



**BRUNEL • BUILDING**





“The most important thing is that you love what you are doing, and the second that you are not afraid of where your next idea will lead.”

Charles Eames

2 Canalside Walk

**BRUNEL ♦ BUILDING**

— Paddington W2 —

A DERWENT  
LONDON  
BUILDING



It was 20 years ago that I was introduced to Keith Priest of Fletcher Priest Architects by property agent David Rosen. We subsequently worked together and completed a successful project in Paddington in 2007, which was let to Rio Tinto. We also owned a building opposite Paddington Station at North Wharf Road, which we acquired in 2001 and was originally designed as a warehouse by Richard Seifert. However, as the years passed the building was converted to offices and did eventually appear out of place, especially with the regeneration of the surrounding area. It also became apparent that Westminster's planning department considered our building had become ripe for redevelopment.

So, we returned to Fletcher Priest and asked them to consider the potential of this complex site, which was bounded by the Grand Union Canal together with tube tunnels below. Our project team drew inspiration from the setting of our building, next to the Brunel Bridge, and the connection with the railway era that has dominated Paddington and its famous station for many years. We all agreed that the location required a strong building with a steel structure that reflected the robustness of a Brunel construction. Our architect's proposal involved a unique and innovative diagrid structure, which responded cleverly to the challenges of the site and allowed us to provide a totally column-

free and therefore flexible office floor. Apart from helping us create an abundance of volume and light, it also proved a big advantage for our occupiers when fitting out their floors. Furthermore, the design allowed the main entrance of the building to re-engage with the canal.

A new section of towpath was another key feature enhancing the amenity of the building for both occupiers and visitors. Two storey high sliding hangar-type doors would open our reception to the canalside on a sunny day. We also examined how the structure would land at ground floor. Many options were put forward with the most exciting being beautifully shaped concrete feet that were to reach 3 metres in height and would become a key feature of the whole arrival experience.

Collaboration is key to Derwent's approach and the setting of Brunel Building gave us some great opportunities for art. We were excited to commission both James Capper and Gavin Turk whose artworks complement the public realm and the industrial ethos of the building.

Simon Silver  
FRIBA  
Director, Derwent London







**Previous page:** The new building line, set back by six metres has opened a new public access along the canal with an uninterrupted pedestrian link to Little Venice

**Right image:** Huge motorised sliding doors at ground level, and Juliet balconies on the first two floors, help Brunel Building engage with the canalside towpath

Bespoke lettering draws reference from the diagrid structural façade of the building and signposts the canalside entrance









The building's exterior diagrid structure was inspired by the industrial designs of Isambard Kingdom Brunel

**Previous page:** The dramatic structure is an integral part of the building's environmental strategy. Over a daily cycle, the diagrid shades 25% of the external cladding, reducing internal heat gain







Inclined orange columns mark  
the sheltered canalside entrance



James Capper's TREADPAD  
sculptures suspended from the 9 metre  
high reception soffit

**Image overleaf:** The expansive  
office space on floor 14 providing  
panoramic views of London and  
a private roof terrace











Brunel Building  
A marathon, not a sprint



For many years Fletcher Priest has enjoyed working with Derwent London on successful projects. The design of the latest, the Brunel Building evolved during most of that time – an unusually long gestation period.

We won an invited competition in 2004 to replace ‘Bridge House’, a three-storey office building that spanned the canal ‘behind’ Paddington Station. It was here that Pentagram’s Sir Kenneth Grange designed the London taxi and the 125 train. Bridge House’s ground level car park, located behind a high brick wall crowned with barbed wire, barred public access to the canal. Even Langlands and Bell’s footbridge in the neighbouring development seemed to be designed to conceal Bridge House from view. And within the emerging business district around Paddington station, Westminster planners had designated this location as a suitable site for a taller building.

Landmarks of the Industrial Revolution are all around, for instance the Brunel Building site overlooks Paddington Basin, a branch of the Regent’s Canal that becomes the Grand Union Canal. On the other side of the Basin, Isambard Kingdom Brunel’s Paddington Station terminates his Great Western Railway, whose lost timber viaducts were later to inspire our structure.

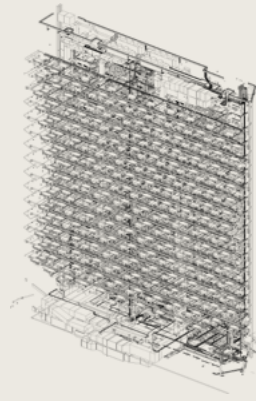


One of Brunel’s now lost timber viaducts spanning the Great Western Railway

A new concrete road bridge that forms the site’s northern boundary was the site of Brunel’s first bridge. Significantly, a new entrance to Paddington Station, with a direct link to four London Underground lines, Network Rail and Elizabeth Line, was constructed across the Basin during our design period.

The Brunel Building design evolved through the close collaboration of an extensive design team, comprising teams within Fletcher Priest, Derwent

London, Arup, Cundalls, Gerald Eve, Gardiner and Theobald and Arcadis. It expanded to include artists Gavin Turk and James Capper and contractors and suppliers, Laing O’Rourke, Scheldebouw and Severfield and many others.



Digital model of Brunel Building’s services

As a team, we maintained a cheerful and productive atmosphere throughout the process, resolving inevitable difficulties along the way. For our part we set out to explore the ever changing nature of work and the workplace, and how both can successfully engage with their surroundings. We aimed to create a flexible platform for change, an innovative business ecology, where personal comfort is achieved simply and sustainably, with amenities that blur the boundaries of work. We hope people enjoy working there as much as we enjoyed working on the design. As ever the form and nature of the building emerges from the analysis and resolution of a complex matrix of issues and individual elements of the design rarely have a single purpose.

The site is a long rectangle bounded by a 150-year old canal wall, crossed by two Bakerloo line cast iron tunnels and a new four lane bridge approach on the northern boundary. These are significant constraints.

An early decision was to reverse the existing building’s orientation to the canal, turning it to face the water. The removal of the existing building that spanned the canal and setting back the building line by six metres, opened a new public access to a new canal path with eventually an uninterrupted pedestrian link to Little Venice. The new station entrance and plaza, the new canal bridges and the Brunel Building’s walkway together



Publicly accessible canalside towpath

define a new public space for Paddington centred on the canal. To emphasise this connection, Brunel’s canal façade is designed to fully open in good weather, with specially developed motorised aircraft hangar doors, that interestingly have, since completion, been open much more frequently than anticipated. The ground floor reception, restaurant, café and bar will also open out onto the canal path with water-side tables.



Vast motorised sliding walls open the building to the canal

Across a floor above the canal, Juliet balconies allow occupants to enjoy the remarkably busy canal life from their desks. The celebration of the historical industrial environment is reflected throughout the new building in the quality of materials and their robust detailing.

Generous internal volumes are a key design objective which we passionately share with Derwent. From the outset, high floor to ceiling heights were deemed important, even though a lower ceiling height would have provided significant additional floorspace within the height constraint of the building. The reception area is 9m high, elsewhere the ground floor is 5m high and a typical floor has a clear 3.475m to the underside of the soffit. The resultant volume provides greater daylight penetration across the floor plates and reduces the use of lighting and consequent energy consumption.

The external structural steel diagrid, located because of site constraints, stands on cast concrete ‘feet’. Thermal ‘mufflers’ wrap the diagrid’s connections to the beams that connect to the in situ concrete cores. Precast concrete floor slabs fabricated in Laing O’Rourke’s automated facility, with an in situ topping, sit between the beams. The external structure is also an integral part of the environmental strategy. Over a daily cycle, the diagrid shades 25% of the external cladding, reducing internal heat gain, allowing clearer glass to be specified and good daylight penetration. Exposed concrete ceiling soffits are key to exploiting the thermal gradients. Two 160m deep artesian wells have also been sunk, one at each end of the site, from which the building draws a significant proportion of its energy.

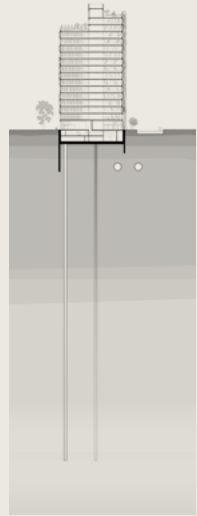


Exoskeleton connection studies

Scheldabouw, the façade manufacturer, Arup façade engineering and our team worked through the detail design of the cladding with Derwent, whose London facility housed a full structural bay mock-up of the resultant design. This proved an invaluable design tool for all suppliers, designers and clients. It extended to a full bay services installation down to the smallest fixing. Arup engineered a high perimeter beam to further enhance daylight penetration and the strong-back spandrel panel allowed thinner glazing to achieve thermal performance and improve the ‘colour’ of the glass. As well as improving performance the spandrel assists occupants who suffer from vertigo and hides the clutter of the workspace from the outside world. Below ground, piling and two storey deep basements are the direct result of careful consideration of the site constraints.



The plan form of the building is essentially the diagram of these structural and constructional constraints. Working closely with Arup we evolved a perimeter frame with central cores, allowing clear spans of 12m generally and a maximum of 16m. Separating staircase cores from the lifts and bathroom core avoids two slender rectangles of workspace and creates a flexible matrix of space.



Two 160 metre deep boreholes provide up to 30% of the building's heating and cooling requirements

Services are exposed internally and distributed across the concrete soffits with equipment concealed behind suspended acoustic rafts that cover about a third of the ceiling area. Lighting is deep-set and carefully positioned to give the best effect when viewed from ground level as well as providing task light. An extensive 3D CAD model of the project was developed and used by design teams. The CAD model was also used on site to great effect to install the services by projecting images onto the soffits to accurately position colour coded fixings for all components.

The boundaries of a typical workspace are deliberately blurred at Brunel. The extensive below ground bike and shower complex, the canalside reception, walkways and moorings, the restaurant café, Gavin Turk's external artwork and James Capper's internal installation are all expected to engage occupants, public and visitors.

There are roof terraces at levels 14 and 16. The larger canalside terrace is accessible to everyone in the building via a dedicated lift and has its own café, bar pavilion. It is a wind-sheltered suntrap with spectacular panoramic views of London and exercise space for the two thousand people who will occupy the building.

At this point I would like to pay tribute to Tim Fyles on behalf of our practice. Tim was one of our Partners. Sadly, Tim passed away last year after a short illness. We all miss him enormously. Brunel would not have been the same without his tireless pursuit of perfection nor indeed would the architects whom he mentored. Derwent has touchingly named the rooftop pavilion after him. Tim joined us from Pentagram, whose studios were in the original building on the Brunel site.

Keith Priest  
Founding Partner, Fletcher Priest

Right image: factory-made pre-cast floor panels being installed







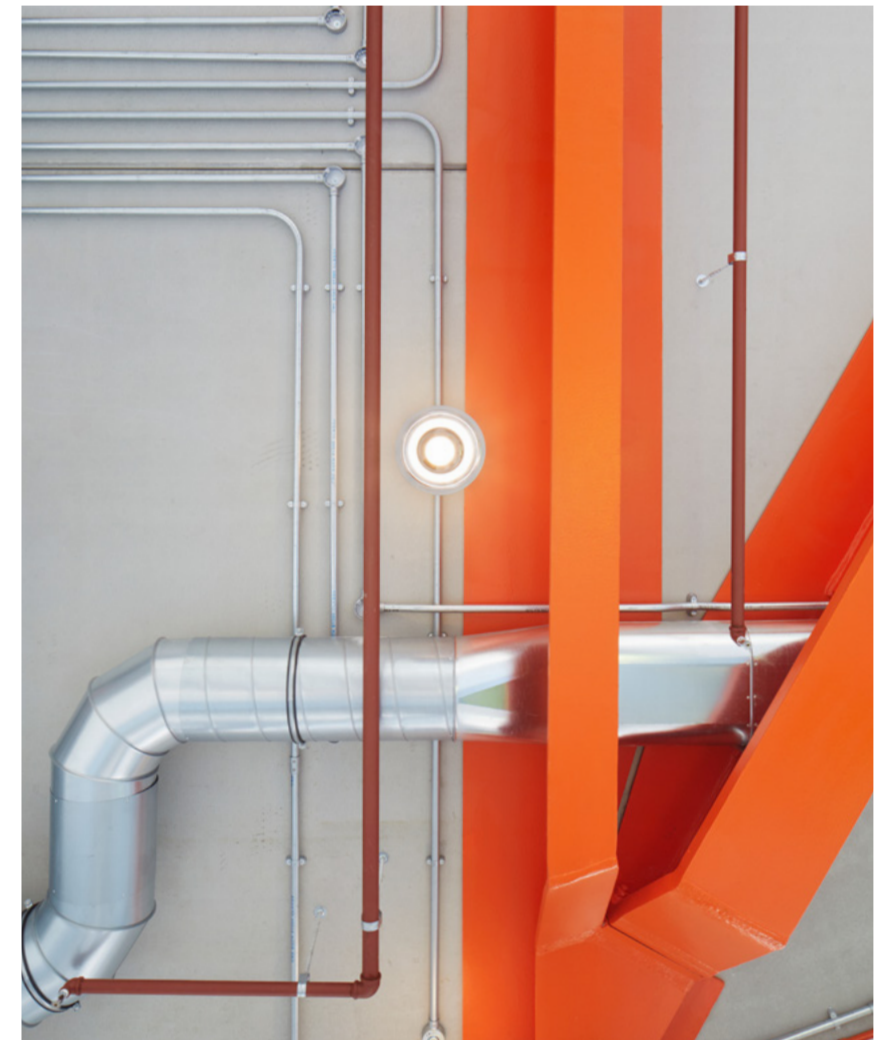
The Fyles Pavilion on the rooftop terrace, along with three Julian Opie sculptures constructed from enamel on glass

**Image overleaf:** The workplace fit-out for AlphaFX takes full advantage of the 3.5 metre floor-to-ceiling heights and deep daylight penetration









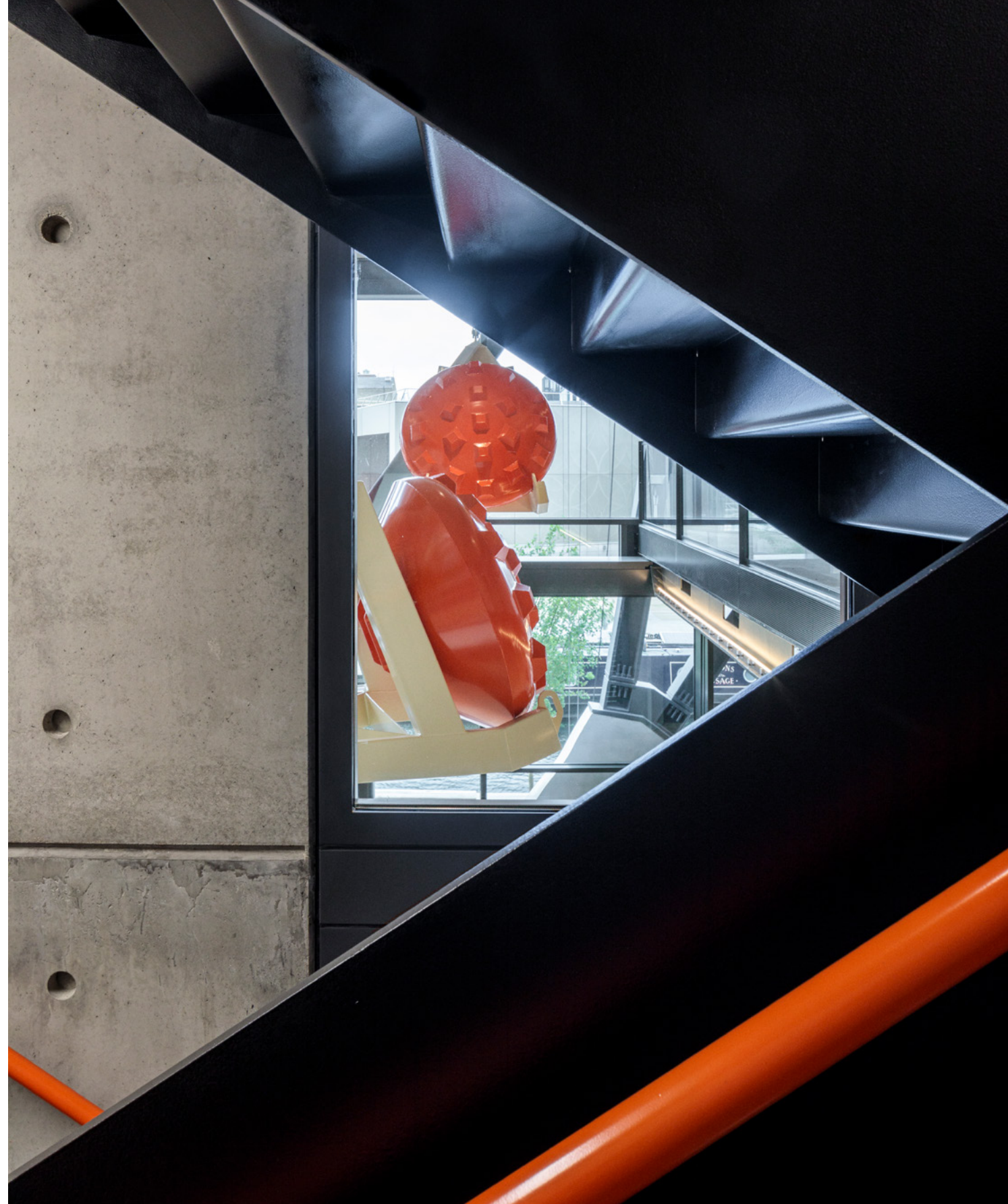
Precisely organised building services installed on the concrete soffit

**Left image:** Brunel Building's industrial aesthetic extends to the bathrooms



The naturally lit stairs are visible above the reception to encourage their use

**Overleaf:** 65 metres up, the building's exoskeleton extends to offer protection to the roof terrace











Left Image: Generous, tall lift cabs linking the ground to floor 15

Salvaged, recycled light fixtures in reception adds to the raw and robust aesthetic







## Team

### Client

Derwent London

### Architect

Fletcher Priest Architects

### Services Engineer

Cundall

### Structural, Geotechnical & Façades Engineer

Arup

### Lighting Designer

EQ2 Light

### Security Consultant

QCIC

### Fire Engineer

Waterman

### Landscape Architect

Barton Willmore

### Building Control

MLM

### Party Wall Surveyor

Botley Byrne

### Rights of Light

Gordon Ingram Associates

### Planning Consultant

Gerald Eve

### Main Contractor

Laing O'Rourke

### Project Manager

Gardiner & Theobald

### Quantity Surveyor

Arcadis

### Construction Legals

Charles Russell Speechlys

### Property Legals

Mishcon de Reya

### Artisans

### Building Identity & Signage

Everything In Between

### Artists

James Capper

Gavin Turk

### Joinery

Benchmark

### Tannery

Bill Amberg

### Photography

Dirk Linder

Jack Hobhouse

Tim Fallon

CoStar

Matt Chisnall

The lights are on as occupiers prepare their fit-outs. Brunel Building was 100% pre-let prior to completion



“Light creates ambience and feel of a place,  
as well as the expression of a structure.”

Le Corbusier



Philips Pavilion, World Exhibition, Brussels 1958  
Le Corbusier









DERWENT  
LONDON