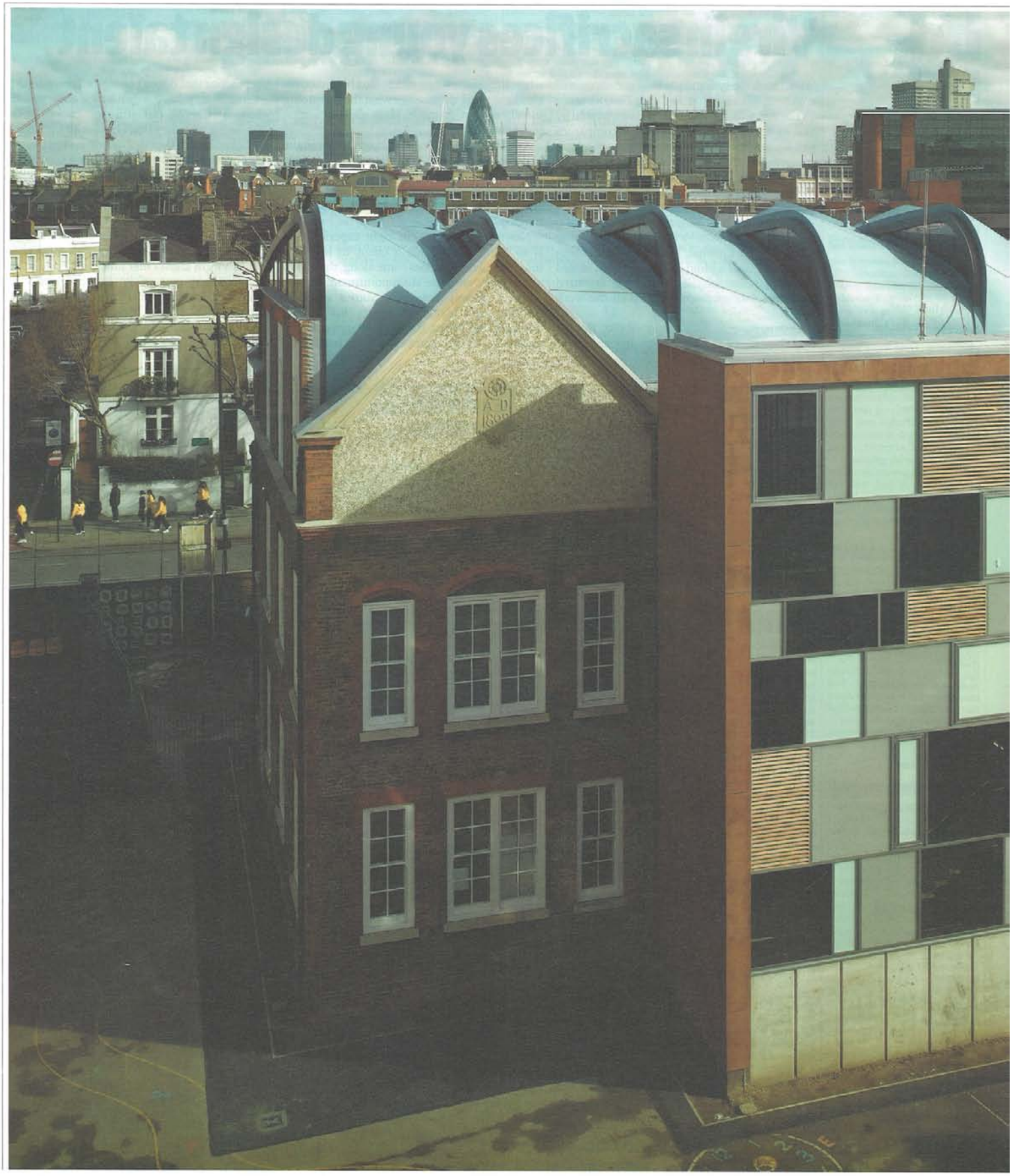
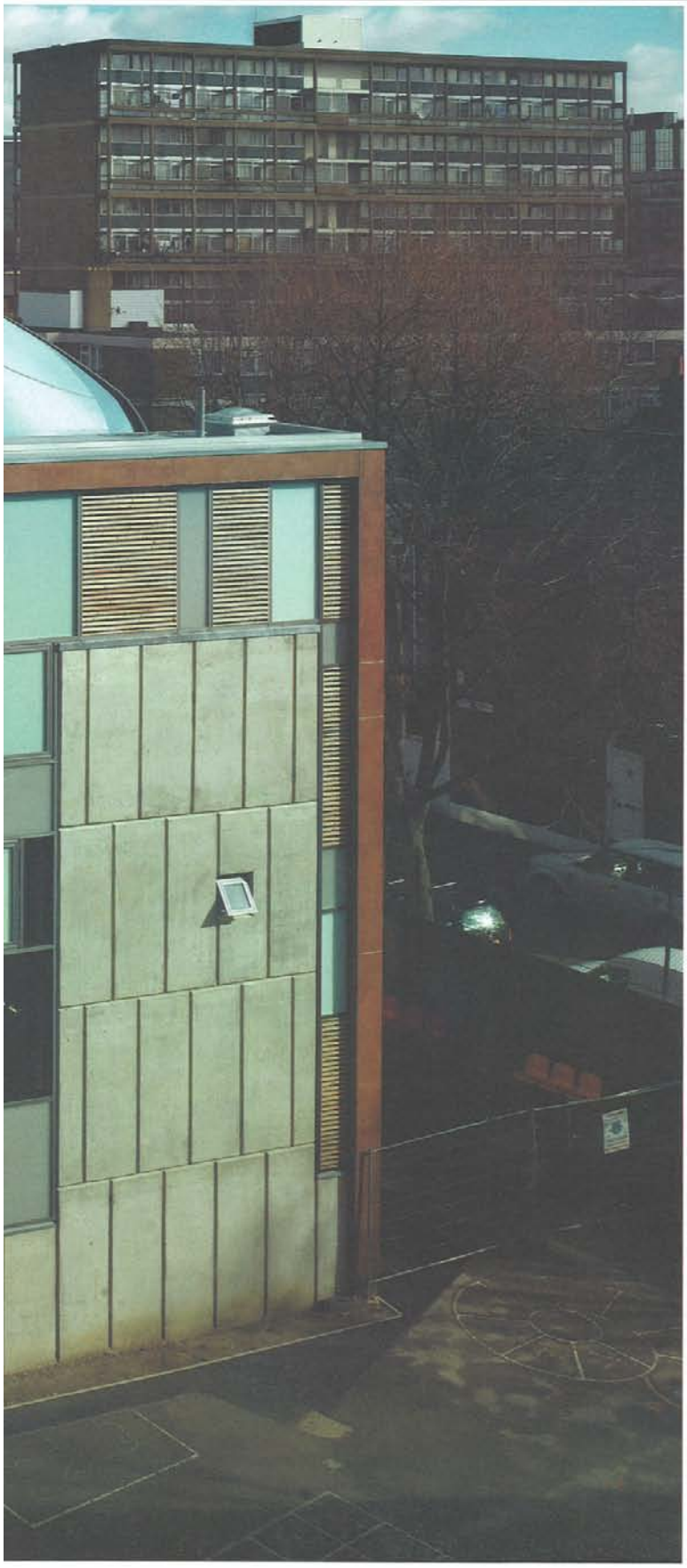
Works





All the best moves

Sarah Wigglesworth Architects' studios for the Siobhan Davies Dance Company has a synergy with the human body that has delighted the client, writes Kester Rattenbury. Photos: Richard Bryant/Arcaid

"Does this sound poncey?" asks Sarah Wigglesworth. She's talking about gravity and lightness, and the measurement of space through dimensions of physical movement, like walking up stairs. About how a part plinth, part suspended staircase might suggest actions of dancers. And yes, in the abstract, it might well sound poncey. But since we're walking round her newly-completed Siobhan Davies Studios dance centre, and every single element she's pointed out demonstrates just the physical and spatial qualities she's talking about, in this case it seems like fair comment.

The Studios — which give a permanent home to the Siobhan Davies Dance Company and provide a resource for independent dance companies — are the outcome of Wigglesworth's very first commission. She got the job 10 years ago, before even building the Straw Bale House at Stock Orchard Street ("we hadn't done anything") when Davies, an all-round supporter of the up-and-coming, picked the firm at interview.

Davies, who was involved in every detail of the project down to the taps, wanted something that "wasn't leaking, wasn't cold, and had a sprung floor". Her company was rehearsing in the German Gymnasium at King's Cross, with dancers huddled into their clothes, a splintered floor, and buckets to catch the drips. The initial plan was for a new building at King's Cross, the second was at Whitechapel. Fred Manson, then head of planning at the London Borough of Southwark, finally alerted them to the current site.

This was an 1898 Board School building on St George's Road, near the Elephant & Castle in south London. It's extremely noisy, and is inside the playground of an existing primary school, with obvious restrictions on the building footprint — it forms the wall to the playground. But it was category D, and ideal for academic use.

The real clincher for the client was that the building's footprint was just the right size and shape for a studio — the size of a stage. But because the building was structurally and spatially in two parts — the original and a slightly later, more-or-less symmetrical extension, tied together by a stairwell — the only place to put the dance studio was on the roof. That was just fine. Dance studios want 5m height: when you're throwing people into the air, you should be confident they won't hit the ceiling. The sort of warehouse buildings the client had previously considered wouldn't have allowed this.

The basic architectural moves were to cut back the building to reveal its two halves, and to strip the stairs out of the central link and turn it into a central foyer and social space, stretching up through the old building to the big studio on top. The building was to be a place where you could work hard without distraction from the acoustic mayhem of the school break or the lumbering traffic outside, but without feeling cut off. And at the same time to embody the qualities of a rehearsal with its particular mix of "ordinary and theatrical".

The brief also offered an absolute match for Wigglesworth's preoccupation with how we use the human body to measure, register and shape space. That theme is embodied in the scheme from the way the brick is designed according to the size of a hand to the dance studios' relationship to the capacity, expression and mental state of the dancers, while still needing to provide a "neutral" background to the line of their bodies.

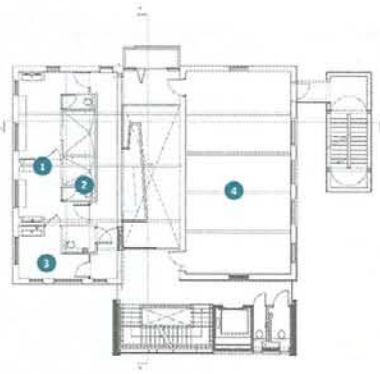
This is not, though, a building which makes a tub-thumping polemic about being expressionist or neutral, theatrical or ordinary, or a combination of these. It is immediately likable, physically interesting, manifestly well designed, and it continues to grow on you as an exceptionally special place to be in. "It's really really perfect. Beautiful," says Davies. "I get happier every day." In some form, every single person who passed Wigglesworth as we walked around the building said the same.

From outside, on St George's Road, the two dissimilar "wings" of the school seem pulled apart to form a new opening, with an odd, cheeky roof poking up over the gables. As you come in — under the Luxcrete entrance canopy, which later turns out to be the ▶

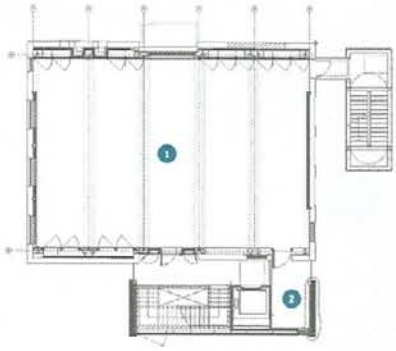
Left: The building presents a new elevation to the playground of a neighbouring primary school. Right: The view from St George's Road, with the new roof rising above the 1898 Board School.

Next page: The complex geometry of the dance studio roof explained

Ground floor plan
1 Office
2 Entrance lobby
3 Reception
4 Parlour
5 Meeting room
6 Plant

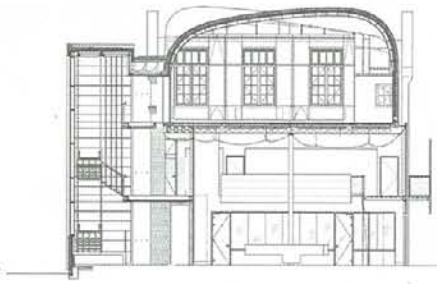


First floor plan
1 Changing
2 Showers/toilets
3 Treatment
4 Studio



Second floor plan
1 Main studio
2 Plant

Long section



Short section

Rear section

balcony, all sorts of other things become apparent.

There's a double-height wall stripped down to its glazed bricks with the scars of the old staircases, edited by strips of render. On one side of this are the glass-screened offices looking onto the playground, on the other, meeting rooms, storage, kitchen, and the "parlour", a very comfortable, ordinary room used just as it sounds. Projecting above the offices is a lush, padded red-brown balcony, and above that, the bottom of the dance studio is swathed in a "saggy cloud" of netting.

The original idea was that the dance studio floor's corrugated formwork bottom would be exposed, so you would be aware of it right through the building. But this became obscured by technology and plant. Instead the netting — a bit like safety net or scaffold sheathing — adds to the feeling of being backstage at a theatre. The plush balcony is pushed towards the stripped-down wall, which gives the whole building its charge.

Behind this backstage/foyer slot is the lift and stairwell, with a mesh-screened, illuminated fire escape tower beyond that. This is the new part of the building, situated, after careful negotiations, right in the school playground. All kinds of metaphorical and practical things are going on in a surprisingly modest way.

The stair has a heavy concrete plinth. A lightly-detailed suspended stair, hanging on steel supports, just touches it at the bottom — a dance analogy, but mainly a nicely made stair. It makes a great place to hang around and watch the kids playing. It's very transparent, but you feel protected enough from the immediate possibility of a football crashing through the glass, by the fine layers between you and playground — glass, structure, stair supports, handrails and the delicate X-tend steel rope mesh beneath. From the playground, it's a well-composed patchwork facade — a sort of animated screen wall through which even someone going up or downstairs reads as something special.

From downstairs in the slot, the balcony on the first floor is theatrical and grand. When the dancers come in off the street, Wigglesorth explains, they are in outdoor clothes and look like everyone else. When they emerge out of the changing rooms onto the balcony, they are suddenly transformed into performers. But from upstairs it's cosy and intimate — a crush bar which at one end squeezes down to form a space just big enough for one person to stand in. It is the only place you can be on your own in a building where you're always working collaboratively.

The changing rooms, immediately behind this, are also surprisingly luscious, lined with lockers, brightly coloured "like the inside of a fruit"; green for women, orange for men, each with an alcove of the other colour and open between the sexes above a decent visible height. With another realistic flip of the

Left: The rooftop dance studio offers a 5.5m floor to ceiling height. Right: View from foyer to the parlour.

private/personal they are one of the building's main social spaces.

But there are lots of these human ambiguities designed in right through the building. The entrance canopy/balcony allows dancers to gossip and watch what's going on around them. At the same time the dancers become the sign for the building, behind another mesh screen. Wigglesworth studied the Maison de Verre, and uses the capacity of screens to frame bodies in a similar manner.

A pediment from the old building cuts through the glass into the new to form a small perch for one person outside the main studio. And appropriately this is a building of radiators and windows, not a big building management system operation.

But the set piece is the main dance studio. It's made of a series of curving, asymmetrical ribbon arches — all the same shape, but rotated in an alternating pattern. These were to have been monocoque, but the collapse of the market pushed the price up. These craft-made sandwiches are instead built rather like a car — and can be patched up in the same way. They arch up clear of the existing gables, with quite complicated glazing between old gable and new roof. The space has the simplest sprung floor, covered in vinyl, and the plan is lined to make it regular: the leftover spaces hide an impressive array of technology and clutter. Amazingly, the studio manages to be both complex, expressive and calm; a focused place to work, up among the trees.

Wigglesworth's website claims her practice has "no house style", which isn't quite the way it feels. The work is certainly not style-free; despite its quintessential relation with social and individual conditions, there is a very strong and consistent aesthetic expression — a strongly-managed eclecticism, with an inevitable exertion of taste. This does give a visible "style" which would seem to link all her projects — however deeply specific to site, programme, client and social conditions they demonstrably are.

In fact (and oddly, for someone so interested and accomplished in ideas, building and research), what Wigglesworth seems unusual in not doing is making a polemic — at least, not the usual rhetorical broadcasting of an abstract idea in built form. Her buildings are inevitably styled and fashioned in a particular way, but they are about themselves and the way they might be used and experienced, rather than some theory about that. In theoretical terms, that probably means they are deeply phenomenological. Or just very good architecture. And in this case, also a snip at £2.4 million, and one hell of an achievement on a design-and-build contract.

The double height entrance foyer features a padded balcony and netting on the underside of the dance studios.

Architect
Sarah Wigglesworth Architects
Client
Siobhan Davies Dance Company
Structural engineer
Price & Myers
Quantity Surveyors
Boyden & Company
Project Manager
Jackson Coles
Acoustician
Paul Gilleron Acoustic Design
Mechanical & electrical engineer
Fulcrum Consulting
Lighting
Charcoal Blue

In detail

Siobhan Davies Studios
Architect: Sarah Wiggleworth

The complex geometry of the dance studio roof is formed by steel portals which support a series of steel purlins. Onto these a shell of GRP panels is laid, finished with a sky blue resin topping. The panels are inherently waterproof but the small gap between the top of the panels is given a silicon coating.

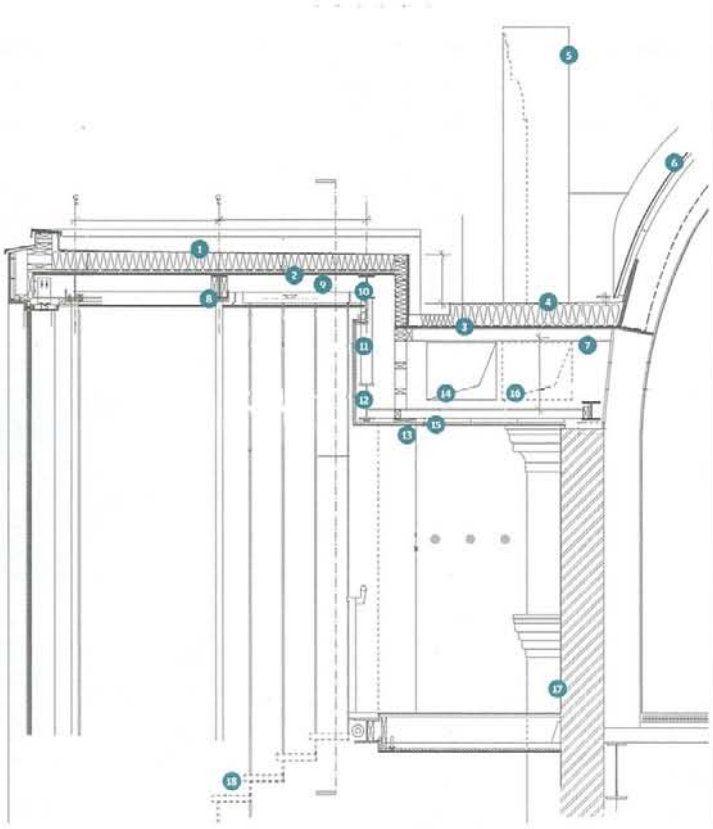
The underside of the GRP is covered in spray-on glass fibre insulation that reduces the noise of rainfall. Beneath this is a layer of Tecsound dense-filled plastic sheets and a layer of insulation, supported by hardboard sitting on a timber frame that spans the purlins. The underside is then finished in birch-faced plywood. Initially, the architect had explored a completely irregular form but settled on two dissimilar curves to benefit from the economy of using a repeated form.

Each of the five ribbons that span the width of the 13m x 17m studio twist in a double curve. Glazing is fixed in aluminium channels between the ribbons of the roof. Strips of fluorescent lighting are concealed above and below the rooflight windows to avoid a harsh transition from day to night.

The detail (below), describes the junction between the dance studio and the stair tower grafted on to the side of the existing building. This element is framed by walls of blockwork finished in sand cement render with a facia of the same material running along the eaves. This is infilled with a patchwork of materials: clear, translucent and opaque glass within an aluminium framed system, larch louvres and in-situ concrete in front of the lift.


View from the upper landing of the stair tower with existing building on the right.


View of the clerestory lights which close the GRP ribbons.



Key
1 EDPM on rigid insulation to 1:80 falls warm roof deck
2 50x225 joists at 400 centres to SE detail
3 50x75 roof joists at 400 centres to SE detail
4 EDPM on min 170 rigid inulation to 1:80 falls by others
5 Gable beyond
6 GRP roof to main studio roof
7 Roof rafters fixed back to purlins on new curved roof structure
8 203x133 UB 30 to SE detail
9 Underside of beam 14.930
10 127x305 UB48
11 100x100 SHS to SE detail
12 133x203 UB30
13 Two layers fireline to joists
14 600x500 extract detail
15 50x75 roof joists at 400 centres
16 600x500 supply behind
17 Face of existing brickwork
18 Location of treads behind

Eco check

Thermal
In addition to bringing an old structure back to life, we achieved U-Values higher than the Building Regulations requirements on all new structures(walls 0.2, windows mid-pane 1.5, roof 0.2W/m2degreesC). Secondary glazing to all existing windows improves thermal and acoustic performance.

Ventilation
Our strategy was to provide natural ventilation while acknowledging the need for mechanical ventilation for licensing, air quality and acoustic reasons. Given the diversity of spaces, Fulcrum Consulting proposed domestic-type units centrally located for heating and air handling equipment, positioned to deal with specific environmental requirements. The air handling units provide pre-tempered air without conditioning, with efficient heat reclamation on the extracted air. Each room is locally controlled to allow the occupants to alter their environments as required. Tempered fresh air is brought into the office space and parlour through earth tubes buried under the new slab in the entrance hall.

Lighting
Daylight is maximised while glare and solar gain are controlled, particularly from new rear extension. High level windows to the main studio control solar overheating and improve daylight quality. Light fittings are low-energy with user control. Separate circuits in main rehearsal space allow incremental introduction of artificial light as required.

Materials
Extensive use of self-finished concrete and renders and exposed brickwork. Extensive use of timber as internal linings to walls and ceilings. Paints are generally solvent-free mineral/ eco paints. Flooring is mainly engineered or solid timber floors with some recycled rubber and leather flooring.

Energy
- Exposed heavyweight building structure with night-time ventilation for control of summertime temperatures.
- Minimised water consumption via use of low capacity flush toilets, spray taps, etc.
- Efficient condensing boilers.