

53

ALBERT STREET

HUTCHINSON BUILDERS
BRISBANE QLD

CREATIVE CONVERSION

Head contractor for the 53 Albert Street Project, Hutchinson Builders is Queensland's largest privately owned construction company with turnover exceeding \$1 billion per annum and major projects underway throughout Australia. At any one time, they may have up to 100 projects on the go.

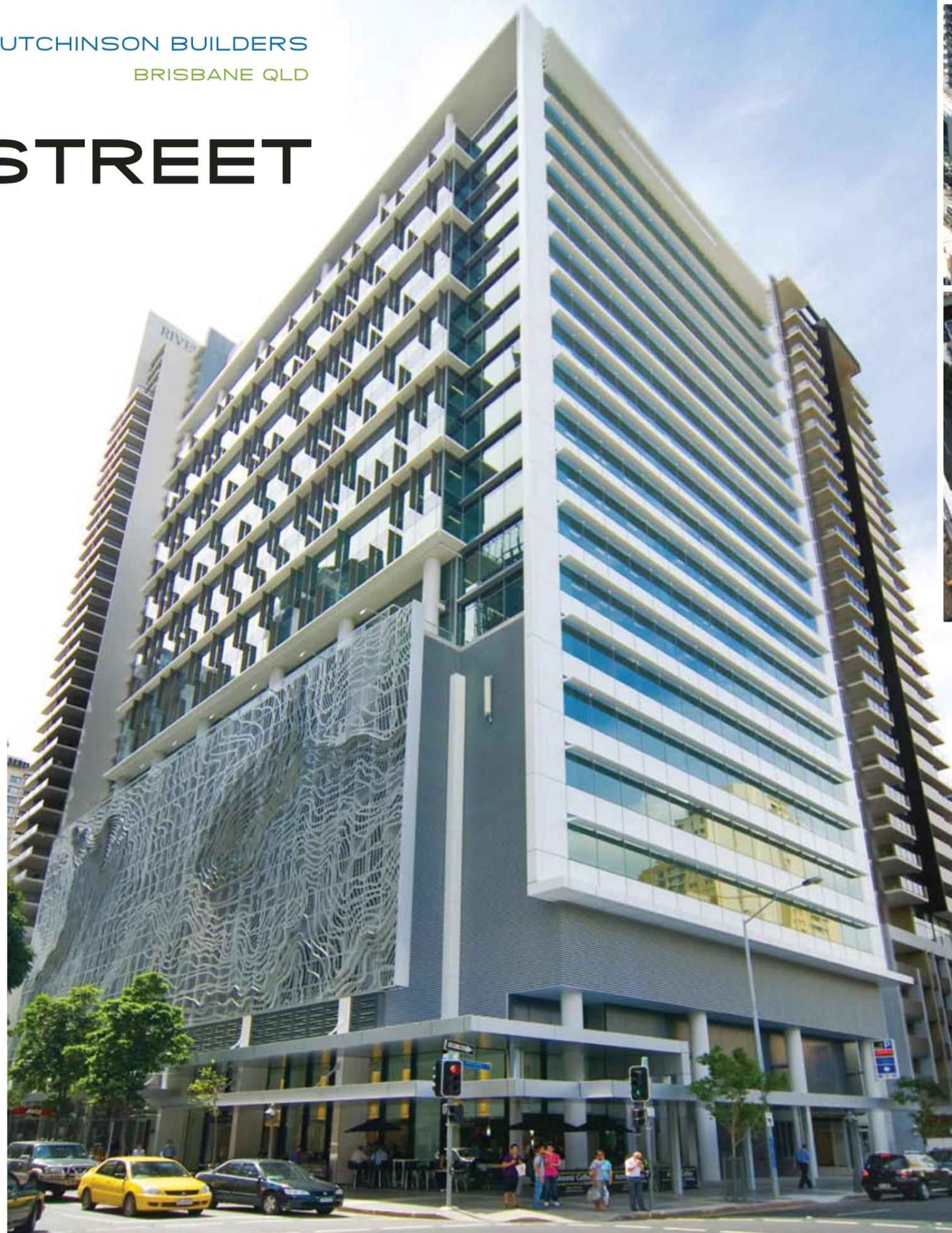
Site work for the \$70 million Albert Street project started in May 2007. In December 2008, Site Manager, Dave Warner, said that construction was on schedule for completion by 18 February 2009. The entire building is already fully leased.

The project involves refurbishing an existing nine level, 580 space car park, converting the ground level to provide an office tower lobby, secure loading and some retail space, and then topping it with 13 new levels. Levels 10 to 22 offer A-grade commercial office space and a plant room occupies the new level 23. The building orientation capitalises on its setting with views towards both the Botanical Gardens and the Brisbane River beyond.

Preserving the integrity and stability of the existing car park structure while building a new structure through, around and on top of it presented some unique challenges. Hutchinson team leader for the project, John Berlese, said that the first challenge was to mount a crane on the roof of the existing structure, and then cut a 13 x 20 metre hole through all nine existing floors to allow construction of two new lift and service cores. The existing lift shaft made a handy rubbish chute to dispose of the cut-out concrete. The cut started at the top and worked down to ground level, and then a further seven metres below it to create a pit for the base of the new lift cores. As the hole worked its way down, cutting into one floor at a time, each level was back-propped: the reverse of the usual process as construction moves upward level by level.

Excavating for the new seven metre deep lift core pit also required an innovate approach to bracing and stabilising the existing structure.

To support the 13 new levels of office space, a new transfer slab was built at level ten. A more conventional approach was taken to construction of the levels above.



Above: converting an existing carpark into stylish multi-level office.

Hutchinson Builders has a proud heritage that has been meticulously crafted over almost a century of committed effort. Established in 1912, the collective effort of the Hutchies' team has seen its capabilities and expertise evolve into a large-scale construction company that has recently expanded beyond the traditional building and civil sectors into the mining and engineering sectors.

With more than 900 experienced and skilled staff supported by an exceptional financial capacity and an impeccable reputation for integrity and fair dealing, Hutchinson adopts a co-operative and flexible approach to contractual relations. They provide a no-obligation design development and cost planning service and are well geared to service every geographical area throughout Australia, including islands and regional, rural and remote areas.

Over that period Hutchinson Builders has evolved to become an award-winning construction company with exceptional financial capacity, an impeccable reputation for fair dealing and a co-operative and flexible approach to contractual relations.

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CUTTING EDGE PROJECT SERVICES

Blades Project Services are specialists in Project Management and Development Management services. For the 53 Albert Street project, their involvement spanned the full, start to finish process, from feasibility studies, to project management and contract supervision.

Blades' services are tailored to the project needs of individual clients. For the Albert Street project they were engaged right from the initial feasibility studies, which looked in detail at both buildability and commercial viability.

Blades brought together a technical and commercial consultancy team that assessed and reported on the practicality and cost of preserving the existing car park structure and building a new tower over and around it, and also examined in line with the client the proposal from a marketing viewpoint, to assess demand for and probable rental yield from the car park, in its proposed modified form, and from the new retail and tower office space to be created.

With several months of feasibility studies completed, Blades had created strong working relationships with the client, and had a very clear understanding of their aims. They were able to manage quickly and successfully the tender process for the head "design and construct" contract tender, won by Hutchinson Builders.

Project manager, Ben Schodel, said that the design and construct contract terms meant that most of the time and cost risks were borne by the head contractor. "The feasibility study process was thorough enough to eliminate nasty surprises once construction was under way," said Ben, "But we did strike a two or three week delay, when we had to bring the structural design team in again to advise on temporary stabilisation of the old car park structure. Work on the new lift cores meant that extra bracing was needed while the new seven meter lift pits were being dug."

Through value-management, efficient planning and coordination Blades Project Services contributed greatly to the project's success.

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CARPARK CUT-OUT

ADG Engineers (AUST) Pty Ltd led by Founding Partner Marco Ficca, provided all structural engineering design for the Albert Street project. The project contains several innovative structural features.

"The Albert Street project was by no means the largest we've worked on," said Marco Ficca, "many of our projects in the Middle East are on a much larger scale, but the technical challenges at Albert Street certainly drew on all our experience."

More than 40 per cent of the pre-existing car park slab structure at Albert Street was cut away, but to minimise cost it was important to re-use and reinstate as much of the original slab work as possible. Some of the cut-outs were temporary and had to be reinstated with newly-poured concrete, integrated by post-tensioning and using rock anchoring technology to lock the old and new together.

As well as the cut-out for the two new lift cores, slots were cut around the perimeter to accommodate an 18 metre high tower for the drilling rig used to install the piles that support the new tower structure. A large internal slot also had to be cut to enable the drilling rig to be moved to the rear of the structure.

The stability of the existing structure was seriously tested. In addition to the many new holes in the old slab floors, the original lift core, the major

stabilising element, was demolished at commencement of work. The tower crane propped off the existing slab also added to the complexity of the temporary loads during construction.

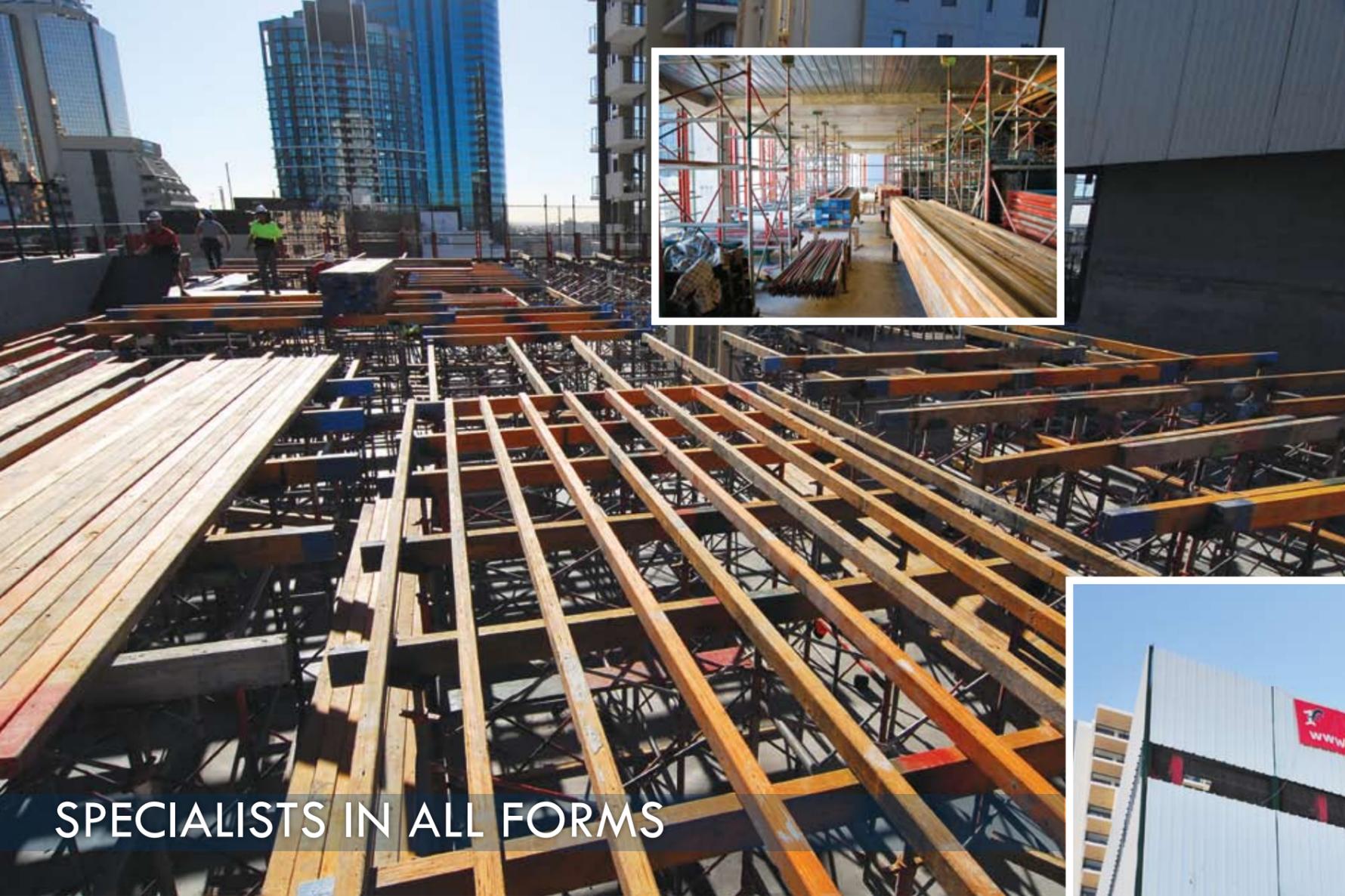
"We set out to re-use as much of the existing structure as possible," said Marco. "To achieve that, we analysed the post demolition structure and redesigned it (with minimal additional bracing) to act as a moment-resisting frame. Our exposure to the international market helps us come up with state of the art construction solutions."

ADG Engineers (Aust) Pty Ltd commenced business in 2002, and currently employs over 100 people. It has offices in Gold Coast, Brisbane, London, Kuala Lumpur, Amman and Abu Dhabi.

The firm expanded in 2008 taking on Building Services and Hydraulic Consultancy Design services in addition to its well established Structural and Civil Engineering Consultancy services.

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SPECIALISTS IN ALL FORMS



The Oneform Group, which brings together Oneform Pty Ltd and Oneform Constructions, are well-established formwork specialists, owned and operated by Paul O'Sullivan and Craig Mackenzie since 2004.

At 53 Albert Street, Brisbane, they applied their full range of skills and services. Oneform has its own steel fabrication workshop, enabling it to produce all of its own specialised formwork equipment and components. Formwork components supplied by Oneform include formwork shutters, column form, and safety screens. Structural components supplied include self-climbing formwork systems and specialised form. They have their own specialist steel fabrication and erection team, and are also able to provide precast panel services.

Oneform's senior team have between them more than 40 years of experience in many areas of formwork. The group is completely privately-owned and operated and strives to maintain high levels of customer service. The team has a never-say-never attitude, and believes that through innovation, continuous improvement and development of its practices, it can provide the very best formwork solutions.

It is the combined experience of the senior management team that makes all the difference to the level of formwork service which Oneform is able to provide on larger projects. The senior management are all very experienced in large, multi-level projects with varying degrees of

difficulty. They take a hands-on approach, working closely with their more than 120 permanent staff on sites in Brisbane and on the Gold Coast. For the 53 Albert Street project, a dedicated team of 30 specialists was brought together under the coordination of Paul O'Sullivan. The complexity of the project, with its mix of new construction and patching, extending and reshaping existing structures, and difficult access for materials and equipment, required a careful and thorough approach to project planning and scheduling as well as to the actual formwork.

The floor slabs for new tower section, straddling the old car park, were a relatively straightforward undertaking for Oneform. From levels 10 to 23, the concrete structure is quite conventional. However, from ground level to the start of the new tower floors, it was a different story. Formwork for the tall supporting pillars for the new structure, surrounding the pre-existing car park structure required greater expertise. Some complex, detailed formwork was also required for concrete pours to make good the cut-outs made during reconfiguring the old concrete slabs in car park structure to accommodate new lift shafts. This required great attention to the formwork detail to provide as close as possible to a seamless finish in the finished surfaces.

Oneform have been involved in some significant projects throughout Queensland and New South Wales. The 52,000 square metre Albert Street project is by no means unusually large for Oneform. Other major

completed projects include the 52,000 square metre Ultima Residential Apartments at Tweed Heads, NSW, a 24,000 square metre commercial and retail building for Hutchinson Builders at Brooke Street in Brisbane's Fortitude Valley, and the 43,000 square metre QUT Student Learning Centre at Kelvin Grove, Brisbane, for head contractor Barclay Mowlem. Current projects include the 37 level, 50,000 square metre Macrossan apartments for Parkview Constructions, the 27,000 square metre Wharf Apartments development and the 8 storey, 25,000 square metre Ausenco office block. Oneform has also been engaged by Leighton Contractors for the early works package on the 111 Eagle Street project.

The close involvement of Oneform's highly experienced senior management gives the Group the ability to provide a professional service to ensure projects are completed to a high standard, efficiently, on time and on budget.

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Innovation



Claude Neon has vast experience in all forms of corporate signage and environmental branding, as well as managing and coordinating national multi-site signage programs and single site projects.

It is Claude Neon's project management experience that makes their business unique, ensuring all your signage requirements are met on design, on budget and on time.

Claude Neon specialise in:
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 /Corporate identity signage
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ENGINEERING TO PERFECTION

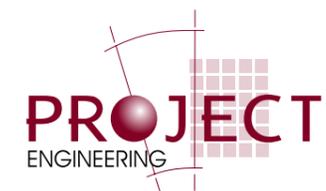
More than 12 years of experience in steel fabrication for the commercial and industrial construction industries was put to good use by Project Engineering on the lower ten levels of the 53 Albert Street project.

The main task for the Project Engineering team was to erect new columns around the perimeter of the existing ten level car park structure, and provide a new structural steel "fake" slab edge to the two outer faces, down to level three, to which new curtain wall glazing could be mounted. They also fabricated, supplied and installed suspended steel walkways, door entry frames, glazing supports and wind beams, all of which (except the suspended walkways) were hot-dipped galvanised.

Hamish Gibson of Project Engineering said that the CBD site location and the sequencing of other contractors' work provided some logistical challenges. "We were working only on the lower ten levels, but the new construction had already reached four levels above us before we arrived on-site," he said. "The whole face of the structure was wrapped in a bird-cage scaffold, making the on-site tower crane unusable for us to get structural steel onto the lower levels where we were working. We had to use a Preston mini-crane to lift beams of up to 12 meters and then jockey them around and between a maze of scaffolding and other obstacles."

The large size of some of the steel members also demanded special care in the hot-dipped galvanising process to prevent heat build-up and distortion. "Installation and fixing methods required substantial site welding of galvanised steel, which is always a challenging task," said Hamish.

"Overcoming the problems of limited space and difficult access for materials wasn't easy," said Hamish, "but that's what it's all about. Expertise comes from experience."



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