

GENERATING GLOBAL HUBS

Redefining North Sydney's skyline, 177 Pacific Highway is a \$413M, 31-storey landmark development set to become CIMIC Group's new global hub. Constructed by CPB Contractors, the construction subsidiary of CIMIC Group, and developed by Leighton Properties, CIMIC's development subsidiary, it includes state-of-the-art design elements and environmentally sustainable features such as low temperature air conditioning systems, rainwater harvesting, and high performance glass façades.

CPB Contractors is a leading Australian construction contractor that employs over 18,000 people working at operations across Australia, New Zealand, Papua New Guinea, Asia and India. As the CIMIC Group's construction company, CPB Contractors has constructed a number of large scale office developments across Australia, from Westpac Place in Sydney to 567 Collins Street in Melbourne and 111 Eagle Street in Brisbane, and internationally.

With development experience spanning over 40 years, Leighton Properties has developed some of the country's most notable landmarks including 567 Collins Street in Melbourne, Eclipse Tower in Parramatta and Kings Square in Perth. With this in mind, Leighton Properties and CPB Contractors collaborated closely, to deliver the first major commercial office project in North Sydney for the past six years.

The landmark development, set to become one of Sydney's most significant projects, features around 40,000m² of commercial space across its 31-levels and has redefined the North Sydney skyline with its unique look. Featuring state-of-the-art design elements, the building features a unique ground floor podium with a 15m high glass façade that creates a light filled and inviting entrance to a Garden Plaza and commercial foyer.

The highly successful Naked Duck restaurant and café chain will be expanding from its two locations in the Sydney CBD, into 177 Pacific Highway's Garden Plaza. The Naked Duck as well as Sushi Jones, will create a vibrant town square atmosphere within the Garden Plaza, providing on-site retail amenity for the 3,000 or so employees who will be based in the tower during the working week.

Tenants will also have access to a wealth of retail and service amenities nearby including Northpoint retail centre, Greenwood Plaza, gyms and childcare centres.

Large floor plates (1,198m² – 1,565m²), a PCA A grade office quality rating and harbour

views ensure that tenants' needs are catered for, with most of the commercial tenancies already pre-leased by major corporates such as Cisco, Vodafone, CBRE, Jacobs Engineering, Objective Corporation and Pepper Property. The international headquarters of CIMIC Group and its subsidiaries CPB Contractors (corporate office, plus its New South Wales and Tunneling business units), EIC Activities, Pacific Partnerships and Leighton Properties will also be located at 177 Pacific Highway, North Sydney.

A number of environmentally sustainable features have been incorporated into the building design, and as a result it has earned a 5 Star Green Star v3 rating, and a 5 Star NABERS Energy rating. Low temperature air conditioning systems for reduced energy consumption, rainwater harvesting and high performance glass façades all feature in this state-of-the-art building.

Not only is 177 Pacific Highway situated in a prominent location in North Sydney, it can also be easily accessed via car, train and bus. The newly upgraded North Sydney rail and bus interchange is located within approximately 400m and to further cater for its tenants, full end of trip facilities have been incorporated into the building design.

This project did not come without its challenges, however, with CPB Contractors relocating a major stormwater pipe and easement before construction of the building's basement could commence. The easement had previously flowed directly through the site and its relocation displayed the engineering prowess of CPB Contractors.

When it comes to 177 Pacific Highway, North Sydney, CIMIC Group has displayed its ability to leverage the skills of two of its subsidiaries, and offer clients a unique vertically integrated service offering.

Through close collaboration between Leighton Properties and CPB Contractors, CIMIC Group has been able to deliver one of North Sydney's largest commercial office

towers and generate a significant value uplift for its international client, Suntec REIT, to which the building has been sold.

Australian owned CIMIC Group, provides construction, mining, engineering, concessions, operation and maintenance services to the infrastructure, resources and property markets. Operating in more than 20 countries throughout the Asia Pacific, the Middle East, Sub-Saharan Africa and South America, it is one of the world's leading international contractors.

For more information contact CIMIC Group, phone 02 9925 6666, website www.cimic.com.au



DEVELOPER : Leighton Properties Pty Ltd
ARCHITECT : Bates Smart Pty Ltd
PRINCIPAL CONTRACTOR : CPB Contractors Pty Ltd
BUILDING OWNER : Suntec REIT
STRUCTURAL ENGINEER : Arcadis
PROJECT VALUE : \$413 million

LEADERS IN THEIR FIELD

Working with some of the most established and respected names in the construction industry, Brighton Australia has gained a reputation for its expertise in interior and exterior architectural finishes. With a portfolio that includes the New Royal Adelaide Hospital, the Royal North Shore Acute Hospital and the International Convention and Exhibition Centres at Sydney's Darling Harbour, the company continues to deliver on some of the largest and most exciting projects in the country.

Boasting a solid track record in delivering quality results, the 177 Pacific Highway North Sydney project represents another notch in Brighton Australia's construction belt. With a challenging scope that included construction of the podium façade, base building ceilings and partitions and office fit-out on the 30-storey building, the company

had its work cut out. Having completed the Bates Smart designed Clayton Utz fit-out at 1 Bligh Street Sydney several years earlier, the company knew what to expect and again delivered what was required on yet another challenging design by the award winning architects.

Perhaps the jewel in the crown of the 177 Pacific Highway development was the 13m high public garden plaza nestled behind the podium façade. This showcased the company's ever growing skills and expertise in delivering on complex and intricate projects. Installing a range of finishes from the façade steelwork and curtain wall, to the aluminium composite panels, glazed panels, balustrades, aluminium doors and windows that make up the fit-out, the plaza is destined to become the heart and soul of the building, and a valuable addition to the street life of the North Sydney CBD.

Working with their experienced Contract Managers, Simon Malam (façades) and Azra Avdic (ceilings and partitions), the Brighton Australia site team of Sasa Matuzovic, Bobby Boroja, Marinko Stojic and Fudo Budimlic managed the construction of this intricate project with a minimum of fuss. The established team managed the construction process smoothly, ensuring the project was delivered on time to the highest possible standards.

For more information contact Brighton Australia, 65 The Grand Parade, Brighton Le Sands NSW 2216, phone 02 9599 6230, fax 02 9599 1766, email admin@brightonaustralia.com.au, website www.brightonaustralia.com.au



COORDINATING DETAILED SOLUTIONS

Boutique consulting engineering firm LP Consulting Australia Pty Ltd provided all Hydraulic Services Design Documentation for the "Workplace in the Sky", 177 Pacific Highway, North Sydney. "LP Consulting Australia has worked closely with the Leighton Group of Companies and Axis Plumbing NSW to produce leading edge, 3D Revit Documentation including Building Information Modeling (B.I.M.) to produce a 100% clash free model," explains Louis Panagopoulos, Project Director and Principal Engineer of LP Consulting Australia.

"We also provided detailed services coordination with all other disciplines including architectural, structural, mechanical and wet fire services, participating in detailed service design meetings over a period of a year," says Louis. During this time, LP Consulting Australia solved complex coordination challenges in areas of interface with structural, mechanical, fire and electrical services.

"Faced with tight headroom tolerances in the basement of the building, most of the early planning was focused on detailed coordination within the basement and lower ground level of the building," Louis recalls. "Further detailed coordination hurdles were faced on level three and the rooftop plant room areas." Expert solutions were similarly required to construct a model containing

graded gravity pipework. "The hydraulic design was located around the lift core area of the building," Louis explains. "The lift core was offset in three locations which made transfer of gravity and pressure pipework detailed and complex."

LP Consulting Australia is a leading provider of civil engineering, hydraulic and fire services, Sydney Water Servicing Coordination, Design and Project Management services, particularly for high-end and complex projects. Established in 2013, the team of seven professionals headed by Louis has an extensive track record in delivering research and experience based consultation. LP Consulting Australia's design solutions are innovative, cost effective and meet clients' needs.

LP Consulting Australia's key clients include, NSW Government (Trade and Investment), PAYCE Properties, University of NSW, Leighton Contractors, NSW Rural Fire Service, Axis Plumbing, Dasco, M Projects, Toga, Metro Property Group, Citta Property Group and a host of other major and minor private entities.

For more information contact LP Consulting Australia Pty Ltd, Suite 2, Level 8, 15 Castlereagh Street, Sydney NSW 2000, phone 02 9223 4444, mobile 0416 256 955, email louis@lp-consulting.com.au, website www.lp-consulting.com.au



ACCESS MADE EASY

Specialising in the manufacture, distribution and installation of raised access floors across Australia and other countries, ASP Access Floors continues to deliver effective solutions and products to the market. The company's ongoing dedication to technology and innovation can be seen through its many international patents and designs – including its own flooring systems.

An example of these flooring systems can be seen through ASP Access Floors work on the 177 Pacific Highway development.

ASP Access Floors supplied and installed 40,000m² of raised access flooring throughout the building, using its Steel Cementitious Medium Grade Ultrafix System at 80mm finished floor height.

“The system used allowed for entire floor areas of approximately 1,500m² to be completed within four days,” explains ASP Access Floors Angela Zlatar.

“The ASP Access Floors Ultrafix System has special patented features that allow speed of installation, benefiting both the builder and the client in terms of project timeframe and cost.

“80mm finished floor height is quite a low height which requires more careful attention to areas where there are inconsistencies in the slab. Also, there were large circular columns on every floor which the access

floor was precisely cut around. To achieve a perfect finish at these points, ASP Access Floors made use of our specialty size panels of 800mm and 300mm.”

In addition to undertaking projects throughout Australia, ASP Access Floors works on projects in the Middle East, United Kingdom, New Zealand and South East Asia.

A couple of the company's recent major projects include Barangaroo International Towers (300,000m²) and Medibank in Victoria (40,000m²).

“ASP Access Floors is a family owned company, ensuring that we complete projects for our clients with quick and precise installation using a market-leading high quality product with special patented features,” adds Angela.

“ASP Access Floors pride ourselves on sustainability both in product and organisation by development of an EPD (Environmental Product Declaration) and yearly auditing and targets on reducing carbon emissions.”

For more information contact ASP Access Floors Pty Ltd, 32 Prime Drive, Seven Hills NSW 2147, phone 02 9620 9915, fax 02 9620 9918, email sales@aspfloors.com.au, website www.aspfloors.com.au

AN INNOVATIVE APPROACH

With a large team of professionals ensuring a safe and quality service, formwork specialists BKH Group not only offer formwork solutions, but can complete full concrete structure works. This includes concrete placement, reinforcement, post tensioning, perimeter screens, jump forms and scaffolding works.

Contracted by Leightons (CPB Contractors) on the 177 Pacific Highway development, BKH Group completed all the formwork and perimeter edge protection.

This involved the design and installation of formwork to the main concrete structure, installation and management of the hydraulic jump form system to main core works and the design, installation and management of the hydraulic screen system. The company also designed and installed a high strutting shoring system for the building's pop out floors.

“The project involved the use of an updated hydraulic perimeter screen system for all the edge protection to slabs,” explains BKH Director, Ben Geisker. This system was collaboratively designed with Peri Australia and BKH, and allowed for a self-climbing edge protection system for coverage over 4-floors to the project.

“We also used a modular shoring system called Rosset from Peri with supply, design and installation by BKH. This allowed for a safe and secure way to support the large slab pop outs that occur at different floors up the building with shoring up to 20m in height while also providing edge protection. We also incorporated our aluminum Wexdek panel systems to parts of the slabs for fast easy installation and removal of formwork,” adds Ben.

Positive outcomes for BKH included their overall formwork design and success for the installation of the hydraulic screens and Rosset system. Contributing to their success was BKH's ability to work on a tight program due to earlier delays on the project and to help complete the project structure on time with Leightons.

BKH recently completed the Darling Harbour Live precinct with Lendlease, Four Points by Sheridan in Sydney for Brookfield Multiplex, and Shores Building 8 – 10 Wollie Creek for Probuild.

For more information contact BKH Group, 32 Tattersall Road, Kings Park NSW 2148, phone 02 9671 8700, fax 02 9671 2981, email info@bkhgroup.com.au, website www.bkhgroup.com.au



PREMIER FIRE PROTECTION

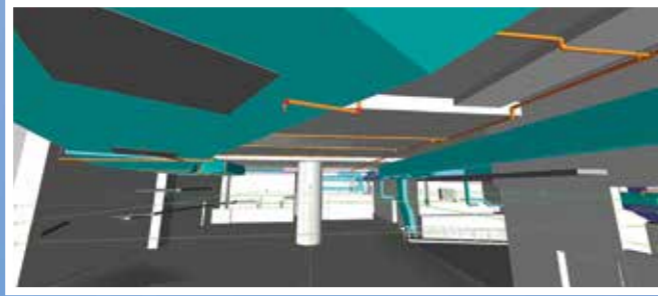
The Premier Fire Group of Companies specialises in the design, supply, installation, commissioning and servicing of Fire Protection Systems. The Company provides fire protection services to clients within New South Wales and Queensland for its offices in Sydney, Brisbane, Townsville, Mackay and Airlie Beach.

All installation and service work is carried out by the company's trained and licensed employees and specialist sub-contractors. "Since 1987, Premier Fire has grown in size and reputation to be one of the most successful and reliable fire protection companies in Australia," said a company spokesperson.

"We believe that we provide a high level of service to all our clients and this is supported by the relationships that we have developed and maintained over the 30 years that we have been in business."

"Premier Fire is proud to have been granted the design and construct contract for the fire services at the 177 Pacific Highway project. This was the latest project in a long standing and close working relationship between CPB Contractors and Premier Fire over many years."

For more information contact Premier Fire Services Pty Limited, 3 Gibbes Street, Chatswood NSW 2067 (P.O. Box, 682 Willoughby NSW 2068), phone 02 8422 6888, email info@premfire.com.au, website www.premfire.com.au



ABSOLUTE FREDON

Working on the design and construction of heating, ventilation and air conditioning for 177 Pacific Highway saw Fredon HVAC bring its trademark project management and design expertise to deliver the building's energy targets.

Encompassing low temperature supply air techniques, careful consideration was given to every facet of the engineering processes. This included the selection of highly efficient central plant and selection of induction type supply air terminals for final air delivery.

On site, Fredon adopted an innovative approach whereby office levels were progressively commissioned using temporary modular fan assemblies. "This enabled the balancing and commissioning of floors to be undertaken prior to the main plantrooms being operational, which increased construction program flexibility and shortened overall commissioning time at the back end of the project," explains Hesam Nikpour, Fredon HVAC NSW Design Engineer.

Another unique challenge in the building were large-size shafts at the back of the building. "Fredon proposed a concrete strip solution in collaboration with CPB Contractors which maximised the available riser size and ensured the highest level of safety was maintained," says Hesam.

The project also used some non-typical products, including dilution fans for hot water generator flues. "The system mixes fresh air with

CO₂ output from the boilers to dilute it to acceptable levels and discharge it on Level 3. This is necessary for the Level 3 plant room, because discharging undiluted CO₂ at height from the top of the building is not an option."

The podium area utilises a semi-natural ventilation system with the assistance of Whirlybird-style fans. "When wind levels are either too high or low, automated systems kick in to supplement the natural ventilation," adds Hesam.

Teamwork between Fredon's staff, builder and subcontractors was critical to the project's success. "It's been a great experience to work with CPB Contractors on a large-scale building, the first in North Sydney for a number of years," said Zoïs Kotsis, Construction Manager of Fredon Air.

FREDON

For more information contact Fredon, 123 Wetherill Street, Silverwater NSW 2128 (PO Box 6006), phone 02 9475 9400, fax 02 9748 0040, email contact@fredon.com.au, website www.fredon.com.au