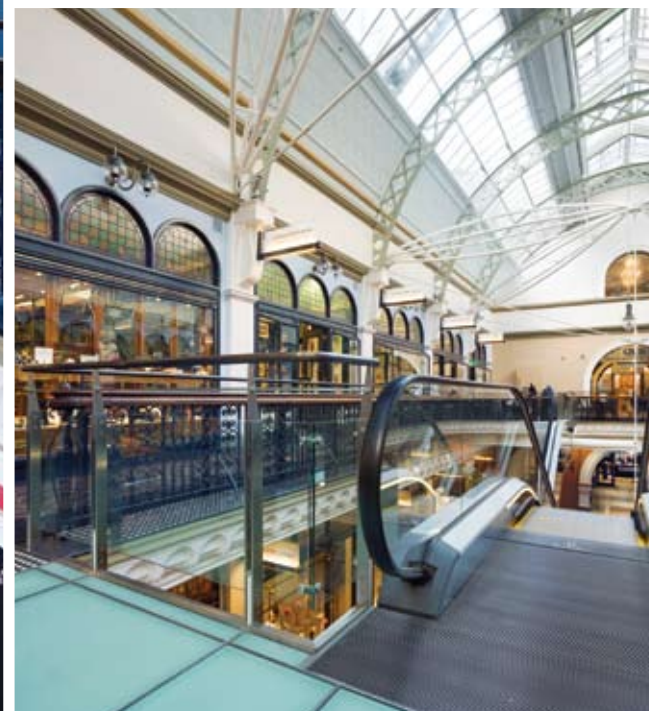
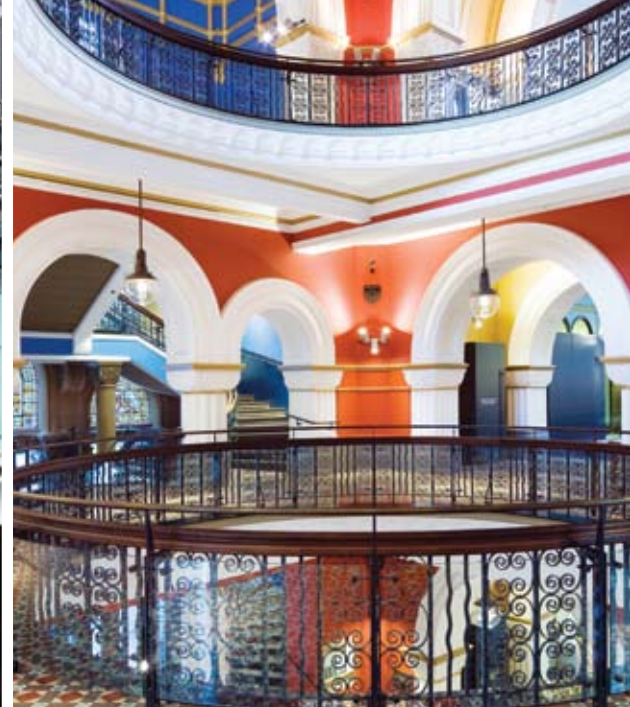


# QVB REDEVELOPMENT

BUILT  
SYDNEY NSW



## BRINGING THE MAJESTY BACK TO THE QVB

The Queen Victoria Building (QVB) has been restored to her former glory, with a refurbishment that has seen many years of careful planning and implementation. The \$38 million project cultivates an upgrade that reflects the building's original design, whilst maintaining commercial and shopper realities of the 21st century.

Coupled with higher quality shopping, upgraded elements such as improved lighting features have contributed to a refreshed ambience for this much-loved Sydney jewel. Built was responsible for the renovation works which have included substantial internal refurbishment of the existing shopping centre including vertical transportation and finishes. The centre remained fully operational throughout the upgrade which involved new Building Services, signage, shop fronts, escalators and landings, elevators, carpets and painting throughout.

The makeover has resurrected the QVB's heritage values and architectural design, which included highlighting the QVB's magnificent columns by installing frameless glass shop fronts. Existing framed and

glazed shopfronts within the centre are being converted, transforming each into a modern frameless alternative whilst maintaining the integrity of the building.

In addition, historical elements of the building that had been lost over the years have been revived. This included devising a Victorian inspired colour palette to complement the unique cultural elements of the building. The use of red, turquoise and eggshell blue is a more vibrant and honest interpretation of how the Victorian sensibility embraced vibrant colours in courageous combinations. Such aesthetics symbolise the heart of the building and hark back to the Victorian colour ways, contemporary with the construction of the Queen Victoria markets building in the late 1800s.

Another of the key elements of the work has been the new escalators, to replace those which were installed during the last major refurbishment of the building in 1984. Over time, the dislocated escalators have caused an indirect, inefficient and circuitous travel route to the upper levels of

the building. Efficient escalator systems have now been installed adjacent to the ends of the Ground Floor Market and Drutt Street entrances, to improve access for shoppers to the upper levels.

The new escalators have been designed to be seen as a new sculptural element expressed in their own right and to follow the Burra Charter heritage concept that new insertions should be clearly expressed in a contemporary way so that they will be recognised as a later addition. The design is minimalist, modern, and reversible, using an engineered structure that does not overpower the ornate building elements.

The building work has also embraced a strong focus on water conservation and energy reduction and is expected to achieve a reduction of approximately 13.7% per cent in the overall QVB power consumption. A reduction in energy consumption and greenhouse gas emissions of such mechanical services systems results in the QVB reinventing itself as a 'greener building', with Class A recycled water also being used for toilet flushing and cooling towers. There will also be conversion from electricity based cooling to gas

absorption chillers. The use of 100% environmentally friendly refrigerants means zero global warming potential and zero ozone depletion.

Not only does the QVB transcend beauty and grace, it has set a standard for world class shopping destinations. The project has achieved a delicate balance between historical preservation and commercial necessity. Furthermore, this shared vision has given new life to the next chapter of this monumental CBD treasure.

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# THE QVB: EVOCATIVE, PROVOCATIVE AND REVITALISED

**M**asterminding an icon's refurbishment while staying true to its spirit is a major task. For Ancher, Mortlock and Woolley, architects on the Queen Victoria Building (QVB) project, the process has taken many years, countless meetings and great creativity.

Elements involved in the design process included adding escalators spanning from the ground floor to the third storey, revamping the colour scheme, redoing lighting, shopfronts, balustrades, refitting public amenities, improving the stairs, and bringing all services up to speed with current BCA codes and environmental ideals.

All of which involved AMW shepherding plans through a great many approval processes: there were heritage requirements, Sydney City Council and State Government committees all needing to be satisfied. It took from late 2003 until mid 2006 for all of the details to be finalised and works given the go-ahead.

"Throughout its working history the QVB has been continually upgraded and fitted out with new technologies, such as lifts, escalators and shopfronts. This was a time for re-evaluation, to reassess what has made the building important and how its heritage values could be recaptured without further dilution due to gradual change. We had to work through a lot of alternatives and options with Council and heritage authorities," explained architect and AMW principal Philip Baigent.

"The escalators were the most controversial part. They have been hung in the voids of the arcades using a suspension system."

"The challenge was how to integrate them into the Heritage context; it took considerable effort to design. Architecturally, we have tried to dematerialise them; they have reflective glass sides and glass landings."

One of the reasons the new escalators were essential for the QVB is the last refurbishment in 1986 had placed escalators from floor to floor at alternate and opposite ends, based on the now outmoded retail tactic of making shoppers walk through the building past all the shop frontages. Nowadays shoppers want a more direct route, and most therefore had not been bothering to access retailers on the uppermost level.

Engineering services (electrical, mechanical and fire services including smoke detectors) were all upgraded. Air conditioning has been made more power-efficient, with new chillers and cooling towers. 1980s lighting has been replaced with clear handblown glass spheres incorporating photometrics that refer visually back to the gasoliers originally in place. Centuries-old materials such as brass have been used as well as new millennium stainless steel in a design which evokes artistically the Victorian era's spirit while meeting needs and expectations of the digital age.

Shopfronts are being renovated on a lease-by-lease basis, with frameless window glass installed and signage standardised. Refurbishment has

re-established the rhythm of the original building's internal colonnades, a feature of the original arcade design.

Colours have been transformed from the 1980s palette to a vibrant and joyful echo of the stained glass windows of the great dome, in a spectrum of bold primary hues designed by leading colour consultant George Freedman of Freedman Rembel. Carpets have been replaced with heritage-style runners in a theme which replicates the carved leaves and ferns of the QVB plasterwork.

"As a heritage building, the QVB has an important cultural, social and historical role," said Philip Baigent.

"It has had the social role of marketplace, council offices, retail; everyone in Sydney has a different association with it."

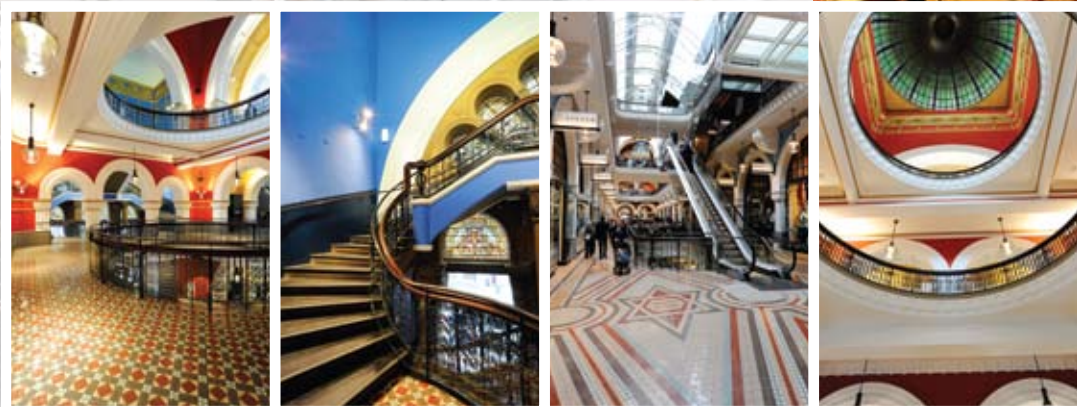
"It's an important commuter facility, and a marker in the history of the city's development. As a permanent expression of history, it gives a sense of civic pride and orientation for residents."

"We tend to hold our heritage buildings very fondly; they have a sense of familiarity, history and romance. They have very strong associations. There were so many stakeholders – Council authorities, heritage, users, the owners, retail managers – we had to engage them in quite a collaborative design process. That way everyone takes a bit of ownership of the decisions being made."

"As an architect, trying to maintain all of that within some kind of creative control was a challenge."

AMW have distinguished themselves designing unique buildings for a wide spectrum of briefs. Their work includes the Sydney Airport Control Tower, the Olympic Hockey Stadium, Park Hyatt Hotel at Campbell's Cove, Royal Agricultural Society Dome and Exhibition Halls and ongoing work for the State Library of Victoria, a project they have been engaged in for over twenty years and which has won numerous awards.

Founded by Sydney Ancher in 1946, the company is also distinguished for the fact three partners Ancher, Mortlock and Woolley, have been awarded the Australian Institute of Architects' Gold Medals.



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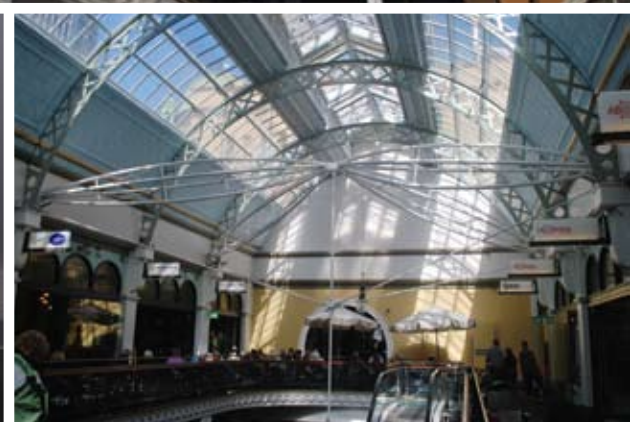
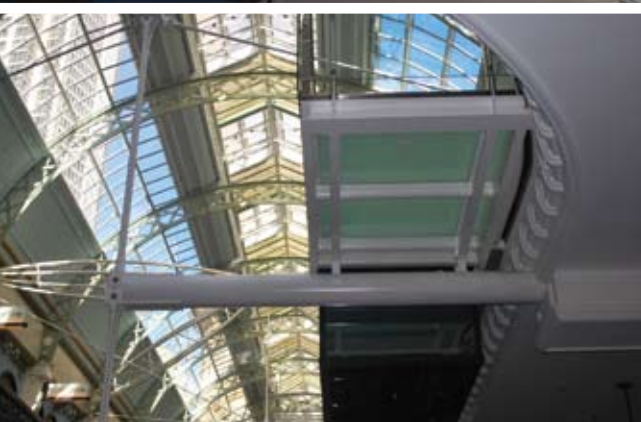
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## STEEL GARTERS FOR A GRAND OLD DAME

Those making the grand ascent on the QVBs new architecturally designed escalators are riding on steel manufactured and installed by ACD Enterprises. An innovative family-run company from Tuggerah on the NSW Central Coast, they manufactured and installed the architectural designed support trusses complete with McAlloy hanging rods for north and south ends. The escalator support panels were also manufactured and installed by ACD.

They also supplied ground floor strengthening in the form of an 11m beam weighing 6T in addition to a number of other support beams, beam strengthening for the floor supports, curved beams for the façade around the central void and exterior ventilation platforms for north and south ends.

“The current project of the QVB refurbishment has had many different challenges, with the building being over 100 years old, making measuring the site and installation at times complex,” said Project Manager Anthony Dash.

“ACD engaged the services of Paul Collings from Visionsteel Drafting located on the Central Coast to provide the detailed drawing for the QVB project. Paul uses 3D drawing technology to construct his detailed drawings. From the drawings and information Paul provided the accuracy

during fabrication and erection eliminated any costly errors, to the point with the installation of the trusses for the McAlloy rods being within 5mm of centre.

“One of the requirements was to enable the QVB to still be fully operational and maintain their level of service to the shop owners and customers. Therefore all site work and installation was restricted to after trading hours at night. Access to unloading and installing the fabricated steel to an existing building often brings a challenge, for the QVB some of the glass ceiling panels were removed to allow a crane from the street to lower the steel work through the roof. We then had to manufacture purpose built trolleys to enable transferring the steel work from that point to the area where it was to be installed.

“While the QVB Refurbishment has tested our skills, we have appreciated the professional and positive approach that Built displayed in every facet of their operation.”

Their involvement with Built on the refurbishment of the Queen Victoria Building has been the culmination of a close working relationship that has seen ACD Enterprises complete a number of projects with Built, ranging from a display office at Murray’s Beach Swansea, the filling in of

a void area at Darling Harbour Food Court, “The Post” at Potts Point, Qantas 1st Class Lounge fit-out, IAG offices at Parramatta, plus many other projects ranging from heavy structural steel work to architectural metalwork.

May 2009 marks ACD’s thirteenth year of operation. The directors, Andrew and Anthony Dash and their wives are actively involved in the day-to-day operation of the business, planning and driving the company into the future.

This includes developing a new 3D image scanning service. The CYREX 3D mapping System is capable of scanning existing buildings and infrastructure and producing 3D models and detailed drawings of the site. This technology has a myriad of potential benefits for surveying and engineering aspects of projects.

There is an impressive array of services in the core business of metal fabrication: Mig and Tig welding, onsite erection; painted, galvanized and arkwire spray coatings; and steel, aluminum and stainless steel design, manufacture, fabrication, repair and maintenance. Company equipment includes 160 tonne Brake Press, 100 tonne punch and shear, 4Mt x 12mm Guillotine, and Mig and Tig welding equipment.

The philosophy of ACD Enterprises and its staff is to build strong, lasting and fruitful relationships with their clients and associates, by conducting themselves in an honest, ethical and friendly manner. They service a broad spectrum of industries: mining, building, marine, power, transport and manufacturing, offering a level of service, quality and trust to their customers’ experience, creating an environment that is focused on the “total package”. ACD believes this is conducive to building mutually profitable businesses.

### ACD ENTERPRISES

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# REFACETING THE GEM

It needed special expertise to bring the working parts of the QVB up to speed while protecting the heritage significance of the place. Graham Brooks and Associates (GBA), Heritage Architects and Consultants, played a pivotal role, working together with architect Ken Woolley and interior designer George Freedman on the spectrum of sensitive refurbishment tasks. These included a comprehensive upgrade to current BCA standards, construction of new escalators, updating finishes throughout the interior, upgrading lighting systems and bathroom areas.

“We have aimed to respect the old while playing up the new contemporary overlay,” said Director Graham Brooks. “Heritage conservation is the Management of Change: for the comprehensive QVB refurbishment we have provided our specialist knowledge, experience and passion to appropriately conserve those important historic aspects of the building. At the same time, we have guided the refreshed new interior design fitout and the elegant architectural revival of the grand old institution to ensure it continues to evolve as one of the premier historic retail destinations in Australia.”

Along with GBA’s Heritage Consultant Jonathan Bryant, Graham Brooks has enjoyed a productive relationship with Ipoh, the owners of the QVB since 1997. Ipoh first restored and reopened the QVB as a major retail centre in 1986 at a cost of \$86million. Before their efforts, the site had reached the nadir of a long and complex commercial history, degenerating into a rundown maze of tenancies. By the 1970s,

it was being suggested the fundamentally gracious building of Sydney sandstone be demolished to make way for car parking.

Ipoh have their roots in Singapore, and are an international specialist retail property, investment and management company. Other Australian properties include 1 Martin Place, The Strand Arcade, Chifley Plaza and The Galleries Victoria, but the QVB is the ‘jewel in the crown’. GBA have worked closely with their management team and also the City of Sydney to give the gem fresh lustre. In addition to overseeing the Heritage conservation of the QVB, they played a key role in strategically guiding the entire landmark project through complex political, bureaucratic and planning frameworks.

GBA are recognised both at home and abroad for their unique combination of professional consulting services and expert advice on heritage issues. They are known for their examination and resolution of complex Heritage issues and projects in a balanced and practical manner.

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# RESTORING THE GLORY AND EMBRACING THE GREEN

Six years of careful planning and painstaking implementation by Coffey Projects came to fruition with the unveiling of the \$48 million restoration and refurbishment of Sydney’s Queen Victoria Building (QVB). Nelson Silva, Project Director for Coffey Projects, led the team as they cultivated an upgrade which reflects the building’s original design, whilst maintaining commercial and shopper realities of the 21st Century.

“The client’s brief premised around the upgrading of elements such as improved lighting features has contributed to a refreshed ambience for this much-loved Sydney jewel without closing any retailers to undertake the works. The centre remained fully operational throughout the upgrade which involved new signage, shop fronts, escalators and landings, elevators, carpets, BCA compliance upgrade, new mechanical gas absorption chillers, and painting throughout,” explained Nelson.

Coffey Projects worked closely with the Heritage consultants to revive historical elements lost over the years, aesthetics which symbolise the heart of the building and hark back to its origins in the Victorian era.

Another of the key project elements was the new strikingly sculptural escalators adjacent to the ends of the Ground Floor Market and Druitt Street entrances, which replace the inefficient, circuitous route created in 1984 during the last upgrade.

City of Sydney and the NSW Heritage Council both considered numerous solutions suggested by the design consultants. The agreed

outcome has been designed to follow the Burra Charter heritage concept that new insertions should be clearly expressed in a contemporary way so they are recognised as a later addition.

Works have also embraced water conservation and energy consumption, and a reduction of approximately 13.7 in overall power consumption by the QVB is expected. In effect, this grand lady of retail has been reinvented as a greener building, as there will also be a reduction in greenhouse gas emissions with the upgraded mechanical services, and class A recycled water will flush the amenities and fill cooling towers. Absorption chillers are being converted from electricity to greener gas and 100 per cent environmentally friendly refrigerants have been used. “Not only has Coffey Projects been instrumental in restoring the QVB’s transcendent beauty and grace, it has set a standard for world class shopping destinations,” said Nelson.

“Working with the City of Sydney, Heritage Council and the QVB’s owners, Ipoh, we have together achieved a delicate balance between historical preservation and commercial necessity.”

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## THIS BUSINESS KNOWS THE DRILL

There's only one way to drill holes in a Heritage sandstone wall – very, very carefully.

Fortunately for the QVB refurbishment, Rick Holt from Affordable Concrete Cutting is something of an expert at core drilling, hand sawing and concrete cutting.

Like most of the other tradesmen on this project, he had to do all his work at night. Not only because of the safety issues caused by the QVB remaining open for trading throughout refurbishment, but also due to Council noise restrictions.

His part of the project was undertaken from July through to November 2008, and involved drilling a total of 71 cores, ranging from 16mm to 127mm in diameter in walls, floors, chimney tops, stairs and other parts of the structure. The small cores were hand drilled, for the larger ones a machine driven bolt down drill was utilised. These drills have toothed segments at the business end, which are efficient to replace as they wear down on the native Sydney rock.

The holes created were needed for fixtures such as bollards, and structural elements such as drainage. All the work had to be carried out within the strict Heritage guidelines applicable to the site.

To ensure no dust or slurry polluted either the site or the stormwater system, ongoing removal was undertaken. A wet vacuum was used for slurry and dust, which was then transferred to 44 gallon drums for disposal through council waste facilities. On other jobs, an industrial dry vacuum is often used to control and remove dust.

Affordable Concrete Cutting was started by Rick Holt as a one man show six years ago, and due to demand for concrete cutting and core drilling services, has recently expanded to four employees. Prior to running this business, Rick had some years experience in the trade.

Other projects he's undertaken include work road sawing on the Lane Cove Tunnel and the Cross City Tunnel. He has also worked overseas core drilling and road sawing.

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## ACCESSING THE QVB

Instant Access was commissioned by head contractor, Built, to provide a specialist access solution to the internal atrium of the heritage listed Queen Victoria Building. Our scope of works was to provide access to the centre dome area as part of the refurbishment project to return the QVB to its former glory, with a new Victorian inspired color scheme more reflective of the original scheme when the QVB was first completed in 1898.

Instant Access designed and built the scaffolding that would provide access to areas so restoration work may be carried out as directed by Built, whilst ensuring that we maintained the integrity of the heritage listed surrounding. All work was carried out by our access specialists after hours to ensure that the disruption to the general public would be kept to a minimum.

Planning and preparation were key to the success of the project, and all areas were completed within the time frame specified. Instant Access is proud to be associated with the successful restoration of the heritage listed Queen Victoria Building.

For specialised access equipment, major projects rely on Instant Access. They aim to be the market leader in rentals, sales and servicing of safe, cost-effective job access solutions, and are an ISO 9001 Quality Assured organisation.

With ten branches in three Australian states, as well as two branches in New Zealand, their team of highly qualified and experienced personnel can tailor a solution for any site. Their staff's expertise extends across technical and mechanical disciplines, as well as administrative and sales personnel who ensure timely delivery and pick up of equipment.

Their diverse range includes a full range of elevated work platforms including scissor lifts, knuckle booms and straight booms which are expertly maintained and backed up by full professional training for the client's on-site operators.

They manufacture their range of Alloy Scaffolds to ISO9001 at their Homebush factory. This Instant Scaffold was the first aluminium scaffold on the market and incorporates a patented weld-free rib grip process which is three times stronger than welded joints, it is backed by a lifetime warranty, lightweight and user-friendly.

Instant Access also provide a number of proven quality modular steel scaffolding systems including the K-Stage modular system and the new Instant Ally systems. For an ideal work platform for a range of trades, Instant Access have a range of Swinging Stages.

One of the safest options for many projects is the Instant Quickdeck, a rigid, high load bearing work platform engineered to meet high manufacturing quality standards and stringent safety regulations. Comprised of only a few standard parts including trusses, nodes, pins, chains, beam brackets and ply, it can be configured in any way required for access to the task at hand.

Instant Access can also provide in-house design and manufacture of any specialist access equipment. With over 40 years of experience combined with engineering, installation and project management expertise, they can always provide customers with the right solutions.

Instant Access have provided their equipment across the construction spectrum, including projects as diverse as power plants, aircraft docking systems, large access towers, and under bridge maintenance. They truly are 'The Access Specialists'.

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The Access Specialists





## DEDICATED TO THE CRAFT OF RESTORATION

When Olde English Tiles Australia P/L (OETA) founder Antonino Gaudioso saw Heritage buildings having original tiles ripped out and replaced with terrazzo or concrete due to a lack of era-appropriate replacement tiles, he started a business to meet the need.

With a background in the craft of mosaics gained in Italy, he knew what he was looking for when he traveled to Europe to source tiles, and opened a factory in Camperdown for tile cutting and polishing in 1982. The first client was Curzon House in Sydney.

Antonino later liaised with a factory in France which could produce a wide colour and size range exclusively for OETA. These are used to manufacture patterns to order for jobs ranging from single homes to vast public spaces.

For the QVB's recent facelift, OETA supplied tessellated tiles and wall tiles for the refurbishment of the male and female toilets on the basement level and level one.

They also supplied tiles to match the existing Heritage tiles where banisters had to be removed, and for replacement at the elevators.

The company both supply and install. Six of their workforce was onsite for three months at the QVB working on the toilets and elevators. Tiling of other areas of the building is ongoing.

OETA have won several at exhibitions for best stand and product and original design. They offer both a range of standard designs and also manufacture special patterns to order for Architects or owners.

"Olde English Tiles Australia specialise in Federation and Victorian tiles, which allow heritage buildings, like the QVB, to be restored to their original splendour, also private homes, churches and cathedrals," said Antonino. Some of their major projects include Admiralty House, Mortuary Station, St Andrews Cathedral, Sydney Town Hall, Sts Peter and Paul Cathedral in Goulburn, St Mary of the Angels in North Melbourne, Geelong Cathedral, three restaurants in Hong Kong, the legendary Long Bar in Raffles Singapore, China Food Court in Singapore, Gilember Resort in Jakarta, Trafalgar Square and St Patricks Cathedral in Melbourne, just to name a few.

"All our projects are challenging in that we take pride in restoring heritage buildings."

### OLDE ENGLISH TILES AUSTRALIA PTY LIMITED

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## A COLOUR-FILLED HERITAGE

Clark's started Painting when the Queen Victoria was considered one of the most prestigious buildings in the CBD. At that stage the QVB was a marketplace. Clarks were contracted to do all the refurbishment painting for all the public areas of the revitalised new millennium QVB.

The techniques required for the job were the same ones used since the trade itself began – patient, skilled brushwork. The work included Stairwells using Counter lever scaffolds and riding the lift shaft itself, L2, all high level works throughout using 15 metre high scaffolding over a three storey void while painting the central dome with its multihued filigreed plasterwork. Also Decorative Handrails throughout the entire building.

"It was all detailed work, mainly using brushes & rollers," explained Michael Clark. "There were 58 colours, all water based acrylics, including metallic gold paint. The paints are from PPG, and are all low-VOC and environmentally friendly. "We had to do all the work at night between 6pm and 6am as the QVB was open to the public and trading throughout."

The company has a workforce of twenty trade-qualified painters, and carries out the full spectrum of painting and decorating services, including wallpapering, detailing, spray painting and decorative finishes. Their clients range from the top end commercial to small residential works, restoring single walls and ceilings damaged by water or fire, and they have carried out work just about everywhere in New South Wales and the ACT since the company was founded.

Major projects include ANSTO, Qantas First Class Lounge in Sydney, the Opera House Concert Hall, the Powerhouse Museum, Grosvenor Place, Shark Park, Allianz Tower and Observatory Park.

"I'm a 4th generation painter, there have been Clarks in the trade as far back as we know," said Michael.

### CLARK'S PAINTING PTY LTD

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# DOTTING THE I'S AND CROSSING THE T'S IN THE BOTTOM LINE

WT Partnership (WTP) can cost plan and cost manage any type of construction project, whether it be a new Greenfield shopping centre or a major Heritage refurbishment like the QVB.

“Once we understand the design brief and scope of works, we are able to cost plan and cost manage the project, which are part of our traditional quantity surveying services, including preparation of Bills of Quantities, tender analysis and reporting, and contract administration” explained spokesman Gary Mayor. “We are a multi-disciplinary company; we work on retail, commercial, public buildings and civil infrastructure. We can also provide independent certifiers and superintendent services, as is the case with the Top Ryde Redevelopment Project and Birkenhead Point Shopping Centres, respectively.”

“For the QVB refurbishment we provided cost planning from concept through to completion including value engineering sessions with the contractor, Built; to maintain budget. We also produced and maintained the Refurbishment Finance Report for the client”.

“We were also able to provide advice on the cost impact of the BCA Upgrade in regards to the Heritage requirements.”

Challenges revolved around refurbishing and upgrading engineering services, providing new vertical transportation (escalators) in an operating shopping centre, whilst maintaining retail trading, requiring additional cleaning, security and trades working out of normal hours.



WTP’s knowledge and experience in construction budgeting, in particular shopping centre requirements were able to cater for these requirements.

WTP Sydney is part of a worldwide network which has been in operation since 1950, with offices throughout Australia, Asia and Europe.

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