

RICKARD
ENGINEERING

FEATURE BROCHURE

THEMING



ABOUT US

Rickard Engineering is one of Australia's most sought-after engineering firms having built a solid reputation through delivering quality, trust and innovation.

Rickard Engineering is renowned for its expertise in structural and façade engineering, particularly Glass Reinforced Concrete (GRC) and curtain wall. Based in Sydney, Australia and with offices in Melbourne, Dubai, Denver, Shanghai, and Ho Chi Minh, Rickard Engineering manages engineering projects across the globe with major works in the UK, the Middle East, India, Singapore and the US.

Led by Founder and Managing Director **Charles Rickard**, our team is supported by three Directors, two Senior Associates, and two Associates who lead projects across the practice. Working closely with engineers, drafters, and interns, our leadership team fosters a collaborative environment where knowledge, mentorship, and practical industry experience are shared across all levels of the team.

Our promise is to provide a best-practice approach to your project with hands-on senior staff, utilising leading-edge design technology that is on time and on budget.



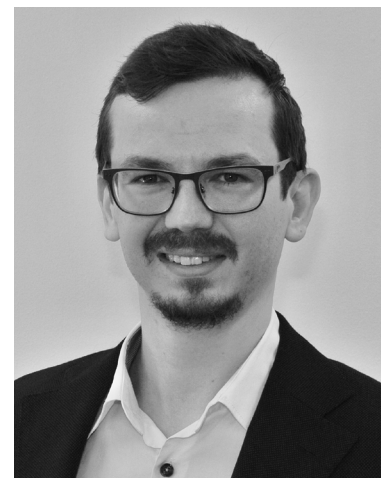
Charles Rickard
Managing Director



Amir Naderi
Director



Noman Ali
Director



Szymon Fajak
Director

INTRODUCTION TO THEMING

Theming is a multidisciplinary sector dedicated to creating immersive environments and memorable visitor experiences. It is applied projects across theme parks, zoos and aquariums, museums, resorts, visitor attractions, entertainment venues, cultural institutions, and public realm developments.

Rickard Engineering provides structural and façade engineering for themed environments, visitor attractions, and bespoke architectural features.

Our experience includes engineered support systems for GRC and GRP features, artificial rockwork, sculptural elements, landmark structures, and adventure facilities. We develop practical engineering solutions that consider fabrication methods, installation requirements, and long term structural performance while preserving the architectural intent of each project.

AREAS OF EXPERTISE

Our expertise includes:



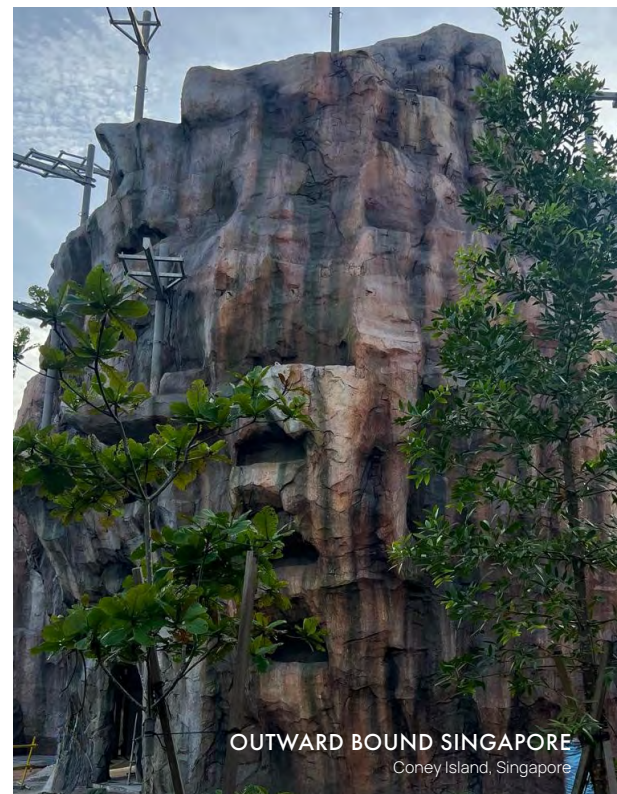
Landmark Structures



Adventure & Leisure Facilities



Sculptural & Architectural Features



FEATURED WORKS

LANDMARK STRUCTURES

Engineering iconic structures that become recognisable destinations. We provide structural design for large scale sculptures, roadside landmarks, visitor attractions, and architectural features.

SENTOSA MERLION

Sentosa Island, Singapore | 1993

The Sentosa Merlion was a 37-metre-high landmark and one of Singapore's most recognisable tourist attractions. The iconic structure housed multiple internal floors, two lifts, exhibition spaces, and an observation deck within the Merlion's head, combining architectural expression with a fully functional public building.

Rickard Engineering provided the full structural design for the project, including the structural steel framework and GRC façade. The project showcased innovative free-form GRC engineering, delivering a durable and complex structure that became an enduring icon of Sentosa for more than two decades.

CLIENT

Singapore Government

CONTRACTOR

Caravelle Construction
& Development

ARCHITECT

Architects Vista



BIG OYSTER

Taree, NSW, Australia | 1987

The Big Oyster was developed as a landmark tourist attraction for L.A. Developments to support the adjacent service station and restaurant. Designed to resemble an oyster shell emerging from the seabed, the structure combines innovative engineering with sculptural architectural form, creating an iconic roadside destination.

Rickard Engineering provided the structural design for the project, developing a steel framework to achieve the complex free-form geometry. GRC was spray-applied onto steel mesh fixed to flexible steel anchors welded to the structural frame.

CLIENT

L.A. Developments

CONTRACTOR

Glenn Industries



BIG PRAWN

Ballina, NSW, Australia | 1987

The Big Prawn is one of Australia's iconic roadside landmarks, designed to replicate the form of a King Prawn at monumental scale.

Rickard Engineering developed the structural design using cross-sectional profiles obtained from a dissected King Prawn to recreate its shape accurately. A steel framework formed the primary structure, with internal access stairs incorporated into the tail, roof level, and viewing area within the prawn's eyes.

CLIENT

L.A. Developments

CONTRACTOR

Glenn Industries

ARCHITECT

Hosking Munro



BIG MERINO

Goulburn, NSW, Australia | 1984

The Big Merino is one of Australia's iconic "Big Things", constructed in 1984 to celebrate Goulburn's rich wool industry and its significance to the surrounding region. Standing 15.2 metres high and 18 metres long, the three-storey concrete and steel structure has become a landmark tourist attraction and a symbol of the city's agricultural heritage.

Charles Rickard was responsible for the creation of the Big Merino, delivering the structural engineering required to realise its distinctive free-form shape.

CLIENT

Attila and Louis Mokany

CONTRACTOR

Glenn Industries



ADVENTURE & LEISURE FACILITIES

Creating engaging visitor attractions through practical engineering solutions. Our experience includes adventure facilities, leisure developments, and bespoke entertainment destinations.

OUTWARD BOUND SINGAPORE

Coney Island, Singapore | 2026

Rickard Engineering collaborated with Pico Play Pty Ltd to deliver structural concept design, engineering calculations for approval, and detailed design development for GRC cliff wall, cave and cliff jump structures at the Outward Bound Singapore – Coney Campus.

The works involved the design of complex GRC rockwork elements forming part of the outdoor adventure facilities, achieving both structural performance and the intended natural rock-like architectural form.

CLIENT

Pico Play

CONTRACTOR

National Youth Council (NYC),
Ministry of Education (MOE)

ARCHITECT

Ramboll



MANDAI WILDLIFE RESERVE

Mandai, Singapore | 2023

Rickard Engineering provided structural engineering for key attractions within **Bird Paradise** and **Singapore Zoo** at Mandai Wildlife Reserve. Our scope included the Penguin Tanks, Climbing Wall, and the iconic Waterfall complex,

The penguin tanks were designed to withstand water pressures of up to 80 kPa, meeting the project's performance and safety requirements. As part of one of Singapore's largest wildlife developments, Mandai Wildlife Reserve brings together five zoological parks into a single destination, creating immersive wildlife experiences that enhance the visitor experience while promoting conservation and education.

CLIENT

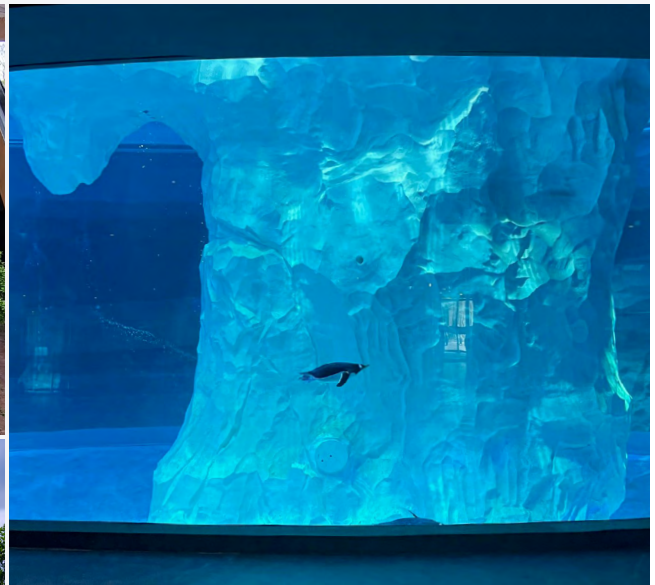
Pico Play

CONTRACTOR

Obayashi Singapore

ARCHITECT

RSP Singapore



JW MARRIOTT GOLD COAST RESORT & SPA

Gold Coast, QLD, Australia | 2020

Rickard Engineering provided structural engineering for GRP feature elements at the JW Marriott Gold Coast Resort & Spa. The design was developed to suit the demanding coastal wet dry environment, integrating structural performance, constructability, and architectural intent to deliver durable and visually distinctive resort features.

CLIENT

Pico Play

CONTRACTOR

Pico Play

ARCHITECT

DBI Design



SCULPTURAL & ARCHITECTURAL FEATURES

Supporting complex forms through practical structural engineering. Our expertise includes bespoke sculptures, artistic installations, exhibition features, and free-form architectural elements.

CONCRETE CORAL

Miami Beach, Florida, United States | 2025

Rickard Engineering provided structural engineering design for Concrete Coral, the first installation of the REEFLINE underwater sculpture park located off the coast of Miami Beach.

The project features a 14-tonne concrete car engineered for stability, durability and long-term performance in a marine environment. Designed to support coral growth and marine habitats, the installation combines structural engineering with environmental restoration and public art.

CLIENT

Alberto Latorre Architecture

CONTRACTOR

REEFLINE

ARCHITECT

Alberto Latorre Architecture



MONUMENT PARK

Melbourne, VIC, Australia | 2014

Monument Park forms part of MAB Corporation's redevelopment of Melbourne Docklands. Artist Callum Morton individually covered Melbourne's major monuments with fabric before creating 3D digital models of their transformed forms, which became the basis for the sculptural installation.

Rickard Engineering developed the structural engineering design for the GRC monuments, supporting their fabrication and installation.

CLIENT

GRC Environments,
MAB Corporation

CONTRACTOR

Baron Forge

ARCHITECT

McBride Charles Ryan Architects



BODY ZONE

London, England, United Kingdom | 2000

The Body Zone was one of the 13 themed zones within the Millennium Dome at Greenwich, created for the Year 2000 celebrations. The landmark sculpture, inspired by Henry Moore's work, takes the form of two reclining, interlocking abstract figures representing a man and a woman. Standing 27 metres high and extending 50 metres in length, the structure was designed to house interactive exhibits.

Rickard Engineering provided the structural engineering solution using GRC, enabling the sculpture's complex free form geometry. The exterior was finished with thousands of coloured tiles, creating a shimmering surface that enhanced its striking visual presence.

CLIENT

Olympic Authority UK

CONTRACTOR

Glenn Industries,
McAlpine Laing Joint Venture
(Sir Robert McAlpine + Laing O'Rourke)

ARCHITECT

Richard Rogers



CONTACT US

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AUGUST 2026

RICKARD

ENGINEERING

SYDNEY • LONDON • DUBAI • DENVER
MELBOURNE • CANBERRA • SHANGHAI

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