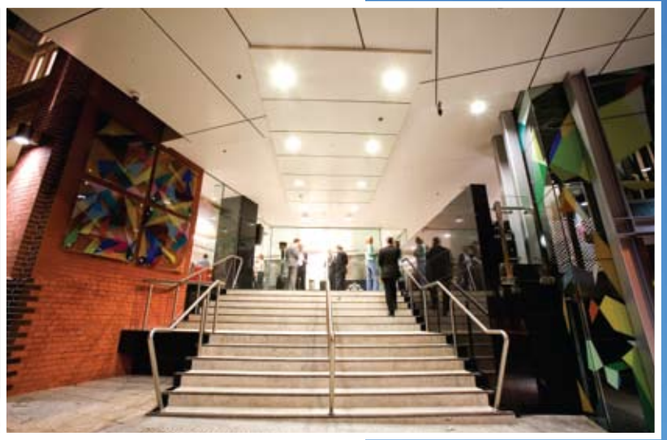
333 ANN STREET

EMPHASIS ON GREEN DESIGN

DEVINE
BRISBANE QLD

Following Devine Construction's inaugural Charlotte Towers Project, the company recently took the helm of yet another market leading development, that of 333 Ann Street. With the emphasis on green construction techniques, Devine Commercial, a division of Devine Limited, has emerged as a market force in recent years. Building and marketing high-rise developments in Brisbane and Melbourne, Devine Limited along with Devine Constructions, an in-house division of the former, worked to complete the Ann Street building.



This building was awarded a 4 Star Green Star Office Design v2 Rating and is targeting a 4.5 Star ABGR. It covers 24 levels and is valued at $120 million. Formed three years ago, Devine Constructions is among various divisions Devine enlists in it's development projects. With divisions for everything from residential estate development, marketing, commercial developments, property management and High-rise construction, Devine is one of Australia's largest developers, well-equipped to take on the major task of rejuvenating this inner-city area.

In a bold effort to develop a site that has remained vacant for 20 odd years, where other major developers have made numerous unsuccessful attempts, Devine sought to capitalise on a momentary lull in the construction industry and a forecast peak in CBD office demand, to fast track the design development of an office tower. Receiving a Development Approval in late 2006 and Operational Works Approval in early 2007, building works commenced immediately after.

Faced with some unique engineering challenges during design and construction, the structural design team were first required to assess the suitability of a foundation system that had been inherited from a previous residential scheme. Using a sophisticated 3D analysis, engineers from the Robert Bird Group were able to design a structure that suited the existing foundations.

Other challenges would come in the form of the limited access to the site, with a substation on one side, cable tunnels on two others, and the R.S. Exton Heritage Façade that needed to be preserved and integrated with the development. A structural steel gantry that has been constructed to maintain the façade of the old R.S. Exton Building was needed to maintain the façade during construction and excavation. Modifications were thus made to the gantry, allowing construction to begin in February 2007. Once the Heritage Façade was secured, excavation continued, and once existing piles and footings were located, the documentation for the superstructure could be finalized. The whole project was completed ahead of program on June 27 2008.

"By combining ground footings, pile caps, lift over run slab and the crane base footings into a monolithic pour, Devine Constructions were able to pick up two weeks on the program. In response to a tight construction program, the project has been micromanaged to create and maintain maximum efficiencies. A time-saving strategy of utilising precast concrete, prefabrication techniques, formwork systems, with innovative planning and construction practices helped achieve the desired outcome," says Eddie Gangemi Devine Construction Project Manager.

To allow the superstructure to be as efficient and economical as possible in area and design, numerous transfers were constructed over the existing substation, which was to be incorporated into the final design. Being more than 18 years old and designed originally to support a residential tower, an assessment of the substation's capacity to support the new tower was hence carried out.

With construction planning that created continuity in work, consistency of work and start to finish dates, it allowed resources to remain stable. The ability to keep projects cost efficient has been a cornerstone of the Devine Constructions since its inception. Devine has quickly assumed market leadership over the last one and half decade.

Though their single largest project is Victoria Point in Melbourne Docklands, it is in Brisbane where Devine dominates the city's skylines with their major high-rise developments accounting for 60% of the city's apartments. A trusted market leader, it has been, over the past decade, one of Australia's largest homebuilders and with its latest green initiatives, will no doubt continue to be a force for positive change.

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ABOVE: ML Design Office Foyer RIGHT: corner detail of 333 Ann St

ENVIRONMENTAL AND EFFICIENT INNOVATION

In Brisbane, No. 333 Ann Street will soon be the address of those lucky enough to benefit from the two years worth of intense development on the project.

The project boasts a 4.5 Green Star Rating, having been developed using resource efficient processes, and the finished building also contains such features as natural ventilation and solar shades.

It has been designed by one of Australia's leading architectural firms, ML Design, who for the last three decades has been delivering innovative design solutions for their growing list of both national and international clients.

ML Design is a multidisciplinary design practice. For several decades, they have been combining their services in architecture, master planning, urban design and interior design to satisfy clients. This holistic approach was applied to Ann Street, where development, design and construction were to be completed in a remarkably short space of time.

Through proactive collaboration between sub-consultants and builders, the project was one that, for the ML Design team, was both comprehensive and streamlined in design and delivery of base building and interior fitouts.

With contemporary finishes including frameless glass, natural stone and prefinished composite panels, 333 Ann Street has delivered both a high performance and modern environment to Brisbane. As an environmentally sustainable development, it is at the forefront of a growing interest in reducing the environmental impact of urban developments.

ML Design creates built environments that respond to a variety of complex issues. Taking advantage of existing site conditions means also having to meet the challenges of those pre-existing conditions.

The restoration of the R.S. Exton and Co. Heritage Façade and the design of the building's functions around an existing operating city substation were two key challenges on the 333 Ann Street project.

Enhancing site capacity is only one of the company's many capabilities. ML Design ensure that macro-scale concepts developed in the preliminary stages can be realised and implemented, through energy-efficient means, and result in strongly integrated designs.

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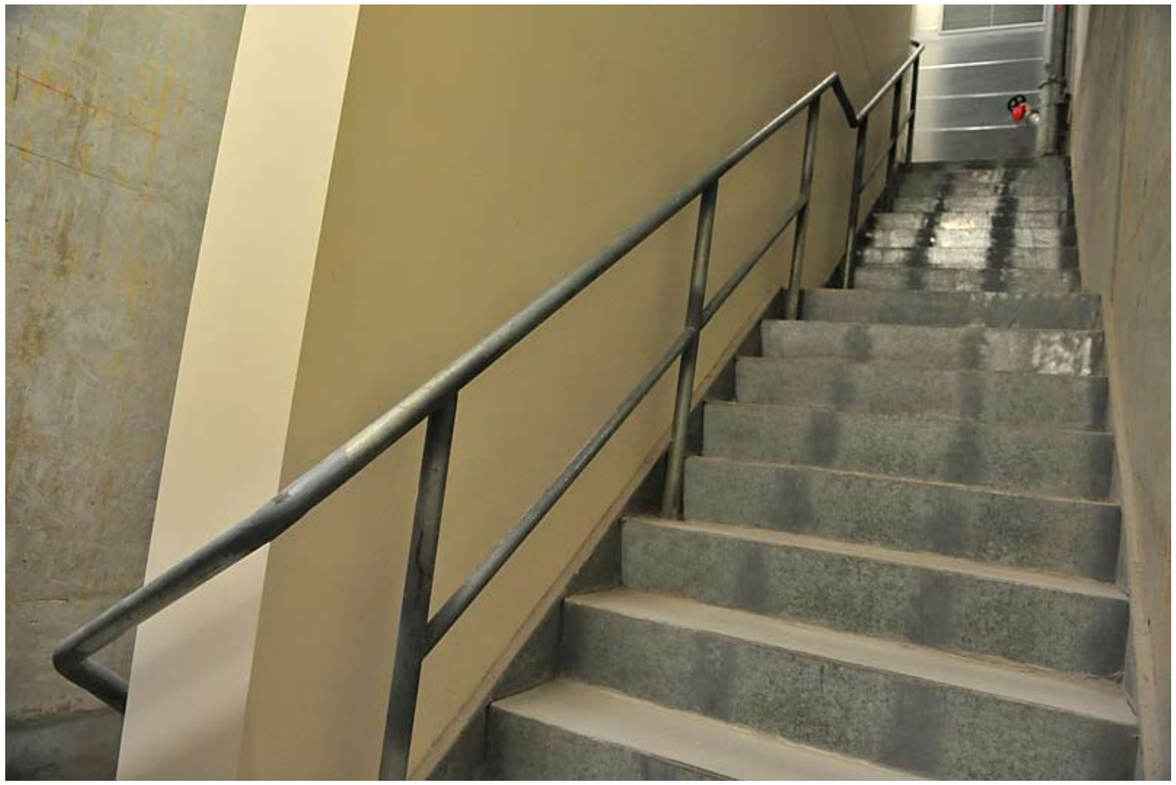

STAIRWAY TO SUCCESS

The common lament of environmental supporters seems to be that we sacrifice environmentally sustainable choices for convenience. Fortunately Partners Engineering, the manufacturer of QuickStair, did not have to make that choice when they worked on 333 Ann Street.

While convenience may be the initial draw, products with a 'no waste' assurance are the way forward in this time of global warming. Look no further than Partners Engineering's product line of metal formwork, namely QuickStair, QuickBeam and associated handrail systems which are converting users from timber to metal formwork.

Traditionally, concrete is placed into a timber structure, which is provisional and doesn't provide the certainty of a known finish. The increasing preference is for the use of QuickStair, which allows ease of concrete placement, making it an easy, simple, logical and economical choice. With Quickstair manufactured offsite, the savings in time and labour are another reason it's been a popular choice with architects and builders. Specifiers can be confident the resulting structure is absolutely true to design, with known finish guaranteed.

QuickStair was an obvious choice for Southgate Formwork (Aust) Pty Ltd for the Ann Street development where waste minimization was concerned. The metal formwork supplied for the project, consisting of QuickStair and QuickBeam, goes hand in hand with the sustainable agendas set by Devine. Being sacrificial formwork, this means no materials are dumped at the completion of the construction. Thus there are no safety issues to be concerned with in removing materials.

The project was not without a few complications – getting QuickBeam to integrate with the two riser flights proved to be a challenge, but with Partners Engineering's customary professionalism in servicing building needs, this problem was quickly resolved. Despite all alarms sounding on climate change, it is clear that in chaos, there is opportunity. And though Partners Engineering have been around since 1982, now is an opportune time for those who have not yet converted to metal formwork to take up the cleaner, speedier and safer option.

PARTNERS ENGINEERING

A Step Ahead
QuickStair
STAIRFORM SYSTEMS

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A FAST GROWING TEAM

Team Post Tensioning's involvement with the project at 333 Ann St. has been one of the companies largest jobs to date. The T.P.T. team designed the post tensioning elements at all levels of this project. After refining the design so as to minimise steel reinforcement and concrete usage whilst maximising the construction efficiency and cycle times, the team utilized "T5 and T6 flat slab post tension systems tested to AS/NZS1314:2003" specification.

This formally tested post tension flat slab system has been developed and implemented by the Team Post Tensioning crew and is one of the few systems compliant with the Australian Standard that was re-released in 2003.

"The construction program for the project was very tight" states Mark Sheedy of T.P.T. "With a commitment to program through the framing contractors T.P.T., Southgate Formwork and the steel fixer typical 5 day cycles were achieved."

The hard work and clear thinking of Team Post Tensioning on the 333 Ann St. job has not gone unnoticed with further contracts being awarded to the company based upon their obvious talents showcased at Ann St. including one particularly interesting international job about to unfold in Dubai. Other projects of note include Greenslopes and Wesley Hospitals, Darwin Convention Centre, Patricks Terminal 10 and work on both the Bruce and Centenary Highways.

As a company Team Post Tensioning not only has the ability to design and engineer projects within the industrial, commercial and residential sectors of the construction industry but can co-ordinate and manage the chosen project down to the labour and plant hire. Remedial concrete work, grouting, rock anchors, shotcrete and steel fixing all fall under the banner flown by a fast growing company that with only two years of life so far is fast becoming a force to be reckoned with. Working with the motto that "Together Everyone Achieves More" Mark works wholeheartedly with the ideal that the secret of success in business lies with their people "and we believe we have the best".

With its combined 60 years experience in construction the Team Group has grown strongly since its establishment to employ in excess of 80 people with an annual turnover of over 17 million dollars.

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TEAM POST TENSIONING

CHRISTOPHER CONTRACTING PROVIDE INNOVATIVE PLUMBING SYSTEM

Plumbing is surely one of the greatest things ever to be invented; it's a fixture of modern life that we just couldn't live without. Only right now, with the national water crisis, plumbing systems need to be more ingenious than ever, to ensure the future isn't a parched one. One company dealing admirably with the challenge of water conservation is Christopher Contracting.

While the rest of us are reappraising our usage of water and trying to eliminate wastage, plumbing companies like Christopher Contracting are doing this on a much bigger scale. On the Ann Street project, where environmental sustainability was explicitly part of the plan, what was called for was a much more efficient system that would meet the green star rating sought after by the developers.

So Christopher Contracting went to work on 333 Ann Street. They installed a Sovent drainage system, an innovative fitting with superior drainage performance, which also cuts costs for developers by taking up considerably less space than other systems.

Syphonic system used for stormwater drainage also significantly reduces the Materials Intensity per Service unit, a quantifier for sustainable consumption of resources, by reducing the need for extensive groundwork. Using a syphonic system in place of standard drainage solutions, such as the ones you find in normal roof fitters, is a notable improvement on a system that for a long time went unquestioned.

But few things can remain unquestioned since it has finally struck many of us that the earth's resources are indeed finite. So it's a good thing that there are companies willing to move with the times. For example, during fire testing, whereby instead of the usual procedure of dumping water at a rate of something like 20 litres every second into drains, water was directed into a water tank that was set up for that express purpose. Originality of thought and action has long been a marker for progress, and on Ann Street, simple measures made big differences.

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GREAT GLASS ELEVATOR

For city dwellers, high-rise homes and offices are part of the daily fabric of life. In our vertical cities, everyone rides elevators but we rarely think about them. Perhaps because the ride is often so short. But nevertheless, they are a meeting point between inter-floor occupants, a place for momentary solitude when riding by yourself, and like trains and buses, a means of mass transport.

It is important then, that as a means of transporting us to our desired destination, elevators function at their optimum. The six main lifts in the Ann Street building are KONE's Alta™ lifts, which will serve 24 floors. Alta™ is a premium product designed for a quieter, smoother ride.

No longer satisfied to have simply convenience and speed, we ask for energy-saving devices so that those who inherit the earth will have something to inherit. On this count, KONE delivers. KONE's Alta™ are high speed gearless elevators, but they use significantly less energy than conventional lifts.

This is made possible by KONE's EcoDisc® motor, a revolutionary technology which is much more energy efficient than conventional machines. Higher efficiency means less heat output, so the air conditioning required can be smaller and use less power to run, offering a double saving.

In keeping with Ann Street's green initiatives, the EcoDisc® machine in KONE's Alta™ lifts feature another inspired aspect, which is regenerative braking. This is designed to collect energy from braking by using the motor as a generator. Energy generated by this process is then fed back into the building's electrical system, allowing other equipment to make use of that energy.

As well as the EcoDisc® motor, a special feature of the Ann Street building is a KONE MonoSpace® machine-room-less lift, a modern construction of glass, combining an engineering feat with an element of fanciful imagination.

In spite of their functional character, elevators have always retained a sense of wonder. The glass elevators of childhood fiction, as an enduring symbol of the modernist dream of scaling ever-greater heights, still have the power to surprise us. Innovation in technology, coming from those at KONE Elevators, can only serve to inspire us even more.

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FUTURISTIC FLOW

Holyoake's commitment to the industry and innovative approach to design and laboratory testing, have enabled them to assist Architects, engineers, builders and contractors both in Australia and New Zealand. Holyoake offers a wide range of air distribution equipment, with new and innovative products continuously under development. Development work is undertaken using 3D computer aided design tools, backed up by a wealth of knowledge and experience from our development staff. Holyoake's well equipped laboratories are suited to refine and gather performance data that is published in their product manual.

Established by Noel Holyoake in 1953, the company now has six manufacturing facilities throughout New Zealand and Australia, including Melbourne, Sydney, Brisbane, Auckland, Wellington and Christchurch. In 2006 Holyoake established sales offices in both Adelaide and Perth, and is currently celebrating more than 50 years of services & success.

Holyoake is renowned for designing and manufacturing diffusers, register and grilles. They are also the leading manufacturers of VAV's. Theses include single duct, fan assisted, dual duct and an array of accessories such as hot water coils, electric heaters and attenuators. Additionally, Holyoake is a leading manufacturer of Dampers, including volume & relief, as well as fire and smoke dampers.

The Holyoake component manual has become an industry and engineering benchmark. Holyoake now has design software tools including a specification utility, V.A.V. selection and performance tool and I.S.O 7730 design software. The commitment to research and development has produced Holyoake's P.M.F. series flangeless grille range. Designed for sidewall applications, the P.M.F. series grilles are versatile with multiple styles available to suit a variety of applications. The patented Holyoake mounting frame system ensures a superior wall finish and makes grille installation a breeze.

The company-wide policy is to reduce their carbon footprint. Holyoake's plantations provide a carbon sink that further reduces carbon emissions and has been calculated to result in the Holyoake Group not only being Carbon Zero or neutral but carbon positive, locking up thousands of tonnes of carbon annually, stored in the form of growing trees.

Holyoake Industries is committed to reducing carbon emissions, and can confidently claim to be the greenest Air Distribution Component manufacturer in Australasia.

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Founded in 1917, G. James Glass & Aluminium has developed into a dynamic Australian company employing in excess of 2500 people.

The major elements of the facades they produce are supplied and manufactured in Australia. A major facade contractor, G.James takes care of everything from design through to the manufacture of aluminium extrusions and architectural glass and finally the fabrication and assembly of the curtain wall - all processes are completed in-house.

G. James offers an extensive range of cost effective, high performance window, door and framing solutions to suit every commercial application, including high rise office and apartment buildings, shopping centres, institutions, industrial complexes and hotels. These innovative products cater for a variety of performance, operational, functional and glazing requirements.

The company's work on the Ann Street development involved the supply, installation and glazing of G. James curtain walling, featuring double glazed vision panels incorporating LE50 on grey glass for thermal control. The curtain walling features sun control screens and specialist cladding all intricately designed to control the elements and fit the environment.

The curtain walling was structurally glazed in panelised form, for efficient site management. The use of variously located colour selections in cladding and sun screens enhanced the basic backdrop of clear anodising.

The podium and retail areas also presented an array of challenges to meet the architectural design requirements while the podium lift enclosure was of particular design and artistic concern. The solution was to specify G.James Colourlite® Graphic, a relatively new product featuring coloured graphics, images or patterns that have been digitally printed directly onto the glass, which was produced within a very limited time frame.

A PERFECT FINISH

G. James commits its unique in-house capabilities to address and solve problems in a timely manner, and in this project, supported the Devine project team and M L Design to meet the final objectives with high commercial quality. The staff at G. James was committed throughout the whole project to all aspects of project management and site supervision, design and documentation, factory production and installation.

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