

LYELL McEWIN HOSPITAL

HANSEN YUNCKEN
ADELAIDE SA

LYELL McEWIN HEALTH SERVICE



CONSTRUCTING SUSTAINABLE EXCELLENCE

Builders Hansen Yuncken continues to set new standards for ESD as Managing Contractors for the Lyell McEwin Hospital redevelopment in Adelaide. Works entailed demolition, refurbishment of existing buildings, construction of new facilities and procurement of all fit-out from beds to medical equipment.

When fully complete, the hospital will have a refurbished Day Surgery, IMVS, Medical Ward, Oncology Unit, Palliative Care Offices, Pharmacy, and areas for Research and Volunteers. New buildings include a 50 bed Mental Health Unit, Extended Emergency Care Unit, a Linear Accelerator Radiotherapy Unit and a Multi-deck Car Park.

Construction involved up to 12 staff over nineteen stages, sometimes handled simultaneously to meet hospital requirements for available

beds and facilities. All materials met ESD requirements, from low VOC flooring materials and paints through to FSC-approved timbers for panelling and joinery. All commissioning is being done to strict guidelines to ensure the building systems achieve tough energy and water targets.

“While the Green Star rating tool for hospitals is under development, the project team have been assisting the Australian Green Building Council in its development,” explained Project Manager Paul Melville.

Hansen Yuncken are active members of the Australian Green Building Council, and members of the Property Council’s South Australian Sustainability Committee. “This project is achieving much more than what has been contemplated for the Green Star tool,” said Project

Director Chris Pratt. “Lyell McEwin Hospital is already arguably the most water and energy efficient in Australia. The new buildings continue and enhance these achievements through solar passive principles, heat reclaim technology and re-use paths for water.”

Hansen Yuncken take an integrated approach to building and hospital commissioning. To make handovers as smooth as possible, work groups are set up with each medical department. Representatives participate in the completion activities of each stage and advise on changes and additions before occupation. Training is scheduled to ensure staff can operate all equipment before final handover. “It’s a lot of logistics, but people are very happy when they move in because they know how everything works, and last-minute problems are avoided,” said Paul Melville.

Giving to the community is a priority. At Lyell McEwin Hospital, Hansen Yuncken and the project team assisted the hospital’s Volunteers Association with the development and construction of a visitors’ garden. This is one of a series of initiatives to ensure community engagement and pride in their hospital.

A fourth-generation privately owned company founded in 1918, Hansen Yuncken have completed over 4,000 projects and are currently working on other landmark projects nation-wide.

In Tasmania, they are constructing the Museum of Old and New art, 10,000m² of floorspace carved into a cliff face on the Derwent River, where limestone tunnels connect different exhibition spaces.

In South Australia, they have just completed the Harbour Town project at West Beach. They are currently designing and constructing new facilities at the ASC Shipyard to enable construction of the new Air Warfare Destroyers, managing redevelopment of the Queen Elizabeth Hospital and they have just commissioned the first Six Green Star as built project in Australia, the SA Water building, laboratories and office fitout.

In Queensland they are responsible for the redevelopment of Domestic Terminal at Cairns Airport and in New South Wales, the design and construction of the new Orange Hospital in Orange and the Medica Health Facility in Hurstville.

Melbourne’s Harbourn Town Waterfront City, Maroondah Hospital and Acute Mental Health facility and the refurbishment of the former CUB laboratories in Victoria Street to a Six Green Star as built commercial complex are also Hansen Yuncken projects.

Awards follow such excellence, including Adelaide Airport that won the MBA President’s Award in 2007, Council House 2 in Victoria the National RAI Award for Sustainable Architecture in 2007, NSW Schools PPP the Infrastructure Partnerships Australian National Infrastructure Award for Project Excellence in 2007 and in 2006 Lyell McEwin Stage A became the first hospital, and the first South Australian project, to win the National Property Council of Australia Award and the National MBA Award for Excellence in Construction.



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INTELLIGENT SYSTEMS

TAC is a leading provider of building automation solutions based on Open Integrated Systems for Building IT. TAC's mission is to provide added value through building environment services for indoor climate, security and use of energy, delivered with advanced technology to end users and property owners throughout the world. With over 80 years of experience in the HVAC, building automation and security arenas, TAC employs more than 5,000 people worldwide, with partners and branches in 80 countries. TAC's parent company, Schneider Electric, is the world's power and control specialist with 112,000 employees worldwide and operations in 190 countries.

Lyell McEwin Hospital, Stage B

TAC has extended the first stage of the Hospital which at the time was a world first with a total Integrated Intelligent System (IIS) all run and installed over a integrated telecommunications structured cable backbone system with total integration of services. This has now become the de-facto delivery standard for all new major Hospitals here and worldwide.

The Integrated Intelligent System amalgamates the system components of environmental control, monitoring and communications into a single integrated System comprising the following;

- Building Management System (BMS) as in the Vista product
- CCTV, Access and Security Intruder Detection Systems
- Nurse call
- Master Antennae Television

- Power meter electrical monitoring
- duress alarms and baby monitoring
- Master Clock
- interface to refrigeration Chillers and other LON devices

TAC worked closely with the Electrical and Mechanical engineers and trade contractors to deliver best practice for the project outcomes and a efficient integrated system. In addition, TAC was substantially involved with the design and worked closely with the project consulting engineers, Bestec, supported by the forward thinking and progressive principle contractor, Hansen Yuncken.

Progressively the systems will be installed and integrated across the entire site as the new facilities, such as the new Mental Health complex, EECU and Wards 1A and 1B on final commissioning and tuning.

TAC are proud to support the Hospital together with the objectives of the unique procurement process, in that when construction is finally complete, the facility will have a highly efficient building controls and management systems that will remain such, well into the future and future proof the systems infrastructure together with supporting the Green Star accreditation.

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QUALITY IS EVERYTHING

You know a business is doing something right when clients come back for generations. Mardaw Interiors have been a family business for three generations, and have been decorating, and redecorating, some of Adelaide's finest homes since 1953. They also provided soft furnishings such as blinds, bed screens, curtaining and other general hospital requirements for the Lyell McEwin Hospital redevelopment.

This required the use of inherently fire retardant fabrics, and for the mental health facility, blinds and curtaining uniquely tailored to suit architecturally specified fittings which minimise the risk of patient harm. And gone are the sterile looks associated with such facilities in the past. Company Director Gayle Beadman explained the look for the new Mental Health Unit is much more home-like, with bright colours. She estimates over 3,000 lineal metres of fabric were used in the Lyell McEwin project.

All the company's products are made at their Norwood workroom, which has a staff of 14. Two staff worked onsite at Lyell McEwin. Time is the challenging factor for this kind of job.

"Handovers are critical. We are last in after the cleaners have been through," explained Gayle. "People are usually moving in the very next day, so we are working to a strict deadline."

It is this combination of excellence in design and reliability which has seen Mardaw Interiors also contracted to supply soft furnishings for Wallis Cinemas, Mitcham, Piccadilly and Mt. Barker, Anglicare, Clayton Church and Southern Cross, among others.

"There's a lot of trust involved in our business," said Gayle. While many classic, tried and tested design elements remain the same since Mardaw Interiors first opened their doors, there have been advances in some fittings, styles and blinds. "Fabrics have also become more exciting," said Gayle. They can also create unique looks for clients by heat transferring designs to fabrics. Their motto is: "No job is too big, no detail too small."

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ITALIA TILING MEETS HOSPITAL STANDARDS

Tiles are one of the world's most ancient building materials, with qualities that make them suitable for some of today's most advanced developments. While tile materials, fixatives, finishes and designs have all advanced since Ancient Roman times, the reason they are still used is they produce hygienic, durable, easy care and highly attractive surfaces - exactly what a hospital needs.

Adelaide-based company Italia Tiling handled all the tiling for the Lyell McEwin Hospital redevelopment. This included complete floor and wall tiling for all ensuites, bathrooms, cleaners' rooms and the main Foyer. The areas covered included IMVS, EECU, Wards, the Research Building, Palliative Care, Pharmacy, Oncology Department, the new Mental Health Unit, Volunteers area and Radiotherapy Unit.

"As Lyell McEwin Hospital is a flagship development for the South Australian Department of Health, very strict standards were implemented for quality of work, such as correct falls, waterproofing and epoxy grouting to the floors," said Company spokesperson Rajan Cherian. "A key part of delivering the desired outcomes was proactively working with Managing Contractors Hansen Yuncken, the project's designers Cheesman Architects and the various government departments involved.

"With nineteen different construction stages over several years, the Lyell McEwin Hospital Redevelopment is a massive project. We had to manage logistics and work flow so tiling was executed in a timely manner, and to meet the deadline for each separate stage of commissioning. This was achieved by varying the size of the work teams throughout."

One of the largest individual tasks involved was tiling of a massive new kitchen which is catering for both staff and patients of the entire hospital. This required specialized Metz tiles and epoxy grouting laid to exacting requirements. Strict environmental requirements were adhered to including details such as recycling and reduction of waste.

Italia Tiling has been in business since 2000 and specializes in supply and fixing contracts for ceramic, granite, marble and stone tiles, bench tops and other hard furnishings. Its parent company, Affordable Tiles, has been in business for over 20 years. Italia Tiling was set up in response to the substantial and growing demand Affordable Tiles experienced from companies such as developers and builders for tile fixing services.

The company has a dedicated team of in-house and subcontract tilers who have been with the company for many years. These teams are

supported by Site Supervisors who maintain liaison with the builders and provide quality assurance at site.

With a reputation for excellent work which always meets Department of Health requirements, Italia Tiling are carving a niche for themselves when it comes to significant health infrastructure projects. Their teams have just completed tiling at the Queen Elizabeth Hospital and are currently working at the Flinders Medical Hospital. They were involved in the Royal Adelaide Hospital's refurbishment, fitting tiles for the foyer. They also are currently at work on two major aged care facilities.

In addition to their health facility work, Italia Tiling are also subcontractors on the 19 level Conservatory development for Bovis Lend Lease and many other prestigious jobs for leading builders in Adelaide.

Italia Tiling offers a complete solution to builders and developers. This includes supply of tiles and stone, with the ability to source just about anything an architect can envision. Their buyers regularly travel overseas sourcing the best and latest products. Their teams are able to fix both tiles and stone, in addition to natural stone and reconstituted bench tops. Parent company Affordable Tiles has a showroom which displays a

comprehensive and inspiring range of imported tiles and bath fittings, a range which was recently expanded to include complete fit-outs for bathrooms and kitchens.

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FAREWELL RING BINDERS

Grazer offers a simple, innovative way of managing all the documentation associated with a major project like the Lyell McEwin Hospital redevelopment. Instead of old-fashioned ring binders containing the tens of thousands of pages of specifications, drawings, operational and maintenance manuals required, everything is digitised, resulting in a user-friendly DVD.

Inventor John Martin, a draftsman by trade, envisaged Grazer while working on vast piles of documentation for the lighting system at Hong Kong's Chek Lap Kok airport in 1997.

Back in Australia he worked with software engineer David Peters, who wrote the code for Grazer, originally in Delphi and now in CSharp. "Grazer is very intuitive to use," explained Martin. "It uses the infrastructure drawings as a visual index to operation and maintenance documentation. It has made all that paper obsolete. With this system, things like drawings can't go missing over time, and there is a saving of between 350-500 kg of CO2 emissions per project."

For the Lyell McEwin Hospital redevelopment, Grazer holds all the documentation for architecture, electricity, fire systems, hydraulics, IT infrastructure, lifts, mechanical services, medical gases, vacuum tubes, specimen handling, pneumatics and the linear accelerator. It will be updatable for the life of the development, with provision to add in test

results for various systems, maintenance and repair notes. No special equipment is required by users, just a regular PC with Flash or even a DVD player.

Currently the company, which has a staff of six and growing with branches in Adelaide and Melbourne, is also completing documentation for the Defence SA CUF, Techport Australia and the Australand Pavilions at St Leonards NSW, amongst others.

Recently a new version, GEM, suitable for smaller projects has been developed. "GEM is for the average builder who otherwise still has to work with four ring binders," said John.

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MAKING THE MAGIC HAPPEN

Alchimie are management consultants with special expertise in facilitating alliances and collaborative management framework, such as the GC21 contract used by DTEI and DHS in South Australia.

Company founder Andrew Hutchinson began work with the Lyell McEwin Hospital redevelopment project back in 2000, facilitating the process of selecting the Managing Contractor, also facilitating and coaching the integration of the team comprising the hospital's management, South Australian Government representatives, the designer and contractor.

Andrew and his team assisted in the articulation of clear performance objectives for ESD, in addition to multiple other objectives such as community outcomes and meeting hospital staff needs, defining a spectrum of performance for each of key result areas of the project.

Alchimie formed concrete strategies which assisted with works, implementing work groups for hospital staff, managing contractor and designers which gave opportunities for ongoing dialogue during works, and creating sub-teams for subcontractors to enable focus for their specific areas, such as services, structures, finishing trades.

"One angle of what we are about is unleashing human potential in a capital project context," said Andrew. "Our practise is based on

principles of high performance and personal transformation, and ground these approaches in an accessible way along with facilitation techniques to create a congruity between the owner's objectives and drivers with the commercial drivers of the contractor and designer. Our focus is to structure the project so that the only way to make money is increase performance to the owner's advantage."

Alchimie has over 20 staff and other major projects include the Northern Expressway project (in South Australia), the West Gate Freeway Alliance in Victoria, the Strategic and Indigenous Housing and Infrastructure Project in the far North, supporting Melbourne Water going from \$250 million capital expenditure to \$1 billion per annum, supporting Sydney Water in forming their alliances and coaching the RTA and Abigroup's alliance on the Victoria Road project in NSW.

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SUPERIOR SHELVING IMPROVES THE BOTTOM LINE

Staff at Lyell McEwin Hospital's new dispensary are more productive, thanks to StockFlow shelving from Pharmacy Workshops. The StockFlow system allows a greater volume of stock to be stored in a smaller space, an asset to a busy hospital which carries up to 1,600 different products at any one time.

Designed and manufactured by Sintek AB in Sweden, the ergonomically effective units use gravity feed to move stock forward as it used, allow each product line to be easily refilled from the back, and separate each line with transparent dividers. Staff save an average of 4.6 seconds per item refilling shelves, and also save on walking time. Date rotation of stock is automatic.

Pharmacy Workshops had three staff involved on the Lyell McEwin project, two onsite, working with the joinery sub-contractor installing workbenches within the shelving system.

Shelving consultant Graeme Costin said labour costs are one of the major overheads in any pharmacy, so the less time staff spend walking around accessing products, the more cost-effective they are.

This reaches new realms with RoboPharma technology being imported into Australia this year by Boys Group Pty Ltd in conjunction with Pharmacy Workshops.

Designed and built in the Netherlands, it is a completely automated dispensing system. Staff enter a request by computer, and RoboPharma selects the stock, delivering it via chute and conveyor belt. It takes just 10 to 15 seconds. Best suited to high turnover pharmacies, RoboPharma is ideal for pharmacies with high security needs, as products can be stored in another part of the building.

Pharmacy Workshops' major asset is Peter Feros, himself a pharmacist with several decades of pharmacy marketing and design experience. The company provides a variety of dispensary stock storage solutions, plus time and motion studies, and dispensary designs.

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COMPLETE ENVIRONMENTAL FURNITURE SOLUTIONS

Aelaide owned and operated manufacturing company AJM Commercial Interiors manufactured and supplied all the loose furniture and seating for the Lyell McEwin Hospital redevelopment. This meant creating pieces which met Managing Contractor Hansen Yuncken's exacting environmental standards, with features such as low VOC finishes and FSC-approved timbers.

VOCs are Volatile Organic Compounds, and have been proven in research performed by NASA to contribute to so-called 'toxic building syndrome'. The FSC (Forestry Stewardship Council) only certifies timber from sustainably managed sources such as plantations. Hansen Yuncken's Project Manager for the Lyell McEwin redevelopment, Paul Melville, said there is currently only a small pool of suppliers that can meet Green Star ESD requirements. AJM Commercial Interiors is one of them.

Most of the furnishings for Lyell McEwin Hospital were constructed for heavy duty commercial use. Some designs were uniquely created for newly built facilities such as the Mental Health Unit. All furnishings and other products manufactured by the company come with a ten year warranty.

The company has a total staff of twelve, half of whom worked on the consignment. "Like all projects conducted by AJM, we approached this project to obtain total customer satisfaction," said company spokesperson Daniel Morton. "We offer a personalised service, and follow a policy of environmental sustainability with all our products."

AJM Interiors recently relocated to a 3,800sqm office showroom and manufacturing plant at Edwardstown.

In addition to design and manufacture of commercial furniture, the company also produces aluminium shopfronts, auditorium seating, cabinetry, ceiling systems, partitions and plasterboard and general commercial fitout. They can offer on-site services including joinery, carpentry, commercial interiors, maintenance and demolition.

AJM is a systemized company with quality assurance, OH&S policies and certification including compliance with the National Code of Practice for the construction industry which is a prerequisite for federal government funded projects. In addition to the Lyell McEwin project, AJM are currently supplying furnishings and fitout for Federal Government departments, major hospitals, energy and defence companies, legal firms and large private organisations.

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