

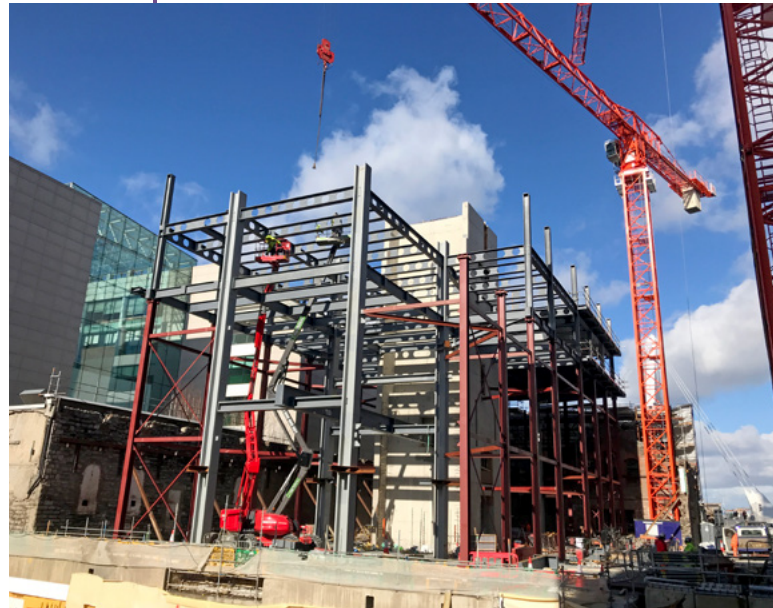
Tropical Fruit Warehouse, Dublin

PROJECT TEAM

Architect: **Henry J Lyons**
Structural Engineer: **Torque Consulting Engineers**
Steelwork Contractor: **Steel & Roofing Systems**
Main Contractor: **P.J. Hegarty & Sons**
Client: **IPUT Real Estate**



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Located in Dublin's South Docklands and overlooking the River Liffey, Tropical Fruit Warehouse comprises two distinct office blocks (Block 1 and Block 2), which are interconnected with a two-storey glazed link bridge at third and fourth floor levels. There is also a single storey glazed atrium connecting the buildings at ground floor level. Block 1 is a five-storey office block over a two-storey basement. Block 2 is a two-storey office block constructed at third and fourth floor levels, over the footprint of an existing two-storey protected structure warehouse.

A structural steel solution was chosen for the superstructure frame for Block 1 as it facilitated the long spans and shallow depths required to meet the client's brief and keep within planning constraints for building height. The floor solution comprised a series of parallel 'Westok' cellular steel beams supporting a composite slab. Structural stability to Block 1 is provided by two concrete cores. Cast-in plates were fabricated and cast into the cores to facilitate connections between the steel floor beams and concrete cores.

The architectural concept of the two-storey Block 2 office structure is that of a 'floating' glass box above the existing two-storey warehouse, with minimal structural support. A total of six fabricated plate girder columns and one central concrete core provide structural support to Block 2, which measures approximately 19.5m x 40m in plan. The longest cantilevers to the structure are on the north-east and south-east corners of the building and measure 10.35m on the diagonal. These were achieved by using a series of triangular-shaped steel trusses at roof level and at underside of third floor level concurrently. These trusses span from the central core across two fabricated plate girder columns and extend out to the slab edge, where they connect via steel perimeter columns. In this way the entire structure acts as one unit over its full height.

Because the entire structure to Block 2 is suspended above the roof of the warehouse, 18 no. 305UC temporary steel columns were erected around the perimeter at structural node points, to support the primary steel structure

during construction. These 13m-high temporary columns were braced laterally, and the head plates were designed to accommodate a hydraulic ram in a central void that could be expanded to allow the release of two outer steel chocks, and then deactivated to allow the completed suspended steel structure with metal decking to become self-supporting.

Judges' comment

A hugely imaginative scheme which revitalises a protected warehouse building. A substantial new five-storey office block at the back, and a two-storey office structure which appears to float above the heritage building. The scheme successfully creates a prestigious and substantial office on the River Liffey waterfront, whilst still preserving the original warehouse.