

77 KING STREET

BUILT
SYDNEY NSW

BUILT FOR A KING

Built was established in 1998 and now employs 260 people in Sydney, Melbourne and Brisbane. It specialises in developing assets for institutional investors and professional and high end property owners with a project capacity to \$100m. It has a current national turnover of over \$350 million.

Built initially concentrated on high end fit outs and interiors. It developed into an overall construction company and now divides its work into both construction and fit out projects. Projects include The Qantas International First Class Lounges in both Sydney and Melbourne, Fivex in Double Bay, The Post in Potts Point, 109 Clarendon in South Melbourne and the upgrade of the Queen Victoria Building in Sydney's CBD. Built has recently secured the new Ferrari Maserati Showroom in Waterloo, Sydney.

Built Managing Director Marco Rossi said the company's business model is based on Building Relationships.

"Most of our turnover is generated from negotiated work with repeat clients and stakeholders," Mr Rossi said.

"We understand that the first five per cent of a project's expenditure can influence up to 65 per cent of the eventual cost. Our early involvement in a project maximises the impact a collaborative delivery will have on the overall success.

"We add value by identifying risks and providing practical, proven strategies to control and minimise those risks. Adding value upfront, managing the process strongly throughout and supporting our client to the very end of the job ensures our continued success and further strengthens the relationship with our client," he said.

The old Westpac building at 77 King Street was a major refurbishment project for Built. It involved removal of the existing façade, stripping out the old office fit outs and removing the building's essential services. The top level was demolished and five new levels added. The typical floor plate was extended to increase new office space. The result is a 23-storey commercial building including five levels of retail.

"There were the typical logistic issues of an inner city high rise to consider, for example material handling," said Mr Rossi.

"Several major works were carried out concurrently, such as demolition, hazardous material removal, core and column strengthening, services reticulation, and structural works.

"We also had to contend with the early hand over of the lower retail floors first," he said.

"But we met the client's objectives of turning an existing building into an A-grade commercial and retail space, with a unique facade, including a combination of limestone cladding, punched windows and curtain walls. We are set to achieve a 4.5 star ABGR building."

Engineering included core and column strengthening - conventional FRP, structural steel, plus carbon fibre column strengthening, composite lightweight construction for the new levels, pre-cast lift core, stair shaft and external façade extensions. The two basement levels have been lowered by 1000mm and there were large structural penetrations including lift and escalator openings.

The construction contract was \$54m with delivery in May 2008 for the client, Kingvest, a repeat Built client.



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MADE TO MEASURE

Project Surveyors is a consulting surveying company providing services to the development and construction industries. A large proportion of its work involves the setting out of both new buildings and buildings under major refurbishment.

The company was established in 1972 and was formerly known as Clement and Reid. There are 20 employees and 6 of these worked on the refurbishment of 77 King Street Sydney. Additional staff have also worked on the "Apple" fit out.

Project surveyors specialises in construction set out for buildings between four and 20 storeys above ground. These often provide a greater level of satisfaction than taller buildings, and provide better workflows than smaller ones.

The company has been involved in a number of refurbishments including 363 George Street Sydney, Hurstville Railway Station as well as smaller suburban buildings such as Franks Centre Lofts, The Kilns at Brookvale, Souths Juniors and The Dakota at Annandale.

Other areas of expertise include Strata and Community subdivision, Stratum subdivision and the preparation of shadow diagrams. John Reid, one of the founding partners of the business was instrumental in setting up the NSW Strata working industry group to review problems and issues that occur in strata after the schemes are set up.

Project Surveyors' Managing Director, Johnathan Saxon said the company's involvement on 77 King Street began before the current owners purchased the building.

"Our task at that stage was to prepare measured drawings of the building as it had been constructed many years earlier," Mr Saxon said. "We were then asked to determine the floor space ratio of the building for planning and approvals, check the verticality of the exterior walls, and determine a grid system for the building. Part of the Floor Space ratio instruction involved determining the location and dimensions of the site's boundaries.

"We marked the grid system to provide vertical control for the new works, including cut outs at various levels within the building. These started at both the top and bottom of the building, and the set outs did not meet in the middle until much later.

"We set grids, structural elements cut outs, wall positions, lift shafts and vertical control for the new facades for the builder," he said.

Mr Saxon said challenges resulted from constructing the project from the top down rather than the bottom up.

The new façade is constructed from pre-cut stone to be attached to brackets at the edge of the slabs. We were required to set the

positions of this façade to a required tolerance of + or - 2mm or so.

As the building was pre-existing, we undertook many as built surveys to supply information to others, and detailed design was done on the fly to suit the pre-existing conditions."

Project Surveyors have been engaged by Apple Computers to effect set out over three levels of the building. "In this case, the fit out is constructed offshore in the USA and shipped here to be put back together. Grids for this were required to be marked on floors, walls and roof to an accuracy of 1mm. This in itself required an innovative approach to the survey, and often demanded that all other works stopped in order to try to achieve the accuracy required," Mr Saxon said.

The survey is ongoing and appears to have been successful for our client here Kell & Rigby.



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With more than 14 years of industry experience in building regulations and environmental projects, Nathan Halstead founded AE&D in 1999. The AE&D team strives to be consistently identified as a company guided by: a commitment to the provision of exceptional customer service; a dedication to community responsibility; and a view that AE&D exists to offer their clients a thorough knowledge of specific legislation, the Building Code of Australia and other requirements relevant to planning, developing and constructing projects.

AE&D holds the highest level of accreditation (Grade 1), making it possible for them to work in partnership with their clients to complete every project milestone. This involvement, coupled with AE&D's reliable and tailored customer service ensures adherence to legislative obligations, which ultimately reduces costs and increases efficiency for AE&D's clients.

Providing a range of building regulation consulting services, AE&D's success is the outcome of their extensive and unique project portfolio. From adaptive reuse of heritage buildings, to distinctive key developments for the Commonwealth Department of Defence, to revolutionary Building Code Strategies for residential, commercial and industrial developments Australia wide,



AE&D understands the requirements of both their clients and the public. Their approach is innovative and collaborative, and accordingly, continued and referred business has resulted for AE&D. Examples of completed projects for AE&D include: News Limited Press Centre, Chullora; Chief Secretary's Building, a redevelopment of a Significant Heritage Building and the Special Forces Training Facility, Holsworthy Army Base.

AE&D are the Building Code Consultants for the 77 King Street project. Throughout the construction phase AE&D worked closely with Built, an industry leader in the delivery of leading edge building refurbishments. AE&D advised on fire safety strategies to ensure compliance during construction. Collectively, AE&D and Built devised a number of unique

and complex solutions to allow flexibility in design for future tenants. AE&D also facilitated Built in obtaining the relevant construction and occupation approvals, ensuring compliance with legislative requirements. Once complete, 77 King Street will be an A grade building in accordance with the Property Council of Australia guidelines.

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WHAT GREAT FORM

BKH
contractors
**FORMWORK
& CONCRETE
PLACEMENT
SPECIALISTS**

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BKH Contractors Pty Ltd was established in 1996 and specialises in formwork and concrete services for the commercial, industrial and residential sectors.

The company works on a range of projects from small jobs to multi million dollar projects in Sydney and regional NSW. BKH have steadily grown over the past 12 years to become a large contracting firm employing over 70 people. BKH is unique in that the company employs both form workers and concreters and so is able to manage the co-ordination of structure works for clients.

For 77 King St BKH provided formwork services to complete works to column strengthening, floor extensions, new stair cores and additional floors.

With a tight program BKH put many hours of overtime to keep works on schedule and speed up the program in stages. As with most CBD projects this project required a large amount of planning and co-ordination with the main contractor and other trades to allow materials to be delivered and handled on site. This included the supply and installation of over 4000m² of decking material. BKH prides itself

in maintaining a good working relationship with contractors and was pleased to see another successful result on this project.

BKH is continuing to work with Built on many projects and maintains a good working relationship with many of our clients in providing complete structural packages. BKH is delighted to have been involved in this project and would like to thank all the staff from Built and our supervisor Silvio Soldo and Stephen Pavlovic for their efforts on this project.



DYNAMIC DEMOLITION ...By Mann Group

Effective site preparation services are essential for the success of any civil or building construction project. Mann Group provides the specialised services of demolition, excavation, shoring, underpinning and detailed civil and hydraulics contracting services to enable developers to achieve their cost, quality and time requirements.

Mann Group provides cost effective and business savvy solutions through innovative design and work methodologies which meet the most stringent Occupational Health and Safety requirements to the highest quality standards.

Mann Group offers the following services:

Structural demolition - including high rise and mid rise demolition, medium rise portal frame disassembly and re-assembly, facade retention and induced collapses.

Internal strip-out demolition - of shopping centres, schools, high rise and industrial developments. Industrial cleaning and remedial work, commercial decontamination, specialised strip-outs in occupied or operating premises and pharmaceutical warehouse.

Civil construction and excavation - including bulk excavation, detail excavation, in-ground hydraulics construction, piling and footing construction, retention and shoring systems, rock anchor and soil nail design, supply and installation, pavement construction.

Mann Group has an unrestricted **DE1** demolition license, an unrestricted **AS1** Asbestos Removal license and builder's license in NSW,

ACT, VIC and QLD. All Mann Group vehicles are registered with the **EPA** to carry Hazardous/contaminated waste.

Recent projects include:

Westfield Sydney City **CENTREPOINT** Project- Structural demolition, internal strip out and friable asbestos removal over a full city block costing multiple millions of dollars

Wilton Parklands for **Delfin Lend Lease** - asbestos remediation of contaminated soil.

Centro Shopping Centre, Bankstown - Bridge demolition and total refurbishment of shopping centre for **Multiplex**.

Westfield Kotara - strip out and demolition for upgrade of malls throughout Westfield shopping centre.

33-39 Hunter Street (Perpetual Trustee Building)- strip out and demolition of ten storeys including asbestos remediation for **St Hillier's** Contracting.

Birkenhead Point Shopping Centre - strip out of shopping centre and asbestos removal for **Watpac**.

Westpoint Shopping Centre, Blacktown - refurbishment and structural rectification of existing centre for **Laing O'Rourke**.

Pitt Street (RABO BANK) - 14 level high rise strip out, facade removal and column upgrade in basement to prepare for extension.

Sydney International Airport - Qantas first class lounge strip out for new upgrade.

T1 Departures Level Sydney International Airport- Total strip-out including structural demolition for **Bovis Lend Lease**.

Royal North Shore and Ryde Hospitals for **Richard Crookes** - internal strip out demolition works & asbestos remediation.

Auburn Hospital - D&C Bulk Excavation of 20,000 m³ and shoring system for new 10 story Hospital, for **Multiplex**.

77 King Street - Mann Group demolished the three top floors, stripped out the entire 18 storeys, removed the facade and provided basement underpinning and excavation for the new car park. Mann Groups one of a kind 3.5 t excavator with a 360 degree Pulveriser was utilised to create penetration throughout the building to minimise noise, dust and vibration. Asbestos in riser cupboards, not listed in the asbestos survey was discovered and removed and other challenges included the removal of extremely large generators weighing some 15.5 tonnes from the mid & high rise plant rooms. Three 20,000 litre tanks in the basement were removed in one piece to avoid cutting, saving valuable time.

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GREYTON PASSIVE FIRE



NO GREY AREAS

and fire rated wall and floor jointing, including high movement joints. Re-firespraying following asbestos removal from structural steel and mechanical duct works is another important service.

Greyton is a preferred applicator of Promat Australia, Exfoliators, Trafalgar Building Products, Grace Construction Products, Hilti Australia, KBS and Tyco Building Products. We do, however, use materials from a wide range of suppliers with a view to cost effectiveness and keeping test compliance.

Some major projects include the Sydney Opera House, most Sydney hospitals, Sydney Domestic and International Airport terminals, Olympic Park venues - the Aquatic Centre, Multi Use Arena, Veladrome and Village and most of Sydney's road and rail tunnels.

The feature project, 77 King Street, has been extensively fire treated by Greyton to provide a structure that can withstand fire from a four hour rating in the retail and basement levels to a two hour rating on the top floors. Not only was all the structural steel sprayed with vermiculite, but all existing slabs and concrete

columns have been upgraded to a higher fire rated level (FRL).

The building's mechanical system has also been fire rated by Greyton insuring that fire will not spread via its extensive duct work. In all Greyton has certified that 77 King street will be a very safe place in the unfortunate event of a fire.



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"The system operates by allocating car routes in advance, resulting in a more efficient flow, shorter waiting periods and reduced trip durations," he said.

"The upward extension was more complicated. In order to fulfil Built's expectations, KONE performed the shaft extension concurrently with the first stage of modernisation. Though a highly complex procedure, Kone's dedication, determination and close collaboration with its client delivered outstanding results for all involved."

The King Street upgrades and installation are among the 25,000 new elevators and escalators KONE delivers annually. As well as industry-leading solutions for elevators and escalators, KONE also provides maintenance services for automatic building doors.

"Over the past 98 years, the company has proven its ability to adapt to a changing world as well as to create new opportunities for growth. Stable management by four generations of the same family has created a strong and supportive environment for continuous development," Mr Lacey said.

KONE's class B shares have been quoted on the Helsinki stock exchange since 1967.

KONE guarantees local service for builders, developers, building owners, designers and architects in around 50 countries. Last year alone, KONE had approximately 32,500 employees, and net sales of EUR 4.1 billion.

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MOVING UP IN THE WORLD

KONE is one of the world's leading elevator and escalator companies, providing customers with innovative and industry-leading solutions for maintenance, modernisation, and new elevator and escalator installations.

Established in Finland in 1910 as part of KONE Corporation, KONE operates some 800 service centres in more than 50 countries.

With 520,000 elevators and escalators and more than 210,000 automatic building doors operating worldwide, KONE provides safe and easy access for hundreds of millions of people every day.

One example of KONE's outstanding recent projects was for 77 King Street, Sydney, which involved both modernisation and installation for the client, Built.

The King Street project comprised a complete KONE ReSolve® X2 modernisation of five existing lift cars, and the extension of these units upwards to serve an additional four new floors. KONE also supplied one new KONE MonoSpace® Special and four new KONE ECO3000™ escalators.

Built's design brief for the upgrade demanded that the existing cars be fitted with state-of-the-art controls to deliver more efficient operation during peak use. In line with this brief, and with current A Grade Performance criteria for Building Code of Australia requirements, KONE supplied a world first Hybrid Destination Control System (DCS).

During peak times, the Hybrid DCS increases handling capacity from the main entry floor by 20 to 100% compared with a traditional control system with up-down landing call buttons, said Project Manager Kevin Lacey.



CEILING THE DEAL

Mikor specialises in commercial ceiling systems, specifically metal pan and mineral fibre ceilings in commercial applications. They also offer a range of architectural ceiling products, pelmets and grilles.

Mikor is a ceiling supply company with Managing Directors Steve Milner and Mauro Corazzi having over 50 years combined experience in all areas of the ceiling industry between them.

At 77 King Street, Mikor supplied a metal pan ceiling system specifically designed for use with a chilled beam cooling system. Warm air generated from the office environment rises through a perforated metal ceiling and is cooled by chilled beams fixed to the underside of the concrete soffit. The ceiling is designed to suit this low energy cooling system.

Mikor's work comprised design input and supply of a 1350x1350 modular ceiling using an aluminum top hat grid system with 45% open area perforated steel metal pans. This system allows easy access to the ceiling space above to service air conditioning and lighting

as well as achieving the required air flow to suit the chilled beam system.

"Mikor co-ordinated the colour matching of the ceiling system and lights to match the active beam panel colour by sourcing the same batch of powder for the light manufacturer as was used for the ceiling components" Mauro Corazzi said.

"We also supplied extruded aluminium window sill sections designed in conjunction with Built Constructions and PTW Architects to suit the internal facade of the building."

The project called for standard and custom-made ceiling panels and grid sections which had to be specifically made to suit the ceiling layout – reducing installation time and costs by minimising cutting and handling time for the project. The installers were supplied with marked up drawings which showed the ceiling layout. The ceiling grid sections are identified by part numbers, laser printed on the grid, making it easy for the installers to identify the part and its position in the ceiling. The laser printed part numbers will also be advantageous for future fit out works when

replacement parts are required. Included in the supply were custom panels manufactured to replicate the perforated active beam panels of the air conditioning system, in order to achieve a continuous design along the perimeter of the ceiling.

Mr Corazzi said meeting the schedule and budget were no problem.

"Our company had 100 per cent of all the materials for the ceiling in our warehouse ready to go, when the installation began" he said.

"This was achieved by having input into the design stages of the ceiling system and being able to manufacture all the components well before installation was due to commence."



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TEKNO TILES KING

When the current refurbishment and redevelopment of the existing 77 King Street is completed it will be a 24 storey A Grade building incorporating innovative engineering and construction techniques as well as unique custom-designed tiling features.

Leading Sydney based tiling contracting company, Tekno Tiles Australia, completed the supply and fix of tiling for the featured mosaic wall, vanities and stone floor throughout the wet areas of the 24 level project.

Tekno faced the challenge of ensuring that a consistent, first class finish was delivered and maintained throughout the entire project.

A specified colour for the mosaic walls was nominated and had to be developed and manufactured through Tekno specifically for this project.

The Company specialises in both the supply only and supply and fix tiling services to commercial projects across Australia and some recently completed projects include the Australia Taxation Office in Sydney, The Allianz Building Sydney, Westpac 341 George Street Building, Ernest & Young Building Sydney, Qantas First Class Lounge The NRMA 388 George Street Building Sydney and the new Sydney Water head office in Sydney.



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