

Case Study  
**Parabola, Kensington High Street**



**Project name:** Parabola

**Project location:** Kensington High Street

**Client:** J.Coffey Ltd

### Project Background:

The Parabola building formerly known as the Commonwealth Building, is an iconic tent-like structure that sits on Kensington High Street. The Parabola's initial construction was a bold piece of architecture for when it was built in the 1960's with a hyperbolic paraboloid copper roof. Designs at the time only permitted half of the concrete roof construction to be built with the remaining roof built traditionally.

After being empty for nearly 10 years, an agreement was reached in early 2008 with the Design Museum for a new 100,000 sqft museum in the Exhibition Building as well as 3 new high quality residential apartment buildings which will complement the Exhibition Building. The 62 residential units consisted of 9x one bedroom, 13x two bedroom, 28x three bedroom, 11x four bedroom and 1x five bedroom units.

J.Coffey Ltd was awarded the contract from Mace to strengthen the roof structure, before any refurbishment work was undertaken. Their main scope of work was to provide support to the roof skeleton while the spines and valleys of the roof were strengthened. Thanks to our close working relationship with J.Coffey Ltd, they contacted us to provide technical support and equipment for the support of the roof while strengthening works took place.

The hyperbolic paraboloid skeleton of the roof was very difficult to support, as it sloped in three different directions, meaning that a bespoke solution was required to cater for the unusual nature of the project. We also had to consider very high lateral loads from the structure and the fact that the roof had to be supported from the 3rd floor while back propping these high loads down to the ground floor. We were unable to fix our support systems to the structure directly due to its

listed building constraints, so all horizontal and vertical loads had to be distributed evenly throughout our system.

The support design detail was created through a number of meetings with Mace's Structural Engineer, Sebastian Kaminski and a close working relationship between our senior team members, Neil Conroy, Martin Ostrowski, Stuart Bamford, Paul Leach and J.Coffey's on site team Pat Kennedy, Brain Mansfield and Tom Mannion.

The support was achieved by using our unique and adaptable Titan Decking system. The flexibility of the Titan Decking system allowed us to distribute the loads without having to tie in to the existing structure. The system also allowed the safe erection and dismantling utilizing the Ischebeck Titan Hand Rail Frames and Walkway Platforms.

We would like to thank everyone involved on this project especially Martin Ostrowski who worked tirelessly on the design and spent a number of nights working at home to enable the project to stay on schedule.

