

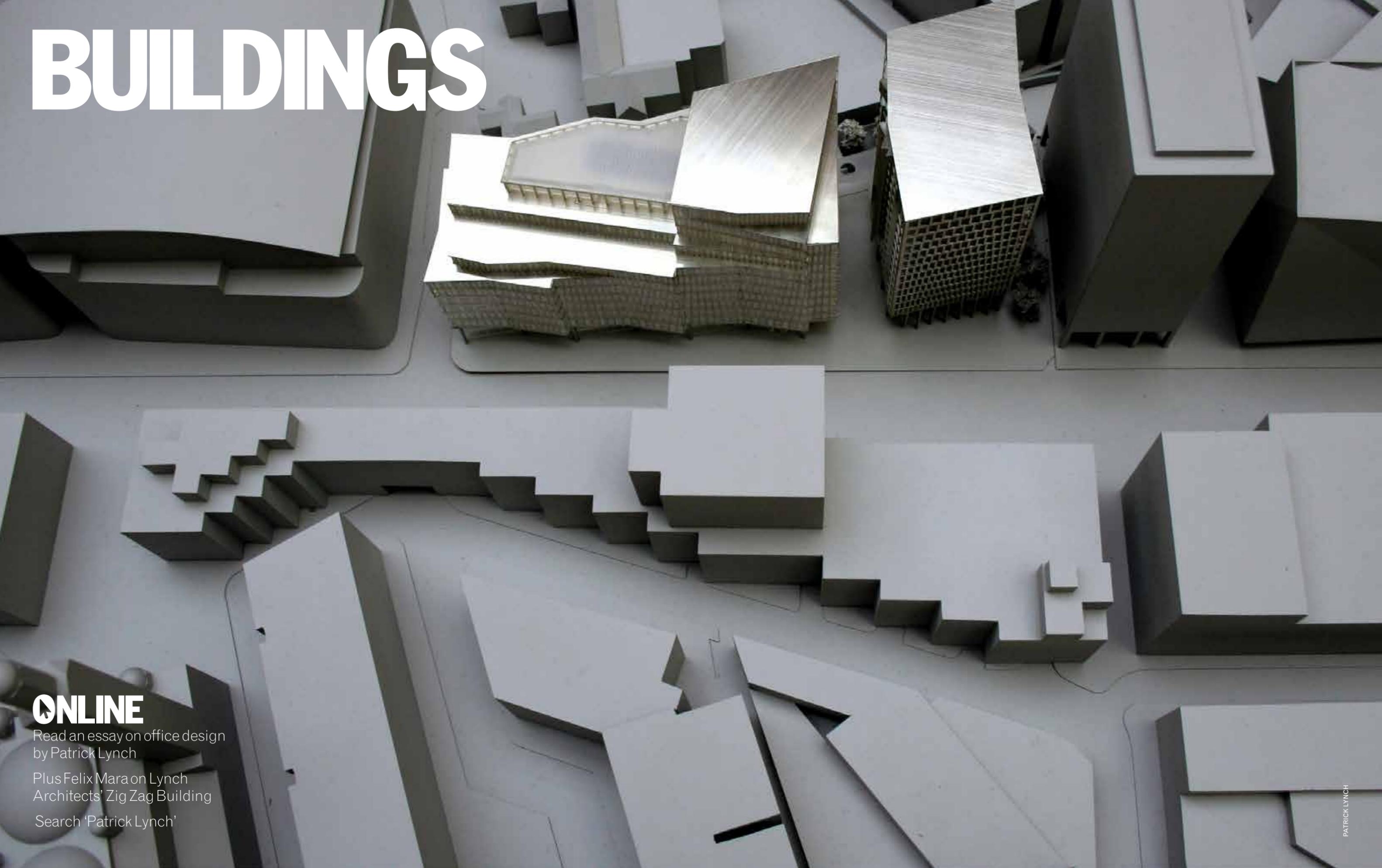


LYNCH'S ZIG ZAG



0 6 IBP MAGAZINE OF THE YEAR
12.02.16 / VOL 243 / ISSUE 05
£6.99

BUILDINGS

An architectural model of a city, featuring several prominent buildings. The central focus is a large, multi-story building with a complex, angular facade and a golden, textured surface. To its right is a tall, rectangular building with a grid-like facade. The surrounding area is filled with other smaller, white, geometric building forms, creating a dense urban environment. The model is set against a dark, textured background.

ONLINE

Read an essay on office design
by Patrick Lynch

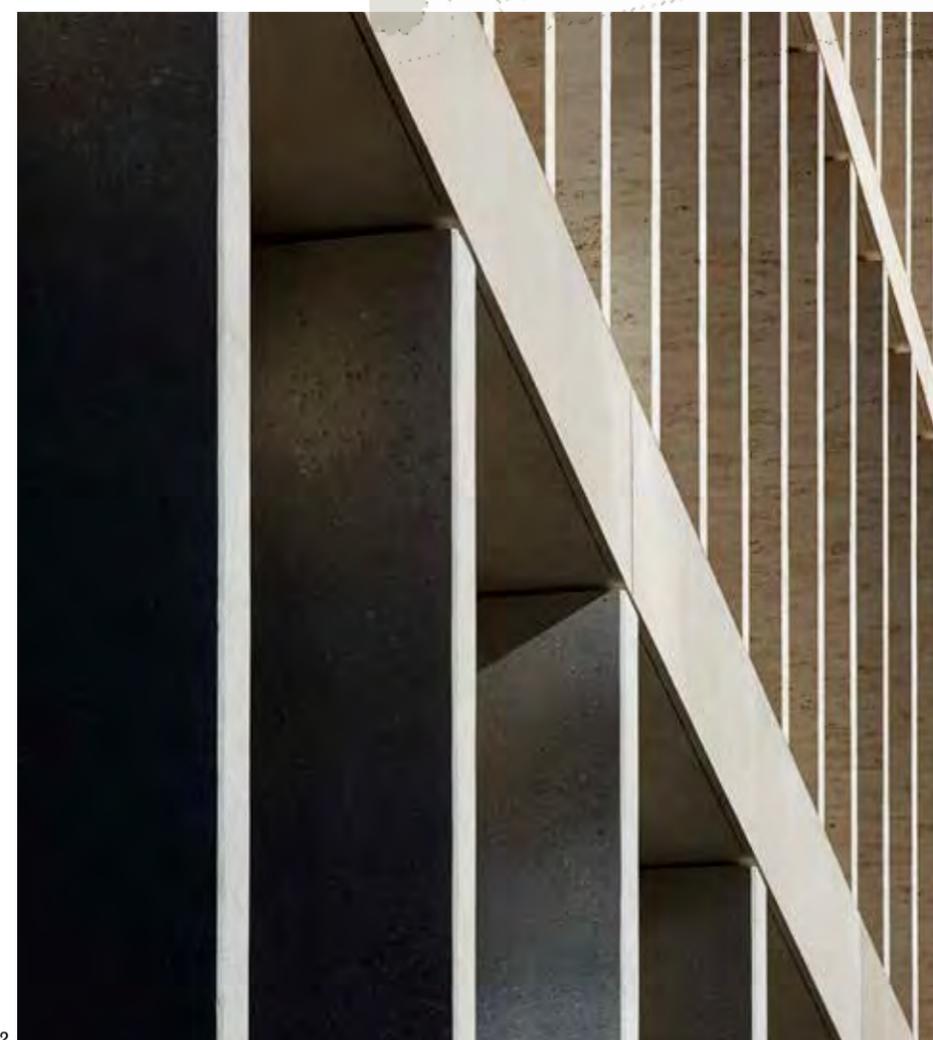
Plus Felix Mara on Lynch
Architects' Zig Zag Building

Search 'Patrick Lynch'

BUILDING STUDY

THE ZIG ZAG BUILDING AND KINGS GATE

LYNCH ARCHITECTS



Brief

David Evans, director, Lynch Architects

Our brief evolved during a nine-month design process from February to December 2010, eventually concluding with the creation of two buildings linked by a shared basement and comprising 12 storeys of office accommodation (to BREEM Excellent); 100 residential units over 13 floors (to Code for Sustainable Homes Level 4); flexible A1 & A3 retail over three floors; a 132MVA substation; two public spaces with public seating and art work with possible connectivity to a future park at the rear; and basement parking for 156 cars.

Data

Start on site September 2012
Completion November 2015
Gross internal floor area Undisclosed
Form of contract Design and Build
Construction cost Undisclosed
Architect Lynch Architects
Client Land Securities
Structural engineer Pell Frischmann
MEP consultant Grontmij
Quantity surveyor Arcadis
Planning consultant Gerald Eve
Lighting consultant Firefly Lighting Design
Landscape architects Vogt Landscape and BDP
Townscape adviser Francis Golding
Artists Rut Blees Luxemburg and Timorous Beasties
Project manager Arcadis
CDM co-ordinator 3CR
Building control
 Westminster City Council Building Control
Main contractor Lend Lease
CAD software used MicroStation

BUILDING APPRAISAL

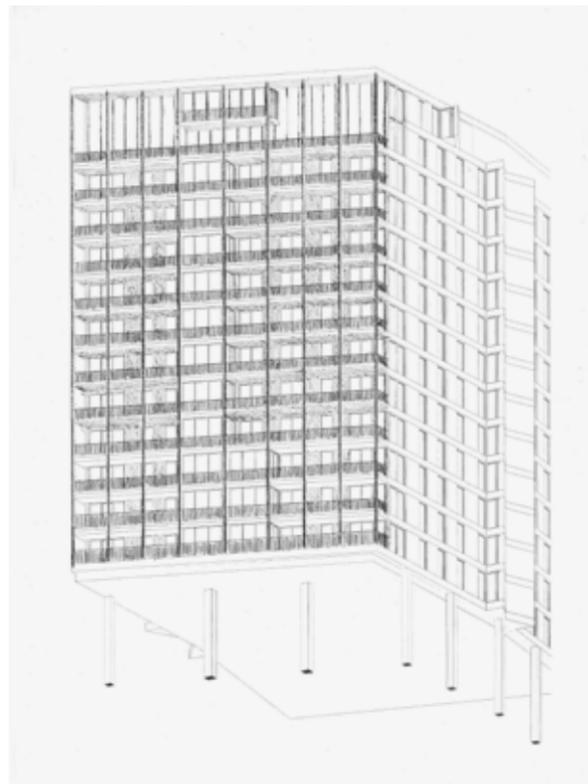
By Ellis Woodman
Photography by David Grandorge
and Hufton + Crow

Driven through the slums that extended between Westminster and Victoria station in the 1850s, Victoria Street is one of central London's more recently established thoroughfares. Yet of the buildings originally constructed along its length, few remain; most having been exchanged for bloated office blocks in the post-war era by the principal landowner, Land Securities. Over the course of a decade, a street that had maintained a rich diversity of character and function was transformed into a quintessentially bland and alienating business district.

Today, much that was built during that period is itself being replaced. Following Land Securities' completion of the EPR-designed Cardinal Place in 2006, the developer has realised major projects at Victoria by John McAslan and Pelli Clarke Pelli and is in the process of completing buildings by Benson Forsyth and PLP. The results have proved something of a mixed bag. The introduction of housing and the expansion of the range of shops and restaurants in this formerly moribund district are certainly welcome, but a number of the new office blocks are even more over-scaled and under-imagined than their predecessors – a failure that no amount of quasi-crystalline modelling and Christmas-wrapping-paper cladding can disguise.

By some distance, the best project realised to date is Lynch Architects' new office and residential development. It replaces one of three adjacent buildings on the north side of Victoria Street by Burnet Tait & Partners, of which only the central element – a tower housing Westminster City Council's offices at Westminster City Hall – now remains. The slab block that previously occupied the site adjoined the council offices and extended for more than 100m, contributing to the oppressively canyon-like character from which much of Victoria Street still suffers. Foremost among the new scheme's





1, 2. (opening spread) The new development steps up along its length towards the pre-existing offices of Westminster City Council
 3. (previous page) The glazing of the Zig Zag Building is shaded by projecting aluminium fins and laminated glass units which incorporate a photographic image of onyx as an interlayer
 4. (left) North facade drawing
 5. (opposite) The spacing of the fins on the principal elevation of Kingsgate House expands up the height of the building

advances on its predecessor is therefore its division into two standalone parts. The larger is an office block, christened the Zig Zag Building in recognition of its subtly cranking facade which gathers height along its length from nine to 13 storeys. This upward trajectory is then maintained; first by the new 15-storey residential tower, Kings Gate House, and then by the 19-storey council offices beyond. 'Utterly mute in civic expression,' was Pevsner's pithy assessment of Westminster City Hall. The problem remains but, in reframing the building, Lynch has endeavoured to treat it with the deference its civic function demands.

The impulse to draw City Hall into a considered composition also informs the provision of both new buildings with a plinth – accommodating shops and restaurants – of a height that accords with the older building's entrance loggia. Again, this device develops in grandeur from west to east: where the street frontage of the Zig Zag Building is surmounted by a cantilever, the residential block presents a shallow loggia of slender, insistently distributed columns which is then restated in more emphatic terms by City Hall. These relationships register vividly in the

Balconies give the building a distinctly theatrical relationship to the street

tangential, painterly views of the development that we first encounter on approaching it down the length of Victoria Street. Less satisfactory is the rather generic handling of the glazed shop fronts. Divorced from the principal facade treatments that commence at second-storey level, they leave the passer-by with the impression that the architectural action is playing out at some considerable distance above their heads.

Unlike a project such as the Smithsons' Economist complex, which lies a short walk across St James's Park, Lynch's buildings employ markedly different facade treatments, advertising the fact that one is commercial, the other residential. Yet these fields of slender, repeated components are clearly the product of a common imagination, in each case suggesting a preoccupation with a facade's capacity to register transitory phenomenon. Walking around the site is to be made acutely aware of your own movement as the multiple, deep-framed apertures effectively dilate and contract in response to your shifting view. They also model the changing effects of daylight, which are pronounced on the south-facing street facades, and contribute to the buildings' unusually high environmental performance.

In the case of the Zig Zag Building, the primary means of facade articulation is a projecting bronze anodised aluminium fin, sited at 1.5m centres on the lowest storey and bunched increasingly tightly on successive floors. As these rise, they also

reduce in depth, ensuring that the level of overshadowing offered to the curtain glazing remains constant. One effect of the elements' contraction is the introduction of a false perspective, tricking the eye into reading the facades as taller than they are.

On the residential block, the gesture is inverted. Here, the balconies by which the larger apartments address the street are screened by a field of diminutive pillars in Jura limestone. Closely spaced at the lower level, where privacy is a pressing consideration, they fan out as they rise, generating a startling optical effect rather in the manner of a Bridget Riley painting.

The provision of balconies on Victoria Street is in itself a significant innovation, giving the building a distinctly theatrical relationship to the street. The Zig-Zag Building has been equipped with them too, albeit narrow Juliet balconies, set in front of solid door-height vents. Noise and pollution levels may presently inhibit their use, but the building has been designed with a 60-year life expectancy in the confidence that it will outlive the age of the internal combustion engine.

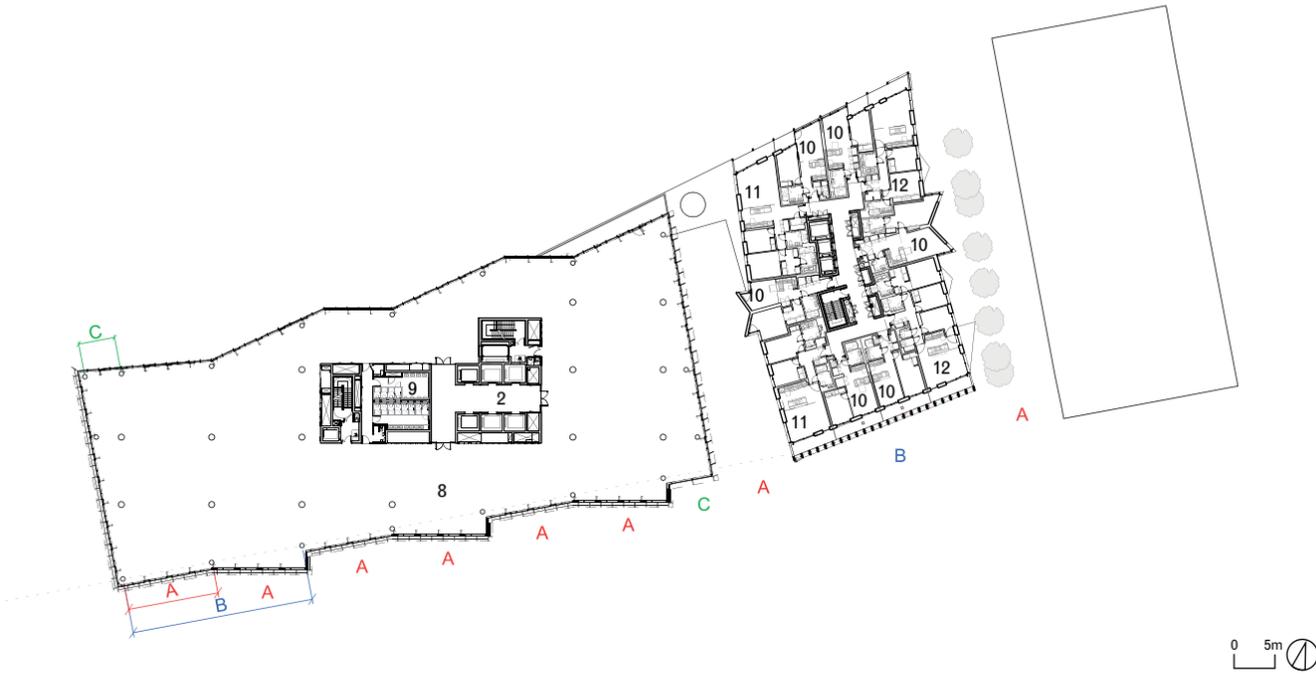
The contributions of the landscape architect, Vogt, support this ambition to forge a permeable relationship between the interior and the city. The Zig Zag Building's upper floors open on to generously planted roof terraces, while the public space between Kings Gate House and Westminster City Hall has been stocked with acers – a tree chosen for its vibrant seasonal foliage.

However, the one major frustration with the project as it stands today is the absence of a park intended for the rear of the site. That opportunity is presented by the site being bounded by a tube line, which was buried through a cut-and-fill method, and it would be quite possible to establish a linear park – of around half the length of the proposed Garden Bridge – on top. All that is stopping it is a dispute about the insurance implications of an object falling on to the tracks via an air-vent. It is to be hoped that this conundrum can be resolved because the dividends of such a public space would be enormous. Victoria Street remains notably bereft both of trees and of easy pedestrian links into its hinterland. The park would not only offer some much-needed green-space but significantly improve the area's permeability.

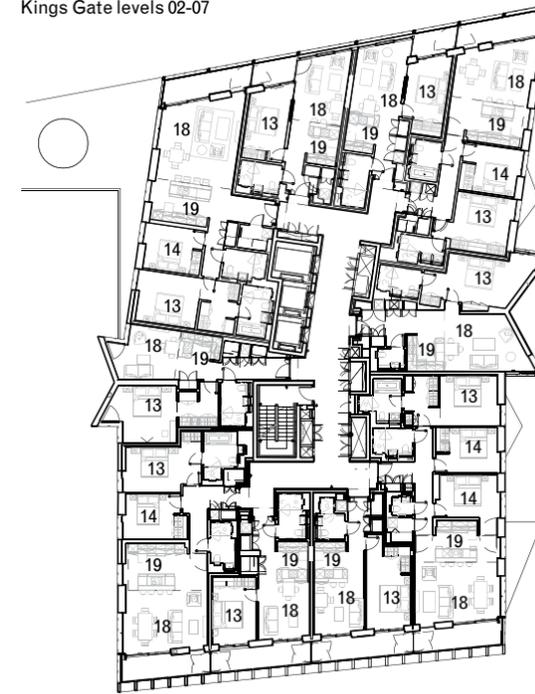
Whether or not that potential is fulfilled, Lynch's buildings already deserve to be judged a significant urban contribution. They have represented an enormous leap in scale for a young practice that had previously built little larger than a house, and a considerable leap in ambition for a developer whose recent record of commissioning leaves a great deal to be desired. Don't be surprised to see a number of the recent buildings built at Victoria redeveloped in another 40 years. Lynch Architects' buildings should see us all out.



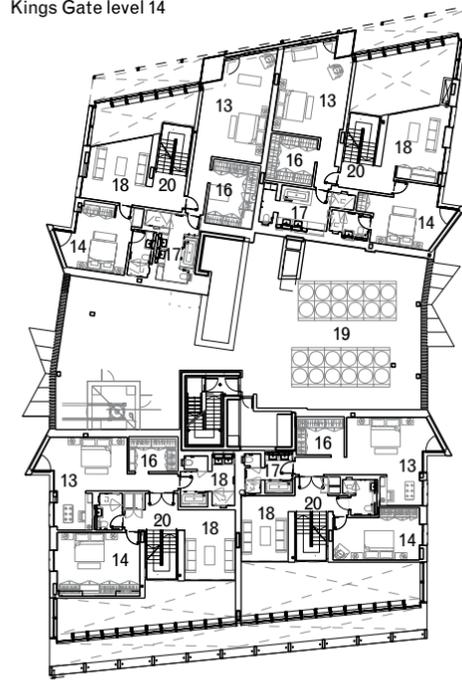
Zig Zag and Kings Gate buildings
 Second-floor plan with proportions



Kings Gate levels 02-07

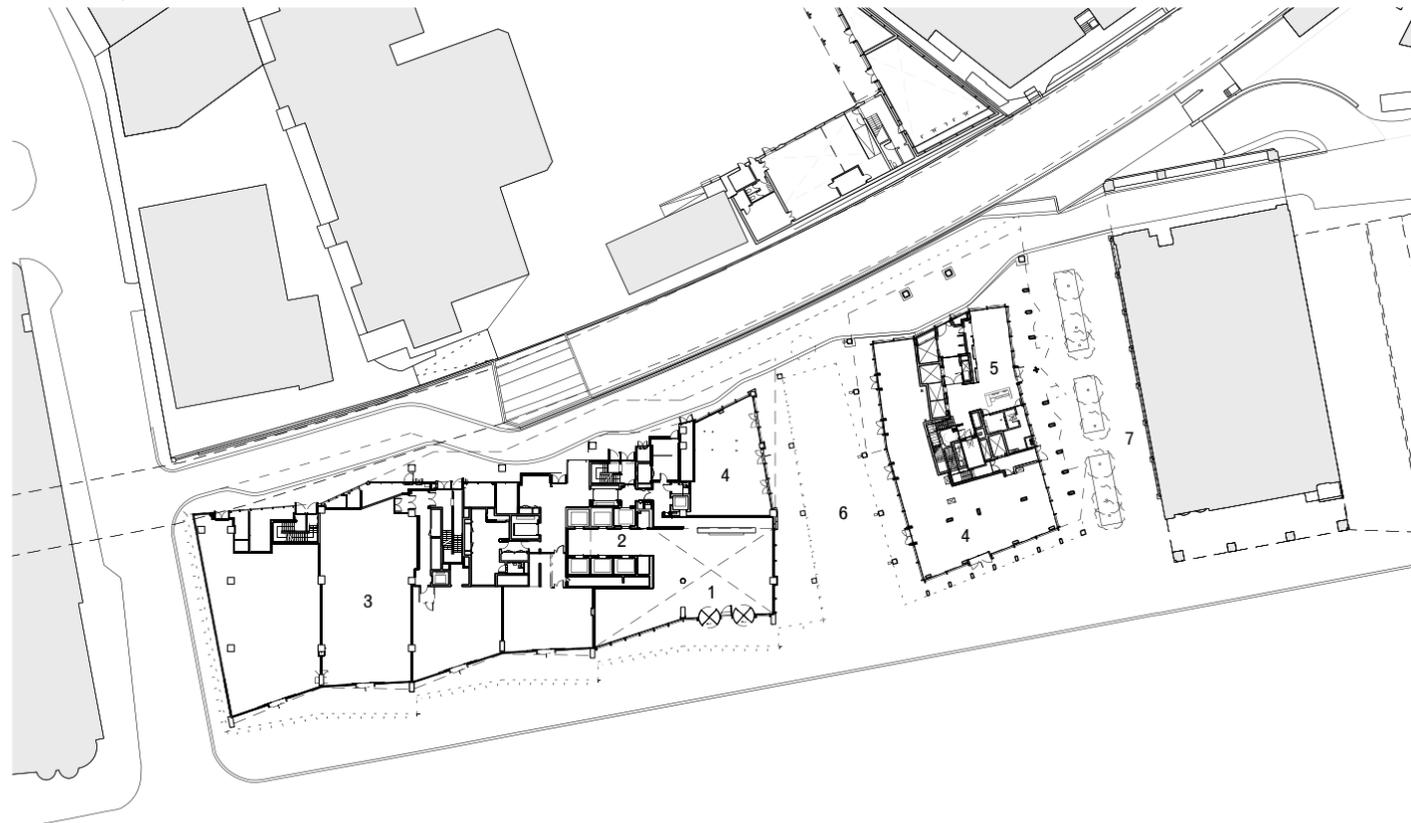


Kings Gate level 14

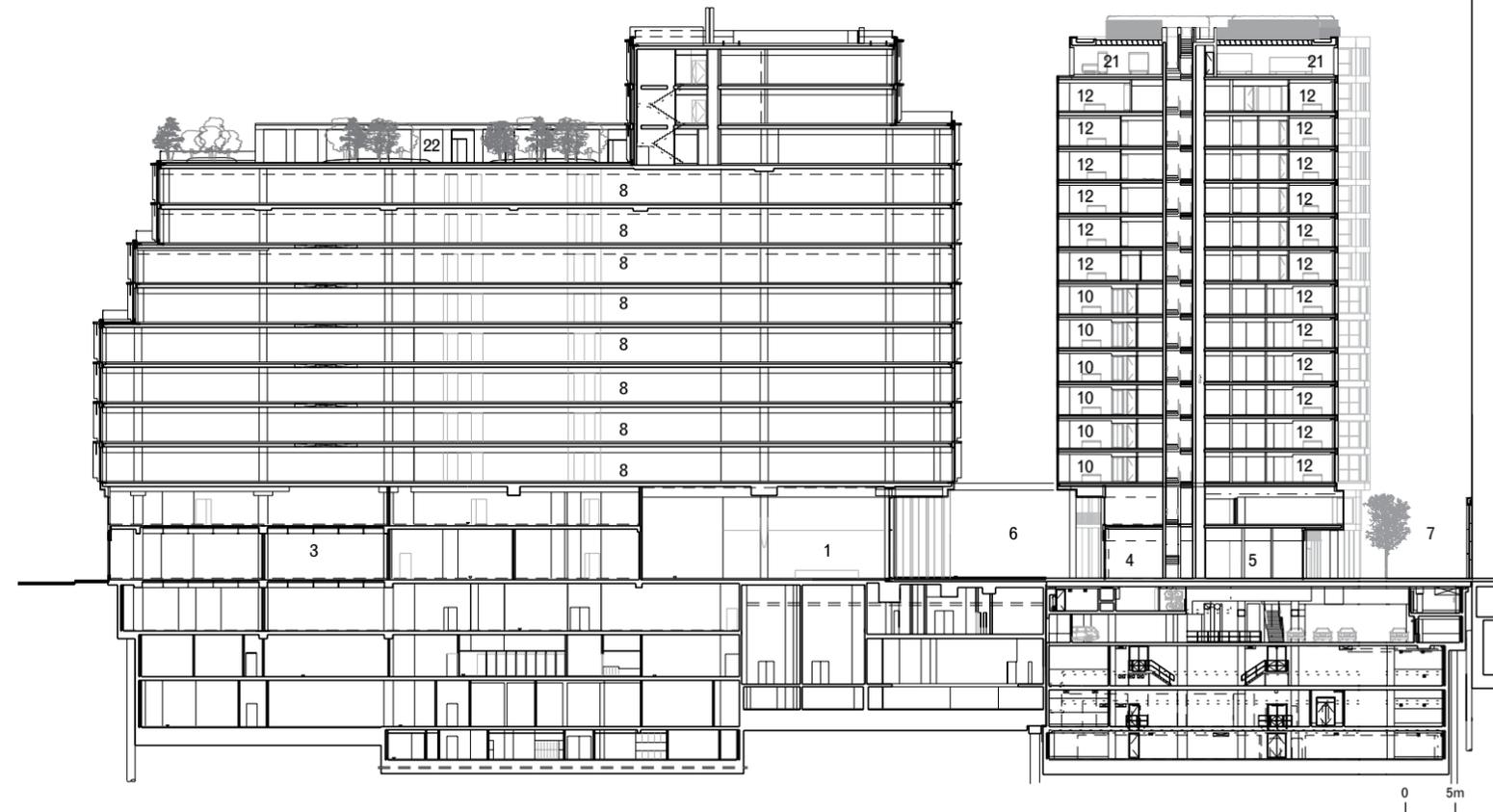


1. Office reception
2. Lift lobby
3. A1 retail
4. A3 retail
5. Residential foyer
6. Angela Hopper Place
7. Kingsgate Walk
8. Office
9. WCs
10. One-bedroom apartment
11. Two-bedroom apartment
12. Three-bedroom apartment
13. Master bedroom
14. Bedroom
15. En suite bathroom
16. Dressing room
17. Bathroom
18. Living room
19. Kitchen
20. Penthouse stairs
21. Plant
22. Roof garden

Zig Zag and Kings Gate buildings
 Ground floor plan



Section A-A



WORKING DETAIL

Luke McDonald, associate,
Lynch Architects

Working closely with the structural engineer, we designed the Kings Gate south facade with slender natural stone piers and shallow exposed precast concrete transoms, with a section of double-storey facade at the top of the building at the penthouse floor.

The facade needed to be robust

enough to carry all wind and notional horizontal loads back to the primary structure. At just 160mm wide the stone was not capable of providing adequate stiffness. The solution was to insert two stainless-steel rods through the blocks thereby creating a stiffer composite section and enabling preassembly of the piers.

The steel rods allowed us to fix the piers to the balcony at their base so they were stable as soon as erected, avoiding significant temporary works. The rods at the top were held in elastomeric pockets set within the transom, which in turn was fixed to balconies using site adjustable fixings. Open movement joints were provided

1. 160 x 600mm Jura limestone piers
2. Precast concrete transom including integral light fitting
3. GRC-clad steel transom
4. Jura limestone-clad cornice
5. RC roof structure/upstand
6. Steel rods hung from roof

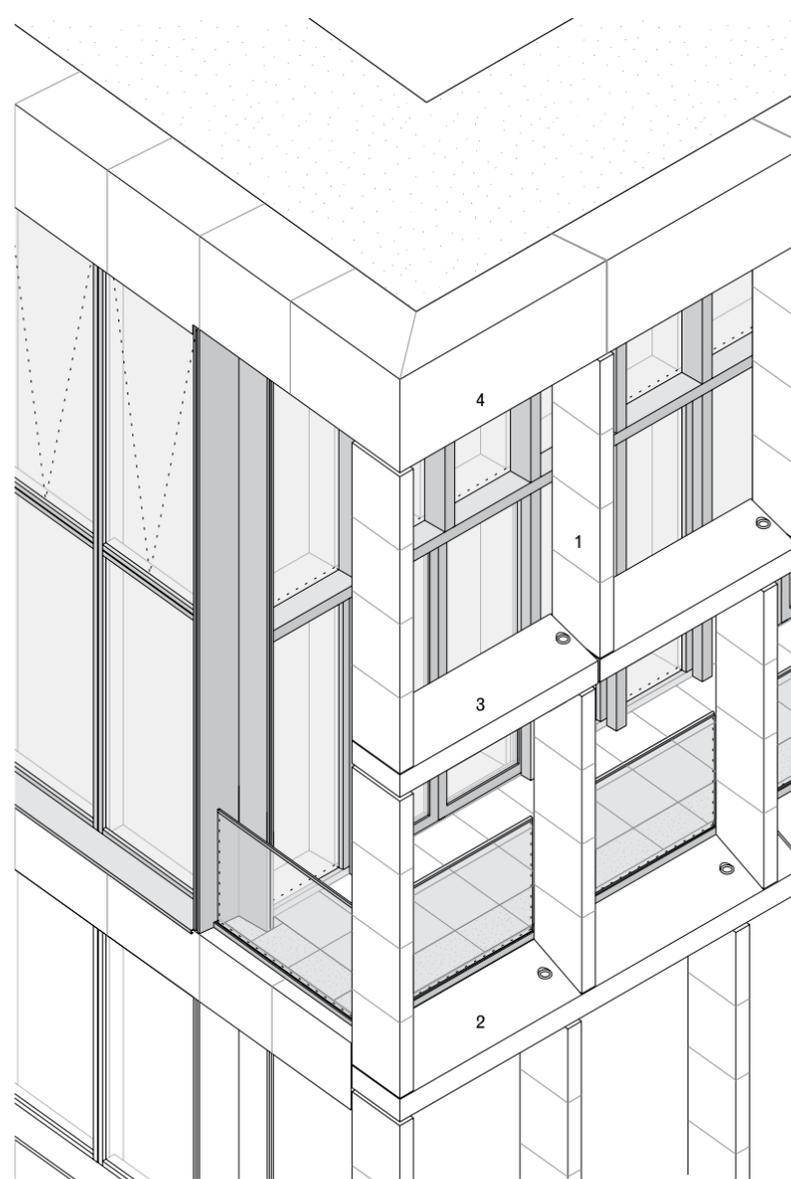
at the head of each pier.

The double-height top section provided the greatest challenge as the additional self-weight could not be supported by the slender balcony at its base, nor could the piers and the transoms form a stable structure under wind load.

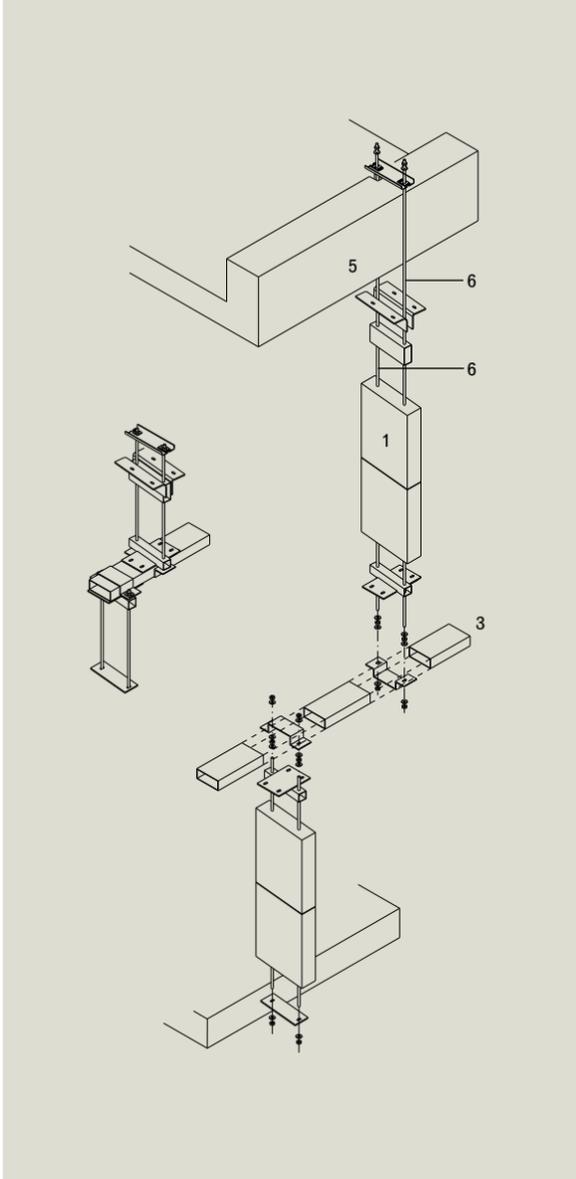
The solution was to invert the system, thereby creating a top-hung solution at the upper two levels; in this way we immediately created a stable structure that self-restored under gravity.

Additional resistance came from enhancing the pinned joints between the piers, transoms and roof to semi-rigid joints, using results from off-site load testing.

Kings Gate South facade pier isometric



Exploded isometric



6. Projecting bays on Kingsgate House's side elevation provide rooms at the rear of the plan with south-facing views

ARCHITECT'S VIEW

Patrick Lynch, director, Lynch Architects

The brief entailed investigating the feasibility of retaining the old Kingsgate House as well as proposals for a new building. The flat-fronted, south-facing glass slab block, formed a triumvirate of co-joined forms, two wall buildings and a tower. We immediately identified the need to break up the mass and bulk of this composition and saw the possibility of creating a more porous public realm and a more defined high street.

It soon became apparent that refurbishment was not an option as the original building had a low floor-to-floor height and a load-bearing concrete facade of closely spaced columns. In proposing two new buildings rather than one compromised one (flats above offices tends to compromise both), the project became more expensive, as we would need to create 25 per cent more facade area.

The council saw the advantages of creating two buildings, but were initially anxious about their height. The height pays for the extra facades and loss of floor area associated with not building one large block. However in 2010 the brief evolved to protect the buildings and public spaces by ensuring their longevity, and thus the sustainability of the development as a whole.

In effect, we were tasked with future-proofing the buildings, protecting the urban morphology from the building's possible obsolescence. We had to create buildings that were not dependent solely on fossil fuels to cool them. This explains the unusually high level of solar shading, the capillary cooling pipes in the exposed concrete soffit and its high quality finish, as well as the opening facades of both buildings, which far out-perform current regulations. Arguably, therefore, the extra cost of the layered facades create a new business model for office buildings, extending the life span of the client's asset.

Mike Gray, the design and conservation officer, declared: 'If we're going to see it, it needs to be virtuous, long lasting and beautiful', which enabled us to respond: 'That's our client's brief to us and our ambition too.'

Read full version at TheAJ.co.uk/buildings

ENGINEER'S VIEW

Mike Hitchens, divisional director,
Pell Frischmann

At Kings Gate and the Zig Zag Building we faced a number of challenges, including the presence of an adjacent rail tunnel within 1m of a five-storey basement. Holding up the District and Circle lines immediately north of the site while excavating four and five storeys of basement required extensive finite element ground modelling coupled with carefully specified pre-construction sequences for adjacent top-down and bottom-up construction. Similar design and site challenges arose from the existing Westminster City Hall abutment and the need to prevent sideways movement and bending of city hall's shallow under-ream piles while constructing a deeper five-storey basement adjacent to it.

At the same time, a 132MVA electricity substation – also in the basement – had to be made operational long before the building was complete. This required the use of a sheet-piled wall to create a temporary box for an advanced dig ahead of the main secant piling. The sheet piling used a small Giken piler, which self-tracks over the sheets it has already laid, providing a very innovative and fast solution.

We also engineered the Kings Gate south facade with slender 160mm-wide natural stone piers and shallow exposed precast concrete transoms, cantilevered from structurally isolated external balconies, with particular challenges at the penthouse duplex levels, where the double-height balconies necessitated the suspension of the top two levels of piers from the roof and the creation of moment connections between piers so as not to overload the balcony below, and to also avoid the need for unsightly intermediate level tiebacks.

7, 8. Interiors of the Zig Zag Building
9. Rut Blees Luxembourg's photographic depiction of a tree nursery, applied to the flanking elevation of Westminster City Council's offices

10. Designer Timorous Beesties has ornamented a column by the apartment block entrance
11. (overleaf) The Zig Zag Building's foyer
12. (overleaf) Zig Zag Building exterior



7-8. HUFTON + CROW 9. DAVID GRANDORGE 10. PATRICK LYNCH



11

11-12. HUFTON + CROW

THEAJBL.CO.UK

RELATED PROJECTS IN THE AJ BUILDINGS LIBRARY



2013
Curtain Road, London
Duggan Morris Architects



2011
Unison HQ, London
Squire and Partners



2007
5 Aldermanbury Square, City of London
Eric Parry Architects



PHOTO CREDITS (L TO R)
LACK MORRIS, MORLEY VON
STERNBERG, HELENE BINET

