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SMC ALSOP/PALESTRA

Palestra sets a pattern for future development in the vicinity of Tate Modern
WE DON'T WEAR GREY SUITS EVERY DAY – WHY SHOULD WE BE STUCK WITH GREY BUILDINGS?


Will Alsop first set up practice in 1981 with fellow Architectural Association graduate John Lavel. In 2000 he formed Alsop Architects and in the same year won the RIBA Stirling Prize for Peckham Library. This year he is on trial which means he has to re-examine his ideas for London, Singapore, Toronto, Beijing and Shanghai, joined the SMC Group in form SMC Alsop, where it continues to push for ‘sub-tal,’ design.

Blackfriars Road is currently one of London's development hotspots, as developers and their architects line up to transform the area with new office and residential developments. While Southwark Council ponders the future of Blackfriars Road as the site for a new cluster of tall buildings, including the Beetham Tower, Will Alsop's very much medium-rise Palston has been not only completed on a site opposite Southwark tube station but also fully pre-let, with Transport for London (TfL) taking the entire building and subletting two and a half floors to the London Development Agency (LDA). The LDA will have its own front door at ground level, with a public exhibition area housed in a typical Alsop ‘pod’ as a species most of us will never have been familiar with on the Stirling Prize-winning Peckham Library, just a couple of miles from Palston.

Characterised by Charles Jencks as an architect who had ‘self-consciously pursued the iconic building as a goal in itself,’ Alsop is revealed in this project as a rationalist who can cope with the site development agenda and produce a highly saleable product. Palston (which started as Southpoint) is likely to be renamed again by TfL, is one of a series of recent buildings – the Fossewood Children's Centre, the Goldsmiths' College block at New Cross and the Queen Mary medical school – by Alsop's practice (now SMC Alsop) that manage to be economical, practical and also visually memorable, adding that element of engagement that Feroz Gough did so well in the 1980s, but which today seem to be Alsop's preserve.

Called ‘Palston’ because the site was once occupied by a boxing venue (the word derives from the Greek for a sporting arena), Alsop's building replaces Orbit House, an unremarkable 1960s Steelfret job, used as a store by the British Library, when Orbit House was built, Southwark was a bridge too far for potential office tenants, but everything changed with the advent of the Jubilee Line extension, the development of The Cut, and a new Richard MacCormac-designed Tube station on the corner of Blackfriars Road. (The new Southwark station, which links to Whitechapel East, was intended, like some of Charles Holden's Northern Line stations, to carry a development on top; this has so far failed to materialise.) Planning consent for Southpoint/Palston was given in 1999 – before the opening of the extended Jubilee Line – the clients being Stuart Bailey and Melbourn Clifford of Blackfriars Investments (also the initial clients for Alsop's Victoria House scheme in Bloomsbury and the proposed Puddle Dock across the Thames in the City). A few years passed as Bailey and Clifford looked for development partners – there was scepticism that a development so far from the river would work commercially.
There was equal scepticism from letting agents that Allop’s architecture was tailored to the taste of the market. “We don’t wear grey suits every day – why should we be stuck with grey buildings?” Allop asked. He proposed that Palestra be a building with strong form and vivid colour. The formula had worked elsewhere in the commercial field – at the Harbour Tower in Düsseldorf, for example. With Palestra, Allop proposed to expand the decorative agenda, working with Pilkington to develop new techniques for building coloured patterns into the glazing. The ogival arches, in love with grey metal, effectively retooled the idea. As Allop’s project architect Duncan Macaulay says, their advice now seems perverse: “We were seen as ungracious and insufficiently commercial, but the use of colour is a strong element in the high profile of the building, and is what attracted TIL, he believes. The glazed envelope now features nothing more than panels of vivid yellow. ‘We got knocked back somewhat on the colour issue’, Allop admits – while expressing satisfaction with the building’s final appearance (see page 37-39).

Behind the facade, the 26,000m² Palestra is actually a very straightforward commercial proposition, with big 3,000m² floorplates, 100m long on a 7.5m grid with a maximum width of 36m, and condensed central cores. Initially, there was provision for a dealing floor, subsequently deleted from the programme. One bank looked at the building, Macaulay recalls, and rejected it on the grounds that there was ‘social’ housing across the street. The context is actually immemorable; with the elevated subway line into Blackfriars striding across the Charing Cross line immediately to the east. The low-rise setting means that views out of the building are excellent. There was extended debate with Southwark planners about the height of the development, and a proposal to add a layer of penthouses did not find favour. In other respects the completed project is very much what it had been envisaged seven or eight years ago. The key architectural idea is clearly that of breaking up the box by cantilevering the upper floors over the road. At the seventh floor the floor steps back to provide a generous external terrace – another extravagant gesture in the eyes of agents but, again, one that helped to sell the building.

At its eastern end, the building leans 2.5° out of vertical. Palestra was developed on a design-and-build contract, with SMC Allop instructed to select, and Richard Ellis as project managers, Allop’s designs appear, however, to have been faithfully realised, with a good standard of internal detailing. The main reception area is a light and elegant space, enhanced with artwork by Kate Deneen which, surprisingly, complements to the annoyance of the artist, appears to giant Smurfs. The ‘curiously sloped’ (Duncan Macaulay) reception desk is a classic Allop design. For him, the key feature of the building is the way in which it meets the street. The ground level is partly open, the upper floors appearing to rest on characteristic Allop-esque legs. This covered space was intended to be public domain; there were ideas for a café or shops here. Now the LDA’s shop window will be the attraction, displaying a changing selection of current development projects.

For those emerging from the Tube station – the principal public transport gateway to Tate Modern – this space is a natural meeting place and attractive at night, it has an equally positive presence as the roof light glows above the ground level. The scale of the building is extremely well-judged for its location and sets an obvious pattern for future development in the immediate vicinity. 31 (or ‘South Crescent’, as agent speak) seems to be building – even with some assistance from the public sector, which looks likely to underwrite it (see Renzo Piano’s ‘South’ in 2007).

The contentious issue of height continues to dominate much of the debate about future development in Southwark. Although there is a case for building high close to the river, buildings on the scale of Palestra fit more comfortably into the urban fabric of inner Bankside. While developers clamour for riverside sites, Southwark Council’s great fear (extending over the next 15 years) is the overdevelopment of the Elephant and Castle. The future success of this area is dependent on its connection to Bankside and Borough, and Palestra points the way to further development in the Blackfriars Road/Union Street/St George’s Circus area where, again, high-rise buildings would be inappropriate.

Palestra is clearly an important project for Allop – this largest to date in Britain if the Jubilee Line station or North Greenwich, with its major civil-engineering component, is excluded. Southwark is now an established office location, with Norman Foster’s More London still growing and Allies and Morrison’s Bankside 123 scooping up some excellent lettings. Both these developments include a number of office buildings plus areas of public space and retail/hotel/retail facilities. Both are middle-rise schemes, on a scale comparable to Palestra. Where the latter scores is in its boldness, swagger and sheer efficiency – its refusal to be polite and put on a grey suit. Much has been written about Allop’s professional problems (and the difficulties affecting The Public arts centre in West Greenwich) in recent months, some of it distinctly gloating. But there is no evidence that SMC Allop is a spent force, nor that its creative fangs will be drawn by the new proprietors – Allop says, ‘they want us for what we are’. A certain brand of British architectural criticism has never warmed to his work, but the Palestra project is a major advance for his practice. It is also one of the most exhilarating new commercial buildings to be completed in London for some time, with a pizzazz, dare I say it, that rivals Searff on top form, back in the days of Centre Point.
7. The main foyer appears to rest on a S-shaped edge...
8. The ‘extravagent’ seventh-storey terrace helped to sell the building.
9. Railway lines enclose the site to the north and east.
10. The low-rise setting makes for excellent views.
Costs

Costs based on gross internal area.
Cost analyses refer to final account

SUBSTRUCTURE

Foundations/slabs £111.78/m²
Bored cast-in situ piling reinforced-concrete pilecaps; 4m-deep reinforced-concrete basement and underground ground floor slab. Perimeter sheet piling excluded from contract.

SUPERSTRUCTURE

Frame £149.66/m²
Structural steel frame, mainly tubular steel columns and cell-form beam; monochrome cast-paint finish for protection.

Upper floors £90.28/m²
Proffled metal deck with reinforced-concrete topping, power Federation.

Roof £15.18/m²
Single membrane waterproofing layer; Rood membrane insulation with batts/piping skid finish.

Staircases £16.70/m²
Steel structure; polished steel balustrade/landings.

External walls £237.46/m²
Unitised-storey panel cladding with multi-coloured fitted double glazing; ground-floor stick system; back-painted glazing to entrance areas; window-frame glazing balustrades; perforated sunscreen/decking to loading bay and transformer rooms; metal profiled cladding to roof-plant room.

Exterior doors £5.75/m²
Two 4m-hight, 2.5m-diameter revolving doors to front entrance, generally all other doors glazed; roller shutters to loading bay and car park ramp.

Internal walls and partitions £57.28/m²
Fair-faced block walls in basement. All other core and卫生间 walls are plasterboard dry lined and insulated.

Internal doors £40.72/m²
Generally painted solid-core flush doors, with out-swinged flush doors to the WCs and cubicle; All plain finishing.

INTERNAL FINISHES

Wall finishes £16.70/m²
Painted finish to plasterboard core walls; WC walls combination of black granite slab; back-painted glass; stainless steel and acid-resistant paneling.

Floor finishes £51.07/m²
Medium-duty fully accessible raised floor to office areas; covered to lift and stair lobbies; proprietary raised-floor system to kitchen, with black granite tile finish; black granite and limestone pavers to reception area.

Ceiling finishes £67.86/m²
1,300 x 1,300mm steel-reinforced suspended-ceiling tiles on a 200mm-wide C-profile grid; painted board ceilings to WCs and core lobbies.

FITTINGS AND FURNISHINGS

Furniture £7.49/m²
Reception desk; stationery signage; entrance turnstiles to lift lobby in reception area.

SERVICES

Sanitary appliances £10.91/m²
Good-quality ceramic and stainless-steel sanitary fittings and equipment, including varying units.

Disposal installations £12.54/m²
Rainwater installation; soil and vent stacks; condensate traps.

Water installations £18.95/m²
Hot- and cold-water installations.

Space heating/air treatment £229.45/m²
Four-pipe fan-coil systems; packaged roof-mounted chillers; heating installation; car park, WC and plant-room ventilation systems; BMS system.

Electrical services £110.03/m²
Mains and submain distribution; lighting installation with integrated ceiling-light fittings and emergency lighting; small power; fire-fighting sprinkling system; generator. Floor boxes and underground cabling excluded.

Lift and conveyor installations £79.38/m²
Lift life systems, including 3,000kg goods lift; special lift; car finishes; security systems; goods scientist lift; turntable and acid-resistant window-clinching equipment.

Protective installations £50.12/m²
CCTV, sprinkler/dryer room installation; access control; intercom/video alarms; lightning protection;

Communications installations £1.25/m²
Basic telecommunications system to landlords area.

Builders’ work in connection £29.86/m²
Access platforms; steel supports to plant holes; chases.

EXTERNAL WORKS

Landscaping, ancillary buildings £28.77/m²
External granite and Yorkstone paving; granite sets to loading bay framing; balustrading and gates; retail pod adjacent to main entrance.

PRELIMINARIES AND INSURANCE £134,24/m²
Preliminaries; overheads and profit.

TOTAL £1,724.59

Cost data from David Knight, Faithful & Gould

Credits

Tender date September 2003
Start on site date November 2003
Contract completion 34 months
Completion October 2006
Gross internal floor area 57,400m²
Contract JCT with Contractor’s Design incorporating Amendments 1, 2 and 3 and special client amendments
Total build cost £42.1 million
Total cost £43.1 million
Client Blackburn Investment Ltd (BIL) and Royal London Asset Management
Architect RMC Aspec
Project manager CII Richard Ellis
Structural/Geotechnical/Facade Engineering Bureau Hopkins
Quantity surveyor Faithful & Gould
Planning supervisor Faithful & Gould
Water contractor Skanska
Planning consultant Montoya Lavin
Wind consultant HAM
Demolition contractor Brabham
Detailing lighting contractor Pirrie & Partners
Concept lighting consultant James Turner
Acoustic consultant Cole Farman Associates
M&E consultant (design stage) Buro Happold
Subcontractors and suppliers Footnote: Contractors undertaken by contractors; letterbox contractor: William Hare, M&E consultant Skanska, Rambleigh Weatherley, Framework and Orange contractor Mitchell Bennet; suppliers of facade: Permeatex, Kingspan, Mellingham, Apligo, Skanska, Rubbleigh Weatherley

A05.10.06
A 'POD' MADE FROM GRP (GLASS-REINFORCED PLASTIC) PANELS

The 'pod' is an organic pebble-like object, nested under the sloping roof of Palestra. It forms the main entrance to the LDN's offices, exhibition space and a reception to the ground-floor conference area.

The pod structure is a series of steel frames of 203 x 133mm UBs supporting an outer skin of GRP panels and a suspended inner layer of 25mm GRG (glass reinforced gypsum) panels. Their complex shapes were achieved using a full-scale plywood model to form convex and concave negative moulds for internal and external panels. Some panels have complex double curvature; others are flat and a number are identical.

The primary steel structure was bolted to the concrete floor slab. The GRP panels were installed with neoprene gaskets sealing the joins and the inner surface was sprung over 75mm foam insulation. 125 x 75mm steel push-ins were fitted between the UDIs, and service runs were installed. Finally the internal GRG panels and plasterboard ceiling were fixed.

The cavity between the GRP skin and plasterboard (limited to 100mm to comply with fire regulations) holds services including the sprinkler system, air conditioning, electrical supplies and provision for the LED light fittings embedded in the external skin. Cabling to audio-visual LCD panels in the exhibition space is contained in a cavity behind.

By Sueen Danter
 colour in design 2006

Taking an informed approach to colour selection

There is now greater demand than ever for colour to be used in modern building design. But some architects and designers struggle to find reliable, quality advice on how to use colour effectively and with confidence. Discover the power of colour!

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Professor Byron Mikellides, School of the Built Environment - Oxford Brookes University
Pam Bate, Director, Hopkins Architects
Professor Keith Bright, Director
Keith Bright Consultants
Andrew Moor, Architectural Glass Art Consultant
Andrew Moor Associates
Mary Ward, Creative Director, ICI
John Jenkins, Partner, Havercroft Associates

Who should attend?
Architects, interior designers, product designers and manufacturers, academics, project managers, colour consultants, lighting specialists, and anyone who has an interest in using colour within their design work.

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Email: constructconferences@emip.com  Tel: 0845 096 8069

A SPECIALIST FACADE ENGINEER CAN HELP RESOLVE DESIGN ISSUES

By Peter Thompson

The specification of a glazed façade is by no means a simple task. This article examines the complexities of specification, supply chain and technology in the innovative glazed façade of SHC Alp’s Palazzo.

As the technology of buildings progresses, new materials, processes and products are continually being developed in the search to provide better performance. Suppliers constantly strive to improve the performance of a particular material or process. Many manufacturers produce a long and fragmented supply chain. For example, a new material is processed to a bulk form, semi-fabricated and perhaps applied with some type of finish, and sent for another fabrication or treatment process. It is then delivered to another product supplier (as a new material to be combined with other similar but different raw materials) to be further fabricated or sub-assembled; supplied to another system supplier to be sub-assembled into his product; and, finally, installed on site as a component. The terms may vary with different product areas, but such a long sequence is not unusual.

The sealed double-glazed units used in the unitized curtain-wall system of Palazzo exemplify a product with a particularly complicated supply chain, which incorporates toughened and/or laminated glass with a solar control or low-E coating on the glass. This is one of the most common ways of cladding modern glazed buildings and is widely used throughout the industry. For the architect, who is responsible for the design of the form and aesthetic concept of the building, it is becoming increasingly difficult to keep up to date with all the technical developments in specific product and material areas, especially those with long and complex supply chains.

This has led to three problems:
• individual suppliers may develop processes which are not always compatible with all other possible processes either upstream or downstream from them in the supply chain, so it can sometimes be impossible to incorporate a particular required performance-enhancing characteristic;
• the architect at the top of the design process, or the occupier or primary specifier, may not have enough specialist technical knowledge or time to deal with the first problem; and
• no single party in the fragmented supply chain has the breadth of design responsibility to control or manage the reconciliation of the conflicting design and performance issues, though one or other may be held responsible. As a result a specification may be issued with a number of performance requirements, each perfectly reasonable in its own right, but impossible to satisfy in a single solution.

When this problem occurs with materials in the building envelope, or with the double-glazing example shown above, a specialist façade engineer can help by filling the gap between architect and supply chain and by bringing specialist technical knowledge in house, developing the design with the architect so that it can be provided by the supply chain and meet the performance requirements.
Bane Hapgood Facade Engineers carried out this task for SMC Alcoy's Palomar (see Building Study, pages 21-33). The glazing, of which there is a high proportion on all four facades, had to satisfy Part L Building Regulations, which mean high levels of control of energy loss in winter and solar gain in summer. Parts of the glazing also had to provide good acoustic insulation; and as all the glazing was full-height, it had to provide full restraint against barrier loading to prevent falls through the glazing for uniformly distributed loads, line loads and point loads.

The first problem was to decide how to reconcile the need for a reasonable number of solid panels with high insulation, necessary to meet Part L2 insulation requirements, with complex arrangements of colours.

Three combination solutions were examined:

- body-tinted glass in four vertical bands of coloured aluminium perforated mesh panels for the glazed areas, and similar mesh panels in front of white metal-faced insulated spandrel panels for the non-vision areas. Although this met aesthetic requirements, it was difficult to access the inside face of the glass for cleaning;
- full-height body-tinted glass for the vision glazing, with separate glazed I-beam-like insulated spandrel panels with full ceramic coating on their glass outer panels. This required an external joint between the panels at the junction of the colour, which was the preferred aesthetic; and
- glass panels, fritted on part of their surface for the vision glazing, and similar panels in front of solid insulation for the non-vision spandrel panels. This gave the preferred seamless joint detail, but an expensive approach because the rate for fritting the glass is applied to the whole panel, not just the fritted area.

While these options were being evaluated, attention was focused on the actual fritting process. The architect wanted a dual-colour frit, with different colours visible on each side of the glass. As frit is a fired-on ceramic, this meant that two different coloured (liquid) ceramic solutions, one over the other, had to be applied to the same surface and exactly aligned using the silo screen-printing process. Normally a dotted pattern is used, but it was very difficult to align the two colour screens, so the pattern had to be changed to a linear one. Various experiments were made with different colours. Because the frit is not actually opaque, one colour can influence the appearance of the other. The frit also affects the shading factor of the glass, which has some effect on solar gains and compliance with Part L2. (The amount of fuming also has an effect on the overall insulation U-value for Part L2.)

When the relationship of glazing with solid panels, frit colours and patterns had been agreed, the next step was to distribute all the processes in the supply chain among the various panes of glass and their available surfaces. This is often the most complicated part of the process, with numerous constraints on the design. Faces of the glass panes are numbered one to four from the outside inwards. The frit should be on face two, but so should the solar control coating for faces exposed to solar gain. The low-E coating used to prevent heat loss is not required where a solar-control coating is used, but it is required on north-facing elevations, where it has to be placed on face three in order to achieve maximum effect.

The safety containment blastwave loading and glazing safety codes could have been satisfied by using toughened or laminated glass, as both comply with the required standard. But because of the stoving process for the frit on face two, monolithic heat-strengthened glass was used for the outer pane. For cost reasons a solar control film applied in bulk on the production line was used; a limited choice — and hence performance — to hard-coat films. This film would be applied first and frit colours applied over it. Soft-coat films are less durable before they are assembled into the inside of double-glazed units, so might be prone to damage and/ or discoloration during the processes of fritting and handling.

The image (above right) shows a solution for the acoustic-control area. Although these solutions are fairly conventional, the complexity of the design process described above shows that many possibilities need to be addressed. The aforementioned description is very much simplified and reduced there are a number of other factors, such as thermal shock on the glass, which affect the final choice of materials and processes that have not been covered at all. Equally critical, the final choice of colours and glazing make-up was also influenced by visual appearance.

The case study demonstrates the technical complexity of modern construction materials, and shows the need to employ technical specialist skills to resolve all the design issues and provide a viable solution that can be delivered by the supply chain within their standard processes. The provision of facade glazing is clearly not a simple task.

Peter Thompson is a facade engineer at Bane Hapgood
Contact sheet from the photo shoot of Will Alsop for this week's front cover. By Neil Bridge