



# ART INSIDE & OUT

CLIENT : Infrastructure NSW  
 MAIN CONSTRUCTION COMPANY : Richard Crookes Constructions  
 DESIGN ARCHITECT : SANAA  
 EXECUTIVE ARCHITECT : Architectus  
 CONSTRUCTION VALUE : \$344 million  
 TYPE : Arts & Culture

Images this page: Sydney Site Photography

The Sydney Modern Project is the most significant cultural development in the city since the opening of the Sydney Opera House and comprises the transformation of the Art Gallery of NSW into a two-building art museum. The project includes a new building with covered entry plaza, exhibition spaces, and roof terraces.

**The transformation of the Art Gallery of New South Wales is a once-in-a-generation project that almost doubles the space for the display and enjoyment of art.**

Richard Crookes Constructions (RCC) was contracted to deliver the \$344 million design and construction of the Sydney Modern Project, one of their most significant projects to date.

“The building is formed by a series of pavilions, and is suspended over one of the city’s busiest freeways,” said Project Director, Phil Irving. “Designed by Pritzker Prize-winning architects SANAA, partnering with local practice Architectus, the focus was on complementing the location.”

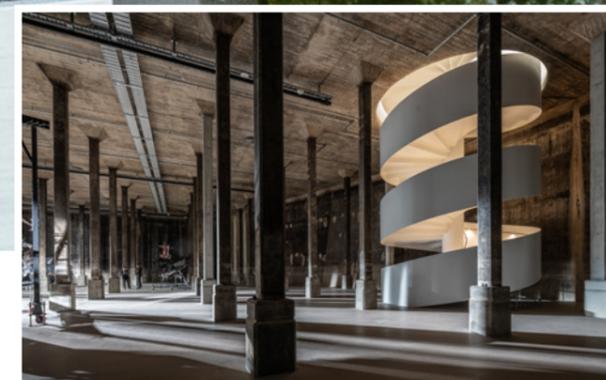
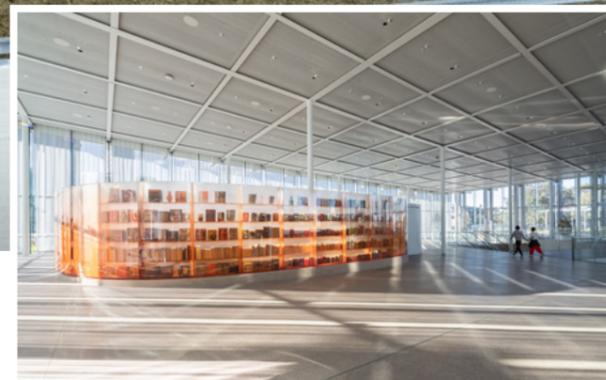
The project scope included a new stand-alone building north of the existing gallery, partly extending over the Eastern Distributor land bridge, and the conversion of disused World War II naval oil

tanks located to the north east of this land bridge. The covered entry plaza, galleries, and roof terraces create engaging spaces for visitors and the associated site works, loading and service areas, and services infrastructure, assists in the smooth running of the gallery.

An already complex project with a bespoke design and construction approach, RCC worked collaboratively to deliver on the ambitious vision, remaining agile in the face of the challenges arising from the pandemic and record rainfall during construction. “Throughout, we continued to execute innovative construction methods to deliver an iconic, state-of-the-art public building for the community,” said Phil.

The new exhibition space is an expression of the city’s deep love of the arts, and is the most significant cultural development in the city since the opening of the Sydney Opera House nearly half a century ago.

In line with the Sydney Modern Project’s 6-Star Green Star design



rating, over 8,000m<sup>2</sup> of green roof and landscaped areas planted with Australian native species, and 735 solar panels have been installed, with the panels covering nearly 1,500m<sup>2</sup> of roof top space.

“RCC enjoyed the challenge in the repurposing of the two existing disused World War II naval oil tanks,” said Phil. “This resulted in a new unique art space in the southern tank, while the northern tank structure has been partially retained for the adjacent back of house area and loading dock servicing the new building.”

“It is an honour to have partnered with Infrastructure NSW, the Art Gallery of NSW and the local community to deliver this exceptional project,” said Phil. “We look forward to celebrating this project, and all it offers to the city of Sydney, the arts community and visitors from Australia and around the world for many years to come.”

Richard Crookes Constructions is an Australian, family-owned construction company delivering future focused social infrastructure

since 1976. As a people business, RCC’s ability to deliver certainty to their clients is something they are proud of.

“We believe a truly collaborative project journey and aligned partnership objectives deliver the best project outcomes, every time,” said Managing Director Jamie Crookes. “By maintaining a flat business structure with visible leadership, we ensure projects remain agile and decisions are made quickly.”

Employing approximately 850 people, RCC is operational throughout New South Wales, Queensland and Australian Capital Territory.

**For more information contact Richard Crookes Constructions, Level 3, 4 Broadcast Way, Artarmon NSW 2064, phone 02 9902 4700, email [reception@richardcrookes.com.au](mailto:reception@richardcrookes.com.au), website [www.richardcrookes.com.au](http://www.richardcrookes.com.au)**



## AUTOMATIC DOORS ARTFULLY ENGINEERED

TORMAX has been setting standards in door automation for decades, from sliding doors, swing doors, revolving doors and folding doors. It made them the easy choice for supply and installation of 21 swing doors for the Sydney Modern Project.

TORMAX swing door drives are developed and designed in Switzerland, and comply with all relevant standards. They form the core of each automatic swing door, providing powerful and dynamic door movements, running quietly, smoothly and with maximum safety for the user.

“The main product we installed was the TORMAX iMotion® 1401 series inground operator swing door,” said State Manager, Shane Cavanagh. “This powerful under-floor door drive was specially developed for architectural designs which place extraordinary demands both on aesthetics and functionality.”

Each door drive can carry in excess of 400kg and can be used to automate both single and double leaf doors. Some of the advantages

of the iMotion® 1401 is unlimited choice of door shapes and materials, the stable behaviour under wind loading and unrestricted manual operation in the event of a power failure.

The iMotion Generation intelligent micro-processor control system ensures permanent monitoring of door leaf movements and wear-free AC synchronous motor with permanent magnets: performance and long life. The drive is also the lower door bearing.

“We also installed two iMotion® 1301 concealed overhead swing door operators,” said Shane.

The iMotion® 1301 impresses users with its excellent performance – and operators with its long life. Its compact case contains a wear-free synchronous motor which meets the highest quality standards. The modern swing door drive is silent and energy-efficient in operation.

The 1301.S version proves its worth with greater door weights and strong wind loads. It is ideal for internal and external doors in

public and private buildings and easily installed during conversions, renovations and in new buildings.

The doors provide silent opening of small and large pedestrian passageways with a high traffic volume and is tried and tested for fire and fume protection.

Annual service is recommended for all automatic door systems to ensure that a door system will work without interruption throughout its life-cycle. Dirt, temperature variations or other environmental influences can affect the operational safety of automatic door systems. A maintenance contract will ensure TORMAX door systems ongoing operation for an exceptionally long time.

TORMAX has been operating since 1982 and is committed to providing exceptional service with highly qualified technical advisers and service technicians.

The company’s Head Office is in Melbourne, with branches in Adelaide, Brisbane, Canberra, Hobart, Launceston and Sydney supported by a network of distributors across Australia and New Zealand.

TORMAX installed Europe’s first automatic door in 1951, and today TORMAX are a leading manufacturer of automatic door systems worldwide with 25 Group companies and 500+ distributors.

TORMAX automatic door systems are found in office buildings, shopping malls, hotels and restaurants, department stores, airports and train stations, on ships and in apartment buildings – in short, in hundreds of thousands of buildings around the world.

TORMAX is a division of the LANDERT Group, a privately owned Group of companies, characterised by innovation, quality and genuine entrepreneurship. The LANDERT Group was founded in 1924 with its Headquarters in Bulach near Zurich, Switzerland, and employs over 1000 staff members across its two divisions SERVAX and TORMAX.

For more information contact TORMAX, phone 1800 60 8000, email info@tormax.com.au, website www.tormax.com.au



## HIDDEN HORIZONTAL SLIDING FIRE DOOR

Won-Door were tasked with supplying and installing a bespoke fire separation solution for the Tank, a repurposed World War II bunker at Sydney Modern. The Won-Door team worked closely with Arup to retain Sydney Modern Project's architectural vision, with the specification of a concealed, motorised horizontal sliding fire door.

Alistair Morrison, Principal & Australasian Service Lead – Fire Engineering, Arup comments on the project's fire safety design and the specification of the Won-Door;

“The fire safety challenges included large population numbers, flexibility of use and fuel loads, interconnected spaces, and the sustainability challenge of adapting existing structure and minimising mechanical demand.

“The Arup Fire Safety Engineers responded to the unique design characteristics by radically reducing the need for fire stairs and removed all smoke exhaust in the building. Arup were able to demonstrate safe conditions for egress, by using the sloping site to provide direct exit to outside at most levels and detailed analysis of multiple uses to demonstrate design resilience.



“The unique challenge of the Tank gallery meant considerable egress capacity was required using the 4m wide accessible entry opening in the tank wall that also formed part of the fire and smoke compartmentation strategy.

“To do this Arup needed to maintain the architectural vision of retaining the opening as a beacon for patrons within the darkened atmosphere, which meant conventional doors and

frames would have a negative aesthetic even with hold open devices. The design team therefore reached out to Won-Door to help achieve the need for fire and smoke performance, combined with a resilient re-opening and closing function and intuitive signage and functionality, whilst being hidden from day-to-day view.

“Testing reports and close design collaboration meant that evidence was available to demonstrate the performance objectives could be achieved and the team were able to make a well-informed decision about the best design solution. This led to the adoption and successful commissioning of the Won-Door system,” concludes Alistair.

Nick Askelund, Director of Won-Door Australia says that “when specifying Won-Door it's not what you see that is important, it's what you don't see”. The door assembly is completely top hung with no floor tracks or exposed hardware, providing clean and unimpeded sightlines. A truly hidden and concealed solution that is only seen when deploying under alarm activation.

Won-Door FireGuard is manufactured in the US by Won-Door Corporation, who pioneered the world's first ever horizontal sliding fire partition back in the 1970's. Today Won-Door Corporation are the world's largest manufacturer of accordion folding partitions and the world leader in design, innovation, and reliability when it comes to sliding fire doors.

Won-Door AU/NZ was established in 1987 and are the licensee for Won-Door products in the South Pacific. Notable installations include Lion Nathan Homebush Offices, Waggawagga Base Hospital, Broadway Ultimo Shopping Centre, #1 Castlereagh Street, Commercial Bay/PWC Tower, Massey University, Victoria University of Wellington, Lyttleton Port, Statistics NZ offices, & Porsche Christchurch.

*For more information contact Won-Door Australia, phone 1800 682 965, email [nick@won-door.com.au](mailto:nick@won-door.com.au), website [www.won-door.com.au](http://www.won-door.com.au)*

## VERTICAL TRAVEL IS ITS OWN ARTFORM

Specialised lifting equipment manufacturer Southwell Lifts & Hoists designed, manufactured and installed a custom triple scissor 9 ton capacity art hoist with a huge 19m<sup>2</sup> platform for the Sydney Modern Project.

“The walls on the hoist are 5m high, which posed quite a challenge in the design and installation. Due to the size and complexity of the project most of our 23 strong workshop team were involved as well as our design engineers, multiple draftsmen, factory manager, project manager and installations team,” said Director, Hamish McGregor.



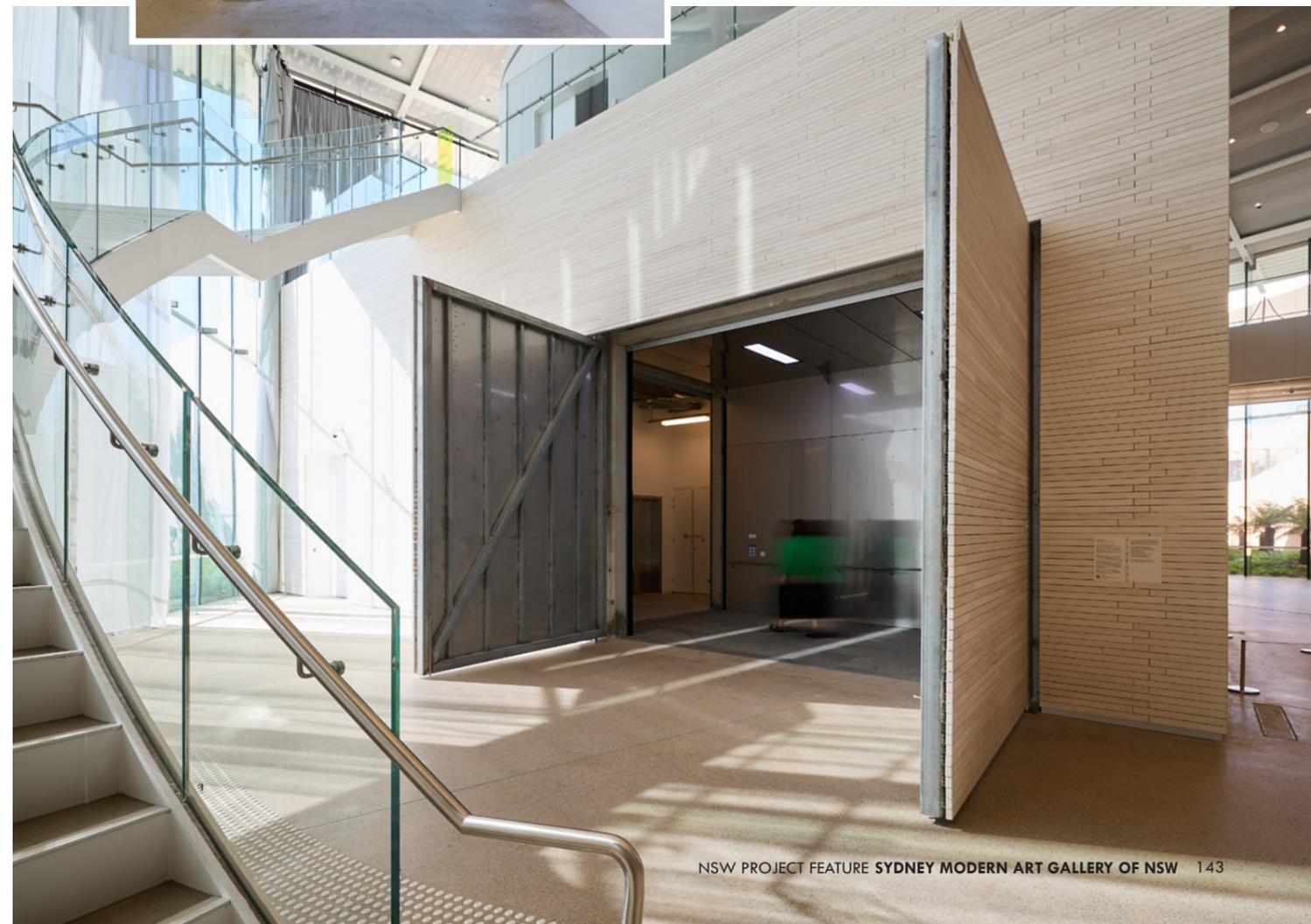
Southwell Lifts & Hoists is well known for large specialist lifting applications, including large industrial scissor mechanisms on a production line at James Hardie and a 20 ton truck lift in the Melbourne Art Gallery that has been operating for 45 years.

“We manufacture a lot of goods lifts for the self storage industry, as well as large retailers and car lifts for the residential and commercial market,” said Hamish. “We were the first to design and install a car lift with integrated turntable in Australia and we are now working on our fourth of this design.”

Southwell Engineering was established in 1945 and in the early days before getting into engineering, Southwell mined and supplied the sand for the Sydney Harbour Bridge. All products are designed and manufactured inhouse at their factories in Camden and Smeaton Grange New South Wales. Their niche market is in the custom design, fabrication and installation of lifts and hoists, as well as ground support equipment for the airline industry.

“What makes us unique is our combined specialty in mechanical and electrical engineering, nearly 80 years of manufacturing experience, the quality of our service technicians and the expertise of our sales team to properly interact with our customers,” said Hamish. “We install and service across Australia and New Zealand.”

*For more information contact Southwell Lifts & Hoists, 36 Edward Street, Camden NSW 2570, phone 02 4655 7007, email [sales@southwell.com.au](mailto:sales@southwell.com.au) website [www.southwell.com.au](http://www.southwell.com.au)*





Images this page: Sydney Site Photography



## IN TOTAL CONTROL

**D&E Air Conditioning are unique in their delivery approach to air conditioning and mechanical services, making them the perfect choice to design, supply and install the air conditioning and mechanical services for Sydney Modern.**

“There was a lot of planning that went into the development of the design,” said General Manager, Rob Barkley. “But the result ensured high quality serviceability and in many instances, a significant saving in time within the overall construction program for Richard Crookes.”

D&E supplied and installed air conditioning to all eight galleries as well as back of house and administration areas. The central plant system, consisted of three equal sized water-cooled high efficiency chillers, and two gas-fired condensing boilers.

D&E provided an innovative solution to install four cooling towers of sufficient capacity to serve both the existing and new Galleries. The solution overcame spacial problems in the new Gallery and a capital upgrade cost for the existing Gallery.

“Six of the galleries are critically controlled with close temperature and humidity control to international standards,” said Rob. These

galleries are serviced by 11 air-handling units incorporating ultra-sonic humidifiers which are served with a reverse osmosis water system. A combination of air-handling units and strategically placed fan coil units serve gallery eight, multipurpose and administration areas.

“Due to the nature of the building design we had to overcome spacial issues in the plant room by double stacking air handling units and fans in a manner that enabled ongoing access for necessary maintenance. Prefabrication was extensively used to provide onsite efficiencies for duct, pipe and equipment modules.

D&E’s growth in Sydney has been attributed to the energy and enthusiasm of its employees. Today D&E have more than 600 employees within their Melbourne, Geelong, Sydney, Perth, Brisbane and Adelaide locations.

*For more information contact D&E Air Conditioning, Level 5, 113 Wicks Road Macquarie Park NSW, 2113, phone 02 8047 4610, email mail@de-air.com.au, website www.de-air.com.au*