

## Assembly Bristol, Building A



### PROJECT TEAM

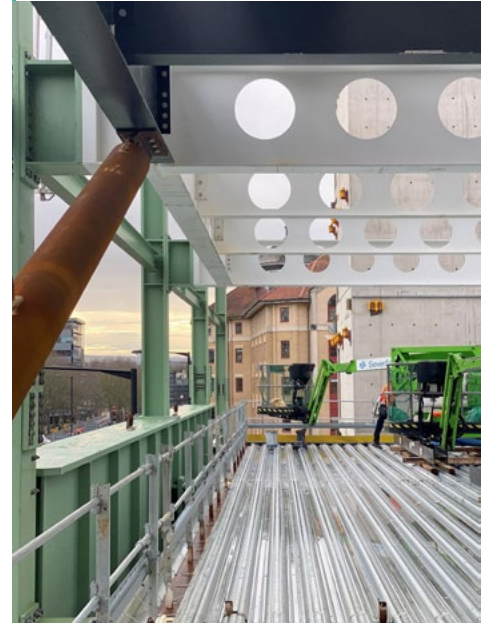
Architect: **Allford Hall Monaghan Morris**

Structural engineer: **Arup**

Steelwork contractor: **Severfield**

Main contractor: **Galliford Try**

Clients: **Bell Hammer, AXA IM**



Assembly Building A is the development of a landmark commercial office and associated public realm adjacent to the Floating Harbour in Bristol City Centre. It is immediately recognisable for its expressed external steel frame which is painted 'Bristol green'. The 24,000m<sup>2</sup> building is the first of three that will make up the Assembly campus, providing high-quality flexible B1 office space for up to 3,000 people across 13 floors.

The structure is 120m-long, 25m-wide, and consists of a steel frame on a 9 x 12.5m grid, with a composite floor slab on trapezoidal metal decking. The beams on grid project through the façade to take support from the external columns. The secondary beams are spaced at 3m intervals and are supported by a central spine primary, and a perimeter edge primary. The building is stabilised by three separate concrete cores and three 18m-long transfer beams support up to 12 floors and bridge a major brick sewer, which crosses the middle of the site.

The brief was to create a new destination for Bristol through high-quality and cost-effective design that would attract the very best tenants. The ambition from the outset was to make the structure a key component of the

architecture. This was achieved through an efficiently designed and meticulously detailed steel exoskeleton. Letting the whole building to BT on a 25-year lease demonstrates the building's commercial success.

A key innovation for a structure of this type was designing out the thermal breaks. This was achieved by using fabricated I-sections for the steel stubs that penetrate the façade, allowing the flange and web thicknesses to be optimised and justified through a combination of iterative 3D thermal modelling and advanced structural analysis. This resulted in a deceptively simple solution that was thermally 40% more efficient than the traditional approach and eliminated 270 thermal breaks together with associated fabrication, installation and weather sealing complexity.

Steelwork is exposed both internally and externally, and connections have been carefully detailed to ensure visual consistency and elegance. Examples include domed bolt heads on external column splices and specifying whether fin-plates should be on the left or the right side of the beam web. This level of detail was only possible through close collaboration and the use of digital

technology - the steelwork contractor's model was regularly federated with the architect's model to assist with coordination.

The building has achieved a BREEAM 'Excellent' rating, is WiredScore Platinum and WELL enabled.

### Judges' comment

Part of a new city office complex, Assembly Building A is striking for its robustly designed and detailed steel exoskeleton, coloured 'Bristol green'. It, and a new pocket park, is squeezed onto a site tightly constrained between Bristol's Floating Harbour, surrounding highways and several immovable ground structures. This new destination development, built at regional economic costs, has attracted the very best tenants.