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# CONCEIVED AS A LATTICE FOR VEGETATION, IT IS NOW THE BUILDING'S OUTER CLOTHES

By Isabel Allen

Eighteen months ago the AJ published work by Duncan Lewis, a British architect based in Bordeaux (AJ 14.04.05), which explored the potential of wire mesh as a framework for vegetation, a less bombastic counterpart to Herzog & de Meuron's investigations into living walls. At the time we remarked that it was hard to imagine Lewis' 'plant chic' taking root in the UK. We like our architecture (and nature) to be quantifiable and distinct. Green roofs are one thing, hybrid buildings/organisms quite another.

Since then, the AJ has published two projects with clear resonances with Lewis' work: Paradise Park Children's Centre in Islington by DSDHA (AJ 17.08.06) and this week's Building Study, Tolladine Sure Start and Community Centre by Meadowcroft Griffin (see pages 23-35). Both are feisty self-assured buildings with a presence and a makeshift quality appropriate to community use. Both were designed with steel-mesh cladding as a framework for a living green wall.

Despite the contentious nature of the project, the green wall at Paradise Park was not only tolerated, but credited with soothing the painful passage through participation and planning. Tolladine remains starkly naked; the steel mesh which was conceived as a lattice for vegetation has itself become the building's outer clothes. The official reason is that two members of staff suffer from hay fever, but in an environment where staff grapple with social deprivation and even gunfire, it is hard to believe that vegetation could prove such a threat. One suspects a degree of resistance to a move which would exaggerate the building's 'otherness'.

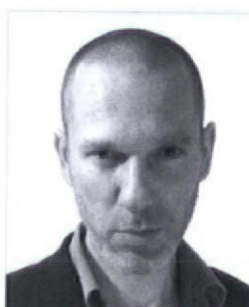
In a parkland setting a green wall allows the building to be read as an extension, rather than an invasion, of its surroundings. It is far more challenging when green space is in short supply.

*Duncan Lewis will be speaking at the RSAW annual conference in Cardiff on 24 November.*

## CONTRIBUTORS



Richard Weston, who reviews the Gunnar Asplund monograph on pages 84-85, is professor of architecture at the Welsh School of Architecture in Cardiff



David Grandorge, who photographs and reviews the Tolladine Sure Start and Community Centre for the Building Study on pages 23-35, is a photographer and lecturer



Mike Winney, who writes the BCI Awards supplement on pages 47-81 and was one of the judges of the awards, is editor emeritus of New Civil Engineer

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THE ARCHITECTS' JOURNAL  
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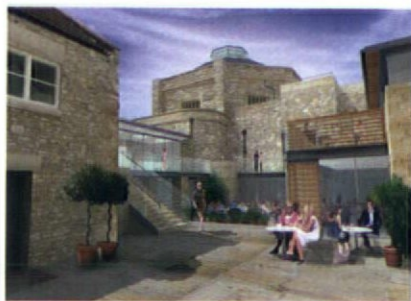
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**FRIDAY 27 OCTOBER**

- Studio E lands Prime Minister's Award with City Academy
- Regeneration row flares up again in Liverpool as wrecking ball looms over Edge Lane
- Sudjic sets out stall for Design Museum with Britain's first-ever Zaha show
- Entrance worries over Cooper Cromar scheme in Glasgow



**TUESDAY 31 OCTOBER**

- RIBA calls for tougher Building Regulations to cut carbon emissions
- Danes 3XN surprised as new Mersey neighbour revealed (right)
- Will Alsop chosen to come up with new vision for Croydon
- Foreign Office Architects continues astonishing British success in America

**THURSDAY 26 OCTOBER**

- New York conservationists speak up against Foster tower
- **Call for East Kilbride to become World Heritage Site (below)**
- Publishing leading light Nick Barley takes over at Glasgow's Lighthouse
- Arup's Drawing Water competition goes global



SYLVIA GRACE BORDA

**MONDAY 30 OCTOBER**

- Feilden Clegg Bradley plans 'Georgian' rugby ground...
- ...While DLG converts genuine Georgian chapel into shopping centre (left)
- Jowell pledges that Liverpool's World Heritage Status is safe (see pages 12-13)
- Burd Haward wins Craft Council HQ competition



**WEDNESDAY 1 NOVEMBER**

- International competition for Halifax's Piece Hall revamp in pipeline
- Brits ignore major French competition
- Chapman Taylor unveils £350 million Portsmouth retail development
- Architecture 2B wins go-ahead for scheme on key Leeds site









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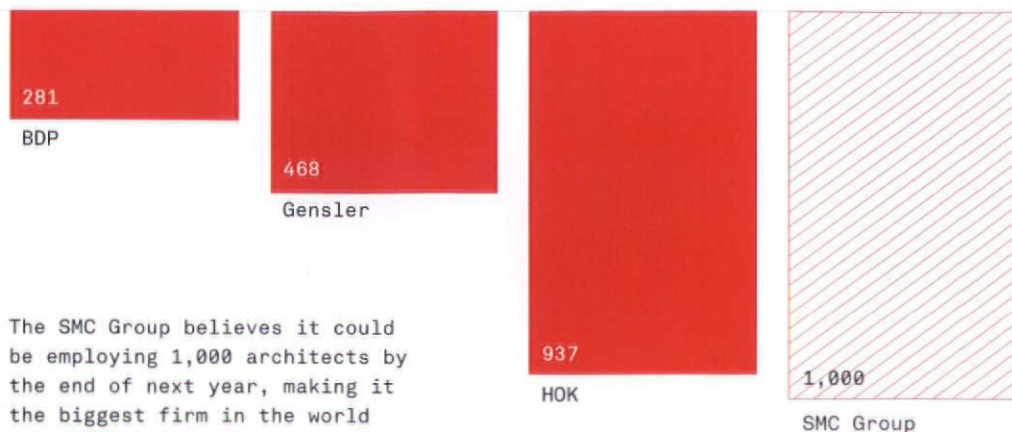
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## SMC PLANS GLOBAL DOMINATION

By Ruth Slavid and Ed Dorrell

The extraordinary extent of the ambition of the SMC Group has been revealed after company bosses announced that it hopes to become the biggest practice in the world by the end of next year.

The hugely acquisitive listed firm believes it could be employing 1,000 architects within the next 14 months. At the last count BDP, number one in the 2006 AJ100, employed 281 architects.

Indeed, growth at this level would see SMC overtake HOK – with 937 – as the largest architectural business on the planet.

If most of the 1,000 architects were UK-based, this would see SMC employing roughly 5 per cent of the active architects working in Britain.

SMC founder and chief executive Stewart McColl has

made it clear that he wants to develop divisions in all major sectors. Earlier this year he set up both SMC Healthcare and SMC Education to exploit these specialist markets.

The practice – which regularly makes fresh share offerings to help pay for its conveyor belt of takeovers – is keen to have its divisions competing with the top practices in each sector, for example taking on the likes of Nightingale Associates in healthcare.

McColl has recently insisted that there are many more acquisitions in the offing, publicly stating that he would soon be taking over an office with a similar reputation to Will Alsop's practice, which he bought earlier this year.

He has also stated that he is 'not finished yet with

Scotland' – despite recently snapping up the Parr Partnership, one of the biggest practices north of the border.

'There are sectors that we are not covering significantly at the moment, such as transport, and we are also keen to do more large-scale healthcare,' SMC director Gordon Watson said.

'We have not got much in the way of the shopping-centre market either. Adding more talented people in established practices to the group is the way to resolve this.

'Last time we looked, HOK employed 937 architects, and that makes them considerably larger than us, but we predict that there's room to become bigger.

'I'm sure we will be the largest in the world sometime in 2007,' Watson added.



# HERITAGE AS A STATUS SYMBOL

*By Richard Vaughan*

To most architects, Unesco's World Heritage Committee is the bogeyman. No one really knows what it is, or even what it does, but it scares the life out of them.

For the past fortnight Unesco inspectors have been on a whirlwind UK tour, leaving architects and developers as gibbering wrecks, fearing their projects may be thrown on the scrap heap for threatening a city's World Heritage Status.

The inspectors have been in London all this week to try to decide whether the 900-year-old Tower of London should keep its World Heritage status, with an announcement expected today (2 November).

But the first port of call was the much-documented Mann Island site in Liverpool, where Unesco's inspectors

investigated the potential impact of Broadway Malyan and 3XN's schemes on the city's 'Three Graces' and waterfront.

Although Liverpool's World Heritage status was deemed safe, the inspectors still felt it necessary to issue a warning about contemporary designs near historic building.

For certain major players in the city, the damage was done by Unesco's World Heritage status long before the inspectors moved in. Liverpool business representative Frank McKenna believes the heritage mantle has 'cost the city millions in private-sector investment', with 'planning applications being refused due to World Heritage status'.

McKenna adds: 'There are still large chunks of Liverpool in need of serious regeneration, and this has been a barrier to it.

'I'm not sure the extra visitors and tourists that World Heritage status attracts are worth turning away millions of pounds of investment. [The status] is stifling future growth and doing nothing to create a vibrant, 21st-century city.'

Matthew Slocombe, undersecretary of the Society for the Protection of Ancient Buildings, disagrees. While admitting that some sites have gained heritage status on questionable grounds, he believes that the benefits of that status far outweigh those of being without it.

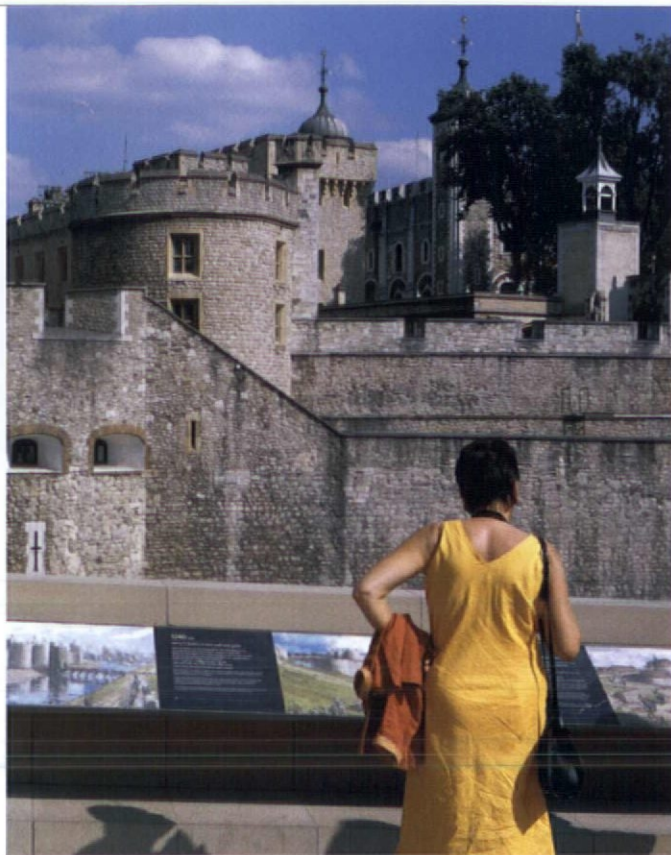
'There has been a huge expansion in UK World Heritage Sites in the past few years; Blackpool is now going for it,' says Slocombe. 'These places have huge importance in the UK, but I'm not sure how important they are abroad.





1.

1 & 2. Unesco inspectors are deciding whether the Tower of London should keep its World Heritage Status, but would it really matter if it lost it?



PHOTOGRAPHY BY DENNIS GILBERT/VIEW

2.

'But there are obvious pros of having the status; the prestige and the added tourism that it brings benefit an area greatly, especially economically.'

Bath certainly feels that it benefits from its World Heritage status; in fact it revels in it. But while Liverpool is experiencing its biggest period of change since the fall of the British Empire, change on such a scale in Bath is only a dream.

Bath has more independent heritage watchdogs to contend with than any other UK city, so development becomes an almighty struggle. This makes the city's architects and developers a bit more philosophical about the World Heritage status.

'The bizarre thing is no one really knows what Unesco is concerned with,' says Bath-based architect Aaron Evans.

'But people seem to like having World Heritage Site conferred upon them and are constantly afraid of having it taken away.'

'It allows the city to be recognised internationally but has no statutory effects,' he adds. 'We often discuss this at planning meetings, because it means nothing, yet seems to add to people's levels of paranoia in the city. People are using World Heritage status as a stick to wield over any development. It's a kind of additional threat.'

'Chris Wilkinson is trying to build a school for James Dyson in South Quays and people are sensitive over an industrial building that isn't even listed, for fear of losing the heritage status.'

Evans claims this caution towards development in Bath is now set in stone, and adds that

people need to realise that an active pastiche of Georgian architecture will bring the real Georgian architecture into disrepute.

'The irony is, when John Wood came into contact with medieval Bath, he swept a lot of it away, and replaced it with Georgian Bath,' says Evans. 'If he had faced the constraints in place now, there would be no Georgian Bath. There is no doubt Bath is a great example of masterplanning,' adds Evans. 'However, it has to change – if we can't embrace the 21st century, how are we going to change at all?'

There are already plenty of checks and measures protecting the UK's ancient buildings. It is unlikely that the Tower of London would ever lose its World Heritage status, but would it really matter if it did?

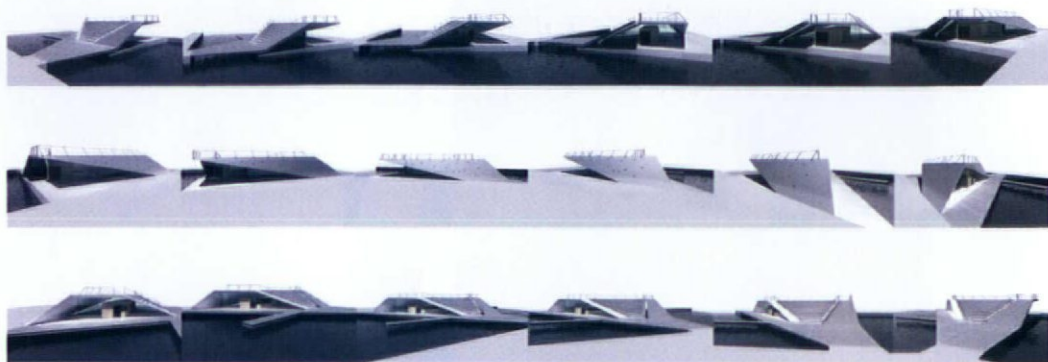
According to Neville Shulman, vice-chairman of the UK Unesco culture committee, it would mean a great deal more than a loss of title.

Shulman says: 'The past is very much part of the present as well as the future and definitely needs protecting, so we leave a worthwhile legacy that is of no less value than the legacy we have received.'

'Some architects, planners and developers understand the importance of protecting what we have, and have inherited, but there are others who don't, or prefer to think only in the short term.'

He adds: 'The latter is the path leading to disunity and chaos. Most of these issues are inter-related and always need discussion and consideration, allowing us to move forward with finesse and care.'





Sutherland Hussey's plans 'disappointed' Westminster Council

## PADDINGTON WINNER QUILTS PROJECT

By Ed Dorrell and Richard Waite

A competition-winning project in west London has descended into farce, with practice Sutherland Hussey walking away from a scheme in Paddington after falling out with the developer.

The practice, which rose to fame two years ago when its Tiree Ferry Terminal was shortlisted for the Stirling Prize, won the Harbourmaster's Building and Footbridge competition in Paddington in June, seeing off Ian McChesney, Jestico + Whiles, Space Craft and David Adjaye.

The row is understood to have blown up after developer the Paddington Development Corporation (PDCL) showed Sutherland Hussey's design for the scheme to Westminster planners at a pre-planning submission meeting, at which the practice was not represented.

Westminster Council gave an unofficial thumbs down to the plans, which form part of Mossessian & Partners' vast Merchant Square development.

The client then asked the practice to rethink its designs, triggering a major falling out. There is also understood to have been a disagreement about the fees owed to the Edinburgh practice.

Director Charlie Sutherland said he was particularly disappointed because the planners had declined to become involved with the competition and the scheme's development. 'The planners dug their heels in,' he said. 'We were annoyed by their disengagement and their lack of involvement.'

'They had the opportunity to get involved with the early stages but chose not to. Then

the client met with the planners before we had a chance to meet them, which was disappointing,' Sutherland added.

But a sympathetic source close to the competition and the project confirmed that Sutherland Hussey's designs for the Harbourmaster's Building had let them down.

'We were very keen and it was great when we first saw it, because of its approach to the landscape,' they said. 'But the later CGIs were not that great, and the planners didn't like it.'

A PDCL spokesman confirmed that its relationship with Sutherland Hussey was no longer reconcilable.

'They did win the competition but the relationship [between architect and client] broke down to the point where there was no reason to ask them to redesign,' he said.



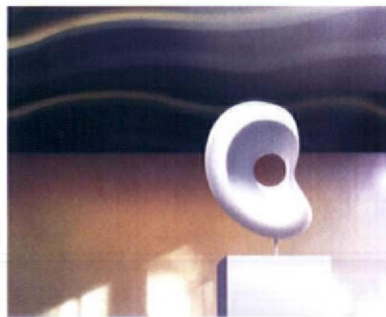
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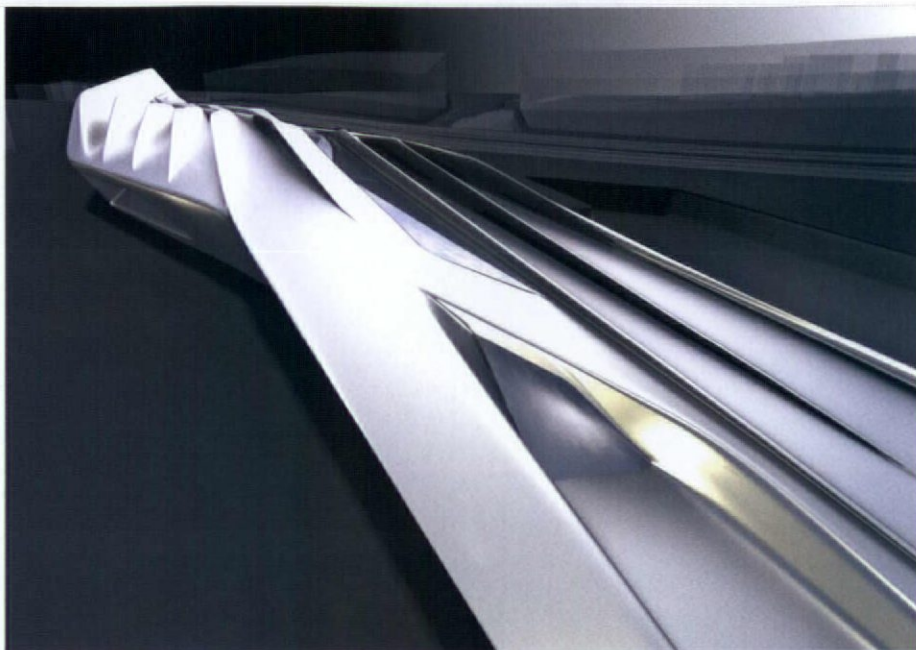
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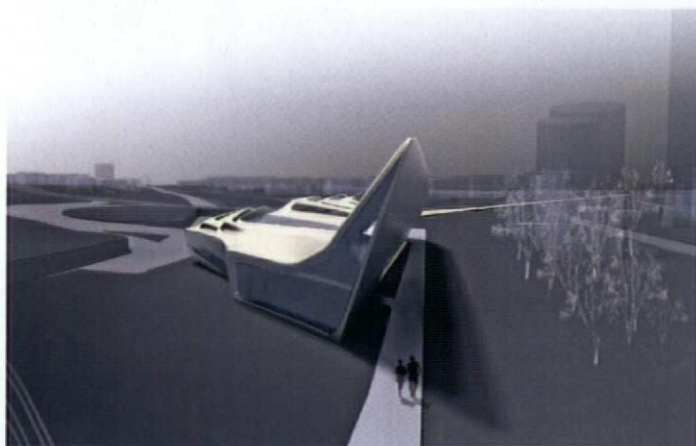
### ZAHA TRACES THE CONTOURS

These are the first images of Zaha Hadid's competition-winning scheme for a new energy-research department for a university in Aachen, Germany. Hadid has had considerable success in Germany and again saw off some of the country's best home-grown talent to land the 13 million euro (£8.7 million) E.ON project for the Rheinisch Westfälische Technische Hochschule University. The 5,000m<sup>2</sup> contoured building will be built between a four-lane road and a railway track and will sit above 2,000m<sup>2</sup> of parking space. A central corridor will split the complex in two. One side will house a series of laboratories and exhibition areas while the other will become home to five faculties, meeting rooms and a library.

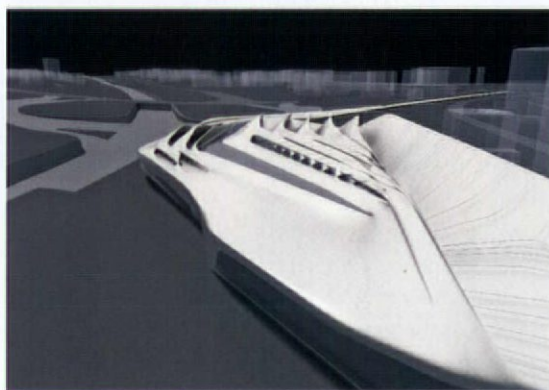
*By Richard Waite*



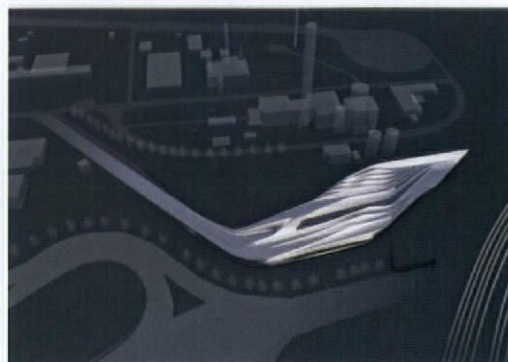
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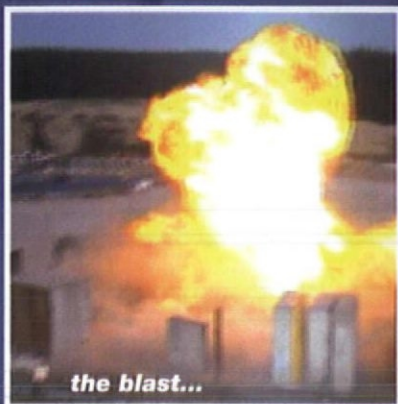


4.

1, 2, 3 & 4. Zaha Hadid's university department in Aachen, Germany, is split into two 'bands' and sits between a four-lane road and a railway track



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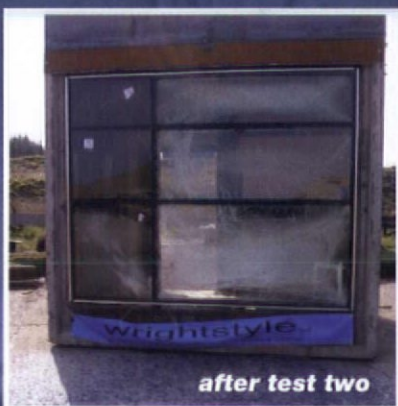
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Ali Mangera on his proposed Abbey Mills Mosque. *Guardian*, 30.10.06

*'They don't write about Norman Foster wearing a pink corduroy suit, which I think is a most strange thing to wear. So why do they talk about my purple lips?'*

Zaha Hadid on journalists. *Scotland on Sunday*, 29.10.06

*'Possibly Sean Griffiths of FAT'*

Will Alsop's answer to the question 'who's the next you?'. *Guardian*, 24.10.06



### RUNNING FROM THE DDA

Astragal has returned to Venice for the second time in under two months. This time he went not for the biennale but for the RIBA Conference. And he was surprised on this visit to see that the water-logged city appears to be moving towards DDA compliance. Along the Riva degli Schiavoni, the main drag leading to the biennale sites, makeshift-looking ramps of scaffold poles and boarding had sprung up on the many stepped bridges that make Venice so impossible to navigate for the wheelchair user. Had the authorities been shamed by the intervention of **Jeremy Till** at the British Pavilion, sending all visitors round to the back entrance, perhaps because it was the only route the disabled are free to use? Not at all – apparently the ramps had been

erected for a recent marathon, a concession to the super-abled rather than the disabled.

### FIRST LADY

Could the RIBA soon have its first woman president? It will if **Jack Pringle** has anything to do with it. Introducing a conference session in which his successor **Sunand Prasad** was speaking, Pringle referred to session chair **Claire Wright**, of Wright & Wright, as 'hotly picked as a future president of the RIBA – at least by me'.

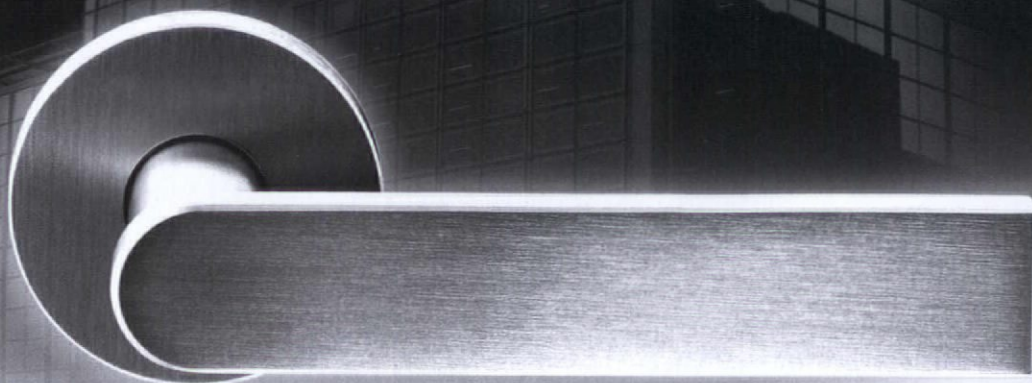
### AIRFORCE ONE

Another possible contender for the presidential crown is architect and microlight pilot **Richard Murphy**. He has just bought his first brand-new craft, and went for a registration of GRIBA. It would make a great presidential plane.

### TERMINAL FLAW

'**Norman Foster** has a carbon footprint the size of Africa,' president Pringle announced at the end of the conference. He was referring to Foster's giant Beijing Airport, although he then went on to praise the superstar for his decades-long commitment to environmentally conscious architecture. Foster himself drew a telling comparison between the four years taken to plan and build Beijing Airport in its entirety and the same amount of time spent simply on the public enquiry for Heathrow's Terminal Five. He forestalled the obvious argument. 'I know you will say that the UK is a democracy,' he said, 'but did anybody seriously think that Terminal Five would not be built?' Score one to Norman, Astragal thinks.





**Lever handle 530**  
with sprung roller race ball bearing.

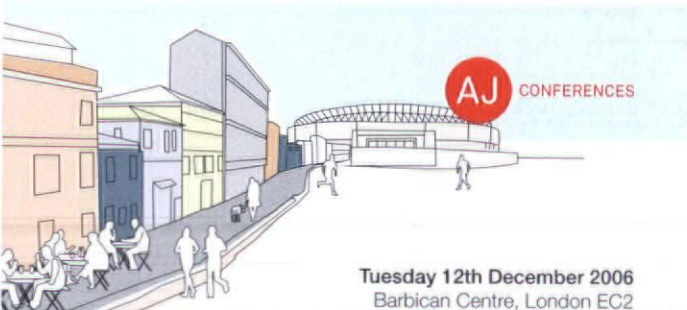
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**ENQUIRY 15 ON CARD**  
**WWW.AJPLUS.CO.UK/AJDIRECT**



# IS CULVERIN COURT A DIAMOND IN THE ROUGH...

As a local resident, may I say what a pleasure it has been, on my way to the waste-recycling depot (the dump) on Hornsey Street [off Holloway Road, N7], to see Hawkins\Brown's Culverin Court, a veritable oasis in a desert of new residential mediocrity (AJ 26.10.06).

It is impossible (and dangerous of course) to close your eyes beyond this gem, but to be assailed by the massive and gratuitously 'wall-papered' elevations of the other new buildings on Hornsey Street is extraordinarily debilitating (the relief of arriving at the new dump is, by contrast, quite exhilarating).

It looks as though every critical lesson about the design of high-density housing over the past 50 years has been forgotten in this area, but maybe looks are deceptive.

Could the AJ perhaps do an in-depth study to flush out the facts, particularly as it seems that CZWG, which designed but did not implement the Culverin Court scheme, is now publicly disappointed by the results.

*Charles Thomson, Rivington Street Studio, London EC2A*

# ... A TEMPORAL REPLACEMENT FOR A SPIRITUAL SITE...

Last time I went to watch Arsenal at their superb new Emirates Stadium, I took a detour from Holloway Road down Eden Grove,

my personal memory lane, to look at the old Mount Carmel convent, where I made my first holy communion in the late 1940s. But the surroundings had altered radically. Gone were the slums, replaced by lumpen blocks of private housing.

Seeing the building featured in AJ 26.10.06 as part of Hawkins\Brown's Culverin Court, I was enlightened. The old convent has been converted into yuppie flats, complete with Starck baths. Genuflection replaced by gentrification, salvation by speculation, sign of the cross by sign of the times. That's progress. I just hope they got an exorcist subcontractor in to get rid of those ghostly Carmelite nuns.

*Louis Hellman, London W3*

# ... OR JUST A GLOOMY WASTE OF BRICKS?

Last Thursday it was raining when I got up and I was looking forward to reading the AJ while enjoying my toast and marmalade, but when it plonked onto the doormat, the cover [Hawkins\Brown/Culverin Court, AJ 26.10.06], revealed what must be the most depressing building you have chosen to feature in the magazine for a long time.

The article is not helped by the photographs, which seem to have been taken on a wet winter's day (or is the large birch tree featured in one picture just dead?).



**IN IRELAND**  
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ENQUIRY 18 ON CARD  
 WWW.AJPLUS.CO.UK/AJDIRECT

## CALL FOR SMALL PROJECTS

The deadline for entries for the AJ Small Projects Awards has been extended to Monday 6 November. Submissions must be projects completed between 1 November 2005 and 1 November 2006 with a total project value of less than £250,000. All projects must be unpublished. Send a 150-word description with images and credits to: AJ Small Projects, 151 Rosebery Avenue, London EC1R 4GB, or email james.pallister@emap.com

## SUSTAINABLE DESIGN CONFERENCE

The AJ is holding a conference on sustainable design on 5 December at The Barbican, London. Topics will include:

- sustainable materials;
- regeneration and energy efficiency;
- lateral approaches to sustainability targets; and
- running a sustainable business.

For more information call 020 7505 6044 or email constructconferences@emap.com



The AJ normally has a high standard of critical writing and illustration, but I found Andrea Wulf's text difficult to reconcile with the poor photographs. Does this dreary building really 'shine like a gem in a chamber of horrors'?

Admittedly, the 1870s school is not the most inspiring example of Victorian architecture, but we could only see small glimpses of the red brick 'horrors'.

We could see enough of one of them, however, to judge that the new building would make some of the balconies on the adjoining block most unpleasant to use.

I find it puzzling that architects felt justified in using expensive but dreary imported bricks when there are so many splendid local bricks available, but even these glazed bricks are staining badly with run-off from the balconies.

I do hope that by your next issue you will have found something to match your usual high standards.

*Robert Huddleston, Bristol*

#### CONTEXT AND CONSCIENCE IGNORED IN SHEFFIELD

At the AJ/Bovis Awards in 2004, Graham Morrison argued that 'a design that sets out with the conscious intention of being iconic is unworthy... and... a prerequisite of a good design is one which contributes to its context'.

#### STORE STREET SALON

Peter Cook is hosting a series of architectural salons at the new lecture theatre at the Building Centre, in Store Street, central London, designed to 'search out people from other cities who have found their way to London' and 'introduce the fact that surprising combinations of people have been cronies/rivals/secret supporters/avoiding each other for years'. The first event, which took place last Monday, featured Zaha Hadid and Lebbeus Woods, and was a great success.

Forthcoming events include:

- **Monday 20 November**  
Odile Decq and Didier Faustino from Paris
- **Monday 11 December**  
Massimiliano Fuksas and Will Alsop

For further information email Jackson Hunt on [jhunt@buildingcentre.co.uk](mailto:jhunt@buildingcentre.co.uk)

So how, then, will Allies and Morrison's aluminum-clad parking structure in Sheffield (AJ 19.10.06) contribute to its context when it looks, for all the world, like glitzy panels of a high-embedded-energy metal, imported to a steel-producing city, to hide greenhouse-gas-producing automobiles?

Never mind context, where is architecture's conscience?

*Alan Tate, associate professor, Department of Landscape, University of Manitoba, Canada*

#### ANOTHER OPENING FOR THE DOORS

With regard to 'Frostrup's fancy' (AJ Astragal, 19.10.06), Camden's Roundhouse was not The Doors' only UK venue – they also played at the 1970 Isle of Wight Festival. Does that count as part of the UK?

*Lex Harrison, Brighton*

#### WHAT HAS ASTRAGAL BEEN SMOKING?

Astragal, are you getting confused between jazz mags and Amsterdam's brand of roll-your-own herbal cigarette? (Going Dutch, AJ Astragal, 26.10.06).

'Jazz fag'?! What the freak's that?! Or are you afraid to mention spliff or skunk-based roll-ups in print?

*Gavin Langford, by email*

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# MEADOWCROFT GRIFFIN/ TOLLADINE





## THEY HAVE BEEN BRAVE IN MAKING THE BUILDING ADDRESS THE STREET RATHER THAN HIDE BEHIND A FENCE

*Text and photography by David Grandorge*

*Meadowcroft Griffin Architects was established in 2002 by Philip Meadowcroft, a former director at Eric Parry Architects, and Ann Griffin, who previously worked for Haworth Tompkins Architects. Based in north London, the practice has designed buildings and masterplans across all sectors in both the UK and abroad. Meadowcroft Griffin has completed three Sure Start Centres, with two more in progress; is working on a £15 million mixed-use development in Romford, Essex; and has been appointed to oversee the £85 million redevelopment of Crystal Palace in south London.*

Tolladine (locally known as Tolly) is a charmless suburb just south of the centre of Worcester. Though sharing none of the issues of diversity that many of Britain's inner cities have to address, there is evidence of a community trying to get to grips with a social malaise that is all too familiar to those who live in such places. Unemployment is high; life expectancy is lower than the norm; and many of the children lack opportunities. Most of those who are working struggle to get by on minimum-wage incomes.

A short walk from the railway station to the south of the city, the area is characterised by a loose-fit configuration of banal brick semis. There are no meaningful green spaces in the area, which is surprising given the low density of the plots and ironic given that the streets are given the names of trees, shrubs and flowers. The large expanses of tarmac linking these plots therefore become the stage upon which lives are played out.

In the middle of the estate stands the Tolladine Sure Start and Community Centre, designed by Meadowcroft Griffin

Architects. This is one of three Sure Start projects the practice has completed in the past year. The centre's programme is unusual for a Sure Start project in that it brings together a wide range of community facilities in a single complex. As well as provision for a 26-place nursery and parent-training facilities, there is a dedicated youth-club space and local health services for the elderly. Accordingly, Meadowcroft Griffin's scheme is an assemblage.

It comprises a new-build extension wrapped around three sides of a nondescript church building from the 1930s. The original volume was added to over the years and acquired a rather stunted monumental quality. More recently, with fewer people attending the church, it had been used as a community hall and suffered externally from casual vandalism.

The new proposal has been built up to the street line in order to give the centre a greater visible presence. It contrasts with the existing volume behind, using a more informal language of shallow, mono-pitch steel roofs set at angles to each other – the sloping surfaces were conceived of as a pinball machine, ensuring that footballs landing on them would roll back down to the street. The building's presence is amplified by its use of brightly painted concrete blockwork and render, conjoined with a more provocative surface of galvanised-steel mesh.

The centre is entered through a large glazed door on the north side. Immediately one encounters the external wall of the church, lit by a generous skylight above that marks the threshold between old and new. The exposed brickwork and light quality





1. Rose Avenue elevation: the mesh was originally intended as a lattice for dense plant growth

give the feeling of an outdoor room, not unlike a courtyard in a denser part of the city. Four spaces front on to the foyer, aligned off-axis to each other. This arrangement provides for subtle sightlines between different parts of the programme, promoting awareness of other users' activities. The openings to the major rooms are lined with double doors with extended architraves, all painted a different colour – orange for the community hall, yellow for the nursery, purple for the youth space.

The nursery space is generous in volume, light and afforded views. The very civic-scaled window that terminates the space extends into the room through a cut in the ceiling, giving children a view of the sky. The middle part of the window is an insulated, timber-lined panel with a solid opening section for cross ventilation. The lower part was intended to give children a view onto the street, but sadly it has been obstructed by the thoughtless placement of stacked chairs.

An elegant iroko-framed glass screen with a slim clerestory window above fronts on to the nursery garden to the south. The screen is shaded by a modest timber canopy set at an angle to the facade to provide a sun shade and to act as a covered external play space. It has also acted as goal post for teenagers accessing the garden on late summer nights after the centre is closed, as can be seen by the muddy marks adorning it. To the left of the screen, a large blackboard shows the softer chalk marks of infants' drawings. These contrasting marks are a touchstone for the centre as whole – a combination of toughness and fragility.

The youth club space has this toughness. The fluorescent light fittings are bulkier than in the rest of the building and they are the dominant source of light here. This was not intended. It was hoped that the occupancy of this space would be transparent to the outside, but the large window facing the street is now boarded up with plywood as a result of being shot at with an air rifle. Architecture should be able to cope with robust use, but cannot be expected to address malicious vandalism. The loss of this window has given the room an internal, institutionalised focus, much like any other youth club.

Public buildings in deprived areas will always attract hostility in some form or other. In this case the architect has employed both spatial and material strategies to tackle this. It has been brave in making the building address the street rather than hide behind a fence. The building has proved vulnerable to malicious attack, but has been successful in addressing 'softer' crimes – there has been very little graffiti on the external walls. This, I am sure, is in part due to the large openings that give the building a civic presence.

The material strategy is slightly more problematic. The steel-mesh cladding is the most prominent of the materials used on this project. It has been employed as an extra skin and provides protection for windows to the nursery WCs and the centre's office. It is also the final layer of a thick wall build-up that is able to conceal both the drainpipes and the gutter, and helps to prevent children from climbing on to the roof of the building.





3.

2.

But it is this skin to the building that has proved most difficult for its users and managers to understand. One suspects it carries the unfortunate connotations of boarded-up council properties. Locals know the building as the 'cheese-grater', representing feelings of both affection and derision.

In relation to this, I mentioned to the manager of the centre that the architect had planned for the facade to become a lattice for dense plant growth. I was told that this could not happen as two members of staff suffered from hayfever. This takes issues of health and safety in the workplace to ridiculous new heights. It also makes one wonder what architecture can achieve in attempting to relieve the poverty of both people and their environment.

If projects like these are to survive, to continue to support their community, two factors are relevant. The first, continuity of funding, is in the hands of government and bureaucrats. The second, the ability of people to regard their environment with affection, is dependent on the qualities of the architecture. In dealing with difficult social problems, I believe architecture can improve the situation in increments, but if designed without thought can cause great problems. This building lies in the former category. It is a small act, one of many efforts to relieve the stress caused by poverty. I hope it succeeds.

## 2. The youth club

3. The nursery is generous in terms of space, light and view, though carelessly stacked chairs obstruct the children's view out

4. A skylight marks the threshold between the new entrance foyer and the external wall of the existing church





4.

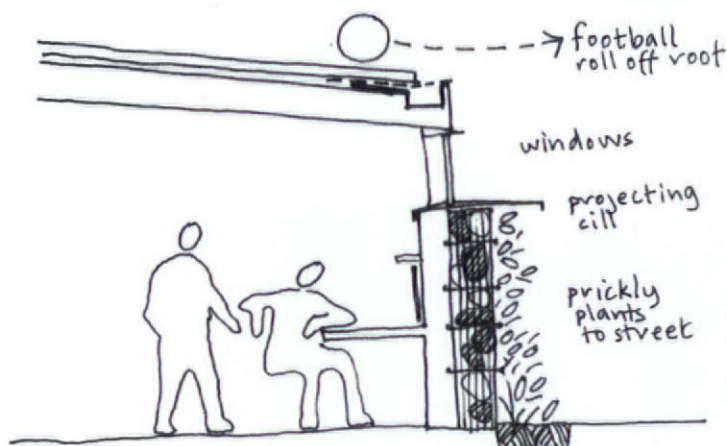


## STRUCTURE

The new Tolladine Sure Start and Community Centre is broadly divided into three parts: the original 1930s church, the new entrance wing, and the new street wing. The two new wings wrap the original brick church to form a new enclosing structure. A previous scheme by others proposed a large pitched roof addition over the flat concrete roof of the brick church, with a later conversion of the roof void to create a youth venue. Initial structural analysis of this proposal showed that the original roof structure may not have been adequate for required floor loadings without significant upgrading. Following cost analysis, it was decided instead to develop the scheme as built to create more integrated community space in a single phase. Alterations to the existing building were fairly minimal, with redundant elements of 1960s additions removed to open up new entrances and connections. A new mono-pitch roof covering was added to resolve waterproofing and heat-loss problems and to tie the new and old buildings together. A simple system of new timber rafters supported on the existing concrete roof was used to fix insulated, steel-profiled roof panels. The extensions were constructed using robust, low-tech materials: external walls formed by two skins of medium-density, low-shrinkability blockwork. Two further mono-pitch timber roofs sit over the two new wings, using small elements of steel framing where required. The clay subsoil was close to the surface, allowing the use of conventional mass-concrete strip foundations. The street wing is over-clad in robust galvanised expanded steel panels using a simple face-fixed screw detail. Two key areas depart from the general simplicity of the structure: a large dormer window cuts across the street wing; and the adjacent Sure Start garden elevation required careful consideration to ensure that the large sliding doors, clerestory windows and external canopy knitted together due to deflection and thermal performance.



5.



8.

5, 6, 7. The 1930s church building before work began  
8. Sketch section





6.

Rose Avenue

Residential Home

Tolladine Community Centre

Christ Church

Rowan Avenue



Rose Avenue

Residential Home

Play Area

Community Centre

Rowan Avenue

7.



KEY

- 1 VESTRY
- 2 WCS
- 3 BUGGY PARK
- 4 ENTRANCE FOYER
- 5 SURE START CRÈCHE

9. Section AA

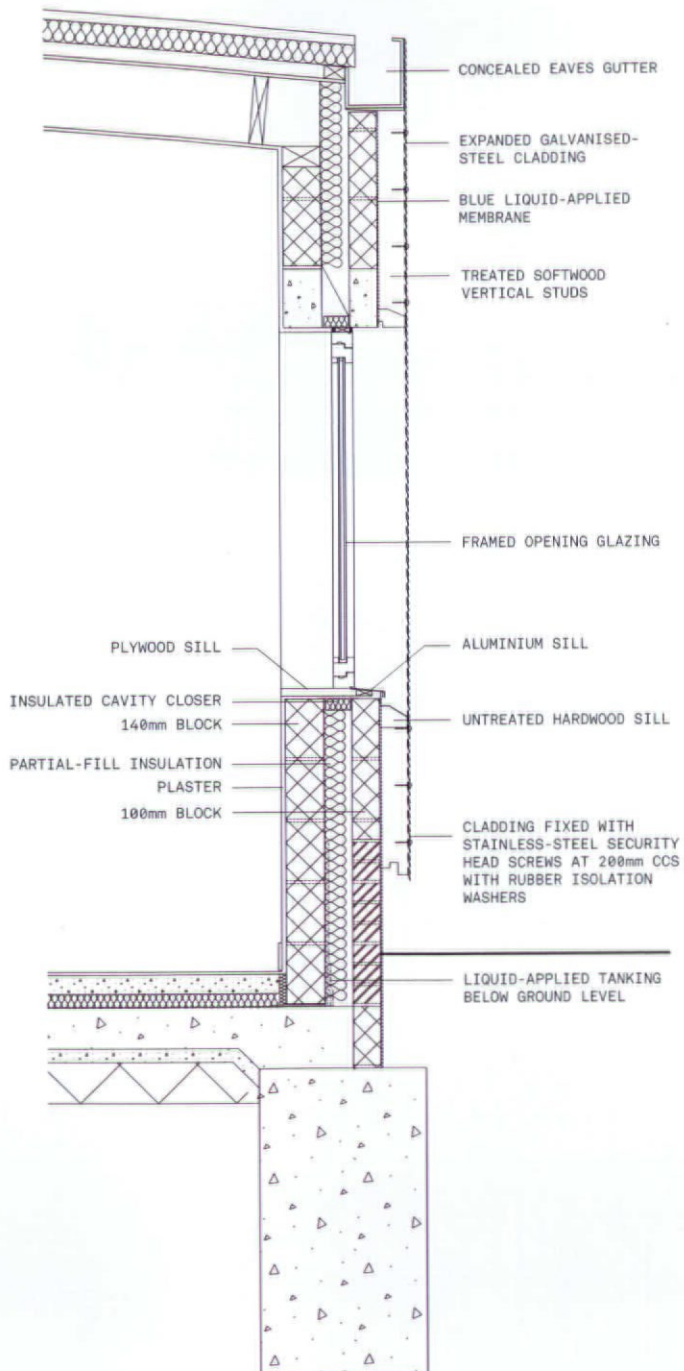


KEY

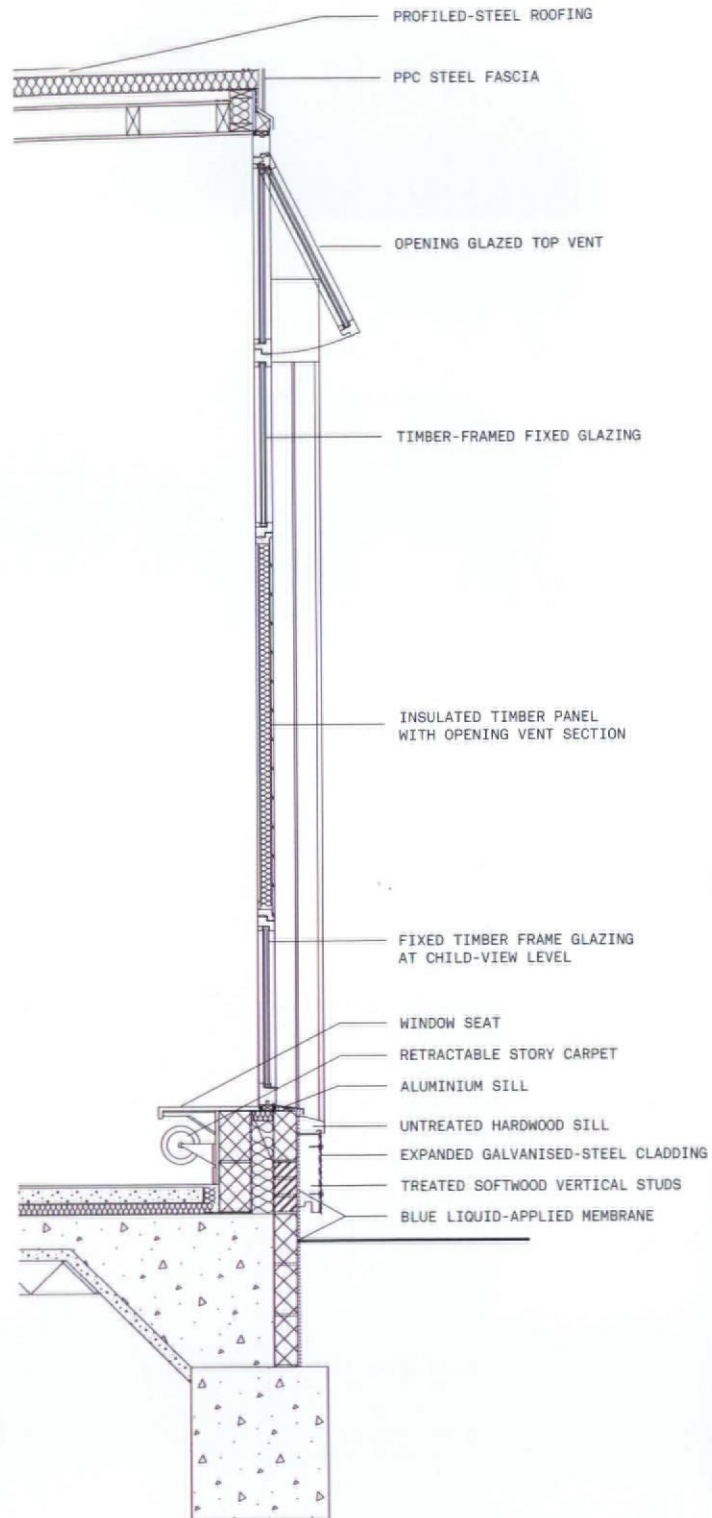
- 1 EXTERIOR ACCESS RAMP
- 2 EXISTING HALL
- 3 ENTRANCE FOYER

10. Section BB



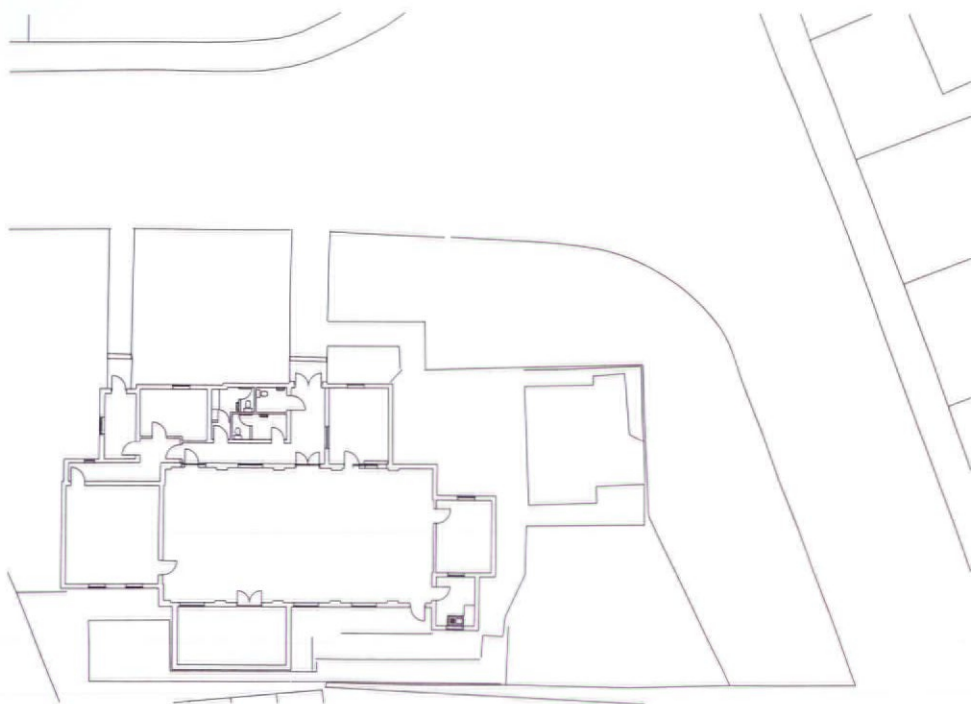


11. Section through eaves gutter and window with mesh



12. Section through dormer





13. Existing ground-floor plan



14. Ground-floor plan

- KEY
- 1 ENTRANCE FOYER
  - 2 OFFICE
  - 3 MEETING ROOM/CLINIC
  - 4 CHILDRENS' WC
  - 5 SURE START CRÈCHE
  - 6 KITCHEN
  - 6A SERVERY
  - 7 EXISTING HALL
  - 8 STORE
  - 9 CHAPEL
  - 9A NEW CHAPEL ENTRANCE
  - 10 VESTRY
  - 11 BUGGY PARK
  - 12 YOUTH VENUE
  - 13 SURE START GARDEN



15. Rowan Avenue elevation. Brightly painted render contrasts with a more provocative surface of galvanised-steel mesh









## Costs

Cost analysis refers to final account.  
Costs refer to gross external floor area

### SUBSTRUCTURE

Demolitions £36.45/m<sup>2</sup>

Selective demolition of 1960s extensions; adaptation to original brick parapet to receive new roof; removal of 1m level change in chapel to create new level entrance and general internal alterations

Foundations/slabs £57.32/m<sup>2</sup>

Conventional mass-concrete strip foundations and ground-bearing concrete slab; below-ground sections of wall include tanking and solid insulation

### SUPERSTRUCTURE

Roof & rooflights £147.02/m<sup>2</sup>

Composite insulated steel-profile mono-pitch roofing over timber roofs and existing concrete flat roofs, with anti-climb steel polyester powder-coated gutters and rainwater pipes; dormer window to street wing; patent-glazed rooflight with electronically operated ventilation panels and rainlight sensors; external timber play canopy structure with exposed timber roof and composite insulated steel-profile mono-pitch roofing

External walls £44.98/m<sup>2</sup>

Cavity wall comprising medium-density, low-shrinkage blockwork with partial-fill insulation, with outer coating of blue tanking, overlaid with rain screen of galvanised steel panels

Windows & external doors £58.08/m<sup>2</sup>

Hardwood-framed windows and glazed doors; insulated timber infill panels; high-level clerestory windows; teleflex opening mechanism

Internal walls and partitions £23.48/m<sup>2</sup>

Exposed original 1930s brickwork, new load-bearing and non-load bearing blockwork; WC cubicles

Internal doors £28.52/m<sup>2</sup>

Painted, solid-core, leaf-and-a-half doors with large vision panels; set flush in extended painted mdf screen surround to include signage; ironmongery

### INTERNAL FINISHES

Wall finishes £60.45/m<sup>2</sup>

Original brickwork exposed by plaster removal to internal sections and graffiti removal, plasterboard; plaster; paint; douglas fir-faced plywood; tiles

Floor finishes £25.45/m<sup>2</sup>

Recycled brick screed from demolitions; linoleum; anti-slip vinyl; carpet

Ceiling finishes £6.93/m<sup>2</sup>

Plasterboard ceilings; douglas fir-faced plywood

### FITTINGS AND FURNISHINGS

Furniture £ 53.71/m<sup>2</sup>

Furniture: reception counter; café servery counter; kitchen; window seats; adult and child paint sinks; nappy change/laundry; multi-use storage; concealed up-lighter casings; pinboard; general

### SERVICES

Sanitary appliances £9.79/m<sup>2</sup>

Adult and child facilities; accessible WC; clinic and nappy change/shower

Services equipment £126.12/m<sup>2</sup>

Boiler and manifolds; underfloor heating in separately controlled zones; thermostatic radiators; mechanical ventilation; electrical fans

Ventilation £63.63/m<sup>2</sup>

Mechanical ventilation; electrical fans

Utilities £4.94/m<sup>2</sup>

Builders work in connection £1.81/m<sup>2</sup>

Electrical services £4.94/m<sup>2</sup>

### EXTERNAL WORKS

Landscaping, ancillary buildings £63.63/m<sup>2</sup>

First-phase works: graduation of external access to form sloped tarmac extensions with handrails and minimise fencing; turf and grass seed

Drainage £27.27/m<sup>2</sup>

Below-ground drainage extended; new slot drains

### PRELIMINARIES AND INSURANCES

Preliminaries, overheads and profit £129.46/m<sup>2</sup>



## Cost summary

	Cost per m <sup>2</sup> (£)	Percentage of total
<b>SUBSTRUCTURE</b>		
Demolition	36.45	3.74
Foundations/slabs	57.32	5.88
GROUP ELEMENT TOTAL	93.77	9.60
<b>SUPERSTRUCTURE</b>		
Roof and rooflights	147.02	15.09
External walls	44.98	4.60
Windows and external doors	58.08	5.96
Internal walls and partitions	23.48	2.40
Internal doors	28.52	2.90
GROUP ELEMENT TOTAL	302.08	31.00
<b>INTERNAL FINISHES</b>		
Wall finishes	60.45	6.20
Floor finishes	25.45	2.61
Ceiling finishes	6.93	0.71
GROUP ELEMENT TOTAL	92.83	9.53
<b>FITTINGS AND FURNISHINGS</b>	53.71	5.51
<b>SERVICES</b>		
Sanitary appliances	9.79	1.01
Services equipment	126.12	12.94
Ventilation	63.63	6.53
Utilities	4.94	0.50
Builders' work in connection	1.81	0.20
Electrical services	4.94	0.50
GROUP ELEMENT TOTAL	211.23	21.71
<b>EXTERNAL WORKS</b>		
Landscaping, ancillary buildings	63.63	6.53
Drainage	27.27	2.90
GROUP ELEMENT TOTAL	90.90	9.34
<b>PRELIMINARIES AND INSURANCES</b>	129.46	13.30
<b>TOTAL</b>	<b>973.98</b>	<b>100</b>

## Credits

Commission start  
 February 2003  
 Start on site  
 September 2004  
 Contract duration  
 10 months  
 Gross internal floor area  
 534m<sup>2</sup>  
 Form of contract  
 JCT98  
 Total cost  
 £535,277  
 Client  
 City of Worcester Council  
 Architect  
 Meadowcroft Griffin Architects: Ann Griffin, Philip  
 Meadowcroft, Gordon Sung, Kirsty Yaldron, Nicole Weiner,  
 Zac Marshall, Justin Frankel  
 Structural engineer  
 Price & Myers  
 Planning supervisor  
 Richard Wragg  
 Senior mechanical engineer  
 Arup  
 Environmental engineer  
 Arup  
 Cost consultant  
 Appleyard and Trew  
 Main contractor  
 Spicers  
 Selected subcontractors and suppliers  
*Timber-framed glazed windows and doors* Spicers in-house joinery;  
*roofing* CovCon; *WC cubicles* Armitage Venesta; *flooring* Tarkett  
 Sommer; *retaining-wall insulation* Foamglas; *fit-out joinery*  
 Spicers; *partial-fill cavity insulation* Rockwool; *expanded metal*  
*cladding* Cadisch; *cladding fixings* Ejot UK; *tanking below ground*  
 RIW; *cold-applied blue membrane as zero-maintenance decorative*  
*coating behind expanded metal RIW*; *electrical subcontractor* Dewtec;  
*light fittings* Thorn Line XS; *mechanical subcontractor* MT  
 Heating; *underfloor heating* Wirsbo; *graffiti removal to original*  
*brickwork* Duckworth Trust; *rooflight* The Standard Patent  
 Glazing Company; *ironmongery* Westlands Ironmongery; *carpet*  
 Milliken Carpets; *entrance matting* Burmatex Group; *recessed slot*  
*drain* Aco Technologies; *blockwork* Tarmac Topblock; *DPC and*  
*weep vents* Cavity Trays; *wind posts* Ancon; *tiles* Pilkington;  
*sanitary fittings* Twyford; *shower fittings* Grohe; *baby-change units*  
 Baby Point; *cupboard fittings and integrated recycle bins* Hafele  
 UK; *paint sinks and fittings* Franke UK



# The Best

**The Winners of the construction industry's Oscars for 2006 were announced at a Gala Awards Dinner at the Grosvenor House Hotel, London on Thursday 26th October**

---

The British Construction Industry Small Building Project Award  
WINNER: The Menuhin Hall

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---

The British Construction Industry Small Civil Engineering Project Award  
WINNER: Royal Yacht Squadron Breakwater

*sponsored by Mott MacDonald*

---

The British Construction Industry Building Award  
WINNER: Heelis, New Central Office for the National Trust

*sponsored by Corus*

---

The British Construction Industry Civil Engineering Award  
WINNER: Paddington Bridge Project

*sponsored by Sinclair Knight Merz*

---

The British Construction Industry Major Project Award  
WINNER: Channel Tunnel Rail Link 103, King's Cross

*sponsored by the Health and Safety Executive*

---

The British Construction Industry Best Practice Award  
WINNER: Lewes Sewerage Improvement Scheme

*sponsored by May Gurney*

---

The British Construction Industry Local Authority Project Award  
WINNER: John Perry Children's Centre Phase 2, Dagenham

*sponsored by NEC*

---

The British Construction Industry Conservation Award  
WINNER: Stowe House

*sponsored by Hyder Consulting*

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The British Construction Industry Environmental Award  
WINNER: Salcey Treetop Walk, Northamptonshire

*sponsored by Atkins*

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The British Construction Industry Regeneration Award  
WINNER: Perth Concert Hall

*sponsored by Gifford*

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The British Construction Industry Judges 'Special Award'  
WINNER: Evelina Children's Hospital, London

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The British Construction Industry International Award  
WINNER: Snow Centre (Ski Dubai)

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The Prime Minister's Better Public Building Award  
WINNER: The City of London Academy

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## DETAILED GLASS INFORMATION IS AN INVALUABLE RESOURCE

By Austin Williams

*This is the first NBS Shortcut in a series which will appear 10 times a year in the AJ. This piece focuses on the main classifications for glass and glazing and on BS 953-1:1995 'Glass for glazing', which lists more than 20 main varieties of glass, with many more subsets representing composites, coated glass or other manufacturing processes that give the glass a range of properties suited to particular situations.*

Some British Standards are fascinating, well researched, crucial and informative for an understanding of a subject, product or practice... and then there's BS 6262-1: 2005. Admittedly, 'Glazing for Buildings – General Methodology for the Selection of Glazing' is the first part of a seven-part document, but as it contains nuggets such as 'in the case of internal doors, the wind loading is negligible' and 'security glazing is used in situations where a high degree of protection... is required', surely few would weep if it disappeared.

Fortunately, the remaining six parts provide an invaluable resource – detailed information on glass and glazing-related topics, from energy considerations to frame design. This Shortcut presents a snapshot of available glazing types suited to different functions, locations and manufacturing processes.

### FLOAT GLASS

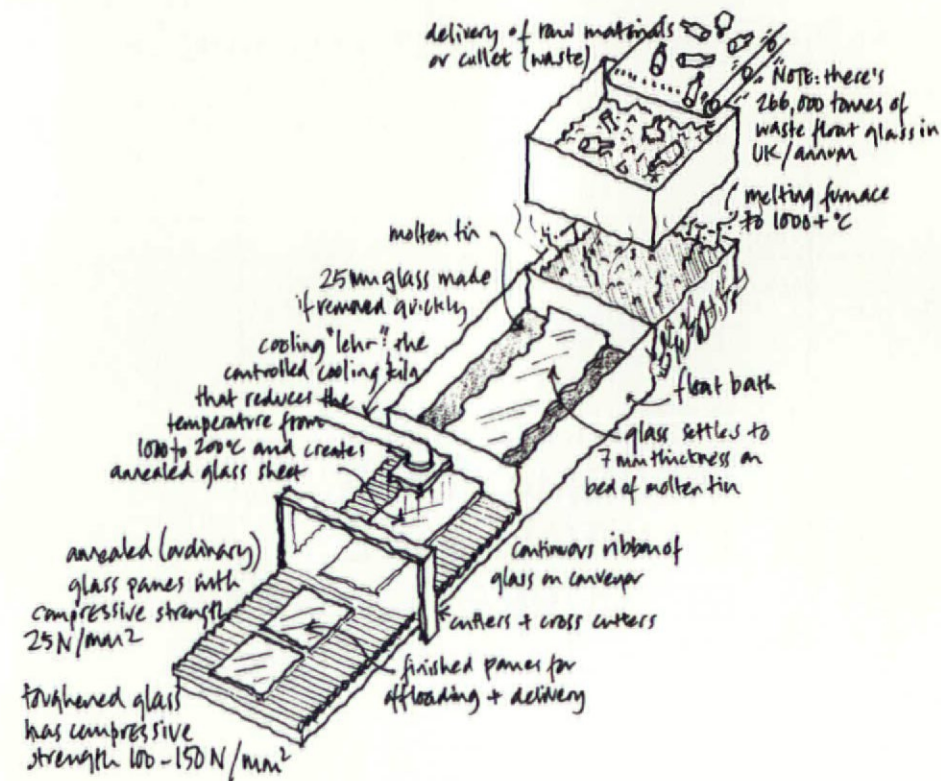
Henry Bessemer, more famous perhaps for his iron-to-steel converter, patented float glass in 1848, although it was not until the turn of the 20th century that Pilkington made it commercially viable to produce it in significant quantities.

Manufactured by pouring 1,000°C glass on to a bath of molten tin so that it floats, it spreads out to an even thickness of around 7mm. Thinner sheets (down to 0.4mm) are produced by removing it slowly, thus allowing it to settle; thicker sheets (up to 25mm) by removing it from the bath more quickly, containing the spread. Other methods of glass production still exist, but this is generally accepted to be the more cost-effective. Plate glass, for example, a common method of sheet-glass manufacture prior to the much cheaper float glass process, involved pouring molten glass on to two metal plates where it would cool, be lifted off and ground and polished in an attempt to make the two surfaces even. The industrialised efficiency heralded by the early manufacture of float glass, which became fine-tuned after the Second World War, has now resulted in around 260 float-glass plants worldwide producing around 800,000 tonnes of glass per week between them.

The other main production process is passing molten glass through rollers of various apertures to control thickness, producing 'sheet glass'. This tends to have uneven surfaces and has effectively been superseded by float glass. But whether float or rolled, glass that has been subjected to controlled cooling (which helps reduce residual stresses in the material) is known as 'annealed glass' or 'untreated glass'. BS 953-1:1995 describes this as 'ordinary glass' and it forms the base for most wired, coloured or patterned glass.

Glass is remarkable for its ability to not weaken over time. Windows subject to flexing under wind loads, for example, do not weaken and fail due to the fatigue of repetitive stresses.





Glazing process

The molecular structure of glass is such that it doesn't degrade, but under excessive strain it will fail suddenly and dramatically. Ordinary annealed glass is not very strong and a range of treatments moderates the tendency for float glass to break into dangerous fragments.

Some of the key techniques to improve the strength of glass include toughening, heat strengthening and laminating. It was early in the mid-17th century that heat-treated glass was discovered to have significantly improved strength qualities, but it took another two centuries to be able to explain it scientifically. Essentially, rapid cooling causes the exterior of the glass to solidify very quickly while the core takes longer, contracting to a greater extent than the surface condition. This sets up tensile stresses in the middle and compressive strength at the surface and it is the latter that has to be overcome before the 'weakness' of the internal condition can be exposed. Two main types of heat-treated glass are commercially available: toughened and heat-strengthened.

### TOUGHENED GLASS

Toughened glass (also known as tempered glass) has a surface compressive strength of up to  $100\text{N/mm}^2$ , suitable for safety glass specifications, and can be as high as  $150\text{N/mm}^2$ , enabling it to withstand mechanical forces and thermal shock respectively four and six times that of annealed glass. Unfortunately, toughened glass is no more elastic than annealed glass and its deflection characteristics are limited. Its BS 6206 'safety glass' label is

premised on the fact that on breaking, the release of pent-up internal energy shatters the glass into small, relatively harmless blunt particles. Such are the internal forces that pane edges need polishing to remove irregularities that would otherwise reduce the stress resistance. This glass should not be considered as security glazing and it cannot be cut or drilled after tempering, so manifestation or other decorative treatments should be applied rather than etched, although the latter is possible with care.




### HEAT-STRENGTHENED GLASS

Heat-strengthened glass is simply a halfway house between annealed and toughened glass – meaning it is cooled more slowly than toughened glass, producing panels with a surface compressive strength of  $25\text{--}60\text{N/mm}^2$ . It has a resistance to mechanical forces and thermal shock respectively more than 1.5 times and two times that of ordinary glass, although when it breaks it fractures into shards like annealed glass.

### WIRED GLASS

Wired glass, commonly known as Georgian wired glass, is annealed glass that has 12.5mm welded wire mesh embedded in it during the rolling process (which is used to create the desired patterning) and outside the UK it is made by pressing the wire into the molten glass. Cast wired (patterned) glass is 7mm thick, and the polished wired glass variety is 6mm, the latter losing 0.5mm each side in the grinding and polishing process.



	FRAME	FIRE PERFORMANCE TO BS EN 13501		SAFETY CLASSIFICATION		BREAKAGE
		DURATION	Behaviour	Thickness (mm)	CLASS	
 ordinary wired annealed glass	wood	≤ 60	glass fractures but the shards held in place by wire mesh thus maintaining smoke & flame barrier	6mm cast 7mm polished	None or Class B	Glass fractures but held in place by wire mesh
	steel	≤ 60				
 safety wired annealed glass	wood	≤ 60	As above	6mm cast 7mm polished		As above but safety wired glass may improve classification
	steel	≤ 60			Class C	
 3-ply laminated ordinary wired glass (or safety wired) / PVB / float glass layers	wood	see manufacturer data	Float glass fractures. PVB interlayer melts & burns away allowing float glass shards to fall & exposing the wired glass to fire	8-5mm and over	Class A or Class B depending on thickness	
	steel	ditto		ditto	ditto	

Glazing table

In general, this cannot be used as safety glass, as the shards combine with the sharp mesh to present a serious injury hazard. However, with a thicker-gauge mesh it can comply. Similarly, Georgian wired glass can provide up to 60 minutes (integrity only) and satisfy the BS 6206 Class C safety classification, which means it is the lowest grade of safety glazing. For 'critical' glazing in doors and side panels (as defined in Approved Document Part N) the width of each pane of Class C glazing cannot exceed 900mm.

### LAMINATED GLASS

Laminated glass is made by pressure-bonding sheets of glass to an interlayer, most commonly polyvinyl butyral (PVB), such that the composite panel has the combined attributes of each individual panel, although laminates made from two toughened glass panels will afford no structural integrity if both panels are broken. However, it can be worked after manufacture as the strength of the bond between the layers is unaffected by cutting and chasing.

PVB comes in thickness multiples of 0.38mm. Three-ply panels with a 0.38 or 0.76mm interlayer are classified as safety glass. With a 1.53mm interlayer (or five-ply with two layers of 1.14mm) it is classed as manual-attack-resistant glass to BS 5544. Bullet and blast-resistant glass are specified in BS 5051, the former weighing as much as 120kg/m<sup>2</sup> for a 50mm thick pane. A variety of laminates is now readily available providing intumescent, coloured or solar-control interlayers.

### FIRE-RESISTANT GLASS


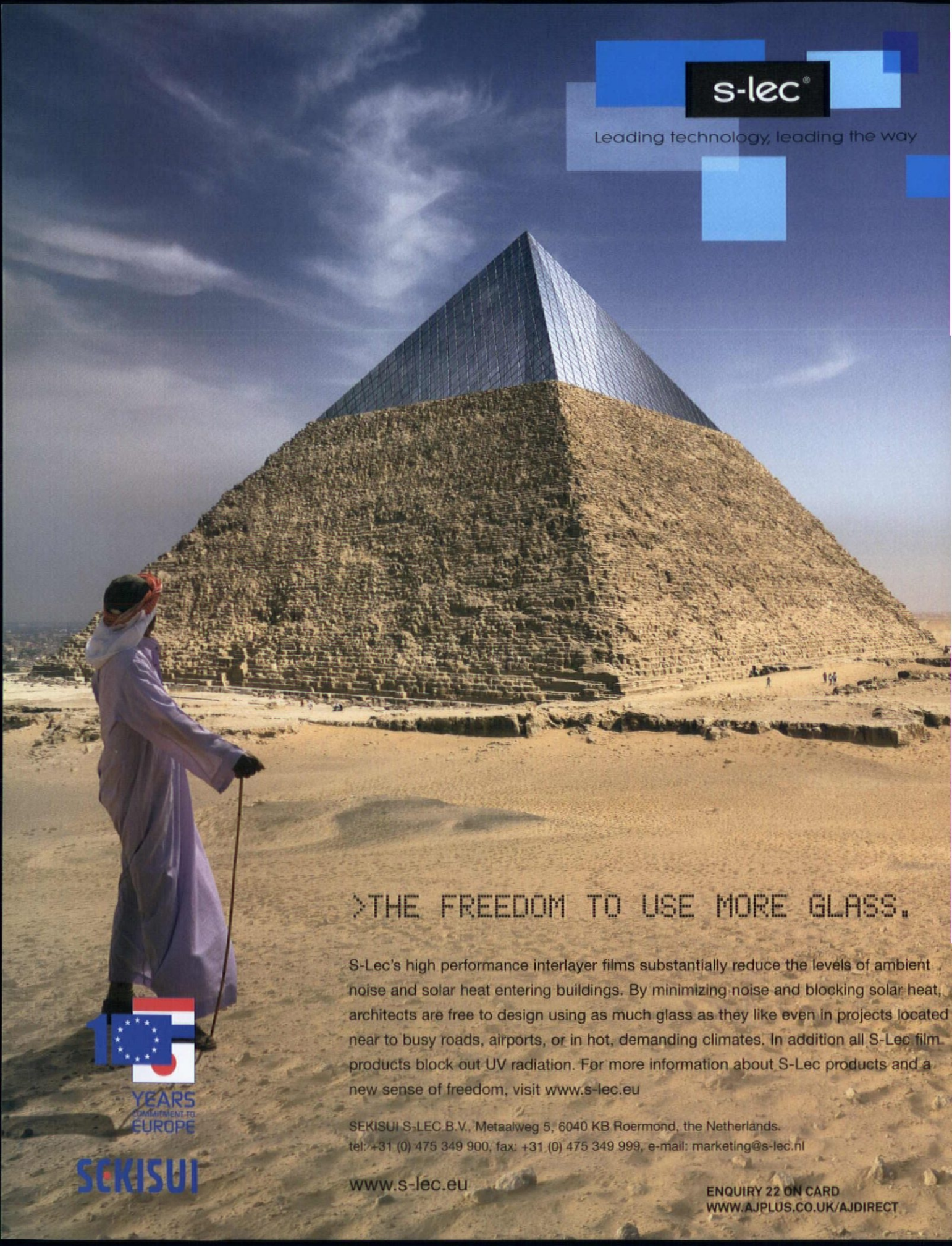
In the same way that sound resistance relates to a composite (ie. a glazed screen) rather than an element (ie. an individual glass pane), so with fire resistance: failure in one part of the element compromises the whole. The fire-resistant classification of a glazed screen, say, is a mixture of integrity and insulation – the former ensures that the fire does not penetrate the element, the latter reduces the transmission of radiant and conductive heat.

Some fire-resistant glass is classified in accordance with BS EN 13501-2 in terms of integrity (E), insulation (I) and, where applicable, radiation (W) and will be contained on fire test certificates that are applicable only to that particular assembly or pane that has been tested. It is important to note that fire protection is related to the extant conditions, materials and detailing and claims that a certain glass is fire resistant should be treated with caution until read in conjunction with the whole assembly.

*Austin Williams is the author of NBS Shortcuts. For more information visit [www.buildingregs.com](http://www.buildingregs.com)*

*You can see shortcuts online at [www.ajplus.co.uk](http://www.ajplus.co.uk)*





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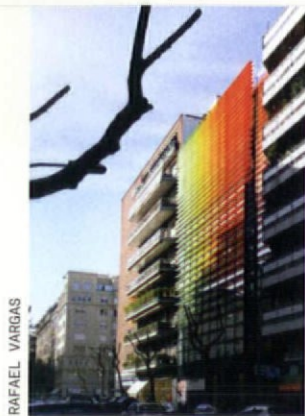
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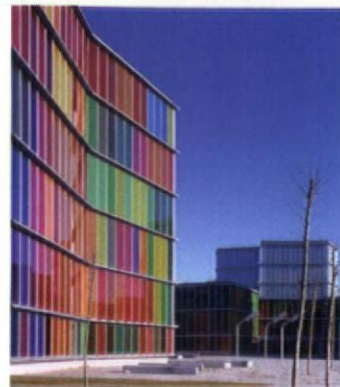


RAFAEL VARGAS

1.

## COLOUR AND IMAGES ON GLASS MERGE ART AND ARCHITECTURE

*By Andrew Moor*



ROLAND HALBE

2.

1. Maestro Nicolau Office Building, Barcelona
2. MUSAC, Leon, Spain, by Mansilla + Tuñón

Coloured-glass technology has been revolutionised in the past 20 years. Leaded glass, the traditional coloured-glass manufacturing technique, remained unchanged from the days of the stained-glass Gothic cathedrals to the early 1990s. Because leaded glass had nothing in common with the large expanses of glazing dominant in 20th-century architecture, coloured glass was not popular with modern architects, despite a brief vogue with Mackintosh and Wright. But in the past 15 years, techniques have evolved that offer infinite possibilities for the use of coloured glass in buildings. There are three main ways to apply colour to glass: firing enamels onto the surface of the glass (fritted glass); adding pigment to the interlayer of laminated glass; and applying coloured film to glass.

### ENAMELS ON GLASS

The term fritted glass evokes images of endless white dots, yet this is a very limited view of what can be done with fritting, as the dot can just as easily be black, blue, green or pink. Dots can also be arranged to create a photograph or design. The options are endless and dramatic effects can be simply achieved. The vocabulary of architecture is about repetition and rhythm, and the medium of printed enamels is perfectly designed to exploit this application.

Herzog & de Meuron pioneered the use of images on glass. At its Ricola warehouse (1993), a leaf pattern was repeated on the exterior fabric. At its Eberswalde School Library (1999), strips of photographic images were repeated across the facade, reading differently at a distance and close range. The cladding

of the Cottbus Media Centre, near Brandenburg (2004), was covered in huge letters made up of white dots. Each image was printed over 100 times from a basic grid design of 25 panels.

At Innsbruck Town Hall (2002), Dominique Perrault and artist Peter Vogler transformed a five-storey glass stairwell with black dots printed on transparent glass, retaining a view of the cityscape beyond. Stairwells are appropriate for printed glazing because it adds interest to a transient space. The brilliance of Peter Vogler's design lies in the subtle use of repetition. Only four images are used on 60 glass panels. When screen-printing enamels, like all printing processes, the costs fall as images are repeated. The costs fall greatly in the first 10 panels, but the curve flattens soon after.

The arresting exterior of Hamburg's Law Library (2004) by Medium Architects shows how simply a building can be made into a night-time landmark using coloured glass. The library seems warm and inviting, although one suspects it is full of terminally dull books. From the inside, a beautiful effect is achieved by this simple intervention, which creates a sort of modesty screen – with the printed etch lines adding to the rhythms of the design.

### PIGMENTED LAMINATION

Pigmented laminated glass uses a coloured layer as the laminate. It has been possible to add pigment to poured laminate for some years now, but a new, more mechanised process which has been developed means that it is now becoming widely used. A large range of colours can be used in opaque or transparent form.





ANDRÉ MORIN

3.

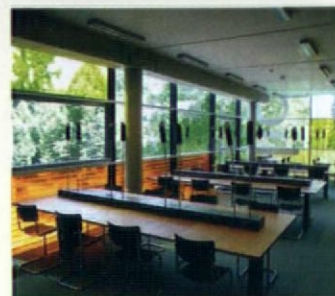
3. The stairwell at Dominique Perrault's Town Hall in Innsbruck

4. Coloured films were used in ORMS' Holmes Place fitout in Cologne

5. Medium Architects used coloured glass at the Law Library, Hamburg



4.



5.

Two of the best known examples of pigmented lamination in the UK are the Home Office Building by Terry Farrell Partnership (2005) with artist Liam Gillick, and David Adjaye's Idea Stores. The MUSAC building in Leon, Spain (2005) by Mansilla + Tuñón, uses coloured panels as opaque cladding.

## FILM ON GLASS

Coloured and digitally printed film must be used with caution because of its vulnerability and potential impermanence, yet this can be part of the attraction where change is a constant pressure. Adhesive film does not easily peel off, taking considerable effort to remove. But it is not yet known how well it performs when exposed to sunlight for long periods. UV light can easily be screened out, but other parts of the light spectrum may have an impact on the durability of pigments; this has not yet been properly researched.

Dichroic films are transparent films that show one colour when transmitting light and a different colour when reflecting light. The colours mix to create many hues when viewed from oblique angles, creating otherworldly effects. Two projects showing the dramatic visual effects of these films are Niall McLaughlin's Silvertown housing for the Peabody Trust (2004) and UN Studio's La Defense Office Building in Almere, the Netherlands (2004).

## CONCLUSION

For large volumes of glazing where each panel is a single colour, pigmented laminated glass is an excellent technique, with the

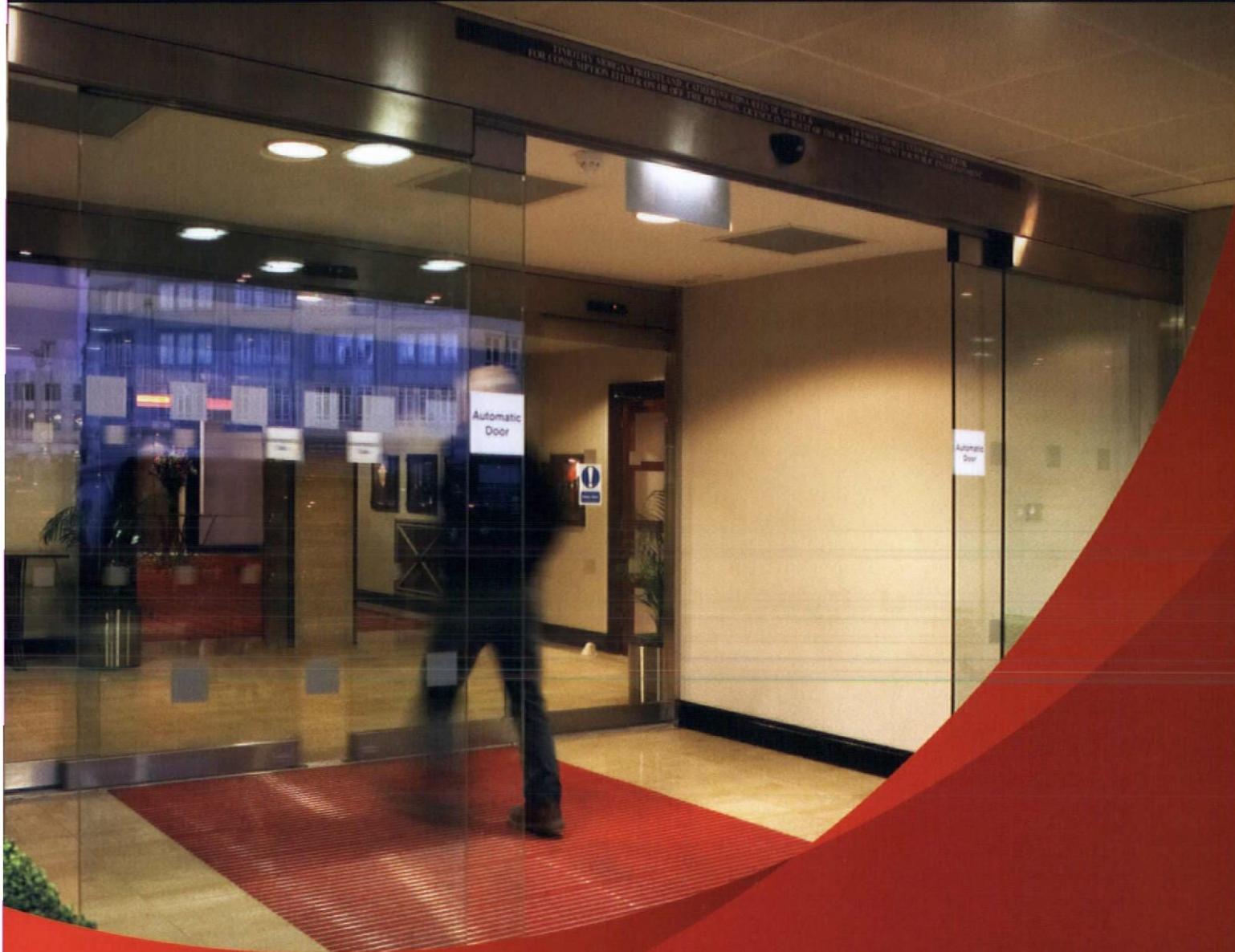
option of transparent, translucent and opaque panels. For projects where more than one colour, images, or gradations of colour are required, enamels offer a perfect solution. They can also be transparent, translucent or opaque, are permanent and include the added quality of surface texture. The low cost and enormous versatility of digital film make it an excellent option for internal interventions; because it is applied after the glass installation, film is a very low-stress option that can be included at a very late stage.

I have observed that people who pay for buildings, and seem to resent every unnecessary expenditure, are human enough to find that the millions spent on foundations, carpets, air-conditioning etc. is not very exciting, while money spent on visible parts of the building provides a buzz long after completion.

The use of colour and images on glass merges art and architecture. No one has really explored what can be achieved with 'ornamentation' on glass. Instead of moulded stone, we could have printed patterns on glass running laterally or vertically, establishing the building's rhythms and form. Incorporating art into architecture involves more thought, discussion and uncertainty than almost any other component. It is time-consuming for architect, client and probably contractor. Yet if well integrated, it can give a building definition, strength, beauty and colour.

*Andrew Moor is an architectural glass consultant and author of Coloured Glass in Contemporary Buildings, Mitchell Beazley, 2006. Visit [www.andrewmoor.co.uk](http://www.andrewmoor.co.uk)*





## Make an entrance

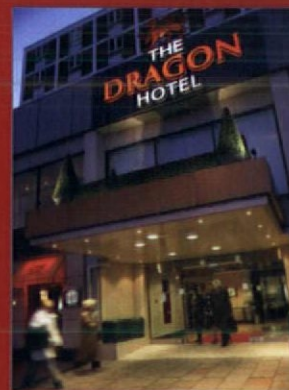
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## PHILOSOPHICAL ABOUT A FAILURE TO COMMUNICATE

The other day I met a marketing professor at one of the better universities who had recently judged an architectural competition. New to judging, he had been astonished at the quality of information and presentation. Astonished as in horrified. He declared that he would go back to his university and set up an architectural communications course.

I don't hold out much hope for it. Who would admit the need to sign up? As we all know, a certain, ahem, smugness prevails – and you can see it on architectural websites. Otherwise, why would every practice have a page labelled: 'Philosophy', 'What We Believe' or 'Our Architecture'. Nobody has detected any Aristotles or Hegels among the budding architectural illuminati recently, so I have difficulty with that word 'philosophy' on such websites – especially when it is normally the heading for a collection of architectural commonplaces of little interest to clients and evoking scorn for hip young office fodder.

And what of the no-nonsense promises to give personal attention, or be on-time and on-budget? Aren't they exactly what laypeople expect of a pro? Why raise doubts by mentioning them? [sutherland.lyall@btinternet.com](mailto:sutherland.lyall@btinternet.com)

## LIMITED APPEAL

As a matter of policy, the Arbitration Act 1996 gives a disgruntled party limited opportunities to challenge an arbitrator's award, writes *Sue Lindsey*. The underlying principle is that commercial parties are free to agree how their disputes are to be resolved with minimal intervention by the courts.

Challenges are only available if the tribunal lacked jurisdiction, or if there has been a serious irregularity, or appeal on a point of law (Sections 67, 68 and 69). If the matter gets to court, but then one party wants to appeal the judge's decision, things get still more hemmed in. Any appeal to the Court of Appeal from the judge's decision can only be brought with that judge's leave. If the judge refuses, is there anyone left to appeal to, and on what basis?

The Court of Appeal recently gave judgments on the same day in two cases touching on this question; *CGU International Insurance v AstraZeneca Insurance* and *ASM Shipping v TTTMI* (16 October 2006).

In the CGU case, the arbitral tribunal had reached a majority 2:1 decision on what was the applicable law. The losing party appealed to the court. The judge decided that the minority view was the correct one and refused leave to appeal. The Court of Appeal

first had to decide whether it could hear the matter at all, given that the judge below had refused permission for it to go to them.

Everyone agreed that the effect of the Arbitration Act is that there is no appeal on the merits of a judge's decision, either as to the right answer or a refusal of leave to appeal, unless that judge gives leave. But the appellant argued that the Court of Appeal has a residual discretion to permit an appeal on the judge's refusal of permission if that refusal was unfair and contrary to Article 6 of the European Convention on Human Rights, the right to a fair hearing.

The Court explored the interplay of the Arbitration Act, the Supreme Court Act (which gives the Court its powers) and the Human Rights Act, and concluded there were several possible ways of looking at the statutes that meant it did have such a residual jurisdiction. But the jurisdiction is very limited, only being triggered by something so unfair that the decision to refuse leave is invalid. The Court concluded that there had been no such unfairness in this case.

The second case concerned an alleged serious irregularity pursued under Section 68. One party alleged apparent bias on the part of a member of the arbitral tribunal. The judge decided that there had been

apparent bias, but that the complaining party had waived its objection. The judge then refused permission to appeal.

The appellant sought to use the Human Rights Act to persuade the Court of Appeal to give leave to appeal. There was no complaint about the fairness of the process of the judge's decision, so the residual jurisdiction discussed in CGU did not come into play. Instead the appellant argued that the judge, having accepted that there was apparent bias, was himself in breach of the Convention by failing to put it right. The Court concluded that the judge's decision had not breached the appellant's Convention rights, and that they had no jurisdiction to grant leave to appeal.

*Sue Lindsey is a barrister at Crown Office Chambers in London. Visit: [www.crownofficechambers.com](http://www.crownofficechambers.com)*





# BCI AWARDS/ 2006



Judges at Heathrow Airport Terminal 3, Pier six





british construction  
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Land Securities*

Gordon Masterton  
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Rab Bennetts  
*Director, Bennetts Associates*

Keith Clarke  
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Paul Finch OBE  
*Editorial director, Emap Construct*

Antony Oliver  
*Editor, New Civil Engineer*

Jane Priestman OBE  
*Design-management consultant*

Philip Singleton  
*City design advisor,  
Birmingham City Council*

John Spanswick  
*Chairman and chief executive,  
Bovis Lend Lease*

Mike Winney  
*Editor emeritus,  
New Civil Engineer*

#### INTERNATIONAL AWARD

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*3C's Consultants*

Bob McGowan  
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*Written by Mike Winney*







### THE JUDGING PROCESS

In their 19th year, the British Construction Industry Awards once again highlight the building and civil engineering industry's performance in delivering high-quality infrastructure to time, cost and satisfaction of clients and users.

The judging team found choosing between the many excellent submissions for the awards both difficult and very satisfying. Difficult because standards are so high and there are only a limited number of prizes; satisfying because projects suffering serious cost and time overruns are now rare exceptions.

Judging for the team, led by Mike Hussey of construction client Land Securities, began with every judge closely examining the 212 entry documents. Then in May the team met at the Institution of Civil Engineers (ICE) to choose shortlists for each project category.

A hallmark of the BCI Awards is that every shortlisted UK project is visited by a group of judges who interview design, construction and client representatives on site. The shortlist consisted of 29 projects, and each was inspected on one of eight visit days during June and July. In determining the International Award, the separate judging team shortlisted five projects and made site visits to two of them.

*Mike Winney*

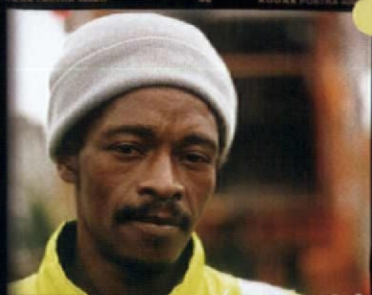








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Local Services



Defence



Education



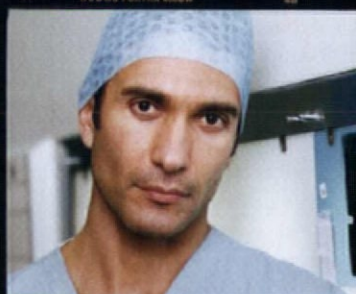
Construction



Police



Health



Health



Defence

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## CITY OF LONDON ACADEMY, SOUTH LONDON

*For buildings and infrastructure projects of any size commissioned by or on behalf of central or local government or by a grant-aided organisation. Jointly sponsored by CABE (the Commission for Architecture and the Built Environment) and the OGC (Office of Government Commerce).*

Unlike other academies, the City of London's dazzling new establishment in Bermondsey does not replace a failing school. In fact, it is both the first state secondary school to be commissioned by the City of London Corporation and one of the Corporation's most demanding projects, because of the legal obstacles that had to be overcome before construction could start.

The superb facility was delivered to time and on budget by the design and construction team and is an exemplar of very early involvement of the builder and final customer, partnering with a PPC2000 contract, use of a professional coach, and the 'get it done' approach of all team members.

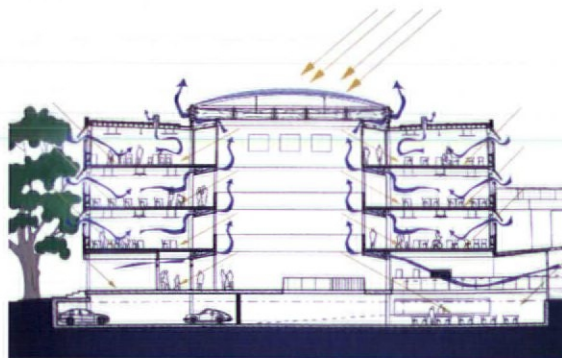
The brief for the academy was established in 2001 by the Corporation with the London Borough of Southwark and DfES. In February 2002 the design-and-construct duo of Studio E and Willmott Dixon was appointed. The academy's designated principal was also brought into the team, playing a key role in development of the design.

The snag was over the chosen site – formerly railway sidings of the Bricklayers' Arms station that predated the rail terminus at London Bridge. An awkward parcel of land, it is split in two by a road viaduct and had long ago been designated a park. But its use had descended to that of a meeting place for drug addicts. The planning proposal to put a school on the site was subjected to a vigorous legal challenge. In the end this was settled by a judicial review which allowed the academy to proceed.

Construction began in January 2004. The tight space for the main building led to the choice of a five-storey structure. Steel was used for the frame for speed and flexibility. A large atrium at the academy's heart brings in light, allows air circulation and sets the school apart from the status quo of secondary education buildings.

With the permanent structures in place on time by July 2005, the first pupils were able to move in at the beginning of the autumn term.

Applications for places now hugely outnumber the total number of pupils that can be accommodated, and all live within walking distance.



*'Brilliant. Inspiring. Outstanding planning and delivery'*

*'A knockout!'*

*'Great client with a clear vision'*

Client  
City of London Corporation  
Cost  
£23.53 million  
Principal designer  
Studio E Architects  
Engineer  
Dewhurst Macfarlane  
Contractor  
Willmott Dixon Construction



Office of Government Commerce





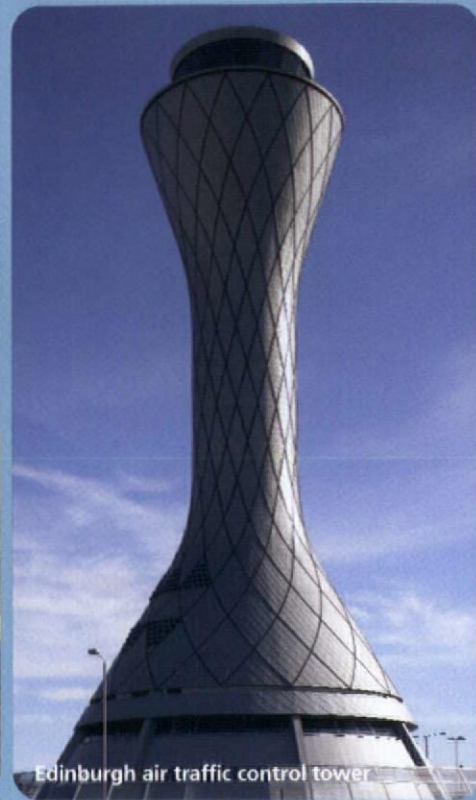
Heathrow Terminal 3 Pier 6



Runway resurfacing at Stansted



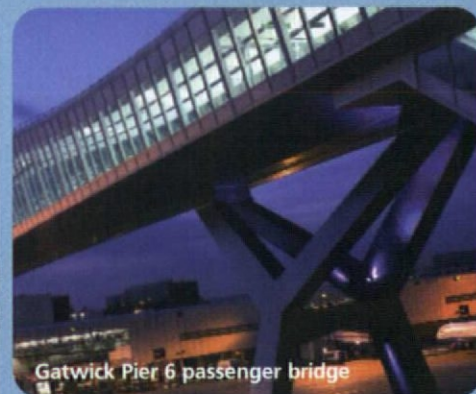
Heathrow Terminal 1 departures lounge



Edinburgh air traffic control tower



Heathrow Terminal 5



Gatwick Pier 6 passenger bridge



Pier Product development

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Capital Projects





*'An absolute gem of a building with a phenomenally low budget'*

*'In nearly two decades of the British Construction Industry Awards, few projects have come so close to matching all the winning criteria'*

*'This delightful building demonstrates that traditional methods of design and procurement can still work extremely well when carried out with strong client leadership, commitment by all parties, and good communication'*

### THE MENUHIN HALL, SURREY

For building schemes valued at under £3 million. Sponsored by BAA. The huge grin on headmaster Nicolas Chisholm's face and a few words summarised one of the best projects ever entered for the BCI Awards: 'I'm thrilled by the building! Thrilled by the price!'

The music school needed a performance space in its own grounds where pupils could gain experience of playing in front of 'real' audiences, most often fellow students and special guests. Particular intimacy was needed to enable students in the audience to observe playing technique closely. The stage can accommodate an orchestra of 45 performing for an audience of just over 300 in the comfortable fixed seating and individual swivel chairs on the balcony, which sweeps right around the back of the stage.

Perhaps the most challenging aspect of the available site in the school's parkland grounds is the proximity of the M25 motorway. The road is largely screened by trees but vehicles can be seen clearly and a considerable amount of noise is heard outside.

The BCI Awards judging team had no sound-level testing apparatus other than their ears. But these measured the ambient sound inside the carefully engineered hall as zero.

#### Client

The Yehudi Menuhin School

#### Cost

£2.8 million

#### Principal designer

Burrell Foley Fischer

#### Acoustic consultant

Sound Space Design

#### Contractor

R Durtneil & Sons





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ENQUIRY 26 ON CARD  
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*'A small civil engineering project with full-scale marine works challenges'*

*'The unobtrusive but carefully designed architectural elements gave a good finishing touch to an excellent civils project'*

*'Little details that could have been a mess have been dealt with very sensitively'*



#### ROYAL YACHT SQUADRON BREAKWATER, COWES

*For civil engineering schemes valued at under £3 million.*

*Sponsored by Mott MacDonald.*

Sailing may be the *raison d'être* of Cowes, on the Isle of Wight, and the Royal Yacht Squadron (RYS) – the choice club at the heart of that tradition – but no divine rights are attached. When squadron members decided it would be rather convenient to have a little harbour to moor craft outside their elegant clubhouse, RYS had to go through the planning hoops just like everyone else.

Constraints due to the possible impact of piling vibrations on delicate shoreline properties and minimising the visual impact of the breakwater above high-water level drove the design. The end result is a beautifully crafted miniature harbour constructed at a very modest cost.

A long-reach hydraulic excavator mounted on a small jack-up barge enabled the stiff clay below the seabed silt to be machined level, in preparation for the crane-lifted open-base concrete caissons forming the main breakwater structure. Concrete base plugs were cast in place and topped with surplus spoil to ballast the wall. Sleeved precast capping beams were then threaded over long holding-down studs to complete the fixed structure. Some 6,000 tonnes of rock armour from just along the mainland Jurassic coast were dug as overburden from the building-stone quarries near Swanage.

Obtrusive walls or handrails were eliminated by making the breakwater out of bounds. Sailors must keep to the separate pontoon-mounted gangways.

#### Client

Royal Yacht Squadron

#### Cost

£1.4 million

#### Principal designer

Walcon Marine

#### Contractor

Dean & Dyball Construction



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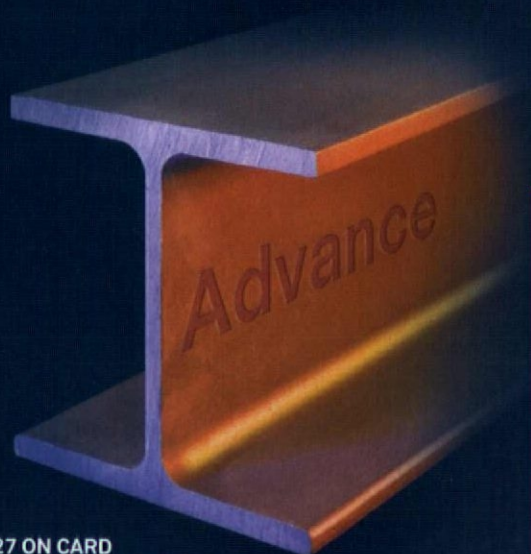


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**The things you can't see make the difference**



ENQUIRY 27 ON CARD  
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### HEELIS, OFFICE FOR THE NATIONAL TRUST, SWINDON

For projects valued between £3 million and £50 million.

Sponsored by Advance Sections from Corus.

The National Trust wanted to centralise four offices, supporting its activities as guardian and conservator of heritage buildings and landscapes, at a single location in a purpose-made building that would reflect the organisation's culture.

This has been achieved in a design-and-build project where the Trust was the client for the design but ultimately became lessee to the owner-developer of the building.

Called Heelis, the office houses every workstation in a totally open-plan layout. Its design was driven by the desire to deliver the maximum useful daylight possible to each workspace, and to create a comfortable working environment with a minimum use of energy.

These objectives have shaped virtually every detail of what at first sight appears a rather austere structure. The sawtooth roof, for instance, is totally functional. While its north-facing windows gather glare-free light, the south faces of the roof support an array of photovoltaic cells that gather enough energy for about a third of the electricity required by the two storeys of offices below.

The BCI Award judges liked what they saw, picking it as the winner from 87 entries in the building category.



#### Client

The National Trust

Developer/owner

Kier Properties

Cost

£10.9 million

Principal designer

Feilden Clegg Bradley Architects

Designer

Max Fordham

Contractor

Moss Construction

*'What a delight! A client who knew what they wanted, an architect who expressed the client's values, and a building which seems to work well and efficiently'*

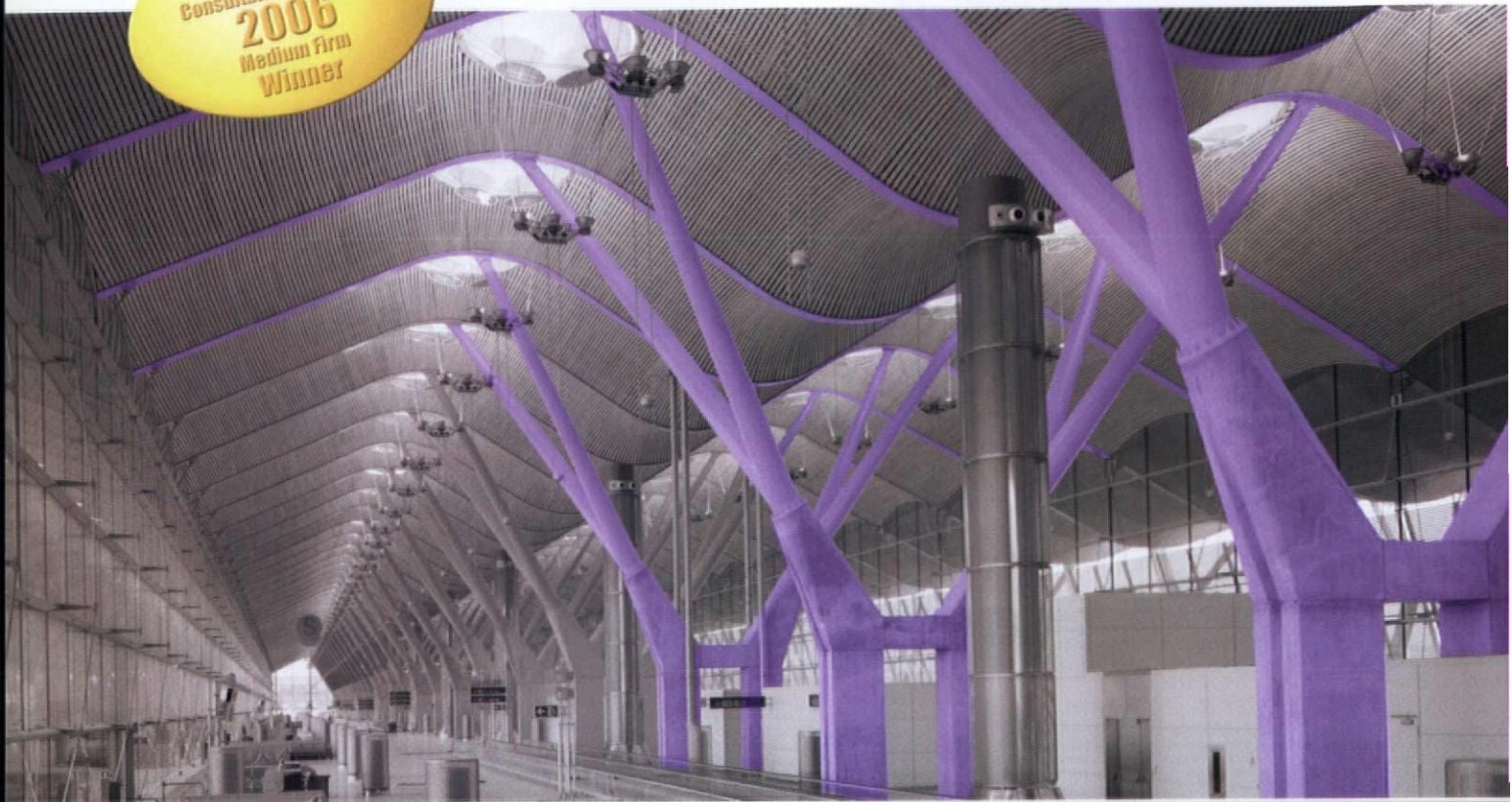
*'The new office building fits perfectly in its historic Great Western Railway works setting and puts excellent natural lighting on almost every desk'*

*'Heelis is near perfection in the early-21st-century flat-screen, low-rise, open-plan office environment – with masterful attention to sustainability'*





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SINCLAIR KNIGHT MERZ

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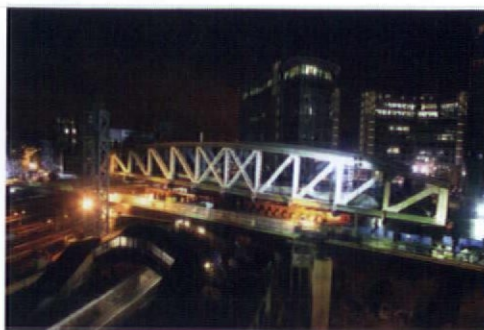
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Working in association with TPS on the New Area Terminal Building, Barajas, Madrid.  
United Kingdom, Asia, Australia, Middle East, New Zealand, South America.

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ENQUIRY 28 ON CARD  
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Client  
Westminster City Council  
Co-promoters  
BAA and Network Rail  
Cost  
£24.6 million  
Principal designers  
Cass Hayward, Scott Wilson  
Contractor  
Hochtief (UK) Construction

*'A fantastic feat of engineering'*

*'The ingenious solution was a brilliant response to the challenge of building a four-lane viaduct to replace an assortment of narrow bridges strung across 14 main-line rail tracks, two Underground lines, a canal and a big sewer just outside Paddington Station'*

#### BISHOP'S BRIDGE, PADDINGTON, WEST LONDON

For projects valued between £3 million and £50 million.

Sponsored by SKM (Sinclair Knight Merz).

Impetus for the replacement of Bishop's Bridge came from the need to radically improve vehicle access to Paddington Station to cope with increased passenger traffic from the Heathrow Express service.

The plan was to widen the viaduct to four lanes with a completely new structure. Constraints included buildings either side of the road line and the need to avoid any risk to the railways underneath. A crucial operation was the dismantling of a big truss bridge which, if done in situ, would have required a massive crash deck above the main-line railway and extensive line possession.

The clever response was to hoist the truss and park it 10m vertically from its original position, using strand jacks mounted on four temporary towers. This allowed for new foundations, on to which the major section of new bridge deck could then be slipped lengthways into position after its preassembly on the rebuilt canal/railway sidings/Metropolitan Line section of viaduct. The new bridge thus formed the demolition crash deck for the old truss. And the main dismantling operation could take place remote from the sensitive main lines by using a multi-wheeled transporter to roll the old structure along the new bridge deck.

The discovery and rescue just before demolition of Brunel's neatly interlocking ironwork at the canal bridge was handled well, with minimal impact on the progress of the job.

#### HIGH COMMENDATION: JAMESTOWN VIADUCT, FIFE

The four 30m steel lattice spans of Jamestown Viaduct required upgrading from RL0 to RL10 loading to cope with heavier and faster trains running across the steel deck linking the top flanges of the lattices. Steelmaker Corus developed the idea of adding a high-strength concrete-slab top flange, plus a modest amount of steel to increase the shear strength of the trusses. All the work was achieved during an eight-day rail possession already scheduled for work on the Forth Bridge in late July last year.

Client  
Network Rail  
Cost  
£4 million  
Principal designer  
Corus  
Contractor  
Carillion (née Mowlem)

SINCLAIR KNIGHT MERZ  
**SKM**





**“EVERY  
WEEK  
ONE  
OF US  
DIES”**

**“DON’T  
BE  
NEXT”**

The construction industry is making real efforts to improve its health and safety record. Injury and fatality rates are on a downward trend. However, every week one of us still dies.

**One lost life, one injury and one case of ill health is still one too many.**

Further improvements in health and safety can be made if people take ownership of the management of risk, demonstrate leadership and work in partnership with others.

**Together we can make a difference.**

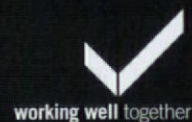
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ENQUIRY 29 ON CARD  
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*'A heroic endeavour'*

*'An amazingly "clean" site with rigorous attention to appropriate fine detailing and finishes'*

*'Admirable management structure with a highly impressive integration of the entire team, from client through to subcontractor'*

Client  
Union Railways (North)  
Cost  
£150 million  
Principal designer  
Rail Link Engineering  
Contractor  
Kier Construction/  
Edmund Nuttall JV



**CHANNEL TUNNEL RAIL LINK CONTRACT 103,  
KING'S CROSS CIVIL WORKS, NORTH LONDON**

For building and civil engineering projects valued at over £50 million.  
Sponsored by HSE, the Health & Safety Executive.

The Channel Tunnel Rail Link (CTRL) civil works on the King's Cross 'railway lands' was constrained by the interconnecting geometry of the new high-speed line with the Grand Union Canal plus existing live, relocated and new rail lines weaving across and under the site. Much of the area consisted of semi-derelict rail yards with strategically important ready-mix concrete plants and a major road that had to be relocated to fit around the new lines.

The main chord of the CTRL emerges from tunnels at the north-east of the site, crosses the East Coast Main Line (ECML) on a steel-truss bridge and climbs on to an embankment leading into the new high-level extension of St Pancras Station at the south-west corner. Branching from this, a flying junction was built to link into the North London Line (NLL) at the north-west extremity, creating a through rail connection to the West Coast Main Line.

A chord linking the ECML with the NLL had to be totally rebuilt across the north of the railway lands to make space for the CTRL lines. Cutting through all this work, two large tunnels had to be bored from north east to south west to carry the Great Northern regional rail service under the CTRL and canal to connect with Thameslink beneath the extension of St Pancras.

**HIGH COMMENDATION: M25 MOTORWAY JUNCTIONS 12  
TO 15 WIDENING & M25 SPUR ROAD STAGE 2, SURREY**

Widening of the western side of London's orbital motorway was a fearsome task due to the incessant torrent of vehicles roaring through the site rather than any great topographical obstructions that had to be overcome.

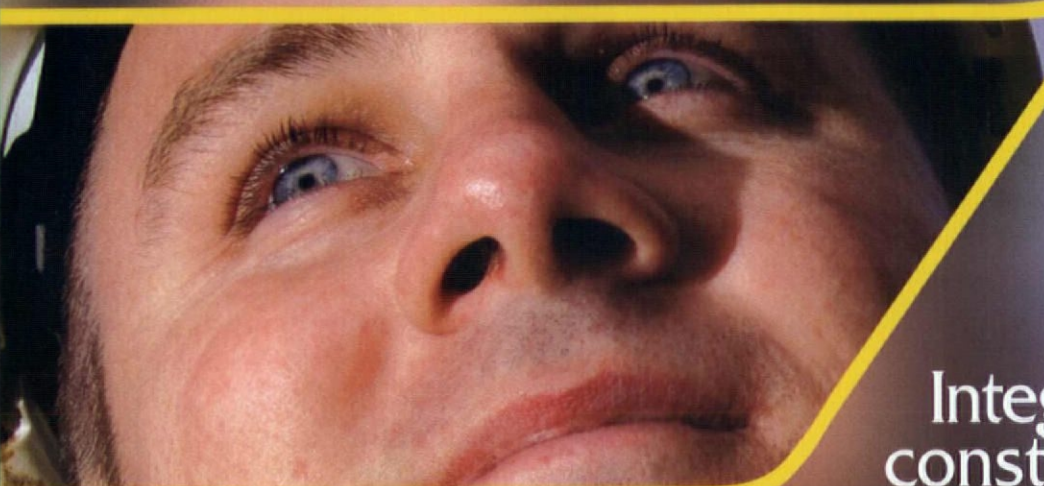
The design-and-build team managed what was effectively an almost total reconstruction of the motorway, to a new vertical alignment, with less interruption to traffic than had been the norm before work began – and with a 25 per cent reduction in injurious road crashes.

**THE TEAM**

Client  
Highways Agency/  
BAA Heathrow Airport  
Cost  
£147 million  
Principal designer  
Gifford WSP  
Contractor  
Balfour Beatty Civil  
Engineering








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May Gurney provides maintenance and enhancement services to the highways, rail, utilities and general infrastructure markets, primarily with public sector and regulated sector customers, across the UK. The company focuses on long term relationships, has 3,200 employees and delivers solutions through two primary business segments - Maintenance Services and Engineering & Project Services.

The **Maintenance Services** segment is focused on the core markets of highways and utilities. Activities include highways maintenance under long term partnerships with Local Authorities, and network improvement and maintenance services provided to major UK utilities networks under long-term framework contracts.

The **Engineering & Project Services** segment serves public and regulated sector customers across a broad range of industries. Core services include the enhancement of road and rail infrastructure, waste management, flood protection, ground remediation, foundations, geotechnical engineering and building.

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INVESTOR IN PEOPLE



### LEWES SEWERAGE IMPROVEMENT, EAST SUSSEX

*For projects that involved processes adopted to understand and meet client needs, supported team working throughout, and maintained continuous improvement. Sponsored by May Gurney.*

Sewage flooding through streets and watercourses was the curse of Lewes, a beautiful historic town squeezed into a steeply sloping chalk landscape.

Lifting the curse involved boring a substantial, tunnelled storage tank closely embracing the town and then plumbing it into the old combined sewer system. Noxious sewage is now pumped from the tank in a controlled manner so it can be treated properly and released as clean effluent.

In essence the project is a typical but extreme example of sewerage engineering. What is outstanding, and left a huge impression on the judging team, is the way that everyone involved worked together to produce the best possible result.

Digging open trenches, deep shafts and tunnels in close proximity to narrow streets lined with delicate old buildings could easily have resulted in misery for residents and massive claims on the construction team.

Minimising the risk, reducing excavation and controlling cost began with analysis and detailed reanalysis to hone the hydraulic performance of the proposed new sewer network. It was continued by applying the most up-to-date mechanised techniques for shaft sinking, pipe-jacked tunnelling and directional drilling; checked on by real-time remote monitoring; and publicised to residents through a very active neighbourhood campaign.

*'A fabulous job, brilliantly well done'*

*'The construction industry at its best  
– responding to public anxieties as  
well as client needs'*

#### THE TEAM

Client

Southern Water Services

Cost

£14.93 million

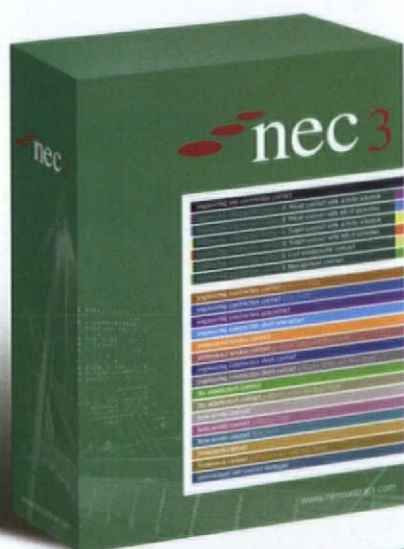
Principal designer  
and contractor

Black & Veatch/Costain JV



  
MAY GURNEY





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**JOHN PERRY CHILDREN'S CENTRE PHASE 2,  
DAGENHAM, EAST LONDON**

*For a project of any size funded by a local authority and consistent with the government's Better Public Building programme. Sponsored by NEC suite of engineering contracts.*

The public face of John Perry Children's Centre consists of a rectangular hard-shell brick enclosure built using semi-glazed bricks imported from the Netherlands. This sets the building apart from the adjacent primary school, erected using local bricks many years ago.

Inside the shell, a meandering corridor interspersed with open meeting areas with a mix of brightly coloured render and pale timber cladding provides a welcome change from the echoing passages of traditional institutional buildings.

The children's centre is also flooded with light. Natural light comes from the extensive use of clerestory windows, from a polycarbonate south wall and from a glazed courtyard set near the centre of the steel-framed building. On the south side, a secluded outside play area is arranged so that each studio-like classroom can, weather permitting, merge into the open air.



*'This delightful and appropriate bespoke building demonstrates the benefit of concentrating on value not cost'*

*'Thoughtful design and clever use of materials have resulted in a structure containing a cluster of wonderfully light and comfortable studio-like rooms well matched to the needs of children under five years old'*

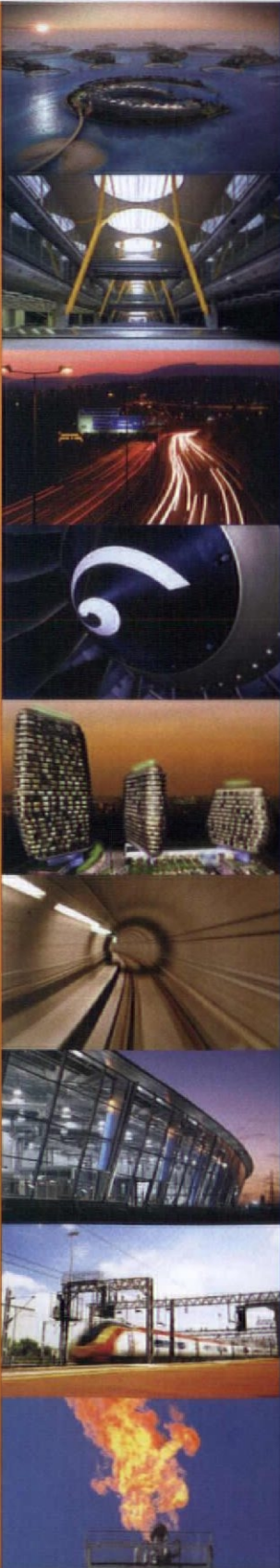
*'The structure is beautifully put together'*

Client  
London Borough of Barking  
& Dagenham  
Cost  
£1.2 million  
Principal designer  
DSDHA  
Engineer  
Price & Myers  
Contractor  
Lakehouse, Romford





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THE SUNDAY TIMES  
**20**  
BEST BIG  
COMPANIES  
TO WORK FOR  
2006





Client  
Forestry Commission  
Cost  
£700,000  
Principal designer  
Dr Geoff Freedman  
Contractor  
Pauley Construction

#### SALCEY TREETOP WALK, NORTHAMPTONSHIRE

To recognise a project that demonstrates a particular contribution to environmental issues or in which environmental issues and/or sustainability were a key factor in its concept and/or execution. Sponsored by Atkins. The object of the treetop walk was to create a free-to-use experience to enthuse the public, and particularly children, about trees and forests while employing the maximum possible proportion of sustainable materials in construction.

Having obtained a grant, the Forestry Commission (FC) engineers set out to build as great a length, and height, of walk as possible for the money available. The concept developed into an all-timber low-level causeway, made entirely with wood from the FC's nearby forests, linked to a high-level gangway ramping up to 15m high, built from a mix of timber and off-the-shelf steel components. The walkway leads up to a 20m-high lookout tower.

Stiff steel tubes form the legs of the high-level towers to ensure stability with a minimum of cross-brace latticing, which would have clashed with the predominant vertical structures of the adjacent tree trunks. Off-the-peg steel-tube lattice aerial masts have been employed as low-cost main beams spanning between the towers. Adjacent spans are all set out at an angle at each tower to ensure overall stability of the walkway, with the individual spans deliberately designed to give a lively dynamic response for the enjoyment of users.

The slatted deck and handrails are entirely of treated but unpainted local timber, which should require a minimum of maintenance since they do not retain any standing water and are exposed so that rain will dry off rapidly.

Included as part of the walkway is a demonstration stress-laminated timber bridge and stress-laminated roof structure, claimed to be a first. These employ small timber sections, such as could be harvested from young trees, cramped together to form relatively large arch spans.

*'A delightful, usable folly and great eco-project – drawing crowds of enthusiastic visitors'*

*'It gives children and adults alike a completely new experience of trees and forest, and is an idea with huge potential for the future at other locations'*

*'The client got an awful lot for its ODPM grant'*

**ATKINS**





Sponsors of the BCIA Regeneration Award

Gifford congratulates the

AWARD WINNERS FOR 2006

"a classy consultancy"  
New Civil Engineer





### PERTH CONCERT HALL, PERTHSHIRE

*For a project of any size that has made a significant contribution to the regeneration of an underprivileged area or the creation of new facilities making exceptional use of brownfield sites. Sponsored by Gifford.*

The first impression of Perth's multi-purpose concert hall is of a somewhat plain and simple structure that was remarkably good value. Customers report that the seats are comfortable and the acoustics fine.

Closer examination reveals the stringency of its client and the design and construction team. Examples of exceptional care and attention to detail are displayed throughout, in public areas, signage, backstage equipment and even beneath the basement.

Cash saved by avoiding over-elaborate bespoke signs, secondary finishes in the corridors, etc. appears to have been invested where it matters – in and around the stage.

The front 5m of the stage is carried on powered vertical screw rams to give it three different configurations. Banks of seating can be moved around the auditorium on an air-cushion trolley to form different arrangements, including a clear space with seating parked under the 10m width of fixed stage.

The fly tower is packed with specialised kit way beyond that which would be essential in a single-purpose concert hall. Winches and cranes can pick up and place scenery and props anywhere on the stage.

All this is hung on elaborate steel trusses spanning the building, supported on a main frame rising from an elaborate basement structure designed to cope with both weak foundation strata and uplift from tidal groundwater. Large blocks of very light polystyrene were cast in the basement to minimise foundation loading. Meanwhile massive concrete blocks and stainless-steel ties were included beneath the middle of wide slabs spanning under the auditorium to resist uplift forces induced by the tidal River Tay.

*'Perth lost a scruffy car park and gained an attractive, well-finished, flexible and superbly equipped multi-purpose concert hall'*

*'A great result delivered by a close-knit design and build team and attracting performers and the public from far and wide'*



Client  
Perth & Kinross Leisure  
Cost  
£13 million  
Principal designer  
Building Design Partnership  
Structural and M&E engineer  
Buro Happold  
Contractor  
Sir Robert McAlpine

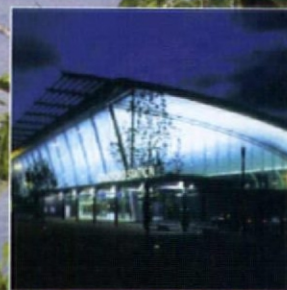
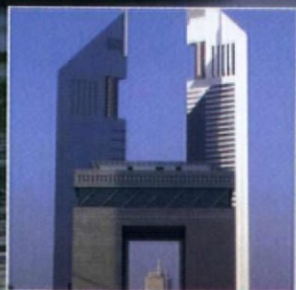


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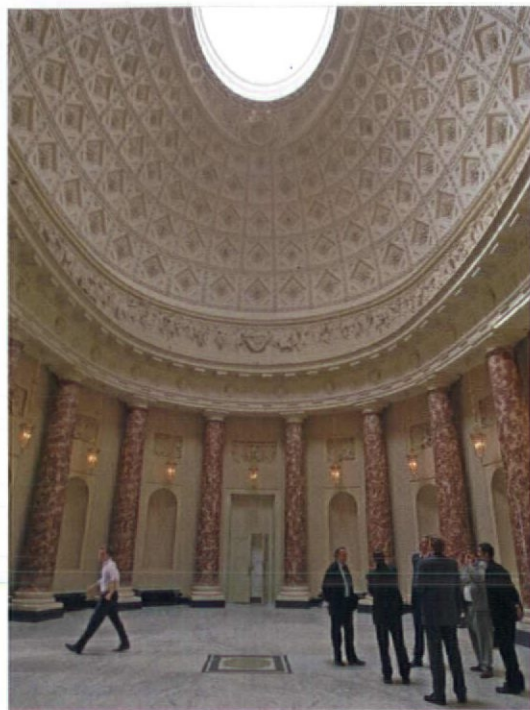
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Client  
The Stowe House  
Preservation Trust  
Cost  
£5.58 million  
Principal designer  
Purcell Miller Tritton  
Designer  
The Morton Partnership  
Contractor  
Linford Bridgeman

#### STOWE HOUSE PHASE 2, BUCKINGHAMSHIRE

*For a project designed and executed with respect for original fabric, design and form, while making a minimum intervention consistent with safety and structural integrity. Sponsored by Hyder Consulting.*

Most of Stowe House dates from the 1770s when Earl Temple had his family home rebuilt to create one of the most imposing houses in England.

When the house and estate went under the auctioneer's hammer in 1922 it was billed as 'renowned throughout the world for its magnificence and intense historical interest'. The house then became the home of Stowe public school, which must have taken on a maintenance backlog in scale with the building's fame.

By the late 1950s a shed-like temporary roof was erected over the top to keep out the rain. It stayed there, ruining the drama of the classical portico, until the present conservation work was begun.

The National Trust took over the grounds, began restoration of the many classical 'temples' in the late 1980s and opened them to the public. Then in 1997 the separate Stowe House Preservation Trust was formed, the school became its tenant, and fundraising started for the much-needed conservation work on the main house.

The Heritage Lottery Fund was a substantial contributor and the present Phase 2 project has concentrated on the roof and external walls of the central building along with a painstaking refurbishment of its superb Marble Saloon and dome. Under the trust ownership, it can be enjoyed by visitors as well as the school.

Quality of the work being done is especially evident on the roof where the complex restored timber structure has been carefully dressed in thick 39kg/m<sup>2</sup> lead which looks as if it should be good for another quarter millennium.



*'The project had all the hallmarks of a successful partnership between client, architect, contractor and specialists'*

*'A delight to see and experience'*

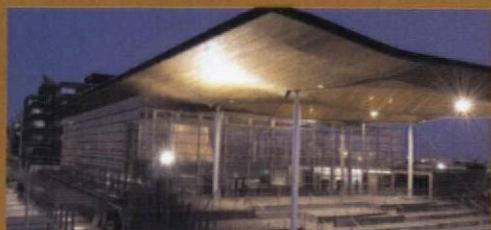
*'Meticulous repairs have brought the cracked and damaged plaster and stone details back to perfection'*



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**Building Award**

- The Brit Oval
- The National Assembly for Wales

**Prime Minister's Better Public Building Award**

- The National Assembly for Wales

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## SKI DUBAI SNOW CENTRE, DUBAI, UAE

*For projects outside the UK for which either the principal designer or the principal contractor is a UK-based British firm. Sponsored by Civils 2006.* A 'can do' approach is vital when taking on such a fantastic task as building a real-snow ski slope in the Arabian desert where ambient temperatures of up to 50°C are the norm. But the true scale of effort required must have dawned when the construction team was asked to build the structure 85m high with a right-angle bend in the middle, make it work faultlessly first time, and complete it inside two years.

Dubai Snow Centre was created as the star attraction of a new 350,000m<sup>2</sup> shopping mall. Some might consider sustainability to be an issue, but everything is relative. Cooling energy to keep the snow covering on the floor of the 22,500m<sup>2</sup> of ski slopes is, at maximum output, a mere 2.6MW. The rest of the development, conventional for Dubai, soaks up 95MW.

The design is like a vast Thermos flask – double-skinned with voids between the inner and outer walls. Voids are between 1.7m and, for the roof, 4m deep. Thick layers of polyisocyanurate panels, as used in cold stores, clad the walls. Glass-reinforced plaster panels on the outside resist the glaring sun. Floors were designed to carry up to a mighty 5 tonnes/m<sup>2</sup>, mainly of snow.

The 3,000-tonne steel frame was lifted by strand jacks mounted in four temporary towers. As it was steeply sloping and would have acted as a sail had the wind started blowing across the flat Dubai landscape, up it went at 1m an hour – then two weeks were needed to complete all the permanent connections.

When the frame was in place, the structure could be fitted out with its special equipment: ski lifts hanging from the roof, 100km of glycol chiller pipes, three ammonia chillers and 21 snow machines. Safety received very high priority and the accident frequency ratio was a mere 0.1 per 100,000 man hours – lower than some of the UK's best managed projects.



*'A dream of winter sports in burning hot Arabia was made real by British design and construction expertise'*

*'Because no one had ever attempted to build a similar resort, almost everything except for the snow-making machinery and ski lift was a prototype'*

Client  
Majid Al Futtaim Group  
Cost  
£60 million  
Principal designer  
Hyder Consulting  
Architect  
Holford Associates  
Contractor  
Al Naboodah Laing O'Rourke

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### EVELINA CHILDREN'S HOSPITAL, SOUTH LONDON

*For a building or civil engineering project of any size that the judges consider to be particularly inspirational in one or more aspects. Sponsored by Arup.*

The architect of any new hospital should pay a visit to Evelina before picking up a pencil to sketch a first concept.

That is not a recommendation to plagiarise the children's hospital. It is simply that Evelina is so refreshing in the way it breaks the conventions of hospital design and delivery.

The spectacular conservatory creates wide-open space and vistas way beyond the hospital while bringing light and air up to the four storeys of wards and down into the three floors of outpatients and specialist-treatment areas. It also creates secure but environmentally comfortable exercise and educational space for the use of long-term patients and their families.

Evelina's glazed lifts would not look out of place in a modern exhibition hall or five-star hotel. They give access to colourful child-friendly wards with clustered layouts and foldaway beds for a parent to stay close by at night.



*'Delightful and outstanding qualities which we hope will be enjoyed by patients, relatives and staff for generations'*

*'Evelina is a demonstration that hospital buildings do not have to be depersonalised, uniformly decorated, enclosed spaces lit by fluorescent tubes'*

*'The care and attention given to this project represent the highest aspirations of healthcare providers, and an inspirational place for staff and patients alike'*



Client  
Guy's & St Thomas' NHS  
Foundation Trust  
Cost  
£41.8 million  
Principal designer  
Hopkins Architects  
Engineer  
Buro Happold  
Contractor  
MJ Gleeson

ARUP



## BCI AWARDS / PROJECTS SHORTLIST

### THE PRIME MINISTER'S BETTER PUBLIC BUILDING AWARD

The National Assembly for Wales, Cardiff  
M25 Junctions 12 to 15 Widening & M25 Spur Road Stage 2, Surrey  
City of London Academy, South London  
Water Activities Centre, Whitlingham County Park, Norwich  
Lavender Sure Start & Children's Centre, Mitcham, Surrey  
The Hub, Regent's Park, Central London  
Bishop's Bridge, Paddington, West London  
John Perry Children's Centre Phase 2, Dagenham, East London  
Broadland Flood Alleviation Project – Compartment 11, Norfolk  
Stewart Stockman Building, VLA Addlestone, Surrey  
Jamestown Viaduct, Fife  
Salcey Treetop Walk, Northamptonshire  
Montrose Replacement Bridge, Angus  
Evelina Children's Hospital, London SE1



1.



2.

### SMALL BUILDING PROJECT AWARD (up to £3 million)

The Menuhin Hall, Surrey  
The Hub, Regent's Park, London  
John Perry Children's Centre Phase 2, Dagenham, East London  
Lavender Sure Start & Children's Centre, Mitcham, Surrey  
Water Activities Centre, Whitlingham County Park, Norwich  
Davies Alpine House, Kew, West London



3.

1. Water Activities Centre, Whitlingham County Park, Norwich
2. Sackler Crossing, Kew, West London
3. Davies Alpine House, Kew, West London
4. TAG Terminal & Operations Building, Farnborough, Hampshire
5. Stewart Stockman Building, VLA Addlestone, Surrey
6. The Brit Oval, Kennington, South London



### **SMALL CIVIL ENGINEERING PROJECT AWARD (up to £3 million)**

Salcey Treetop Walk, Northamptonshire  
Sackler Crossing, Kew, West London  
Royal Yacht Squadron Breakwater, Cowes, Isle of Wight  
Derwent Mouth Lock, Derbyshire



4.

### **BUILDING AWARD (£3 million – £50 million)**

Stewart Stockman Building, VLA Addlestone, Surrey  
TAG Terminal & Operations Building, Farnborough, Hampshire  
City of London Academy, South London  
Perth Concert Hall, Perthshire  
Heelis, Office for the National Trust, Swindon  
The Brit Oval, Kennington, South London  
National Assembly for Wales, Cardiff  
Evelina Children's Hospital, South London  
Stowe House Phase 2, Buckinghamshire

### **CIVIL ENGINEERING AWARD (£3 million – £50 million)**

Bishop's Bridge, Paddington, West London  
Montrose Replacement Bridge, Angus  
Lewes Sewerage Improvement Scheme, East Sussex  
Jamestown Viaduct, Fife  
Broadland Flood Alleviation Project – Compartment 11, Norfolk

### **MAJOR PROJECT AWARD (over £50 million)**

M25 Junctions 12 to 15 Widening & M25 Spur Road Stage 2, Surrey  
Heathrow Airport Terminal 3 Pier 6, West London  
Channel Tunnel Rail Link Contract 103, King's Cross, North London  
Civil Works Docklands Light Railway, East London  
London City Airport Extension, East London  
Air Traffic Control Tower, Heathrow Airport, West London



5.



6.



### BEST PRACTICE AWARD

Heathrow Airport Terminal 3 Pier 6, West London  
Heelis, Office for the National Trust, Swindon  
Jamestown Viaduct, Fife  
Lewes Sewerage Improvement Scheme, East Sussex  
M25 Junctions 12 to 15 Widening & M25 Spur Road Stage 2, Surrey  
Air Traffic Control Tower, Heathrow Airport, West London

### LOCAL AUTHORITY AWARD

City of London Academy, South London  
John Perry Children's Centre Phase 2, Dagenham, East London  
Montrose Replacement Bridge, Angus  
Perth Concert Hall, Perthshire

### ENVIRONMENTAL AWARD

Broadland Flood Alleviation Project – Compartment 11, Norfolk  
Heelis, Office for the National Trust, Swindon  
Lewes Sewerage Improvement Scheme, East Sussex  
Salcey Treetop Walk, Northamptonshire

### REGENERATION AWARD

John Perry Children's Centre Phase 2, Dagenham, East London  
Perth Concert Hall, Perthshire  
City of London Academy, South London

### CONSERVATION AWARD

Derwent Mouth Lock, Derbyshire  
Jamestown Viaduct, Fife  
Stowe House Phase 2, Buckinghamshire

### JUDGES' SPECIAL AWARD

In effect all shortlisted projects were finalists for this award, which is made each year to a building or civil engineering project of any size that the judges consider to be particularly inspirational.

### INTERNATIONAL AWARD

Ski Dubai Snow Centre, Dubai, UAE  
Chongzun Expressway, Guizhou, China  
Nesciobrug, Amsterdam, The Netherlands  
Phaeno Science Centre, Wolfsburg, Germany  
Barajas Airport, Madrid, Spain



7.



8.

7. Jamestown Viaduct, Fife  
8. M25 Junctions 12 to 15 Widening & M25 Spur Road Stage 2, Surrey  
9. Air Traffic Control Tower, Heathrow Airport, West London  
10. Nesciobrug, Amsterdam



10.



9.



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McGrigors

*The Miller Group*

*Morrison Construction Services*

*Mott MacDonald*

Mowlem

National Ash

*Network Rail*

*Norwest Holst Construction*

OGC

Price & Myers

Richard Rogers Partnership

Royal Haskoning

*Scott Wilson*

Seacore

Sinclair Knight Merz

*Skanska Construction*

Southern Water

*The Steel Construction Institute*

*Taylor Woodrow Construction*

Thames Water

Turner & Townsend Group

Warings Construction Group

Waterman Partnership

White Young Green

Wilkinson Eyre Architects

WSP Group

Yorkshire Water

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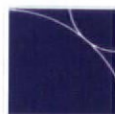
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# MIPIM ARCHITECTURAL REVIEW FUTURE PROJECT AWARDS 2007

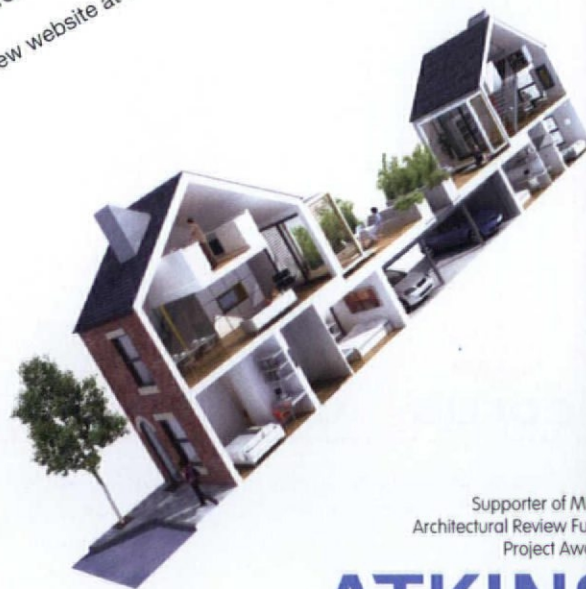
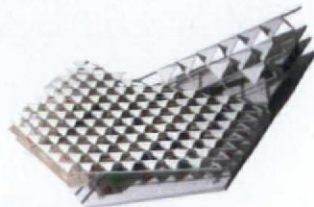
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The MIPIM/AR Future Project Awards are sponsored by Atkins.

Closing date for entries to the Architectural Review Future Project Awards is 27 November 2006.

For further information and an entry form see The Architectural Review website at [www.arplus.com](http://www.arplus.com).  
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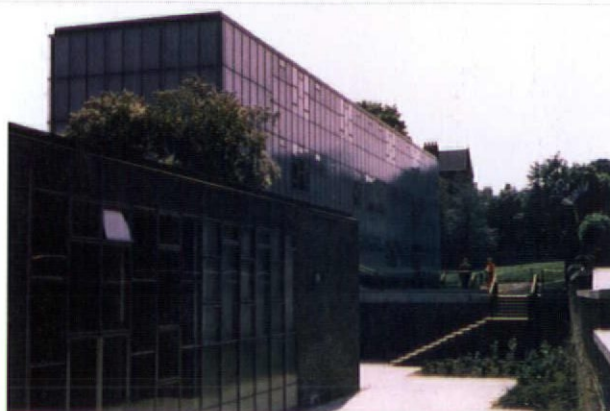
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## EXHIBITION

By Kenneth Powell

**Elegant Variation:**  
The Architecture of  
H T Cadbury-Brown  
The Royal Academy,  
Piccadilly, London W1,  
until 21 January



1.



2.

1. Ashmount School, Islington
2. Festival of Britain

'One of the characteristics of architecture,' Jim Cadbury-Brown wrote half a century ago, 'is that it reflects so much more than the visual taste of the period in which it occurs.' This overdue, elegant and, indeed, enthralling exhibition of Cadbury-Brown's work over the past six decades (he is now 93) is full of insights into the cultural and intellectual milieu of the Modern Movement – that extraordinary fusion of home-grown Arts and Crafts ideas (and prejudices) and more exotic influences.

As with others of his generation, Cadbury-Brown's career, effectively launched by a year in Ernö Goldfinger's office, was disrupted by the war. After six years in the army, he began to pick up the pieces and was recruited by Hugh Casson for the Festival of Britain design

team. The Festival generated suspicion and hostility from a younger generation scornful of its apparent sentimentality and parochialism but, as Alan Powers remarks in his catalogue essay, Cadbury-Brown's Festival 'wigwams' were 'singularly pure in form and legibility'. As President of the AA, Cadbury-Brown brought Mies, one of the idols of the new generation, to lecture at the school, while the little-known Ashmount School, Islington (1955-57), is an early example of frankly Miesian architecture in England.

Ashmount is smoother and sleeker than the (possibly overlauded) school at Hunstanton, designed by Alison and Peter Smithson, apostles of the New Brutalism. Cadbury-Brown's architecture always reflected his taste for the picturesque and sense of history

and place, but his most significant work, the new Royal College of Art (RCA) (completed in 1964), embodied a new spirit – 'troubled, asking, questioning, scrutinising' as Ian Nairn put it – in tune with Team 10. Its brooding presence, expressed in dark brick and concrete, is as much part of the London scene as the adjacent Albert Hall.

The RCA and other substantial educational and public projects gave Cadbury-Brown the resources (though he never ran a large office) to build the house at Aldeburgh where he now lives in retirement. Designed in collaboration with his American-born wife Betty (who died in 2002), it is a classic low-rise fusion of architecture and landscape. Cadbury-Brown has roots

in East Anglia, where his father had farmed, and it is tempting to compare his work, essentially modern and cosmopolitan but rooted in tradition, with that of the presiding genius of Aldeburgh, Benjamin Britten, for whom he designed a studio and worked on unrealised plans for an opera house in the town.

After Britten's death, Cadbury-Brown produced designs for a memorial to the composer to be erected on the beach at Aldeburgh: a vertical beam of timber designed to whistle when the wind blew, with echoes of *Peter Grimes*. Undemonstrative, yet rich in meaning, the project epitomises Cadbury-Brown's approach to architecture as something that enriches human life.

*Kenneth Powell is an architectural journalist in London*





1.

## BOOK

By Richard Weston

Gunnar Asplund  
By Peter Blundell Jones  
Phaidon, 2006.  
239pp. £45



2.

AJ readers with good memories will recall the origins of this monograph in a series of Masters of Building studies of Asplund's major works. Copiously illustrated with archival drawings and Peter Blundell Jones's photographs, the studies have been reworked into a chronological rather than topical narrative and augmented with a wealth of new material to offer by far the most comprehensive account of Asplund's work yet produced.

Born in 1885, Asplund lived through the dying embers of National Romanticism before becoming a leading exponent of the Classical revival which spread like wildfire through the Nordic countries after the First World War. As a 'close reader' of a project's development Blundell Jones has few peers, and in Asplund he has an ideal

subject. Several of the projects – most famously the Gothenburg Law Courts and Stockholm Crematorium – began life as essays in National Romanticism that were later 'Classified' then 'Modernised' over almost a lifetime of work. By assigning these phases to different chapters, something of the intensity of the original essays is lost, but we gain by seeing their development in the context of less familiar buildings and designs – of which there are many.

Discounting the austere exterior of the Stockholm Library, Asplund's work betrays as little interest in Classicism's universalising tendencies as it does in the International Style, abounding rather in the qualities that Blundell Jones values above all: responsiveness to particularities of site and use,

and orchestration of movement and space. He finds Asplund's mastery everywhere: both in expected places, such as in his own summer house, Stennäs; and in more surprising locales, such as the rushed Stockholm Exhibition, with its adjustments to the waterfront, 'frozen contours' and running stairs in the glass-cornered Paradise restaurant. Like the later, curiously curved walls of the potato-shaped Gothenburg Law Courts, these are seen to anticipate the fluid spatial compositions encountered in mature Aalto and Scharoun.

In focusing on such experiential qualities, Blundell Jones gives little attention to more speculative readings. Stuart Wrede's psychoanalytic interpretation of Asplund's love of swelling, womb-like forms is quoted but not explored. More

surprisingly, perhaps, while the enchanting piazza-by-night interior of the Skandia Cinema is discussed as a playful representation of an outdoor space, the similar rendering of the Lister Courthouse lobby – where, in contrast to the painted exterior, we encounter stone dentils and 'outdoor' paving – goes unremarked.

Asplund did much to make attention to detail a hallmark of Scandinavian architecture and his mastery extended to all aspects of a project: his working drawings were apparently so complete that few enquiries or site visits were needed. This was in contrast to his long-time Stockholm Crematorium collaborator Sigurd Lewerentz, whose inability to produce drawings on time was one of the reasons for the city's refusal to appoint him to complete the





3.

1. Stockholm Exhibition, 1930
2. Gothenburg Law Courts
3. Lister Courthouse

scheme with Asplund, leading to much bitterness and the breakdown of their friendship.

The Crematorium's claim to being one of the century's major works rests on its uniquely potent synthesis of buildings and landscape – in which, it is increasingly clear, Lewerentz played a major role. Among the central buildings the only fully satisfying 'interior' is the great portico; Blundell Jones generously eschews criticism of the chapels, which hover uncertainly between a kind of Post-Modern Classicism and the proto-Modern work of architects like Auguste Perret.

Essentially a designer and refiner, not a builder, Asplund depended on external sources rather than construction resources to express his ideas, and here – in striking contrast to the tectonic mastery of

Lewerentz's late churches – he seems to have been at a loss.

Asplund died of heart problems in 1940. He was 55, at which age, Blundell Jones reminds us, Le Corbusier was yet to build the Marseilles Unité and Louis Kahn had barely started. It is idle to speculate what he might have achieved, but his mastery of siting and spatial planning were alive and well in several projects left unfinished at his death.

The skills that Asplund deployed in realising a succession of memorable, deeply humane projects were formidable and he could hardly have wished for a finer testimonial than this thoroughly researched and sympathetically written monograph.

*Richard Weston is professor of architecture at Cardiff University*



## CRITIC'S CHOICE

*By Andrew Mead*

I suspect that for many people, the mention of Croydon calls up images of its 1960s boom, when its older core was sidelined by rapid new development. 'It suddenly became the most consistently modern looking area in the whole of England,' says Pevsner. 'The result looks thrilling from the air but breaks up from near into separate buildings, very few of architectural merit.' *Sunshine in Suburbia*, an exhibition at Croydon Clocktower, turns the clock back a few decades further to the 1920s and 1930s, when Croydon and its environs became south London's version of Metro-Land.

With separate sections on housing types, gardens, entertainment, transport, shopping etc., and backed by a mix of photos, posters and domestic paraphernalia – cocktail shakers, lino samples, a bakelite light fitting – it evokes a period when Croydon was the place to be. The ubiquitous sun-ray motif migrates from a wallpaper pattern book to the front of a radio; a poster advertises 'A Health Talk: Your Part in Social Hygiene'; at a summer fair in South Norwood, 'residents danced until nightfall under the poplar trees'.

In the adjacent gallery, the theme gets a contemporary spin, with models by *Pierre d'Avoine* (Slim House, Invisible House) and *Bill Dunster* (BedZED), and an IKEA mock-up of today's Croydon living room of choice – a perfect set for an update of Mike Leigh's excruciating play *Abigail's Party* ([www.croydon.gov.uk/clocktower](http://www.croydon.gov.uk/clocktower)).

London's suburbs have a permanent study resource in the form of the Museum of Domestic Architecture at Middlesex University, close to streets of 1930s semis between Cockfosters and Southgate. Its latest exhibition, opening on 7 November, is *Come Out to Live – Come In to Play*, which features London Transport posters from the inter-war years; Paul Nash designed the two above ([www.moda.mdx.ac.uk](http://www.moda.mdx.ac.uk)). There's also a permanent 1930s room at the Geffrye Museum in Hackney, which is reopening its earlier period rooms after refurbishment on 14 November ([www.geffrye-museum.org.uk](http://www.geffrye-museum.org.uk)). And *John Betjeman*, laureate of the suburbs, isn't forgotten in this round-up – his celebrated TV film *Metro-Land* is now available on DVD (£10.99 from the BBC).

For forthcoming events visit [www.ajplus.co.uk/diary](http://www.ajplus.co.uk/diary)



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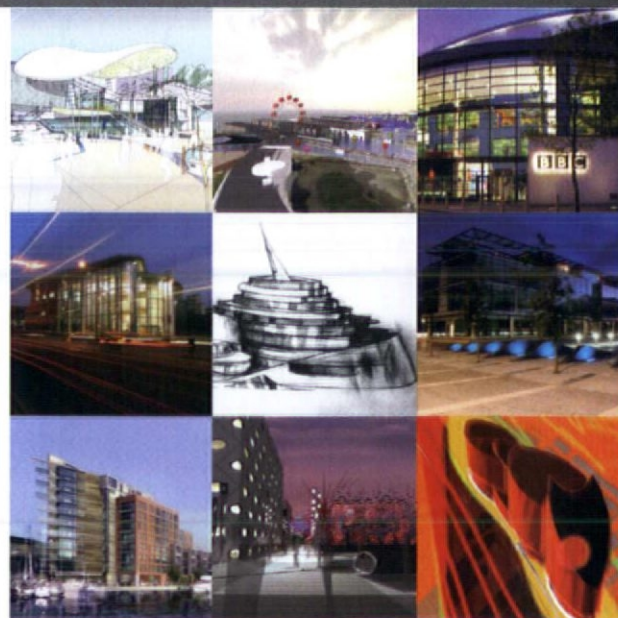
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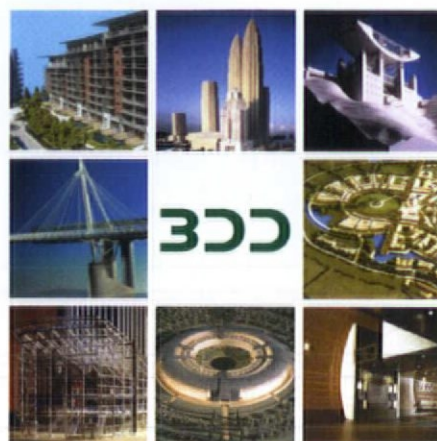
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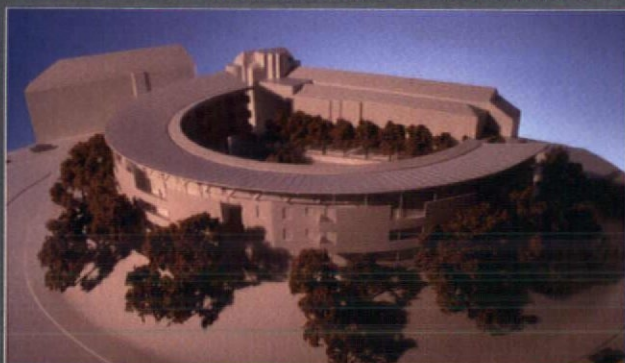
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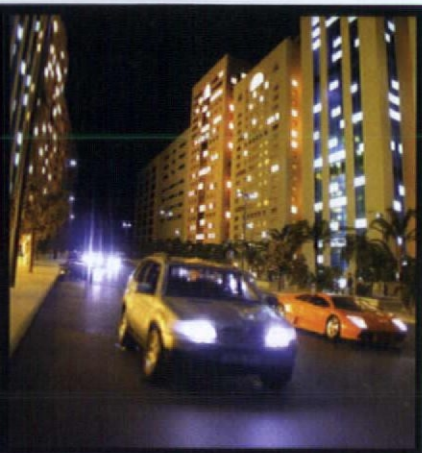
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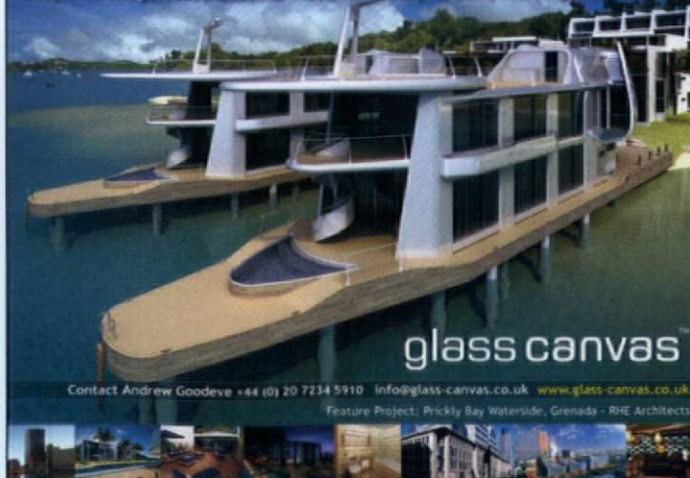
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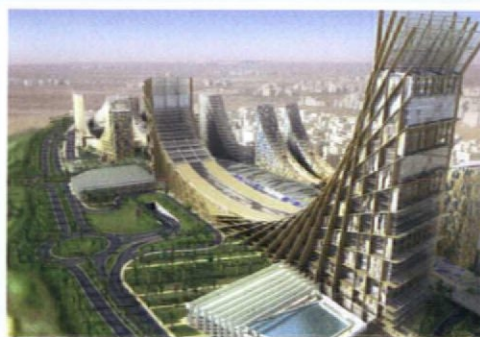
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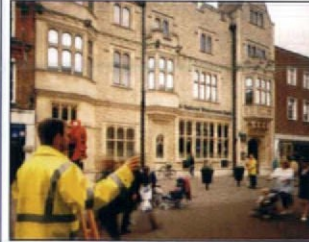
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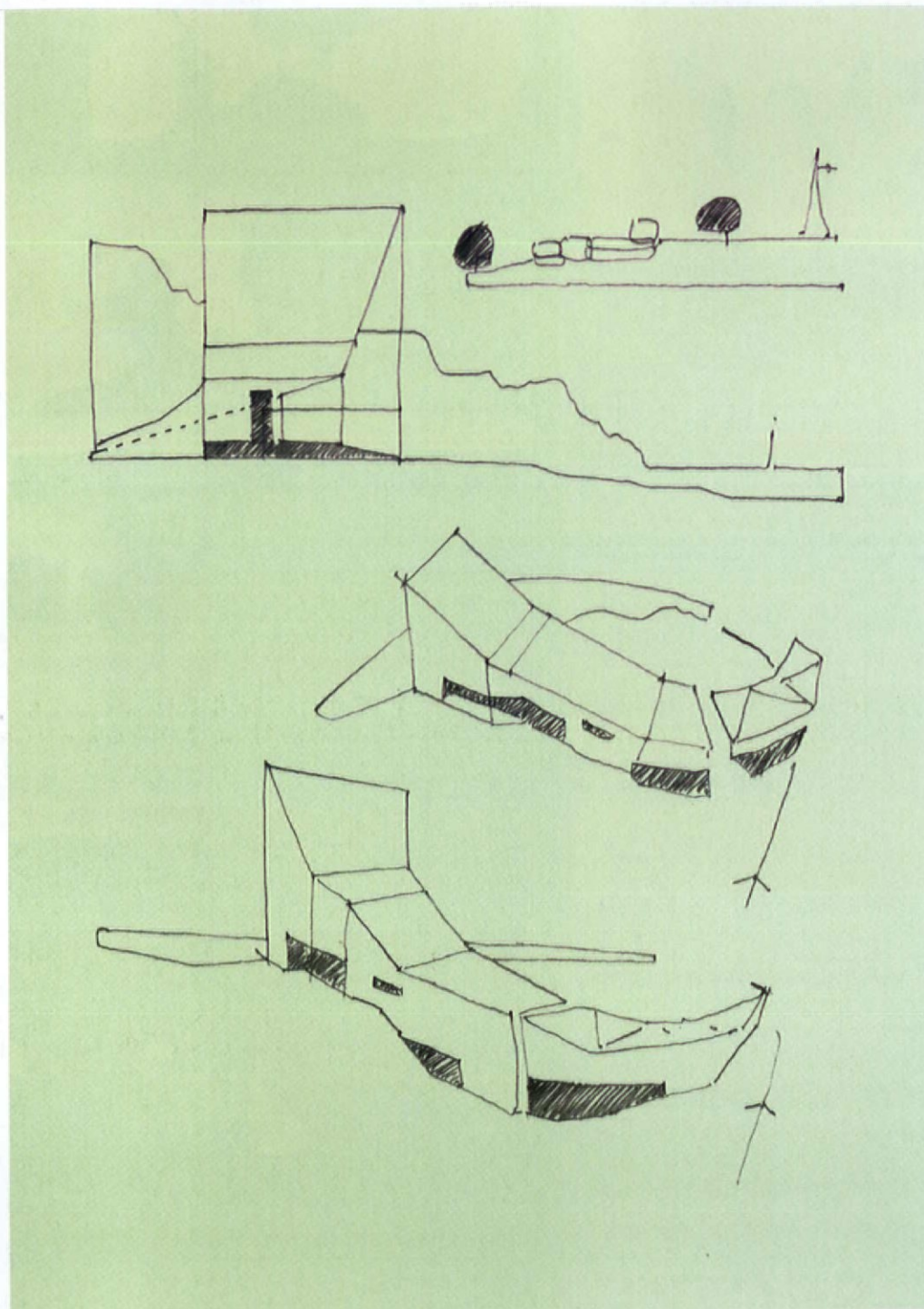
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Sketches for a private house in Crosshaven, Republic of Ireland.  
By Phil Coffey of Phil Coffey Architects



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## TROAX



### AJ ENQUIRY 201

Industrial Safety specialist Troax UK has designed and installed a machine-guarding system at Harper Collins' Glasgow distribution centre. Using its Safe-Fix fencing system, Troax created safety zones around a complex layout of automated conveyors and cranes linking a buffer store to a picking area.

## METAL TECHNOLOGY



### AJ ENQUIRY 202

System 17 curtain walling, System 10 glazed doors and System 4-20 casement windows systems were used around the central courtyard of Persimmon Homes' mixed-use development of the former Sheriff Court in Glasgow, winner of the Homes for Scotland 2006 Design Award for a conversion.

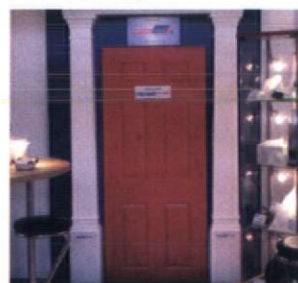
## STANNAH



### AJ ENQUIRY 203

Graze – Bar & Kitchen in Lymington, Hampshire has installed a transparent Stannah Microlift dumb waiter to make best use of the three-floor premises. The lift shaft is totally glass so the lift car can be seen within. The Microlift lifts loads from 50-1,500kg. For information call Stannah on 01264 351922.

## STORMKING



### AJ ENQUIRY 204

Stormking has adopted its closed-mould RTM technology to produce GRP door skins in a variety of styles. This process gives Stormking's products a high degree of feature detail and colour fastness, enabling doors to reflect traditional timber design. Call 01543 419284 for information.

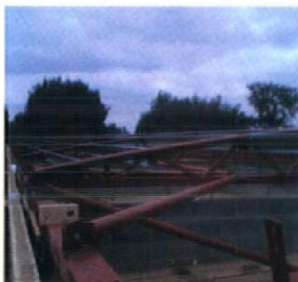
## VETROTECH



### AJ ENQUIRY 205

Leading glass manufacturer Vetrotech Saint-Gobain has launched the first completely frameless, all-glass fire door on the international market to offer 60-minutes integrity. Combining fire safety with aesthetic appeal, the product meets Euronorm E60 safety standards and offers unparalleled transparency.

## METSEC



### AJ ENQUIRY 206

Metsec's lattice joists division has supplied long-span, curved, lightweight steel lattice trusses to support the roof of a medical centre at Staplehurst, Kent. Metsec lattice joists were specified for this project because of their light weight, long span capability and shallowness at the eaves.

## BRETT MARTIN



### AJ ENQUIRY 207

Brett Martin Rooflights are an effective way to introduce natural daylight into a building, creating a bright, naturally lit interior and reducing the need for artificial lighting. They also help cut CO<sub>2</sub> emissions and aid compliance with Part L of the Building Regulations. For more information call 0845 6088 999.

## CORUS



### AJ ENQUIRY 208

Colorcoat HPS200 prefinished steel from Corus was used by John Allen Architects on Bulmers' new production centre. The building's envelope is guaranteed to be maintenance-free for up to 30 years. Colorcoat HPS200 is Europe's most specified prefinished steel product for walls and roofs.





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