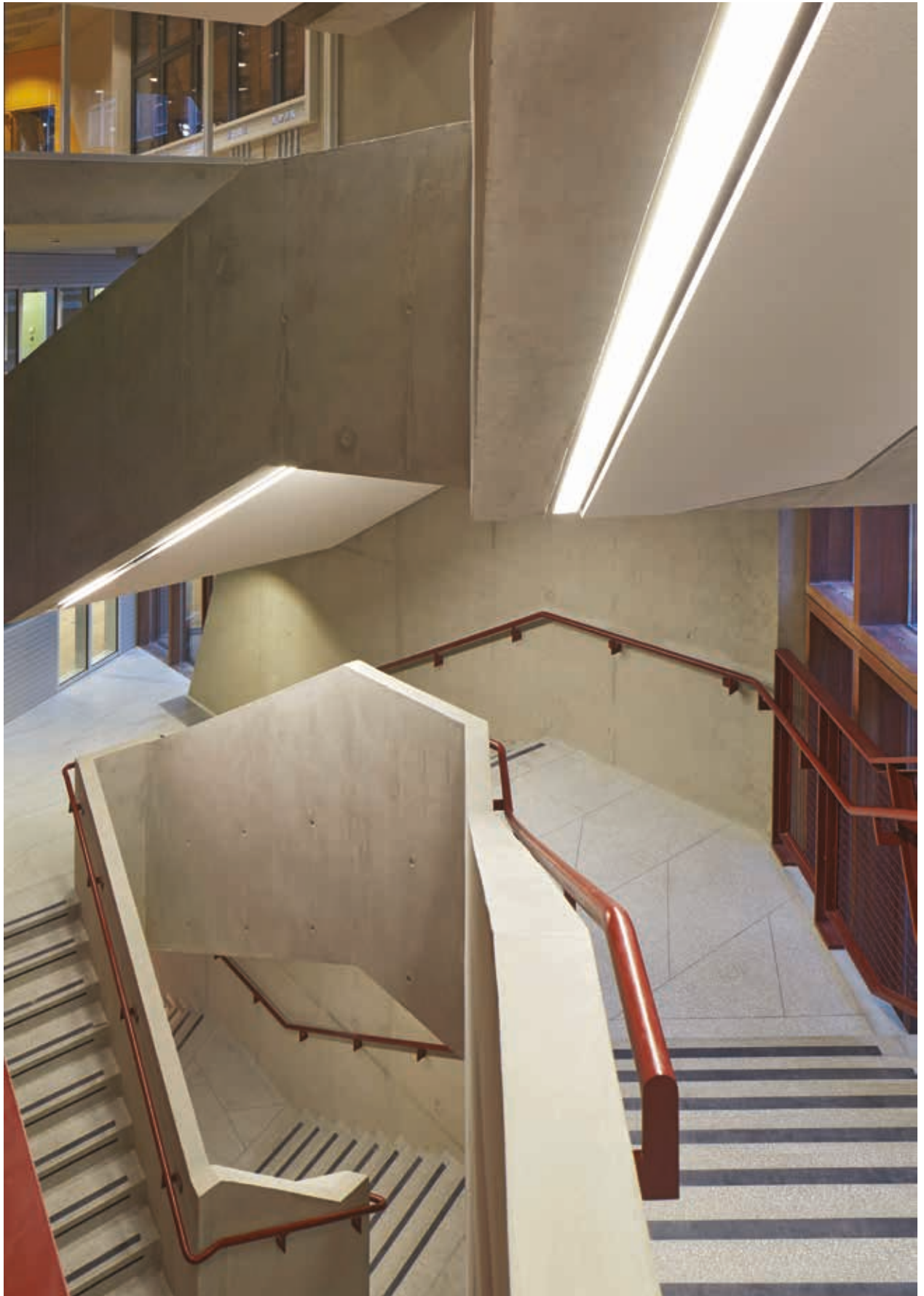
£4000
GIFA cost per m²

6000m²
area

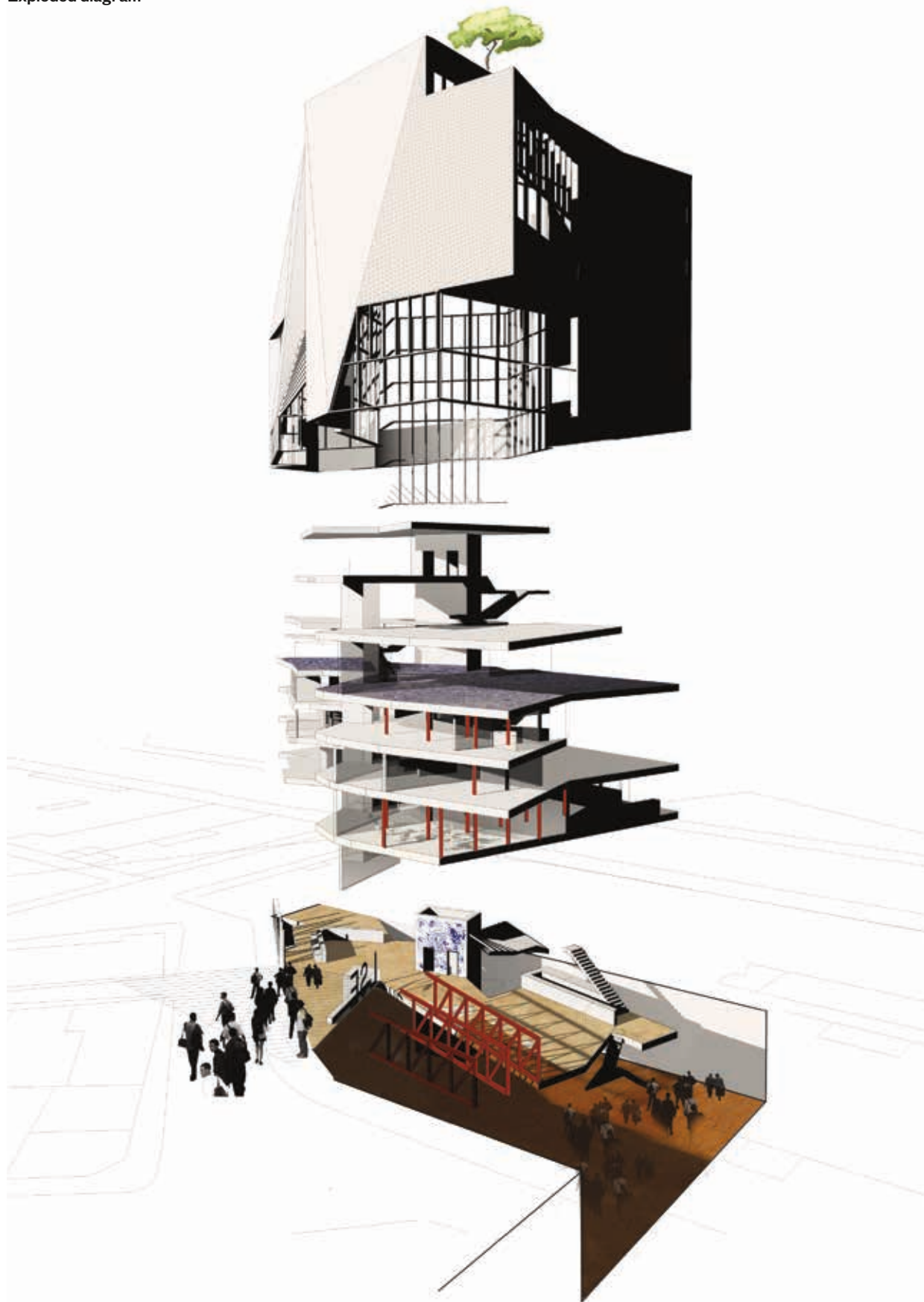
19.24
kgCO₂/m³ calculation

BREEAM Higher
Education – Outstanding

GDLA standard form of
contract
Design & Build

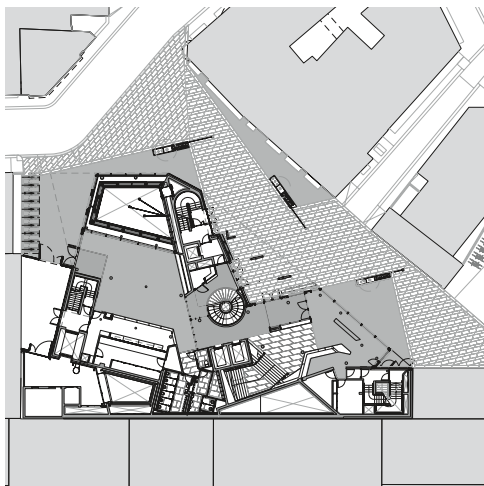


Exploded diagram

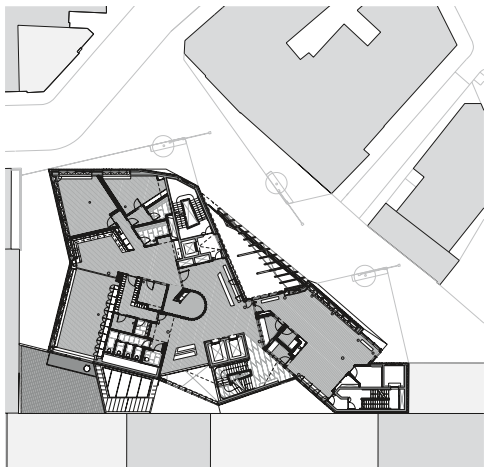


Left The building's complete facade is tied to a composite concrete and steel structure. Steel transfer beams allow a large, clear-span, basement events space.

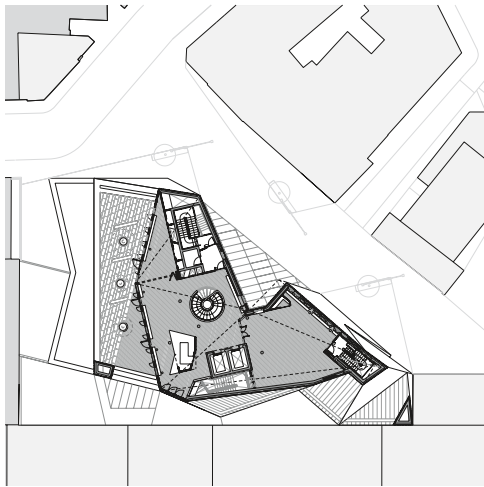
Plan of ground level and bar



Plan of Level 2, religious and media centre



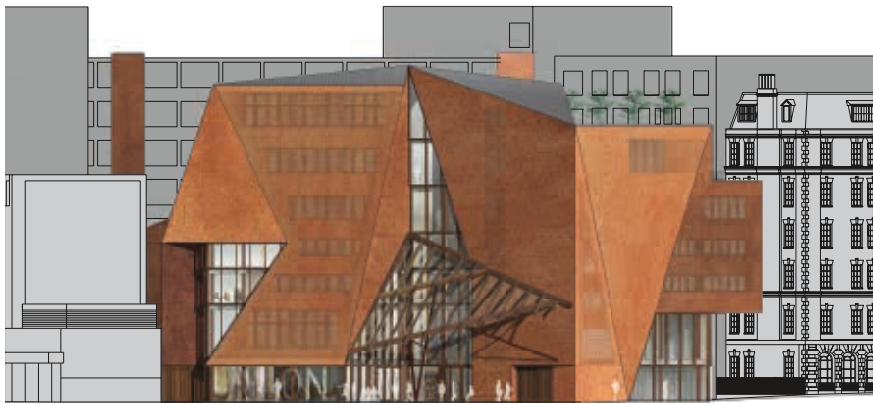
Plan of Level 6, gym, bar and roof garden



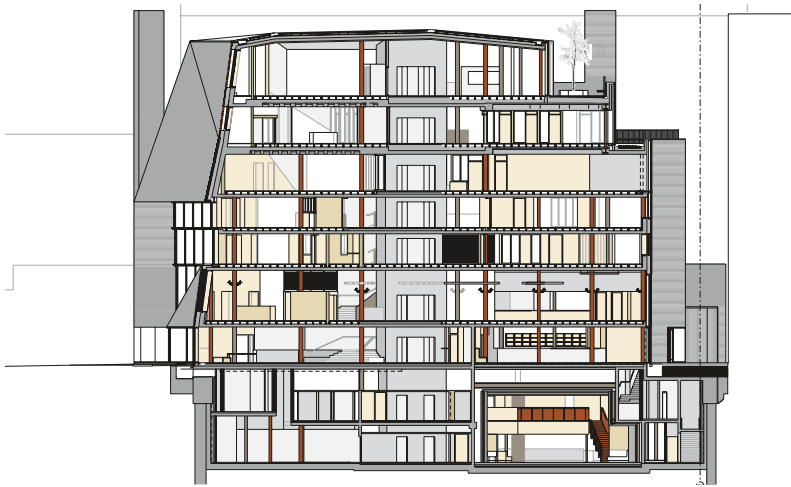
South elevation



Main East elevation



North-south section



you don't normally expect it to do and which, in the traditionalist or even Louis Kahn way of looking at things, perhaps it doesn't want to either: tilting at odd angles, out and in: making angled rather than vertical turns; stretching into perforated panels that run over glazing rather than round it; changing texture; cladding the underside of a deep cantilever like an inverted floor.

This tension is also partly about the juxtaposition of rough and smooth, inside as well as out. Outside, the glazing emerges into the daylight in well-proportioned cladding sections finished in jatoba hardwood, nicely detailed where they turn a corner. The large, sharply angled entrance canopy – a relatively late addition to the design, itself generated by the angles of the building – is like a sliced section of this cladding, lifted on O'Donnell + Tuomey's characteristic oxblood-red steel columns which cleverly also include little tables for glasses – a student bar, named The Three Tuns, is on this ground level. Inside, you get rough brick, rough and smooth concrete, smooth terrazzo, and shiny parti-coloured vitreous enamel panels, plus steel and timber again.

This is obviously designed to be a hard-wearing palette of low-maintenance materials suitable for student life – but it's as gamey as the inside of a butcher's shop.

If the resolution of the facade details could be seen as the architect setting a fiendish problem and then solving it, and the interiors at least partly an exercise in flowing the outside into the inside, then another aspect of the building's complexity certainly comes from the brief. They asked for 'the best student centre in the world', along with exemplary low-energy credentials. It's designed to achieve a BREEAM Outstanding rating.

But an awful lot of different functions had to be squeezed onto this very tight site. It is a relatively shallow building, especially at its southern end. It has to step back from its neighbours behind, just as it pinches itself inwards at the front to provide spill-out space. Although it rises to six levels above ground and one deep level beneath, this feels only just enough room for everything it has been asked to contain. These functions include pub, cafe, student activity centre, a large section catering for religions (including a tiny

Below left In the basement, the plan opens up into a large events space, thanks to a transfer structure.

Below right Glimpsed views of the facade from narrow neighbouring streets are carefully composed to draw the eye.



Credits

Client London School of Economics and Political Science, Estates Division

Architect O'Donnell + Tuomey Architects

Structural engineer Dewhurst Macfarlane and Partners/Horganlynch

Consulting engineer, services and environmental engineer BDSP

Main contractor (D&B) Geoffrey Osborne

Security/fire/acoustics/transport and logistics/venue Arup

Catering Tricon

Foodservice

Consultants

Access David Bonnett Associates

Suppliers

Brick cladding

Coleford Brick & Tile

Timber windows

GEM Group

Aluminium windows

Schüco Window Systems, Colorminium Group

Roofing Rheinzink UK

Blinds Labetts

Vitreous enamel cladding AJ Wells + Sons

Timber flooring

Woods of Wales

Terrazzo flooring

WB Simpson & Sons (Terrazzo)

Sanitary ware:

Armitage Shanks

Bespoke lighting

Specials Lighting

Balustrading

Structural Stairways

Specialist steel

fabrication: D&R

Structures

Toilet cubicles:

Thrislington Cubicles

Fitted furniture and

timber wall linings

Houston Cox Eastern

Specialist fit out

Macai

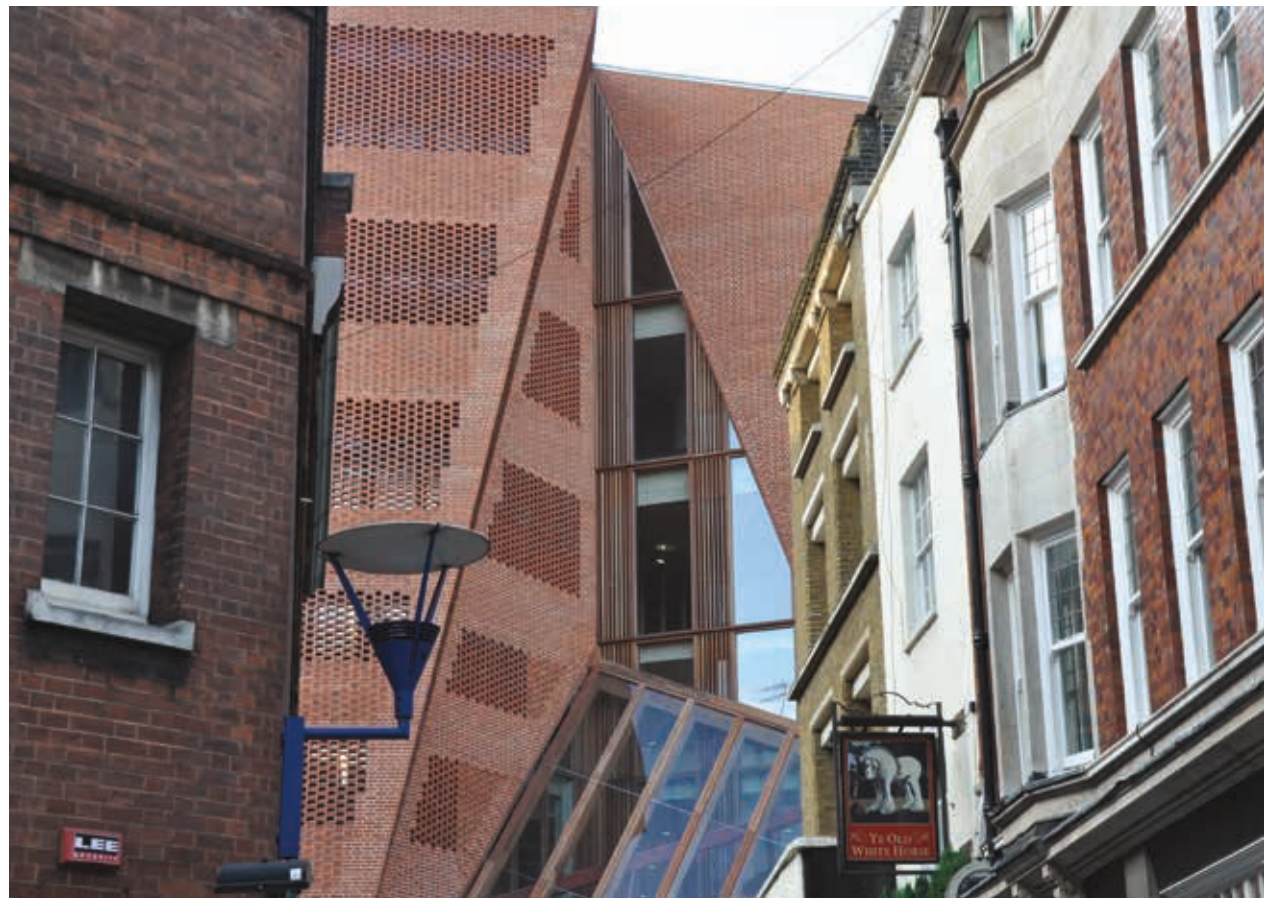
basilica-like private prayer room in joggled brickwork), university accommodation offices, a media centre, students' union offices, careers centre and a gym on the top two levels, opening onto a roof garden.

This gives the building a distinctly compartmentalised feel – you're right into the hive the moment you enter, though stairs and other circulation spaces are kept as generous as possible. The largest space – a timber-lined events hall with a mezzanine, audiovisual booth and a disco ball, plus a lovely giant built-in settle – is in the basement. This volume required a serious transfer structure to achieve the necessary clear span. Both the basement hall and the equivalent 'special place' on top, the roof garden, are reached by tight, brutalist in-situ concrete spiral stairs as well as lifts. It's an achievement that the architect has managed to bring daylight right down into the basement via a large opening in the ground slab – this will also be a great place from which to gaze down on the seething activity at night.

In the architects' own words, the external form and siting of the building is 'a spatial bowtie that intertwines

circulation routes, splices visual connections between internal and external movement, and pulls pedestrian street life into and up the building'. It is, in other words, a built diagram. But onto this, being O'Donnell + Tuomey, are lovingly grafted layers of architecture. The first-floor cafe, with its big oval light reflectors designed as part of the structural columns, is a case in point. With too many buildings, the visible architecture is skin-deep and once over the threshold, anodyne standard fit-out takes over. Not here: if anything, the architecture intensifies as you move further inwards and upwards.

This, then, is a slice of vertical student city, London distilled. Its twists and turns echo the densely-packed streets outside. It is richly considered and finished. A binary building, perhaps, alternating between raw and cooked, rough and smooth, luxury and austerity, it mysteriously combines apparent razor-sharp precision with the generous tolerances demanded by craft industries. Here the hand-thrown meets the digital. It is both eccentric and deeply satisfying. Now it's up to the students to make their judgement. ●



HUGH PEARMAN

Keeping cosy in Rainham

The UK's first large-scale affordable housing scheme built to Passivhaus standards shows that sustainable homes can be made available to those who need low running costs most

Words: Amanda Birch



Faced with either paying the rent or keeping warm, many social tenants will be tempted to choose the latter, leading them into arrears. This gives social landlords an incentive to introduce energy saving measures when building new homes. Many now see the Passivhaus approach as the best way to achieve environmental and social goals.

A Passivhaus scheme in Rainham, east London, is attracting government interest – from housing minister Kris Hopkins to Richard Blakeway, housing advisor to

London mayor Boris Johnson. It is one of the projects being monitored by the Zero Carbon Hub as part of its work to develop a strategy for building zero carbon homes by 2016.

New Road Rainham is designed by Maccreanor Lavington Architects and based on a partnership between Circle Housing and developer and main contractor Climate Energy Homes, which acquired the former brownfield site from the Greater London Authority. The project aims to demonstrate the potential of the efficiency standard in an

£8.1m new build affordable housing scheme.

Mark Bradbury, development consultant at Climate Energy Homes, claims the development will be the first Passivhaus-certified, 100% affordable housing scheme in the UK. 'There have been one-off or very small pilots, not all of which have achieved certification and most of which have gone significantly over budget,' he says, 'But we believe this is the first full scheme to be delivered as 100% affordable and all to Passivhaus standard.'

The Rainham project also marks the

Opposite The Rainham scheme is set out as a block, with the arrangement of the elevations taking advantage of orientation.

first use of Climate Energy's ecoTECH build system – a structurally insulated timber framed panel system designed by CEO and founder Christine Hynes – on a Passivhaus scheme. The firm is confident that the factory assembled building system will achieve the rigorous standards of airtightness and thermal insulation Passivhaus requires.

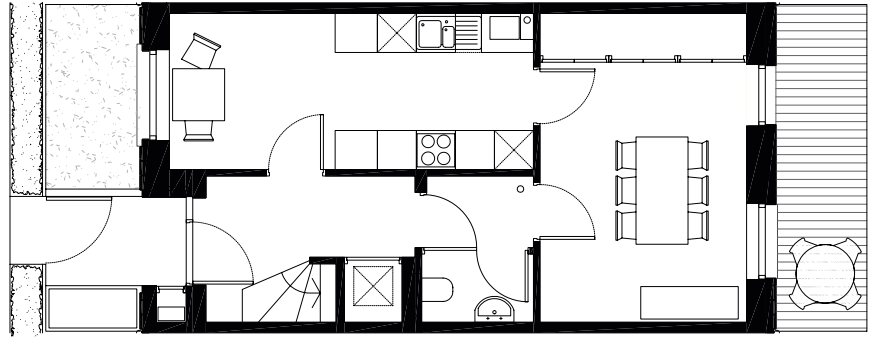
'We went for Passivhaus certification to demonstrate that with our build system we could achieve the standard at a lower cost, more quickly and more easily,' says Bradbury. 'Circle Housing was also keen to partner on the project as energy bills are a major issue for its tenants and building energy efficient houses at the outset will reduce the need for retrofitting in the future.'

The project will provide 51 new affordable rented homes of one, two, three and four-bed dwellings. Four brick buildings will form a rectangular block: three of two or three storey terraced housing, and one of flats set over three storeys. Each house has front and back gardens; each apartment has its own balcony.

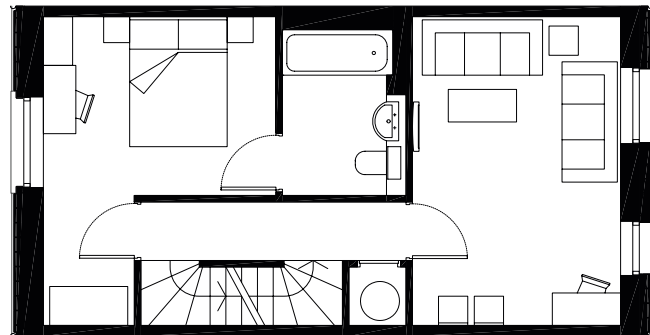
Future occupiers of the Rainham scheme can look forward to reduced energy bills. Sally Godber, director at Warm, the scheme's Passivhaus consultant, anticipates a 90% reduction in heating energy over current building regs. She says the largest houses, with a net floor area of 114m², will typically use 1,700 kW per year. Tenants will only pay around £100 a year for heating, for which the scheme's airtightness has to be below 0.60 air changes/hour at 50pa. This measurement is roughly comparable to 1m³/hr/m², which is used by building regulations.

Getting involved at pre-planning stage meant Godber could influence key changes to ensure the development met Passivhaus standards. For example, on the front elevations of the townhouses the number of

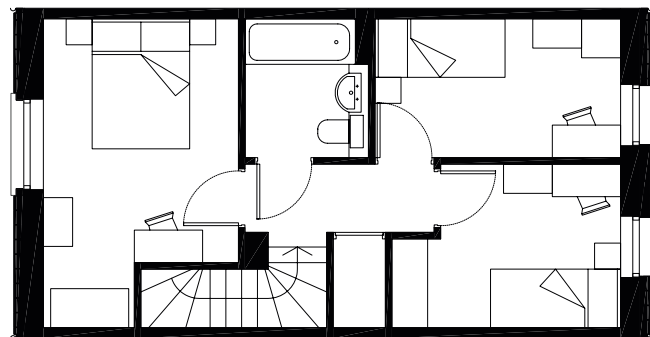
Four bed family house, ground floor plan



First floor plan



Second floor plan



windows was cut from two to one at each level. This reduced the amount of glass used by around 30%, but also shortened the linear dimension of frame – the weakest point in terms of thermal conductivity. All windows are timber-framed and triple glazed. ‘We spent a long time looking at these aspects which can make a huge impact on the energy and comfort of the buildings,’ says Godber.

This was Maccreanor Lavington’s first foray into Passivhaus, although Gerard Maccreanor had designed and built his own home to Passivhaus standards in the Netherlands. Dominic Milner, project leader at the practice, says they relished the opportunity and learnt a great deal from it.

‘We were keen not to deliver an eco-hairy-shirt-looking scheme,’ says Milner. ‘We wanted it to be quietly sustainable, not brag about its credentials. Sally [Godber] became involved at just the right time, because we’d reached the limit of our knowledge. With the massing and orientation set, she helped us examine the elevations and get advice on complying with the Passive House Planning Package pre-assessment. Sally did both the Fabric Energy Efficiency assessment and the daylight assessment, which was beneficial because thermal and daylight performance criteria can conflict. This means a smaller percentage of glazing is likely to provide a more thermally efficient facade,

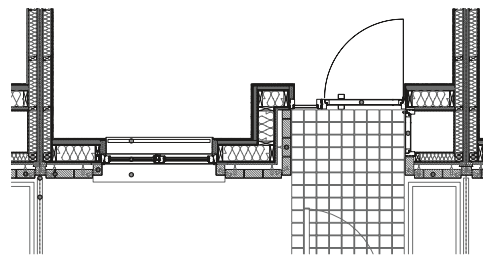
but larger windows admit more daylight’.

Godber’s advice meant the apartment block underwent most reworking. Its essential rectangular shape remained, but it had a complicated floor plan using recessed balconies which didn’t line up between floor levels, so the architect completely redesigned the internal layout. The result is a building of a simpler form with fewer cores. Bedrooms are now on the cooler, north side, while the living space is on the south with access to a continuous verandah which prevents overheating in summer and allows low angle sun in winter.

‘There was a huge amount of complexity in the apartment block and what the architects have produced is fantastic,’ says Godber. ‘They listened carefully to our comments and took on board how to incorporate them’.

The scheme is expected to be complete by summer and Warm will continue to monitor its progress, along with practice BDG Design (South), as Maccreanor Lavington was involved only until planning. It is the first time many of the sub-contractors have worked on a Passivhaus scheme, but Godber is confident it will meet the criteria given that factory constructed elements are mainly being used, which have had a fairly consistent quality.

Future tenants, as well as Circle Housing, will be hoping that Rainham delivers on its promise of warm and comfortable living that doesn’t break the bank. ●



AFFORDABLE PASSIVHAUS

EcoTECH is a factory made, structurally insulated, timber framed panel system. It is designed to deliver the fabric energy efficiency credits of levels 4, 5 and 6 of the Code for Sustainable Homes. An enhanced design with thicker insulation (210mm thick panels) has also been developed to meet stringent Passivhaus standards for the Rainham scheme. U values here will vary across the site, from 0.10W/m²K to 0.15W/m²K – generally roof and floors will achieve 0.10 and walls 0.15. The scheme has been cost benchmarked by EC Harris, comparing a traditional build at level 4 of the Code for Sustainable Homes with ecoTECH Passiv. EC Harris estimated that the cost of the overall scheme (just under £1,400/m² on this brownfield urban site) using the ecoTECH system to achieve Passiv build, will be 6% cheaper than a traditional build at level 4. After completion of Rainham, EC Harris will carry out another cost comparison on the actual costs. Mark Bradbury, development consultant at Climate Energy Homes, says the company is confident the cost savings of the ecoTECH build system versus traditional build will remain at around 6%, with a 50% programme saving.

Above: Maccreanor Lavington’s drawing of the panels in situ.

Below The southern elevation gives living room spaces the benefit of the sun while the continuous veranda provides shade.



Credits

Client Climate Energy Homes/Circle Housing

Architect Maccreanor Lavington

Sustainability engineer Warm

Structural engineer BRP Associates

Planning consultant RPS

Project manager/cost consultant PRP

Contractor and developer

Climate Energy Homes

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“We chose the Rooflight Company for this project as we felt there was great potential to combine a frameless rooflight with a solar PV panel in a modular form. It was rewarding to work with a like-minded forward thinking company and we believe we’ve jointly created a unique and aesthetically pleasing result.”

Simon Merrony Architects.



neo Solar™, created in conjunction with Simon Merrony Architects.



Derby Roundhouse, Maber Architects.

“ There are a limited number of companies that could achieve such a span and make them open. ”

Project Architect, Ian Harris.



Residential Property, the Cotswolds.

“We wanted to create a barn-like aesthetic; a single storey of stonework with a steep-pitched roof atop. This proposal also offered a reduced sense of scale. It therefore became important not to break the roof line with dormer windows, so rooflights were the preferred option.

neo™ was chosen as the frameless glazed sections blend seamlessly with the plane of the roof, creating a slick reinterpretation of a ‘barn-roof’.

We decided to emphasise the curves to the roof by taking zinc clad margins from the eaves up to the rooflight sills.

The **neo™** works particularly well within the palette of materials used including zinc cladding for the curved details and an almost metallic looking dark black/purple roof tile.”

Michael Marshall, Adrian James Architects



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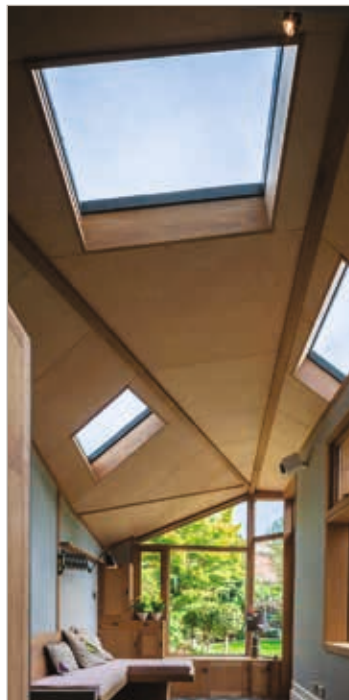


Michael Baker Boathouse, Worcester.

“We worked closely with the Rooflight Company’s in-house designers to ensure the rooflights blend seamlessly into the roofscape. They produced a very clear and detailed set of drawings, including accurate setting out information for the timber roof structure.

U-Values and air-tightness were important to achieve the required energy performance. The Rooflight Company was able to provide high performance glazing to reduce the U-Value and double air-tight seals.”

Architect Stephen Townsend, Associated Architects



Residential Extension,
SASA Works.

“**neo™** was the ideal choice for this project. It is the simplest openable rooflight available which works well with the design of the rubber roof. The new kitchen and garden room are formed of bespoke elements and furniture; each individually designed for this project. The Rooflight Company were able to design a bespoke **neo™** to perfectly complement the overall design intention.”

Craig Bamford, SASA Works

“I specified the Rooflight Company due to their ability to meet both a traditional and contemporary brief for the same project. The bespoke **neo™** rooflights in the new bronze-clad extension matched the vertical windows whilst maintaining a profile close to the plane of the roof and achieving a frameless, contemporary appearance.”

Nick MacArthur, Pollard Thomas Edwards Architects



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2: Intelligence



Being Safe



Climate

Sue Illman



C ROBERT TAYLOR

The president of the Landscape Institute is feeling drained by the UK's lack of response to the latest tranche of floods...

You've been talking SuDS strategies for years. You must feel like you're going over the same old ground?

The water is! The UK should know better by now. We know what we need to do to mitigate flooding – we just never seem to get on with it, and so the floods keep coming, and we have to keep dealing with the clean-up.

So what aspects of the Flood Management Act are not being implemented?

Schedule 3 would put in place a national minimum standard for what should be included in every UK SuDS strategy. There are SuDS schemes out there, but we want it to be mandatory that all developments of more than one home have a bespoke SuDS policy. Initially it'll probably only be for larger developments – but it's an aspiration.

What's wrong with drains anyway? Bazalgette was a dab hand with them.

He was good, but even he could never have anticipated the scale of future development and today's volumes of water. He designed for a 1 in 30 year storm but we're now designing for 1 in 100 year ones. Even 20 year old drains haven't a hope in hell of dealing with current volumes. SuDS also brings benefits in terms of the urban heat island, biodiversity and public health and wellbeing – no drainpipe can do that.

You have said that even Latvia and Russia are more proactive than us – maybe they just don't have the land pressure.

Not at all. Urban intensification is a world-wide problem and we're all in the same boat. But national standards are being dumbed down here: the government's already said it won't try to implement Schedule 3 by 1 April, so it's being pushed back to 1 October. They seem to prefer bloody great pipes to a long-term, sustainable drainage strategy.

So why does the government have to stump up? Isn't this just a planning policy issue?

Planning only affects future development and we need retrofit the country. Defra has said it will commit money to this, but we don't know how much; by comparison it costs on average £30,000 per home for a post-flood clean-up. Greenfield sites must meet the 1 in 100 year +20% mitigation requirement, but for brownfield sites, it's still just about 'betterment'.

Do you have a romantic idea of an England with its ancient waterways restored?

It might already be happening! In Yorkshire and at the Great Fen project in Cambridgeshire, they're already stopping-up old drainage channels. The UK has by its island nature always had a relationship with water: it's about time we returned to our traditional forms of water management and re-engaged with our history. ●

APRÈS LE DÉLUGE

The Flood and Water Management Act 2010 offers national guidance for better management of flood risk. Under Section 5 of the Schedule 3, the secretary of state shall define minimum standards for the implementation of sustainable drainage governing the way it will be 'designed, constructed, maintained and operated.' The meeting of these minimum standards will be delegated to the local planning authority. Secretary of state Owen Paterson's stated his intention to bring SuDS regulations 'into force in April 2014', subject to 'cross Whitehall and Parliamentary approval'. Though SuDS funding is unclear and not yet part of legislation, the 2012 Autumn Statement committed £120m to April 2015 to 50 UK flood defence projects.



Intelligence is now officially approved RIBA CPD. Look out for the icons throughout the section indicating core curriculum areas.



Strength in numbers

Closing the gap between designed and actual energy use is one of construction’s biggest challenges. The CarbonBuzz databank could be the honeypot that makes it possible

Eleanor Young

If your building used more than one and a half times the energy it was predicted to would you be surprised? Perhaps not. Recent figures suggest that buildings are regularly missing their energy targets by this much. One of the biggest failures of the construction industry over the last decades has been to deliver buildings that perform as they were designed to. Despite collaborative working, an increasing understanding of building physics and, more recently, the advent of BIM, there is still a yawning performance gap. In recent years Bennetts Associates has been very honest about the way the

performance of its sustainable flagship Wessex Water Headquarters has been affected by an unfortunately unpredicted IT loading in use (RIBA J May 2009, p66). But few dare to be so candid, fearing litigation and reputational damage.

Data sharing

Evidence of the enormous performance gap comes from an analysis of figures from hundreds of projects uploaded to the Carbon Buzz. This is an online tool for live benchmarking which attempts to take the stigma out of sharing information on performance monitoring. A collaboration between the RIBA and the Chartered Institution of Build-

ing Services Engineers, it was relaunched in its all-singing, all-dancing form last year. It puts designed and actual energy use side by side, the first garnered from existing documentation, the second from the real energy costs (using the same methodology as Display Energy Certificates). Uploading a project is anonymous, although helpfully there is a bundle of fairly recent case studies on the website. This data on CarbonBuzz gives practices a clear and standard way of evaluating their building’s designed versus actual performance, an idea of where they sit in performance for that building typology and in relation to the CIBSE benchmark for it. More widely, it offers a chance for a body

Disparities between design and performance in office and education buildings

Source: CarbonBuzz

Typology	Mean design total heat consumption (kWh/m ² /yr)	Mean actual total heat consumption (kWh/m ² /yr)	Factor change design to actual - performance gap (kWh/m ² /yr)	Mean design total electricity use (kWh/m ² /yr)	Mean design total electricity use (kWh/m ² /yr)	Factor change design to actual - performance gap (kWh/m ² /yr)
Office	46	73	1.59	71	121	1.71
Education	57	84	1.48	56	106	1.90

Educational buildings are using nearly double their predicted amount of electricity a year and nearly one and a half times the heat

of knowledge to be built up and analysed by researchers. The Bartlett's Energy Institute is on the case and so far has produced around 10 papers based on its data. The latest summary of data details the disparity between design and performance in offices and education buildings in particular. Educational buildings are using nearly double their predicted amount of electricity a year (106kWh/m²/yr against design predictions of 56) and nearly one and a half times the heat (see table opposite). Interestingly, Aedas' Judit Kimpian, a prime mover behind CarbonBuzz, notes that it doesn't seem to matter whether the design predictions have been based on Building Regulations method based calculations or on a full energy model – the gap was still the same. 'People seem to be reverting to compliance with Building Regulations,' she speculates. She is now working on an extra layer for the platform to make it easier to calculate accurate predictions in the first place. Look out for this in September.

Prioritising performance

CarbonBuzz is supported by the Technology Strategy Board, the government's innovation agency. Throughout 2014, dealing with construction's performance will occupy much of the time it spends on the built environment. It has formulated a series of challenges: design and decision tools that show performance when built and usage patterns

of occupiers; the management and operation of buildings; and materials and components and how to ensure they perform better. It is no surprise that many TSB-funded projects have their data on the CarbonBuzz platform.

Nor is it any surprise that some of them have entered the CIBSE Building Performance Awards, due to be announced on 11 February. With categories covering training, products, contractors and clients it aims to look at many of the ingredients in a well performing building. Its new build and refurbishment shortlists showcase some of the trailblazers in post occupancy assessments, sustainable design and, ultimately, building performance. Some clients, typically those with most to lose on energy bills – and those used to evidence-based process improvement – are forging ahead to measure performance, such as Sainsbury's and M&S. Schools and, of course, the Olympic Development Authority – which commissioned the London 2012 Velodrome – have cost savings and, perhaps, common good driving them.

Below we profile two CIBSE-shortlisted retail projects with a look their operational energy use and at how they are trying to bind users more closely with the operation of the building. We also examine how one shortlisted primary school is attempting to make a difference. These are the projects that get near to closing the performance gap. We just need a few thousand more of them. ●

SAINSBURY'S, HARDWICK PLACE, KING'S LYNN

'Nothing we do in this team is green wash, we believe it is going to add value,' says Sainsbury's head of sustainability, energy and engineering, Paul Crewe. 'We want to trial technologies and processes and if they are proven right we adopt them and make them part of our DNA.'

The new 72,000ft² store at King's Lynn was designed, with CHQ Architects, to use 50% less carbon than a store of a similar scale built in 2005/6. As measured in operation it actually used 60% less. Heavily insulated cladding panels meant 30% less heat was needed in store, on the roof 1000 photovoltaic panels supply 5% of the store's electricity (when the sun is out) while solar reflectors bring in daylight, and LED lights were used where possible. Mains water use was cut by 50% thanks to rainwater harvesting, time control taps and water efficient equipment.

Crewe is most proud of the ground source heat pump: unusual in retail, he says, but working brilliantly now it is integrated in the refrigeration system, harvesting rejected heat and ensuring the system operates far more efficiently. 'This has become an intrinsic part of store design,' he says. The pumps are now running at 12 Sainsbury's stores, including three which have been retrofitted with what he describes as pioneering drilling methods. This is where the focus will be in the next year, the retailer's 'graphite programme' investing tens of millions in cutting existing stores' carbon use.

'King's Lynn is historical now,' says Crewe. The target is to reduce absolute carbon use by 30% by 2020 against a 2005/6 benchmark. It's not easy – made harder by a 30% increase in square footage since then. In Leicester, last November, 81,700m² of store opened tagged with a 'Triple Zero' label, designed for zero carbon in operation (including use of a farmer's biogas in its combined heat and power system), zero water (including the use of local offsetting in the same catchment) and zero waste. We will have to wait for the operational figures.



M&S CHESHIRE OAKS, CHESHIRE

Plan A has proved a great statement of sustainable intent by M&S. In line with that, the Cheshire Oaks sustainable learning store was designed by Aukett Fitzroy Robinson to be the most carbon efficient, biggest green M&S store to date. It incorporates strategies that address several areas of sustainability at once including energy, water, waste, biodiversity, community and materials. The store was opened on 29 August 2012, and for the first year of its operation Faithful+Gould carried out an independent evaluation of the performance of its environmental features, while University College London assessed their social impact. Highlights of the findings are below.



IN NUMBERS

42%
lower energy consumption

40%
lower carbon emissions than
a benchmark store

29%
lower carbon emissions than design
estimates

2.93m³/h.m²@50Pa
air tightness

70%
better than required by
building regulations

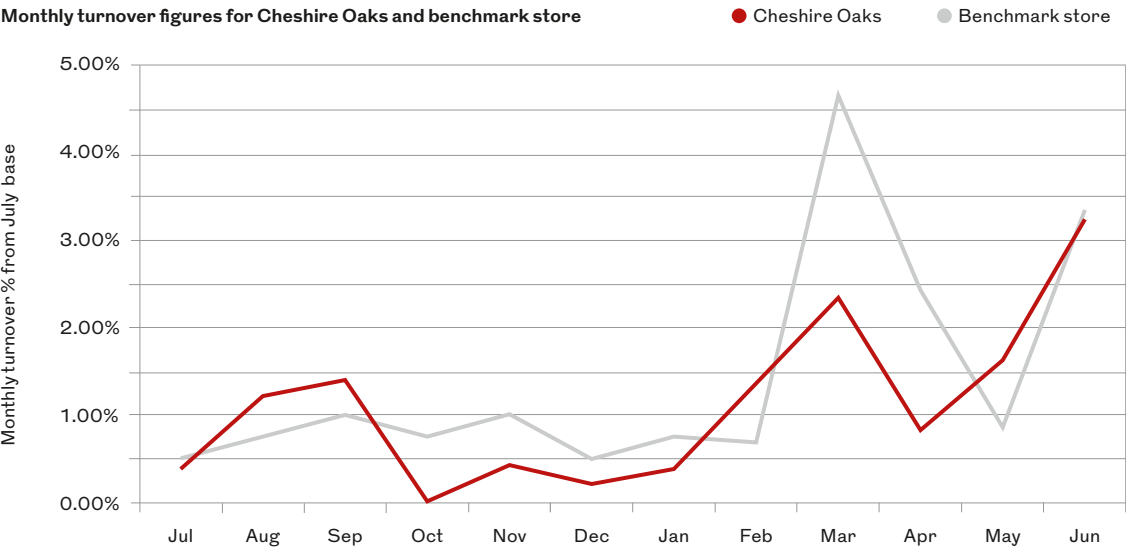
72%
store heating provided by
biomass boiler

21%
less electricity

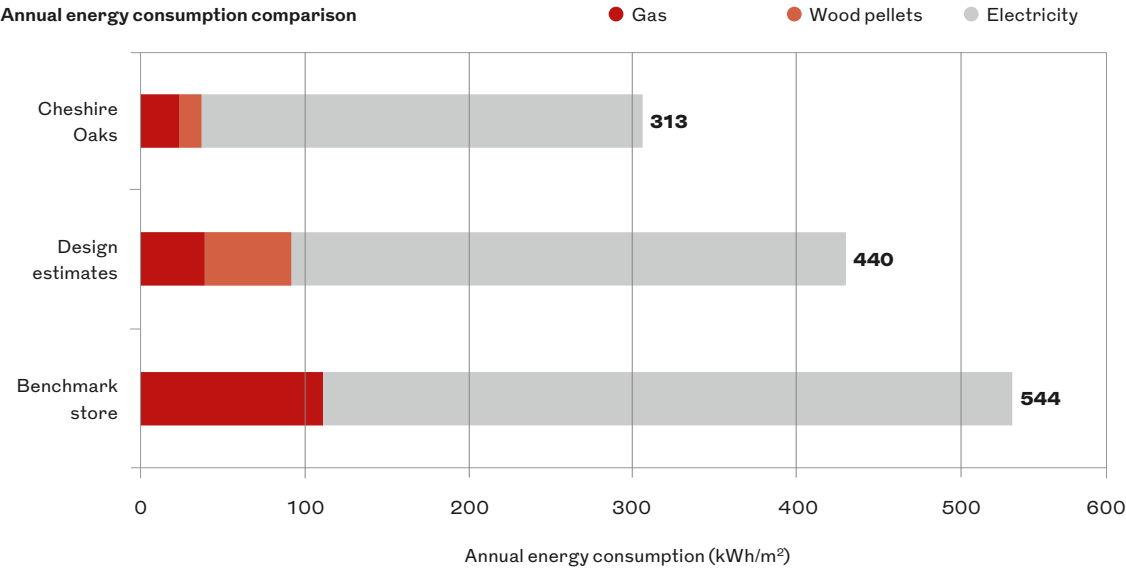
60%
less heating fuel than design predictions
due to efficient store operation

6.88/7
Building User Survey 'need' score
(against benchmark 4.88)

Monthly turnover figures for Cheshire Oaks and benchmark store



Annual energy consumption comparison



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MONTGOMERY PRIMARY SCHOOL,
EXETER

Helped out by a Zero-Carbon Task Force grant and match funding, Montgomery Primary School, designed by NPS, is based on Passivhaus principles – and certified as such. The most important aspect of the building, over its lifetime, was considered to be a reduction in carbon emissions during operation so whole life costing was essential. Orientation, high thermal mass, sustainable materials, reduction of construction waste and climate readiness (for 2080) were all critical to the design.

Extensive thermal modelling in IES:Virtual Environment was used to test the concept and when it came to details Warm Consultants also provided cold bridging modelling. The extensive building modelling undertaken has fairly accurately predicted the energy and comfort requirements of the building in use. The prediction was for 32kg CO₂/m²/yr and the CarbonBuzz figures for meter readings show it performing at 33 (well below the CIBSE benchmark for schools of 50).

An energy saving lighting strategy was a key element from the early stages. To reduce lighting energy consumption, room reflectance was considered early and materials with light colours and high reflectance were specified. This allowed lower lumen light fittings. Absence detection and daylight dimming were used in class areas – requiring manual switching to turn the lights on (allowing teaching staff to leave the lights switched off until needed). Manual dimming has also been provided to all classrooms.

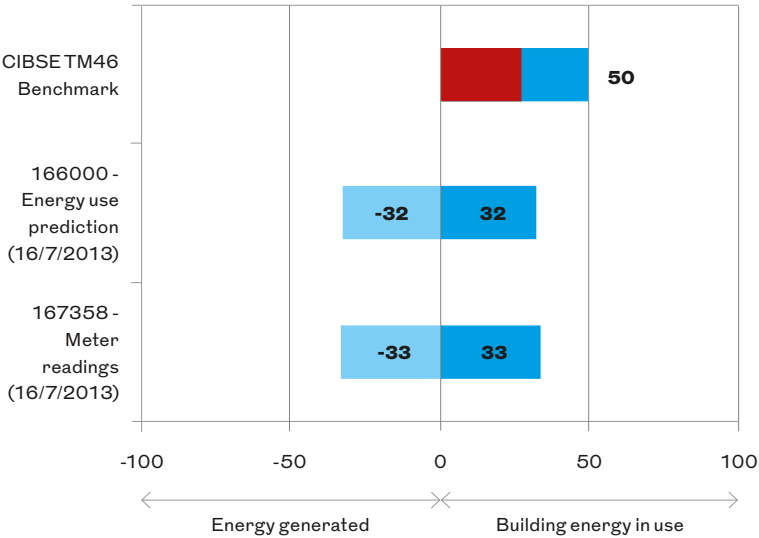
Joining up construction and use through commissioning and handover was smoothed by BSRIA's 'Soft Landings', along with an extended commissioning period as specified in the contract. Through Soft Landings and follow up visits with school staff, the design team, client and contractor have worked together to identify and resolve many items to reduce energy consumption and improve the overall operation and client satisfaction. The whole of its first five years are also under scrutiny from Exeter University.



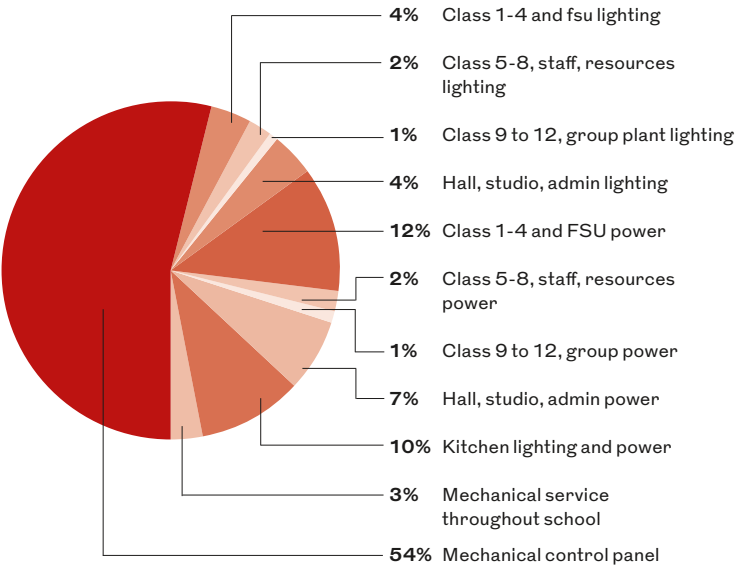
GIRTS GAILANS

Energy use in design and performance

Source: CarbonBuzz



Project records





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The link between the urban realm and people's health is real. What can you do about it?

Anna Scott-Marshall

The way our towns and cities are designed and planned affects our health: the way we move and interact with the city can help or hinder both formal and incidental exercise. Yet evidence suggests councils and developers stress such issues less than you might think.

The modern planning system was born

out of a need to manage public health. Yet for decades the two systems have sat separately, responsible to different bodies – the NHS and local government – and to two government departments. So it's not surprising such common sense is not applied on the ground. In 2013 responsibility for the two came together and local authorities will now make decisions that will improve life expectancy and reduce health inequalities.

One reason why such demands might not be made on new developments could be a lack of tangible evidence. This month, a RIBA report examines health data and compares three serious health problems – diabetes, obesity in children and physical inactivity – in England's nine most populated cities. We found a clear link between land use and health outcomes in those cities. The healthiest local authorities in our major cities have almost half the housing density and a fifth more green space than the least healthy ones.

Physical activity

Across England, 11.2% of adults report levels of exercise that meet the recommended minimum equivalent of 30 minutes of moderate exercise for five days a week. In three out of nine cities the percentage of physically active adults was lower than the national average.

The areas in our cities in which the fewest

people exercise have twice the housing density and 20% less green space than those with the most active populations.

Diabetes in adults

Across England 5.5% of adults are registered as diabetic. Comparing the prevalence of diabetic adults, the least healthy areas in our cities have twice the housing density and 25% less green space than the most healthy.

Obesity in children

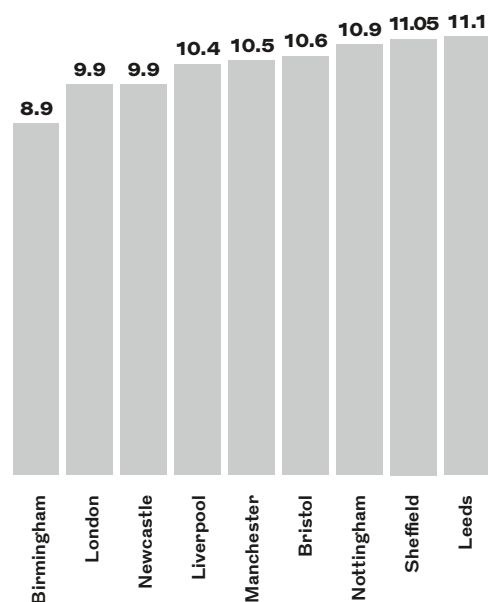
Across England 19% of children are obese. In five out of nine cities the percentage of obese children was higher than the national average. Comparing the prevalence of obese children, the least healthy parts of our cities have twice the housing density and nearly a third less green space than the most healthy.

This indicates a strong correlation between obesity and the amount of green space/housing density, even when accounting for deprivation. But if that is the situation in our major cities, what will make the difference? Could design solutions really help?

We asked residents in those nine cities what they thought. Our survey, undertaken by YouGov, asked them how much exercise they took each week and what they thought would increase the amount of brisk walking they do. Across the nine cities 59% of people

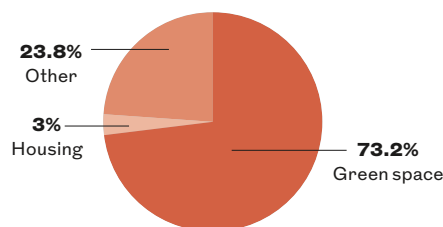
Physically active adults

Participation (%) in moderate exercise, ranked from least to most active (national average, 11.2%)

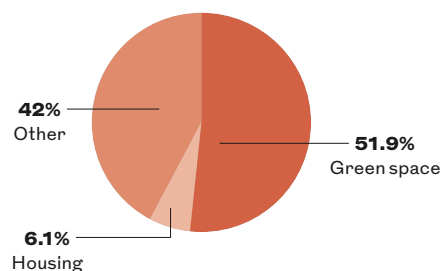


Land use by local authority

Most healthy: Best performing authorities for physical activity

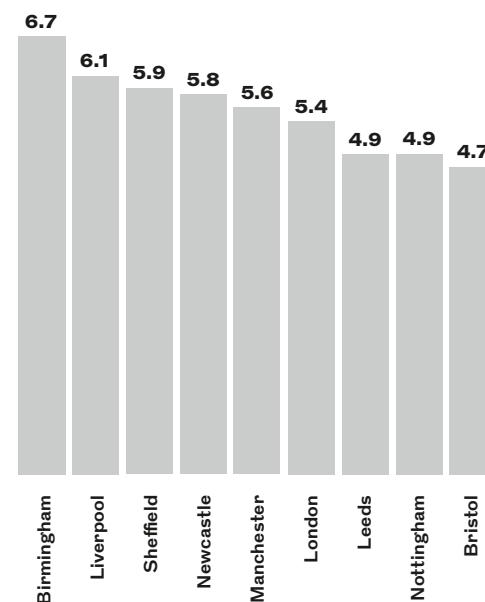


Least healthy: Worst performing authorities for physical activity



Diabetes in adults

Prevalence (%) of diabetic adults, ranked from most to least diabetic (national average 5.5%)



did too little: 75% of those could be convinced to walk more each week while 25% of all respondents said nothing would encourage them to walk more each week. Interestingly, the most common change that people said would encourage them to walk more was designing streets and parks to be safer and more attractive. This was more popular even than more direct routes to key destinations and an increase in the number of streets and parks.

People say quality, not quantity, of streets and parks will encourage them to walk more.

This is something that government and local authorities should be taking seriously. If 75% of people failing to exercise enough across the county did meet recommended levels of walking, £675m a year could be saved. If we design places that people want to use we can lay the foundations for regular physical activity – so reducing obesity, related health problems, and their public cost.

What will make the difference?

Healthy design needs to be enshrined in planning guidance. Each local authority should produce a Healthy Infrastructure Action Plan outlining their strategy for making streets and parks safer and more attractive, and the principles new developments must meet in order to gain planning permission.

The Community Infrastructure Levy

(CIL) is an opportunity for local authorities to make new developments deliver value in their communities. It should be used to enhance both safe and attractive streets shared by new and old communities, and the quality of local parks and shared green spaces.

Redirected funding could improve health equalities. Local authorities have ring fenced grants to spend on public health services, which have increased by an average of 5%. However, while the 10 city authorities with the worst health performance were promised 10% extra each year, seven of them have still not received the money. They should be prioritised in the next round of grants and spend the money on actions specified in their Health Infrastructure Investment Plan (HIIP).

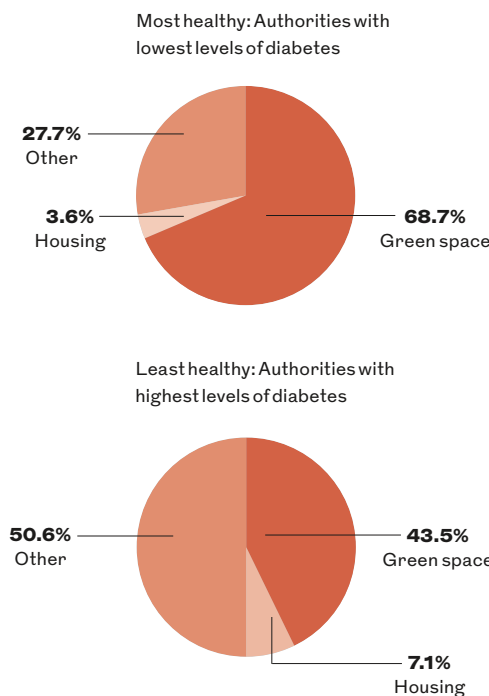
Developers should prove how their new scheme will benefit public health through their design of the public realm and its links to existing infrastructure. This should be submitted as part of the design and access statement when they apply for planning, and address how it complies with the HIIP.

As architects we need to demonstrate to our clients the need for design measures to encourage walking and use of the public realm. The challenge is with you. ●

Anna Scott-Marshall is head of external affairs at the RIBA. Download the RIBA report City Healthcheck at architecture.com

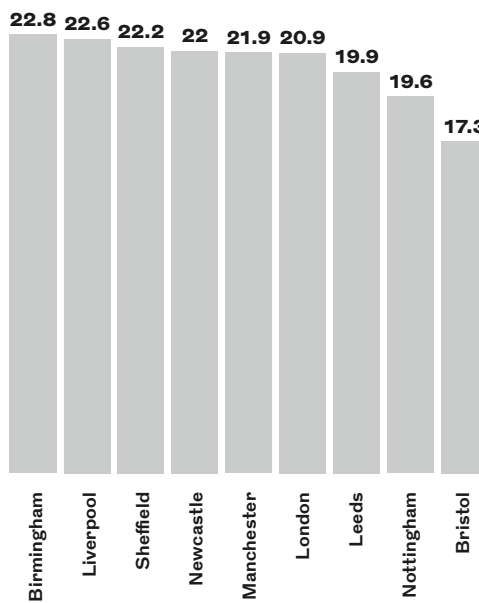
The areas in our cities in which the fewest people exercise have twice the housing density and 20% less green space than those with the most active populations

Land use by local authority

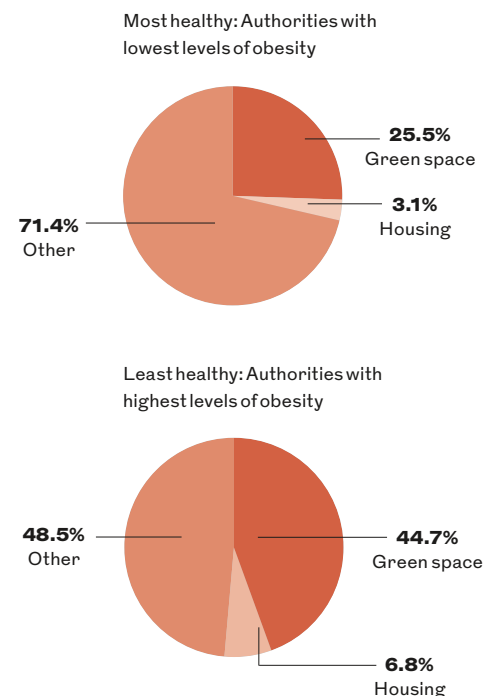


Obesity in children

Levels of obese children (%), ranked from most to least obese (national average 19%)



Land use by local authority



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Too quiet on the home front

While numerous initiatives have simply seen the housing crisis get worse, an RIBA event heard the call for revolution

Simon Baker

It is clear that Britain needs a revolution in the scale, quality and funding of home building. England's population is set to exceed 61 million in the next 20 years and by 2032 our life expectancy will increase by four years. Yet the think tank the King's Fund reports that the number of new homes built each year is close to its lowest level for 60 years.

The Future Homes Commission report, *How to Build the Homes and Communities Britain Needs*, offers revolutionary answers to solve the crisis. Last November, the national RIBA conference in York set out to establish how the industry could meet the

challenge of delivery and raise quality of life, a resonant argument in a region with the smallest new homes in Britain.

Sir John Banham, chair of the commission, challenged the industry, including local authorities, 'not to waste a good crisis... we know what to do, how to do it and can afford it, without spending a cent of public money!'

The number of new homes built every year needs to treble from 100,000 now to around 300,000. But Britain's need cannot be met by private house builders alone. The commission believes the country needs to build 150,000 affordable and privately financed homes for rent and shared ownership every year for a generation.

Clockwise from top right Architects Alex Ely and Andrew Matthews; Chris Thompson of CITU; City of York councillor James Alexander and Sir John Banham; listening to the presentations.

With two million families on council waiting lists for affordable homes and annual expenditure of over £20bn on housing benefit, local authorities have the planning powers and land to kick-start a major building programme. Building 300,000 homes a year would add at least three percentage points to annual GDP growth.

Separate development

Separating development of homes for rent and shared ownership from market housing would benefit both sectors: market housing would not be compromised by the need to accommodate a percentage of 'affordable' homes; while towns and villages would have the number of new homes they need.

New homes-for-rent and shared-equity developments could be sold to institutional investors to generate significant returns. These funds in the UK are under-exposed to residential property compared to other European economies; the Netherlands has the best pension fund system in Europe, with half its property assets in housing. The commission identified a potential funding stream of £220bn, with £40-50bn available now – primarily from local authority pension funds.

Kevin McGeough of the Homes and Communities Agency championed a collaborative approach with local authorities to identify land opportunities and develop strategic masterplans (see graph). Sustainable 'place-making' at scale should be comprehensively planned and strategically led to create distinct places, not just numbers of houses.

Deputy prime minister Nick Clegg has added weight to this situation, saying: 'We



can either condemn ourselves to haphazard urban sprawl – the surest way to damage the countryside. We can cram ever more people into existing settlements, concreting over gardens and parks. Or we can build places people want to live: places which draw on the best of British architecture and design, which have their own identity and character.'

Large scale development needs long term investor involvement. Public sector orchestration of such initiatives could provide development-ready opportunities, allowing for multiple private sector partners. This would help secure both quality and speed of delivery, influencing value and ensuring variety. The UK has a significant legacy from which to learn. We can build on what we know works but we need to work collaboratively.

Embedded quality

Barry McCullough of Levitt Bernstein showed how such a collaborative, partnered approach between the local authority and the developer for Bermondsey Spa ensured that quality ran through the development from the first principles of urban strategy to the negotiation of the Section 106 agreement. This was supported by Andrew Matthews of Proctor and Matthews, who discussed context-specific masterplans as neighbourly extensions to existing conurbations. He de-

scribed his practice's approach through several schemes, demonstrating the importance of understanding how people live in order to create desirable homes with an emphasis on quality. Quality was a dialogue based not on aesthetics but value and the desirability of potential occupiers and neighbouring communities countering their opposition to new housing development.

Only one in four people would consider buying a new build home and 29% think new housing is poor. We need to shift the public perception and encourage re-evaluation of new build homes. The Future Homes Commission strategy would diversify housing supply, giving developers such as CITU and Igloo more opportunity to influence design and develop a more consumer-responsive market to redress the balance with mass house builders.

Chris Thompson of CITU said consumers wanted space, light, considered and inspirational design, and certainty of cost in use. The developer is committed to providing a differentiated product where consumers are informed enough to make their own value judgements. Providing accessible, consistent and recognisable data about the efficiency of homes would empower consumers and move their decision-making away from location and number of bedrooms. The current system of valuation is a force for conservatism which

restricts innovation. John Long of Igloo set out a mission to establish a new market and values. Its Green Street development in Notting-ham provided the broader choice of homes the council required in an 'impossible area' of the city. Its marketing campaign: 'What would you do with £50?' used the £50 monthly saving on running costs to boost sales.

Nigel Ingram of the Joseph Rowntree Trust acknowledged the 'pioneers' that influence the market. The Trust has three aims: to identify the root causes of poverty; support resilient communities and places; and respond positively to an ageing society. As design and as-built performance often diverge, we need replicable models that achieve the performance criteria they claim.

Conflicting instructions

The industry is saturated with information on how our homes should perform. Many standards are confusing, overlap and even contradict. They are designed to protect and help the consumer, but are applied so differently that they are difficult to understand.

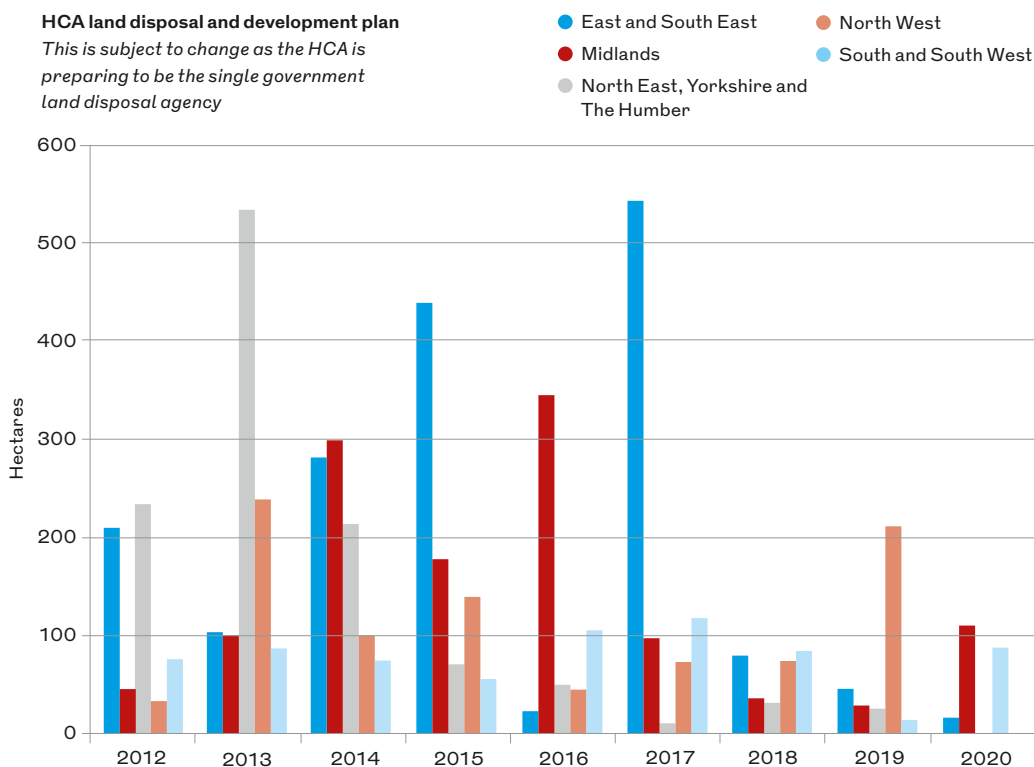
Alex Ely consolidates this thinking in Mae Architects' work to update the London Design Housing Guide. The firm aimed to embed a best practice benchmark in planning policy to cut out duplication and conflict. The guide sets out a minimum requirement but is not restrictive. The practice's work in housing shows how these principles can be applied without constraining ingenuity. Providing future homes and communities requires a macro to micro approach resolving issues of appropriately sized efficient homes in well planned urban environments.

To build the number of quality homes and communities Britain requires, a collaborative approach with consumers, local authorities, land owners, developers and house builders is needed, and a shift in language to communicate the challenges and benefits effectively. Consistent factual information, greater transparency and better dissemination of research will help joined up thinking. Speakers at the event demonstrated the industry's ability and expertise to design and deliver this, but to achieve the quantities of homes without losing quality will require leadership, creativity and fresh thinking. Each discipline needs to take responsibility for their actions and not wait for others to move first. ●

Simon Baker is director at Chetwoods Architects and chair, RIBA Yorkshire

HCA land disposal and development plan

This is subject to change as the HCA is preparing to be the single government land disposal agency



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Investment Strategy

What’s the best way to win work, and how do you avoid giving too much for free?

By Caroline Cole

A sobering statistic to come out of last year’s RIBA Business Benchmarking survey is that practices spent, on average, 11% of their fee earners’ time pitching for work. However, this figure could have been so much higher.

Direct commissions

Last year, half of the new projects were won through a direct approach from the client, with no competitive process at all. This seems remarkably high in this tough competitive world. As you might expect, the percentage fell for larger practices but hovered around 45% for middle sized firms, and rose to over 60% in those with fewer than five people.

As most small practices work primarily in the domestic market where repeat business is limited, word of mouth recommendations are critical. Larger practices, working in the corporate world and public sector, rely heavily on repeat business – last year, it accounted for between 50% and 60% of their new business. Either way, quality of architecture and service play an important part in securing these valuable, direct appointments.

How was the other 50% of new work won?

Fee bidding

Rather depressingly, 21% of new work was procured through competitive fee bids or financial tenders, ignoring design quality or an ability to deliver a project. Interestingly, smaller practices were most likely to suffer this iniquitous approach, since the percent-

age fell substantially for larger firms. Perhaps these tend to deal with more sophisticated clients who realise that price isn’t everything, or perhaps those with smaller projects (that tend to use smaller practices) were more prepared to take a qualitative risk. Whichever, plenty of clients have no idea of the value design quality might bring to a project, buying architectural services the way they buy blockwork.

If we are to snuff out this ridiculous way of procuring architecture, the profession needs to be far more persuasive when arguing there is more to architectural quality than aesthetics. It must demonstrate that good architecture really can add value, in *clients’ terms*: affecting the long-term viability of a project; running costs and maintenance; the enjoyment and so productivity of building users; and, of course, the bottom line.

Frameworks

Framework agreements supplied 10% of new work. As expected, they were most familiar to larger practices; accounting for around 20% of the new work of those with more than 20 people. However, many find that framework agreements can be more trouble than they’re worth. Anecdotal evidence suggests a framework offers no guaranteed work; worse, some clients have started requiring practices on frameworks to bid against each other, often driving fees down below agreed framework rates in the process. It is worth

understanding how a framework will run before embarking on the long slog of competing for this particular privilege!

Design competitions

This survey confirms that clients in the UK do not favour open design competitions. Disappointingly, perhaps, for the smaller, new practices looking to make their names with a splash of brilliance, less than 1% of new work last year was won through open design competitions – and most of that went to larger practices. Some clients did hold invited design competitions but these too favoured those with a proven track record. Of the new work secured by practices with more than 50 people, 15% came via a procurement route that included an element of design; this fell to less than 1% for firms with under five people.

The survey doesn’t tell us whether clients pay practices for ideas offered during design competitions. It is likely that some do offer a nominal honorarium but few will pay a proper design fee as many still see it as a cheap and easy way to get ideas. Certainly last year, 60% of practices undertook speculative design work for clients who did not pay them for their time or ideas. The largest practices were most likely to undertake this unpaid work, so it’s likely that many of the best architectural ideas being generated are, indeed, priceless – which is something to think about! ●

Caroline Cole is director of Colander Associates

Procurement routes	All	Micro	Small	Small medium	Large medium	Large
Direct appointment (no competition)	50%	61%	58%	47%	44%	25%
Competitive fee bid or financial tender only	21%	24%	23%	21%	16%	14%
Framework agreement, with or without further competition for specific projects	10%	2%	7%	11%	19%	21%
Invited competitive interview (no PQQ)	4%	5%	3%	4%	2%	5%
Expression of interest / PQQ only (no design work)	3%	1%	2%	4%	6%	8%
Expression of interest / PQQ followed by competitive interview (no design work)	3%	1%	1%	3%	5%	10%
Expression of interest / PQQ followed by design competition	2%	0%	1%	2%	2%	9%
Invited design competition (no PQQ)	1%	0%	1%	2%	2%	4%
Open design competition	1%	0%	0%	0%	1%	1%
Other appointment processes	4%	5%	3%	4%	2%	3%

Micro, up to 5 staff; Small, 5-10; Small medium, 10-20; Large medium, 20-50; Large, 50+

High incidence Low incidence

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Starting out on your own?
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Nigel Ostime

Spring may still feel some way off but the powers that be tell us the storms of recession are abating and a brighter economic outlook beckons. Despite this optimism however, the downturn continues to generate a rise in the number of start-ups as architects opt to take the plunge rather than seek employment. While the fundamental decisions remain largely the same – is it right for me; can I work on my own; do I want to manage a business, keep the accounts, maybe employ and manage people, be responsible for generating business and so on – there is an increased emphasis on setting up a well-organised, lean business that can adapt to change and roll with the punches. Critical to achieving this is a business plan – something that most architects don't manage to get around to doing.

Publication of the RIBA Plan of Work 2013 has involved the updating of several RIBA publications, including the forthcoming 9th edition of the *RIBA Handbook of Practice Management*. For nearly 50 years this has given comprehensive advice on best practice for running an architectural business, alongside its sister publication the *RIBA Job Book* which covers project management. In our

fast-changing industry, it offers updated advice on matters including starting a practice. Other considerations in the handbook include how to produce work efficiently and effectively, with one option being to collaborate with other practices. Getting taxation right is also important – and not just from a financial viewpoint.

Business plan

The business plan should comprise a full version and an edited summary that is as brief as possible – no more than two sides of A4. The summary should set out ambition, brand and USP; objectives; strategy (to reach those objectives); key actions (with costs and marketing requirements); key client targets and sectors; and the team (that will deliver the plan).

The full version should be as succinct as possible but should also include: practice particulars, financial matters (income to date, forecast, budget, resources and so on) and tools such as a SWOT (strengths, weaknesses, opportunities, threats) or possibly a PESTLE (political, environmental, social, technological, legal, economic) analysis.

It should be written in a straightforward way, not over-academic or wordy, so it is easily understood. The plan is a living document and a tool for practice management – not something to be written and filed away – and should measure progress against forecast and inform day-to-day activities and decisions. It will alter to adapt to the changing business environment and aspirations of management, who must all buy into it to make it effective.

Collaboration

An alternative to employing staff, especially in the early stages of the business, is to form collaborations with other practices or individuals. This has to be carefully managed and it is important to choose partners you know well and feel you can trust and who are reliable. They will have other projects and you need to be certain they will be willing and able to maintain work flow on your projects when they have new work of their own coming in. It is a fine balance but can bring other benefits such as having someone to bounce ideas off and – assuming you have a number of people to call on – broadening your own practice's experience and capabilities by proxy. The Plan of Work 2013 is built on collaboration and this has become a core issue for architectural practice today.

The plan is a living document and a tool for practice management and will alter to adapt to changing conditions and aspirations

VAT

Most practices are limited companies and it is sensible for small businesses to become incorporated as well. Micro practices, particularly sole practitioners, can decide whether or not to register for VAT. Strictly speaking it is only necessary to register if the company's annual earnings are over £79,000, although practitioners may choose to register regardless of anticipated income to project the image of a larger business.

If the intention is to take on larger commercial projects, then clients will generally expect to pay VAT and may not benefit from you not charging it. For a practice intending to work on house extensions and other similar-sized projects, however, the increased cost of VAT might make it uncompetitive. The set-up can be changed relatively easily but this should be part of the initial business-planning process. A business that is VAT registered can be set up on a flat rate. For architects this means paying only 14.5% of the 20% charged (13.5% in the first year of trading). This reduces the administration required but expenses cannot then be off-set separately as they are considered to be subsumed within the lower rate. ●

Nigel Ostime is director of whiteroom architecture and editor of the 9th edition of the *RIBA Handbook of Practice Management*, published by RIBA Publishing, £45.00



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There may be trouble ahead

Arbitration or the court – which would serve you best if things went wrong?

Doug Wass

Disputes between architects and clients can be expensive and time consuming. Clauses in architects' appointments should, therefore, use the most efficient and cost effective methods of dispute resolution.

Most appointments will be construction contracts for the purposes of the Housing Grants, Construction and Regeneration Act 1996. This means both architect and client have a statutory right to refer a dispute for adjudication at any time.

However, adjudicators' decisions are only binding until the dispute is finally resolved by court proceedings, arbitration or agreement. An architect and a client may specify in the appointment whether any dispute should be finally resolved in court or by arbitration; otherwise, unless they agree to refer a dispute to arbitration after it has arisen, it will have to be resolved in court.

Advantages of arbitration

So should an architect choose in its appointments court or arbitration as the final form of dispute resolution?

Arbitration has five main advantages.

Where the parties are from different countries, it avoids the need to select a court system with which one party is far more familiar than the other, which can be difficult to resolve in negotiations.

Secondly, when abroad, it is generally easier to enforce an arbitrator's award than an English court judgment. This might be important if the client's assets are based abroad as the architect may need to enforce an award to pay its fees against them.

Unlike court proceedings, arbitration is private and confidential, so allegations of professional negligence are less likely to be publicised and so damage an architect's reputation.

Fourthly, the parties can choose an arbitrator with relevant expertise. However, this is less important nowadays because most construction related disputes are dealt with in the Technology and Construction Court, which is staffed by highly experienced judges who specialise in complex construction cases.

Finally, arbitrators can in principle adopt a short and more cost effective procedure than a judge. However, in practice, judges often impose more cost effective procedures and tighter deadlines than arbitrators.

For the courts

The main advantage of a court is that the fees are relatively modest when set against those of an arbitrator and its related cost of renting offices for hearings.

In a court it is also far easier to ensure that disputes between more than two parties arising out of the same facts are dealt with in one set of proceedings. For example, if it is unclear whether a building's defects are due to an architect's inadequate design or a contractor's inadequate workmanship, not only will the single proceeding be cheaper but separate claims carry the risk of conflicting decisions as to who is responsible, and could leave the client with a defective building and no compensation.

Overall, court proceedings are usually quicker and cheaper than arbitration, so are likely to be the best form of final dispute resolution for most architect's appointments. However, arbitration can be a compelling alternative where confidentiality is particularly important, the architect and client are from different countries, or the client's assets are based abroad. ●

Doug Wass is with Macfarlanes LLP

The main advantage of a court is that the fees are relatively modest when set against those of an arbitrator and its related cost of renting offices for hearings

ADJUDICATION NOTICES

The Scheme for Construction Contracts requires two different types of notice to be served by the referring party in adjudication proceedings.

The first is the Notice of Adjudication. This starts proceedings and must set out the nature and a brief description of the dispute and of the parties involved, details of where and when the dispute has arisen, the nature of the remedy being sought (for example, an order to make a payment or a declaration as to the proper construction of the contract), and the names and addresses of the parties to the contract.

The second is the Referral Notice. This must be served within seven days of the date of the Notice of Adjudication and must set out full details of the factual, legal and technical basis of the claim. The Referral Notice must also attach copies of all the documents on which the referring party intends to rely, including the contract and any correspondence, witness statements and expert reports.



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If only we knew yesterday what we'll know tomorrow, but things change so fast



Maria Smith

Dec 1989 (Helen is 19 and 32)

Helen: The first time is magical. I'm staring at a blank page the night before my 2nd year interim crit and then suddenly I'm in the studio without so much as a set square to cover my modesty.

Helen: I'm on my way to the 2012 RIBA Awards. One minute I'm fumbling with my business cards; the next I'm in my part 1 studio. Something here rings a bell. I see my younger self in the corner, wearing the weird tutor's smoking jacket and scribbling an elevation. She stares at me incredulously. I pick up a scrap of trace and a pen and draw, from memory, the design she'll work up tomorrow, too late for the crit. She smiles and I'm gone.

Jul 1993 (Helen is 40, Clive is 23)

Helen: I find myself in a loo. Opening the door cautiously, I immediately sense that I'm in an

architecture school. It's early, maybe 7am so I head for the studios, knowing I can rely on students leaving clothes in their home from home. I find a tracksuit and don it just before a student appears. There's no recognition on his face, but this is my Clive.

Clive: Depressed about a pointless tutorial, I go in early to see if I can find a clue in someone else's sketch book. As I walk through the door I see a woman, too old to be a student but wearing a uni tracksuit. Weirdly, she seems to be expecting me. She offers me a job designing a staircase in some library she's working on. She takes my sketchbook and writes a list of dates that we'll meet to discuss the design, then walks away. I follow her through the door but she's vanished.

Nov 1997 (Clive is 27, Helen is 27)

Clive: It's been two years since I've seen Helen. The commissions and tutorials have been invaluable. I'm sure I'd have failed without her. Instead I'm nominated for the RIBA President's Silver Medal.

Helen: Perhaps thanks to the unorthodox help I've had from my older self, I'm nominated for the silver medal. The party is a bit dull but then this guy comes up to me with a huge grin. He knows my name. It dawns on me that I must know him, or I will know him, or we both know me. We look at the exhibition and our snipes align perfectly. We start a practice immediately.

Mar 2007 (Clive is 37, Helen is 37)

Clive: An email pings to tell us that we've failed to get another public job. I try to persuade Helen that we'll have better luck with the upcoming library PQQ but she says she's had enough. I don't blame her. Time and time again we lose out because we haven't already completed the project that we're about to do.

Jan 1999 and Mar 2007 (Helen is 28)

Helen: Clive is sleeping off the new year's party as I turn on the computer and trawl through the first of 1999's invitations to tender. I wonder if we'll ever not have to fight this hard and then I'm in an austere atrium. A security guard has fallen asleep over the paper. I borrow the jacket on a peg behind him and peer over his shoulder for the date. It's 2007, the future! This is rare, what can I do?

Jun 1996 (Helen is 41, Clive is 26)

Clive: It's 23 hours until my final diploma

We look at the exhibition and our snipes align perfectly. We start a practice immediately

crit. I've been awake my entire 20s. I've nothing left, but somehow, I have to finish this Photoshop. I go to make another coffee and when I get back to my desk Helen is there. She's in a great mood because her library project just completed successfully. She's laughing at Photoshop 3 which I find odd because I was just thinking that layers are a miracle.

Jun 2016 (Clive is 46, Helen is 46)

Clive: Helen has been gone for three years. I know she isn't dead because I've glimpsed an older version of herself in a café round the corner, but still, I'm so relieved when she returns. She comes straight back to the office but we soon know it won't work. BIM has really taken hold and anyone who hasn't kept up just can't work. We embrace tearfully and she walks out of the office for the last time.

Sep 2077 (Clive is 107, Helen is 42)

Clive: My hand stumps twinge so I blink online and calibrate the receptors. I have to adjust the speed of the global rotation on my holographixatron but soon I'm building again. The lift shafts are almost complete and I'm excited to start building the ground floor formwork tomorrow. I have a flashback to when architects had to issue drawings and people had to risk their lives pouring concrete. Laughable. I think of how Helen would have been brilliant at this. If only she could have mastered BIM before it was too late.

Helen: I find myself in a dark hallway. I follow it into a room where an old man sits by the window, concentrating intently on something. As I get closer I realise it's Clive! Clive old! What the hell is he doing? •

Maria Smith is a director at Studio Weave
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3: Culture

Thoroughly Modern

The High-Tech dream lives on



Hugh Pearman Editor

In the heady days of 'technology transfer' the conventional building industry was considered way out of step with the modern world. The much-missed Jan Kaplicky liked to cite how much proper technology you could buy in car form compared to how much building work you could buy. 'A few yards of brick wall, that's about it,' he would lament, as he designed his perfect, never-built, space-capable wilderness homes.

This was when architects got excited about using ready-made components from other industries – typically the aluminium yacht mast. Nick Grimshaw famously made a staircase in his office with aluminium treads set into a pair of such masts, acting as the main structure. It creaked satisfyingly as you walked. And when a young Jonathan Ellis-Miller designed me and my family a lightweight, prefabricated first floor house extension in the early 1990s, its delicate spine truss was supported by – what else? – a modified Proctor yacht mast, rising from the garden. It was a lovely thing, supporting a deep metal-mesh balcony as well. How we hated the

Nick Grimshaw famously made a staircase in his office with aluminium treads set into a pair of aluminium yacht masts, acting as the main structure

district surveyor who insisted we dig a hole, 1m wide by 2m deep, and fill it with concrete to make a secure base for this little mast. A paving slab would probably have done the job. That lump may well remain in the earth long after mankind has vanished from it.

That aside, this was, even then, an exercise in High-Tech Revisited. We used twin-wall polycarbonate on the curve, as the pre-PoMo Terry Farrell had done at Clifton Nurseries in Paddington, and cheap off-cuts of Pilkington Planar glazing for the flat bits, leftovers from a big job somewhere. The era we were channelling already seemed historic: when Richard Rogers, say, had conceived of a house made of the insulated sandwich panels used on refrigerated trucks, an idea later taken up in bespoke fashion by Norman Foster on his Sainsbury Centre. That was the problem: although everyone loved the Eames idea of using readily-available off-the-peg components, in reality these tended to need so much modification that architects usually ended up designing them from scratch.

Technology transfer, then: not as easy or as rapid as you might think. Even today, with all our smart kit, most of us still leave our wi-fi networked houses and turn to lock the door with a key mechanism the Tudors would recognise. And then fish out our car fobs and press the plip to open the car, seeing nothing odd about two such utterly different ways of opening doors. Kaplicky, I suspect, would find little has changed, that despite certain advances you still can't buy much building for the price of the average car – because most buildings are still not mass-produced.

But if the early gurus of technology transfer are growing old – old enough to be celebrated in the forthcoming RIBA exhibition 'The Brits Who Built the Modern World', previewed on page 68 – there is also the advance of materials science. Our profile of Zoe Laughlin on page 64 reveals a way of looking at the world through materials that is both inquisitive and joyous. Maybe we'll get there in the end. ●

Pulling objects out of her apron she talked about bioactive glass scaffolds and how to get biology to work for you with self-healing concrete; finally brandishing a block of transparent concrete

Dr Zoe Laughlin
p64

The backlash against the perceived decadence of the icon era, coupled with economic recession, led to a 'hair shirt' movement in many areas

Preview
p68

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Drone Wars

Herbert Wright hopes design can save the high street



Herbert Wright

Sadly for the bricks-and-mortar retail environment, drones don't suffer from the Gruen Transfer. Named after Victor Gruen, who made his name designing swanky Manhattan shops before inventing the suburban shopping mall in the 1950s, the Transfer is the shopper's moment of sudden disorientation, leaving the subject vulnerable to impulse buying. Amazon's online video about its Prime Air Service shows a small drone flying an order from a warehouse to the suburbs. It doesn't get disorientated, but nor does it hang around for a signature or even check anyone's in before it dumps the package outside a house. It certainly doesn't seem prepared to hover at the doorbell like a Jehovah's Witness.

Drop-and-go won't do in the real world. Secure drone delivery bays may emerge, accessible with a code, looking like tropical air conditioning units. The cityscape will alter. Each evening, distribution buildings will release flocks of drones, like bats from caves. It's another step in the rise of online retail, where 10% of UK shopping spend already goes, and increases at double-digit rates. We worry about chain stores turning high streets into 'clone towns', but the big story is online vs. shops. Some shops are already collection points for online orders, sometimes with interactive screens instead of windows that enable orders as well as displaying goods – eBay pioneered that last summer in New York. But death stalks shops. John MacAslan and Part-

Great department stores like Harrods or Selfridges once dominated their built surroundings with the confidence of cathedrals – they can still transform a place

ners responded to the Tottenham riots by setting up a design studio in an empty shop there, offering work placements to one of the UK's most deprived communities. It's a start.

The good news is that shops can do plenty the internet can't: demonstration zones, product support desks, and fresh engaging floorwalkers (whoops, I mean experts) with crazy hair, wireless headsets and iPads. Oh, hold on, that's the Apple Store. But why not extend such concepts to all goods, even other fruits? Demonstrating how to eat five a day would be a great community service. Shops need to be destination in their own right, getting people to linger. Serve them coffee. Surround them with mirrors to effect a Gruen Transfer. Bring in the architects.

After all, architecture's taken retail a long way from covered markets or a smithy's frontage. Today's retail heights, like say Tokyo's shopping boulevard Omotesando, with its parade of flagship stores by Tadao Ando, Toyo Ito, Kengo Kuma, SANAA, MVRDV and Herzog & de Meuron, are a different world. Great department stores like Harrods or Selfridges in London once dominated their built surroundings with the confidence of cathedrals, and they can still transform a place – witness Future Systems' Birmingham Selfridges. It may be easy to scoff at shopping malls, but who would have thought London's Burlington Arcade, designed by Samuel Ware in 1819 would evolve, via Gruen, to planetary super-modernity, with all its tack and transfat outlets? Retail has even redefined skylines. Two of the world's once-tallest skyscrapers were built by retail empires – New York's Woolworth Building (1913) and Chicago's Sears (now Willis) Tower (1973).

E-commerce giants can't match such heights. Amazon's next Seattle base of office towers around three hybrid office/biodomes does try. The same architect, NBBJ, also designed Google's proposed Bay Area 'campus', an ensemble of angular groundscrapers, not unlike the existing Hangzhou HQ of the world's biggest e-marketeer, Alibaba, by Australian architect Hassel. Perhaps Apple's Campus 2 will be the masterpiece: a Foster-designed 464m-diameter, \$5 billion donut in Cupertino. To facilitate collaboration, Apple wanted a walkable building. But in a ring that big, iWorkers should beware of an old gremlin returning... the Gruen Transfer. ●

Trained physicist Herbert Wright is an architectural writer, historian and art critic

POP APPEAL

'Just what is it that makes today's homes so different, so appealing?' asked British artist Richard Hamilton in the title of his seminal 1956 Pop montage, which playfully and provocatively questioned modernity. Hamilton's subjects were often newsy, but sometimes he covered architecture and design: he had a classical painter's mastery of space and made installations. Architects especially could learn from this month's Hamilton exhibitions at Tate Modern and the ICA.

Traveller's Tales

The no-man's-land of flight gives time to reflect and relive significant moments

Tim Makower

It is Sunday. Christmas is approaching. We are flying east, into the sunrise. Dawn is breaking over the Channel; it is easy, when flying, to take stock of one's life. We can be both in the here and now, and removed, somewhere in the clouds, looking down.

It has been a busy few weeks, many secret projects interwoven with Al Rayyan Gate, where our visions of the greenest place in Qatar are gathering momentum.

As usual I am thinking about Old Doha, which is my preoccupation (as opposed to my occupation). The Old Doha Prize last week was a wonderful success – the bubbling mix of competitors from the UK and Qatar unanimously seeking to repair and renew the precious fabric of those un-loved run-down streets – the original traces of Doha's early growth and timeless roots. Bravo.

Over the frosty fields of France, half-obscured through cloud, a winding river ribbon of white gold catches the low winter sun while I mull over the new hospital project in Vellore, southern India. An ambitious brief for a paradise site, overlooked by the exquisite Golden Eye Hill, it is a place my mother visited some years ago. Money raised in a small church in Wiltshire went towards a new children's therapy space there. I don't not know what to expect yet, but when all is revealed in the new year it shows great promise.

It seems strange that hospital design is not generally seen as a high art form. I wonder why masterpiece hospitals seem so rare. The technical and the poetic should not be in conflict; in fact, it should be the reverse.

Buildings are like bodies – skin and bones, organs and flows – and this is in many respects how we relate to them

I think of Aalto's sanatorium, Siza's Hospital de Toledo and Corb's Venice Hospital: 'A hospital is a house of man, just as the dwelling is a house of man. The key being man: his stature (height), his stride (extension), his eye (viewpoint), his hand, sister of the eye. His entire physical nature is tied up in it, in total contact with it'. To lift the spirit and create an environment of health can only aid the work of a hospital. Buildings are like bodies – skin and bones, organs and flows – and this is in many respects how we relate to them. A building for health can be like a healthy body.

The mountains of Turkey are below now, dusted with snow. Their crumpled surface emerges from many lustrous lakes, shining at midday. Far off, the plume of a plane, smaller than ours, hangs in the air.

My mind still lingers on 10x10 – £90,000 raised for Article 25, 100 personal drawings coming together into a collective snapshot of the inner East End. What a venue, the Crossing at King's Cross – an appropriate place to celebrate the city. My own drawing – All Change at Dalston Junction – was a pleasure to make: the meditative process of tracing lines, selecting and filtering, is fruitful re-creation.

Sheer slopes of the red Euphrates, lit by the setting sun, scrape the horizon. Nearly there.

Since leaving Allies and Morrison I have been building something from the foundations up. It is new territory; both exhausting and rewarding. My appreciation of the machinery of a practice has increased, and so has my faith in divine providence.

In the dusk we trace the coast of Qatar. We are coming in to land. ●

Tim Makower is founder of Makower Architects

IN NUMBERS

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Doha founded

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area

1.3m
population

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summer temperature

0%
tax rates



Left Tim Makower's sketch of Old Doha.

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Going the distance

Two individuals on opposite sides of the world have become a tiny global practice

Graham Smith and Phil Collingridge

Round here is Staveley; a main route to the Cumbrian Lakes until the bypass was built, and well-connected to the rest of the UK. But it's no tourist town: the Mill Yard has the biggest bike store in the UK; a bakery; offices for North Face, Montane, Inov8; creative designers; quantity surveyors; planning consultants; a clockmaker; Sid the printer; and the Hawkshead Brewery. The yard is partly powered by a hydro scheme off the River Kent.

Opposite our office is the remains of St Margaret's church. The clock tower dates back to 1338, and the graveyard is still in use, maintained by an army of village elders; its replacement, St James, was built in 1865 and has stained glass windows by William Morris and Edward Burne-Jones which featured on Royal Mail's Christmas stamp, 2009.

There are local sustainable initiatives – SENS raises awareness of sustainable issues, while the Big Onion sells locally produced food in the Mill Yard.

Modern architecture is quite rare in the Lake District. The National Park Authority runs a design programme to inspire architects and the public: notable interventions in sensitive parts of the Lakes include Benson and Forsyth's Wordsworth Museum in Grasmere beside Dove Cottage; Knox Bhavan's house at Rigg Beck; Sutherland Hussey's trio of projects; and Windermere will soon have Carmody Groarke's Steamboat Museum.

Round here is Remuera, a green and leafy suburb containing some of Auckland's largest houses and the best state schools.

An average day starts at 6.30, by 8am I've dropped off my son at the childcare and am

checking my emails in one of the 10 or so village cafés. The café culture here rivals Italy.

Then it's back to the house for the morning session of work which is often a mixed bag – some days concept, others detailing, specifications or client meetings. Today it is filling out building consent forms, made more bearable by the amazing weather. After lunch I go to see a new client about a kindergarten. He is originally from Manchester – banter about Derby County and Manchester United. I decide to pick up my son early and take him to the beach for a swim. By 5.30 we are back at home for dinner and the bedtime routine before I start the night shift. At 11.30 I am handing over to Graham. You've got to love the rolling 24 hour work cycle when you only have to work half of it.

We moved to New Zealand from London eight years ago to escape the daily grind. As working becomes more mobile, lifestyle will be a bigger factor in where people choose to live. We work anywhere by using our skills and networks. This has paid dividends with clients who like the 'global practice' approach while we live where we want to be. The best of both worlds!

We work collaboratively on projects in different parts of the world, without large office overheads or the carbon footprints international travel brings. Last year, using Dropbox and Skype from offices in Montreal, Staveley, London, Tel Aviv and Auckland, we were shortlisted with Sack and Reicher and ESC Studio for the RIBA's York Guildhall project.

We are considering two new collaborations, and perhaps getting in a few bodies to help out. We hope this won't change the way we work, or our time with our families. ●

You've got to love the rolling 24 hour work cycle when you only have to work half of it

HERE AND THERE

We studied at De Montfort University together, and then we both worked at Foster+Partners.

We set up Collingridge And Smith Architects off the back of a Kiwi client who wanted something looking at in London. Phil was already in Auckland, having built a house, and Graham had just decided to move to the Lake District, where he was renovating a 300 year old house, and expecting a baby.

On the basis that Staveley was closer to London than Auckland we set up the company in March 2012: Graham had a daughter the next day, and we submitted our first planning application.



Left Exterior of Fantails Childcare Early Learning Centre, Auckland, NZ.

SIMON DEVITT

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Kengo Kuma & Associates, Pacific Flora, main gate (2004), detail.
© Daici Ano / Leah Silhouette, detail. © Rick Nunn

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Making a difference

Diversity enriches everyone; the RIBA is on the case



Stephen Hodder

2014 promises to be a very busy year for the RIBA. This month, the ground floor gallery at Portland Place, designed by Carmody Groarke, will open with an inaugural exhibition entitled *The Brits Who Built the Modern World* (see preview, page 68). Held in conjunction with the BBC, it will showcase the work of Farrell, Foster, Grimshaw, Hopkins and Rogers, and be followed by a discussion with the architects on 11 March. April sees the launch of our new website, and with it the refreshed 'Find an Architect' search tool for clients. Work will continue with the Membership Review and implementation of the Fellowship category. The year will conclude with the opening of our new offices at 76 Portland Place, designed by Theis and Kahn, together with the new Mann Island gallery in Liverpool, whose opening exhibition recently received HLF funding. All this is set against an improving economic background and an optimistic outlook, as confirmed by the most recent Future Trends survey. Ongoing work under the heading RIBA for Clients will seek to inform and stimulate opportunities within this developing environment.

Last year saw the appointment of Jane Duncan as equality and diversity champion. The RIBA created the role to give senior sup-

While the UK is becoming more ethnically diverse, in 2012 94% of architects were white, up from 81.1% in 2001. Ethnic and cultural groups make up 8% of the population, but only 1.8% of architects

port to the proactive work delivered through Architects for Change (AfC), established in 2000, and which brings together external networks including Women in Architecture, the Stephen Lawrence Charitable Trust and the Architecture Student Network. Last December, the RIBA Board approved additional funding for this year's programme, which will see our work step up a gear. The institute is committed to identifying the causes, problems of, and remedies to, inequality in architecture and the broader industry. It is pivotal in leading the profession to a diverse future.

There has been a good deal of discussion recently about the gender gap, and discriminatory and unlawful behaviour against women in architecture. But equality and diversity affect us all, and the statistics are disappointing. While the UK is becoming more ethnically diverse, in 2012 94% of architects were white, up from 81.1% in 2001. Ethnic and cultural groups make up 8% of the population, but only 1.8% of architects. In the working population 19% have some sort of disability but there is little information in architecture, while 48% are women, but RIBA members number a declining 16%. But experience of the most successful chartered practices suggests a diverse workforce can improve productivity and performance.

In 2014, the RIBA will tackle inequality on two fronts, underpinned by membership research carried out with the Construction Industry Council. We will improve access to careers in architecture for young people who have previously been excluded, and promote good working practices to tackle retention and progression in the profession.

We will identify and promote a number of different role models to encourage a more diverse range of young people into the profession. The FLUID Mentoring Programme, developed by AfC with the CIC, will continue to help those from diverse backgrounds who aim for management and leadership roles in the built environment.

Through investigative events we will seek out and share best practice on access, supportive management, fair play and flexible working conditions. This builds on past initiatives to make the profession more inclusive. Diversity in practice in the UK faces an urgent challenge and we need an open discussion about why it makes sense to make the profession more accessible and inclusive. ●

@HodderPRIBA

RIBA AWARDS 2014

The deadline for all UK and EU entries excluding Scotland is midnight on Friday 7 February 2014. Details at: architecture.com/awards

Zoe Laughlin doesn't quite turn base metal into gold but her experiments with materials open a new world of possibilities. And they're great fun too

Words: Eleanor Young Portrait: David Vintiner

21st century alchemist

Dr Zoe Laughlin disassembles her Swiss army knife. Beneath the trademark red handle are parts of an Oyster electronic travel card. But not the card itself. She dissolved this in acetone, leaving just the chip and an aerial twist of copper, now part of the knife.

Laughlin likes to meddle in the world around her. She could be called a materials scientist – she runs the Institute of Making at University College London, she has a PhD and has written scientific papers. 'I have done work that is science,' she acknowledges. But she began with performance in Wales, then art (and time-based installations) at Central St Martins. Making things made her want to know materials in as many ways as possible, and science was the way to find out.

And she wants you to know too. She greets us shoeless on the cold floor, her Araldite hole fix not having survived the torrential rain, and immediately launches into the story of bringing a fallen tree, root ball included, from her family's Kent farm into the institute

to be handled, chopped, carved, sawn and broken. There is drama as the tractor almost tips on a steep slope, craziness in the idea of carting it into London and – most important – the tangibility of the tree.

The institute began with a library of materials which Laughlin started building up when she was at King's College, taking it over to a new BDP-designed space in UCL's new engineering building early last year. 'We wanted to give people the experience of the physical object, beyond data sheets,' she explains. And what objects: aerogel as used by Nasa, hazelnuts, at least five forms of cork, baby teeth, memory foam, broken glasses and chocolate. The delicate, super precious and radioactive are behind glass (birds nest, diamond and fluorescent uranium). But the UCL student and staff members of the institute and visitors to their frequent open days are welcome to handle the rest. The tiny damages and patina they inflict are understood as a research project in itself as cubes of mal-



Making flames:
Zoe Laughlin introduces
strontium chloride in
methanol to a blowtorch.



leable Blu tack and nibblable chocolate lose their corners ('it's all about their mechanical properties'). Some things, like the tree, are for those of all disciplines using the workshops.

Is it bendy? What does it feel like? What will look like in 20 years? 100 years? What does it look like 10m away? 100m? Or when you have a hat on? There are lots of ways to ask questions about materials, Laughlin has hundreds. 'Often only one or two important questions get asked,' she says. 'In buildings that might be how does it behave under a load and what does it look like?' Her PhD alerted her to the 'Tyranny of the Swatch'. Delving into libraries and archives, including that of Foster and Partners, she realised the tantalising promise of samples on a chain. And when she stared to examine a sample of 'the shiniest aluminium in the world' she had a few questions, like how shininess was measured and what an expanse larger than the credit card sample would look like. Ordered at A3, it was wobbly, noisy and prone to distortions. 'You wouldn't experience it in such an alarming way when it is small,' she says.

Growing up in Sandwich, Kent the concrete cooling towers of Richborough Power Station were a reference point through her childhood, watched as they embraced the weather ('there was a bit that always got wettest when the rain was blowing from the sea'), photographed, and drawn. They were blown up in 2012. Out of the country Laughlin watched the live webstream. It had been a huge landmark on arrival but, from across the fields, adopted the scale of a hand thrown pot, rendered domestic by perspective.

In her Wonderstuff slot on ITV's *This Morning*, 'Dr Zoe', as she is styled, shows the public magnetic liquid, how to isolate DNA and fabrics made of steel. Her demonstrations, wherever they are, normally include a microscope too. And often some breaking, or at least denting. Last autumn she took the stand at the RIBA's Guerilla Tactics conference and talked about new materials and some new versions of old ones. Sticking Gecko tape (mimicking the sticky feet of these creatures) to the historic timber panelling at 66 Portland Place she explained its relationship with Velcro and reminded the audience 'all materials are smart materials if you ask the right questions'. Pulling objects out of her apron she talked about bioactive glass scaffolds and how to get biology to work for you with self-healing concrete; ending with a flourish as she bran-



'All materials are smart materials if you ask the right questions'

dished a block of transparent concrete.

She is not impressed with how this exciting mixture of concrete and optical fibres has been turned into a product. 'The decorative panel misses the point,' she says. That is perhaps why she wasn't prepared to pay for a sample and set out to make her own. 'There are more interesting things to do with it, it needs to be embedded in a building... it could be used as an analogue screen... the light can go round corners... it could be a data pipeline...' But she admits she could do with a bit of expert help on the concrete technology before she makes blocks that are any bigger.

The future of materials lies not in some computer environment but in a more interesting explanation of their properties. Peeping over someone's shoulder at a laptop during a train journey she saw how samples had become electronic, just dragged and dropped onto CAD designs. 'The colours and textures looked like flats at Elephant

and Castle, the grey blue of the material language seemed to borrow the clicky rendering it was represented in,' she says. Though the interrelationship interests her, she dislikes the distancing from the material. Is it an example of our conservatism about materials? Perhaps; Laughlin is not surprised clients don't want to use unproven materials with big budgets at stake. But there is another question (of course): 'What do we mean by a new material? How about using a material in a different way?'

When she gets out the Bird's custard powder for the portrait I start to get her meaning. No yellow gloop here. Blown through a tube over a blow torch it ignites with a cloud of fire. A little copper powder and a rather bigger breath and the ceiling is shot with fire that almost takes out the camera too. Then it's bright red as methanol and metallic salts are sprayed into the flame. As creative director of the institute she is also its star turn, but bringing in other thought-provoking makers is important too. Sometimes they are home grown – as with the Make-a-thon where participants were asked to make an ecological loo for UCLoo Festival (on sanitation in case you hadn't guessed). At the institute there has been perfumier one month, a session on flint napping, partners like Atkins coming in for a day of challenges and a regular stream of members making everything from heart valves to engagement rings and, in doing so, breaking out of their disciplinary boundaries – art, architecture, engineering – en route.

It might all sound like a bit of show – and there is a lot of showmanship – but you are soon learning about cell boundaries and the importance of controlled crystallisation of fat in chocolate – and thus the effect of climate on the confection's smoothness. And I haven't even touched on her spoons – one of Laughlin's 'odd' experiments that married making spoons of different metals with blind tasting and quantifiable data about the metals. The spoons are elegantly on show (beside tuning forks in pitch-bewildering materials). Her experiments into the taste of metals have led to work with a Michelin-starred chef and now an airline to make the most of their cutlery.

'My dream is to design the spooniest spoon of all,' she says. She hasn't got there yet, but if anyone can do it, Zoe Laughlin can. ●

The next public open day at the Institute of Materials is Saturday 15 March,
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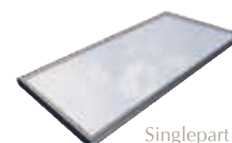


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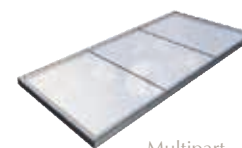
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One giant leap

A critical shift took place in the development of architecture when a post-war blaze of High Tech swept aside the old ways of building. Hugh Pearman saw it happen

Hugh Pearman

This is a big moment for the RIBA's cultural outreach programme. The inauguration of its new Carmody Groarke-designed ground-floor gallery at 66 Portland Place – named simply The Architecture Gallery – takes place later this month (profile of Carmody Groarke, RIBA January 2014). With most of the administrative functions of the RIBA moving at the end of 2014 to a building a few doors up Portland Place, redesigned by Theis and Khan, this 80th year of Grey Wornum's building will be a pivotal one.

We'll assess the architecture of the Architecture Gallery in a future issue: here, we consider the subject matter of the opening

exhibition, boldly titled *The Brits Who Built the Modern World*. This is a retrospective of the most fruitful period of post-war British architecture, the period when a group of determined, talented architects reinvented the way buildings were designed and built, and then moved on to international success. While we may need no reminding of the achievements of Norman Foster, Richard Rogers, Nicholas Grimshaw, Michael and Patty Hopkins or Terry Farrell – the central group in the show – this, remember, is aimed at the public. Indeed, it is tied in with a spring BBC 4 series of the same name, though it spreads its net rather wider. Spry though they all are, the group members are no spring chickens: the youngest (Patty Hopkins) is

71 and the oldest (Richard Rogers) 80. It's a timely moment to introduce a new public to this high-tech post-war, postcolonial generation and what they went on to achieve.

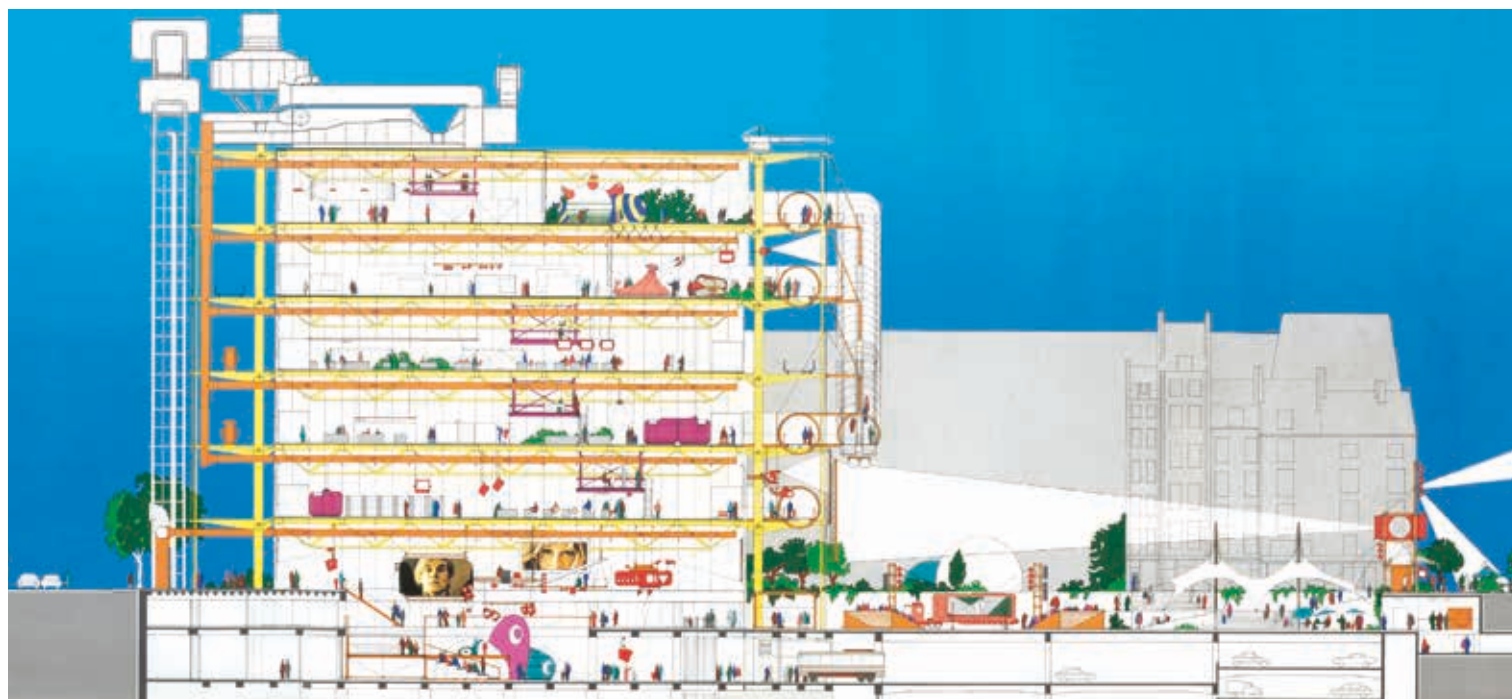
I was asked to contribute an introduction and a tailpiece to the book of the exhibition. Since my own youthful introduction to contemporary architecture happened exactly to coincide with the rise of high-tech, these extracts are part of what I found myself writing.

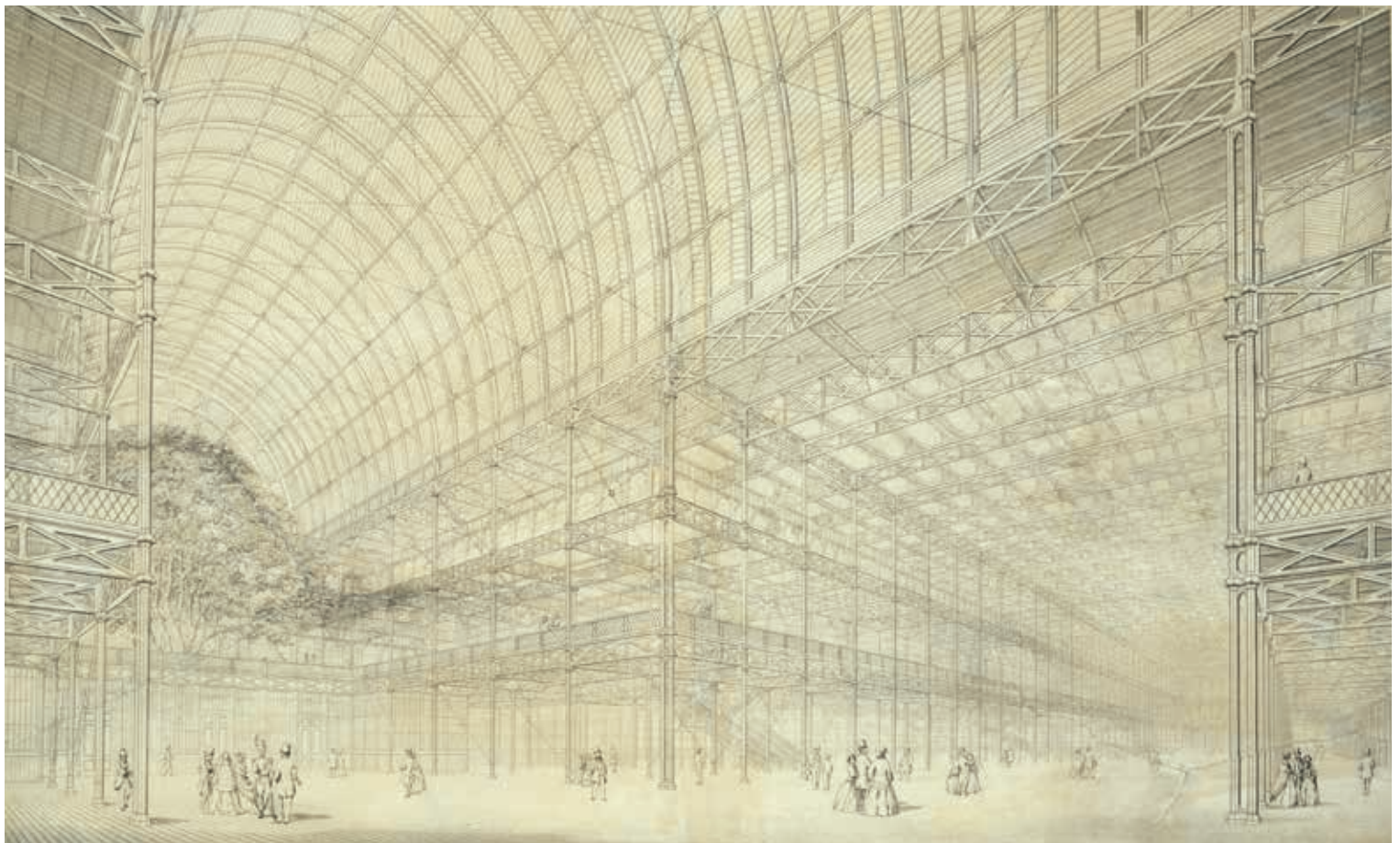
A mysterious shed

Sometime in the mid 1970s a friend and I, driving south from our north-eastern university, decided to make a detour to the University of East Anglia. We shared an entirely amateur liking for modern architecture, the more concrete-and-glass the better. The new National Theatre in London was about to open, and we liked that. But we knew of these earlier buildings by the same architect, Denys Lasdun: a new-wave university where students lived in space-age ziggurats set in a grassy landscape. We got there in my friend's aircooled primrose-yellow Citroen GS, which looked exactly right here, and duly marvelled at the ziggurats. Then, strolling around, we found something else.

It was still being built, but its metallic

Below Cross-section of Piano's and Rogers' seminal Pompidou Centre in Paris, 1971-77.





Above The Victorian inspiration behind much high-tech: Paxton and Fox's Crystal Palace, 1851.

shell was in place. It was an enormous long hangar of a building, with glass ends and a frame of tubular steel spars, entirely unlike the Lasdun mothership to which it was tethered at an angle. We peered in at one end and speculated as to what it was for. Not teaching, not living, not a library or students' union, yet in a university: it must be some kind of sports hall, we concluded as we drove off. This was my first, unconscious, exposure to a building by Norman Foster. It was, I later discovered, the Sainsbury Centre, a combined art gallery, student centre and arts faculty. Somewhat altered and much extended by Foster over the years, always nurtured by the philanthropic Sainsbury family who originally donated their art collection to it, it is now a grade II* listed building.

That architectural moment marked the changing of the guard in British architecture. Lasdun's heavyweight approach had evolved from his 1930s youth, working with

concrete-modernist pioneers Tecton. Foster's arose from a new sensibility: he had studied in America with another now world-famous architect, Richard Rogers, and later worked with him. The two had found conventional building techniques to be a messy, wet, almost Victorian business: why couldn't buildings be more like cars or ships or the construction toy Meccano, assembled from dry, prefabricated components? This idea was not new: as early as the Festival of Britain in 1951, architects were predicting a science-fiction future. But it took a while to arrive.

High on High Tech

Along with many architects of the time, Foster had sat at the feet of visionary American engineer-inventor Richard Buckminster Fuller, an early environmentalist. It was Fuller, whose opinion was sought on the Sainsbury Centre design, who asked Foster the famous, oft-quoted question: 'How much

does your building weigh?' The future, it seemed, was lightweight and clip-on. Over in Paris, Rogers was about to complete the Pompidou Centre with Renzo Piano, which looked like nothing that had ever been built before. And so I found myself entering a career of writing about architecture, just as what came to be known as High Tech was rising to international prominence.

When we talk about The Brits Who Built the Modern World it is this generation of architects – including Grimshaw, the Hopkinses and Farrell – that springs most readily to mind. Where older generations of architects, some of them in this exhibition, had had the Empire to provide a ready-made market, they did not – with the notable exception of booming Hong Kong. All the more remarkable, then, that they were able to export their approach to other nations, turn it into a global, and globally-recognised, commodity. Rogers was the first to internationalise, the

Hopkinses the last, but by the 1980s, other styles and names were coming into play, with the likes of cool modernist David Chipperfield and the highly theatrical 'narrative architect' Nigel Coates, working in Japan. They had to: there was no work in the UK.

High-tech seemed able to surf over the retro decade of the 1980s, when much British architecture seemed to consist of ever more outré postmodern buildings. Most such exercises were doomed to early extinction though some proved exportable, notably in the hands of James Stirling (an influential teacher of the new generation as well as a great architect in his own right) and Farrell, who enthusiastically embraced post modernism. Stirling became big in Germany and America, as did Foster, Grimshaw and Chipperfield. Farrell followed Foster to Hong Kong, and eventually Beijing. More restrained modernism reasserted itself in the 1990s, but by the start of the 21st century it was stylistic open house and a remarkable new talent was making her mark on the international stage. Zaha Hadid's extraordinarily original buildings took a while to gain acceptance, but once they did, she found herself in demand globally.

Next stop, the world

In 2014, the British architectural profession is globally spread as never before. Of the 27,613 readers of the RIBA Journal, for instance, more than 4,400 are based overseas. There are more members of the RIBA in Hong Kong than there are in Wales. There is also a Gulf chapter, while the USA counts as a 'region' with seven separate chapters of the Institute. To take just one of the game-changing practices covered in this exhibition, Grimshaw's New York office is in operational terms now two-thirds the scale of its London parent and is the practice's most cosmopolitan. 'This is a reflection on New York and in particular the schools of architecture,' remarks Grimshaw deputy chairman Andrew Whalley. 'We have quite large groups from South Korea and China but also Taiwan, Brazil, Colombia, Mexico and a large contingent from the UK and Australia.'

In common with other architects working internationally, the British have moved into the BRIC nations – Brazil, Russia, India and China – and, increasingly, into existing and emerging economic powers in Africa and Central Asia. Thus London-based David Adjaye is contributing buildings to Moscow,

Washington, Oslo, and Ghana while a long-established award-winning multi-regional UK practice, BDP, trades also from Ireland, the Netherlands, the Gulf, India and China.

On a smaller scale, you find a practice such as Edinburgh-based Sutherland Hussey, a well-regarded firm with (like most of the others mentioned here) a Stirling Prize nomination to its name, suddenly working simultaneously on a micro and macro scale at opposite ends of the earth. 'At one point,' Charlie Sutherland wrote in the RIBA Journal in October 2013, 'we were planning the eastern expansion of Chengdu in China – with a total population greater than Edinburgh – while our only work in Edinburgh was a 25m² allotment shed that was going through a difficult public consultation.'

Names such as these underpin the better known 'signature architects' from Britain who tend to make the headlines. Underpinning all this in turn is the RIBA-accredited system of architectural education, seen as an international gold standard. It is by no means immune from criticism back home, but overseas its emphasis on personal creativity is often seen as a desirable antidote to the more normal business of learning by rote.

Today architecture is in a state of complete architectural plurality. The backlash against the perceived decadence of the icon era, coupled with economic recession, led to a 'hair shirt' movement in architecture – keep it plain and simple – in many areas. A new wave of eco-architecture also came through in the first decade of the 21st century, from individual houses to complete city districts. And a new respect has emerged for old buildings, even relatively recent old buildings.

But we are all waiting for the next architecture movement – one like that seismic shift from old modernism to high tech, when everything started to change. A Pompidou Centre moment, if you like. I don't know what this game-changing building will be or where it will be. Logic suggests that it may well be driven by biology as much as by more conventional 'hard' technology. At times like this, architecture takes on religious characteristics: we seek the prophet who will show us the way. All I can say is that, given the fertile conditions in which architecture has developed in Britain since the 1950s, we might well start by looking in our own back yard. ●

The Brits Who Built the Modern World is at the RIBA Architecture Gallery, 13 Feb - 27 May

We are all waiting for the next architecture movement – one like that seismic shift from old modernism to high tech, when everything started to change. A Pompidou Centre moment, if you like

Below Brits in Hong Kong: Foster's HSBC headquarters, 1979-86 (foreground), is overlooked by Farrell's Peak Tower, 1991-95.





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Jack Lynn

1926 – 2013

Crusader for decent homes for working people whose greatest triumph was Sheffield's famed Park Hill estate



'Any fool can come up with a solution; the key is to find an elegant solution.' This sums up the professional approach of Jack Lynn, one of the defining figures of post-war British architecture, who has died, aged 86.

The youngest of eight children to a mining family in Northumberland, he was born into poverty in the aftermath of the 1926 General

Strike. Raised as much by his eldest sister as his parents, in a fervent Methodist home, he developed a lifelong belief in the value of a strong community and close family, and the basic right of working people to work, decent education, housing, and health provision.

Jack studied architecture at King's College Durham during World War Two. Driven by a desire to be part of the newly-formed NHS, he first worked for the East Anglia Health Board in Cambridge, but Donald Gibson invited him to join Coventry City Council, where he began a career of intense dedication to the design of public housing.

Lewis Womersley asked Jack to form a new team at Sheffield City Council, and was persuaded also to employ Ivor Smith, who Jack knew from Cambridge. The two are credited with the planning, design and vision that led, over a decade, to the construction of Park Hill estate – the largest listed structure in Europe, shortlisted, after its recent reinvention, for the Stirling Prize. Jack believed the post-war reconstruction of working class housing deserved the same care and attention in design, the same elegance, as any grand country house – insisting on the involvement of artists John Forrester and Ben Nicholson in the composition, form and colour of Park Hill.

While in Sheffield, he met and married Mari Pendergast, an Irish nurse from a large family.

When Womersley left Sheffield to open an architectural practice in Manchester, Jack followed but quickly became disenchanted; after 18 months he and Mari and

their two young children packed the car and drove north.

In 1963, what had been King's College Durham was reconstituted to become the University of Newcastle upon Tyne, and he was appointed in 1966 to help with master-planning during a period of intensive expansion. With Donald Kendrick he established Kendrick & Lynn Associates in 1968, which maintained an innovative approach to social, student, and private housing.

He mentored, employed or influenced many of the next generation of architects; he knew Alison and Peter Smithson well and particularly appreciated James Stirling, admiring his skill with mass and form (he was no lover of high-tech architecture or excessive use of glass).

Jack was a valued friend of architect, author and disability rights campaigner Selwyn Goldsmith, whom he had met through Mari's work with the Disablement Income Group. They developed ground-breaking ideas promoting inclusion, independence and choice, which Jack used in his work for the Calvert Trust at Kielder and for Disability North at the Dene Centre in Newcastle.

Jack and Mari retired in 1988, and in 1993 he re-modelled a pair of houses to form the home where they remained for the rest of their lives. Early in his retirement, Jack returned to his first passion for Greek architecture, researching in huge detail the 5th century BC rebuilding of the Athenian Parthenon and publishing two books. Later, he cared for Mari through her last illness and after her death in 2001, found mutual support and companionship with Fiona Manzeh-Longbone, herself the widow of an architect. Fiona died in September 2012.

From conversion to Roman Catholicism in 1968, he had a solid but argumentative relationship with the church; disagreeing with much of its hierarchy but retaining strong personal faith. He was a committed supporter of the Saint Vincent de Paul Society, and worked at local and national level for the rehabilitation of offenders. He prepared designs for a number of unbuilt cathedrals, entering the competitions for Coventry and Liverpool Metropolitan cathedrals. The Diocese of Hexham and Newcastle became a regular client of his practice.

Jack Lynn is survived by his children Jon and Inez, and his grand-daughter Nicola. ●

In Memoriam

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ELECTED 1959, SOLIHULL, WEST
MIDLANDS

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ELECTED 1961, CHELMSFORD

**CHARLES HUGH ALEXANDER
MACCALLUM**
ELECTED 1961, OXFORD

JACOB BLACKER
ELECTED 1964, LONDON

**EDWARD ALAN CHARLES
HAMMOND**
ELECTED 1964, WANTAGE,
OXFORDSHIRE

ANTHONY JOHN HARRISON
ELECTED 1965, TOTNES, DEVON

PATRICK KELLY
ELECTED 1967, LONDON

DAVID JAMES NEW
ELECTED 1972, SEVENOAKS,
KENT

ANTHONY BRIAN EVES
ELECTED 1972, GERRARDS
CROSS, BUCKINGHAMSHIRE

TERENCE WILLIAM HOWLAND
ELECTED 1973, LONDON

JAMES THOMAS ALMOND
ELECTED 1979, PRESTON,
LANCASHIRE

DONALD JOHN ALLWRIGHT
ELECTED 1980, ALTRINCHAM,
CHESHIRE

ALEXANDER TODD DAWSON
ELECTED 1987, ALLOA,
CLACKMANNANSHIRE

MICHAEL SIEW
ELECTED 1948, SOUTH AFRICA

CONRAD JOHN MORAN
ELECTED 2008, CHIGWELL,
ESSEX

BERNARD MELCHIOR FEILDEN
ELECTED 1949,
NORWICH, NORFOLK

PETER GEORGE ELPHICK
ELECTED 1948, STOCKSFIELD,
NORTHUMBERLAND

DEREK HARVEY SPALL
ELECTED 1950,
WARLINGHAM, SURREY

DONALD GLEN ELECTED
ELECTED 1950, CHALFONT ST
GILES, BUCKINGHAMSHIRE

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Exchange

Labour of love

I recently came across Lionel March's article in the Nexus Journal that finally put to death the argument that Palladio used the Golden Ratio as a design principle (www.emis.de), and having written my history thesis on Palladio 40 years ago, decided to follow the matter further.

After trawling through all the Palladio websites I can find, I am beginning to wonder if I am the only one who has noticed that Palladio based several of his designs on Alberti's advice given in *De Re Aedificatoria* of 1452, translated into Italian by Pietro Laura Modenese and published in Venice 1546, not Vitruvius, for which Palladio was in Venice preparing illustrations for Daniele Barbaro's translation at the same time.

For example, Villa Maser, designed for Barbaro and his brother and built 1551-8, exhibits characteristics recommended by Alberti over 100 years before.

He adopted the porticoed front and general proportions of ancient Rome, but used lesser ornamentation of the Villa in favour of amplifying that to the Tempio, the portico especially (rectangular villa – earthy, round temple – heavenly); used arches and arcades for the common folk or workers, and columns or pilasters for the owners or aristocracy; used slightly curved lines for walls throughout (instead of absolutely straight) as in the barchesas; installed a grotto and fish ponds behind the owner's quarters; painted frescoes on the interior representing family scenes, perhaps as a record of the owner's children when they were young, as photo albums are used today; built in brick and stucco because it seemed to him the best building material ever invented and has nothing to do with cost saving as is still advocated – even the Villa Emo at Fanzolo website. Incidentally, Alberti was a friend of Brunelleschi, who had just constructed the great dome in Florence using fired



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brick, seemingly unknown to Vitruvius, while mediaeval castles all over Europe were being torn down and rebuilt as star forts, also in fired brick.

In 1973, I went into all sorts of other things concerning off-axis construction, wilful distortion, etc, but didn't get into the use of whole number dimensions simply for the ease of design, where 3-5-8 rooms are bound to turn up from time to time; I still like them.

Is there an RIBA Palladio Society where we could discuss these things?

Peter Dew, Abu Dhabi, UAE

Credible point

The RIBA piece about the Plan of Work 2013 (Practice, October 2013), seen from the point of view of data, says the design will have been defined by lines (geometric data) whereas the substance will be defined by words. My interpretation of 'words' in this context is specifications. In a previous article about the PoW 2013 Dale Sinclair said design information should be 'backed up by the specification'.

I am concerned that the latest article says there is still a need for more research into how the words can be produced and by whom, yet the PoW is already a published working document. This reinforces my belief that more emphasis should be placed on pragmatic issues such as specification.

The same issue carries an article about PII stating that 30% of claims emanate from errors of contract administration.

This is a compelling argument to cover specification and contract administration in greater depth in the RIBA curriculum for approved courses, for the architect to retain credibility in the market place.

Howard de Mont, Loughton, Essex

Name change

Perhaps Carmody's and Groarke's 'little conspiratorial' smiles were as a consequence of swapping surnames. Great design, sloppy journalism.

Dominic O'Neill, London SE3

Andy Groarke and Kevin Carmody's names were confused in the article on Carmody Groarke (RIBA January 2014, p60).

Apologies, they are not that interchangeable – Ed

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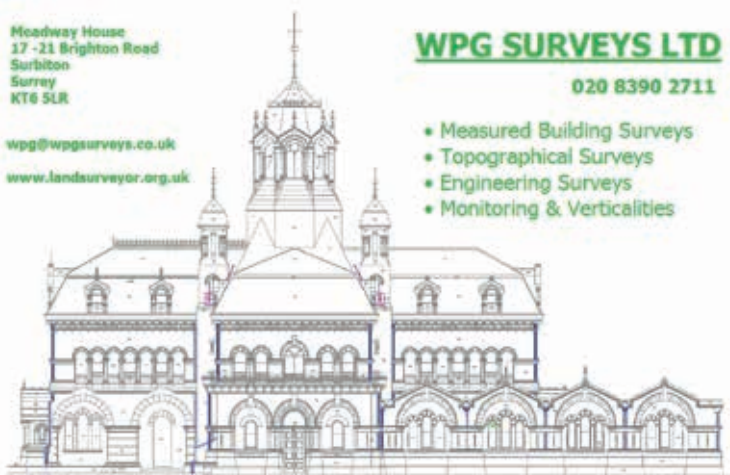
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e: projects@parksidegroup.co.uk



New brochure answers all your timber window renovation questions

Ventrolla has unwrapped its brand new brochure, providing expert advice on a wide range of specialist draught-proofing and renovation services for period timber windows. The glossy new brochure is full of detail and answers some common questions about the two-part renovation and upgrade service available, including information about the unique Ventrolla Perimeter Sealing System (VPSS).

t: 0800 0277 454

w: www.ventrolla.co.uk/downloads



Install Glass with Ease with the TAPER-LOC® System

The TAPER-LOC® Frameless Glass Balustrade System was used at the Bellevue Terrace Apartments. The advantages to the TAPER-LOC® are that it is 50% faster to install than alternatives, it meets BS 6180: 2011 requirements, and you will save time and money as you can adjust, dismantle and re-set the glass panels.

t: 00 800 0421 6144 e: crl@crlaurence.co.uk

w: www.taperloc.co.uk



Reynaers brings innovation and energy to 'most significant' London regeneration project

Aluminium window solutions by Reynaers are bringing aesthetically-pleasing designs, innovative structures, strength and optimised energy efficiency to two new residential housing blocks in King's Cross Central. The new buildings are part of an affordable housing scheme in one of the most significant sites of development and regeneration in Central London.

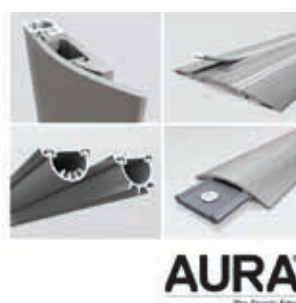
e: reynaersltd@reynaers.com



App shortlisted in industry awards

A new smartphone App that makes choosing the right cavity wall tie for any application both quick and easy has been shortlisted for the prestigious 2013 Build It industry awards. Developed by structural fixing specialist, Ancon, the new App provides solutions for all standard masonry and thin-joint block-work, steel frame and timber frame constructions, and cuts out much of the complicated calculation work.

w: www.ancon.co.uk



Architectural seals reimaged – Lorient's new AURA® rangal

For almost 35 years, Lorient has been designing and manufacturing the highest quality sealing systems for performance doors across the world. Today Lorient is unveiling a new and exciting range of contemporary architectural seals under the brand name of AURA®. The AURA® range embraces a discerning selection of drop seals, perimeter seals, door bottom seals, threshold plates and ramps.

w: www.lorientuk.com



Not your usual safety floor

FUNCTION usually comes before form - but not with Tarkett's new Safetred Design Collection.

Carrying on the company's reputation for manufacturing beautifully designed yet high-performance flooring, the range has been created using high-end design principles while still delivering the benefits of slip-resistant safety flooring.

The new collection includes 26 designs, a Loose Lay construction option and comes with a range of accessories to make the fitting process easier.

Steve Urwin, UK Marketing Manager for Tarkett, said: "Our Safetred Design Collection offers a complete package of commercial safety flooring solutions with fresh, aesthetically pleasing features.

"We have created a decorative safety flooring toolkit that we feel will be very useful to architects, specifiers and contractors."

Available for the first time are ceramic effect tiles as well as the ever-popular wood and stone visuals.

e: marketing@tarkett.com [twitter@tarkettuk](https://twitter.com/tarkettuk).



Gerflor's Tarasafe™ vinyl safety flooring is exclusively specified for multi-million pound school project

More than 8,000m² of Gerflor's Tarasafe™ range of specialist slip-resistant vinyl safety flooring was specified for a £37.1 million flagship of a Scottish school building programme. Architects Cooper Cromar specified the hard-wearing safety flooring for The Lasswade Centre, home to 1,500 pupils and many after-school community facilities. Lasswade, in Bonnyrigg, is the second building constructed in Scotland's £1.25 billion Schools for the Future programme, along with Eastwood School in Renfrewshire, and both have utilised Gerflor flooring for its aesthetic appeal and hardwearing durability.

All the Tarasafe flooring at Lasswade and Eastwood was impregnated with Sanosol® fungistatic and bacteriostatic treatment and incorporated Gerflor's unique SparClean® treatment, which eliminates dirt traps and cuts overall maintenance costs by reducing the need for cleaning materials.

t: 01926 622 600

e: contractuk@gerflor.com

w: www.gerflor.co.uk



A Custom Project

Working closely with architects BIG, Junckers has created a custom oak floor for the M/S Maritime Museum in Denmark. The floor acts a 'bridge' between the concrete, glass and steel in the interior, housed in an old concrete dock. The solid hardwood floor has a rustic quality to match the raw and patinated concrete with a brushed finish, which gives a contrasting warmth to the building.

w: www.junckers.co.uk



Raising the bar on composite windows.

Uniform Architectural, one of the leaders in composite windows and curtain walling, has just published a new brochure for its uni_one® composite windows. The combination of style with the highest quality engineering makes the uni_one® composite window a popular and versatile choice for both domestic and commercial projects – creating new standards of excellence.

w: www.uniform-arch.co.uk



Ancon donates Centenary Bench to celebrate 100 years of stainless steel

As part of Sheffield's celebrations to mark 100 years since the discovery of stainless steel, Ancon has created a stylish Centenary Bench, which it has donated to the City's Millennium Gallery where it will remain on permanent display and in regular use by visitors.

Ancon joined forces with local designer, David Appleyard, for this one-off project.

t: 0114 275 5224

w: www.ancon.co.uk



Take a walk along Mapei's green street at Ecobuild 2014.

Mapei will once again be demonstrating its commitment to the built environment with a new 'Green Street' themed stand at Ecobuild 2014 (ExCeL London, 4-6 March - Stand No. N920). The interactive stand will showcase Mapei's long-term, enduring commitment towards eco-sustainability, through manufacturing, certification and process compliance, including ISO 14001.

t: 0121 508 6970 w: www.mapei.co.uk



CE marking deadline for Structural Steelwork is end June 2014!

It may be useful for architects and specifiers to note that any manufacturer involved in fabricating structural steelwork, no matter how large or small the components are, will have to CE mark these products by 1st July 2014 if they are being sold within the European Union (EU). This relates to fabricated elements including systems made from CE Marked steel components used in projects such as bridges, buildings and highway construction. The scope of this standard is wide ranging and covers structural steel and aluminium components. These components can be made from hot-rolled or cold-formed products. They may be sections or profiles with various shapes, flat products, bars, castings, forgings, unprotected or protected against corrosion by coating, welded or non-welded. Non-compliance is not an option and it will be illegal after 1st July 2014 to sell any fabricated structural steelwork products within the EU without CE marking. An additional requirement is that a Factory Production Control system (FPC) must be put in place by the manufacturer and the system needs to be certified by a Notified Body such as the BBA.

e: cemarking@bba.star.co.uk t: 01923 665300



Beautiful clay roof tile restoration for Grade II listed building

Marley Eternit's Acme Double Camber clay plain tiles have been used to restore the roof of a 19th century Grade II listed building in Liverpool to its former glory.

Over the past decade, vital work has been undertaken to gradually preserve the fabric of the building, with the most recent project being a complete replacement of the roof, which still had the original brindle clay tiles made over one hundred years ago by a local manufacturer.

By the time it is finished, this delicate roof replacement programme will cost around £500,000 and involves the use of around 150,000 Marley Eternit Acme Double Camber clay plain tiles in dark brindle, for around 2,500 square metres of roof.

The Acme Double Camber clay plain tile has a longitudinal and latitudinal camber to give designers the opportunity to create highly textured roofscapes, with accentuated light and shade and is available in four distinctive colours. No other manufacturer in the UK offers a clay double camber plain tile, so this tile is truly unique.

t: 01283 722588 w: www.marleyeternit.co.uk/clay



Schueco fire-protection systems provide the complete solution

Despite the overwhelming need for effective fire-protection in system-built façades, windows and doors, few companies possess a range that is comprehensive enough to provide a complete solution. The exception is Schueco UK whose suite of fire-rated aluminium systems can satisfy even the most demanding requirements.

w: www.schueco.co.uk
e: mkinfobox@schueco.com



Levolux gets on top in New York

Topping Rose House hotel in Bridgehampton, New York, boasts a new 'studio' building and four luxury cottages, all equipped with an attractive Timber Fin solar shading and screening solution from Levolux. External rhomboid-shaped Fins help to create a cool, comfortable internal environment and provide an effective privacy screen for occupants.

t: 020 8863 9111 e: info@levolux.com
w: www.levolux.com



Spectral set to shine at Surface Design show's light school

Spectral Lighting will be exhibiting on stand LS/2 at this year's Light School section of the Surface Design Show (Business Design Centre, London: 4-6 Feb). Light School seeks to put designers and architects in touch with the leading designers in the lighting world. On the stand, Spectral will be showing its TURUS, SINUS and STORA fittings, all of which are customisable for any lighting design scheme and architectural requirement. Spectral's luminaire profile system - developed for made-to-measure and bespoke fittings - has seen the creation of TURUS. Its two channels of light create an intriguing, illusive perspective, making TURUS an ideal feature piece. Spectral's profile system allows for the customisation of TURUS, offering architects the freedom to scale the fitting to suit each project. Visitors will also be able to see Spectral's new rule-bending LED luminaire, SINUS. The stylised SINUS takes its inspiration from sinusoidal wave forms and its smooth undulations result in an elegant sculptural fitting, which is perfect for areas requiring a feature piece that doesn't compromise on performance or efficiency. Using an innovative, profiled aluminium extrusion, the flexibility of LED technology has allowed Spectral to create a ring version of its popular STORA fitting. A minimal, timeless pendant, STORA's continuous light effect allows the soft illumination of a space with dimming options available if required.

t: 01279 450882 e: enquiries@spectral-lighting.co.uk



Karndean Designflooring's new Augmented Reality (AR) App

The UK's market leader in luxury vinyl flooring Karndean Designflooring has unveiled a brand new Augmented Reality (AR) app which allows users to view any Karndean floor in real time. Using cutting edge AR technology, the sophisticated app brings flooring ideas to life and for the first time, allows specifiers, contractors, architects and interior designers to view any Karndean floor in a commercial space during the specification process. Designed to support commercial users, the FREE app can be used to demonstrate which Karndean floors suit the style and shape of any commercial space. With access to the full Karndean Designflooring catalogue via the app's innovative Touch Selector, specifiers and designers can explore and test out any floor they want, whenever they want. Whether it's for an educational or healthcare facility, a retail outlet, leisure destination, hotel, restaurant, bar or workspace, users can see what light wood planks look like and then swap it out for a light stone look tile, or maybe even parquet. They can also rotate the floor to test out different laying angles. Easy to use, it allows users to take snapshots as they go along, edit out walls and furniture and then save to compare.

Karndean's AR app can be downloaded from the App Store by simply searching 'Karndean'.

w: www.karndean.com/app t: 0845 605 5880

Xtratherm
More than insulation

Latest Release
November 2013

Technical Briefing Note
The Building



Xtratherm

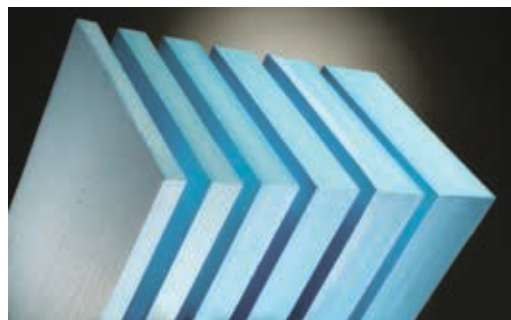
Insulation manufacturer Xtratherm has published a briefing note on Building Regulations Part L 2013.

Coming into force in April 2014, the changes are outlined in the comprehensive publication giving clear indications of what is expected of designers and builders.

The introduction of the new FEES standard will have a significant impact on how we insulate buildings. Better U-values are required in walls, floors and roofs; but significant emphasis is placed on how the insulation is jointed and detailed in the form of thermal bridging detailing. Your FEES score for your design has been visible on your SAP report for some time, but it will be a new concept for many. However a 'Recipe' for compliance is included within Part L, that if followed will meet the requirements.

Download The briefing note from

w: www.xtratherm.com/resources/publications



FLOORMATE 300-A insulation awarded BBA accreditation

FLOORMATE 300-A extruded polystyrene (XPS) insulation from Dow Building Solutions has been awarded a BBA certificate, offering specifiers valuable third party endorsement for the product's performance.

FLOORMATE 300-A - which is a STYROFOAM-A grade manufactured in the UK - is durable enough to be laid beneath concrete floor slabs, and can help to prevent thermal bridges at floor and wall junctions.

Thermal conductivity is 0.034W/mK in a 100mm thickness; the product also offers good compressive strength of 300kPa and a high design load of 130kPa. In addition, FLOORMATE 300-A has excellent moisture resistance thanks to its closed cell structure, making it suitable for a range of external insulation applications.

"FLOORMATE 300-A is a great choice for designers aiming for an 'envelope' of continuous external insulation that minimises heat loss, because thanks to its high strength and moisture resistance it can be used below the slab," explained Steve Johnson, Technical Sales Manager for Dow Building Solutions.

t: 020 3139 4190



Faber earns top marks for landmark Scottish school project

The pioneering Eastwood School is setting new standards for Scottish school design and specialist manufacturer Faber Blinds has enjoyed a key role in its development.

Faber Blinds, part of the Hunter Douglas group, had to tackle a number of significant design challenges on the Eastwood School project in Glasgow.

The systems included Faber's 1800 FTS roller blind systems for rooflights installed at the school's 10 x 12.5m rooflights that can be locked precisely in any required position. With open vent windows needing to open automatically in the event of a fire, Faber's solution was to link the management controls for its blinds to fire alarms so they open automatically in case of emergency.

t: 01604 766251 w: www.faberblinds.co.uk



HI-MACS® by LG Hausys sparkles with Karim Rashid colours

The HI-MACS® Sparkle collection has been just launched and is work of gifted designer Karim Rashid. Five vibrant new colours from the solid surface HI-MACS® creators LG Hausys are fully available for 2014. Strong tones and a distinctive glittering effect like a distant galaxy are the unique hallmarks of the new colours, which will give designers new dimensions with which to imagine and work.

w: www.himacs.eu



Xtralite's Aerogel rooflights get BBA seal of approval

Xtralite Rooflights Ltd, the first UK rooflight manufacturer to be awarded an Environmental Profile Certificate from the British Board of Agrément (BBA), now boasts another BBA Environmental Profile Certificate confirming the Ecopoint point scores achieved by its aerogel filled structured polycarbonate rooflights with aluminium bars. The material is specified across a range of building projects.

w: www.xtralite.co.uk



Rooflight

Nine 'Added Security' roof windows were specified for the Olympic North Park Hub with rain and heat sensors so that the areas below would remain at an ambient temperature. The importance for all of the rooflights to have Added Security features was necessary to meet the demanding standards Erect Architects needed to help towards the aim of becoming a BREEAM Excellence building.

w: www.therooflightcompany.co.uk
t: 01993 833108



Help yourself to Mumford & Wood's technical CAD drawing library.

A complete CAD drawing library featuring Mumford & Wood's Conservation™ timber windows and doors can now be accessed on www.mumfordwood.com. Here professionals will find every standard window and door design, with detailed options, and their use will ensure that only the most accurate files are incorporated in working drawings.

t: 01621 818155

w: www.mumfordwood.com



ShowerSelect concealed thermostat sets

As part of the innovative Select programme from Hansgrohe, the new ShowerSelect concealed thermostat sets make selecting and turning the different functions on and off both intuitive and pleasing: with the simple push of a button. There are no complex electronics, just a reliable mechanical control that is also easy to install in conjunction with the tried and tested iBox from Hansgrohe.

w: www.hansgrohe.co.uk



Armstrong Ceilings' 2014 A Book inspires design exploration.

Far from having to travel the globe, all that architects and interior designers need for inspiration on specifying interior solutions is contained within Armstrong Ceilings' A Book for 2014. Regardless of the culture, climate, client, complexity or cost implications of a project, the new A Book proves that Armstrong has a ceiling solution for even the most demanding of briefs and contemporary environments.

w: www.armstrong-ceilings.co.uk



GEZE UK releases glass fittings product guide

The UK's leading door and window control system manufacturer, GEZE UK, has released a new illustrated product guide and price list for its comprehensive range of glass fittings. The "Solutions for Toughened Glass" guide provides detailed descriptions of GEZE's range of fittings for toughened glass doors, to enable specifiers to choose the most suitable products for their needs.

t: 01543 443015 e: info.uk@geze.com



Fernco Environmental is evolving into Source One Environmental

Effective from January 1st 2014, Fernco Environmental, suppliers of water management and infrastructure repair products, has been renamed Source One Environmental Ltd. The new name reflects that of their US-based sister company also owned by the Fernco Group, which trades within similar industries. The change creates a powerful global brand with presence in North & South America, Europe and Australasia.

w: www.s1e.co.uk



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Walter's Way Lewisham, London, 1970s

While the post-war rebuilding effort concentrated on housing the most people for the lowest cost, emigré Walter Segal developed a system of self-build council housing that put tenants in control of the design of their new home. Segal, described as a 'combination of an intensely practical architect and an intellectual', rejected the modernist steel and concrete of his peers instead favouring traditional timber framing. His first commission, a wooden holiday cabin in Switzerland in 1932, experimented with principles that became the Segal Method, but it was not until the 1970s that his ideas for low-rise, high density

homes could be realised when Lewisham Council offered him four sites with terrain unsuitable for conventional building methods. Anyone from the Council's waiting list was eligible to apply for the scheme and the successful candidates' names were picked from a hat. No previous building experience was needed, though special preparatory evening classes were held, and Segal worked closely with each household. Although built using the same basic kit, the houses were designed to allow some individuality and each is unique to its inhabitant. ●

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RIBA Journal
www.ribajournal.com
Published for the
Royal Institute
of British Architects by
RIBA Enterprises
15 Bonhill St
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