

CREATING A HEALTHIER FUTURE

PRINCIPLE: The Department For Infrastructure And Transport
MANAGING CONTRACTOR: Built Environs Pty Ltd
CONSULTING TEAM: Cheesman Architects (Lead), STH, Aureton, Bestec, BCA, Oxigen, Rider Levett Bucknall and dsquared
CONSTRUCTION VALUE: \$314 million



The Queen Elizabeth Hospital (TQEH) redevelopment will modernise and increase the emergency, critical care and surgical capabilities of the hospital. The project includes the construction of a 46-bay emergency department, 12 operating theatres, 14 bed intensive care unit, and 52 bed rehabilitation unit, along with medical imaging department, catheterisation lab, and pathology lab.

Built Environs provided the SA Department of Infrastructure and Transport and SA Health with procurement, construction coordination, testing and commissioning services for the new \$314 million redevelopment of The Queen Elizabeth Hospital (TQEH) New Clinical Services building.

The project created around 400 jobs each year, with 90 – 95% of those jobs directly employing South Australian residents.

Built Environs General Manager (SA), Tony Jachmann, reflected on the challenges and highlights of this ambitious project. “With the construction site located adjacent to the existing hospital and associated health services, our delivery approach has been developed to minimise disruption and keep TQEH operational throughout construction.

The project, which began in December 2021, has faced numerous challenges familiar to all in the construction industry including global supply chain disruptions, inflation and industry skill shortages.”

“Inflation resulted in a significant amount of value management needing to be done to pull the project back into budget without compromising any of clinical function,” said Tony.

Despite these challenges, Built Environs managed to keep the project on track, ensuring that it remained within budget and achieved on-time completion in May 2024.

“One of the key highlights of the project has been the high level of stakeholder engagement and collaboration at all levels,” said Tony.

“I attribute the high degree of collaboration to the passion and pride of the project members, who share a common vision and are dedicated to delivering a facility that will benefit the community.”

Built Environs has worked closely with the Department for Infrastructure and Transport and SA Health to ensure that the project meets the needs of the state. The project highlights the collaborative efforts of all parties involved

“The building is an all electric facility with significant environmental initiatives incorporated into the services design and thermal performance of the façade. Carbon reduction initiatives and responsible building materials were incorporated from the project outset such as green concrete and structural LVL in wall timbers reducing project steel content. Over 40 environmental initiatives were incorporated across design, construction and as-built performance verification. The TQEH Redevelopment project has been awarded an IGRAT 6-Star Design and Construction Rating.”

Additionally, the Built Environs delivery team included in-house biomedical specialists who procured and coordinated the integration of over \$25 million of complex medical equipment and fixtures in close collaboration with CALHN / SA Health.

The project represents a significant investment in the healthcare infrastructure of Adelaide’s western suburbs. Built Environs’ commitment to delivering a high-quality facility that meets the needs of the community is evident in its approach to the project with staged handovers.

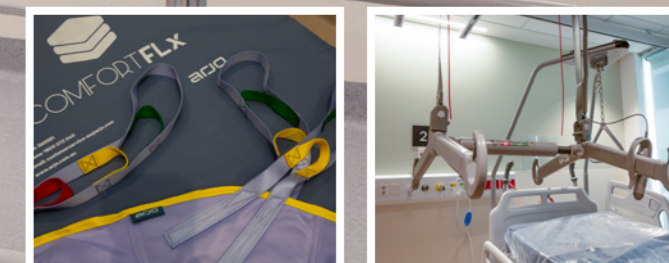
Built Environs is a full service construction company that provides a range of building services, from design consultation and management, right through to construction and fit out.



Built Environs invest in clever people, innovative methods, and smart technologies to deliver what they promise, able to provide services to local, state and federal governments, health providers, universities and education providers, commercial, residential and industrial property developers.

For more information contact Built Environs, Level 12, 99 Gawler Place, Adelaide SA 5000, phone 08 8232 1882, email builtenvirons@builtenvirons.com.au, website www.builtenvirons.com.au

Below Arjo provides comprehensive healthcare solutions, including patient handling, medical beds, hygiene, and prevention of injuries.



Arjo Australia, a global supplier of medical devices, believes empowering movement within healthcare environments is essential to quality care.

Their products and solutions are designed to promote a safe and dignified experience through patient and resident medical beds, hygiene care, disinfection, diagnostics, and the prevention of pressure injuries and venous thromboembolism.

For The Queen Elizabeth Hospital Redevelopment, Arjo was involved in the design and project management, working closely with the builders and architects. Arjo supplied and installed ceiling hoists (Portable Maxi Sky 440, Maxi Sky 2, and Maxi Sky 2 Plus Bariatric hoist system) and a range of medical products including, medical beds, stretchers, slings, and foam & air mattresses.

“For the early stages of a project, we provide practical advice on planning and designing care facilities, and design inspiration for different types of rooms,” said Sales Director, James Blieschke.

The project also marks the first installation in a South Australian Hospital of the Maxi Sky 2 Plus Bariatric unit.

“Patients of larger size have the right to be treated with comfort and dignity. Maxi Sky 2 Plus makes it possible to transfer non-ambulatory bariatric patients (up to 454kg),” said Ivan Molina, State Manager. “Three Bariatric rooms were installed with the Maxi Sky 2 Plus Bariatric ceiling hoist system, which has been a real highlight of the work at the Queen Elizabeth Hospital.”

Research shows that there is a clear connection between mobility and people’s physical and mental well-being.

Creating the best opportunities for mobility is therefore at the very core of providing high-quality care. Arjo has seen how empowering movement can quickly improve both clinical and financial outcomes to facilities. As a leading specialist in the field, they work continuously to promote mobility – with the aim of contributing to better healthcare.

The Queen Elizabeth Hospital project is also one of Arjo’s largest installations of Ceiling Hoists in South Australia with installations in the gym, general wards, ICU, patient bays, emergency department, changing places and bariatric rooms. Arjo is currently finalising installation of ceiling hoists at Eldercare Goodwood in South Australia.

Consolidating their place as leaders in mobility solutions and quality care, Arjo, your mobility outcome partner, has created the Arjo Portal for Architects and Planners.

The Arjo Portal for Architects and Planners



Scan the QR Code to learn more.

Users of the portal will find layout drawings with dimensions that allow sufficient space for caregivers, patients/residents and maneuvering of equipment; a collection of articles on best-practices and design requirements when planning different care environments; and a CAD library (2D and 3D) of individual products, complete room solutions and space requirements.

“We have a long history of collaborating closely with architects, safe patient handling experts, hospital and aged care executives,” said James Blieschke

“Our experience has taught us that to create efficient care facilities and to obtain a good working environment, the right combination of environment, equipment and care skills are needed. Therefore, it

is key to design for sufficient space early in the planning of a new facility.”

Founded in 1957 by Arne Johansson, in Eslöv, Sweden, Arjo has over 6500 people worldwide and 65 years of caring for patients and healthcare professionals. The company is committed to driving healthier outcomes for people facing mobility challenges around the world.



For more information contact Arjo Australia, Level 3 Building B, 11 Talavera Road, Macquarie Park NSW 2113, phone 1800 072 040, email insidesales.au@arjo.com, website www.arjo.com.au

Below Square Ceilings supplied and installed key materials for hospital ceilings and partitions, ensuring safety and functionality standards.

Below A&M Passive Fire Systems fireproofed structural beams with PROMAT Vermiculite, using INTERNATIONAL primers and intumescent paint on exposed steel.



In the transformative redevelopment of the TQEH (The Queen Elizabeth Hospital), Square Ceilings' wall and ceiling played a pivotal role in elevating the structural and aesthetic aspects of the project. Their comprehensive involvement encompassed the supply and installation of various critical elements, contributing to the seamless integration of both old and new structures.

Central to Square Ceilings' contribution was the provision and installation of essential materials, including Plasterboard, Trurock, Fireshield, and ceiling tiles. These materials were strategically applied to create ceilings and partitions throughout the hospital, addressing a diverse range of requirements such as firewalls, smoke walls, acoustic walls, shaft walls, and T-bar ceilings. The team's meticulous approach ensured the adherence to stringent safety and functionality standards crucial in a healthcare environment.

A notable aspect of Square Ceilings' work involved the installation of lead-lining in sensitive areas like the CT, X-Ray, and MRI rooms. This specialised application was undertaken with precision and attention to detail, reflecting their commitment to creating spaces that meet the highest standards of safety and functionality in medical imaging.

One of the standout challenges encountered during the project was the construction of feature ceilings. Given the demanding schedule of the redevelopment, Square Ceilings faced the unique task of building the frame based on shop drawings, as the feature ceiling panels had not been manufactured at that stage. Despite this challenge, the team demonstrated resilience and expertise, successfully executing the construction of intricate feature ceilings within the tight timeframe.

Square Ceilings' commitment to quality craftsmanship and their ability to adapt to evolving project requirements were instrumental in overcoming the complexities inherent in hospital construction.

Through their diverse capabilities, Square Ceilings contributed significantly to the success of the TQEH redevelopment, ensuring that the hospital now stands as a testament to both functionality and aesthetic excellence.

For more information contact Square Ceilings, 33 Hutt Street, Adelaide SA 5000, phone 0451 779 828, email admin@squareceilings.com, website www.squareceilings.com

A & M Passive Fire Systems delivered structural steel fire protection systems for the Queen Elizabeth Hospital Stage 3 Redevelopment Project.

The scope of works included the application of PROMAT CAFCO 300 Vermiculite to concealed and internally exposed structural beams and pre-cast connections, Fendolite cementitious and INTERNATIONAL (AksoNobel) intumescent paint systems on externally exposed structural steel beams and columns, and the installation of PROMAT fireboard to structural columns.

"One of the major challenges faced by the team was the coordination with numerous contractors on site," said Business Development Manager, Andrew Nelson. "With structural steel present throughout the building, interfacing with contractors required clear communication and coordination of project deliverables with the appropriate stakeholders."

The team at A & M Passive Fire Systems demonstrated their expertise in the project, by working closely with the builder creating a zoned-based approach to delivery, enabling safer and faster application.

The project's success was facilitated by the builder's readiness to collaborate to achieve delivery.

Andrew and business partner, Milo Terzic, showcased their synergy between corporate and fire protection experience, ensuring that systems were compliant and aligned with delivery requirements. Project walkthroughs with manufacturers were carried out to ensure adherence to tested systems and fire resistance levels FRLs. Commitment to quality and safety was evident throughout the project.

A & M Passive Fire Systems' specialises in providing Passive Fire Protection systems which include the application of Vermiculite, Fendolite (cementitious), fireproof boards, and fire-stopping penetrations. A team of experienced and certified professionals dedicated to delivering quality and compliant fire systems.

For more information contact A & M Passive Fire Systems, phone (Andrew) 0412 799 335, website www.ampassivfiresystems.com.au

Below Adelaide Passive Fire Solutions certified fire penetrations at The Queen Elizabeth Hospital, ensuring compliance with standards.



Below Paint Machine utilised mineral silicate paint to created the façades vibrant colour finish, and allowing substrates to breathe.



Adelaide Passive Fire Solutions were contracted to inspect and certify the sealing of all fire penetrations at The Queen Elizabeth Hospital and document them on a register.

Specialists in the Passive Fire Protection of structural assets, Adelaide Passive Fire Solutions are committed to offering practical, compliant solutions that meet all relevant standards including the BCA.

“Being a health facility with a multitude of systems in a multitude of locations, it is imperative that each and every one of those systems are sealed and compliant,” said Kyle Smith, Director of Adelaide Passive Fire Solutions.

“As with any project of this size on a tight time frame, we needed to coordinate with the builder and subcontractors to access areas once they’d been completed,” said Kyle. “This meant multiple returns after services have been rewired or penetrated by another service needing to complete their work in the same location.”

Passive fire protection is a barrier or shield, stopping the spread of fire from one area to another. Unlike active fire protection products such as sprinkler systems, fire alarms, fire extinguishers, and fire hoses

which become active in the event of fire, passive fire products remain non-active.

“The end-user needs to be confident that all penetrations have been sealed and have been done compliantly,” said Kyle. “They need to be able to refer to the register if unsealed penetrations are found when future contractors are brought in.”

Adelaide Passive Fire Solutions offers a vast range of services in Passive Fire Protection including inspection, installation, repair, and compliance in all fire protection systems. Including the supply and install of Fire doors, Barriers, penetrations, and building work rectification involving these areas. The company has experience in all types of working environments including aged care, hospitals, offices, education, retail, hospitality, residential, and manufacturing in Adelaide and regional South Australia.

For more information contact Adelaide Passive Fire Solutions, Unit 10a 41-47 O’Sullivan Beach Road, Lonsdale SA 5160, phone 0437 372 319, email kyle@apfsol.com.au, website www.apfsolutions.com.au

In a world where modern architecture often gleams with glass façades and metallic finishes, The Queen Elizabeth Hospital stands as a striking departure from the norm, instead embracing a more enduring and distinctive aesthetic.

The brief to paint the entire exterior of the hospital presented a unique challenge and an opportunity for Paint Machine, a South Australian commercial painting contractor, to showcase their expertise and elevate the standard for quality and longevity in architectural coatings.

The project brief was to use mineral silicate paint that bonds chemically with concrete and stone. Where traditional acrylic paint seals and traps moisture, mineral silicate paint allows substrates to breathe, making it ideal for the Queen Elizabeth Hospital. The paint is also highly resistant to UV damage, ensuring that the building will maintain its colour for years to come.

“We used three separate brands of mineral silicate paint to ensure warranty coverage on the various surfaces,” said Managing Director, Steve De Luca. “Specialised equipment such as EWPs and Dog Box lifts were employed to navigate challenging areas, ensuring coverage and precision.”

“Unique challenges posed by a hospital environment and a tight program required exceptional planning and execution,” said Steve. “The whole team pulled off a remarkable project, delivering results that exceeded expectations.”

Paint Machine specialises in a range of services, including venetian plastering, lime-wash paints, and protective coatings for steel. Their expertise in these areas, along with their dedication to quality and customer satisfaction, has earned them a reputation for excellence in the industry.

As a family business, Paint Machine takes pride in its close-knit team, consisting of Chris, Anthony, Daniel, George, Sahil and Steve. Despite scaling back from 15 to 7 team members, they continue to take on challenging projects across South Australia, including government jobs, High Schools, custom homes, and institutions like Adelaide University.

For more information contact Paint Machine, phone 0412 112 663, email office@paintmachine.com.au



Below Schneider Electric installed their IoT-enabled EcoStruxure platform, ensuring efficiency, sustainability, and innovation for the hospital.



Schneider Electric played a key role in realizing SA Health's ambitious vision for the cutting-edge redevelopment of The Queen Elizabeth Hospital by installing their IoT-enabled EcoStruxure for Healthcare platform.

The EcoStruxure for Healthcare platform is an innovative facility management tool that combines the Building Management System (BMS) and the Energy Monitoring System (EMS) into one digital platform. It seamlessly connects to existing campus infrastructures and integrates various facility systems such as HVAC, metering, electrical, hydraulics, lighting control, fire safety, and medical gas systems. This comprehensive integration enhances building performance and resilience, significantly improves operational efficiency, and promotes smart energy management. As a result, the platform optimises resource use, reduces costs, and contributes to a safer, more reliable, and environmentally friendly healthcare environment.

Schneider Electric also supplied a range of essential products through the electrical contractor, which adhered to the company's rigorous Green Premium product label standards. This ensured compliance with the strictest environmental regulations and underscored the company's commitment to transparency in environmental disclosures

and end-of-life instructions. By providing these environmentally conscious products Schneider Electric played a vital role in supporting SA Health's sustainability objectives for the project.

With a proven track record in delivering large-scale, fully integrated solutions—including the Australian Bragg Centre, Lyell McEwin Hospital Expansion, and Festival Tower 1, which were executed concurrently with the clinical services project—the team showcased their expertise in project delivery. Their specialist approach was bolstered by the use of their innovative digital delivery platform, IMPACT. This secure platform provided live updates on installation and commissioning status, facilitated issues tracking, and offered convenient consolidation of current drawings, points lists, and datasheets for all trades.

As a result, Schneider Electric's EcoStruxure solutions, coupled with their expert team and digital platforms, significantly contributed to the successful completion of this transformative healthcare project. Their commitment to innovation, sustainability, and project delivery excellence was pivotal in delivering a state-of-the-art, all-electric facility.

For more information contact Schneider Electric Australia, phone 13 73 28, website www.se.com/au/en/