

**SHORTLISTED**

**B**AM Construction built this nine-storey structure, starting on-site in August 2022 and with practical completion achieved in December 2024. Ask, and its joint venture partner, Richardson, secured a full pre-let for over 130,000ft<sup>2</sup> (12,080m<sup>2</sup>) to the Government Property Agency as the end user. The building will accommodate over 2600 civil servants. The construction cost was £64.5 million. The total project value was £105m. The development was forward funded by PIC, which is also a long-term investor in the project.

Ask Real Estate appointed Jon Matthews Architects to design and deliver this sustainable commercial building. The scheme is located within the First Street masterplan, in Manchester city centre.

#### **APPROACH TO DESIGN AND CONCRETE CONSTRUCTION**

A fabric-first approach was adopted for the façade concept. The building is arranged in a clear classical order, with a bottom, middle and top. The base is articulated through double-height precast columns and glazing. Each typical floor has a maximum of 40% glazing arranged in a horizontal rhythm, as this is proven to optimise natural light within the floorplate. A feature precast horizontal panel enhances the extent of solidity within the façade. The building breathes through automatically opening vents linked to the BMS system, increasing fresh air and exhausting the build-up of carbon dioxide. External anodised aluminium louvres provide solar shading within the floorplate.

A strong vertical order is defined by projecting profiled precast concrete columns on a 6m grid, deliberately set forward, creating depth and texture. Each façade component is legible, while also mitigating solar gain through the depth of component and reducing heat loss. The crown of the building is

**MAIN IMAGE:**  
Close-up showing polished precast columns and horizontal green precast concrete cladding panels, with textured acid-etched finish.

## **PLOT 9A FIRST STREET, MANCHESTER**

Plot 9A, a nine-storey commercial building situated on First Street, Manchester, was recently completed for Ask Real Estate. The use of visual, coloured precast concrete in this project has enabled the execution of intricate patterns, a range of finishes and the unusual geometry of the façade.

**Plot 9A, First Street,  
Manchester**

**Client**

Ask Real Estate

**Architect**

Jon Matthews Architects

**Contractor**

BAM Construction

**Precast supplier**

Techrete

**Civil/structural engineer**

Ramboll

*(Photo: Paul Karalius.)*

expressed by a double-height opening to the precast concrete. This conceals plant space/lift over-runs as well as framing the views across Manchester city centre from the large amenity roof terrace.

Building corners are expressed with double columns, allowing views and light through full-height glass-to-glass junctions. A recessed entrance addresses the main pedestrianised route through the masterplan. A large double-height reception and amenity and cycle facilities space are provided on the ground floor. The basement includes car parking and plant space. Each typical floorplate is arranged around a central core, maximising adaptability for tenant fit-out requirements.

Occupier well-being was a key part of the brief, delivered through the provision of winter gardens on each floorplate, to be used as amenity space. Each winter garden has parallel opening vents, maximising access to natural ventilation.

#### PRECAST CONCRETE

Some 337 precast elements were produced, covering a total area of 7000m<sup>2</sup>. These elements included: double-height polished ground-floor columns, window panels with bespoke Reckli pattern and a tapered panel to the crown. Precast work used Techrete's C62 mix design, along with polished and acid-etched finishes; the panels' weight varies from 2 to 14 tonnes.

*“A façade of this quality and complexity would be difficult to achieve if not for the off-site manufacturing of precast concrete.”*

Precast was adopted for the façade due to: a lower embodied carbon; a civic and timeless appearance; a robust, low-maintenance façade; large-scale components benefiting the construction programme; and the mix of finishes creating texture and craft.

#### UNUSUAL FEATURES

The feature pattern on the precast panels was achieved through parametric modelling and the intricate weave includes a series of overlapping and intersecting triangles. The pattern was transferred to a BIM model, which was converted to a model board plug using a CNC machine. This formed a mould for liquid



(Photo: Paul Kerzulis)

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rubber, which was then set into flexible rubber moulds. These were then placed into timber formwork, in which to pour the concrete. The pattern was set at the front of the panel, sitting within an inverted pyramid.

The bespoke green concrete was developed specifically for Plot 9A. Due to the requirement for both acid-etched and polished finishes, the development of a preferred mix, which would retain its vibrancy across both finishes, was lengthy and complex but successfully achieved.

The panels were designed for two-stage casting and the side wings or vertical elements were cast first and polished before being replaced in the mould for the second stage of casting with the remaining components, which were then acid etched. This required careful consideration of the structural performance and jointing of the panels. An added complexity with this type of two-stage casting is ensuring reinforcement continuity

between the horizontal and vertical elements of the panels.

Feature perforated circular precast panels are located at the north-east corner of the building, above the main entrance, alongside the winter gardens. The rear of the panels is visible from within the winter garden spaces. This presented challenges in terms of fixings and panel erection. With acid-etched finishes to both front and back, the panels were erected after the curtain walling was installed to ensure there were no visible fixings. The weight of these panels is solely

**LEFT:**

Plot 9A First Street, completed exterior.

**INSET LEFT:**

Different textures of precast panels.

**RIGHT:**

At the precast factory, giving an indication of precast panel scale.

**FAR RIGHT:**

Installation of the precast panels.



supported off the vertical elements of the main punch window panels and corner vertical mullions using an upside-down billet with a horizontal restraint.

The typical floor precast panels are 6m in width with coffering at the back to reduce panel weight and provide space for insulation and improved thermal performance. The crown consists of U-shaped panels made up of two polished mullions and a splayed spandrel, which is acid etched. The ground floor includes two-storey polished profiled columns.

**VIRTUE OF CONCRETE**

Precast concrete has a design life of a minimum of 60 years. It has the potential to expand far beyond that with built-in enhanced fire and thermal acoustic performance. It can be fully recycled by removing the façade intact or by being broken down into its constituent components, which is increasingly important in this relatively new era of circular economies.

A façade of this quality and complexity would be difficult to achieve if not for the off-site manufacturing of precast concrete. Furthermore, with the windows and remaining façade elements fitted to the panels and erected on-site as one piece, this ensured the construction phase of the project significantly enhanced the programme and buildability of the overall project.

**EXECUTION**

The execution of the intricate patterns, multiple finishes and unusual geometry of the façade delivers a beautiful example of what can be achieved using precast concrete and highlights that there are no limitations to its potential in modern construction.

The hugely positive response in the industry to the appearance of the First Street green mix has inspired Techrete to develop a lower-carbon version for its standard

range, resulting in a 30% reduction in embodied carbon for that mix going forward.

**SUSTAINABILITY**

In terms of environmentally responsive design, Plot 9A achieved NABERS 5.5\*, BREEAM 'Excellent', EPC Rating A and net-zero carbon in operation rating in line with the UKGBC net-zero framework.

Passive environmental strategies influenced both the building's form and detailing. A mixed-mode ventilation strategy is adopted, using BMS-controlled vents that respond to CO<sub>2</sub> levels to provide natural ventilation. A triple-glazed system provides high thermal performance, while the horizontal precast concrete panels create deep reveals, acting as solar-shading devices. Each component in the façade design is legible and has a role in the environmental response.


The whole building targets an operational energy use of 114kWh/m<sup>2</sup> NIA or 74kWh/m<sup>2</sup> GIA per year. A base build EUI of circa 42kWh/m<sup>2</sup> is aligned with a NABERS UK 5.5\* target equivalent. The building's energy supply is fully electric, with no gas, supporting a low-carbon, energy-efficient strategy for the scheme.

During the design stage, the embodied carbon was assessed in accordance with BS EN 15978<sup>(1)</sup>, delineating between upfront embodied carbon and life-cycle embodied carbon as 497kgCO<sub>2</sub>e/m<sup>2</sup> and 682kgCO<sub>2</sub>e/m<sup>2</sup> respectively.

**REDUCING WASTE**

The use of precast concrete has significant benefits for reducing construction waste due to the off-site manufacturing. The window panels were fitted to the precast in the factory and erected on-site as one piece, helping minimise waste. This improved quality control and significantly enhanced the programme and buildability of the façade.

To reduce finishes, steel columns,

beams, soffit and services are exposed, cutting embodied carbon. To minimise embodied carbon, the composite metal deck slab was reduced to 130mm, resulting in a significant reduction of the volume of concrete and therefore lighter steel beams and columns and reducing reinforcement for the foundations. Working with the contractor, a fibre-reinforced solution was implemented, reducing the amount of slab reinforcement and construction period. 

**Reference:**

1. BRITISH STANDARDS INSTITUTION, BS EN 15978. *Sustainability of construction works. Assessment of environmental performance of buildings. Calculation method.* BSI, London, 2011.

**Judges' Comments**

*This is an exceptional example of what can be achieved with precast concrete. The consistency of surface finish and colour through each panel, and between panels, shows the level of control through mix design, batching and finishing.*

*Acid-etched/polished finishes are well executed, with the feature pattern on the precast panels achieved through parametric modelling. The intricate weave includes a series of overlapping and intersecting triangles. The bespoke green concrete was developed specifically for Plot 9A.*

*The finish was flawless, even from viewing distances closer than expected for visual concrete. The colour chosen contrasted but complemented the traditional red brick used in Manchester.*

*The cladding to the building gives the structure a solid, robust appearance that would not look out of place on a building of national importance, such as an embassy.*

*Weathering of the external precast units was considered, with rain run-off going behind the façade.*