Multi-level extension yields keen city occupancy

2 Market Street, Sydney

A prominent corner of Sydney's CBD, known as the Allianz Centre was recently revitalised with a new six storey commercial tower on the existing office building's forecourt, 95 percent of which was already leased by the time the new structure was completed.

A structural steel solution was employed to construct the new building of pristine office space and a stunning retail forecourt above the existing three level car parking station at Two Market Street with minimal disruption to the existing building on the commercial precinct.

The building is connected to the existing tower by a full height atrium and individual bridge links on all six office floors. This atrium is a focal point of the design effectively integrating the old with the new while delivering a sense of light and space by the extensive use of glass utilised by the architectural team.

The new structure offers panoramic views of Darling Harbour and Cockle Bay and incorporates a 2000sqm Fitness First gymnasium on the retail level.

Property owners, Macquarie Office Trust (ASX: MOF) and Allianz Australia Insurance held high expectations for the new development. The objective was to reposition the site as the dominant building in the western corridor of the Sydney CBD with A-grade office space.

Structurally, BlueScope Lysaght W-DECK® was employed by engineers Arup to facilitate longer un-propped spans of 3.6 metres. This is not possible with traditional closed form or dovetail profiled decks. The un-propped construction allowed the existing car park below to continue operation with minimal interruption.

Fitout of the new lower levels therefore proceeded while the building continued upwards. Concrete band beams were considered, but these did not allow un-propped formwork and would have involved mixed trades, limiting the speed of construction.

Lipman builders' safety officer, **Peter Elliot** commented that there was less risk for them to manage because work was only proceeding on a limited number of fronts. There were less workers on site and construction was fast.

The floor-to-floor heights of the new building were set at 3.6 metres to match the existing building. With 11 metre floor spans, this required services coordination within the ceiling zones. As such, stiffened beam penetrations were made in multiple locations on each floor to accommodate connection of multiple services.

The development employed a multi-disciplinary design approach with Arup managing the design of structure, services, fire engineering, geotechnical, façade and sustainability design, resulting in seamless transitions and interface areas.

Architecturally, the building features a seven-storey steel framed atrium with a glass ceiling and colour feature glass façade between the new building and its older neighbour. Within the atrium, steel bridges with glass balustrades link the two buildings on every floor. A lift comprising exposed steelwork creates a light and open atmosphere.

The new building was also transformed into an innovative 'green' building by incorporating features like a chilled beam air conditioning system and roof rainwater harvesting. The design is expected to achieve a 4.5 to 5.0-Star Australian Building Greenhouse Rating (ABGR) and a four-star Green Star rating.

The use of steel frames provided significant project cost certainty by reducing delay risks and minimising disruption to existing tenants. The total project cost A$46 million including design and construction.

Project Team

Client: Macquarie Office Trust and Allianz Australia Insurance

Development Managers: Macquarie Asset Services and Spectrum Partners

Project Manager: TSA

Architect: Crone Partners

Engineering: Arup (structural, services, façade, fire, geotechnical)

Builders:
Early Works – Barbro Constructions
Main Package – Lipman

Steel Fabricator for main works: Gonzalez Fabrication and Erection

Steel Detailers for main works:
Steeltech Steel Detailers (main building)
Hunter Drafting (Fitness First premises)

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