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MORRIS

# Angel Building

Information  
Pack





# Angel Building

Angel Building is the reinvention of an early 1980s commercial block on a prominent but under-used site at the corner of St. John Street and Pentonville Road in Islington. It now contains 260,000 square feet of high specification office space, with café, specially-commissioned works of art and large rooftop terraces affording spectacular views over London. The existing concrete frame has been reused and re-wrapped with a highly energy-efficient glazed skin. The building's envelope has been extended at selective points to create a better fit with the context formed by the surrounding streets.

Sector :	Office
Location :	London, UK
Address :	407 St. John Street London, EC1V 4AB
Client :	Derwent London
Value :	£72m
Start :	January 2007
Completion :	October 2010
Contract Type :	Two stage design and build

## Key Dates

<b>December 2006 :</b>	Merger with LMS to form Derwent London
<b>January 2007 :</b>	AHMM begin work on outline design
<b>October 2007 :</b>	Planning permission submitted
<b>February 2008 :</b>	Planning permission granted
<b>May 2008 :</b>	Stage D complete. BAM joins team
<b>June 2008 :</b>	Pre-let to Cancer Research UK
<b>June 2008 :</b>	Decladding starts on site
<b>October 2009 :</b>	Topping out ceremony
<b>September 2010 :</b>	Practical Completion
<b>October 2010 :</b>	Building Launch

## Areas

Gross Internal :	357,625 ft <sup>2</sup>   33,223m <sup>2</sup>
Net Internal:	264,363 ft <sup>2</sup>   24,559m <sup>2</sup>
Terraces :	21,936 ft <sup>2</sup>   2,038m <sup>2</sup>
Atrium :	9,461 ft <sup>2</sup>   879 m <sup>2</sup>
Cafe :	355 ft <sup>2</sup>   33m <sup>2</sup>
Offices :	246,041 ft <sup>2</sup>   22,858 m <sup>2</sup>
Retail :	5479 ft <sup>2</sup>   509 m <sup>2</sup>

## Project Team

## Trade Contractors

<b>Client :</b>	Derwent London
<b>Architect :</b>	Allford Hall Monaghan Morris
<b>Structural Engineer :</b>	Adams Kara Taylor
<b>Project Manager :</b>	Buro Four
<b>Cost Consultant :</b>	Davis Langdon
<b>Main Contractor :</b>	BAM Construction
<b>Local Authority :</b>	Islington Building Control
<b>Services Engineer :</b>	Norman Disney & Young
<b>Acoustic Consultant :</b>	Sandy Brown Associates
<b>Property Agents :</b>	Pilcher Hershman / CBRE
<b>Landscape Architect :</b>	J&L Gibbons
<b>Fire Consultant :</b>	Norman Disney & Young
<b>Lighting Consultant :</b>	GIA Equation
<b>Planning Consultant :</b>	DP9
<b>CDM Co-ordinator :</b>	Jackson Coles
<b>Party Wall Surveyor :</b>	GIA
<b>Rights of Light Consultant :</b>	GIA
<b>Transport Consultant :</b>	Colin Buchanan

<b>Concrete :</b>	Getjar
<b>Cladding :</b>	Scheldebouw
<b>Structural Steel :</b>	Rowen
<b>Roofing :</b>	Facilitas
<b>Architectural Metalwork :</b>	AWJefferies
<b>Security :</b>	Antron
<b>Drylining :</b>	Kent Commercial
<b>Terrazzo Flooring :</b>	Andrews Tile
<b>Screens :</b>	Astec
<b>ETFE Roof :</b>	Vector Foilteck
<b>WC Fit-out :</b>	Houston Cox Eastern
<b>Landscape :</b>	J Browne
<b>Joinery :</b>	Benchmark
<b>M&amp;E :</b>	Skanska Rashleigh Weatherfoil
<b>Raised Floors :</b>	Kingpan
<b>Lifts :</b>	Otis & Evans Turner

## Allford Hall Monaghan Morris Team Members

Simon Allford, Steve Smith, Wade Scaramucci, Ian McArdle, Berta Willisich, Big Hoffmann, Petr Kolacek, Ivana Sehic, Anika Koenig, Jack Ayre, Nadine Hadamik, Ana Corrochano, Tamsin Landells, Leo Mader, Leo Mayol, Marion Clayfield, Leif Henning, Goh Ong, Glen O'Gloughlin, Barbara McGarry, Clemmie Seymour, Jonathan Hall, Paul Monaghan, Peter Morris and Modelshop

For further information and images please contact

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## Working with Derwent London

The enlightened alternative to the shiny, fully air-conditioned and expensive new office building is the transformed, reasonably priced former industrial building on which Derwent London has built its reputation.

For the last few years Allford Hall Monaghan Morris, Arup, Davis Langdon and AKT II have worked for Derwent London on the idea of how to make a different, more economical office building. The term 'White Collar Factory' has been devised to describe this 'new' office building type, which takes its cues from the multi-level factory building. Its principal features are big spans, flexible floor plates, openable windows, large volumes and robust construction.

The reason Derwent London are confident in this new prototype is that the generosity of volumes and play of light ensures that it has a proven spatial character: that of a monumental piece of industrial production inspired by utility and the need for delight. Like its predecessors it is inherently convertible to something else, thereby embodying that most sensible maxim of enduring architectural quality, 'long-life/ loose fit'.

AHMM and Derwent London have enjoyed a long period of collaboration on a series of successful projects (see below). The Angel Building forms part of Derwent London's 'White Collar Factory' programme - a new typology of office buildings, which has now led to real, new and adapted buildings.



White Collar Factory, Derwent London



Morelands



Johnson Building



City Road



No 1 Oxford Street



Horseferry House



Tea Building



Hampstead Road

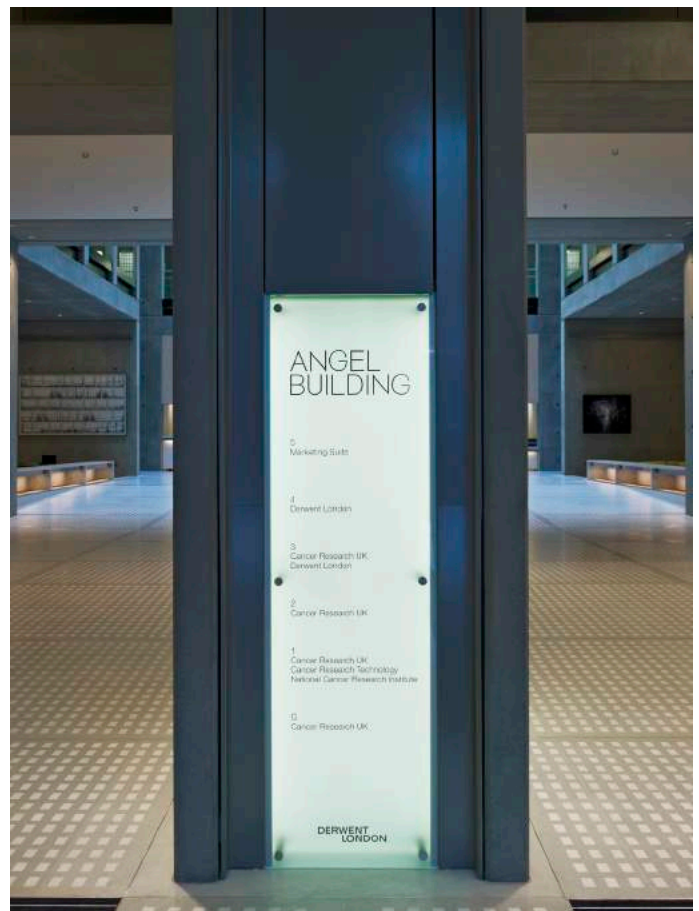
## The Angel Building

The Angel Building is the reinvention of an unloved early 1980s commercial building located on one of London's historic focal points where City Road and St. John Street meet Pentonville Road and bustling Islington High Street. Now a restrained piece of enlightened modern architecture, the Angel Building was once an unsightly and problematic building, significantly set back from both streets with a poorly resolved landscaped area separating it from the pavement. The deteriorating fabric had not aged well, and was unpopular with the local population who felt it detracted from its surroundings.

Allford Hall Monaghan Morris's (AHMM's) brief was to devise a working environment that was aesthetically compatible with the rest of the building, but flexible enough to show potential tenants the exciting possibilities of the space. The Angel Building provided the perfect opportunity for AHMM and Derwent London to build on ideas and experience of delivering contemporary design, integrated with older architecture, to provide an identifiable high quality office space.

### AHMM's stated aims for the project:

- > Creation of a landmark building with a clear identity on a prominent corner site
- > Creation of useable, comfortable and desirable office spaces
- > A minimum net internal area target of 270,000 sqft
- > Ability to become multi-let with horizontal and vertical split capabilities
- > Three existing entrances into one main entrance
- > Creation of active and viable retail spaces at street level
- > Re-use of the existing frame
- > Produce a "new building" using existing components
- > Regeneration of the public realm to create new external city spaces
- > Integrate new green spaces with the building architecture
- > Create an energy efficient building
- > Integrated energy strategy
- > BREEAM Excellent
- > Sustainability best practice
- > Efficient lighting design



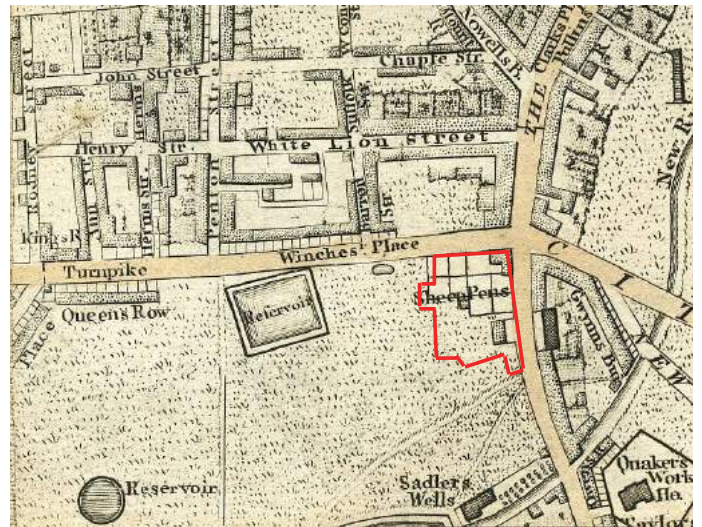
Angel Building lobby signage

### Timeline

The Angel Building is located on a prominent site with an interesting history. From a country village, a rural retreat in the 1700s, Islington turned into a bustling suburb of the City of London.

- 1170** St. Johns Street was first mentioned as a road for pack horses only.
- 1613** The NEW RIVER, a canal bringing fresh water to London, was built between 1606-1613 by Hugh Myddelton.
- 1770** The junction Pentonville Road and St. Johns Street becomes one of the most important traffic points for the stage coaches to join the City and Smithfield. Until the Pentonville Road was completed in 1757 and the City Road in 1761, traffic from the north entered the City by Goswell Road, and Smithfield by St. John Street.
- 1773** Pentonville is one of the earliest planned suburbs laid out on the rural estate of Henry Penton. The site adjoining the Pentonville Road was open land of the New River Company separating Pentonville from London. Penton's estate originated as three fields between the north part of St. John Street and the Angel belonging to the priory of St. John.
- 1819** The Angel Inn was rebuilt as a coaching hotel. It served as an important coaching stop at the crossroads of City Road and Great North Road.
- 1820** The Site was used as a sheep pen. Most of the lairs were used to hold animals overnight and where cattle were fattened before making their way to Smithfield market.
- 1827** Myddelton Square laid out in 1827. Named after Sir Myddelton who planned and financed the development.
- 1829** The first Omnibus service past the Angel to the Bank along New Road, renamed Pentonville Road in 1857. The services increased very rapidly.
- 1851** Pentonville had 1,500 houses and 9,500 inhabitants, it deteriorated to a slum during the later 19th century. What little survived the war has since been mostly demolished and rebuilt with council flats.
- 1852** St. John Street, the main Street leading from The Angel to Smithfield, was the last station of the journey for cattle and sheep being taken from the farms of Middlesex to the Smithfield livestock market.
- 1865** The cattle plague started, and within three months 3/4 of the animals were killed.
- 1867** Much of the development was shabby. A survey from 1867 shows that Islington had the highest proportion (60 per cent) of houses in London in multi occupations, many with outside toilets and no bath.

1795



1817



1827

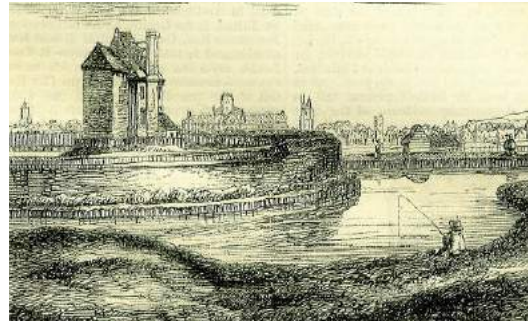


## Site History

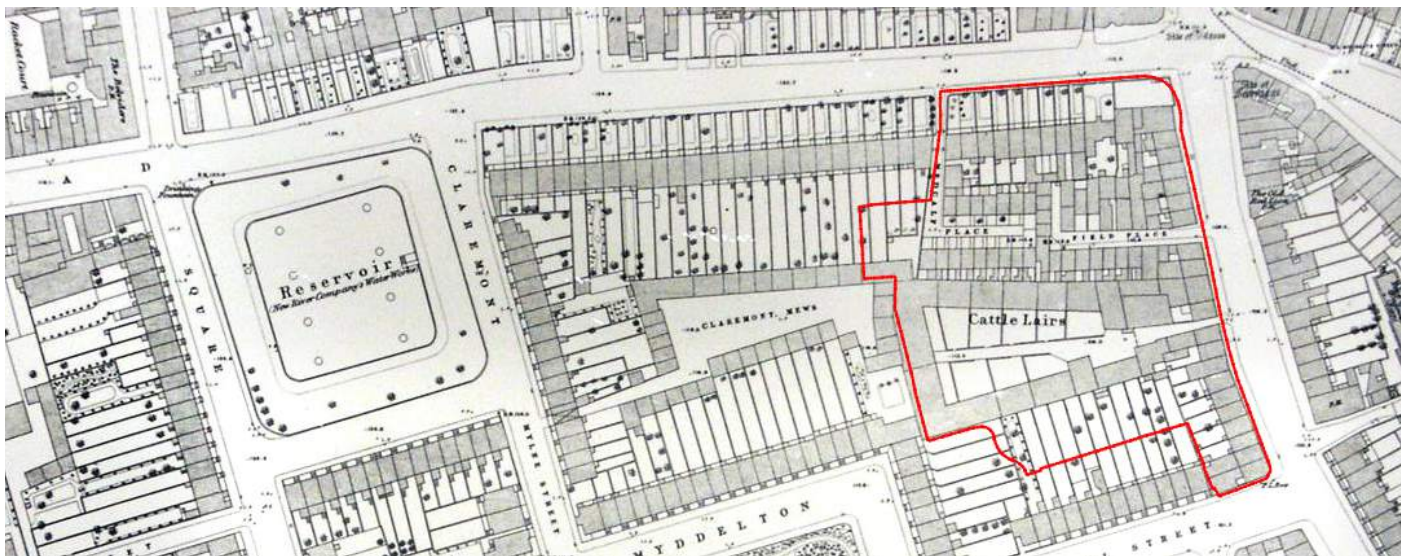
**1876** The late 19th century brought an increase in the range of services and trades in the town catering for the better-off tea ware houses and wine merchants, shown on the site.

**1906** An electric tram service was started from Highbury station to Angel via Roseberry Avenue.

Since the beginning of this century, the Angel junction has been a major traffic bottleneck. Wholesale rebuilding on the south-west corner and road widening in 1981-2 have caused great changes.



The New River Head, 1665



1850



Junction during interwar period



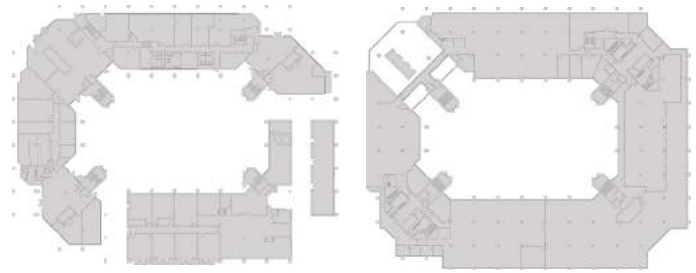
## Existing Site

The Angel Building came into Derwent London's portfolio in 2007 following the acquisition of London Metropolitan Securities, the original developer of the building.

Known as 'The Angel Centre', the building was conceived in the late 1970s by Elsom Pack Roberts Partnership (now EPR Architects) with Pell Fischmann as structural engineer. Completed in 1981, the building was occupied by British Telecom for several decades until they surrendered their lease in 2006.

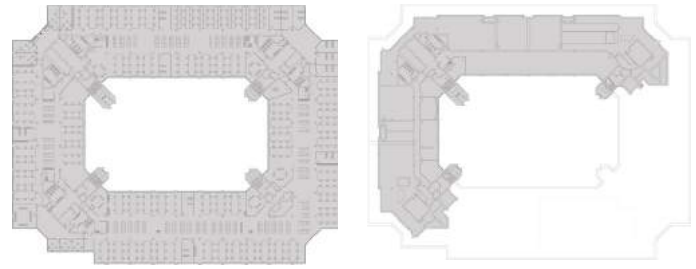
The departure of British Telecom highlighted many problems with the building, such as outdated servicing, inefficient layout, and deteriorating fabric which meant it would be impossible to attract a new tenant without significant investment. To compound this, the building had not aged well, and was unpopular with the local population who felt it detracted from the area. After some initial studies by LMS, a major redevelopment was initiated by Derwent London with AHMM.

Early analysis of the existing building suggested it offered a number of opportunities – the in-situ structural frame was sound and had good floor-to-ceiling heights implying re-use was viable. The open courtyard in the centre of the building, and large spaces to the perimeter suggested there were opportunities to increase floor area to finance the re-cladding and general reconfiguration, without wholesale demolition.



Ground floor plan

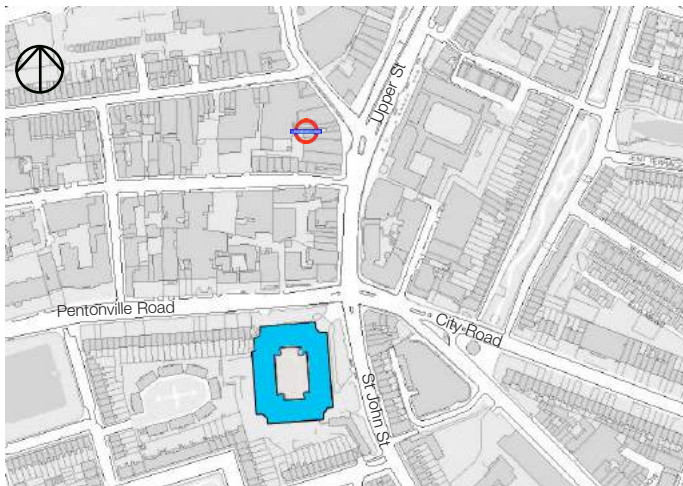
First floor plan



Second, third, fourth floor plan

Fifth floor plan

View of the existing floor plans



Location plan



Aerial photo of the existing Angel Centre



View of the existing Angel Centre

## Realising Site Potential

Once the strategic decision to retain the structural frame of the existing building had been made, the design developed with several key aspirations in mind:

- > Reintegrate the building into the existing street pattern by filling in corners and extending to the east
- > Internalise the underused courtyard space by creating a new atrium to act as the heart of the building
- > Rationalise the three existing entrances to a single main entrance.
- > Incorporate retail units along the street edges to bring activity to these areas
- > Retain the existing mature trees and replace the poorly designed hard landscaping with new public space
- > Add new trees and areas of soft landscaping to street edges

When the original development took place in 1980, there was a long term plan to introduce a roundabout and underpass at the main junction where Pentonville Road meets St. John Street, similar to that seen nearby at Old Street and City Road. This required the existing building to be significantly set back from the street edge.

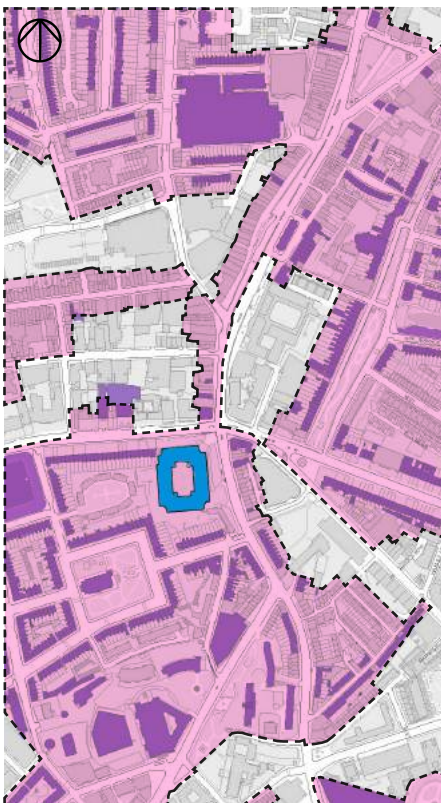
The roundabout scheme was subsequently dropped leaving the building disjointed from the surroundings and with arbitrary green spaces adjacent.

This presented an opportunity to extend the footprint towards St. John Street, and several configurations were considered. The result of the process was a full length curving extension to the St. John Street façade which follows the broad sweep of the road itself. By providing this strong edge, greatly enhanced oblique views of the building are created giving it a civic quality and providing a strong backdrop to a new public space next to the street.



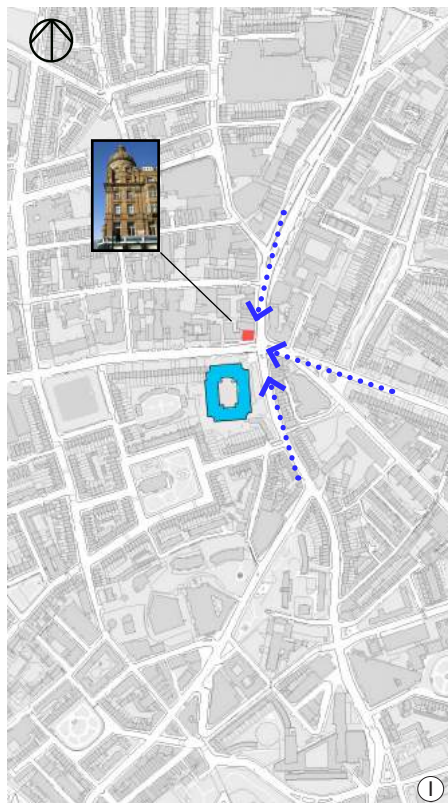
1 Map of proposed derivation of building alignment along St. John Street frontage

2 Map of proposed extension to St. John Street frontage



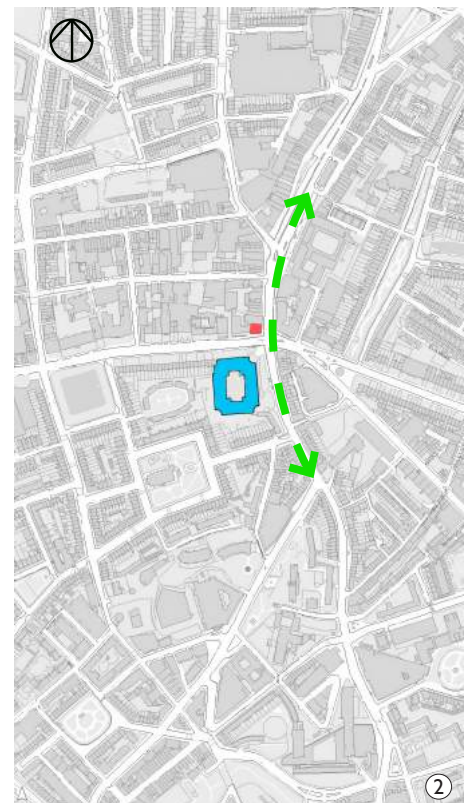
- KEY**
- Conservation Area
  - Listed buildings

Map of conservation areas & listed buildings



1 Map of local views towards the northwest corner of Pentonville Road and St. John Street

2 Map of St. John Street/Upper Street - predominant local form of street



## Evolution Of The Plan



Study model illustrating massing options and treatments

The image above shows an early study model which was used to discuss options for massing and possible treatments for the street edge along St. John Street.

An early option included a large canopy of the public space in this area.

The sequence of plans (right) illustrate the evolution of the ground floor during the early stages of the project. The arrangement of the ground floor developed as the building moved towards stage C and the planning application.

In all plans the retained stair cores from the existing buildings can be seen at 45 degrees to the grid - these act as lateral support for the floor plates.



Plan showing zone of land earmarked for now defunct road-widening scheme



Angel Building ground floor plans

### KEY

- Atrium
- Offices
- Plant
- Retail

## Recycled Structure

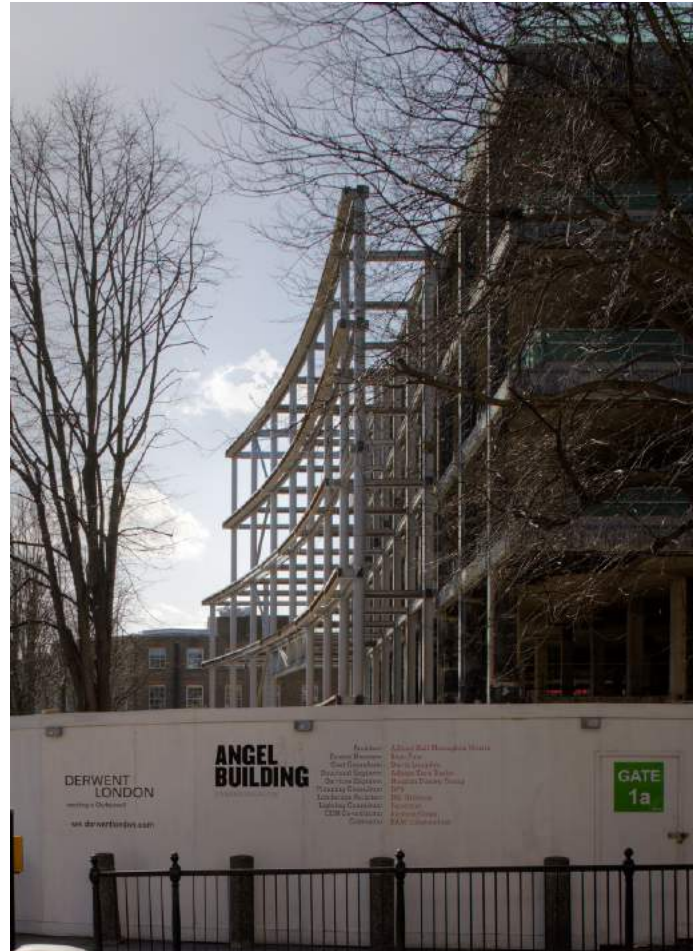
Whilst the external cladding, services and internal finishes of the existing building had reached the end of their life, the reinforced concrete structure proved to be sufficiently robust and with suitable floor-to-floor heights (approximately 3.7m) to make retaining and reusing it a possibility.

Further analysis of the embodied energy contained within the structure suggested reuse was essential. Avoiding the demolition and disposal of the structure, and construction of a new replacement resulted in immense CO2 savings, which contribute to the inherent sustainability of the development.

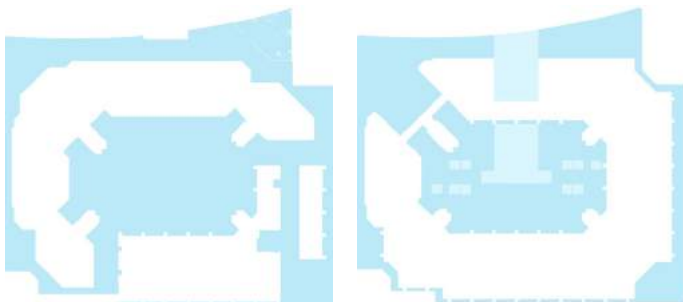
In-situ concrete also has the advantage of high thermal mass which, in tandem with a displacement ventilation system, can be utilised to cut the amount of energy required to keep the building cool.

The build-time for the project was also substantially reduced by re-using the structure, and overall cost savings are also significant. These benefits easily outweighed the added complexity of co-ordinating structure and services which often proved challenging for the design team. The diagrams below show the retained structure in white.

In total the new building has added about 9,200m<sup>2</sup>. The result is an essentially new building, with 40 per cent more useful floorspace, which retains and extends the structural frame of the old one.

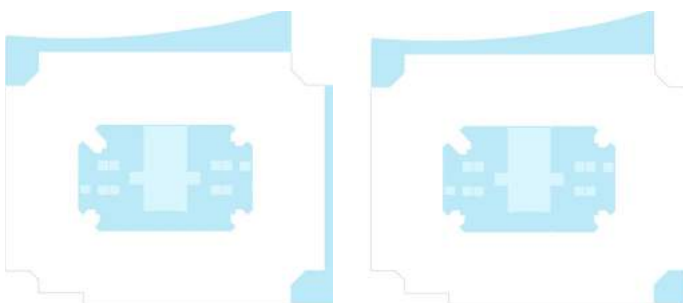


New extension added to east façade



Ground floor plan

First floor plan



Second, third, fourth floor plans

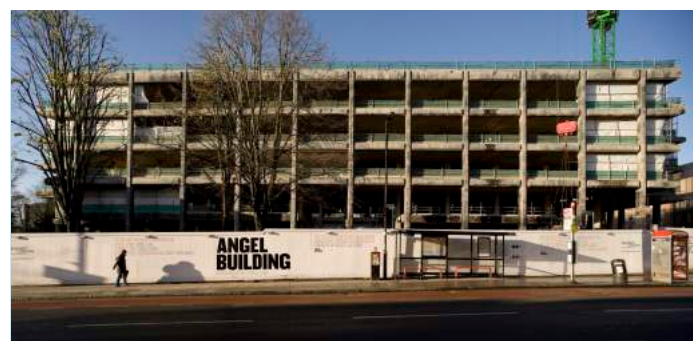
Fifth floor plan

■ Recycled structure

Floor plans showing recycled structure



Views of structure post strip-out



Recycled concrete structure

## Precedents and Initial Studies

For the envelope design the aim was to find a façade module that worked with the existing building but also created a refined sense of rhythm and proportion.

Once the massing of the building was established, the proportions and scale of a series of early modern buildings were compared against those of the Angel Building. The Manufacturers Hanover Trust by Bunshaft / SOM and the Crown Hall by Mies van der Rohe were early precedents during the development of the façade.

Both buildings had a strong horizontal expression similar to the Angel structure, but were then layered by vertical elements running the full height of the façades. The result of these studies was a clear structural composition based on the existing 6m grid, demarcated by major vertical fins. These created a vertical ordering device that defined scale and articulated the building façade. Each bay was then split into two 3m wide modules, resulting in generous bays of clear glass only broken by horizontal solid spandrels that extend up to 800mm from finished floor level to desk height. The fourth floor glazing was canted forward to enhance the oblique view of the building (from the north side) and reflect the trees beneath, while the fifth floor is white and set back, creating terraces on four sides of the building and contrasting with the colour of the rest of the building.

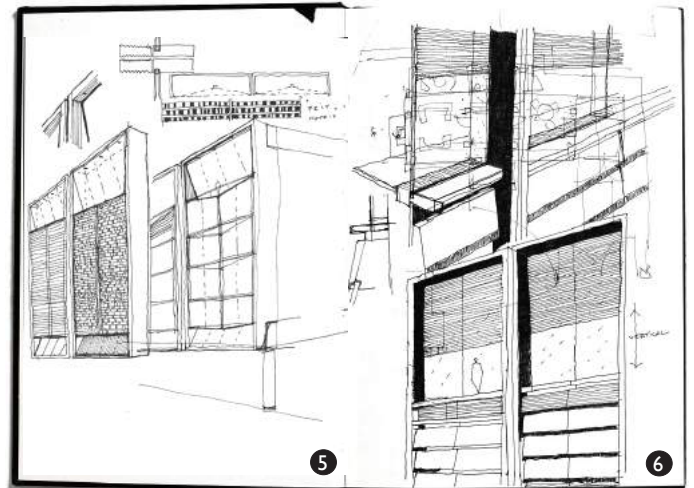
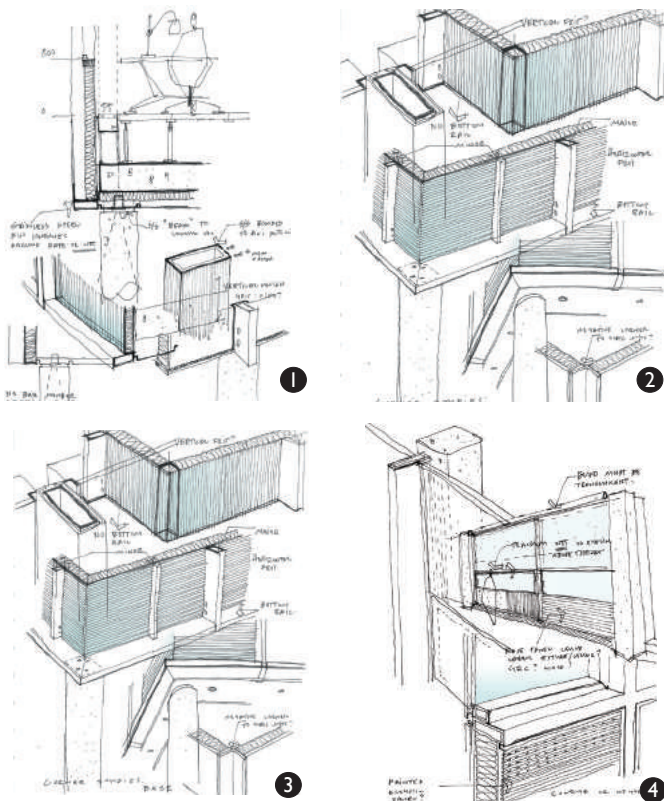
Glare from sunlight is reduced by fritting on the glass above eye level, with 15mm wide strips of light grey enamel alternating with 15mm strips of clear glazing. The incorporation of opening windows offered occupants direct control of the ventilation and temperature of their own office space.



Manufacturers Hanover Trust, Gordon Bunshaft / SOM, New York 1954



Crown Hall, Mies van der Rohe, Chicago, 1956



- 1 Sketch exploring openable windows and corner treatments
- 2 & 3 Sketches exploring the concept of a solid spandrel up to desk height
- 4 Sketches exploring window and spandrel proportions
- 5&6 Façade studies exploring the concept of major and minor fin modules

## Design Development Models



Massing study of existing building

Massing study showing extensions



Massing study showing north-east corner extension

Massing study showing extension and colonnade

Five-storey massing study model



Massing study showing additional fifth floor

Massing study showing internal courtyard extension

Massing study showing enclosed atrium & landscape extension



Models showing the final massing of all levels, plus the fifth floor set back

## Design Development Models



Façade studies exploring module proportions, frit banding and colour



Studies of the building's north-east corner Internal views of additional fifth floor level



Façade studies exploring the north elevation escape stair Study of the east elevation façade modules



Initial study of the entrance portal Models showing the developed entrance portal concept

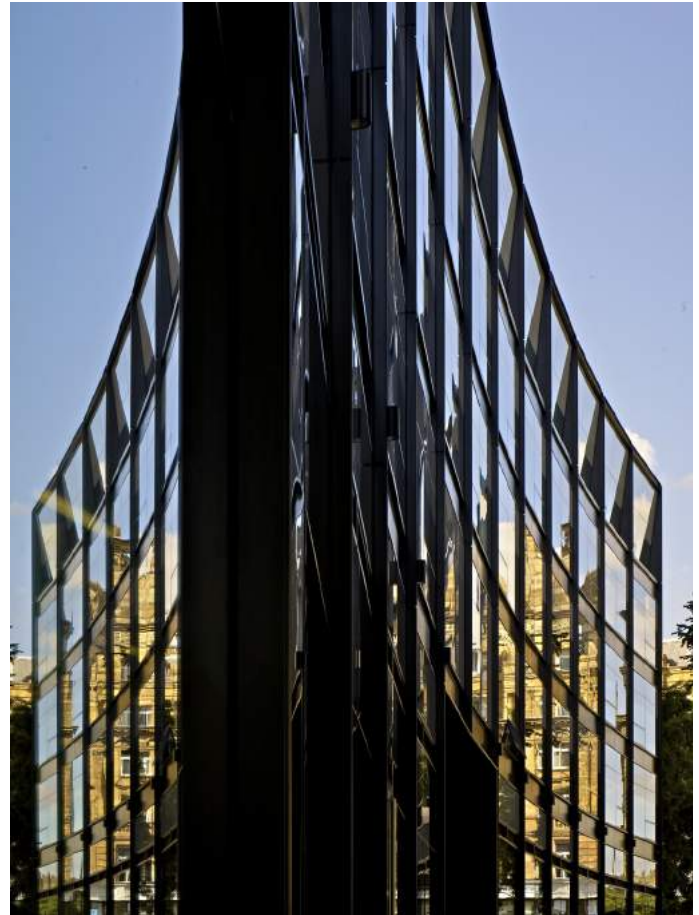
# Façade

The all-new façade (right) of the Angel Building is a high-performance double-glazed dark grey aluminium-framed curtain walling system with metal fins and spandrel panels.

The new cladding features large motorized windows measuring 3 metres by 3 metres instead of the more usual 1.5 metres by 1.5 metres. Opening windows allow tenants maximum flexibility in their choice of air handling – naturally ventilated or (with the windows closed) mechanically ventilated, cooled and warmed via the building’s low-energy displacement ventilation system. In addition, larger windows were integrated into the design to allow tenants to have views of the mature trees on all sides.

Low-iron glass is used throughout to maximise transparency and high performance coating and frit are incorporated to control solar gain. This precisely articulated cladding design and its scale and generosity were influenced by some of the great 1950s buildings in American cities.

The bespoke design of the Angel Building’s curtain wall was the product of an intense collaboration over several months between AHMM and Scheldebouw. The new cladding for the building was tested via full scale mock-ups at the factory of the façade sub-contractor Scheldebouw in Holland.



Reflection of façade onto ground floor glazing

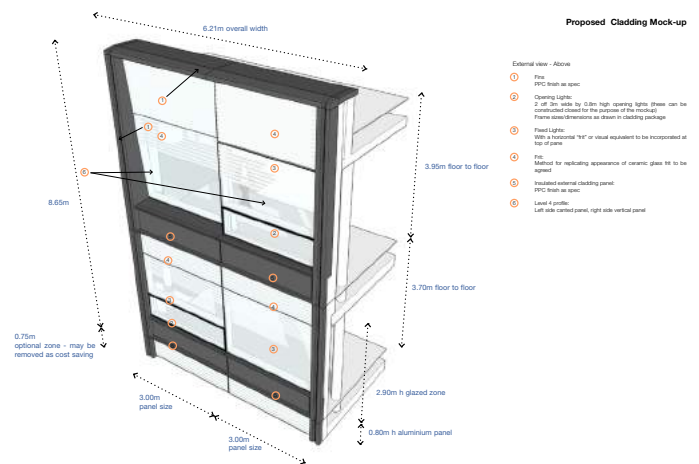
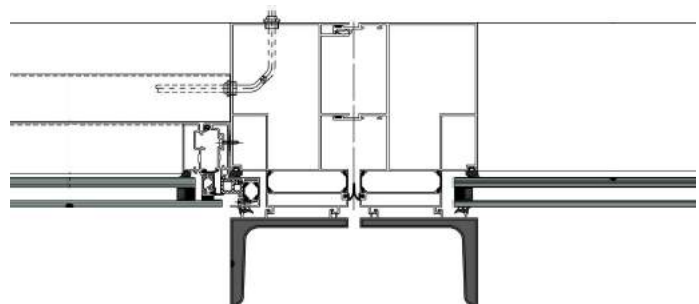


Diagram showing scope of 1:1 model of the curtain wall



Cladding detail



Photograph of the façade model, June 2008



## Entrance Portal

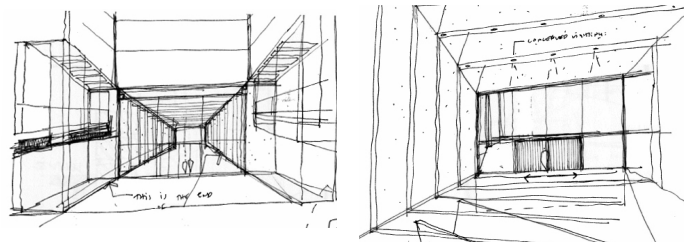
The existing building had three entrances, with the main one being in the corner of Pentonville Road and St. John Street.

The proposed building allows users to traverse the landscape at various points off St. John Street. All these informal entrances feed into one main opening into the building, located centrally in the east elevation.

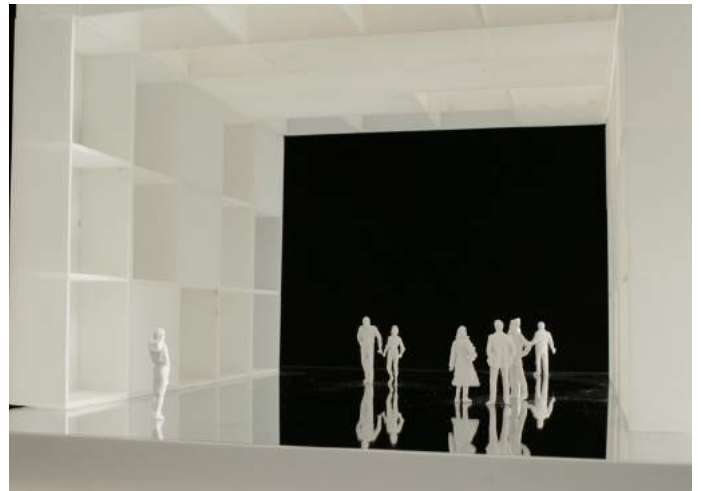
The entrance was always conceived as a deep cut into the building, a continuation of the outer skin into the inside of the building. Numerous studies were carried out to understand the transition from the entrance portal through the entrance hall and into the atrium.

The entrance portal is 12 metres wide and 5m deep on its deepest side. It is clad in aluminium rainscreen panels - maximum panel size 5x2m - in the same jet black colour as the rest of the cladding. Several colour mock ups were produced to explore the possibility of introducing colour to the portal to add prominence to it. However, it was soon clear that the presence of the entrance would be marked on the street by its depth and height. At night the entrance portal is lit from fittings recessed on the paving and its soffit.

The glazed screen is set back within the portal, reducing the length of the entrance hall. Staff and visitors enter through two large revolving doors or the fully accessible pass door. The glazed screen was designed to have minimal framing and be very transparent, allowing uninterrupted views through the entrance hall and into the heart of the building. To this purpose the glass has a low iron content and expand a maximum of 5x2m in size.



Early sketches showing the concept of a deep recess into the building



Early study model exploring height and depth



Development model exploring colour



Angel Building signage

## Final Façade CGIs



Final CGI view of the entrance portal from St. John Street



Final CGI view from the corner of Pentonville Road and St. John Street

## Site Photos

Installation began in May 2009, with the west elevation being the first to be completed. Up to sixteen panels a day were dropped straight into place by three tower cranes without the need for scaffolding.

The sequence of installation saw the south, north and east elevations from ground- fourth floor being clad consecutively. All panels were then inspected and adjusted so vertical and horizontal alignment within tolerances (+/-3mm over 3m lengths).

Due to the traffic coming in and out of the entrance area, the glass screen and portal panels were not brought to site until June 2010. The entrance screen has a strong vertical language in contrast with the horizontality of the rest of the cladding. 12no low iron glass sheets and 20no rainscreen panels were lifted into place in less than three weeks, followed by the installation of the revolving doors by Boon Edam and the glass pass doors.

The unitised panels were prefabricated complete with glazing, insulation and finishes. Fixing brackets were installed to the slab perimeter in preparation for receiving the unitised panels. Crates containing up to six panels each were delivered to site and stored near the relevant elevations and the roof.



May 2009, arrival of panels to site



Lifting of crates to store location



May 2009. Installation of first panel, west elevation



Unitised corner panel awaiting installation



West elevation in progress



North & east elevations in progress, August 2009



Lifting of panel for installation



Installation of ground floor panels



Entrance portal at practical completion, August 2010

## The Atrium

A forgotten service courtyard has been transformed into a grand top-lit atrium – complete with break-out areas and a café. Extending to almost 885 sq m, the atrium is at the core of the Angel Building, acting as a central hub. Workers and visitors all access the building via the entrance hall and into the atrium, from here the reception desk, lift cores, retail spaces, café, seating area, meeting spaces and concierge desk can all be accessed.

This central space is 12m wide and 15.5m long at the upper level, with many facilities accessed off the central space adding to the openness. The new atrium is five storeys high, approximately 25m and has an ETFE roof, allowing natural light to flood the space and into the offices beyond.

The architecture within the atrium is designed to emphasise the height and size of the space, the monolithic concrete structure is exposed, and the structural bays are double height, drawing the eye up towards the concrete grid of the roof structure. The beams within the atrium are 1800mm high, with the ETFE structure sat on top, obscuring the view from within the atrium of any plant on the roof.

At ground-floor level a giant truss allows many of the columns below to be removed. In turn, this creates open spaces which are designed to be used as retail units and waiting areas, 'ante' spaces to the main atrium. These are places where people can have lunch, grab a coffee or have an informal meeting. To create a more intimate feel the floor level is lower in these areas than in the main atrium, and they are separated from the central space by a bench that creates a divide but still allows views across the atrium.



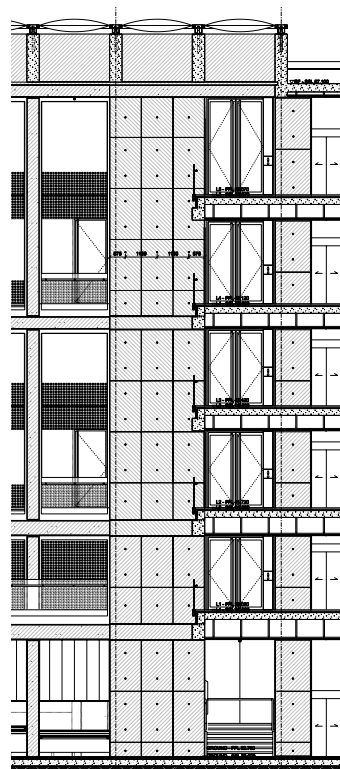
Existing courtyard



The atrium during construction, June 2009



Open spaces formed by the removal of columns



Formwork detail of atrium fin walls



Contractor placing formwork

## The Atrium

The atrium is an infill of an original external space, effectively a building within a building. The reinforced concrete frame is based on a 3.0m grid which wraps up and over the space. It is the rigour of the grid which sets the background for the other elements. The structure comprises columns, edge beams, roof beams, lift shaft walls and balconies. At the ground floor the structure sits on massive steel vierendeel trusses, which allows the structure to open up to create large break-out spaces for a cafe and lounge, giving the feel of a hotel lobby.

In turn, the lift landing balconies seek to divide the space again with a circulation slot that runs transversely across the atrium.

Balconies at the upper levels ease the junctions at the corners while a full height RC wall at first floor gives a solidity against the light glazed infills.



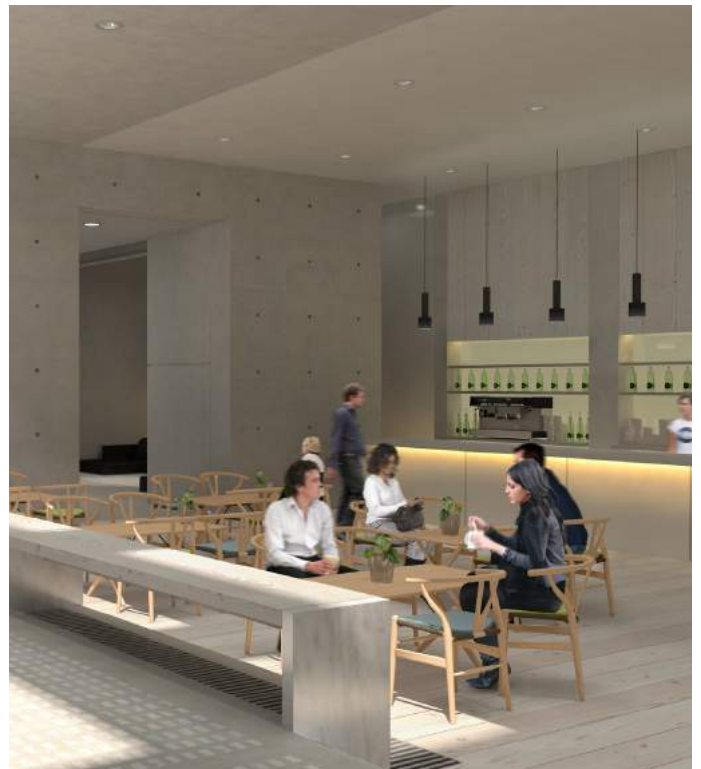
View from the ground floor lift lobby towards the atrium, July 2009



Final view looking towards the main reception, July 2009



Final view showing the mezzanine level in the atrium, July 2009



Final view of the Angel Kitchen, July 2009

### Concrete

AHMM have a great affinity to structural concrete and see it as one of the basic building blocks of any one of our collaborations. At the Angel Building the scale and proportion of the structural frame, together with the basic elemental feel of the expressed structure, gave us a visual aspiration for the space that could not be achieved in any other material.

Over a period of six months, work commenced on the construction of sample columns and mock-ups. This process was intended to ensure that the correct choices were made when deciding upon the necessary raw materials to achieve the desired appearance and surface finish. In principle, it was deemed appropriate and indeed specified, that self-compacting concrete (SCC) would be utilised to provide all the bare, visible concrete in the entrance and atrium.

SCC contains 36 per cent pulverised fuel ash replacement (PFA) which was a very important component in achieving the specified colour and finish. Standard concrete requires agitating by operatives to remove voids, so self-compacting concrete, though more expensive, is often used where access is difficult. In the case of the Angel Building, it was chosen for the fine architectural finish it produces.

If used to its full potential, concrete is an exceptionally efficient material for forming structures that meet the demands of modernity. In its rawest form, a material often deemed as harsh and cold has produced a building of exceptional quality that will stand the test of time.

### Glazing

The glazing is designed to provide a strong visual link with the atrium and to let in as much light as possible into the office spaces. The double height proportions of the glazing helps to increase the sense of verticality in the space.

The detail between the concrete structure and the glazing is key. Each unit is structurally glazed to allow the glass to sit directly next to the in-situ concrete without an additional frame in between. A deep shadow gap allows construction tolerances to be incorporated.

A frit pattern is included on the glass to provide a zone where below desk items can be located without being fully visible from the public realm. In addition, the frit also performs the function of obscuring the slab edge on the double height units.

Recessed lighting is included at the base of each panel to allow articulation of the glazing panels during the evening.

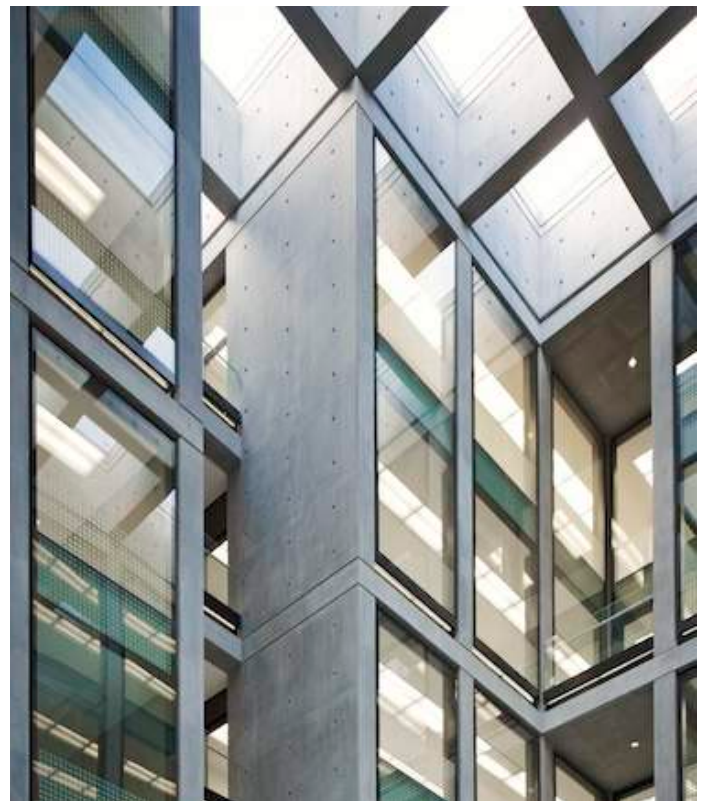
### Formwork

Redeveloping the site involved the construction of a atrium culminating in a complex framework of reinforced concrete roof beams.

PERI's Vario formwork system was specified, which allows custom formwork of any configuration to be constructed using a small number of special steel walers and girders. Concrete contractor, Getjar, procured a series of over 7000m<sup>2</sup> prefabricated Vario formwork panels for use in the construction of the frame.

Because SCC does not begin to stiffen during pour as standard concrete does, the formwork has to be able to support the full weight of the concrete. This means the formwork has to be heavier to prevent flexing. All forms were 'double faced' with the form face 'rear fixed' to ensure that no blemishes from nails, screws or pins were apparent. MDO 333 was chosen as being the plywood to the formed face.

The complexity of the refurbishment meant that each core was slightly different due to the set tie points and architectural finish required. By using PERI's DK cones we were able to further enhance the architectural feature of the ties. Having the specialised panels made up in assembly halls guaranteed a quality-assured finish to the formwork under controlled conditions, which cannot be replicated on-site.



Atrium cladding alongside concrete fin walls



Tie bolt hole detail



Pour joint detail

## The Roof

One of the most important design aspects of the atrium design is controlling the quality of natural daylight coming through the roof.

Early on during the design of the Angel Building, AHMM and Derwent London made a decision to make the roof structure one of the main features of the atrium. The full-height atrium rises up through all five floors to a oversized roof structure providing a deep coffered layer beneath the energy-saving ETFE inflated 'pillows'. The in-situ concrete frame softens the light and provides deep shadows across the face of the offices.

The roof brings order and light to the heart of the office floorplates.



Atrium roof coffer

## Lift Lobbies & WCs

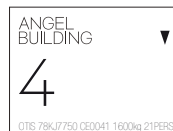
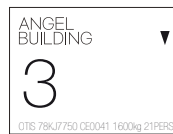
The lift lobbies are located to either side of the atrium within the circulation 'slot' and are set back to express the 25m high shear walls which run the full height of the building. The structure of the lift shafts is expressed within each lobby and a bespoke call panel is intergrated into the central bay which shows the current location and movement of each lift in the building. The standard 3m grid of the atrium is stretched at the lobbies to 3.5m providing a sense of generosity - the fifth floor lobby is further enhanced with a skylight adjacent to the atrium.

### Lift Cars

The building is served by eight 21-person lift cars, one of which also serves as a dual entry fire-fighting lift. The sense of space in these large lifts is further enhanced by increasing the internal height to 2.5m. The design of the finishes in the cars seeks to remove extrenous detail to provide and calm and simple enviroment. Back lit call buttons are arranged within the back-painted glass walls, and a TFT screen with bespoke graphics provides information on each floor level and other essential information. The terrazzo flooring from the lift lobbies is contiued in the lifts.

### Toilets

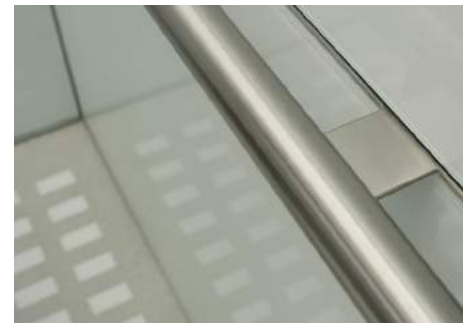
The toilets within the building are arranged around the existing stair cores to minimise wasted floor space. Rather than individual sinks, a single trough element is formed from Corian which sits within a bay further defined by the full width mirror and concealed lighting. Cubicles feature a full height doors with hinges that keep them closed after use and plasterboard walls for acoustic separation. All fittings are specified to keep water used to a minimum and all toilets use recycled water from the roof to flush. In the gents, waterless urinals further reduce water useage.



Lift car indicators



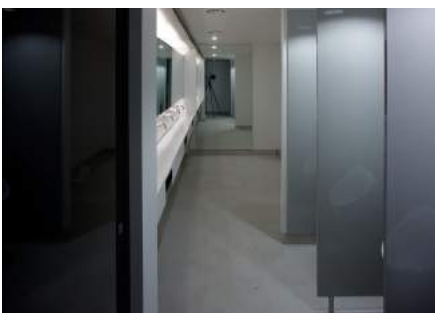
Bottom wall lining detail in the lift cars



Lift car handrail fixing detail



Lift car button details



Male toilet



High gloss laminate cubicals in female toilets

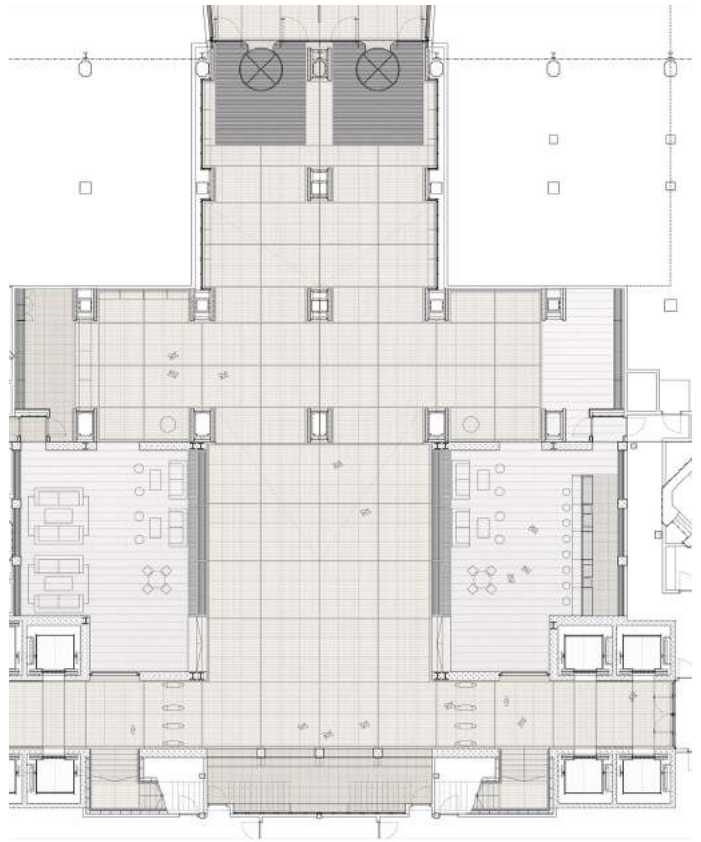


Second floor lift lobby view towards the atrium (CGI)



## Terrazzo Mix and Marble Inserts

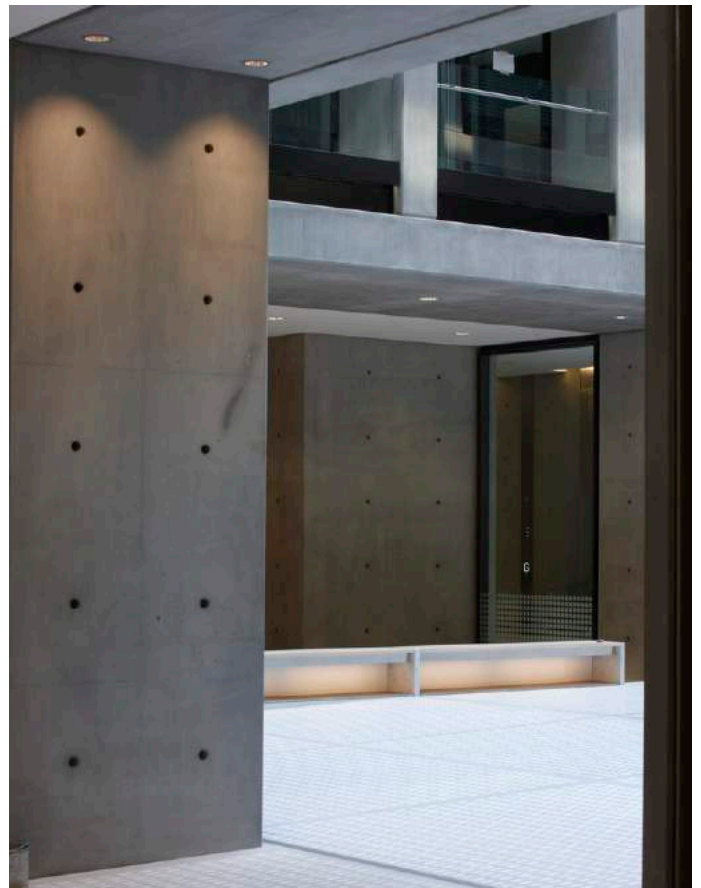
The flooring in the atrium, the mezzanine level and the lift lobbies of the Angel Building consists of pre-cast terrazzo tiles with white thassos marble inserts. The terrazzo face is approximately 12mm thick and consists of two parts mixed marble aggregates to one part tinted cement cast monolithic onto a 38mm concrete background. The face layer of the tiles has Thassos marble inserts cast in. The face has been ground, regouted and polished to a 120 grit finish.



Atrium flooring study, September 2009



The atrium

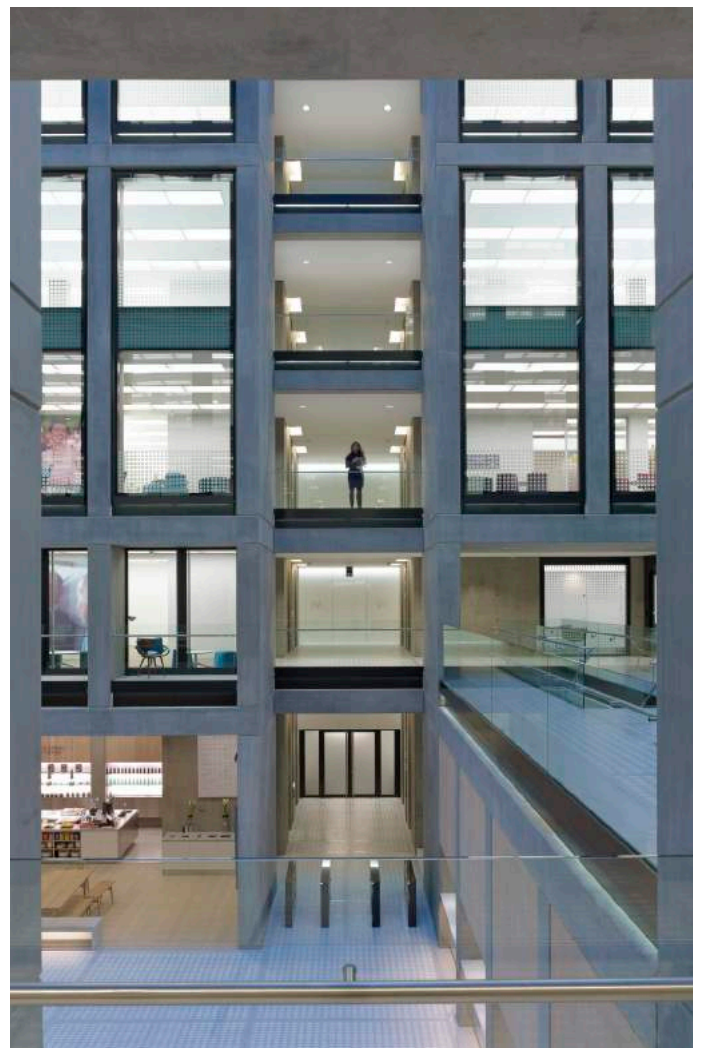


White thassos marble flooring in main atrium

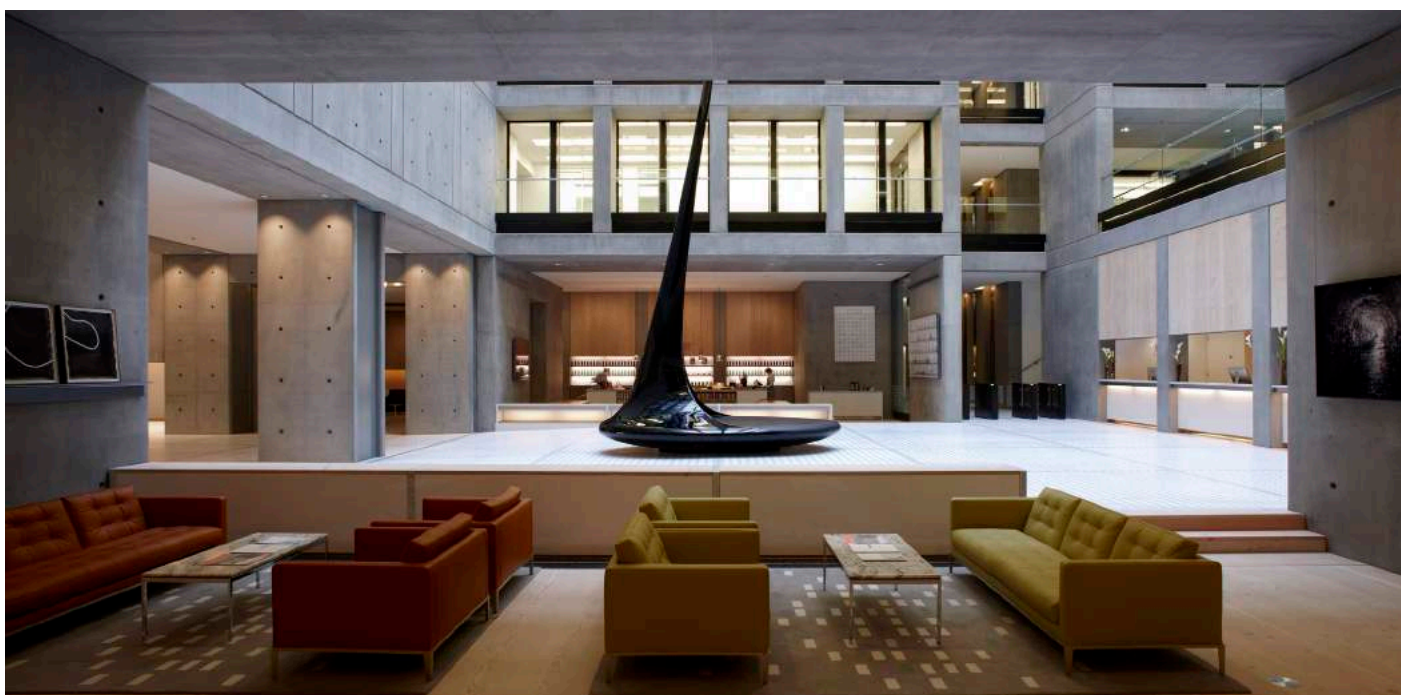
## The Angel Kitchen



The Angel Kitchen on the ground floor corner of the atrium



The atrium



View of the atrium from the main seating area looking towards the Angel Kitchen

## Ian McChesney

"The brief was simple, to propose an artwork for the atrium of the angel building that provides an opportunity for public seating and interaction. The atrium was to be an impressive space rigorously detailed and beautifully crafted so I was aware that a light touch might be the best approach. A rough model of the atrium was constructed in the office to help us understand the shape and nature of the space. I wanted the piece to be fluid in form, in contrast with the very rational nature of the surrounding building. I wanted the shape to be generated through a real process rather than invention. I remembered how treacle glides off a teaspoon when you try to lift it from a tin, what was elegant about the treacle was that as it fell from the spoon, a beautiful tapering curve form was generated. So in an instant the shape of the piece was born, the elliptical spoon shape would provide the seat and base, the long strand the spar rising up the atrium. The title of the piece 'Out of the Strong Came Forth Sweetness' appears as a motto on the Lyles treacle tin and is in turn a biblical reference from chapter 14 of the Book of Judges."

The piece is made from carbon fibre which is both very strong and lightweight. The piece is 22 metres high and narrows to 100mm diameter at its mid point, and 25mm at its tip. It has a structural steel core stopping at a height of 5 metres from the ground. It was installed in three sections, the base was one and the mast came in two halves.



Artistic intent



Complete carbon installation by Ian McChesney Architects



Delivery through main entrance on St. John Street



Installation of base element in progress

### Teresita Fernandez

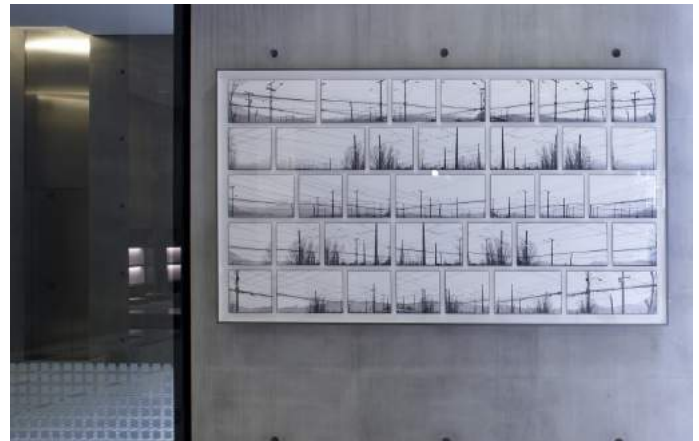
The New York-based, MacArthur fellowship-winning artist is known for creating expressive pieces like Epic. Made by thoroughly applying dozens of circular graphite marks to the white plaster surface with a fingertip, then methodically smudging the marks downward into tails and mounting a nugget of pure graphite to the wall on top of each mark. The semi three-dimensional area suggests a meteor shower, a grouping of clouds or a mountainous landscape. Epic engenders an unmistakable sense of presence. It suggests a natural phenomenon but also suggests the manual labour required to create such a piece.

The delicacy of the fair faced concrete in the Angel Building atrium meant that the walls could not be penetrated to hang the photography. It was then decided to use one of the features of the concrete, the tie bolt holes to fix the hanging system. This design meant that flexibility could be kept without damaging the concrete surface. The rail consists of a metal rod cast into the existing tie bolt holes with resin bonded cement. A chemically treated aluminium rail is attached to the rod. Wire hangers allow the system to be adjusted to any picture format possible.

In addition to the hanging system a shelf version was designed to display smaller pieces. The fin profile of the cladding was used to form the shelves.



Detail of 'Epic' (August 21) 2009



Sachiyo Nishimura, Landscape/Fiction 4, 2010



Teresita Fernandez, 'Epic' in the Angel Building entrance hall. Artist Teresita Fernandez who was awarded a MacArthur Fellowship in 2005, makes pieces that reflect the landscape as she sees it.

## Offices and Marketing Suite

It was a priority of the design team that the feel of the office space was greatly improved upon that of the existing building. Numerous design studies were carried out considering the following two key factors: the need to maximise floor to ceiling heights and the structural configuration of the existing frame with expressed column heads and downstand beams, which created great variations to the ceiling conditions.

The office floorplates are large, divisible, and capable of various open-plan and part-cellular layouts, all focusing on the hub of the atrium. The floor plates are designed to capitalise on the large, 6m glazed bays which provide deep natural light penetration and are supplemented with an intelligent low energy DALI lighting system (right).

Temperature is controlled via low velocity, under floor displacement which liberates the office space from internal ductwork and low ceilings.

In August 2009 Derwent London commissioned AHMM to produce a design for a marketing suite in the fifth floor of the building. A single quadrant of the fifth floor - covering approximately 375 sqm - was to be fitted out and dressed to demonstrate the full potential of the new office space.

The proposed scheme attempted to show key office typologies, such as partitioned and open plan office space; and key office elements such as reception, kitchen and display area. The main meeting room projects into the atrium and overlooks the East side of the space, enjoying fantastic and close views of the roof coffer.

The palette of materials used matched that of the rest of the building. Flooring and built-in furniture used Dinesen timber, all partition framing was black aluminium to match all other metalwork, and the columns were clad with lacquer panels to mirror the lift lobby materiality.



Selected Zumtobel Freeline & Lightfields fittings

Lighting mock up testing numerous lighting options



Reception waiting area and partitioned offices to the right



Main seating area with office space behind

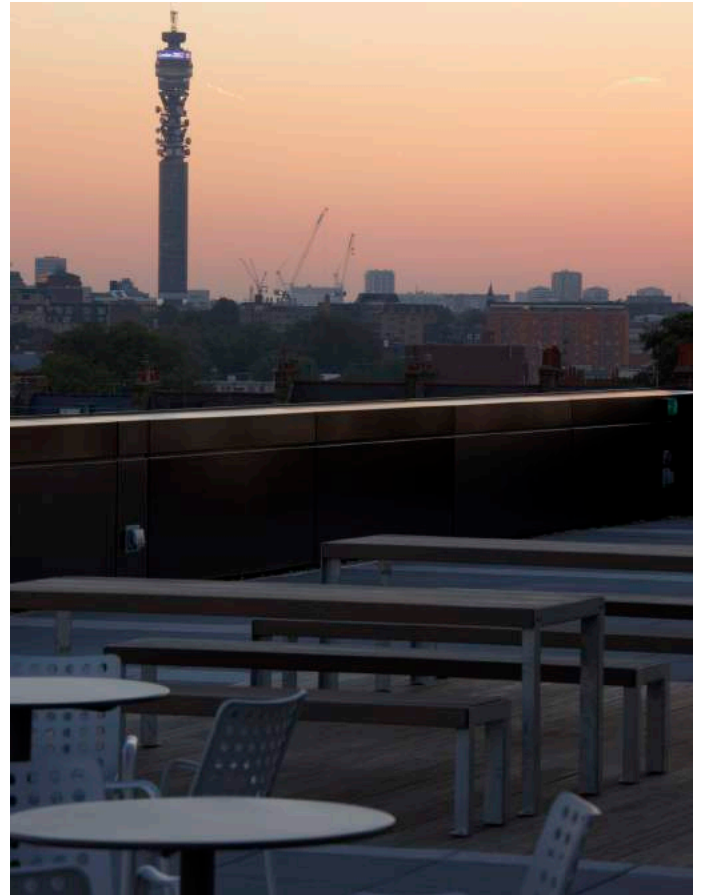
## Terraces

The Angel Building is located at the top of St. John Street, and as such enjoys a privileged position at the top of this small hill. A new fifth floor of office space has been added. Despite being only five storeys high the building boasts views across London on all four elevations and these are best enjoyed from the extensive fourth and fifth floor terraces. The terraces cover an area equivalent to ten tennis courts.

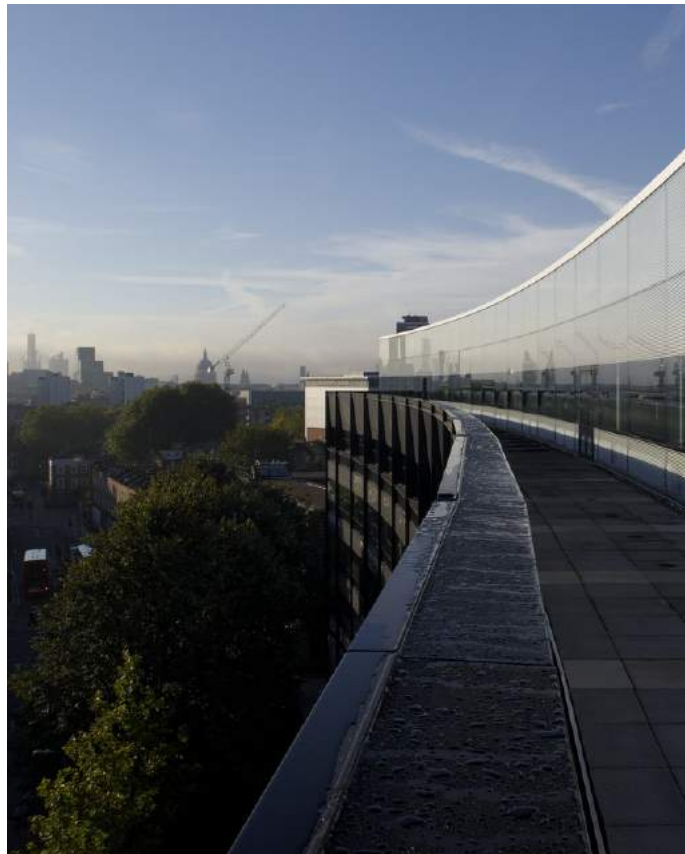
Notably the west elevation overlooks the City, St Paul's Cathedral, Big Ben, Houses of Parliament and other prominent London landmarks. The fifth floor terrace was designed so it could be split into three separate zones; a communal area for use by all tenants, accessible from the south lift lobby; a fourth floor area accessible via a staircase to be retrofitted within one of the rooflight "pop ups" and a fifth floor area.

The vast expanse of the terraces meant it was necessary to create zones where all manner of activities could be accommodated. The existing roof slab did not permit the use of green roofs or similar due to their loads so planting was limited to bowl shaped carbon fibre planters which mirror the finish of the "Out of the strong" atrium art installation.

The gazebos create shelter from the sun and house lounge areas with wicker sofas. Some informal meeting tables were also arranged around the planters to create an area of seating that would give more privacy to users.



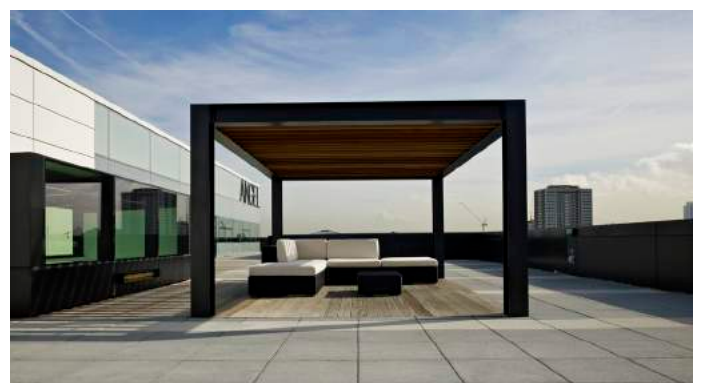
Sky terraces



East elevation looking south towards the city



Sky terraces with gazebos and planting



Sky terraces with gazebos

## Landscaping

Reinforcing the historic grain, creating a high quality public realm and providing enhanced biodiversity of this part of Islington are core concepts of the landscape scheme.

The neighbourhood has become one of London's liveliest villages, with its markets, independent shops, restaurants, theatres, cinemas and transport links making the Angel a social as well as a business focus, linking down St. John Street to the companion village of Clerkenwell.

New perimeter landscaping by J+L Gibbons creates a cooler microclimate between street and building, with a mix of mature new trees and sculpted groundcover. The overall effect is to help reconnect the public and private realms in a way that has been missing for 25 years.

On Pentonville Road the previous historic plot boundaries are loosely reflected with sections of native clipped hedging dividing parterres of groundcover providing clear visibility to the building frontage. Between the two existing groups of wingnut trees to the east and west, a new line of high clear-stemmed London plane in regular formation provides rhythm on the street.

Portuguese granite has been used for the paved areas on St. John Street and Pentonville Road. Defining bands of paving slabs frame 60mm x 60mm setts to create large squares that reflect the atrium paving bands, and run on the structural grid of the building. On the west and south boundaries the landscape is designed to allow the field layer to develop its biodiversity value through design and management to contrast with the clean architectural skin. Here a significant number of new native trees have been planted, ensuring adequate distance between new trees and party walls. These trees will, in time, enhance the outlook from properties on Myddelton Square and Chadwell Street and, together with the existing trees, will help to mitigate the visual impact of the building in the Conservation Area.

A core principle of the landscape scheme has been to enhance the tree resource of the site to create a more sustainable tree cover of a better age balance and contribute to the quality of the public realm and the biodiversity of the site well into the future. The new trees are arranged between existing tree groups and these will gradually merge as the new trees fully mature.



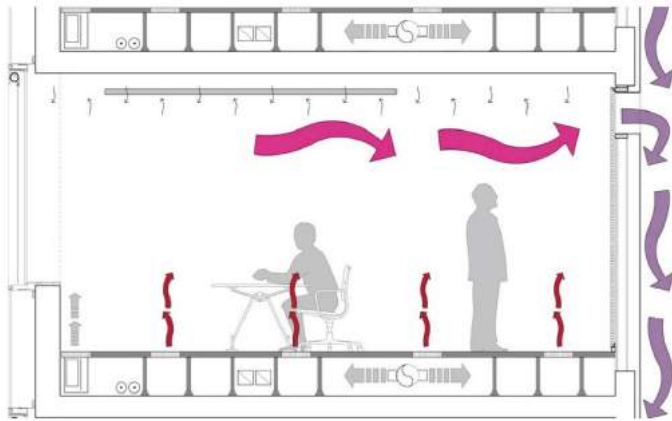
High level plan showing tree canopy. Existing trees are shown in light green, newly planted trees in darker green



Low level plan showing the hard landscaping and planters



New external landscaping



Heat loss diagram

### Energy Efficient System Design

Energy performance was key to delivering a high end building which would be welcomed by the local community. To achieve this much thought was put into reducing energy consumption through passive building design, energy efficient system design and renewable energy technology. These measures have achieved an approximate carbon saving of 20%, and a BREEAM Excellent rated building.

The Angel Building is serious about reducing energy usage, hence carbon emissions, hence running costs. It does this in three ways: firstly by minimising embodied energy in its structure, secondly by being equipped with a full range of energy-saving measures, and thirdly by being well-placed for public transport, and cycle-friendly.

### Passive Building Design

Careful consideration was given to minimise the effect of solar overheating to the office areas by providing a façade with a very high level of solar control. This was achieved by combining high performance glazing with fritting to reduce solar energy being transferred into the space. In addition to ensuring the necessary compliance with the Building Regulations thermal performance criteria, this has also enabled a cooling system to be installed that offers high occupancy comfort benefits combined with low energy demands.

The overall insulation value of the façade is significantly better than the current Building Regulations demand.

### Clever Concrete

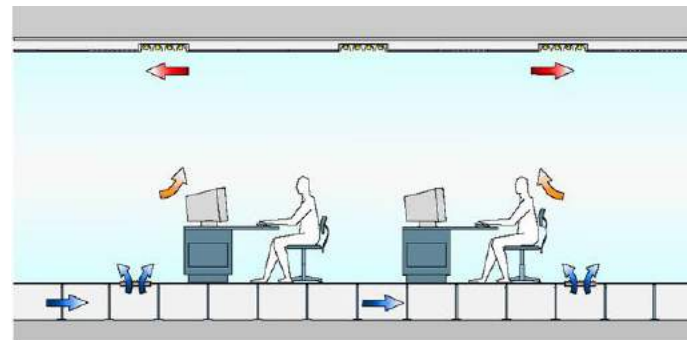
Part of the energy strategy is the way the Angel Building re-uses the existing concrete frame of the earlier building on the site. This avoids the waste of energy and materials you get in a total demolish-rebuild scheme. New concrete, as seen in the atrium, uses 'pulverised fuel ash' – a useful by-product of power stations – which reduces its embodied energy and improves appearance. It is sourced from a concrete plant less than a mile from the site.



The solar coating in the glass gives it its blue hue

### Displacement Ventilation

The office areas are ventilated and cooled using a displacement ventilation system. The system includes roof mounted air handling units feeding each core. This displacement system provides the opportunity to use outside air for cooling, when suitable external ambient conditions permit. This is commonly referred to as 'free cooling', as the chiller plant is not required to operate during these periods. Free cooling will be available for approximately 80% of the buildings standard operating hours. This has created a very energy efficient and sustainable building retaining upto 65% heat recovery.



Displacement ventilation system diagram

### Low Energy Lifts

Otis Gen2 lifts are made from recycled materials, with an intelligent 'flux vector' control system which responds to load and speed. Using 50% less energy than conventional lifts, these even generate surplus power from braking energy which is fed back into the building's electrical system. They are also very smooth-running.

### Water Cooled Chillers

The building cooling needs are served by two water cooled chillers with high seasonal efficiencies. Heat rejection from the chillers is achieved by cooling towers located at roof level of the building. This method of generating chilled water is recognised as a high energy efficient design, particularly when applied in large commercial office buildings.



## Variable Speed Pumps

Variable speed controls for the heating and cooling water circuits circulating only the volume of water required to match the required load and for correct plant operation.

A study undertaken by BRECSU for the Department of the Environment suggest that energy saving of 66 to 86% of pumping can be achieved in such installations.

## Light Fittings and Controls

Lighting controls are provided to ensure the efficient operation of the lighting scheme and avoid its unnecessary use. The lighting design will incorporate high efficiency fittings that will aim to exceed the requirements laid out in Part L2A of the Building Regulations and circuits set out in order to allow daylight at the perimeter.

All luminaires will be provided with high frequency electronic control gear. In addition, fittings installed adjacent to the building perimeter will be controlled by daylight sensors which will switch and adjust the lighting levels in relation to external environment to reduce energy use.

## Rainwater Harvesting

A rainwater harvesting scheme serving toilet flushing has been installed to increase the sustainability of the Angel building. This system not only reduces energy at water authority's central pumping station, but also reduces the buildings reliance on the local supply.

## Renewable Energy

The buildings renewable energy contribution was achieved using a biomass installation to produce hot water used for heating and the hot water demand. Two bio-mass boilers located within a ground floor plant room are fed from an adjacent fuel store. The bio-mass installation gives the building a 15% renewable energy contribution.

## Renewable Fuels

Two biomass boilers provide 100% of the heating demand, reducing dependence on any single fuel source. The wood pellets used as fuel can be sourced locally and the ash is biodegradable and soil-enriching.

## Water Savings

The wide roof and terrace areas of the Angel Building are ideal for catching rain, and that's just what they do. The harvested rainwater is filtered and used for toilets, window cleaning and bin washing. Toilets and taps are water-efficient, and urinals are waterless. All in all, the building saves the equivalent of 455,000 WC flushes per year.

## Sustainably- Sourced Timber

It is Derwent London's policy on all its buildings to use only timber from renewable sources.

## Intelligent Lighting

This is one of the most important contributors to lowered energy demand. The Angel Building deploys a high quality, technically advanced lighting system. Incorporating a 'DALI system' (Digitally Addressable Lighting Interface), it is readily adaptable to different levels of daylighting, occupancy and changes in space planning. It's clever and it saves energy.

## Biodiversity

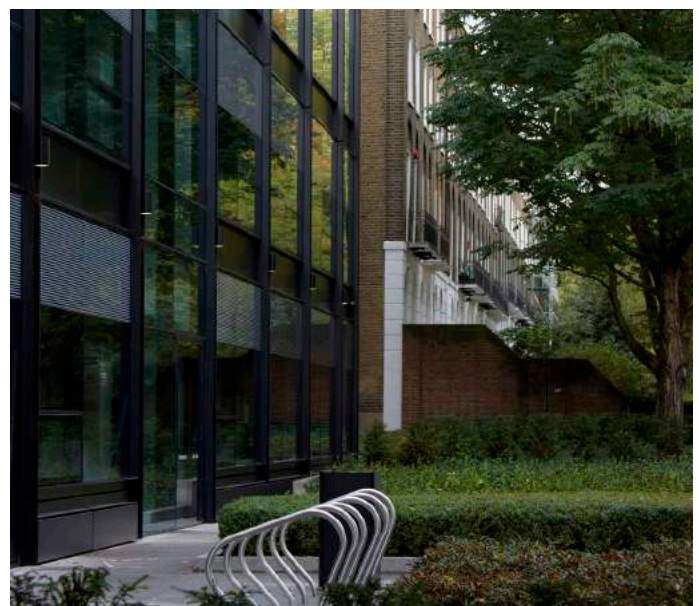
Existing mature trees have been retained and new semi-mature trees and a meadow habitat have been added to the landscape around the building, which is designed to create an agreeable micro-climate between streets and building. Bat flight corridors are protected.

## Public Transport and Cycle Scheme

When occupied several thousand people will work at the building and a significant amount of carbon generated during the life scheme will be through energy used during their journeys to and from work. In response, a number of measures have been taken to keep this to a minimum:

- > Minimum of 5 car parking spaces, including wheelchair accessible spaces) and charging points for electric vehicles
- > A secure bike store plus an additional 30 bike spaces
- > Each WC core contains a wet room

By virtue of its location, the Angel Building also has excellent access to public transport with a bus stop directly outside the main entrance and Angel tube stop two minutes walk away.



External bike racks

### Key Data

- > Gross Internal Area (GIA): 357,625ft<sup>2</sup>
- > Net Internal Area (NIA) : 264,363ft<sup>2</sup>  
(Includes 13,500ft<sup>2</sup> retail plus 22,000ft<sup>2</sup> terraces)
- > Net to Gross overall : 74%
- > Typical floor net to gross : 85%
- > Wall floor ratio : 0.24
- > Total build cost : £186ft<sup>2</sup> (to cat A)
- > Cladding cost : £850m<sup>2</sup>
- > Facade area : 7,222m<sup>2</sup>
- > Facade u-value : 1.5W/m<sup>2</sup>K
- > Light transmittance : 63%
- > Glass shading : 40% (by coating)
- > Facade colour : RAL 9005 (jet black) 30% gloss
- > Concrete : 1700 cubic meters of visual concrete
- > Concrete mix : 40% Pulverised Fly

### Floor Heights

Based on a typical office floor:

- > Floor to floor 3,700mm Including: Raised Floor Services Zone (overall) 450mm (varies according to existing structural frame)
- > Floor to finished ceiling (typical) 2,950–3,250mm (varies according to existing structural frame)
- > Suspended lighting zone 250mm (included in above figure)
- > Structural zone 300mm (varies according to existing structural frame)

### Occupancy Levels

For the purposes of calculation, the following occupation levels have been used:

- > Ventilation/servicing strategy 1 person / 10 m<sup>2</sup>
- > Means of escape 1 person / 7.5 m<sup>2</sup>
- > Lifts 1 person / 12 m<sup>2</sup>  
(with 15% absenteeism)
- > Toilet provision 1 person / 10 m<sup>2</sup>
- > Travel plan 1 person / 10 m<sup>2</sup>

### Imposed Floor Loadings

Structural floor imposed loadings are as follows:

- > Retail areas 5.0 KN / m<sup>2</sup>
- > Office areas 3.0 + 1.0 KN / m<sup>2</sup>
- > Lobby areas 4.0 KN / m<sup>2</sup>
- > Plant rooms 7.5 KN / m<sup>2</sup>
- > Roof plant areas 7.5 KN / m<sup>2</sup>

### Lifts

Eight passenger (21 occupant) lifts, in two banks, are located adjacent to the reception area and serve all floors. One of these also acts as a firefighting lift. In addition, two goods lifts (one of which serves the roof-top plant area) and a dedicated firefighting lift are also provided.

### WCS

Two male and two female toilet cores are provided on a typical office floor, each with a wheelchair accessible toilet incorporating a shower area. On the ground floor, visitors toilets are located in the reception area and separate-sex shower and changing facilities for cyclists are located close to the cycle store.

### D.D.A

The building offers level access to the main entrance and all occupied floors and has been designed to conform to Part M of the Building Regulations and BS 8300:2001 Code of Practice – ‘The design of buildings and their approaches to meet the needs of disabled people’.

### Plant Areas

Two major plant areas are located in the building. The first, at ground level, houses boilers, generators, chillers and the rainwater harvesting system, and the second at roof level contains air handling units and cooling towers.

### Servicing/Parking

An internal loading bay for two vehicles is located to the rear of the building with access off Chadwell Street providing back-of-house connections to both goods lifts serving all office areas.

Two wheelchair accessible and three standard parking spaces are provided for visitors. A secure enclosed cycle store with 120 spaces is also located to the rear of the building. In addition there are 30 cycle spaces on St John Street for visitors and Barclays London cycle-hire scheme is situated in Chadwell Street, adjacent to the Angel Building.

# Site Photos



June 2008



March 2009



July 2009



October 2009



February 2010



April 2010

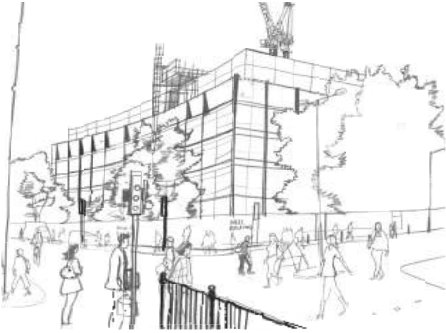


June 2010



August 2010

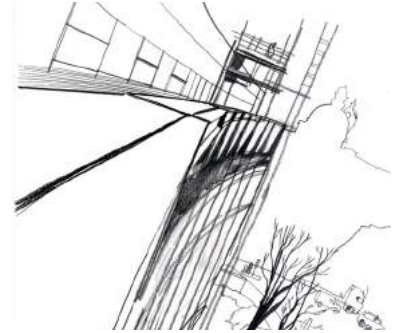
# Howard Read Site Illustrations



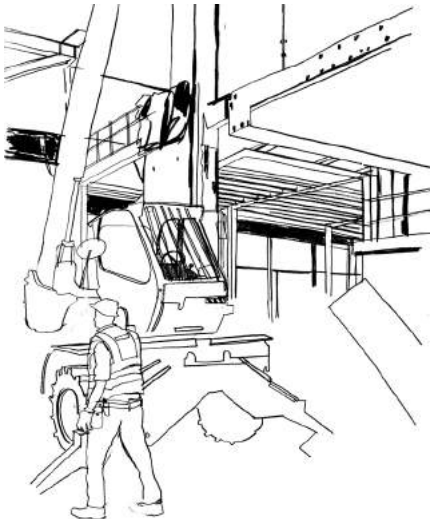
External View



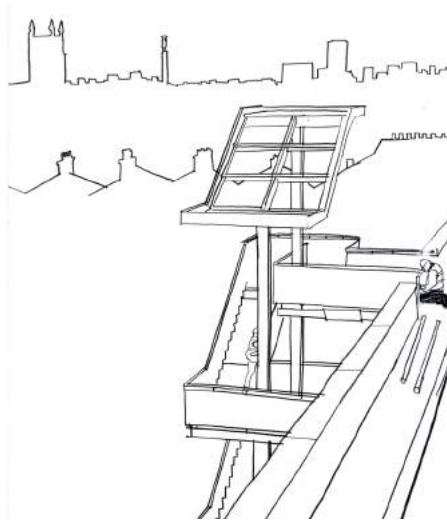
Entrance Hall



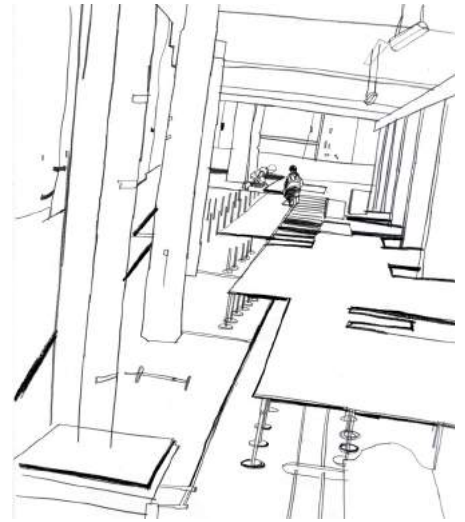
Façade



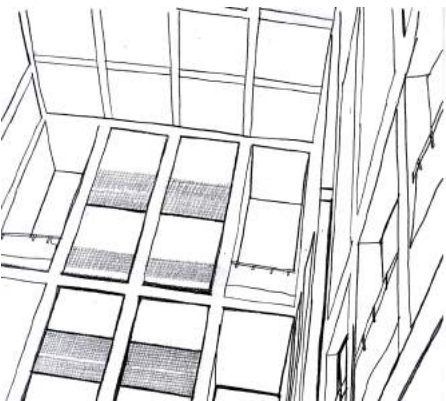
Atrium



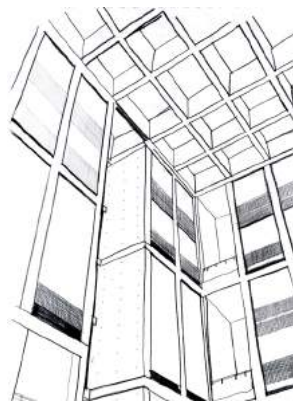
South Emergency Stair



Office raised floor



Internal Cladding



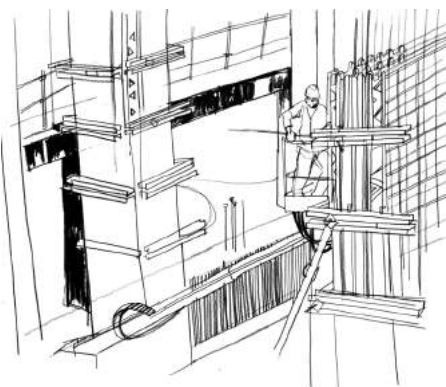
Atrium Roof Coffers



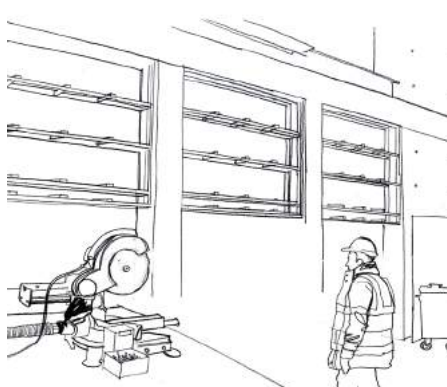
Façade



Atrium Roof Coffers



Concrete



Reception



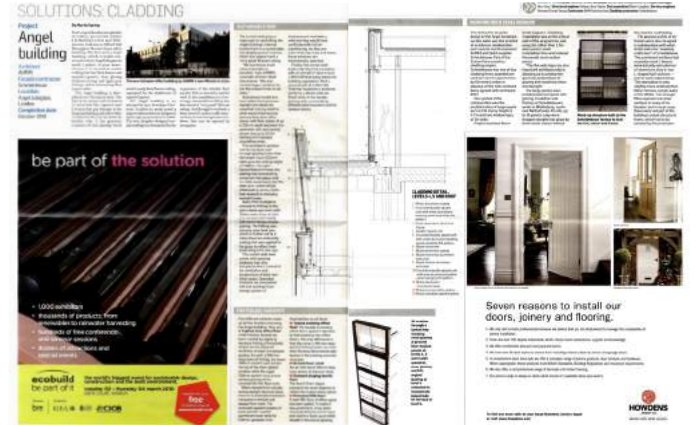
Entrance Hall

Related Press

Space Magazine  
'The Angel Building'  
January 2010



BD  
'The Angel Building'  
15th January 2010



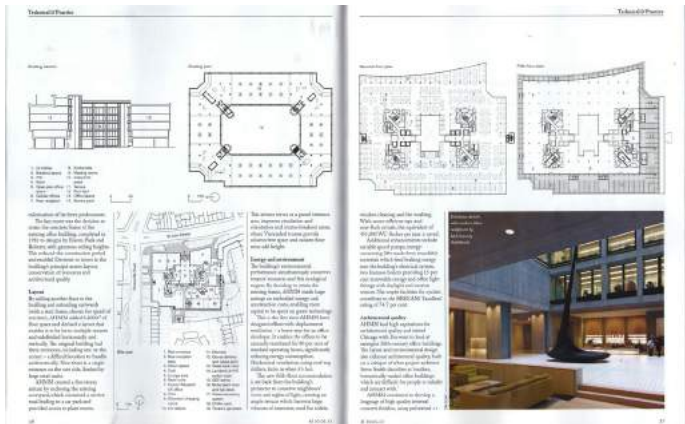
PERI, Scope  
'An Angelic role for PERI in London'  
July 2010



Architecture Today  
'Building, Modified Modernism'  
February 2011



**Architects' Journal**  
**'The Angel Building'**  
 10th February 2011



**Concrete Quarterley**  
**'An Angel Reborn'**  
 February 2011



**Concrete Society**  
**'The Angel Building'**  
 March 2011



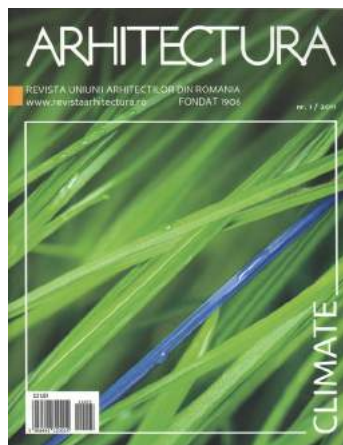
**On Office**  
**'Angel Delight'**  
 March 2011



**Architecture Today**  
**'Rehabilitation and**  
**Redesign of an office**  
**building in London'**  
 March 2011



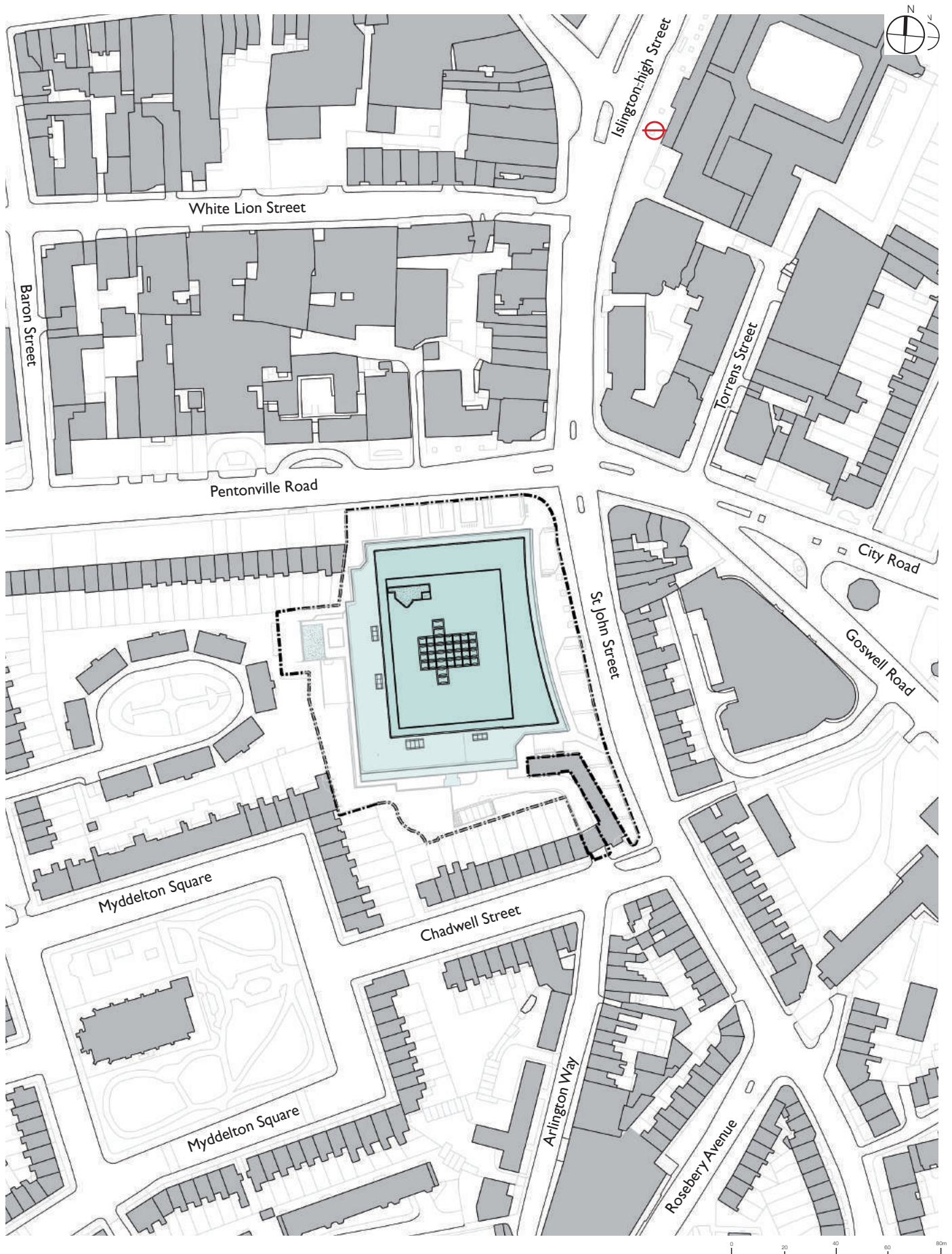
**Architectura, Romania**  
**'Angel Building'**  
 May 2011



**AJ**  
**'The Stirling Prize**  
 September 2011

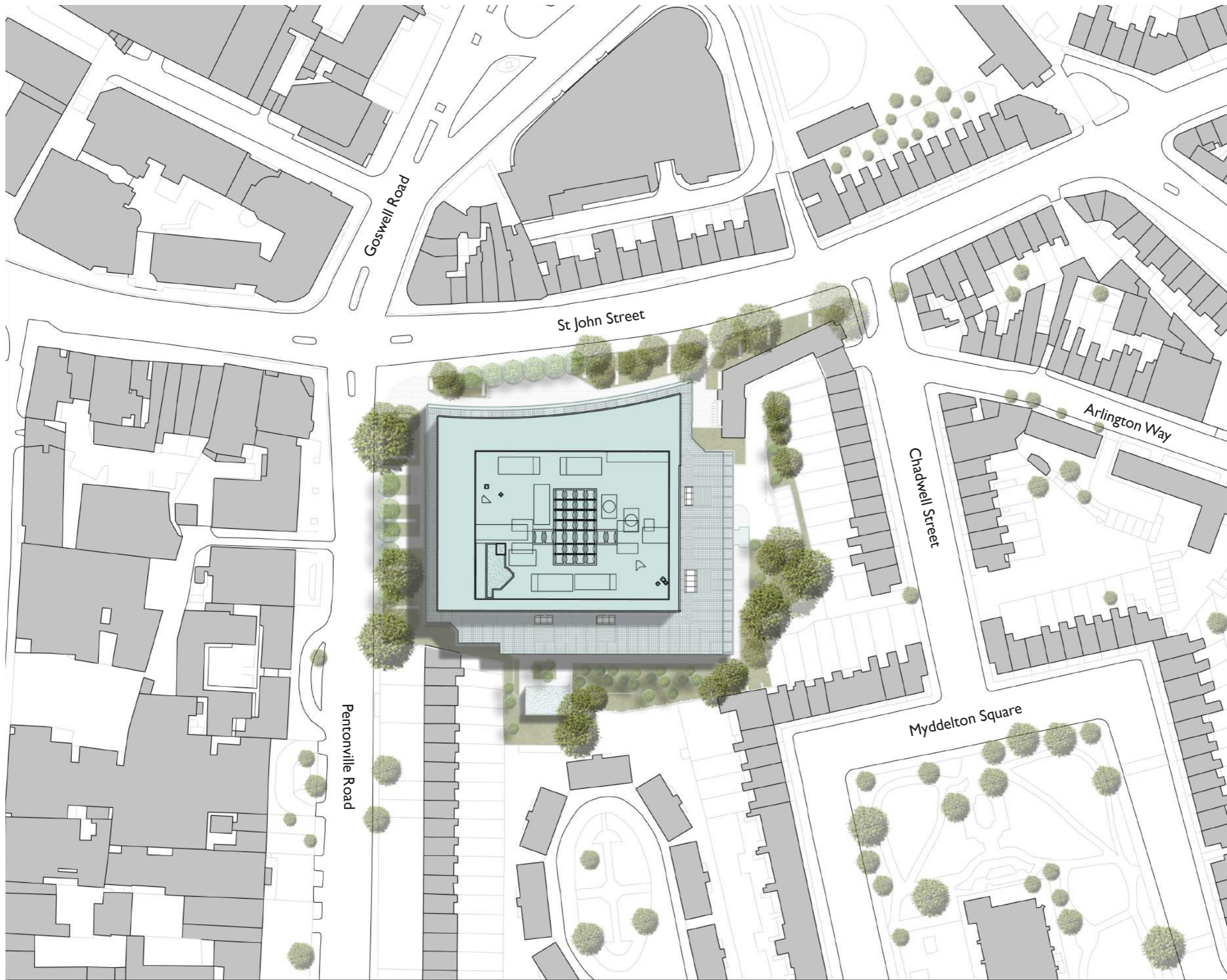


# Drawings



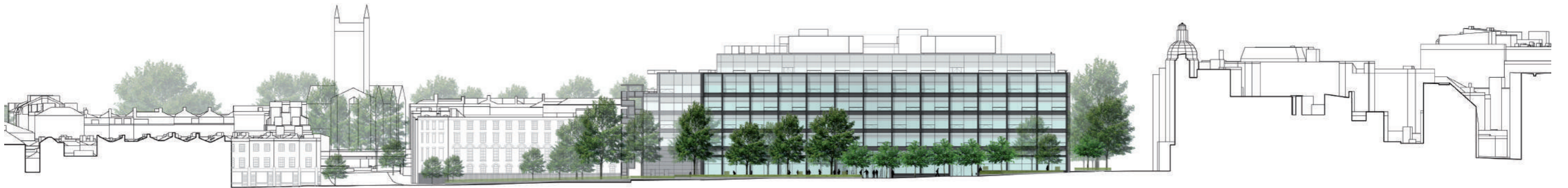
Area location plan





Site plan



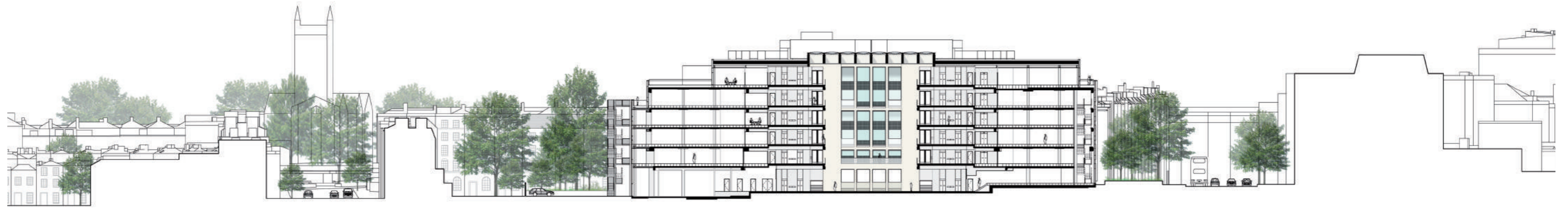


St. John Street Elevation in context



Pentonville Road Elevation in context



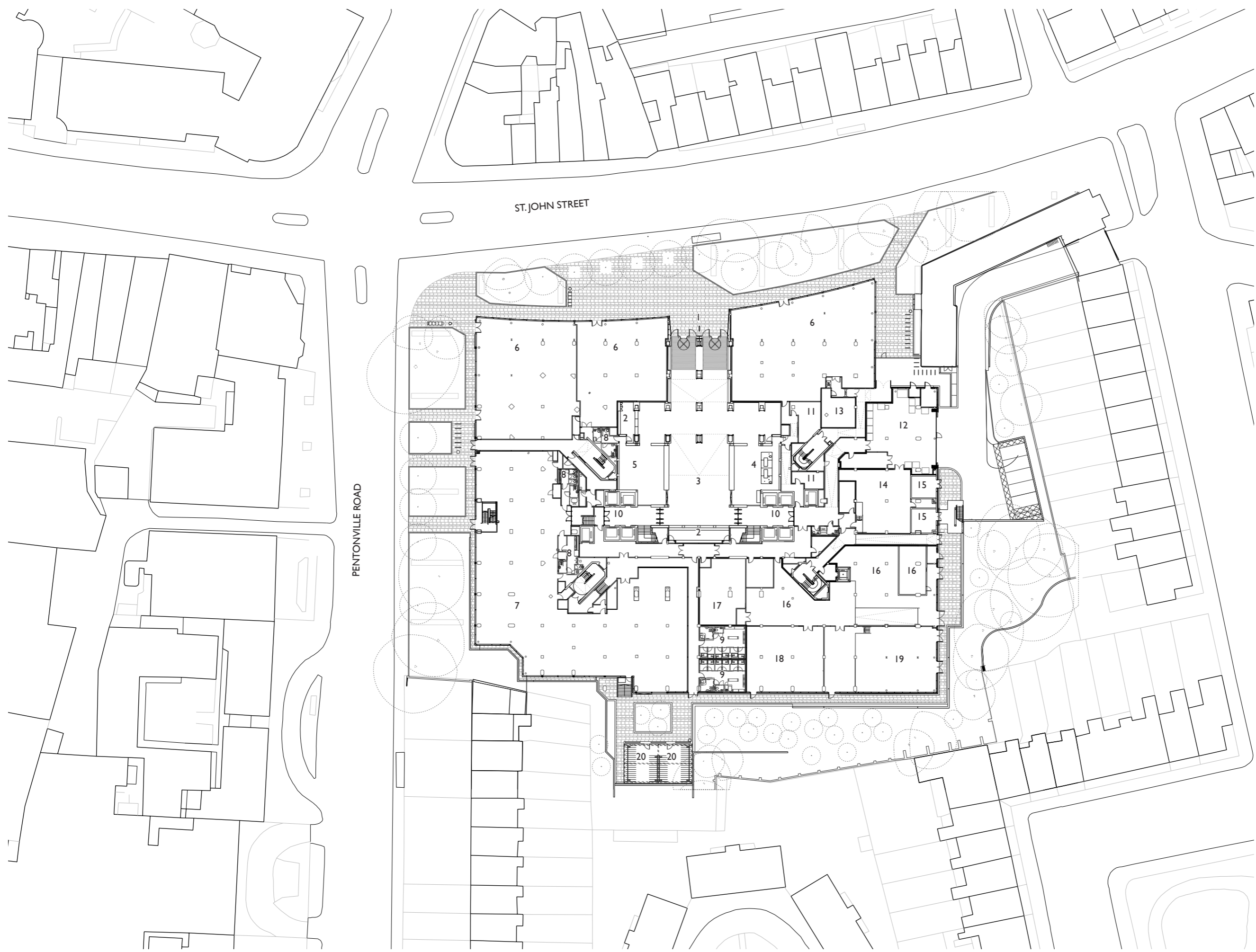


Section AA



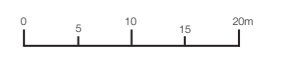
Section BB

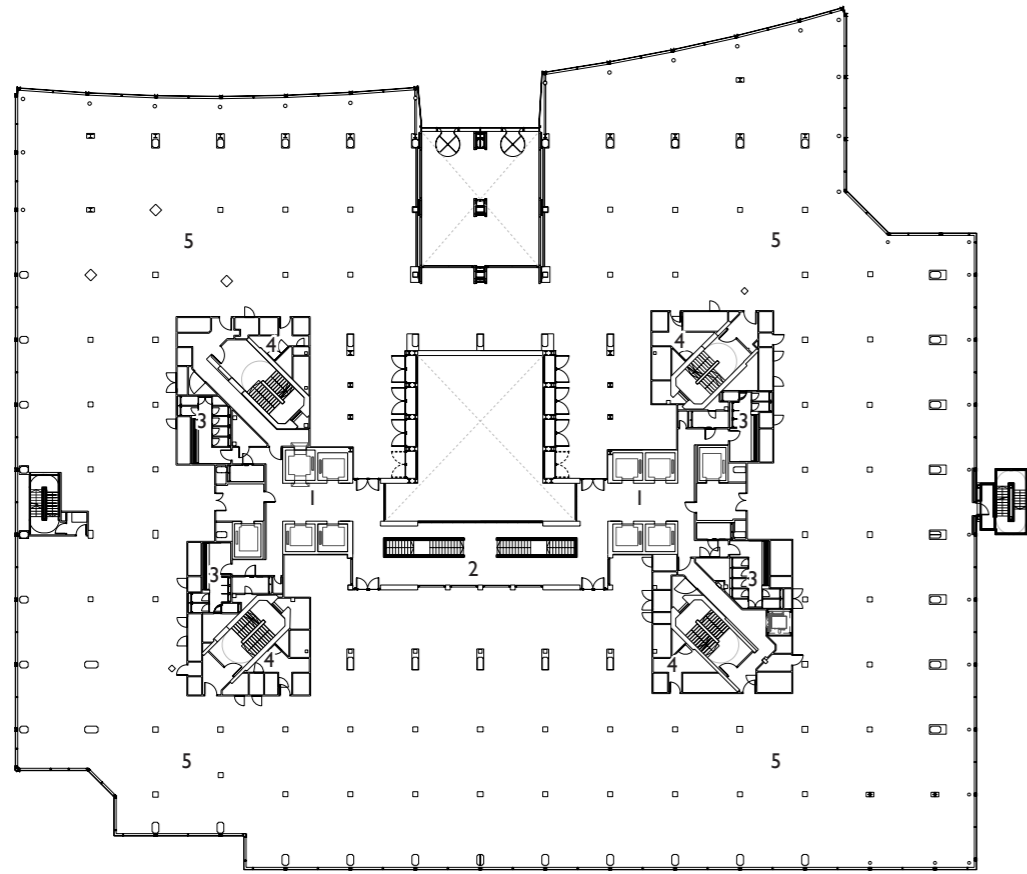




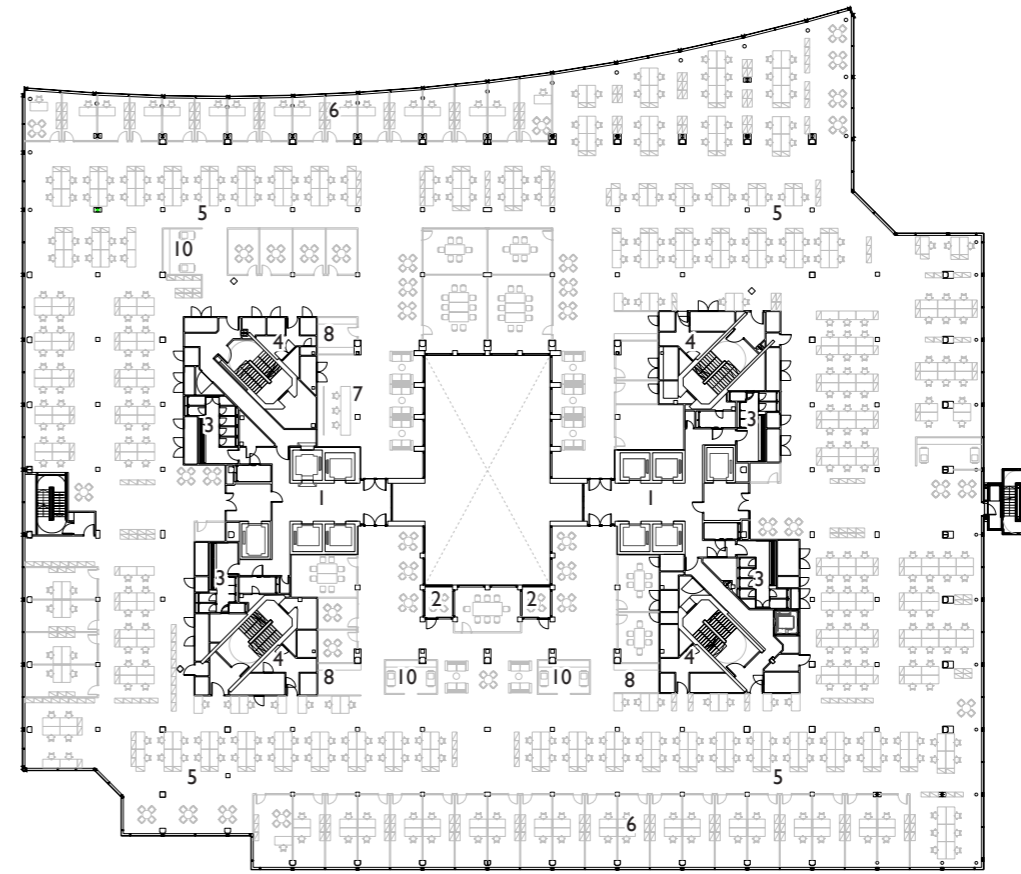
- KEY
- 1 Main entrance
  - 2 Main reception desk
  - 3 Atrium space
  - 4 Café
  - 5 Lounge area
  - 6 Retail units
  - 7 Cancer Research UK office
  - 8 WC's
  - 9 Showers/ changing rooms
  - 10 Lift lobbies
  - 11 Kitchens
  - 12 Goods delivery + refuse point
  - 13 Water tank room
  - 14 Landlord LV/ HV switch room
  - 15 EDF points
  - 16 Boiler plant room + fuel store
  - 17 Water harvesting system
  - 18 Chillier room
  - 19 Tenant's generator room

Ground floor plan in context



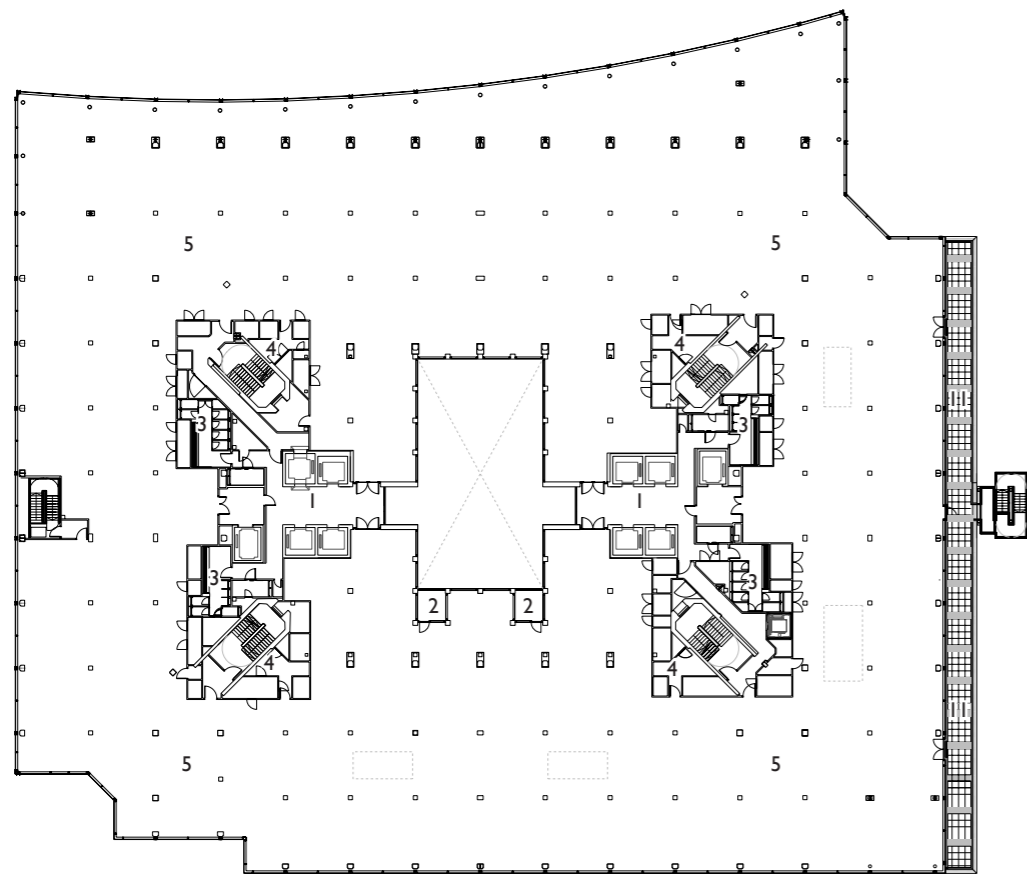


First floor plan

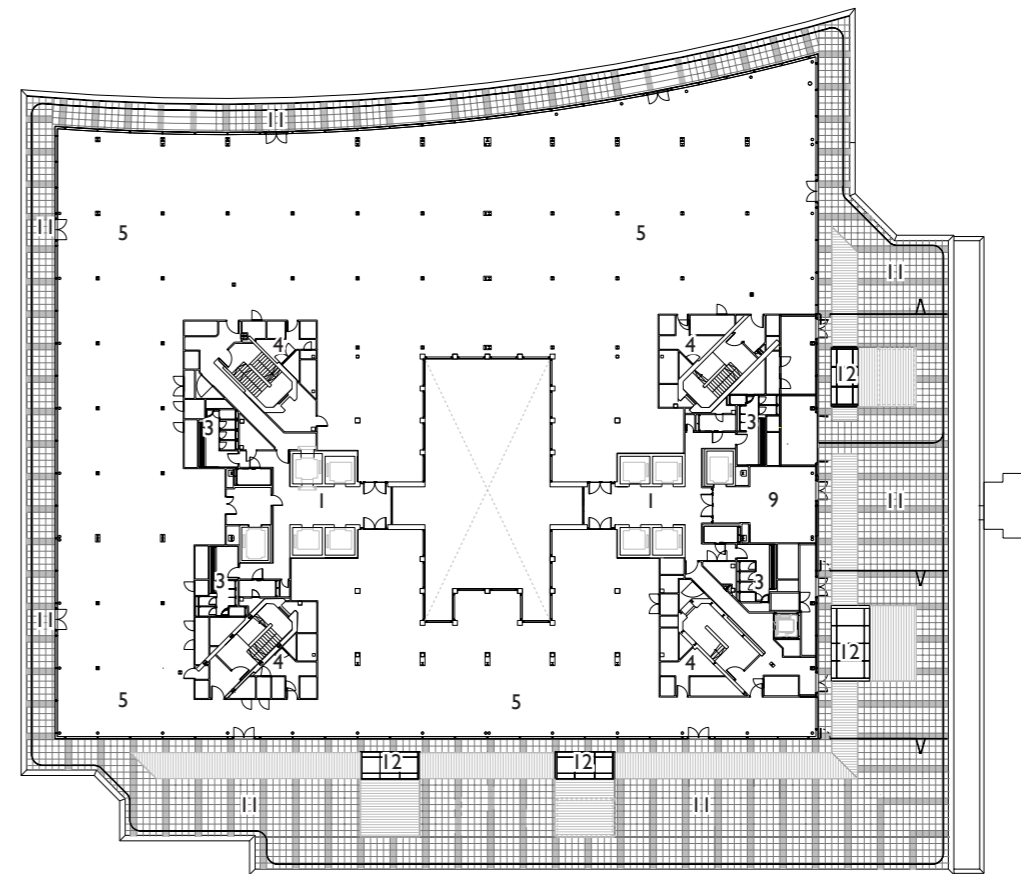


Second (typical) floor plan, showing indicative fit-out

- KEY
- 1 Lift lobbies
  - 2 Break-out space
  - 3 WC's
  - 4 Stores
  - 5 Open plan office space
  - 6 Cellular offices
  - 7 Floor reception
  - 8 Kitchenette
  - 9 Meeting rooms
  - 10 Copy / post areas
  - 11 Terrace
  - 12 Roof light

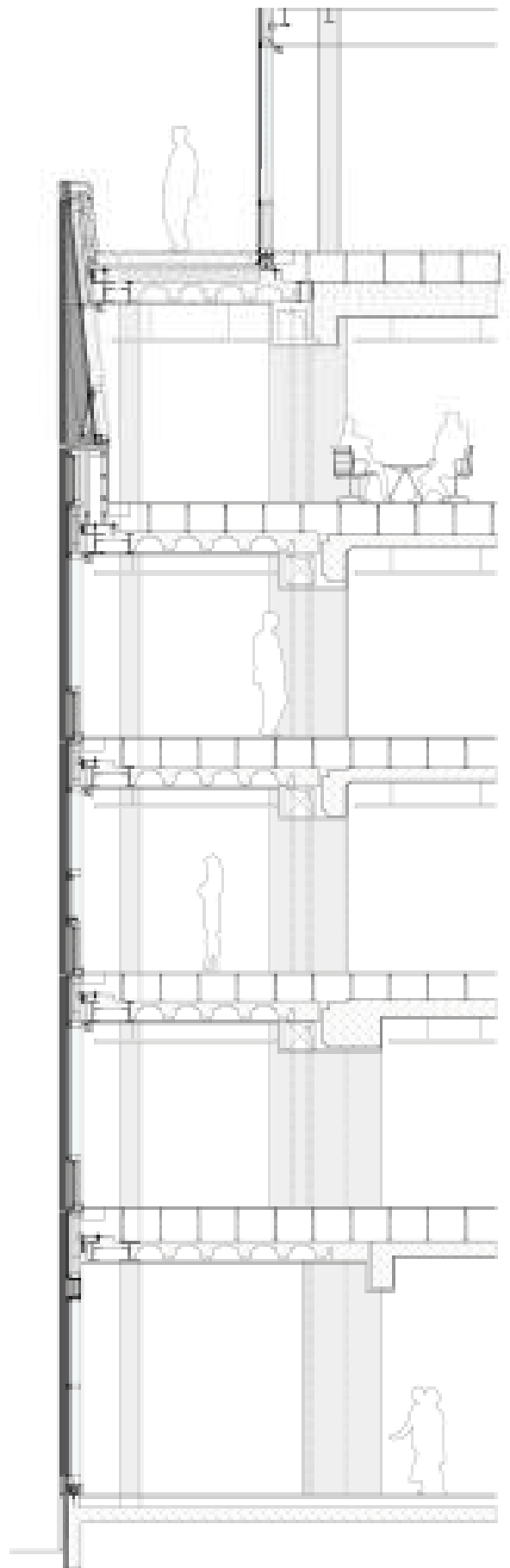


Fourth floor plan



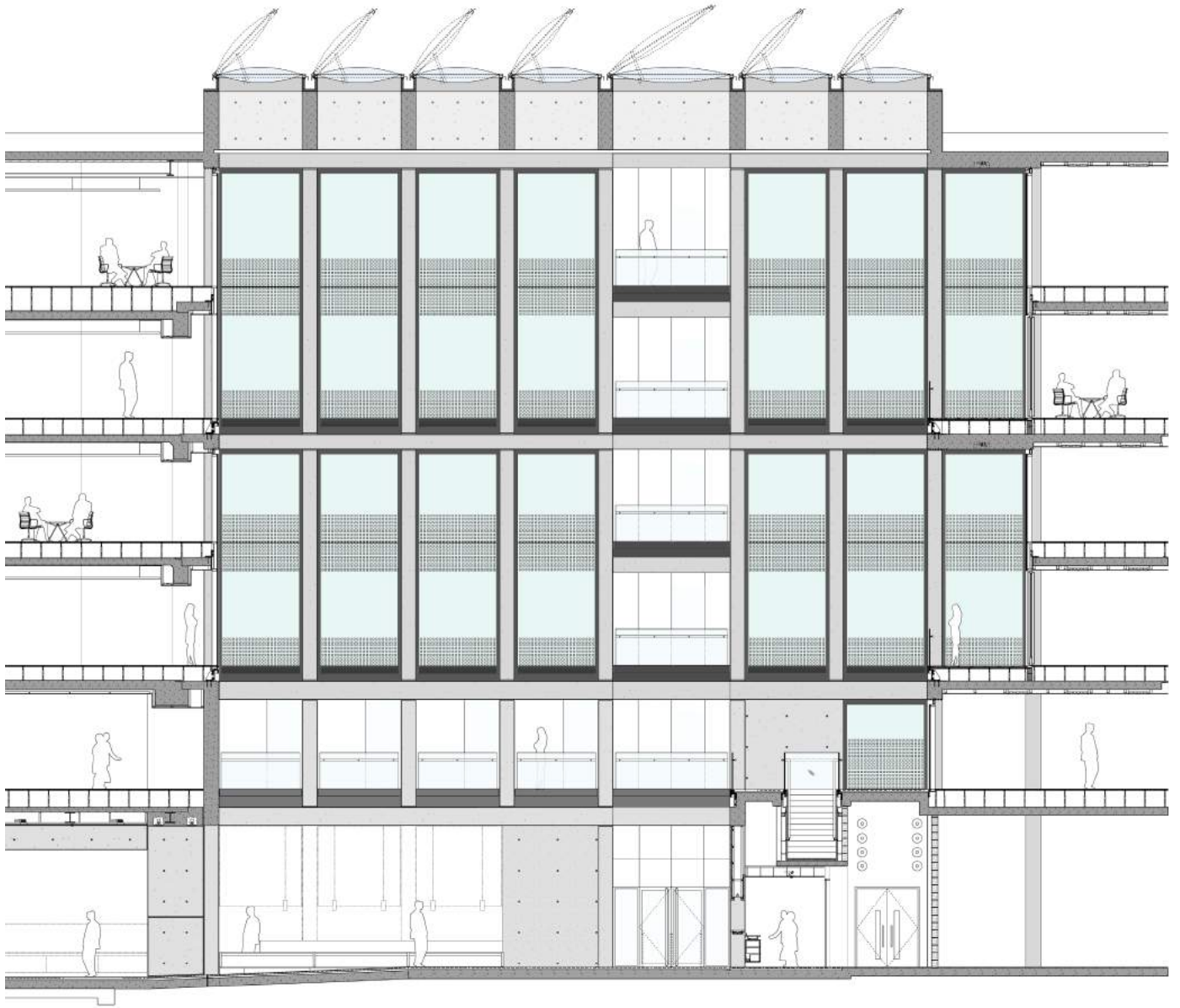
Fifth floor plan



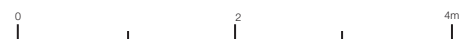


Detailed section through external envelope

0 2 4m



Detailed section through external atrium envelope

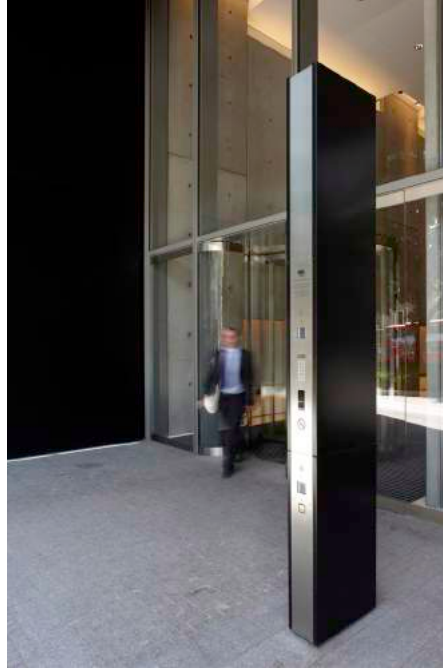


## Detail Photographs

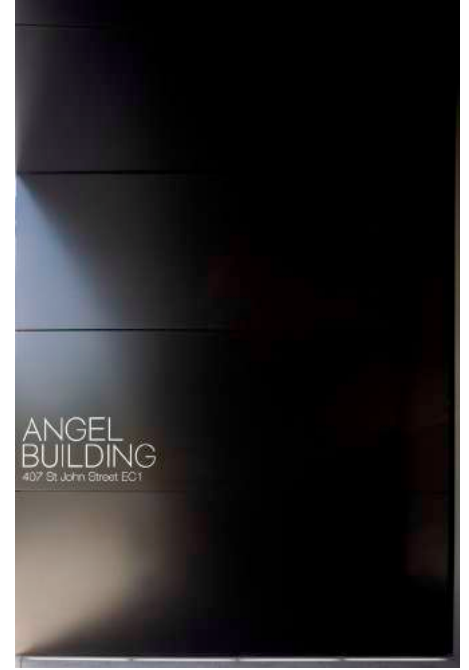
### Exterior Detail Shots



Cladding corner junction



Entrance pedestal



Entrance signage



Integrated CCTV



Revolving door



Integrated external lighting



## Fixed Furniture



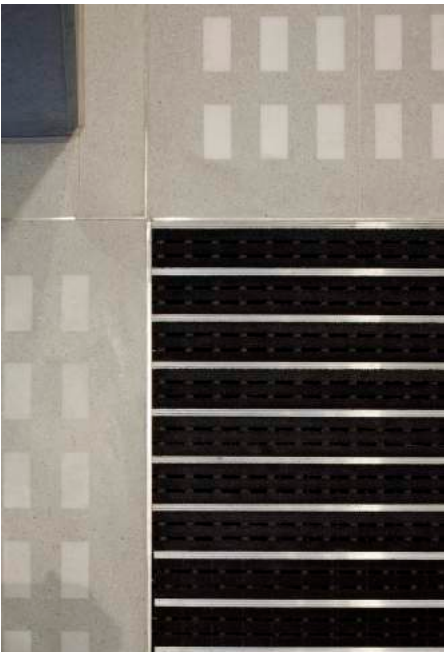
Atrium bench carrera/Dinesen/terrazzo



Atrium bench carrera/Dinesen/terrazzo



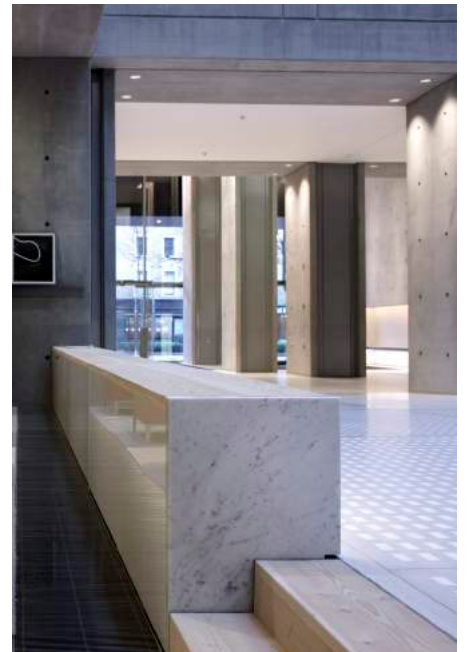
Marketing suite pop-out socket



Entrance mat / terrazzo



Leather wall / carrera / Page lacquer



Atrium bench / steps

## Concrete



Unfilled tie-hole



Handrail / Glazed balustrade detail



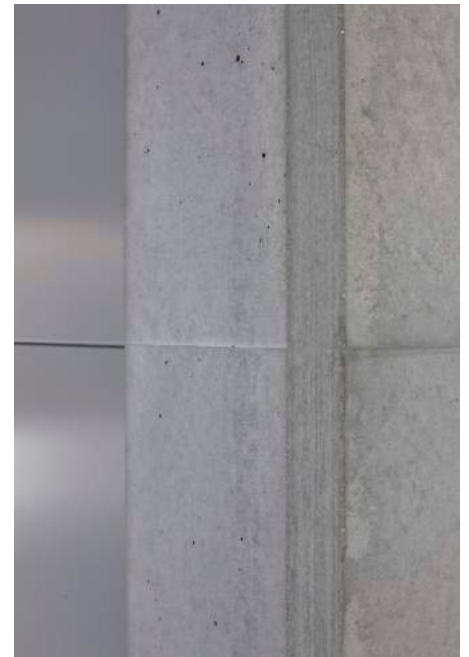
Movement joint in terrazzo floor



Bespoke picture rail fixed into tie holes



Carrera stair nosing



Concrete 25mm Chamfer to edges

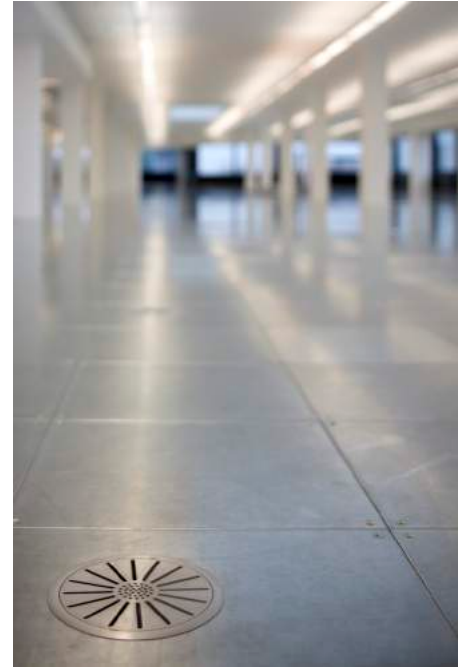
## Lifts & Office Space



Lift control panel



Lighting cable details



Swirl floor diffuser



Perimeter heating grille



Riser doors and bulkhead lighting



Lift handrail

## Signage



Visitor WC signage



Entrance Directory



General door signage



Main office entry doors



WC signage by David Hillman



Viabuzuno 'Transparenze' LED signage

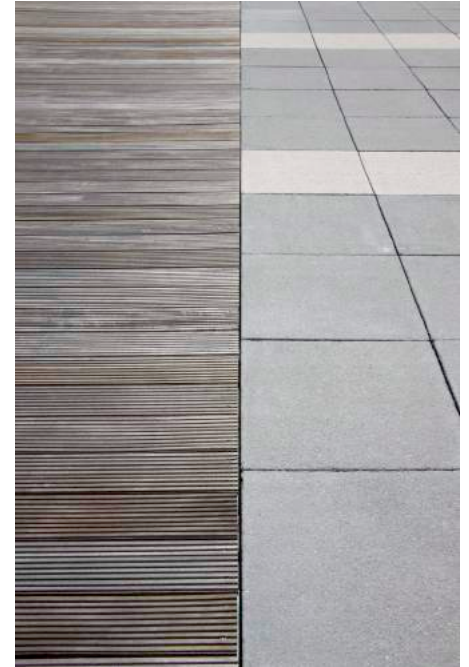
## Roof Terrace



Gazebo with louvers for shade



Integrated BMU track



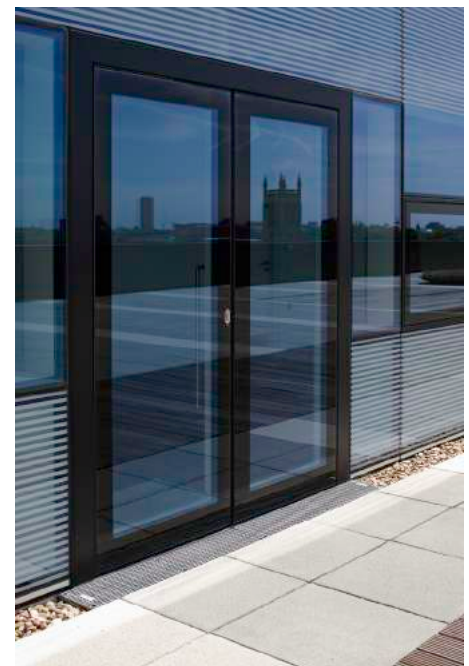
Timber deck / paver junction



BMU garage



Integrated uplighters



Flush terrace doors

## Circulation Stairs & Back of House



Handrail detail



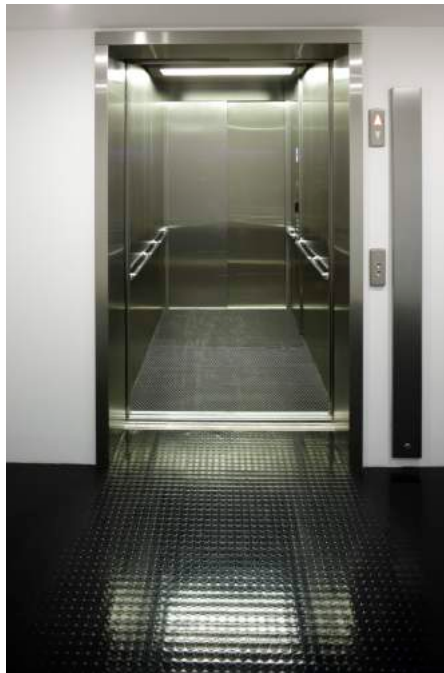
Firefighting lobby



Biomass Boiler



North circulation stair



Goods lift



Rainwater Harvesting tanks

## WCs & Cyclist Facilities



Soap / control / bespoke length tap



Cycle storage shed



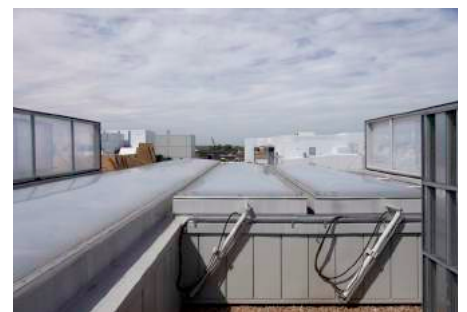
ETFE roof open



Bag hook under sink trough



Lockers and changing rooms



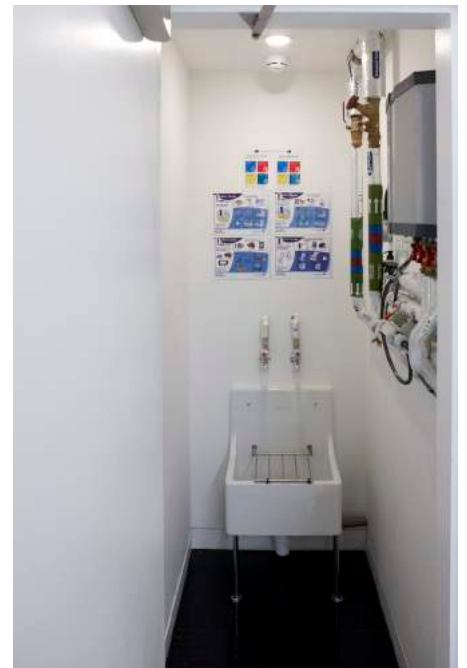
ETFE roof closed



Cyclist showers



Wheelchair accessible WC



Viabuizuno ' trasparenze ' LED signage

Final Images



A view of the Angel Building in its context

07009\_1274 © Tim Soar





View of completed façade from Angel Underground station

07009\_1285 © Tim Soar



Angel Building from Islington High Street



Angel Building from Islington High Street

07009\_1656 © Tim Soar



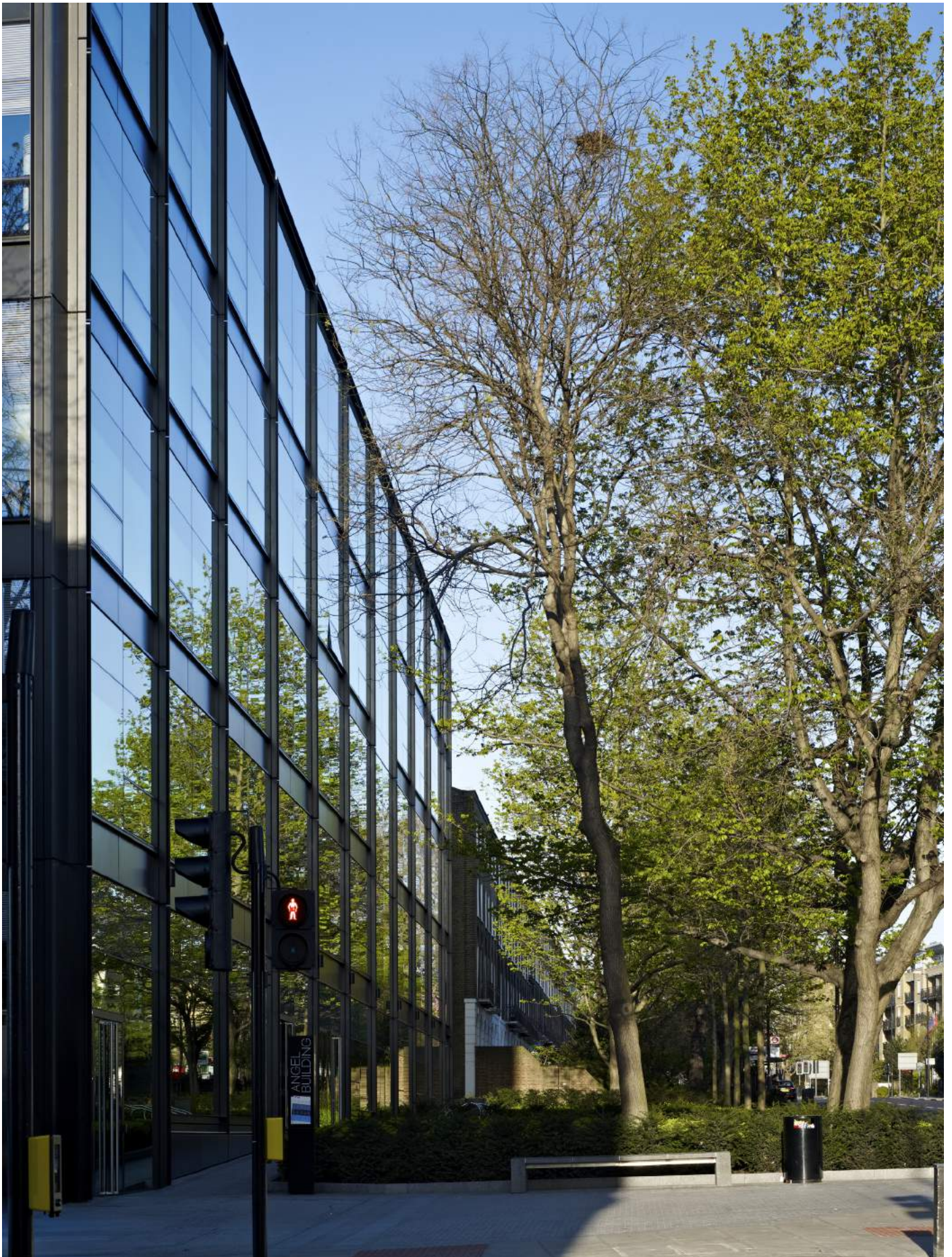
Angel Building from St. John Street

07009\_1659 © Tim Soar



Angel Building from St. John Street

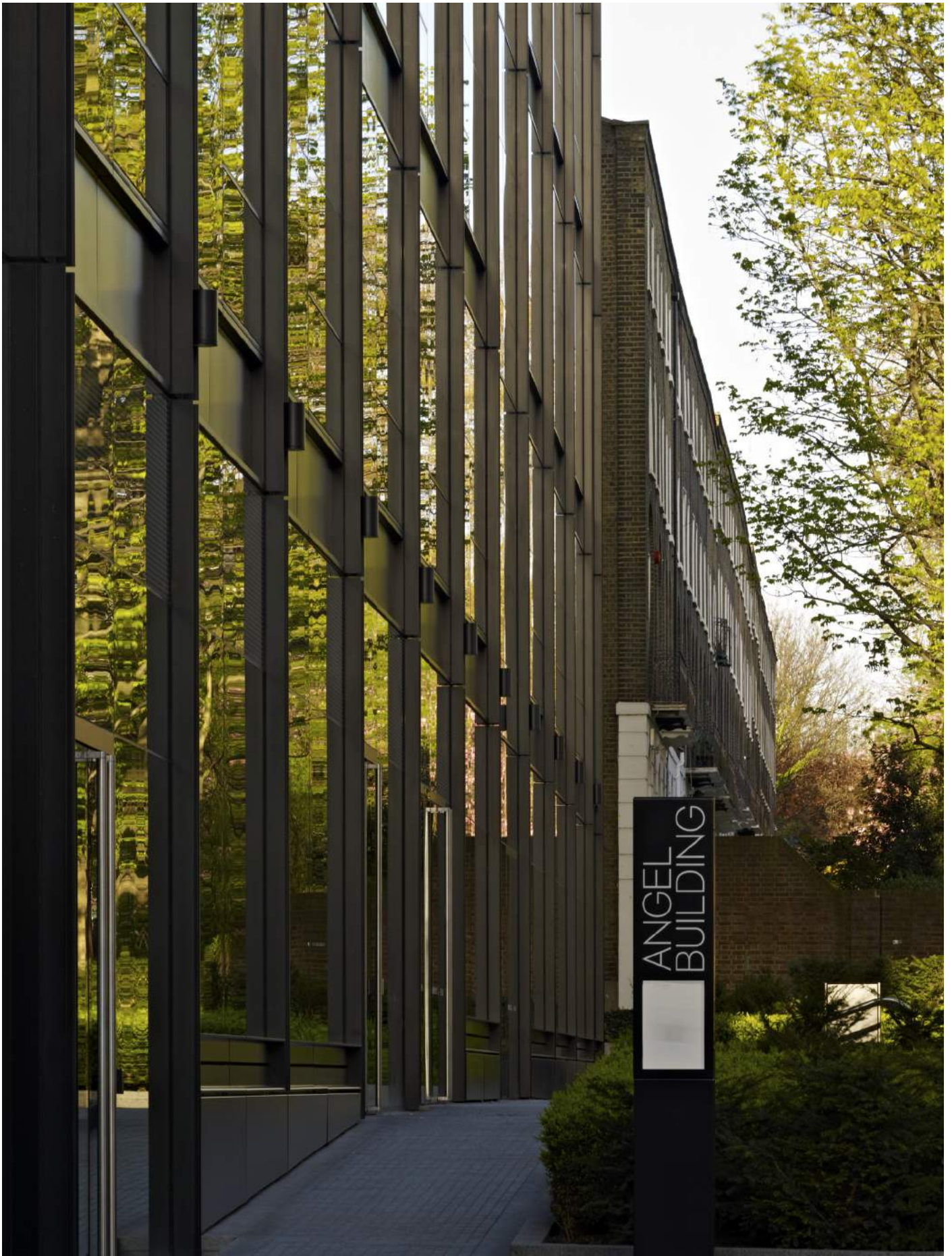
07009\_1661 © Tim Soar



Main entrance landscaping



Main entrance landscaping

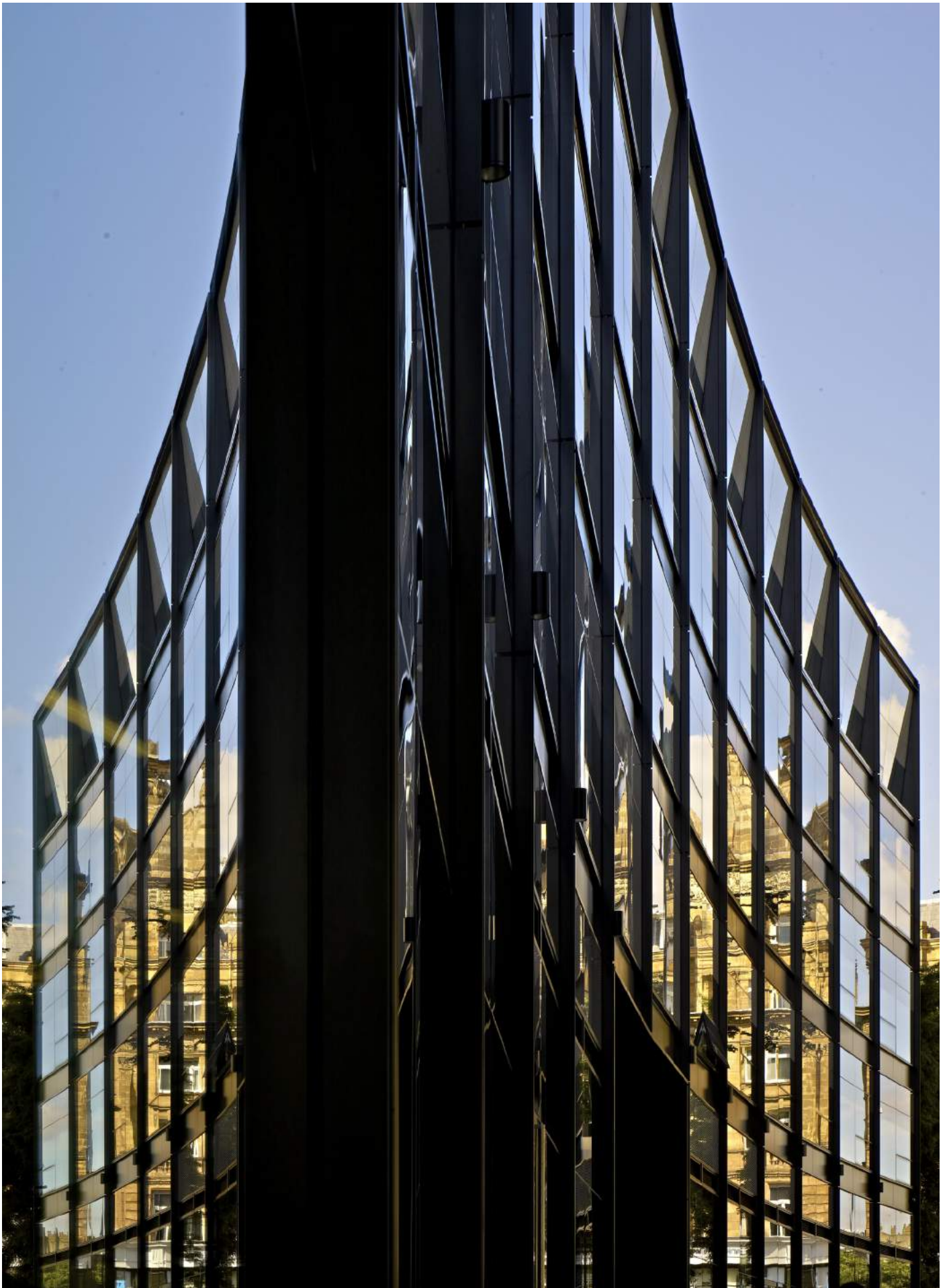


Main entrance





View from the corner of Pentonville Road



Reflection of façade onto ground floor glazing



View of the Angel Building entrance and public realm



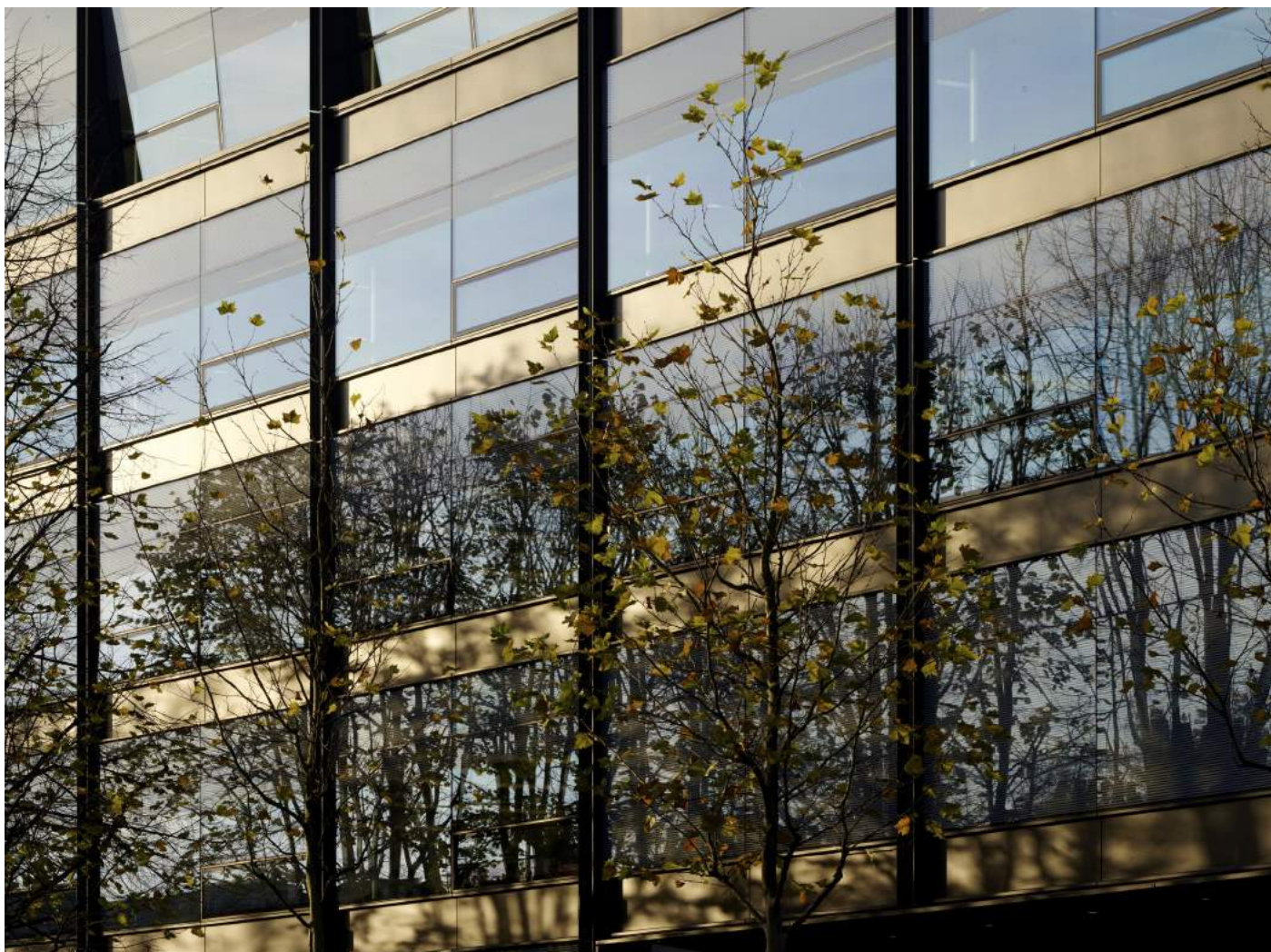
New landscaped public realm

07009\_1301 © Tim Soar



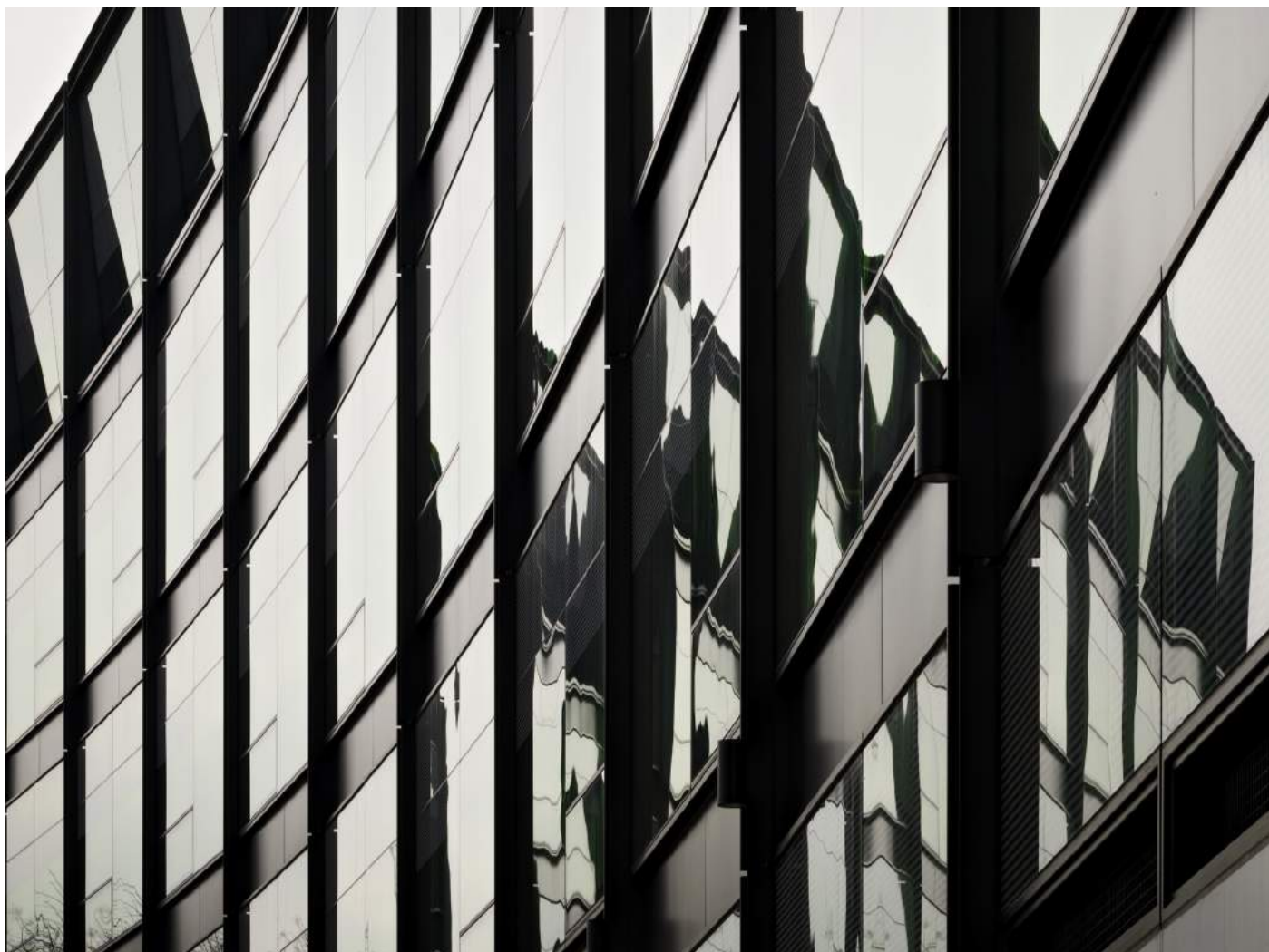
Bespoke curtain walling

07009\_1364 © Tim Soar



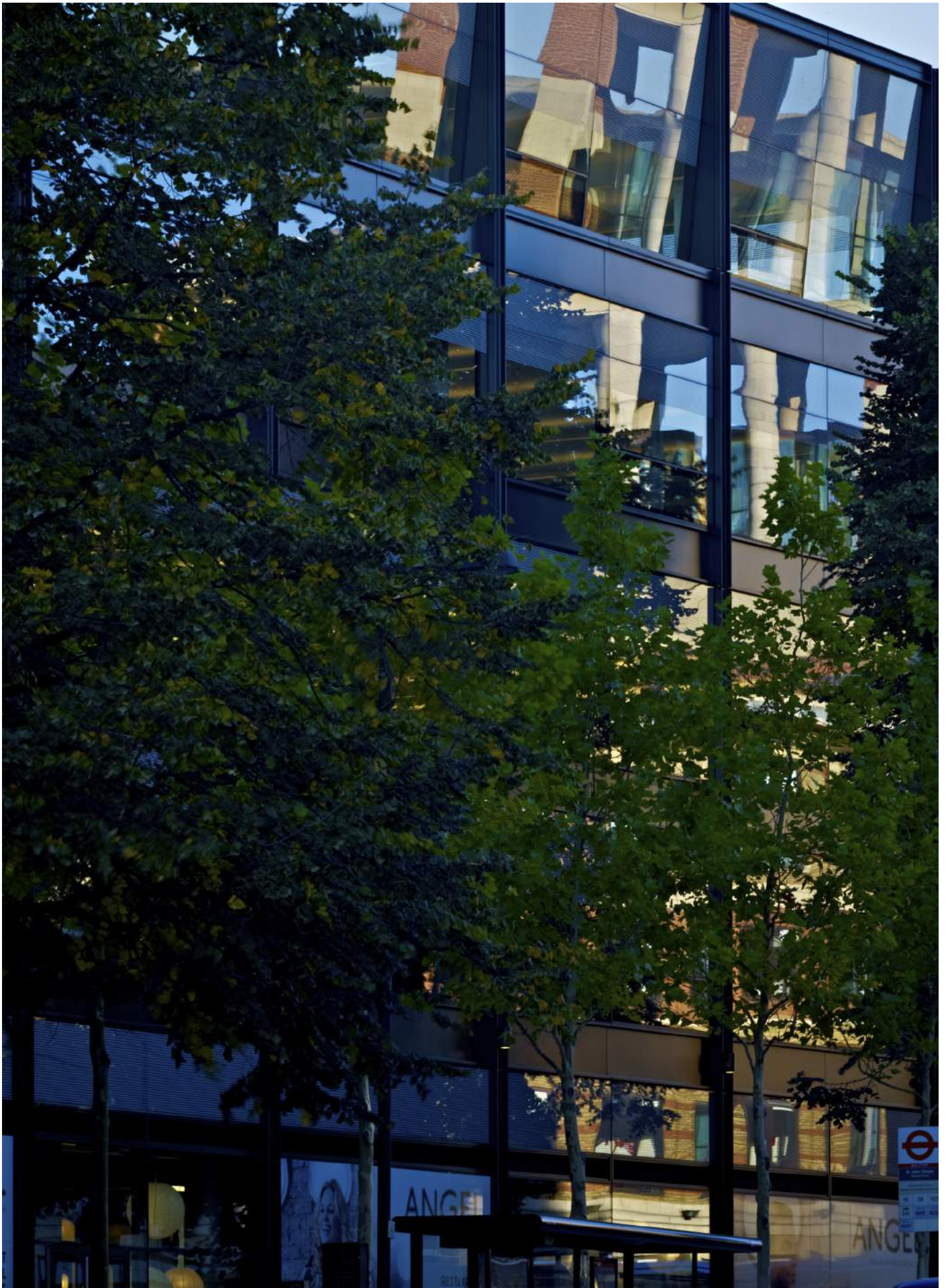
Detailing of façade

07009\_1362 © Tim Soar



Detailing of façade

07009\_1390 © Tim Soar



Detailing of north façade sheltered by mature trees





Detailing of west façade



Main entrance

07009\_1376 © Tim Soar



Angel Building external signage

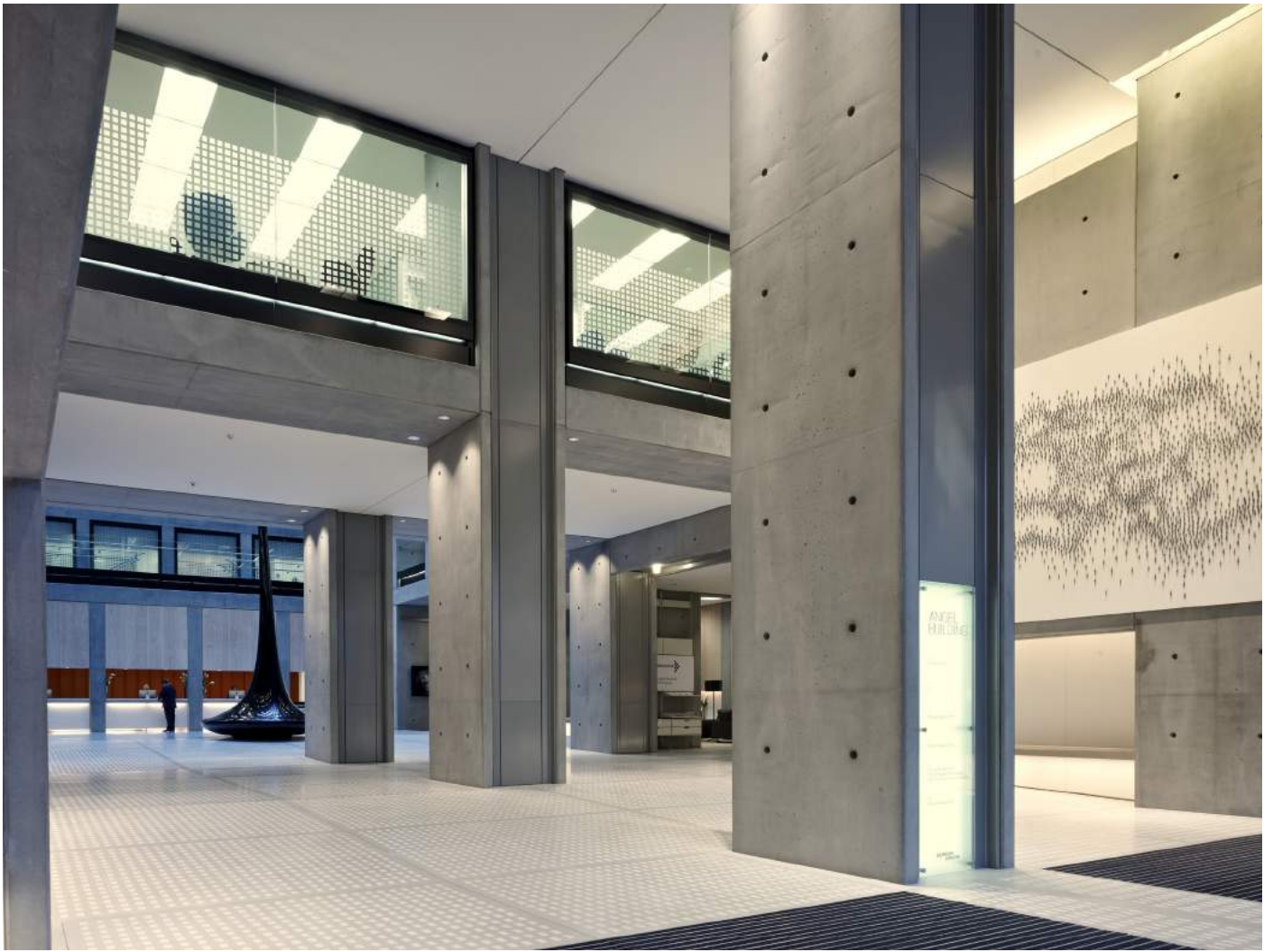
07009\_1375 © Tim Soar



ANGEL BUILDING

Derwent London  
Alford Hall, Monaghan, Monaghan Architects  
October 2010

Detail of concrete signage



Route through the building to the five-storey atrium

07009\_1381 © Tim Soar



View from the main entrance into the atrium

07009\_1355 © Tim Soar



Seating area in the café

07009\_1373 © Tim Soar



Angel café seating area with art by Sachiyo Nishiruma

07009\_1347 © Tim Soar





View into the café seating area

07009\_1341 © Tim Soar



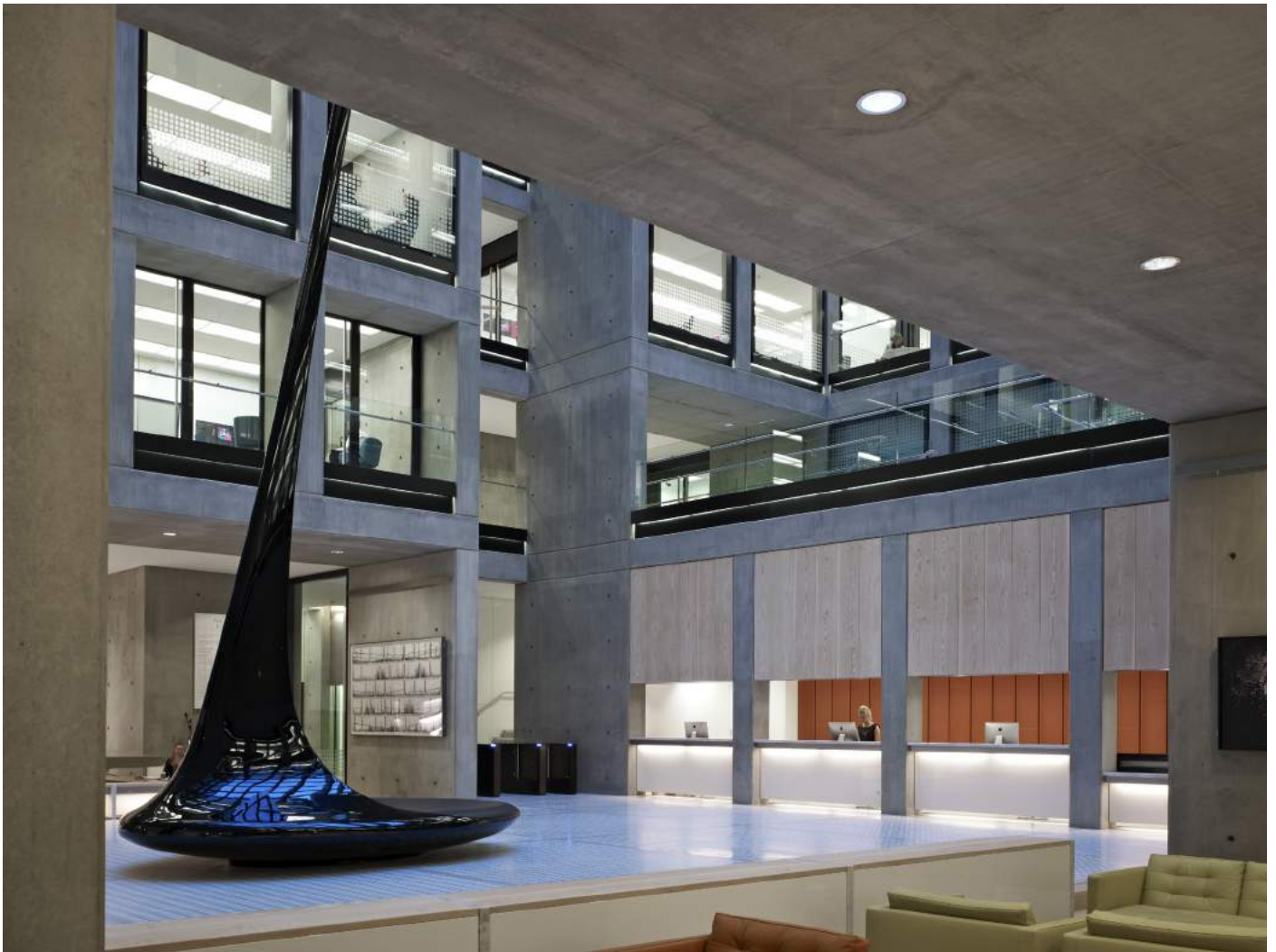
View into the café seating area

07009\_1380 © Tim Soar



View of the atrium looking towards the café with carbon- fibre sculpture by McChesney Architects

07009\_1334 © Tim Soar



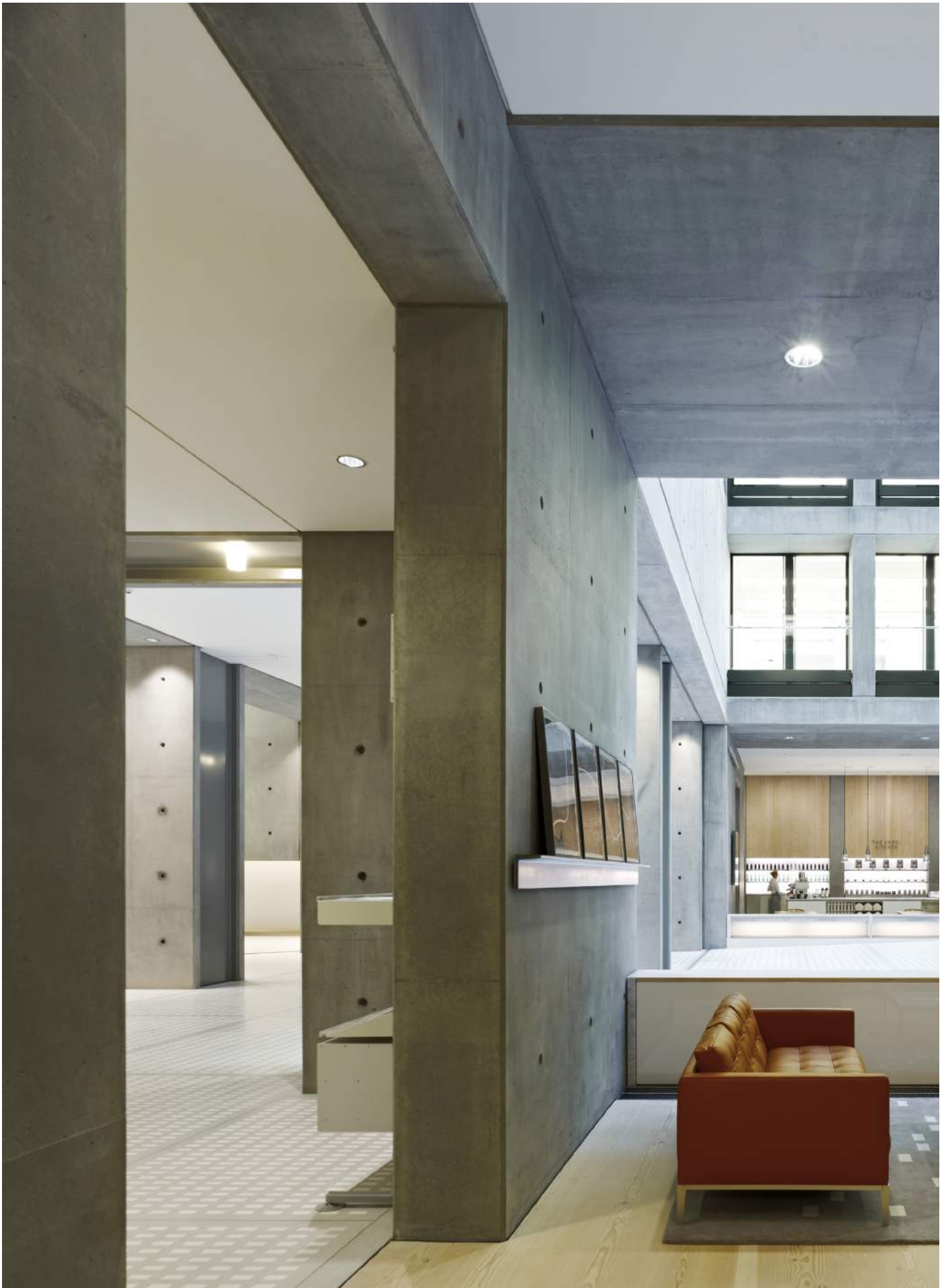
View from the seating area towards reception

07009\_1403 © Tim Soar

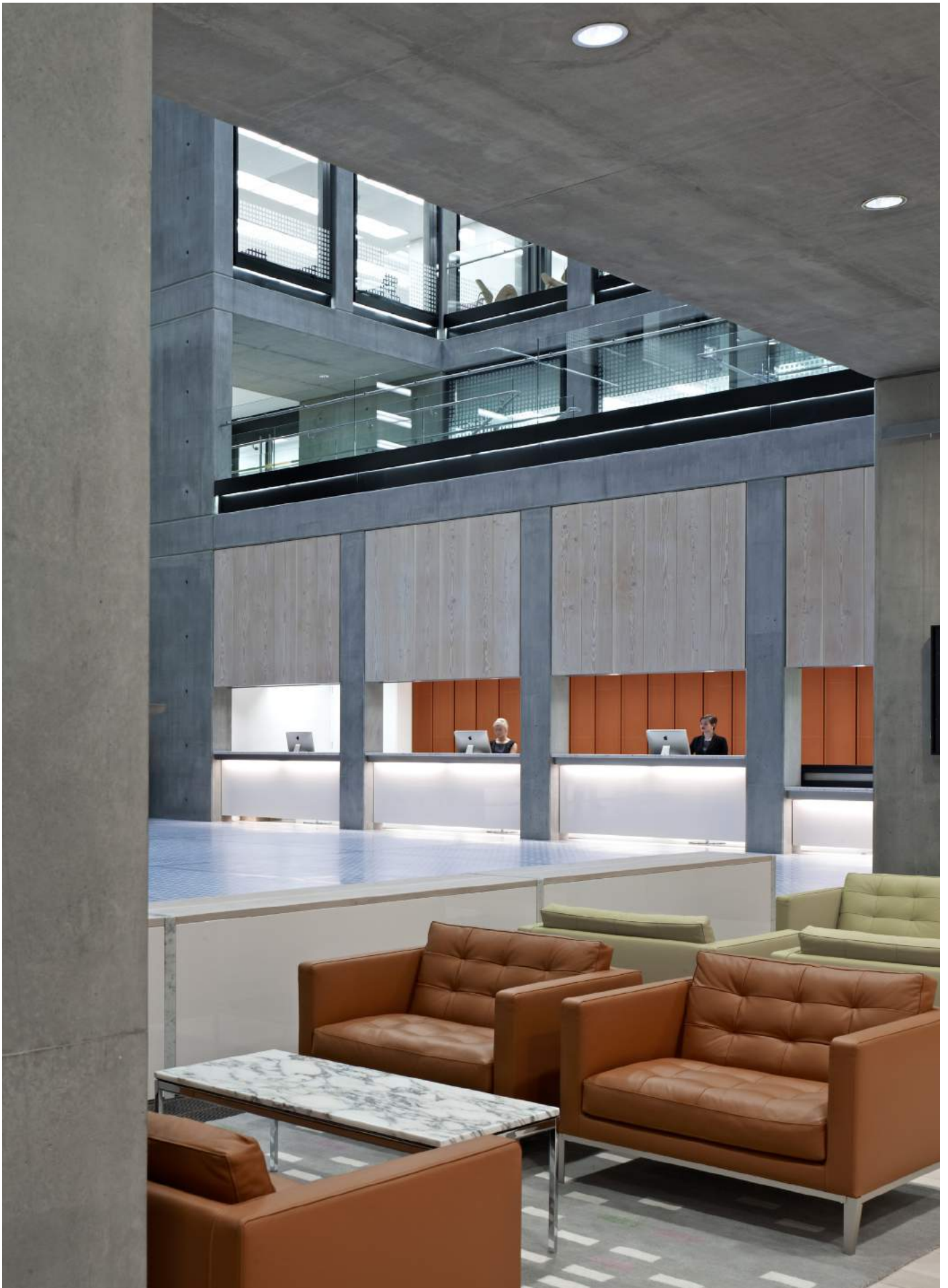


Looking towards the Cancer Research reception desk and the entrance (right)

07009\_1400 © Tim Soar



Main seating area in reception with art on the shelves by Lewis Ronald



View of reception area with office concierge service from main seating area



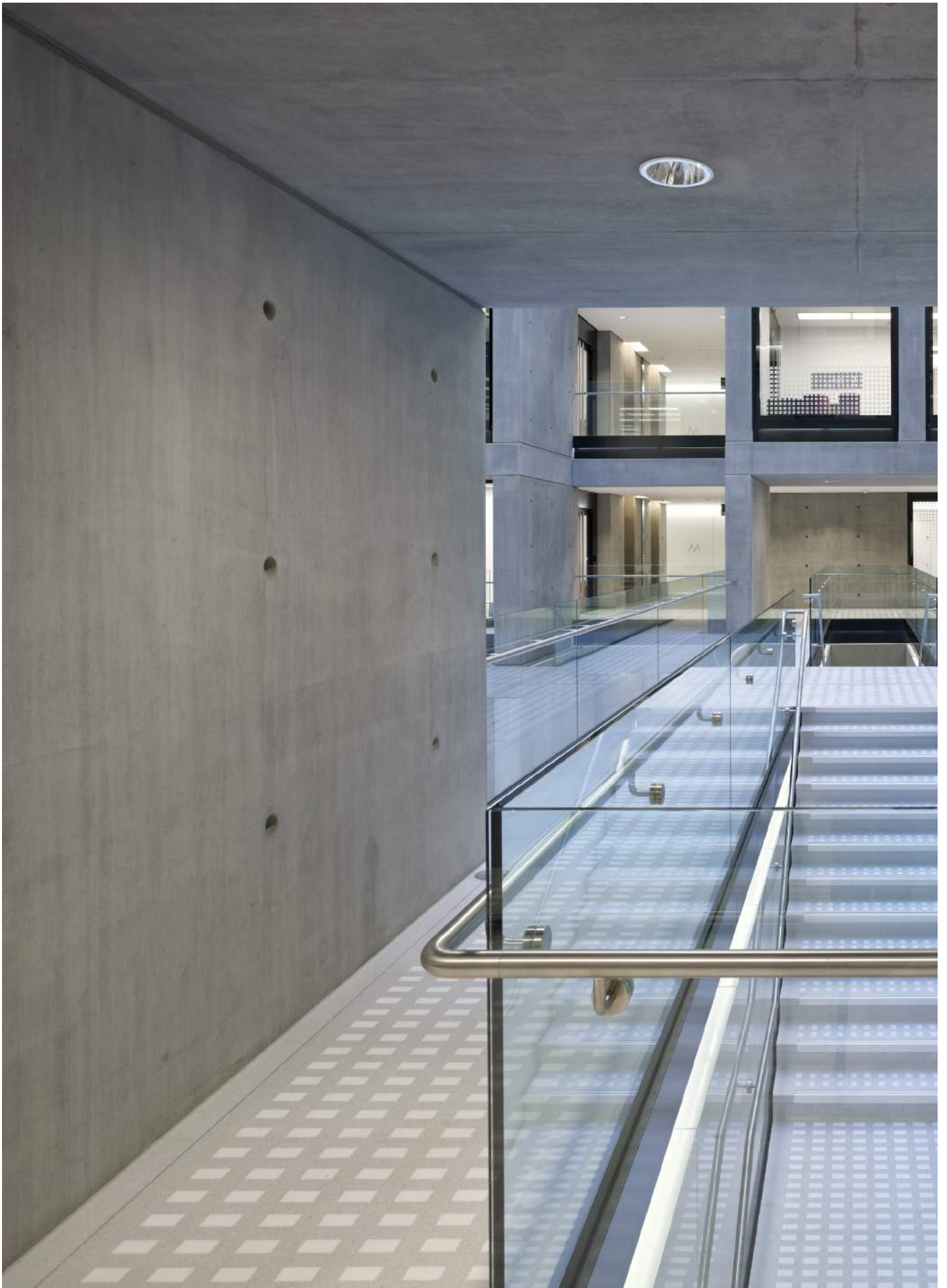
Angel Kitchen seating area with art by Indre Serpytyte



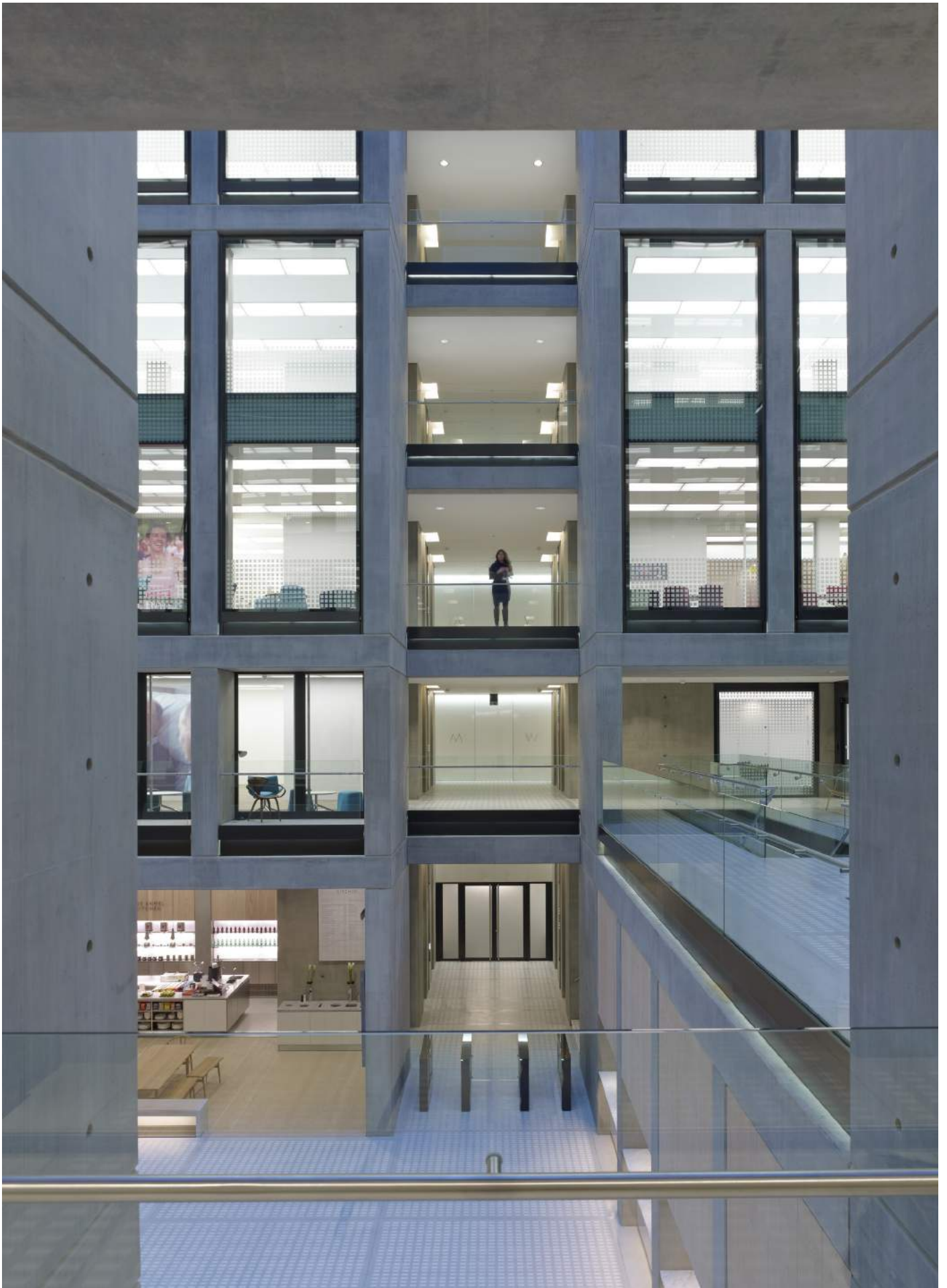


Main atrium roof coffer viewed from ground floor

07009\_1095 © Tim Soar



Secret stair



View of the atrium



View from the first floor across the atrium

07009\_1407 © Tim Soar

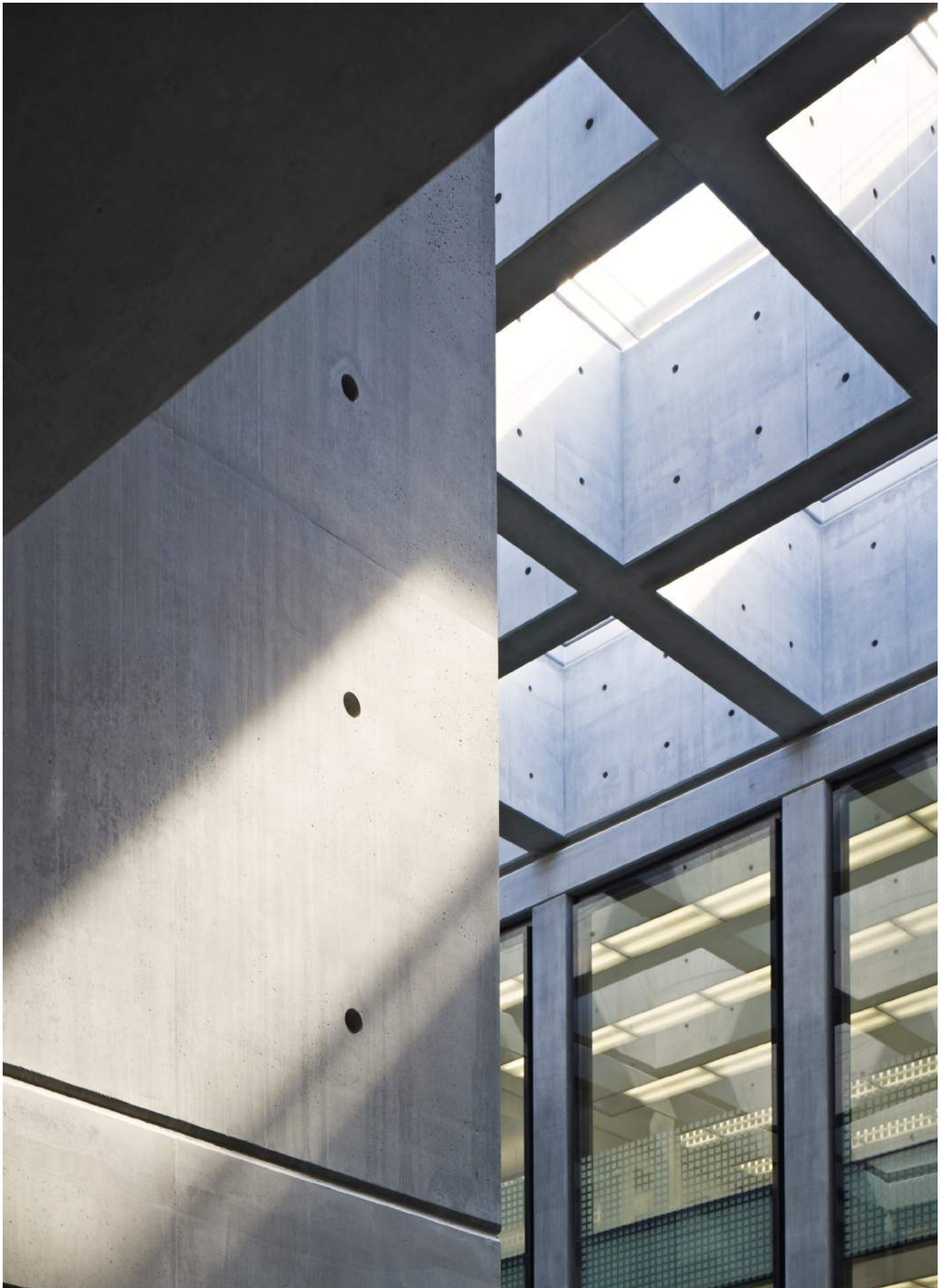


Secret stair

07009\_1398 © Tim Soar



Atrium cladding alongside the concrete fin walls

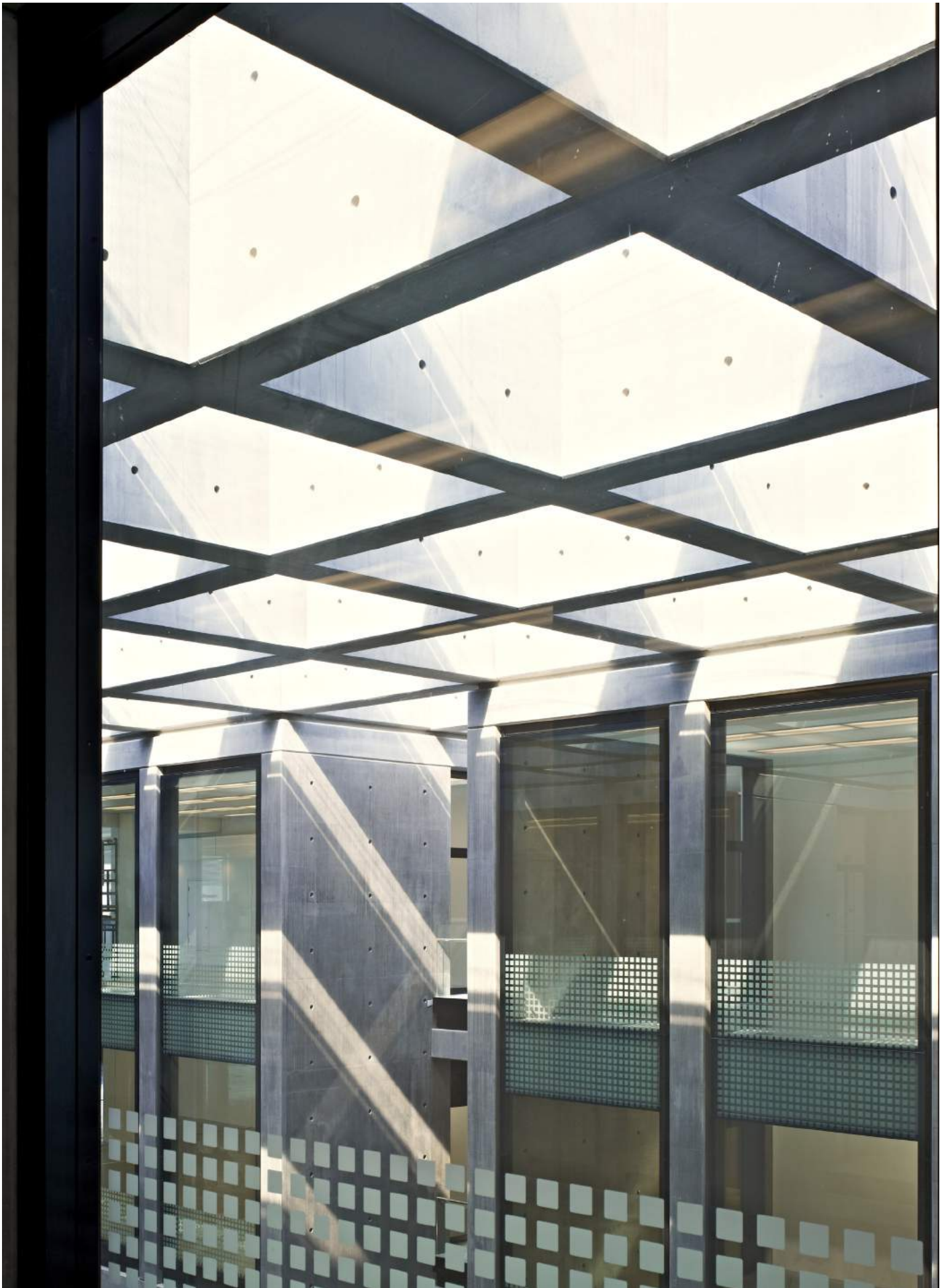


In-situ concrete in the atrium, created from an existing service courtyard

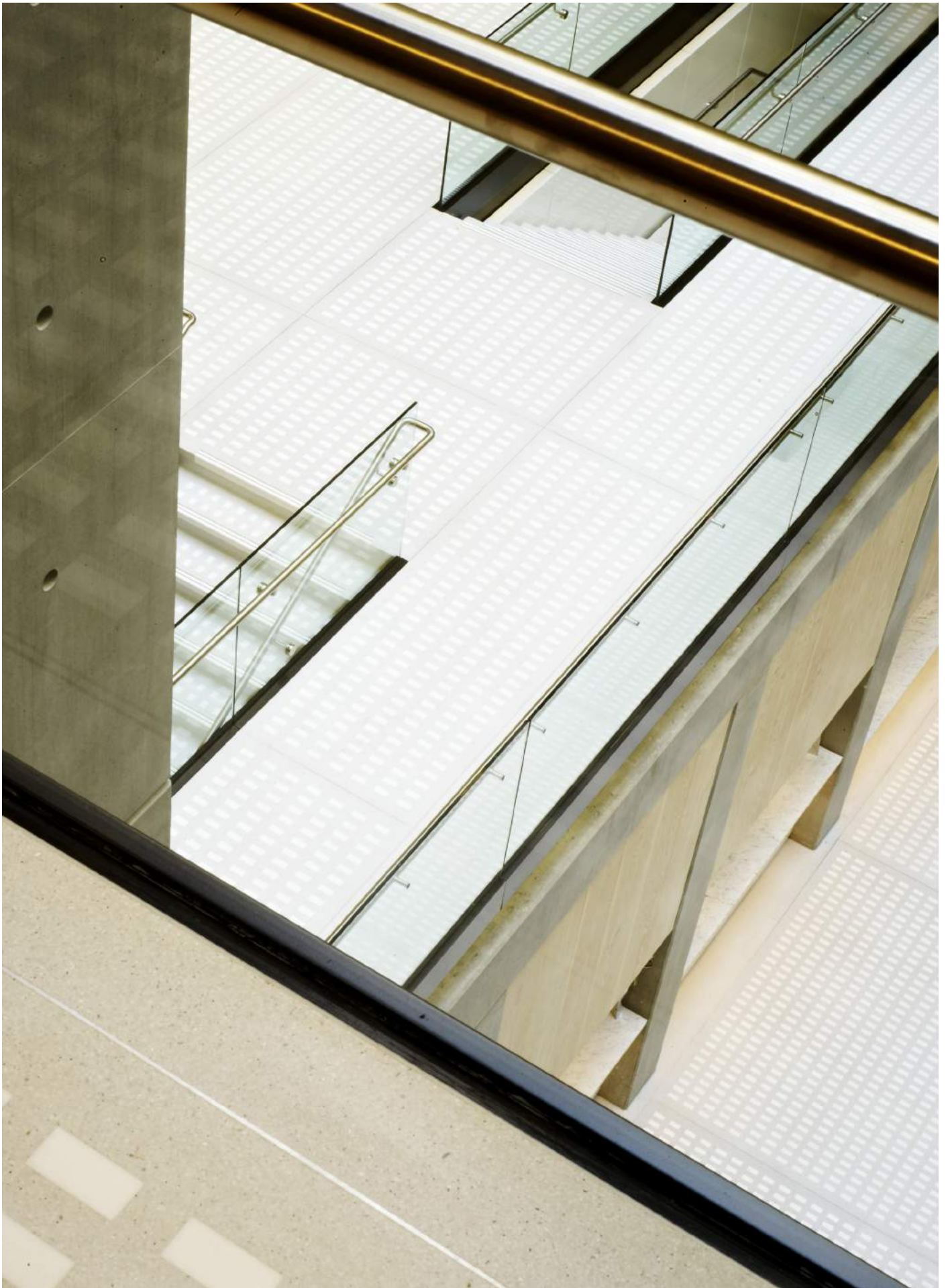


Detail of glazing





Fifth floor glazed screens featuring the fair faced concrete roof coffer



Glazed balustrade detail



Detail of glazing

07009\_1354 © Tim Soar



Fifth floor marketing suite with views onto the terraces



Fifth floor marketing suite with views onto the terraces

07009\_1316 © Tim Soar



Fifth floor marketing suite

07009\_1319 © Tim Soar



View from the terrace entrance into the marketing suite

07009\_1312 © Tim Soar



View out of the marketing suite onto the fifth floor terrace

07009\_1404 © Tim Soar





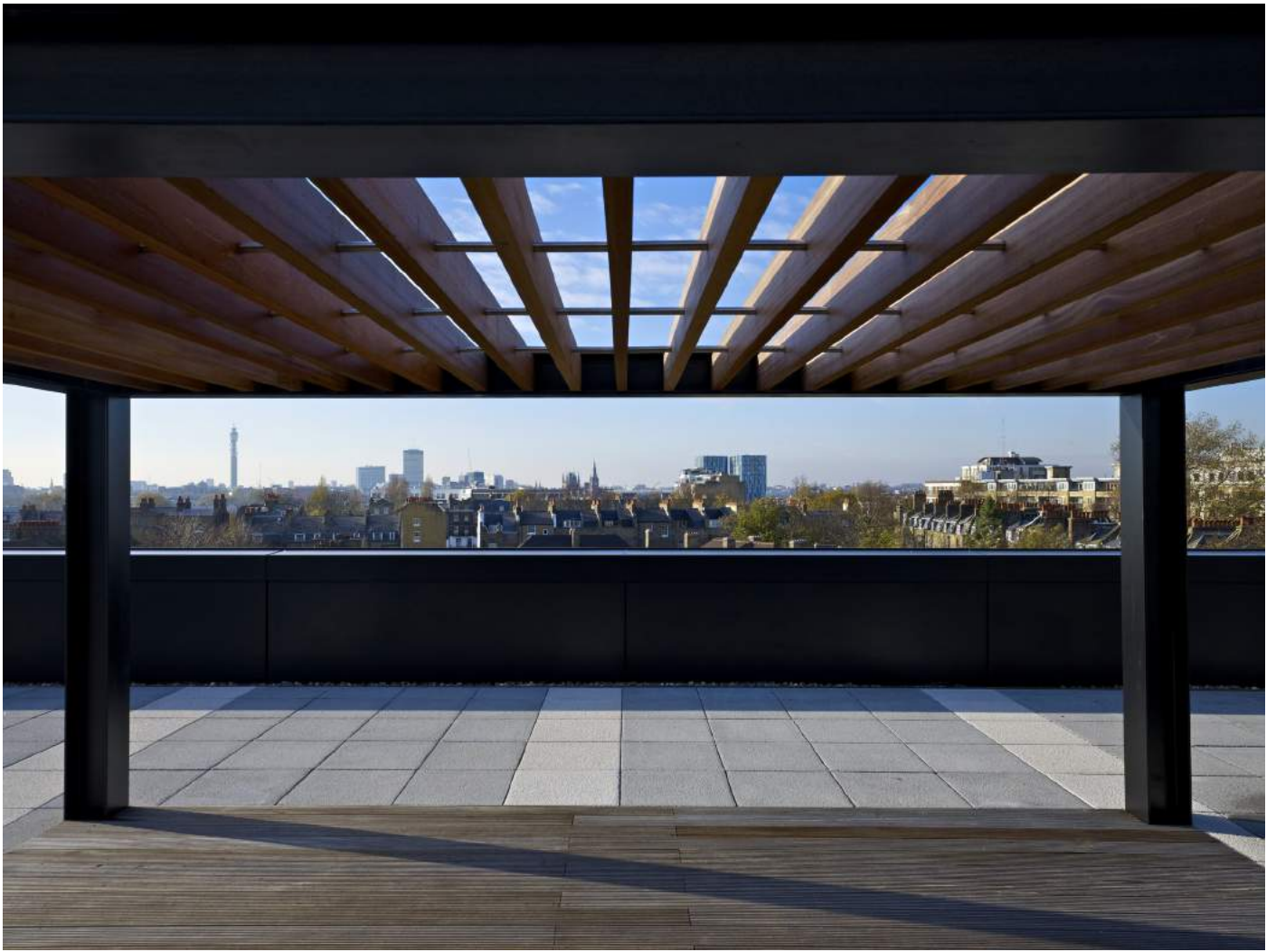
View from the Angel roof terrace at night

07009\_1405 © Tim Soar



Fifth floor sky terrace

07009\_1389 © Tim Soar



Fifth floor terrace and gazebos

07009\_1388 © Tim Soar



Fifth floor terrace with shaded seating area

07009\_1387 © Tim Soar



Fifth floor north facing terrace, gazebos and planting

07009\_1386 © Tim Soar