

Courting excellence

Baulderstone Hornibrook's and Stockland's Centre Court devised to maintain the area's role as the nation's technological centre



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Designed and constructed by Baulderstone Hornibrook and delivered in a partnership approach with Stockland, Centre Court is a bold collaboration between two unique Australian companies. Baulderstone Hornibrook are one of the largest engineering, building and service providers in Australia and have more than 90-years experience. The company enjoys a reputation for delivering innovative and complex projects in a competitive and complex marketplace. Stockland are a top 30 ASX listed public company with a market capitalisation in excess of \$9-billion and total assets of \$9.6 billion in Australia and are one of the largest diversified property groups in Australia.

With an estimated value of more than \$350-million, Centre Court is the largest single tenant cam-

pus-style construction in the country. Designed by the architects Rice Daubney, the Macquarie Park, development forms the new national headquarters for telecommunications company Optus, who will relocate 6,500 staff to the six interlinked office buildings. The Centre Court development was conceptualised and designed as part of the Macquarie Park Master Plan, devised to maintain the area's role as the nation's technological centre, providing office space for highly competitive technology driven industries.

Centre Court has been designed to meet a 4.5 star AGBR rating, with buildings designed and constructed to maximise shade and reduce heat entry, cutting down on energy consumption and subsequently reducing operational costs. In addition, light fittings are energy efficient, and the devel-

opment's mechanical plant is designed to be more environmentally friendly and energy efficient.

The development also includes various water features, including a landscaped lake, all of which are designed to harvest rainwater and also protect the local creek system from excessive runoff. The imaginative environmentally friendly water systems are all designed to conserve water and reuse water for toilet systems water feature replenishment and irrigation.

The Centre Court site is 7.6 hectares and the buildings have a gross floor space of 159,400m², including 84,000m² of net lettable area. The buildings include basement parking facilities for more than 2000 cars, however, in keeping with its environmental ethos, Centre Court also has

parking facilities for more than 300 bicycles and is designed to emphasise pedestrian access, being located within walking distance of railway stations on the Epping – Chatswood rail link. This allows office users and visitors to travel to Centre Court using more energy efficient and less polluting modes of transport. In addition, the development has numerous facilities for tenants that include a gym, retail facilities, a childcare centre, and a food court.

In keeping with the AGBR rating the construction materials used for Centre Court were sourced from ecologically friendly suppliers, who employ manufacturing processes that avoid unnecessary waste. In addition, waste from the construction site was recycled when possible.

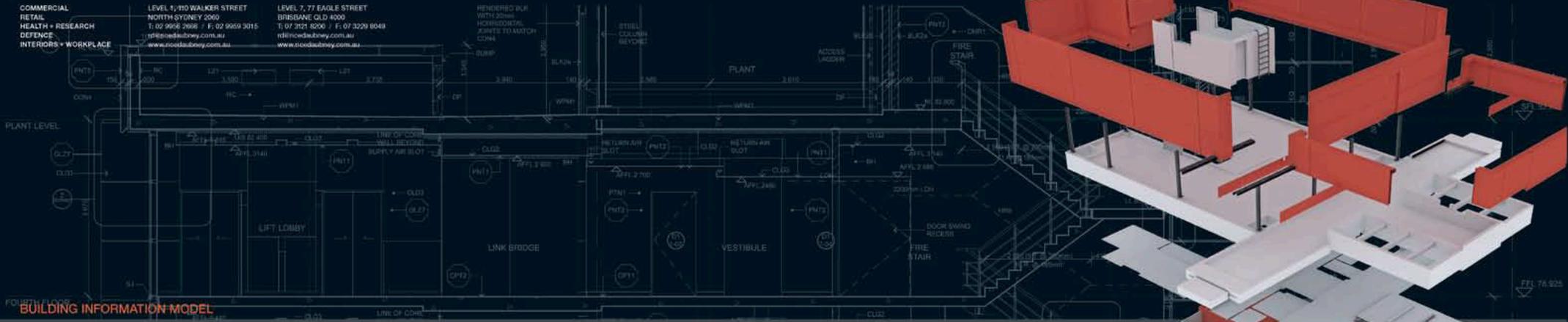
Innovative construction techniques were used by Baulderstone Hornibrook which resulted in the development being constructed six months ahead of schedule.

Centre Court represents the realisation of the future of the environmentally friendly office in North West Sydney; its solutions to issues of energy use and water conservation are innovative and farsighted. Centre Court will undoubtedly be viewed as a benchmark development and a welcome addition to the portfolios of both Baulderstone Hornibrook and Stockland.

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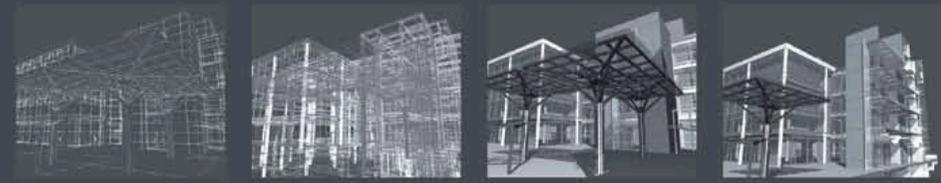
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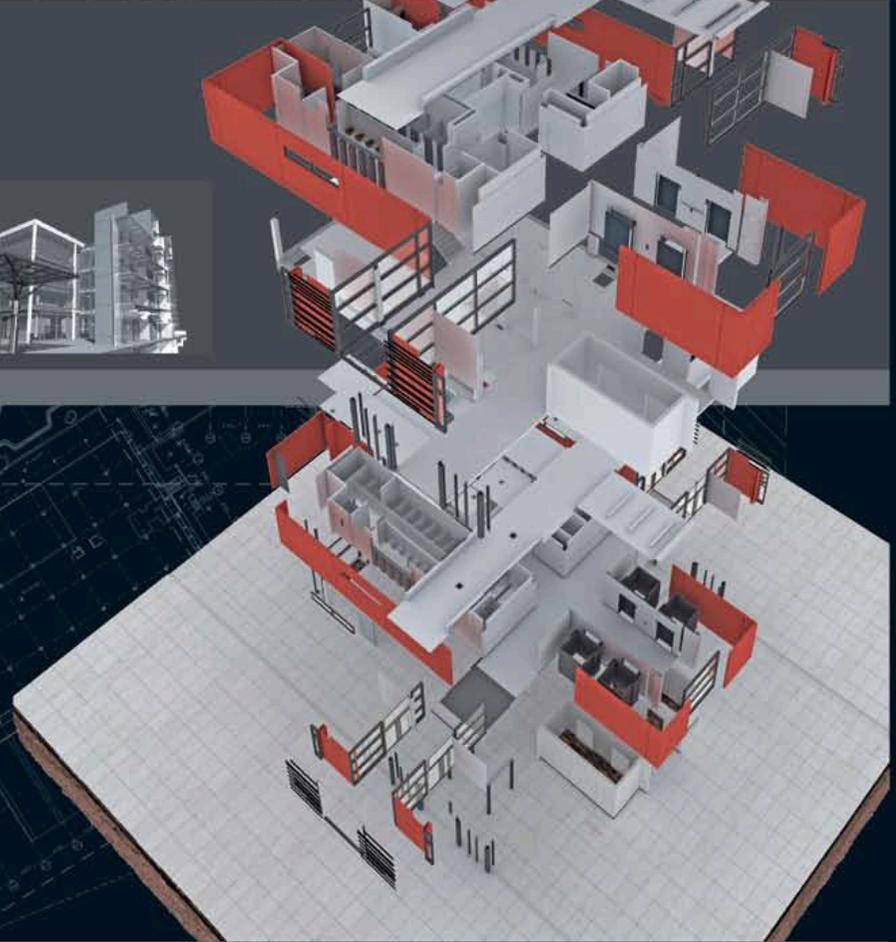
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Johnson Controls is the largest multi-national building services corporation in the world, with 112 years of experience in the development and implementation of winning control solutions. Headquartered in Milwaukee USA, the company has grown into a multi-billion dollar organisation (annual sales for 2007 in excess of US\$ 32 billion) with staff of 136,000 worldwide.

The company was founded in 1885 by Warren Johnson, the inventor of the electrical thermostat. Today Johnson Controls is currently ranked 75th on Fortune 500, having posted 70 consecutive years of increased sales growth and 26 consecutive years of earnings growth, a remarkable result which culminated in a listing on the Fortune Most Admired Companies role.



The Johnson Controls Building Efficiency Group is a global leader in integrated building solutions, with more than fifty years of local experience and a well-established reputation in building management and security systems.

Within Australia, Johnson Controls are able to provide services which include the design, supply, installation and commissioning of important building service systems such as:

- Metasys Building Automation System
- Cardkey Pegasus P2000 Security System
- Closed Circuit TV Systems
- Fire Detection Systems
- York Chiller and Air-handling Systems

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"Our mission is to continually exceed our customers increasing expectations with collaborative and innovative construction solutions that, mitigate risk, lower construction and ownership costs, and contribute to the owners fundamental objectives" said Johnson Controls' New South Wales systems branch manager Ian Eitzen. He continued "To be involved in the largest campus style building development in Australia is indeed an honour for Johnson Controls, especially when you are partnered with a winning team. We look forward to



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replicating this success with our partners on similar projects in the foreseeable future".

For the Centre Court development Johnson Controls worked closely with Baulderstone Hornibrook, Hastie Australia and Stowe Australia to develop a turn-key design and construct solution, within the planned budget and agreed delivery cycle.

The design and construct solution implemented by Johnson Controls at Centre Court included the following elements:

- Metasys web-based building automation system to control and monitor all installed air-conditioning plant and equipment, including energy and miscellaneous services monitoring, and lighting control.
- Cardkey Pegasus P2000 dual redundant security system, incorporating 200 controlled access points, automated turnstiles and ancillary alarming.
- Digital Closed Circuit TV System with in excess of 150 (IP-based) cameras with local Digital Video Recorders and remote storage systems.
- Boom gates and roller shutter doors for all major vehicular entry points.
- Integrated visitor management system.

Johnson Controls have been involved in many significant landmark projects across Australia including:

- Adelaide Airport New Terminal Building
- Melbourne's Herald Weekly Times Building
- Sydney Airport International Airport Terminal Building
- University of Queensland Brain Institute Building

With offices in all major states, Johnson Controls is well positioned to provide additional post-construction building services encompassing all building systems and addressing needs such as the AGRB ratings, which are required for today's modern building.



Creating the flow

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Warren Smith and Partners Pty Limited, is a boutique firm of Civil and Water Engineers, Technologists, Hydraulic and Fire Designers specialising in the delivery of innovative solutions for green award projects and environmentally friendly building and infrastructure developments. The company has been established for twenty-five years and during this period has successfully completed a range of projects within the Residential, Commercial and Industrial sphere offering investigation, quality assured design and construction services.

Projects include the Eastern Distributor Motorway, East Sydney, Cross-City Tunnel Early Works, Druitt Street, Sydney, Riverside Corporate Park, North Ryde, Pinnacle Office Park, North Ryde, Riverwood Business Park and Top Ryde Shopping Centre. Other projects include NSW Parks and Wildlife Service water supply and sewerage upgrade schemes on Goat Island, Clark and Rodd Islands, Reef Beach, Ku-ring-gai Chase and Lane Cove National Parks.

A team of eight engineers and technologists worked on the Centre Court development for two years. Warren Smith and Partners were involved in the initial development application, tender documents, construction certification, construction,

and construction quality control. The company undertook the design of the external road systems, external drainage system, and environmental works including biofiltration swales, landscape detention basins, ornamental ponds, earthworks, retaining walls, and major Sydney Water upgrade works. In addition they provided all hydraulic services to the buildings, including sanitary water and storm water.

With rigorous water management so important in Australia, the company devised innovative systems designed to reuse water and make extensive use of rainwater. The Centre Court development is notable for the usage of an exceptionally large rainwater tank that can hold 2,000m3 of water. In addition, the company devised a roof top storm-water detention scheme over six buildings, which was supplementary to the innovative solution of water conservation.

As a company, Warren Smith and Partners Pty Ltd embraces new and emergent technologies and techniques, devising innovative solutions to the problems and demands of the modern Australian construction industry.

Code of honour

Building Surveyors are professional building practitioners, providing an essential safeguard to the community, building users and their owners. Philip Chun & Associates have been providing the very best of service to their clients since 1990. Checking plans and specifications against the Building Code of Australia and issuing construction certificates is just a part of the service. The clients experience from first contact to completion is unique. A high level of care is exercised in the field, by providing the client with information pertinent to efficient and smooth decision making, allowing astute clients to better manage risk within the building regulatory field.

Philip Chun & Associates carefully select highly motivated professionals in the fields of Fire Safety Engineering, Building Surveying and Building Control.

Recent projects include refurbishment of the Hilton Hotel in Sydney's CBD, Stocklands Headquarters and the new RPA Hospital extension and refurbishment.

Called upon to provide their service for Centre Court Development, Philip Chun's staff commenced detailed assessment work from the

initial stages and over the stages of construction to Occupation. The cross checking of details for architectural, structural fire ratings and services assessment for fire safety compliance is a highly technical process that found its pinnacle of expression on Centre Court. The benefit's in this approach provides a greater level of compliance, as well as buildings that are safer in an emergency, easier to maintain and more adaptable in future.

As Managing Director Robert Marinelli stated "The success of the project was largely due to the team's determination to achieve the best outcomes on time to meet the client's desired outcomes".

Centre Court achieved a high level of energy efficiency, credit going to the design team who overcame significant challenges. As Mr Marinelli notes "There is a great deal of glass in the construction of the façade which made the process of energy assessment more complex, particularly with the tightening of energy regulations across Australia".

Philip Chun and Associates guarantee a thorough and appropriate assessment to meet regulatory responsibilities and assist clients to manage risk with every project. It was a pleasure to be involved with the Centre Court project.



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MORRIS GODING ACCESSIBILITY CONSULTING

Morris Goding Accessibility Consulting are experts in accessibility of the built environment. With origins in engineering, construction and human movement, the company has evolved to provide specialist service to clients throughout Australia, New Zealand, Pacific Countries and China.

Our core services are to review, audit and certify new and existing building developments based on Australian Standards (AS1428 series), Council DCP's, Building Code of Australia (BCA) and offer practical solutions on how best to satisfy objectives under the Disability Discrimination Act (DDA).

From concept design to building completion, we deliver strategic, practical solutions to progress projects in the most effective way. The quality of our work reflects the depth of our knowledge and the approach of our experienced team.

An example of our work was the extensive input we had into the Centre Court Project. We worked closely with the architects from concept design, design development and construction for both base building and fit-out. The result has been a seamless integration of accessibility for the users of all Centre Court buildings and external elements.

Morris Goding has played an integral part in hundreds of successful developments such as commercial, residential, retirement villages, sporting stadiums, hospitals, industrial, airports, educational, heritage, hotels, cultural facilities and shopping centres. Our clients include construction contractors, architects, developers, government bodies and event organisers.

We aim to ensure that 19% of Australia's population who have a disability are able to live, work and participate independently and equitably.

Our business philosophy is simple – provide seamless integration of access, demystify disability and offer practical cost effective solutions.

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With 76 years experience in surveying Hill and Blume were a natural choice for Centre Court. The company's portfolio includes some of Sydney's best known buildings, including the restoration of the much loved Queen Victoria Building on George Street and the multi-million dollar World Square, on which Hill and Blume provided legal work on strata boundaries. Their profile and reputation precedes them and a large amount of their work comes from word-of-mouth references, "about 99% of our work comes that way" says spokesperson Paul Cechellero, in addition many satisfied clients return to the company.

For Centre Court the company provided surveys and plan drawing, alongside interpretation and realisation of architectural plans. Hill and Blume also oversaw all of the construction surveys and provided all of the marks for the buildings and roads. Working on the project for 21 months, Paul Cechellero states that the development was "the best we've ever done" in terms of ease and that working on the project was exceptionally rewarding.

With a staff of twelve, alongside two in-house trainees, Hill and Blume have a close highly skilled team who are able to provide exceptional quality

of service and pride themselves on their accuracy. The quality of their work is guaranteed by their experienced workforce and by their use of the latest technologies. These include the Trimble, which cuts down on man hours on site, allowing one employee to work using the robotic machine, recording, inputting and interpreting data on site.

Contracting on to any building project, Hill and Blume are already bidding for a new development in downtown Sydney, as Cechellero states they are able to "deal with anything" and with their ability to draw on extensive personal experience and the latest technological developments they can meet any challenge.



Never a waste

Reefway Waste is a market leader in the solid waste industry in the Sydney metropolitan region, specialising in construction waste management with over 20 years in the domestic, commercial and construction markets.

Reefway operates two fully licensed Waste Transfer and Recycling stations at both Alexandria in Sydney's east and Auburn in the West. Local Government Authority and EPA licensed, Reefway's commitment to excellence is prevalent in all areas of operation. Reefway is highly regarded by Government Regulatory Authorities and has built upon excellent relations with the NSW Dept. of Conservation and Environment, EPA as well as local councils. Reefway is regularly consulted regarding current and future legislative requirements within the industry.

All transported waste material is subjected to their vigorous waste separation, screening and recycling systems in which materials such as concrete, timber, brick, steel, copper, rubble, cardboard, sand etc are all extracted to be reprocessed back into the marketplace. This commitment to recycle

means Reefway achieving Government targets of less than 60% waste to landfill is always bettered, company spokesperson Anthony Uroda states "we meet and go beyond all targets, which is why we are an industry leader".

Workplace safety is of paramount importance at Reefway, all of their safety standards, equipment and OH&S policies are of the highest order and are reviewed regularly to ensure the most up to date information is available. This also to be said for plant and equipment with a stringent maintenance program, continually updated fleet of modern and environmentally friendly machines and trucks, ensuring the highest possible standard for both staff and clients alike.

On Centre Court the company workload often exceeded 15 large bulk bin movements per day, often with next to no notice, immediate client demands necessitating rigorous waste management systems. Certified crane lift able bins a necessity on such sites, maintained to the highest standard, again helping with safe, efficient and rapid bin movement and servicing.

The company also advises on construction projects, commonly starting at the tendering process. This means that waste management logistics are devised and planned in advance, enabling Reefway Waste to deliver the most efficient service at the lowest cost. Customer satisfaction is most important to Reefway where working close with clients needs both small and large in improving the service. The list of clients is testimony to that commitment.

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Diving right in

Established five years ago Aquatic Excavations are specialists in bulk excavations, haulage, and trench pipeline work. In addition the company also engages in quarry work, quarrying sandstone blocks for the expanding Chinese market, as well as limestone in Victoria. With the latest technology, the company can boast large excavator augers, a fleet of new trucks, and twin blade trench saws.

For the Centre Court project Aquatic Excavations performed the trenching for drainage for Access Plumbing, as well as contracting to Baulderstone Hornibrook to remove the soil from the trenching and excavation sites. Removing all the soil from the earthworks involved the use of fifty haulage trucks, with Aquatic Excavations subcontracting other trucks when necessary.

By completion the company estimated that they had shipped some 10,000m³ of soil from the site in an estimated 1000 journeys. Thanks to their experience and skills the process proceeded with ease, and the company are commonly called upon to move far larger loads. While the Centre Court contract was comparatively straight forward, Aquatic Excavation's Mike Tickner observes that the actual acreage of the site was, by Sydney standards, abnormally large and the scale of the development made the job unusual.

The company is currently working on numerous other developments.

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