

# Deutsche Bank Place

**BOVIS LEND LEASE HAVE EARNED A DISTINCTIVE REPUTATION** for being world leaders in innovative design and visionary project management and construction. Their acceptance of many challenging and difficult projects and the intelligent way they have expedited these projects is renowned. The completion of 30 The Bond in Sydney is one example of the paradigm of technology integrating with humanity to create something far and above the average development.

Now, once again, Bovis Lend Lease has achieved a new plateau in project management, design and construction with the \$450million, 43,000m<sup>2</sup>, 37-story project at Deutsche Bank Place.

Rising 240 metres (787ft) above Sydney's CBD with expansive views of Sydney Harbour and the Botanic Gardens, the stunning tower of the development designed by world-renowned English architect, Lord Norman Foster, creates a new and visionary focus in premium high-rise office development.

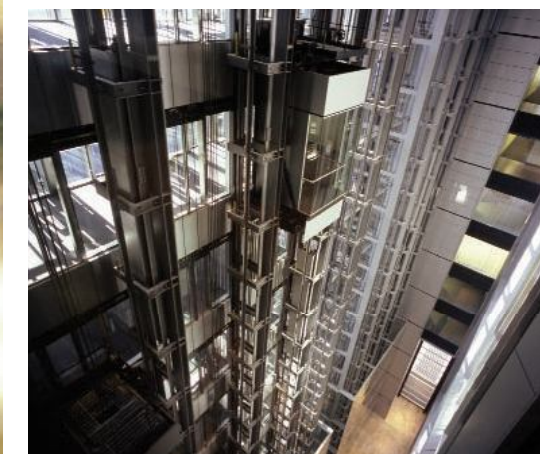
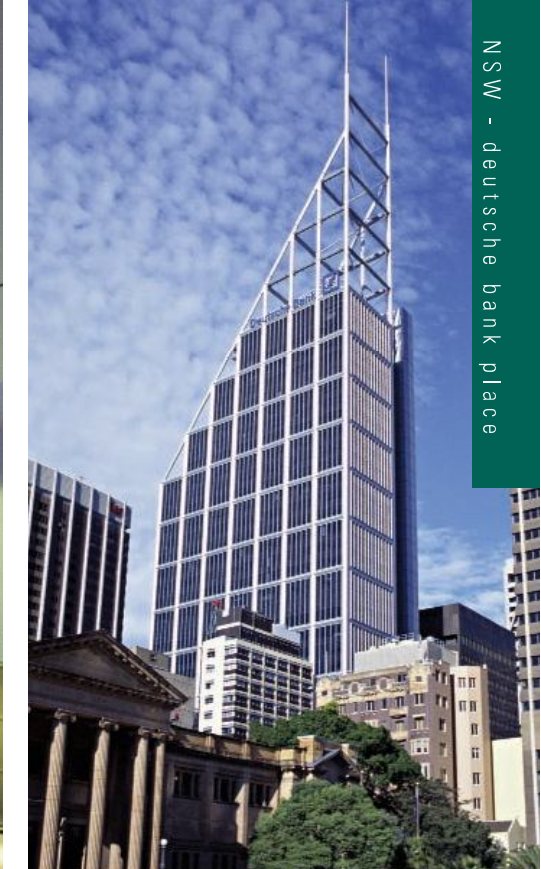
With revolutionary remote core, building height atrium, 15m high assembly, accommodating shops and restaurants, scenic glass elevators, water feature, park area and pavilion building, Deutsche Bank Place is set to become a Sydney icon.

Bovis Lend Lease have earned a strong reputation for working closely with leading architects to bring to life their vision without compromising on budget, time constraints and the inherent complexities of such projects. The forward thinking approach of the company is well suited to new and intricate challenges, often leading to the creation of enhanced methodologies and completely new developments in technology and engineering. This constant challenging of the 'norm' is fed by the visions of renowned architects such as, Lord Norman Foster and the results are often far and above what was originally envisaged as possible. Having collaborated successfully with Foster and Partners in London, Bovis Lend Lease were very happy to be reacquainted once more on home soil and with the assistance of Australian architectural firm Hassell, the results of this most recent collaboration are proving to be exceptional.

Bovis Lend Lease was instrumental in working with stakeholders to develop a framework for incorporating ESD and OH&S initiatives into the project right from the start. To date over 2100 construction workers have been involved on site in the project. Bovis Lend Lease implemented an 'Injury and Incident Free' programme, and incentives have been provided for best practice OH&S performance throughout the development.

During construction, Bovis Lend Lease and their subcontractors were able to achieve a 4-day floor structures cycle of the main building concrete framework. They made extensive use of specialist automated climbing equipment such as, self-climbing cranes, perimeter formwork screens, formwork hoists and jumpform systems.

The tower is designed with passive environmental aspects in mind. The incorporation of the atrium space provides a visual contrast from the office floor plate and responds naturally to the environment, drawing daylight through to the floor plates and acting as an exhaust riser for the relief air. In addition, the relationship of the core and the atrium to the floor plate will provide an efficient solar buffer. The facade is double-glazed with energy efficient glass and each floor has its own 'on-floor air handling plant' with a high degree of



zoning to reduce waste. Over 92% of building material recycled from the demolition of pre-existing buildings was reused during construction in the form of backfill or recycled steel.

Deutsche Bank Place was designed with the themes of openness, light and transparency at its heart, to harmonise with the city of Sydney and the atmosphere the city generates. With this in mind, and as a revolutionary new concept in building design, the remote cores of the building contain the amenities, plant rooms and service rises, fire escapes and other facilities. This was offset in its entirety to form a separate entity on the western facade. This led to the creation of the tallest atrium in the southern hemisphere, with sky bridges crossing from the west and housing 16 scenic glass elevators. It also leads to the enhancement of the floor space. The separation of the core creates a 21m by 64m floor plate with no internal columns or interruptions, reflecting the architect's vision for the development and allowing openness and 360-degree views.

The atrium was one of the major achievements of the project involving over 20 subcontractors and 15 consulting teams. As Chris Sofatzis, the Construction Manager for Bovis Lend Lease explained, "The lift atrium

at Deutsche Bank Place represents one of the toughest design and construction challenges we have ever undertaken. The atrium consists of over 900 tonnes of structural steel fabricated to strict tolerances. It is glazed with a high performance curtain wall facade system and houses state of the art OTIS elevator technology." He went on to say that, "To resolve the design and construction challenges presented by the unique concept, we have visited and studied scenic elevator installations and atriums all over the world. The design and construction methods have now been in the planning for over four years, and it is great to finally see the project coming together the way Foster and Partners have visualised it.

The pinnacle of the project is the 280 tonne structural steel 'Architectural Roof Feature', which creates the building's identity on Sydney's skyline. The structure was put in place entirely by Bovis Lend Lease over a 12-week period. This involved the intricate use of two cranes to allow access to the riggers and support each of the members whilst they were bolted together. In total, it took 2,070 bolts and stands 92 metres or 24 stories above the building proper. It is the highest Architectural Roof Feature of its kind in Australia.

Completion of Deutsche Bank Place was achieved in September 2005 and is now recognised as a landmark on the Sydney skyline. Joining a select few premium high-rise developments such as Aurora Place and Chifley Tower, Deutsche Bank Place sets new standards in high-rise design and construction. The true achievement of the project is best summed up by Bovis Lend Lease's Senior Project Manager Vince Albanese, who described his company's involvement. "From day one, the design and construction teams worked closely together to ensure that the building was designed and documented to incorporate safety, buildability, architectural intent and the needs of all stakeholders. This is the purest design & construct project I have ever worked on, where every decision was made using a collaborative approach. The quality of the final product is a true reflection of this."

## DEUTSCHE BANK PLACE

**OWNER/DEVELOPER:**  
Investa Property Group  
**PROJECT MANAGEMENT & CONSTRUCTION:**  
Bovis Lend Lease  
**QUANTITY SURVEYORS:**  
Rider Hunt  
**LEAD ARCHITECT:**  
Foster & Partners  
**COLLABORATING ARCHITECT:**  
Hassell

**BOVIS LEND LEASE**  
30 The Bond  
30 Hickson Road  
Millers Point  
NSW  
PH: 02 9236 6111  
FX: 02 9383 8139  
[www.bovislendlease.com.au](http://www.bovislendlease.com.au)





# Siemens Building Technologies

## SIEMENS HAVE A LONG HISTORY IN BOTH AUSTRALIA AND NEW ZEALAND.

They constructed the regions first overland telegraph in 1870 and since then they have continued to provide technologically original solutions to a broad range of clients. As with the overland telegraph, these solutions are based on their ability to understand the client's specific requirements and to provide effective results through the application of appropriate technology. The provision and application of technology is integral to Siemens identity as a global leader in their field and a core principle of their work ethic.

For the past 135 years, since those early pioneering days, Siemens have continued to demonstrate their ability to deliver on major projects and during this time, they have been involved in supplying critical infrastructure and increasing process efficiency in many areas of manufacturing and retail logistics.

Employing approximately 2700 people throughout Australia and New Zealand, Siemens specialise in the areas of power, communications, automation, transportation, medical and building technology. Their capacity to serve their clients desires for improved efficiencies and cost effective results through the application of their knowledge has cemented their position as the major provider of technology-based services in the region.

Siemens involvement in 'Deutsche Bank Place' presented them with an opportunity to show case their building management systems. In addition to the supply, installation and commission of the building management and security systems for the base building, Siemens also provided their services, during fit out, to the major tenant Deutsche Bank and a number of other high profile tenants, integrating these tenancies into the project. The tenants desire to utilise Siemens technology in their fit out is an indication not only of the quality of these systems, but also of the trust that the Siemens name instils.

The scope of the works Siemens undertook included all aspects of CCTV, access control, and intercoms that were required throughout the building. The brief also required the implementation of a building automation system that would control air-conditioning on each floor, lighting and building services such as hydraulics and power monitoring. These controls were in keeping with Bovis Lend Leases vision of an environmentally sustainable development (ESD). The ability to monitor and operate these services from a central point is essential to the creation of an efficient, cost effective, and there for environmentally sound building.

Siemens employed innovative systems for both the access control and building automation. The Siemens 'SiPass' System was developed specifically for advanced security access and

monitoring, without inconvenience. The Apogee Insight System provided the building automation capability. Both these systems run in tandem with an Ethernet network, used for the first time by Siemens on a project of this size within Australia.

Siemens provide maintenance, up grades, and twenty-four hour, seven day a week backup for their clients. The successful completion of their works is only part of the job as their continued involvement with their clients is critical to the company's philosophy of providing a complete and thorough solution.

The landmark development, Deutsche Bank Place, demonstrates Siemens successful ability to supply advanced solutions for today's modern buildings. It also reinforces the company's position as the regions leading technology based solutions provider, a position that was established over 136 years ago with a pioneering overland telegraph.

**SIEMENS LTD.**  
**Building Technologies**  
**Building 31**  
**885 Mountain Highway**  
**Bayswater, VIC 3153 Australia**  
**Tel +61 3 9721 2000**  
**Fax +61 3 9721 9966**  
**www.siemens.com.au**

## Rider Hunt

### DEUTSCHE BANK PLACE IS A PREMIUM OFFICE DEVELOPMENT DESIGNED BY THE WORLD RENOWNED ARCHITECT LORD FOSTER.

It is located in Sydney's CBD and it's innovative and exciting design responds to the many architectural and engineering challenges of the site and its position in Sydney. The owner and developer is Investa Property Group.

The success of Foster and Partners' design and the construction skills of Bovis Lend Lease are self evident but in addition to first class design and superior building skills, the Client and the construction team needed cost management skills of the highest order. Rider Hunt provided cost estimating, cost planning, negotiation and contract administration services for this prestigious 36 level, \$500 million development.

Rider Hunt's expert knowledge of cost management, monitoring and reporting was essential to maintaining effective cost control on the project. This knowledge helped maintain control of the highly innovative building engineering services which is an area of construction that is often prone to an increase in costs during detailed design and construction.

Rider Hunt's expertise and awareness of the issues and demands of innovative construction gave the Client the necessary assurance and security that is so vital when considering and undertaking a building development that is different, difficult and challenging.

Rider Hunt has been in business for over 50 years and during this time has become a world leader in the property and construction industry. With state of the art technology and a detailed knowledge of construction costs, project delivery and cost management from inception to completion, it has been able to provide Clients with a superior service which has the prime goal of achieving quality project, delivered on time and to budget. Operating globally through partners as far apart as New York and New Zealand or Shanghai and Singapore, Rider Hunt has the ability to provide services to Clients on a worldwide basis.

This extensive knowledge of the construction industry is complemented by specialised in-house software that has been developed to ensure that Rider Hunt has the ability to provide a complete and professional solution for all projects but in respect of Deutsche Bank Place all services were tailored to suit the Client's specific requirements.

In particular, the incorporation of several unique ESD initiatives, as well as the distinctive features of the open atrium and remote core with glazed lift shafts, required detailed cost planning. The length of Rider Hunt's involvement with the project (8 years) demonstrates the demands placed upon consultants when design, documentation and negotiation extends over a such a lengthy period. As Rider Hunt's Bob Richardson explained "The actual on-site construction phase is almost the end of the project for us as our most significant tasks have been completed by that stage". This observation relates to the extensive cost planning and design development that is required for the development of a complex and important building such as Deutsche Bank Place whereby the all important construction phase is the product of much work by a dedicated Client and consultant team.

Rider Hunt is dedicated to promoting excellence in cost management and construction and believes in providing professional services and advice to Clients that in all ways is of the highest order.

Rider Hunt's involvement with Deutsche Bank Place has been demanding. It has required a dedication and commitment both at a company and personal level to seek the satisfaction of a building successfully completed that will remain a most important part of Sydney for many years to come. Understandably, whilst Rider Hunt is proud of the part that it has played on this project, it is well aware that each and every member of the development, design and construction team should also individually share that sense of pride of a job well done.

Investa Property Group is to be congratulated upon the completion of this prestigious building, with the 31 lettable floors already substantially tenanted, which will become a part of the face of Sydney for many years to come.

**RIDER HUNT SYDNEY**  
**Level 5**  
**41 McLaren Street**  
**North Sydney**  
**NSW 2060**  
**PH: 02 9922 2277**  
**FX: 029957 4197**  
**www.riderhunt.com.au**



# Nepean Engineering Pty Ltd

**THE SPECIFIC CHALLENGES THAT THE DESIGN AND CONSTRUCTION** of Deutsche Bank Place presented were many and varied. One aspect in particular, which has become the trademark of the building, is the vast atrium with its clean air spaces. The realisation of the architect's vision for this aspect of the project required specific and advanced methods of fabrication and construction. For this task, the developers engaged the services of Nepean Engineering Pty Ltd.

Nepean Engineering, an ISO 9001-2000 Company was established in 1975 and their extensive industry knowledge over the past 30 years in a range of projects from heavy fabrication to intricate precision work provided them with the skills, knowledge and enthusiasm to tackle the challenges of Deutsche Bank Place.

The 37 story structural steel atrium is not only the largest of its kind in the world, it is also a significant step forward in terms of engineering and its successful completion is one of the real highlights of the project. Containing 920 tonnes of prefabricated steel and rising the full height of the building, the construction of the atrium was highly coordinated with each subcontractor playing vital roles.

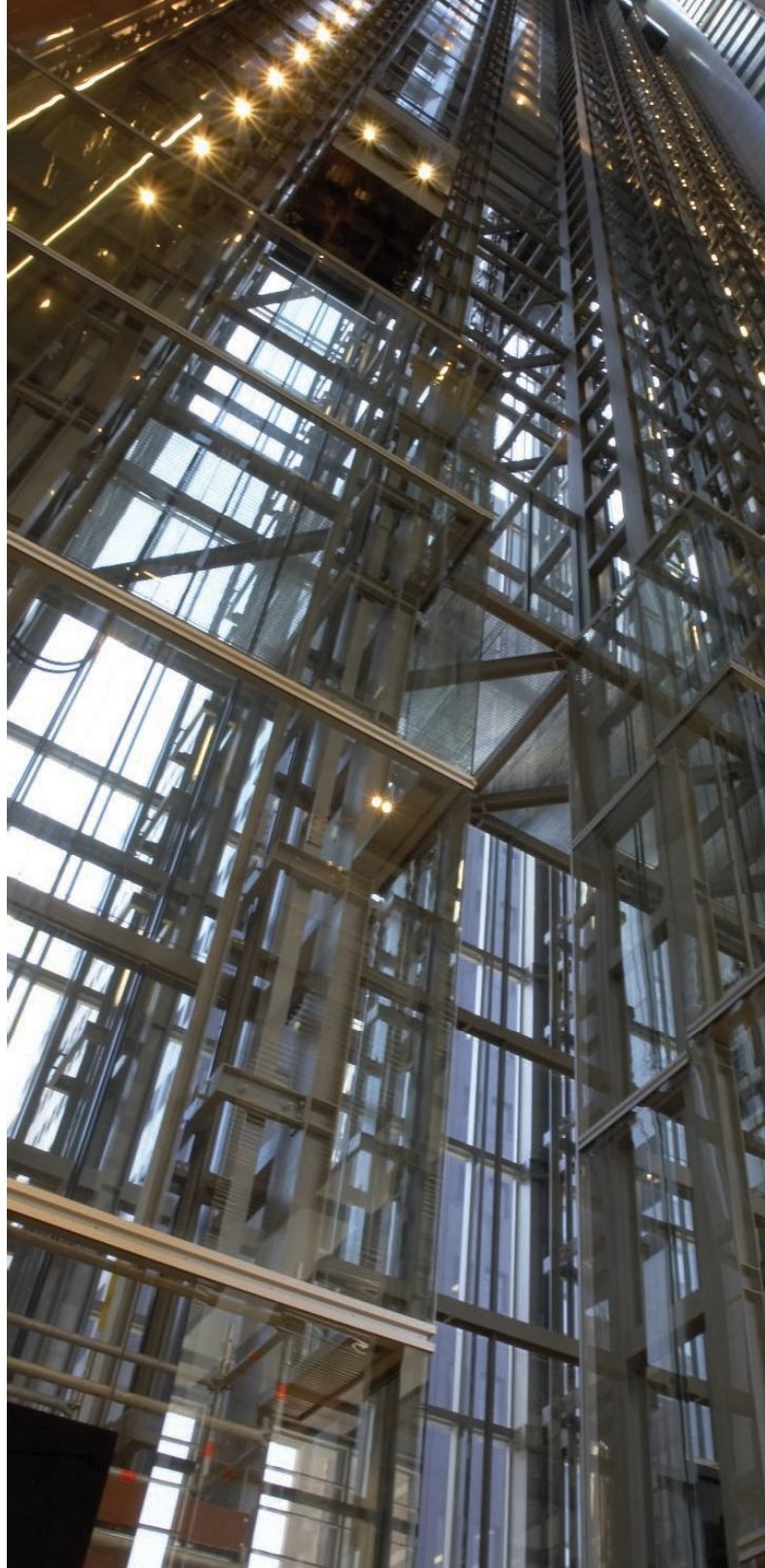
The steel had to arrive on schedule to allow the cranes to lift it into place without compromising other areas of the development, which also relied heavily on the cranes. This very specific and accurate process was only possible due to the professional and extremely skilled employees and management of Nepean Engineering who were able to accommodate the programmed delivery schedule necessary. In addition, they were also able to meet the tight tolerances for the construction of the prefabricated steel that the project required.

Operating from their state of the art manufacturing facility at Narellan, which incorporates the latest CAD systems and a wide range of manufacturing technologies from heavy metal fabrication, tool making, and machining through to the design and construction of special purpose machinery, Nepean Engineering were able to produce the fabricated steel to within exacting tolerances necessary for the project. They developed a strategic manufacturing and delivery schedule for this project to ensure that the product was manufactured and delivered as required and on time. Their ability to meet the tight tolerances and time restraints is a clear indication of the companies' adaptability and innovative approach to their work.

Wide ranging experience in many different areas of engineering has created a unique atmosphere throughout Nepean Engineering. The belief that no job is too small and no job is impossible is fact to the skilled staff that makes up this company. Having undertaken work for Bovis Lend Lease, Hatch & Associates, ANSTO, Howden, The Australian Submarine Corporation, Baulderstone Hornibrook, Boral Concrete and Qantas amongst others, their diverse knowledge base and their desire for excellence in engineering have generated a powerful reputation for quality, innovation and excellence. This reputation has been further enhanced by the completed work they undertook at Deutsche Bank Place.

In total, on this project, Nepean engineering manufactured and supplied 920 tonnes of structural reinforced steel work. That in itself is no small feat, taking into account the time lines and other requirements of a development such as Deutsche Bank Place. The overall success of the project is the result of the collaboration between all the parties involved, but, Nepean Engineering are a substantial contributor and justifiably proud of their companies involvement in the creation of the premium high rise, Deutsche Bank Place.

**NEPEAN ENGINEERING PTY LTD**  
**23 Graham Hill Road**  
**Narellan**  
**NSW 2567**  
**PH: 02 4646 1511**  
**FX: 02 4647 9565**  
**EM: nepeng@nepeaneng.com.au**  
**www.nepeaneng.com.au**



## Plowright Studios Pty Ltd

**THROUGHOUT ANCIENT HISTORY, THE CREATION OF GREAT BUILDINGS** and monuments across Europe and the Middle East always featured water and fountains in consort with the stone construction and artworks. It is a natural softening and humanising of the austerity of all architectural creation. The play of light and the cooling, softening nature of water are always pleasing to the eyes and generate an atmosphere of serenity away from the hardships of everyday life.

The 'Dancing Brolga' fountain at Darling Park, Cockle Bay is one example of this philosophy, the sense of movement and the ballet are undeniably present, and it is almost impossible not to see the next leap and flurry of feathers as the dance progresses passed the momentary glimpse that the artist and creator Terrance Plowright, has captured for us. The Dancing Brolga Fountain is one of three water features that give the 'park area' and the 'assembly area' a sense of humanity and softness amongst the towers of inner city life.

Living far from the bustle of the big smoke, in the picturesque Wentworth Falls in the Blue

Mountains, Terrance Plowright has been creating fine arts commercially for over 22 years. His sculptures, stained glass works, murals and water features grace many parks gardens and inner city buildings and he has an extensive list of major works already 'under his belt'.

With a broad range of subjects, from the recently completed Convict Memorial, to earlier projects for Star City and the commissioning of 500 Olympic sculptures that were auctioned to raise money for the 2000 Olympic Team.

Terrance works with a diverse range of mediums and forms. He believes deeply in the 'interconnectedness and innate intelligence of life' and he attempts to draw on and illustrate these themes in his work.

The design, construction and installation of the water features at Deutsche Bank Place took upwards of two years and involved technicalities and challenges that Terrance and his team of skilled artisans were delighted to overcome. The main water feature is 50 meters long and created out of four granite plinths; it contains ten pumps,

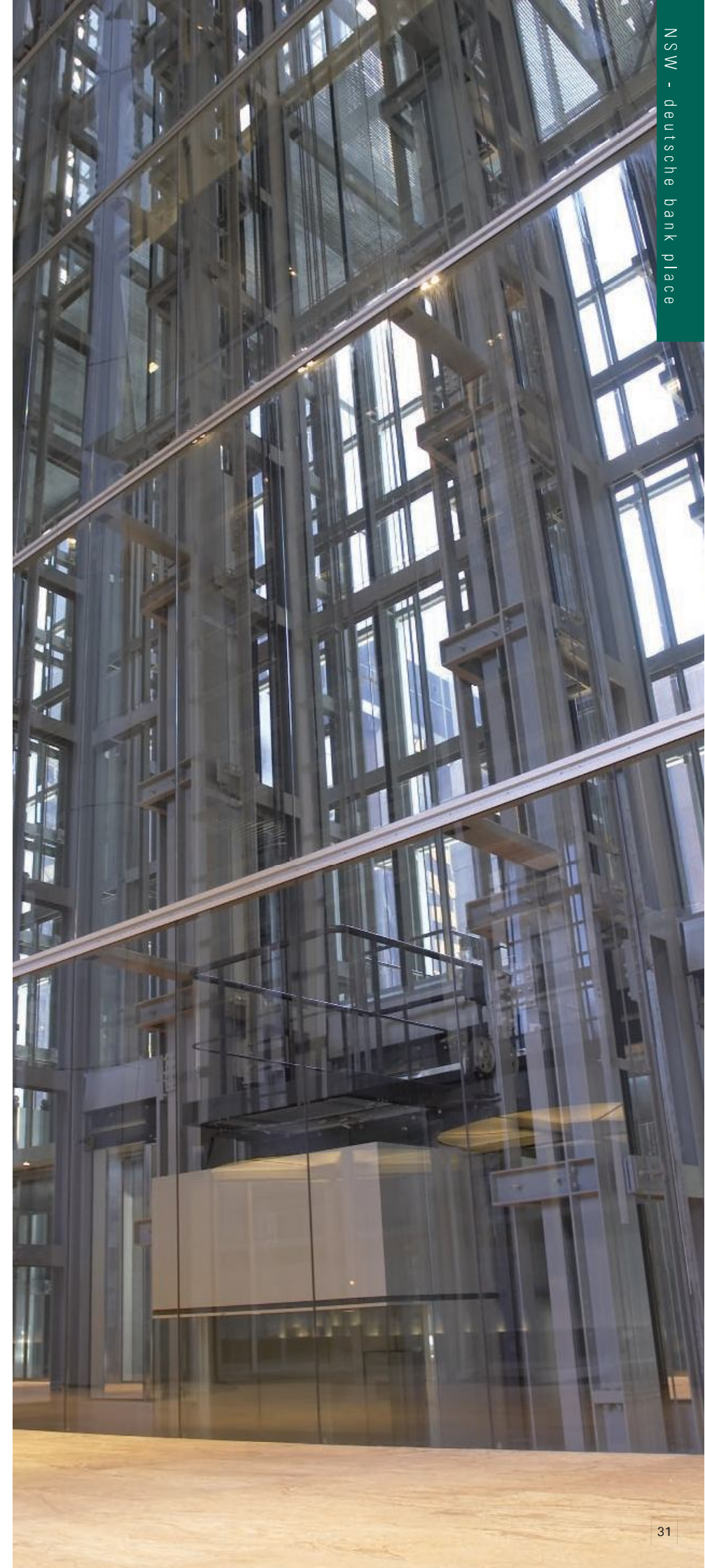
96 nozzle jets, four speed drives, and custom designed software to enable its smooth operation.

The results of the careful design and construction process are evident in the completed works and, as envisaged, they create a truly splendid environment and point of interest in the most important area of the development, the entrance. Plowright Studios are very proud to have been involved with this project and their involvement has enhanced the completion of the premium high-rise at Deutsche Bank Place, adding just a touch of humanity to the stunning development.

**LOWRIGHT STUDIOS**  
**12 Gladstone Street**  
**Wentworth Falls**  
**NSW 2782**  
**PO Box 241**  
**Wentworth Falls**  
**NSW 2782**  
**PH: 02 4757 4777**  
**FX: 02 4757 4717**  
**www.plowright.com.au**







# Architectural Glass Projects Pty Ltd

**ARCHITECTURAL GLASS PROJECTS PTY LTD** has been involved in projects with Bovis Lend Lease for over 20 years and was invited to tender for the contract on Deutsche Bank Place.

With a long standing history dating back to 1927, formerly with O'Brien glass, AGP have been operating since 1991. Based in Sydney, they have a proven company structure that includes 3 directors and a team of project managers, engineers and installers in the two areas of design and construct.

Their involvement on high profile projects such as Aurora Place in Sydney, also with BLL, demonstrates their capacity to take on board such a contract.

A team of up to 20 worked on the project for an overall period of 4 years, including an 18 month period when new systems were developed and designed for a contract worth around \$4.5 million. This was followed by a

manufacture and installation period of over 2 years in which all the works were completed.

AGP designed and constructed the specialist glass for the lift lobbies, revolving doors, facade work to the pavilion, and the lift foyer to the ground floor entry.

The full height glazed lift shafts provided AGP with the biggest challenge in terms of design and installation. The new systems that were designed pre contract accommodated this unique feature, with each of the glass panels broken down into manageable modules. This enabled rapid installation within tight working areas, with all elements being fitted in the latter stages to avoid damage to the fragile glass structure. Dick Rumbel, a director of AGP, describes the "main foyer glass screen forms the most striking part of the project" whilst the glazed lift banks was the first time AGP's team had worked on such an architectural feature.

Safety was of paramount importance during installation due to the removal of

precautionary hoardings to each floor as the team worked from one area to another. AGP's team of installers used safety harnesses and lanyard systems which enabled installation to proceed according to the program and be fully coordinated with all other trades on this complex part of the building.

All glazed components were prefabricated and manufactured in AGP's Huntingwood factory, with any requirements for additional treatment undertaken by AGP's specialist team. A substantial amount of glazing including laminated safety glass was supplied and fitted within a tight installation program by AGP's professional team, cementing their relationship with BLL. Dick Rumbel states that AGP provide "the highest quality achievable in Australia" which gives the company an edge over its nearest competitors in the market. The ethic of a "one stop shop" enhances and ensures a high quality service and product, with all parts of the process completed within their organisation.

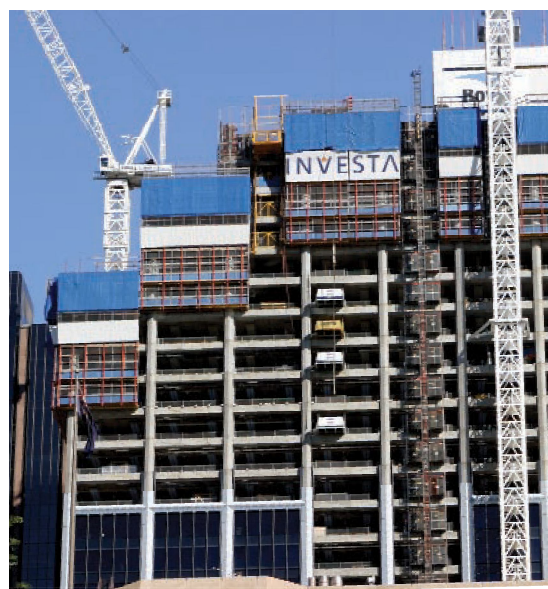


AGP undertake large commercial projects with various Contractors such as BLL and Multiplex and are currently involved in projects such as the Penrith Plaza shopping centre and Darling Park Stage 3 in Sydney. With an annual turnover of over \$30 million, they specialise in providing a design and construct service for specialist glass, including operable glass facades, entrance systems, revolving and automatic doors, structural glass, and all architectural metalwork design and fabrication.

For more information contact:

**ARCHITECTURAL GLASS PROJECTS PTY LTD,**  
**9 Liberty Road**  
**Huntingwood**  
**NSW 2148**  
**Ph: 02 9671 0000**  
**Fax: 02 9672 1951**  
**www.agpgroup.com.au**





# Wideform Pty Ltd

**ONE OF THE GREAT ACCOMPLISHMENTS OF THE CONSTRUCTION** process at Deutsche Bank Place Sydney was the achievement of a 4-day construction cycle. This rate of construction was due to the teamwork between Bovis Lend Lease and the project formwork subcontractor, Wideform. Together they developed and designed in collaboration with Peri Australia a unique quick release tableform system that produced significant time savings.

The system consisted of a main beam profile tableform (800deep) which had attached hinged folding wing sections that formed the adjacent slab profile (125deep). Special Peri trolleys were then modified with hydraulics to allow for fast raising and lowering of table wings as well as providing for both stripping and positioning of the tableforms. Battery operated pallet forklifts with the aid of a specially designed frame utilising standard forks were used to transport the folded tableforms into formwork hoists for movement up the building.

Additionally, hydraulic self-climbing perimeter safety screens, with formwork attached for the perimeter columns and beams were also

designed by Wideform and Peri and were incorporated into the total package for Bovis Lend Lease. This total system was able to generate a level of efficiency that allowed the project to maintain time and budget targets.

A significant challenge also encountered was the huge 15m high ground level atrium covering over 1600m<sup>2</sup> of the whole tower footprint. This area involved the use of the RMD designed Rapidshor heavy duty shoring system, which realised significant savings in time and equipment when compared to a more conventional formwork system. The 15-metre high columns to this area also incorporated specially designed one-off column forms.

The core construction used the Fabquip jumpform system which Wideform has used successfully on many towers within the CBD, proving itself to be efficient, reliable and accurate for the requirements of the project. Finally, the last innovation used was the prefabricated Stairmaster System by AUS Iron Industries for the internal stairs within the cores.

During the project, Wideform used enough formwork to cover an area of 28 football fields

and with the requirement for significant resources coordination with other subcontractors on the site as well as control of over 120 direct employees, with countless more offsite, Wideform and Bovis Lend Lease have achieved a significant milestone on this project.

Wideform is well suited to dealing with these challenges, having worked on a significant number of large-scale projects during their 31 years in the industry. Their in depth understanding of the processes of construction and their ability to adapt to the climate and requirements of each particular project has created a strong reputation amongst their peers and their clients. This strength and innovation is clearly demonstrated in the successful expedition of their involvement at Deutsche Bank Place.

**WIDEFORM PTY LTD**  
**245-247 Berkeley Road**  
**Unanderra**  
**NSW 2526**  
**PH: 02 4271 5144**  
**FX: 02 4271 7533**  
**EM : mail@wideform.com.au**  
**WWW : www.wideform.com.au**

**DEUTSCHE BANK PLACE PRODUCED MANY DISTINCTIVE CHALLENGES** during the course of its construction. One of these related to the completed building and the problem of how to clean and maintain a thirty seven-story atrium, with highly articulated façade and enough glazing to furnish two and a half thousand houses. It was an interesting question and Bovis Lend Lease spent some time sourcing possible expertise around the globe before deciding upon a New Zealand based company with the required skill, manufacturing ability and innovative approach to not only provide the solution, but also retain the architect's aesthetic vision for the completed high rise.

Farra Access Equipment is a division of Farra Engineering Limited, a privately owned company that cut its teeth 140 years ago in the early gold rush days of New Zealand. Involved in heavy engineering, during the 1950's and working on the hydroelectric projects of the South Island they developed a strong crane industry. Once these projects subsided, they turned their attention towards building maintenance unit (BMU) development and reapplied their crane

technology in this direction. This was the beginning of their present success and they currently produce BMU's for New Zealand, Hong Kong, Singapore, Australia and the UK.

Currently there are a number of separate divisions within Farra Engineering, each one responsible for a particular aspect of BMU development, design and construction. These include specialised machine shops, a sheet metal division, and a high quality foundry. Having these separate but highly integrated divisions enables Farra to provide a unique single point of contact for their clients and to be able to design, construct and produce the required units for handover efficiently and professionally.

Farra designed, engineered and produced five unique BMU's that catered for the specific requirements of Deutsche Bank Place; Three external BMU's, 'The Albatross', the largest 'slewing arm BMU' ever constructed of its type, weighing 22 tonnes with a reach of 31 meters. This unit is cantilevered from level 35 of the southern façade and with no counterweight; it required considerable design and engineering skill to mount successfully. 'The Shag', a smaller unit placed on top of the

North core, and 'the Weka' on top of the level 37 roof. Two internal BMU's were constructed; 'the Bat', which was placed on the underside of the level 37 skylight, and 'the Robin', which is installed to cover the internal glazing of the atrium.

The ability of Farra to produce a solution that caters for the very specific requirements of a development, and does this without detracting from the architect's vision for that development is a skill that complements their expertise in engineering perfectly.

Their involvement with Bovis Lend Lease and Deutsche Bank Place has been a rewarding experience that has proved their unique abilities and added to the reputation they have already established for efficient, inclusive solutions that are aesthetically compatible with the completed project.

**FARRA ACCESS EQUIPMENT**  
**PO Box 672**  
**Dunedin**  
**New Zealand**  
**PH: 64 3474 3030**  
**FX: 64 3474 3039**  
**www.farra.co.nz**



# Acoustic Logic Consultancy Pty Ltd

**OPERATING FOR OVER 11 YEARS, ACOUSTIC LOGIC CONSULTANCY (ALC)** is a specialist company providing acoustic and vibration related advice to developers and major construction companies as well as the domestic and commercial markets. Between them, the directors of ALC have over 35 years of experience in this field and are motivated and highly skilled in their approach.

ALC have worked on many diverse projects throughout Australia and New Zealand including KPMG Building (NSW), Conservatorium of Music (NSW), ASX (NSW), Riverside (QLD), the IMAX theatres in Sydney, Melbourne and Adelaide and the Hyatt Hotel in Auckland.

Their abilities cover a broad range of services from acoustics for residential and commercial, environmental noise impact statements, strategic planning, auditoria acoustics and acoustics for TV and radio studios, construction noise assessments, mechanical services and ventilation assessments, vibration isolation, electro-acoustics/sound system design, structural dynamics, acoustic measurements and traffic noise assessments.

Advice about acoustics or vibration is becoming an increasingly important aspect of development and design. Assessing the issues and assisting the developers with solutions that are minimal in cost but maximise the design effectiveness and achieve statutory and development objectives is an ALC speciality.

Acoustic Logic spends considerable time in evaluating and coming to understand their clients business. This approach enables them to make sound decisions that benefit rather than hinder the success of the business or development they are consulting on. Without an understanding of their client and empathy for their clients operations, successful solutions would be difficult to arrive at.

Bovis Lend Lease engaged the services of ALC to assess and advise on all aspects relating to noise and vibration. The remote core and lift vibration was one area where Acoustic Logic provided their expertise. The unusual arrangement of the elevators required particular attention to ensure they would not cause excessive noise or vibration within the occupied spaces. ALC also provided their services to a number of new tenants and were able to advise them prior to fit out.

The involvement of Acoustic Logic Consultancy in the development at Deutsche Bank Place is something they are extremely proud of, but not something they wish to make a lot of noise over!

**ACOUSTIC LOGIC CONSULTANCY PTY LTD**  
Level 3, 6-8 Crewe Place  
Rosebery  
NSW 2018  
PH: 02 9697 9077  
FX: 02 9697 9011  
[www.acousticlogic.com.au](http://www.acousticlogic.com.au)

**MELBOURNE**  
Level 7, 31 Queen Street  
Melbourne, VIC, 3000  
PH: 03 9614 3199  
FX: 03 9614 3755

**CANBERRA**  
Level 14, 71 Leichhardt Street  
Kingston, ACT, 2604  
PH: 02 6162 9797  
FX: 02 6162 9711



# Haden Engineering Pty Ltd

**A COMPANY THAT CAN TRACE ITS HISTORY BACK TO 1816** in the United Kingdom, and whose first project in Australia was working on the Opera House in 1969 is guaranteed to be reliable, extremely knowledgeable and adaptable, Haden Engineering is one such company. Haden provide mechanical services packages to a broad range of market sectors, including health, industrial, commercial, public works and infrastructure.

Haden became involved in the project in October 2003 when they were engaged by the developers of 126 Phillip Street to provide a broad ranging mechanical services package for the premium high rise. Haden assembled a skilled and experienced project team consisting of: Stephen Veber (Design Engineer), Scott Baker (Project Manager), Anthony Carter (Commissioning Manager), Nick Barwell (Site Manager) and David Kelly (Site Manager). Their extensive in house engineering expertise allowed them to work closely with the design engineers, Norman Disney and Young. During the design process Haden provided design and engineering input to ensure the installation and operation of the mechanical systems was practical, cost effective, and efficient and met and exceeded stakeholder expectations. Prior to commencement of their involvement on site Haden organised a two day project commencement workshop which included Bovis Lend Lease, and all the major subcontractors Haden were to work with.

This created clear goals and boundaries for all the subcontractors involved and resulted in major efficiency improvements for the project. During the projects' development, there were a number of specific challenges to overcome. Haden firstly constructed an off site co ordination mock up of a typical floor air handling plant room. This allowed them to work through possible coordination and construction sequence issues between trades, and to ensure their work would be completed in the most cost and time efficient manner on site. This type of attention to detail is critical to Haden's approach to their work and resulted in a significant improvement in efficiency and savings for the project. They also overcame the additional challenge of completing the engineering and installation of the major tenant fit out for Deutsche Bank during the base building construction.

Each office floor of the development was designed with two plant rooms. Each of these plant rooms has a multi zone air-handling unit (AHU) with individual heating and cooling coils serving each area on the floor. Haden's scope in the project included the supply, installation and commissioning of water-cooled chillers, cooling towers, centrifugal and axial fans, heat exchangers, air handling and packaged A/C units and gas fired heating water generators. In addition to these items Haden managed the installation of all the duct, pipe, and electrical systems associated with the mechanical services. Following an

extensive review of structural requirements for the riser ducts, Haden employed the use of circular ductwork, which provided two innovative benefits. Firstly to provide kitchen exhaust risers for the completed project, and secondly, as the ductwork was installed whilst the core was being poured it negated the need for separate form working for the riser shafts. The ductwork provided the formwork for the shaft which resulted in considerable time and cost savings.

During the years Haden Engineering have been in operation they have established close and very successful relationships with a number of major builders and developers throughout Australia. Their ability to design, construct and provide virtually all types of mechanical service packages is one of the key elements of their success. This success is based on extensive engineering expertise and an ability to understand exactly what their clients require. Their involvement in 126 Phillip Street appropriately demonstrates this ability to the full.

**Haden Engineering Pty Ltd**  
Level 1, Unit 6 & 10,  
38 – 46 South Street  
Rydalmere  
NSW 2116  
PH: 02 9947 7900  
[www.hadenservices.com.au](http://www.hadenservices.com.au)





Cooling Tower Enclosure

# C & V Engineering Services Pty Ltd



## C & V ENGINEERING IS A COMPANY THAT PRIDES ITSELF ON BEING ABLE TO ADAPT

and providing engineering solutions to their customers. Their ability to derive the client in a broad range of ways from small miscellaneous metalwork right through to precision design fabrication through to major structural steel manufacturing and erection has enabled them to be at the forefront of engineering solutions which has forged long term and close relationships with their customers. This ability was evident in their involvement in Deutsche Bank Place.

Established over 30 years ago, C&V have approximately 25 full time employees. Utilising a base of skill and knowledge combined with their extensive industry experience C&V are able to deliver precise and complete solutions for their clients and provide the trained professionals to undertake the erection, fabrication and other associated work involved.

Their skill in adhering to extremely tight timelines and tight tolerances is something that developers have come to rely on.

C & V Engineering was established in 1975 by Vito Pizzolato and some 30 years later Vito still plays an active role in design and fabrication solutions along with son Mario Pizzolato, who have a long association with Bovis Lend Lease who have come to understand the developers expectations and aspirations very well. It was only natural then, that they were invited to participate in the Deutsche Bank Place project. First engaged by the Bovis lend Lease for welding work during the demolition phase they quickly progressed into the construction phase of the project and the brief of their work expanded rapidly to enable them to provide the many and varied services that they have become known for. In fact, the majority of the steelwork, excluding the atrium and the architectural roof feature was undertaken by C&V. This synergistic relationship with the

developer allows the developer a clear degree of flexibility and a certain surety in knowing that they have an engineering company with the diversified ability to carry out a vast range of different tasks. It is an aspect of C&V's operations that they are consciously working towards, striving to provide the customer and client with whatever services are required to get the job done.

Although their original 3-year involvement in the project began during demolition of the existing buildings, soon after they continued with the fabrication of crane grillages. An area of engineering that C&V specialise in, currently they supply grillages and crane bases to a large percentage of Sydney developments. On Deutsche Bank Place, each crane stool took 3 days to weld, with a top plate of 60mm, gussets of 40mm and a bottom plate of 120mm. The entire weight of each stool was over 1 tonne and after the welding was



completed, the plate remained hot enough to fry an egg on the following morning. All the welding work was performed within strict accordance to AS1554 SP, which specifies that welds need to be ultrasonically tested, to ensure there are no flaws.

There are always a number of significant challenges with a project such as this, one in particular was the construction of the awning over the footpath and street. Due to the high pedestrian traffic, Bovis Lend Lease and C&V concluded that the only safe method of undertaking the steel work was to perform it at night when there was minimal pedestrian activity. This required the closing of the footpath during this time and the creation of 'daylight' brightness through the setting up of over 20 spotlights. C&V then undertook the welding work and completed it safely and expeditiously without any major disruption to the normal day-to-day life of the city. The difficulties in operating at night were carefully planned and specific OH&S protocols were put in place to ensure the work was carried out safely.

Having worked with Bovis Lend Lease on many projects over the years, C&V are well versed in OH&S protocol and their ability to formulate extensive OH&S plans for each required project was integral to their involvement in Deutsche Bank Place. They are a safety first company and have an admirable record in this area. C&V's involvement with Deutsche Bank Place has extended to this day and they are still required for 'finishing off' work when the need arises.

Elsewhere, C&V Engineering are currently working on Darling Park Stage 3 and the Macarthur Square projects; the company is kept very busy by its clients. They are very often the first to start on a project, with their experience of demolition, and the last to finish due to their ongoing interest in providing the clients with whatever services they require. This is a rare attitude these days and the value adding of such an ethos is clearly visible in the amount of work they are invited to undertake and the many satisfied clients they have created. Not the least of which is Bovis Lend Lease and the premium high-rise development of Deutsche Bank Place.

Naturally, C&V Engineering are very proud of the work they have undertaken on Deutsche Bank Place and their involvement in a prestigious project such as this is a clear indication of the standard of work they carry out.

**C & V ENGINEERING SERVICES PTY LTD**  
**23-25 CHURCH AVE,**  
**MASCOT NSW 2020**  
**PH: 02 9667 3933**  
**FAX: 02 9667 3955**  
**EMAIL: CVENG@CVENGINEERING.COM.AU**



Access Platforms &amp; Stairs



Grillage Being Fabricated



# Malcolm Hunt Productions

## THE PROCESS OF LARGE-SCALE CONSTRUCTION, WHETHER IT BE INFRASTRUCTURE,

high-rise developments, is often only found in the articles and write-ups from magazines and industry reports. At times, it is difficult to get a clear overall picture of the intricate processes, innovative technologies and the sheer scale or complexity of these ventures.

Having spent 25 years filming for the Seven and Ten Networks producing and shooting documentaries and current affairs, and with an insightful shift in targeted market the company began creating visual records of complete construction projects, from start to finish, with detail, visual explanations and commentary that presented a true record of the entire process. All material is shot on television broadcast cameras to maintain the highest quality possible through post-production and multiple dubbing.

Engaged in work in Asia and Europe, as well as extensive work all over Australia, Malcolm Hunt has carved a very successful enterprise out of a previously unseen niche. The productions he now creates for companies provide a valuable tool, not only for their own records, but also as a marketing device for prospective clients who are able to take a tour through previous projects and see for themselves the skills and innovations involved in the development. Extensive background expertise, along with their awareness of major construction and development works, has led to MHP being able to provide an incredibly high standard production with the professionalism that can only come from years of industry experience and knowledge.

Malcolm Hunt Productions have worked on a diverse range of projects, from high above ground on developments such as Aurora Place, to deep below the ground on the 10km airport rail link in Sydney. They have worked beneath the ocean on the Sydney Harbour tunnel and the harbour wharves development (both of which required underwater photography) and on other projects such as airport extensions, Star City and numerous freeways and other infrastructure projects. Currently amongst other projects, they are working on the Lane Cove Tunnel in Sydney, The Lucas Heights Reactor, Epping Rail link and Bondi turnback project for Rail Corp.

The skill involved in this form of work is the ability to 'be there' when challenges are met, when breakthroughs occur, or when complex tasks are completed. This requires MHP to be on site a large percentage of the time and to capture these milestone moments during the project. It is an aspect of their work in which they take great pride. In the case of several construction projects, The Australian Cinematographers Society has awarded Malcolm Hunt awards in cinematography for his work behind the camera.

In the final phases of a project, MHP collaborate with their client to produce a script and ensure the critical aspects of the project are clearly illustrated. The completed production is produced as a corporate documentary; the technical aspects of the project are presented in clear and interesting ways to create a highly professional and entertaining record of the entire development or project. Finally, enhancements are added through state of the art visual and audio postproduction and the result is a definitive record of the project, on CD, DVD or Video.

The value of such a record, as a marketing tool, or for internal training purposes, not to mention its historic value is evident in the finalised documentary of Deutsche Bank Place, produced by Malcolm Hunt Productions.

**MALCOLM HUNT PRODUCTIONS**  
PO Box 864  
Crows Nest  
NSW 2065  
PH: 02 9948 4445  
FX: 02 9948 6052




## ARMSTRONG WORLD INDUSTRIES supplies major ceiling contract

**ARMSTRONG WORLD INDUSTRIES, THE GLOBAL MANUFACTURER** of ceiling and flooring systems, has successfully supplied 30,000 sq m of Ultima Ceiling Panels to the new premium office development at Deutsche Bank Place, Sydney. Paul McDonald, Marketing Manager, said that Armstrong felt privileged to be part of this major, prestigious development.

"Quality, acoustics and aesthetics were very important in this project," he said. "We provided a solution that encapsulates all of these aspects but was also functional, durable and cost effective."

Armstrong's Ultima Ceiling Panel is a composite mineral fibre product manufactured primarily from recycled ingredients in line with the company's focus on environmentally sound manufacturing processes. Steel slag (mineral wool), recycled newsprint, and perlite (a naturally occurring volcanic rock) are all ingredients in the tile.

The Ultima product is unique, with its high acoustical performance combined with the benefits of the "Durabrite" membrane that provides a smooth white, highly reflective finish that also provides superior damage resistance. The true benefit of the Ultima ceiling is its powerful combination of optimum acoustical performance with the cost effectiveness of a ceiling that continues to offer premium visual over the life of the building.

The system proved to be an effective solution for Bovis Lend Lease, the main contractor,

whose trust in Armstrong's product range and expertise ensured a smooth process in terms of selecting a ceiling that met Hassel Architects and Foster and Partners design requirements.

"We worked closely with the contractor and architects to resolve the project's requirements," said Mr. McDonald. "We produced and delivered the Ultima ceiling system within project guidelines for time and budget, delivering on our promise."

Mr. McDonald said that Armstrong World Industries specialises in working with clients to manufacture and deliver the best ceiling or flooring solution to each project.

"This concept is embodied in our commitment that 'between us, ideas become reality'. One of the keys to Armstrong's success is our people, and with a combined expertise of more than 1000 years, we are able to channel this resource to delivering best quality solutions, summarised in our vision - We deliver on our promises", he said.

Armstrong's experienced team provides full technical advice, whether it is acoustical solutions, ceiling layouts, or recommendations on correct "product fit" based on the company's experience of the market, building type and location, as well as functionality and aesthetics. Comprehensive and effective distribution is another key to the company's success, with offices and distribution facilities located throughout Australia. The company also offers a 15-year warranty for each ceiling system installed.

Armstrong ceiling products are used in a wide variety of construction projects, including all types of commercial offices, healthcare, education, hospitality, and transport facilities. It is this wealth of experience that gives Armstrong the edge over many of its competitors, along with a vast product offering, innovative solutions to unique briefs and a key element - the back up support and guarantee of the product during a building life.

Armstrong World Industries commitment to sound environmental practices further distinguishes it from its competitors. In addition to using recycled materials in the manufacturing process, Armstrong's production facilities operate a recycling program, whereby ceiling panels may be salvaged during refurbishment and demolition projects. This results in savings not only for the contractor but has a positive impact on the environment due to reduced landfill.

Originally founded in 1860 in Pennsylvania, USA, Armstrong World Industries was established in Australia 45 years ago and remains the country's market leading supplier of ceiling and flooring systems. The company is also Australia's only manufacturer of resilient vinyl flooring.

**Contact Details**  
Website: [www.armstrong.aust.com.au](http://www.armstrong.aust.com.au)  
Email: [scentre@armstrong.aust.com.au](mailto:scentre@armstrong.aust.com.au)  
PH: 02 9748 1588





# SMB Harwal Electric Pty Ltd

## HARWAL ELECTRICAL INDUSTRIES HAS BEEN A MAJOR PLAYER

in the Australian electrical industry for nearly 40 years, designing, manufacturing, supplying and servicing switchboards throughout Australia. Recently acquired by SMB United, one of South East Asia's largest low voltage switchboard manufacturers, the new company, SMB Harwal Electric Pty Ltd, now has a global capacity and leverage, backed by an increased resource base. This has cemented SMB Harwal Electric's position at the forefront of the industry in technology and competitiveness.

Specialising in the design and manufacture of modular and custom built low voltage switchboards and motor control centres for commercial and industrial applications, SMB Harwal's product package incorporates high levels of personal safety, minimal downtime for upgrades and alterations, extensive power security against electrical failure and fast manufacture at a competitive cost.

SMB Harwal Electric is one of the few local switchboard manufacturers with the range of products to service clients on premium projects such as Deutsche Bank Place. Their focus has always been on the development of long lasting relationships with their clients, and their association with Bovis Lend Lease

over the years enabled them to understand what was required and provide the desired result for this project in particular.

For the Deutsche Bank Place project, SMB Harwal Electric designed and manufactured 4 off 3000 amp modular Form 4 main switchboards rated at 63kA for 1 second; a 6000 amp modular Form 4 Generator Switchboard rated at 63kA for 1 second, and over 150 distribution boards and rising main tee-off boxes. They also delivered 25 off switchboards with automatic supply transfer switches, 36 off custom-built meter panels, Form 4 modular UPS switchboards rated at 50 kA for 1 second, and Form 3bih UPS Distribution Boards. The use of SMB Harwal's modular iNTELECT switchboard system considerably reduced the manufacturing lead-time and provided the designers with increased flexibility or future proofing in regard to changing requirements for tenants.

The iNTELECT system of modular switchboards has been type tested to Australian and IEC standards and incorporates some unique features. The patented phase-segregated busbar system developed by SMB Harwal drastically reduces the risk of short circuit between conductors; this is a distinct advantage over conventional systems. In addition to this, larger switchboards are fitted with

temperature indicators on conductive joints in the main busbar systems which are calibrated to permanently change colour when the rated temperature is exceeded. This allows for visual monitoring of the busbar system which is a unique feature of iNTELECT.

In these times of 24 hour trading where continuity of electrical supply is critical, monitoring of the condition of the busbars in this manner reduces the number of expensive power outages required for maintenance during the life of the building.

SMB Harwal Electric's ability to understand the client's needs comes from years of extensive industry experience and innovation. Their involvement in Deutsche Bank Place not only adds to their successful relationship with Bovis Lend Lease, it also demonstrates the companies strength and capacity to deliver on large-scale projects.

**SMB Harwal Electric Pty Ltd**  
Unit D3, Lane Cove Business Park  
16 Mars Road  
Lane Cove  
NSW  
PH: 02 9420 7777  
FX: 02 9420 7700  
EM: sales@smbharwal.com.au

# LYSAGHT

"Onsite rollforming provides advantages which just increase with the size of the project."

Robert Hyland, director, Hyland Roofing



Vital ground facilities for Australia's first airborne early warning and control aircraft are taking shape at Williamtown RAAF base north of Newcastle, NSW. Construction of two large hangars has entailed a strong working partnership involving Hansen Yuncken, Hyland Roofing and BlueScope Lysaght.

A combination of onsite rollforming technology and 8,400 square metres of wide-cover LYSAGHT KLIP-LOK 700 HI-STRENGTH® concealed-fixed cladding is expediting the project.

BlueScope Lysaght became an on-site partner in the construction process when the hangar dimensions and roof shapes made it obvious that onsite rollforming could bring time, cost, quality and construction efficiency advantages to the project.

"When you have sheet lengths of 45 metres the use of road transport just isn't an option for a job like this," Hyland Roofing director, Robert Hyland said. "This is the first time I've been involved with onsite rollforming, but it has impressed me with what can be achieved."

"Long sheets need less purlins and that lets our installers get the job done quickly – which in turn lets other trades carry out their work below."

**For the full version of this story and information on other interesting projects, call Steel Direct on 1800 641 417 and ask for your copy of Innovations, BlueScope Lysaght's national magazine.**



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