

DESIGNED FOR LIFE

DEVELOPER : University of Wollongong
DESIGN AND CONSTRUCTION COMPANY : Hutchinson Builders
ARCHITECT : Group GSA
STRUCTURAL ENGINEER : BG&E
CONSTRUCTION VALUE : \$120 million

The \$120M University of Wollongong Student Accommodation project consists of four buildings across two stages. The residencies are a unique and contemporary accommodation solution with facilities including cinemas, music rooms, gamers lounge, BBQ facilities, activities rooms and meditation/yoga spaces, in addition to study lounges and communal areas.

Established in 1912, Hutchinson Builders has grown to become Australia's largest privately owned construction company. Their vast experience and capabilities ensured the University of Wollongong Student Accommodation was in safe hands.

The Hutchinson Builders' site team achieved a tremendous accomplishment with the successful construction of the 1,063-bed, architecturally designed buildings, along with common facilities and landscaped courtyards across two stages. In particular, Stage 2 which involved the simultaneous construction of three 8-storey buildings within 13 months, including the demolition of existing structures.

The various façade elements and integration of these materials is what makes this project stand out. The specified steel cladding system was substituted with an alternative superior PVDF Aluminium cladding, supplied by Archclad. There proved to be numerous advantages of using aluminium cladding over steel; accompanied by excellent warranties for a longer lasting product, economic benefits by using a lightweight product, as well as being able to achieve creative results. The use of aluminium sheeting allowed for cleaner lines at corners, junctions and flashings as opposed to traditional steel folds.

Using INEX EXPRESS boards not only cut installation time to 20% of what it would be if conventional timber planks were used, but provided the added benefits of a high performance non-combustible, moisture resistant wall cladding. These innovative boards also provide exceptional durability, is recyclable, non-toxic, as well as mould and termite resistant.

The boards were finished with a timber look coating that not only achieved the design intent, but also eliminated the ongoing maintenance issues of a natural timber products. Working closely with the manufacturer, the project was the first to successfully implement a method of a full factory triple coated paint application prior leaving the factory.

Hutchinson Builders also partnered with a thermal engineer who assisted with designing the building fabric to provide a thermal outcome that meant the facility does not require mechanical air conditioning within the bedrooms.

In Stage 2 of the project, the buildings each came with their own challenges ranging from building on a heavily sloping site, to ensuring the intricate details of differing façade finishes were not only aesthetically pleasing but also functional. Hutchinson had 29 employees on the project and were supported by in excess of 1,700 contractors to ensure the project was delivered within the time frames and on budget.

The quality and the variety of the finishes used within the facility all complement each other and will provide the users with a contemporary yet homely experience.

Hutchinson Builders complete around 250 projects every year, ranging in size from relatively small residential and commercial maintenance works to significant multi-million dollar projects. They work across Australia, from urban centres to some of the country's most remote locations in sectors including community, commercial and residential high rise, industrial, sporting, health, aged care, government retail, education, civil, hotels

and clubs, tourism and modular construction in a range of applications.

Another major project that they are currently working on is the Brisbane Skytower in the heart of Brisbane for Billbergia. The project encompasses 1,128 apartments across 90 residential levels. With an overall height of 270m, Brisbane Skytower is among the tallest residential towers in Australia.

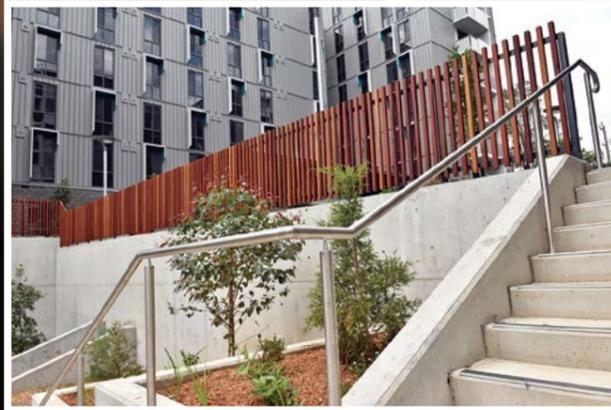
For more information contact Hutchinson Builders, 36 Young Street, Wollongong NSW 2500, phone 02 4222 6600, email wollongong@hutchinsonbuilders.com.au, website www.hutchinsonbuilders.com.au



Below Illawarra Steelworks were commissioned to provide extensive steel solutions for the project.



Below Renyi provided consultancy for passive heating and cooling control for the University of Wollongong Student Accommodation.



Illawarra Steelworks (ISW) is a family run business that has been servicing the construction industry since 1968 with strong family values and morals. For the Wollongong Student Accommodation, ISW were engaged to design, draft, supply and install all structural steel components and metalwork items, including handrails, ramps, bridges, balustrades, gates, enclosures, exposed structural steel, lintels, columns, glass balustrade and bike racks.

In keeping with an accomplished safety record and adherence to WHS and OHS policies and procedures, ISW were able to complete the project with no onsite injuries and no lost time injuries from their workshop. ISW also worked well with the other contractors, providing great service and collaboration with Hutchinson Builders throughout the whole project. The products supplied were well suited to the client's needs and met the architects' high standard of finishes. ISW was able to handover finished areas with no defects which in turn provided no hold ups throughout the project.

Many changes were requested during the project which created a challenge to deliver the expected outcomes, while still meeting the completion dates for the programme schedule. ISW were able to overcome this by working closely with their suppliers with whom

they have built a good relationship and crunch delivery times. The company is also partnered with their sister company in Canberra, ACT Steelworks Pty Ltd, to fabricate certain items to meet deadlines and not have to pass on additional overtime costs.

Illawarra Steelworks are able to manage multiple projects at one time, also working on the Air Trunk Huntingwood Data Centre project. The company has a number of contracts they are undertaking in the near future, including the Nowra Correctional centre upgrade and ACT Law Courts projects, as well as working closely on other large and small projects consisting of commercial and domestic buildings.

ISW aims to continue training their employees with new safety procedures to maintain their high safety track record, as well as partnering their matured tradesmen with new apprentices in order to train the up and coming young trade generation.

For more information contact Joe Boiano and Rudy Boiano, Illawarra Steelworks, 3, 63/65 Five Islands Road, Port Kembla NSW 2505, phone 02 4274 0336, fax 02 4274 0339, email joe@illawarrasteelworks.com.au, website www.illawarrasteelworks.com.au

Renyi is a sustainable building design consultancy that bridges the gap between design and 'as built' building performance to provide proficient, cost effective environmental building solutions. Having been engaged by Hutchinson Builders on the University of Wollongong Student Accommodation Project, Renyi performed a thermal comfort study and full Life Cycle Assessment (LCA).

A key challenge was to ensure the interior temperature would remain within a range of 19 to 27°C through all seasons – without the use of air conditioning. Renyi provided a solution, which significantly improved the building's thermal performance. Working within required budget, time and site constraints, they recommended practical adjustments to the design and construction of the façade.

An important design initiative involved exposing the concrete towards the inside of the dwelling rather than the outside. This capitalises on the thermal mass effect of the walls, resulting in a more consistent and comfortable internal temperature. Renyi recommended placing insulation towards the exterior and protected by a rainscreen or 'cladding.' This further minimised thermal bridging, meaning less heat is transferred inside the building.

Renyi's design allows the interior temperature to remain within the target range of 19 to 27°C for 95% of the time, without the use of any mechanical assistance. Even when the ambient weather temperature exceeds 35°C, only minimal use of mechanical ventilation systems are required. The result is a passive building that consumes the least amount of energy possible and can adapt to different climatic conditions without compromising residents' comfort. "This project is a good example of how, with the right advice, buildings can incorporate sustainable design initiatives in a cost effective and practical way," said Allan Ang, Engineer and Director of Renyi.

Another project Renyi is currently working on is a commercial development in Sydney Olympic Park. The building is aiming for a 6 Star Green Star office interiors rating and a minimum of a 4 Star Green Star residential rating. Allan noted it is very encouraging to see more developers embracing highly sustainable building design in Australia.

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Below Industry Cladding & Roofing installed the external cladding façade, provided by Archclad, for the project.



University of Wollongong Student Accommodation, New South Wales



Industry Cladding & Roofing has over 30 years of experience in the metal roofing and cladding industry.

For the University of Wollongong Student Accommodation, the company supplied and installed metal cladding consisting of Solid Aluminium PVDF Cladding. Archclad Express™ Panels and Archclad Cliptray 48™ Systems were selected by Hutchinson Builders to the entire external façade. Aluminium sunshades were also installed onto specific windows. All these materials were tested and engineered by Archclad™ to meet the specific project requirements.

The Custom PVDF Coated finish to the aluminium cladding provides an outstanding corrosion resistant finish. The sunshades are made from aluminium box sections with different internal colours for each building creating a fantastic visual effect whilst maintaining the energy rating requirements.

The project involved the onsite design and development of custom corner and window panels, folded onsite by Industry Cladding & Roofing. This gave the ability to also join the Archclad Express™ panel to the Archclad Cliptray 48™ seamlessly.

One of the biggest challenges was maintaining a tight building programme that had to be achieved due to the scaffold removal dates which would then allow the builder to complete their external ground works. Industry Cladding & Roofing were able to successfully meet these deadlines by sending more employees from Melbourne when they had large areas ready and available. The company also designed a panelling system that gave them the ability to leave out a section that could be infilled while the scaffold was being dismantled and the ties removed.

“This project has given our company the confidence to continue working on large scale metal cladding projects nationally, we would personally like to thank Jayson Barnaby, John Adis and Chadi Akouri along with their teams at Hutchinson Builders for a fantastic project,” said Grant Wright, of Industry Cladding & Roofing.

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