

BUILDING JUSTICE IN WESTERN SYDNEY

PARRAMATTA JUSTICE PRECINCT

BROOKFIELD MULTIPLEX
PARRAMATTA NSW

The Parramatta Justice Precinct will provide residents of Western Sydney with a centralised location for a range of community service needs, from health and welfare to judicial and administrative needs. The staged construction, which has recently been completed by the Brookfield Multiplex Group has been a complex, but rewarding task for the company and the stakeholders involved, including the Attorney General's Department of NSW, NSW Department of Commerce, the State Property Authority, Parramatta City Council, Department of Planning (NSW Heritage Office), Sydney West Area Health Service and the Australian Red Cross Blood Service.

The statistics of the construction and the finished product only go part of the way to describing the \$330 million project, which includes:

- the 20,000 m² Justice Precinct Offices
- Sydney West Trial Courts which includes 9 courts
- Children's Court of NSW which has six courtrooms, making it the largest children's court in the state
- the refurbishment of Jeffery House, and the preservation of the site of Australia's oldest health care facility dating back to 1792.

The Parramatta Justice Precinct design and construction project undertaken by Brookfield Multiplex brought together a range of new technologies to provide an environmentally sustainable development, during and after the completion of the project.

The Justice Precinct Offices in particular sets the standard for future developments of the State Government, rated as both a 5 star Green Star development and 5 star Australian Building Greenhouse Rating (ABGR), the first to be built for the State Government.

Brookfield Multiplex used a range of technology and building practices to achieve the aim of environmental sustainability, including the recycling of construction waste products, the installation of advanced displacement air conditioning to the court rooms, chilled beam air conditioning systems to the offices – which utilises natural air currents instead of mechanical movement to regulate temperature – and environmentally friendly seating provided for the offices, rated as Good Environmental Choice.

Other environmental innovations include the use of 4 star rated low flow tap systems, high performance glazing for environmental control, optimum use of natural light through incorporation of an atrium to the office building and windows to the courtrooms and

a 500,000 litre rainwater tank capturing water for re-use in toilet flushing, cooling tower supply and landscape irrigation within the precinct.

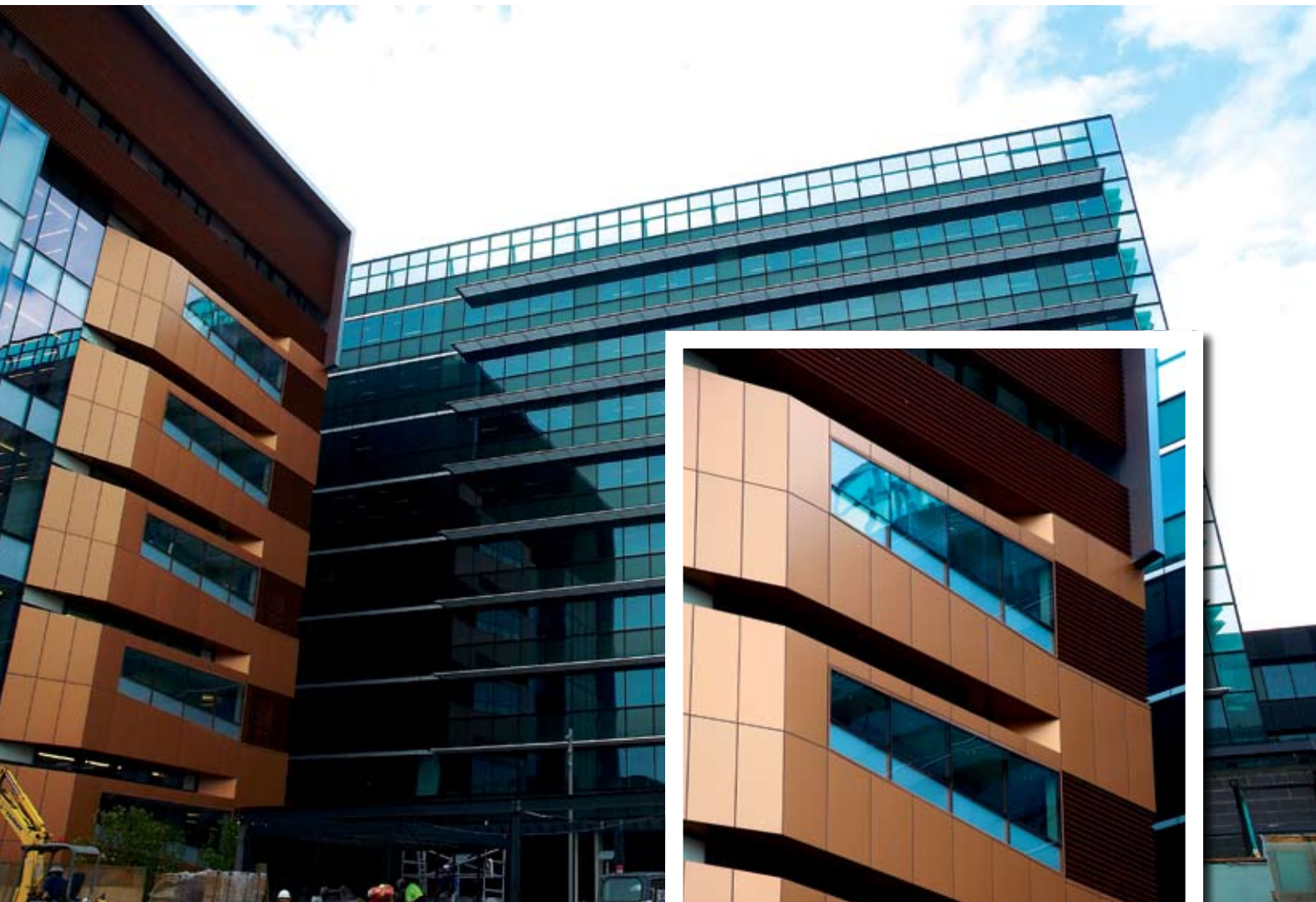
Brookfield Multiplex has also taken steps to ensure that the facility provides staff and visitors with some of the best security systems available, including electronic access, duress alarms, intruder alert mechanisms and a complex CCTV system. Importantly, the Children's Court has been fitted with technology to allow witnesses to supply evidence from remote locations, demonstrating an understanding of the needs of children. The Children's Court has been constructed with the users firmly in mind, with a parents room, children's play areas, victims' support facilities and protected witness rooms incorporated into the design of the facility to ease the strain on parents and children involved in court proceedings.

Brookfield Multiplex was required to completely redesign the Jeffery House facility, which necessitated extensive work to bring the structure, dating from the 1940's, into line with current building standards and codes. Constructed as a health care facility for repatriated soldiers of the Second World War, the building relied on its maze of masonry walls for structural strength. As internal walls were to be removed for the layout of the new hospital, Brookfield Multiplex was required to produce a new lateral structural support system.

As a site listed on the State Heritage Register, great care was taken to preserve the heritage of the Parramatta Justice Precinct site, while providing up-to-date services for the local community. The site is the location of the first colonial hospital, which dates back to 1792 and artefacts and historically important items were uncovered during the excavation of the site. The Parramatta Justice Precinct offers visitors an opportunity to view these artefacts of historical significance with the creation of a display to that effect.

The Parramatta Justice Precinct has brought together a selection of innovative technologies coupled with good building practices, to produce a development of great community significance. The landmark standards of environmental principles will stand as a measure for future State Government developments for many years to come.

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ALL ABOUT THE LOOK

Stane Industries have worked on a number of large projects across Sydney, specialising in cutting edge façades, shop fronting, foyers and entryways. Installing extensive façade cladding on the Parramatta Justice Precinct trial court, Stane Industries utilised Alucobond composite panelling to produce a clean and professional look which the team have come to perfect over two decades of work in the industry. The Alucobond product used by Stane Industries is a highly durable, heat bonded and pre-finished aluminium composite that can be manufactured to any shape or colour, and lasts for over 20 years without weathering or fading.

The Parramatta Justice Precinct site provided some challenges for Stane Industries and

was one of the largest projects undertaken by the company. With the work completed taking a team of 20 six months to finish, the Parramatta Justice Precinct trial court required the team to install a veritable puzzle of shapes on the trial court façade. The vibrant orange colouring works to compliment the extensive use of glass through the site – ensuring the trial court stands out against the Parramatta skyline of uniform office buildings. The work was completed within the time-frame set out by Multiplex and coupled with the complexity of the installation, stands as a testament to the experience of Stane Industries as creators of exceptional visual displays.

Stane Industries have produced unique, professional façades and internal work for a

range of prestige projects including Trivett Classic BMW at Parramatta, the Porsche Centre in Sydney South and Westpac's Sydney office. Known throughout the industry for their stylish designs and close working relationship with site architects, Stane Industries are highly sought after Alucobond installers throughout Sydney.

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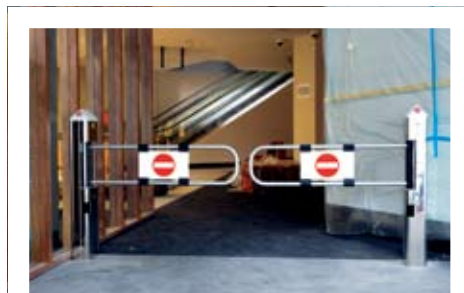
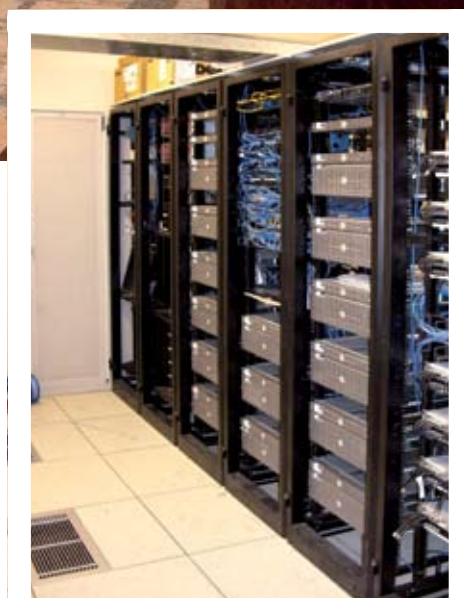
HIGH RISK EXPERTS

Honeywell has built a reputation amongst their clients as a cost effective option for providing safe, secure and comfortable building automation and integrated security systems. Small wonder that they were contracted by both the electrical and mechanical contractors involved in the Parramatta Justice Precinct construction to complete work on the highly complex and multifaceted project. The Justice Precinct required the skilled Honeywell team to design, install, manage and service a range of systems under the umbrella of a sophisticated building automation and security system.

The work completed by Honeywell, which was within budget and delivered ahead of schedule, was made more difficult due to the nature of the justice precinct project as a high risk environment for visitors and staff. As a result, Honeywell produced and installed a range of physical and electronic security systems including closed circuit television, boom gates, tyre shredders and pneumatic bollards, combined with control systems including automated Heating Ventilation Air Conditioning Controls (HVAC), and electrical, lighting and hydraulic controls. The complexity of these systems is amplified by the number of

users, including the New South Wales Attorney Generals Department, the Sydney West Area Health Service and the State Property Group. The combination of users across multiple buildings required the systems installed by Honeywell to function as a single unit, while maintaining a high level of independence for stand alone operation of each structure.

Honeywell was critically involved in the design and construction aspects of the Justice Precinct, which positioned them as an integral member of the contracted team. Honeywell has carved out a place for themselves as national leaders in the high-risk building automation and control systems sector through considerable hard work and dedication to delivering a product that exceeds client expectations. Few other companies could boast the same experience with emerging mechanical technologies such as the chilled beam climate control system, or an intricate and integrated security system. This experience has allowed Honeywell to work other similarly complex projects, including the Perth District Law Courts and risk management with the Sydney Airport Corporation.



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BUILDING THE TENSION

Formed in 1982 Australian Prestressing Services have been supplying their post-tensioning services Australia wide for more than two decades, with offices in Sydney, Brisbane and Canberra. Australian Prestressing Services have developed the ability, and the workforce, to undertake a range of different projects, including high-rise, residential, civil and landscaping jobs which require design, construction, refurbishment or repair work. The team uses a well developed post-tensioning system, where the concrete slab is poured around ducts housing a set of tendons in areas where tension occurs. Tension is applied by hydraulic jacks (which are later replaced by wedging anchors) to the tendons once the concrete is set and the ducts are grouted against corrosion. The system ensures maximum efficiency from the concrete, taking advantage of its strength under compression.

This system of active re-enforcement, which requires highly specialised knowledge to develop and install was particularly beneficial to the Parramatta Justice Precinct site, with the post-tensioning allowing for thinner slabs with fewer joins for strengthened and more visually appealing final product. Post-tensioning was also useful as a safety and security measure, giving the structure greater resistance against seismic forces. The Parramatta Justice Precinct was a high profile design and construction tender for Australian Prestressing Services, who provided 10 team members to the site each day, while remaining within the Multiplex program for the delivery of each building in the precinct.

Australian Prestressing Services have built a strong relationship with their suppliers through 25 years of operation, and have moved

into the manufacture of their own components. The company is able to supply services to a site much more quickly due to their in-house manufacturing of ducting and anchoring systems, needing only to outsource the metal strand manufacture to steel suppliers.



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FROM THE GROUND UP

De Martin and Gasparini have been servicing Sydney's concreting requirements for over five decades, ensuring their involvement in a number of premium, high profile projects. Specialising in the supply and placement of concrete, large pours, high strength elements, De Martin and Gasparini have successfully completed numerous technically challenging projects.

De Martin and Gasparini were a valuable part of the team working on the Parramatta Justice Precinct, responsible for all aspects of the concreting work required on the project.

While the Parramatta Justice Precinct project was not the largest that DMG have worked on, the tight programming requirements of the Multiplex timetable for the staged delivery

of the buildings added a level of complexity to the development. With De Martin and Gasparini working on all the buildings in the precinct – Jeffery House, the Children's Court, Justice Administration Building and Trial Court – which were to be completed in parallel, they were able to supply sufficient resources to the site each day to ensure that the programming objectives set by Multiplex were met.

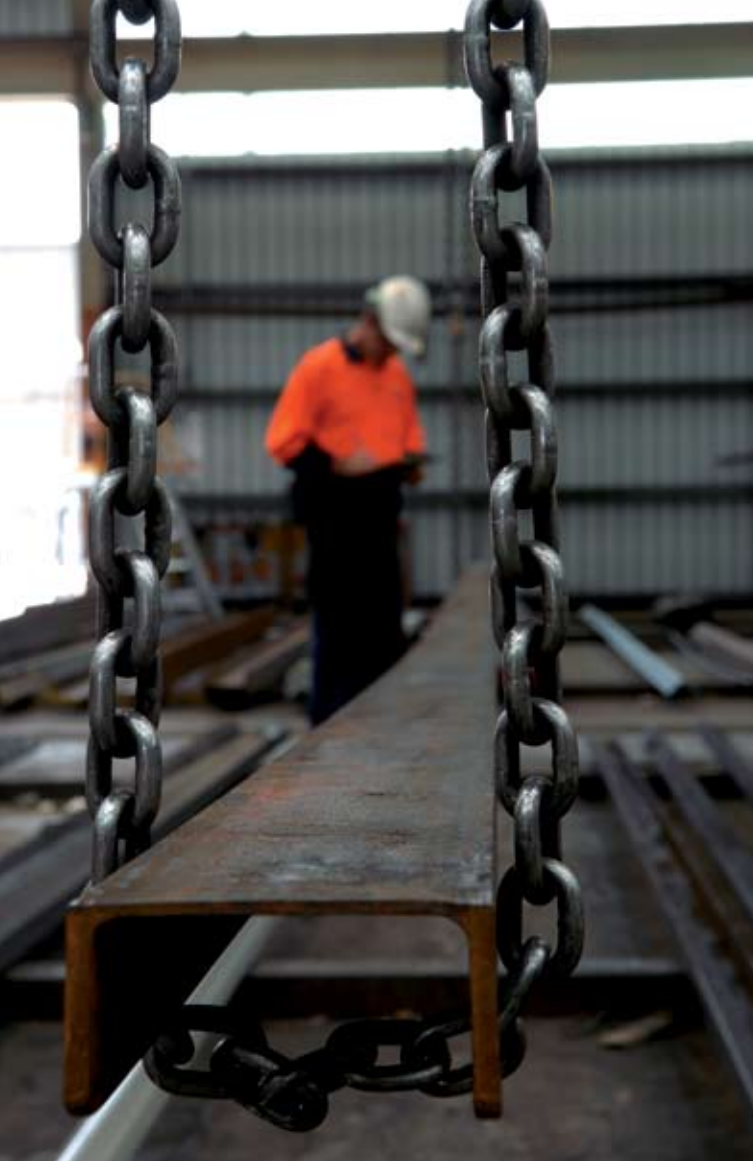
Whilst time, cost and quality were objectives met by De Martin and Gasparini, worker safety is a goal that they are proud to report was also achieved with no injuries occurring.

De Martin & Gasparini have worked on a number of high profile projects including Stadium Australia, Citibank Tower and Westfield Shopping Centres including Bondi

Junction, Parramatta and Kotara. De Martin and Gasparini offer complete structural packages involving not only the concrete supply and placement, but formwork, reinforcement and post tensioning, while constantly maintaining the highest level of safety, quality, meeting budgets and project completion on time.

De Martin & Gasparini remain committed to serving our clients' needs through all facets of the construction process and congratulate Multiplex on their latest achievement.

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BlueScope Distribution's product range includes steel plate, sheet and coil, reinforcing fabric, bar and building products, merchant bar, structural steel, tubular, engineering steel and aluminium products



STRENGTH, EXPERTISE AND MARKET COVERAGE

The recent creation of a dedicated BlueScope Distribution business has simplified metals sourcing for companies involved in Australia's construction industry.

BlueScope Distribution brings together the resources and expertise of the former Metals and Regional Distribution arm of Smorgon Steel. It provides a national network of more than 50 processing and distribution sites to meet the metals needs of construction industry participants and suppliers.

The product range and processing expertise on which the industry has relied is backed by the technical expertise and reputation of BlueScope Steel, to ensure the highest levels of service and support. The range includes steel plate, sheet and coil, reinforcing fabric, bar and building products, merchant bar, structural steel, tubular, engineering steel and aluminium products.

BlueScope Distribution offers quality processing services which range from simple

length based cutting of bar and tube products to complex multiple precision processing on world standard CNC controlled Beamline and Plateline installations.

The business has been established to provide customers with metal in the form they need, helping to reduce their costs, lead-times and waste.

"Construction industry customers now have access to a broad range of high quality competitively priced products and service solutions through a large combined distribution network," said Peter Zafiris, Manager Marketing Strategy, BlueScope Distribution.

"This will be of increasing benefit to companies such as Multiplex and others involved in projects such as the Parramatta Justice Precinct." BlueScope Steel is the world's leading supplier of high quality metallic coated and painted steel products for the building and construction sector. It also specialises in the production of

flat steel products, including slab, hot rolled coil, cold rolled coil and plate.

BlueScope Steel's key strengths include low-cost operations, strong brands, leading domestic market positions and a growing presence in the markets of both Australia and Asia. For the construction industry, customers will have access to quality steel products guaranteed by BlueScope and backed by technical support services which are unmatched in Australia.



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CORE JACKING

Fabquip are specialists in the technical knowledge behind core, silo and chimney construction and worked with Multiplex on the Parramatta Justice Precinct project to complete the building core construction of the Trial Court and Justice Administration building. Fabquip's Jumpform system has traditionally been used as a cost effective means of core construction for high-rise buildings, eliminating the need for additional cranes to lift levels on top of each other, and recently the application of Jumpform for mid-rise buildings, such as the Parramatta Justice Precinct, has been tested. For the Parramatta Justice Precinct project, Fabquip supplied a technician and the equipment (with labour supplied by Wideform as the formworker on site) and was present for the first two concrete pours.

The Jumpform system in simpliciter is a means of erecting building cores in a fast

and cost effective manner, where each storey is constructed with the use of a jacking system. A Fabquip technician is on site at the beginning and at the completion of the erection of the core, and initially is responsible for the training and induction on the use of the Fabquip system, including appropriate approvals and Job Safety Analysis (JSA). Once the system is deployed and operational, after each concrete pour the entire Jumpform assembly is raised one and a half meters to the floor above using the jacking system instead of a crane. The process is repeated until the desired height is reached and the assembly is at the top of the building, at which point the Fabquip technician returns to observe the dismantling of the system to be returned.

Fabquip have a strong relationship with Multiplex and have worked with the builder on a number of other projects including Lumiere,

a 56 storey residential development in the Sydney CBD and the Pivotal Point Tower on the Gold Coast.

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INTELLIGENT DESIGNERS

Stem Intelligent Seating takes pride in its long history of designing and manufacturing its own range of commercial seating, sourced from local Australian materials. The Stem mission statement of “Intelligent Seating” is ingrained into the culture of the business and in essence good design is at the core of what they do. The team continually expands and improves their extensive range of commercial seating products, designed for a diverse assortment of purposes, including executive, task, public, conference and visitor seating each with good ergonomic principles firmly in mind. For the Parramatta Justice Precinct project, Stem provided 1100 Piazza task and 84 Perry visitor chairs throughout the development, concentrated in the offices of the Justice Administration Building.

The Parramatta Justice Precinct project had a mandate to provide an environmentally friendly

site during construction and once completed. The aim was for the Justice Administration building to be the first 5 Star AGBR and 5 Star Green Star rated office to be constructed for the New South Wales Government. As a result, Stem Intelligent Seating was chosen to supply a large quantity of its product to the development based on their green credentials, particularly the principles outlined by the Good Environmental Choice Australia (GECA) guidelines which a number of their products adhere to. The GECA approval is based on the environmental performance of a product over the whole life cycle, and Stem has displayed through adherence to voluntary standards, a desire to live up to that philosophy.

Stem Intelligent seating has grown to a team of more than 50 since its foundation in 1976 and through three decades of design and development, it has been recognised as the

industry leader in the market of ergonomic and functional seating with a personalised touch. Many of the products designed by Stem has the flexibility to accommodate specific user needs, ensuring that through correct posture, a comfortable and productive working environment is created.

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A COOL TECHNOLOGY

The Hastie-Triple ‘M’ PJP Joint Venture (HTMJV) are proud to be involved with Multiplex Constructions in delivery of the new Parramatta Justice Precinct (PJP) in Sydney.

The joint venture, formed specifically for this project is made up of employees from both Hastie Australia and Triple ‘M’ Mechanical Services, incorporating Project Managers, Site Managers, Design Engineers and Draftsman. Both Hastie Australia and Triple ‘M’ Mechanical Services specialize in the design, procurement, installation and commissioning of mechanical services across many different construction projects, including new construction, refits of existing buildings, tenancy fit outs and retro-fits.

Working along side both Multiplex and Lincoln Scott Australia this project threw up many new challenges, no more so than the requirement to meet 5 Star Green Star Rating in the Justice Precinct Offices for the Attorney Generals Department of NSW.

The use of chilled beam technology, along with the use of a closed circuit condenser water system, ABS pipe, in lieu of the traditional

copper or steel, & high efficiency chillers with High Level Interface with the Honeywell Building Management Control System, helped achieve the 5 Star rating.

Most challenging was the designing of the Air Handling Units to fit within the tight constraints of the plantroom in the Justice Precinct Offices, which was achieved in consultation with our supplier, Fan Coil Industries, with the use of plenum fans, enabling the units to be shortened up and the additional construction materials within the AHU’s to allow the stacking of the units.

Each of the 4 buildings which make up the PJP, Jeffery House, Childrens Court, Justice Precinct Offices and the Western Sydney Trials Court have varying types of mechanical plant installed, ranging from VAV systems, water cooled package unit systems, CHW & HW fan coil unit systems, general ventilation systems such as toilet exhaust and Car Park Exhaust systems, and the aforementioned chilled beam system. All of which have been successfully commissioned most recently the Sydney West Trials Court.

HTMJV would like to thank their suppliers and sub-contractors for their co-operation and support in completing this landmark project.



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AS GOOD AS GLASS

G James Glass and Aluminium was heavily involved in the Parramatta Justice Precinct project, and much of the visual appeal of the façade is due to their work. Contracted by Multiplex to complete the curtainwall façade, shop-fronting and the lobby glazing, G James Glass and Aluminium contributed significantly to the projects final appearance. The team were also involved in some of the safety and protection elements of the construction – the lobby glazing was produced with 28kpa bomb resistance and computer controlled smoke relief sashes were also installed.

With over 30 years of working in the business of the design and manufacture of door and window systems, G James Glass and Aluminium had the appropriate amount of experience with complex installation projects to tackle the Parramatta Justice Precinct project. The project was also full of challenges for the team – the distinctive green laminated wing panels that highlight this building against the raft of other office buildings in this area required G James Glass and Aluminium to employ a tower crane to assist with the installation. Other challenges included a three-way joint in the facade and, to take full advantage of the natural daylight, a glazed roof to a 10 storey high atrium.

G James Glass and Aluminium have worked closely with Multiplex on a number of developments and were involved in a range of similarly high profile projects, including the Lumiere Apartments and the Macquarie Bank Building in Sydney, Southern Cross in Melbourne and Riparian in Brisbane. As a family owned business with a workforce over 2600 strong in multiple divisions, G James Glass and Aluminium has the versatility to work on a range of ventures including residential, commercial and government projects.

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