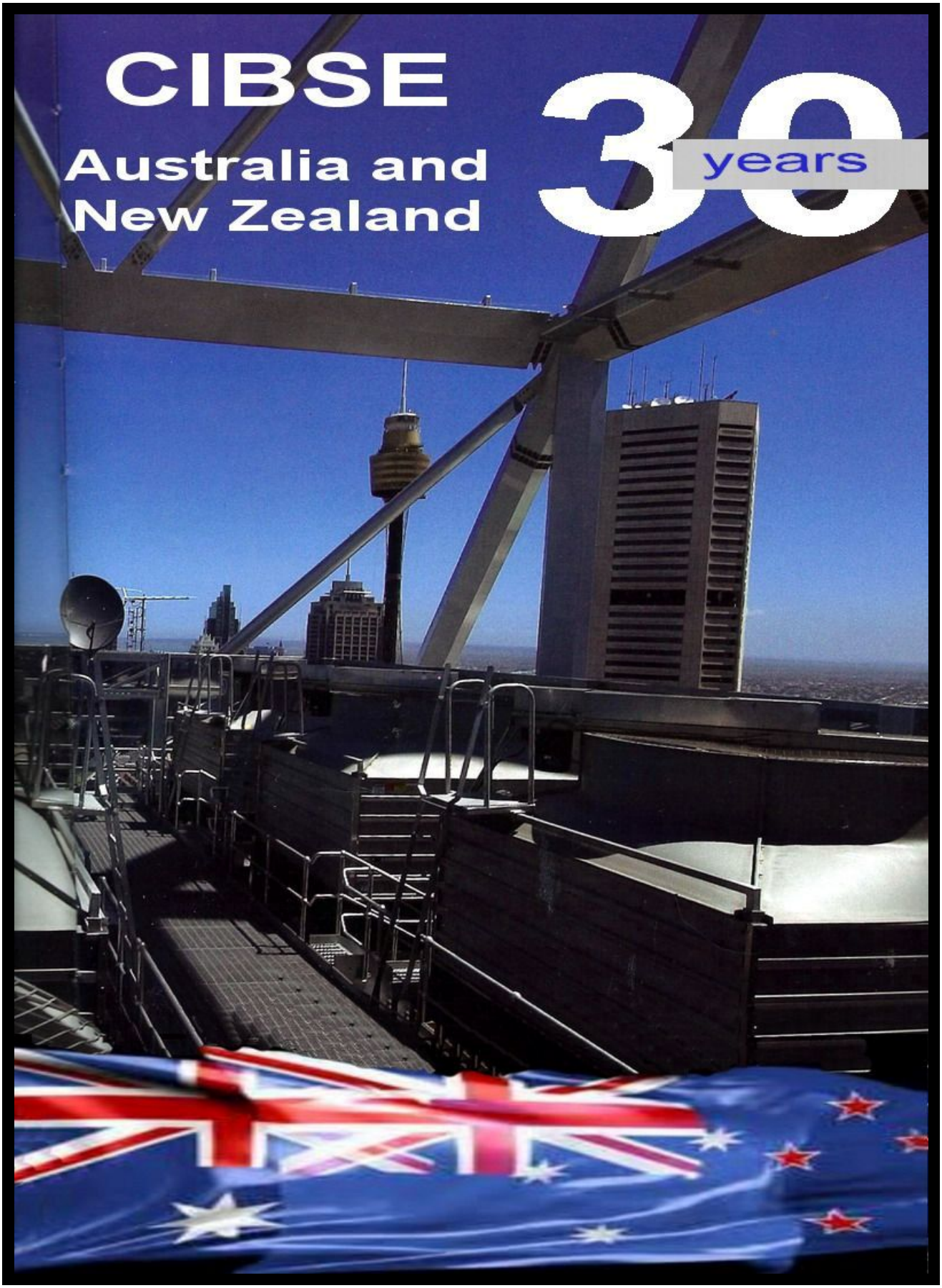
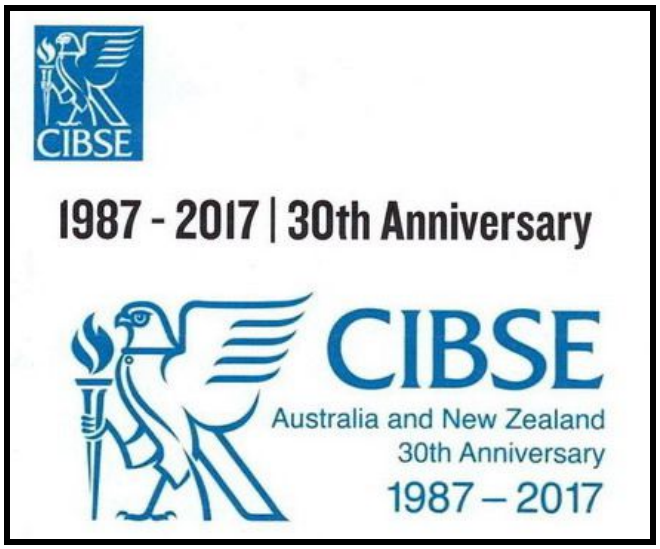

CIBSE
Australia and
New Zealand
30
years



The Australia and New Zealand Region of the Chartered Institution of Building Services Engineers was established in 1987, reaching its 30th Anniversary in 2017. The CIBSE Heritage Group has produced this electronic story recording the early history of building engineering services in Australia and New Zealand and its development in the 30 years of the CIBSE Region.

Front Cover: Deutsche Bank, Sydney, 2005 (Haden)
Back Cover: Acrylic Model of the Sydney Opera House, 1973

CIBSE
AUSTRALIA AND NEW ZEALAND

In 1987, there were some 200 members of CIBSE working in Australia, which led to the proposal to create an Australian CIBSE Region. It was believed that the Institution's Charter would be better served if the Region had a seat on Council, enhancing the recognition and professional standing of Building Services Engineers in Australia.

The first Committee of the Australian CIBSE Region was created in Sydney in May 1987 when John Tyerman was elected Chairman. State Chapters were created: New South Wales and Australia Capital Territory (ACT); Queensland; South Australia and Northern Territory (NT); Victoria; and Western Australia. The aims of the Committee included providing an active programme of technical meetings and seminars within the Chapters and encouraging networking among members.

In 1989, the 2nd CIBSE Australian Conference *Building for the 21st Century* was held in Sydney, and in 1991, CIBSE CEng was recognised as qualifying for membership of the Institute of Engineering Australia as Chartered Professional Engineer (CPEng).

In 1992, New Zealand was inaugurated as the 6th Chapter of the Australian CIBSE Region. That same year, the Region's membership had grown to 320, its continuing aim to raise the profile of building services engineering within the building industry and to foster links with other professional bodies. Diploma and Masters Courses in Building Services were established at the University of Sydney and Diploma Courses at the Victorian Institute of Technology. Co-operation was established with the Institutes of Engineering of Australia and of New Zealand. A further collaborative effort has resulted in the biannual Air Conditioning Refrigeration & Building Services Exhibition (ARBS) held with the Australian Institute of Refrigeration Air Conditioning & Heating (AIRAH).

As CIBSE ANZ reaches its 30th Anniversary, it continues to promote the art, science and practice of building services and the advancement of education and research.

The Chartered Institution of Building Services Engineers

Australia & New Zealand Region

CIBSE
Australia and New Zealand
25th Anniversary
1987 - 2012

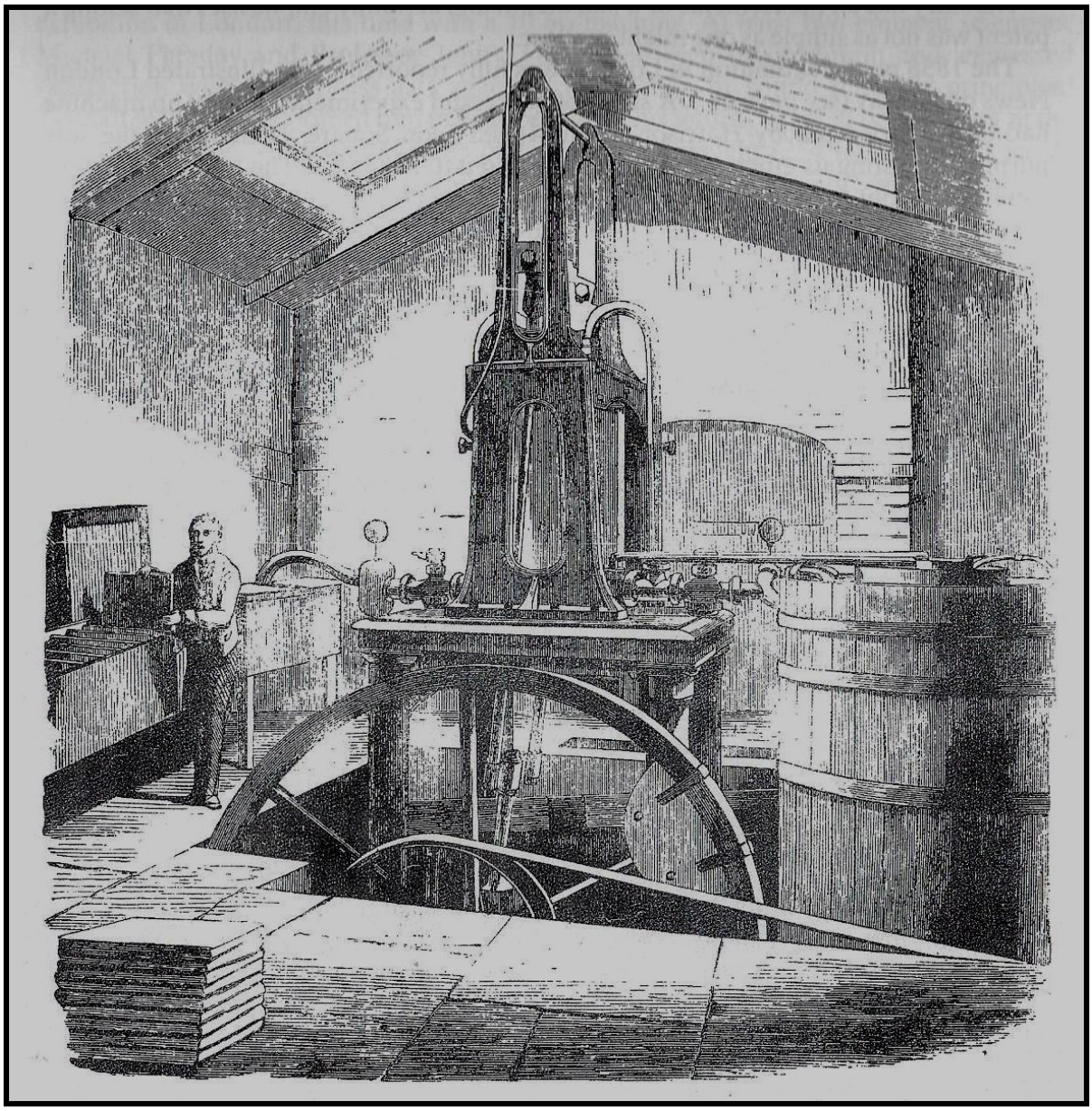
25th Anniversary Dinner

PARKROYAL
DARLING HARBOUR
SYDNEY

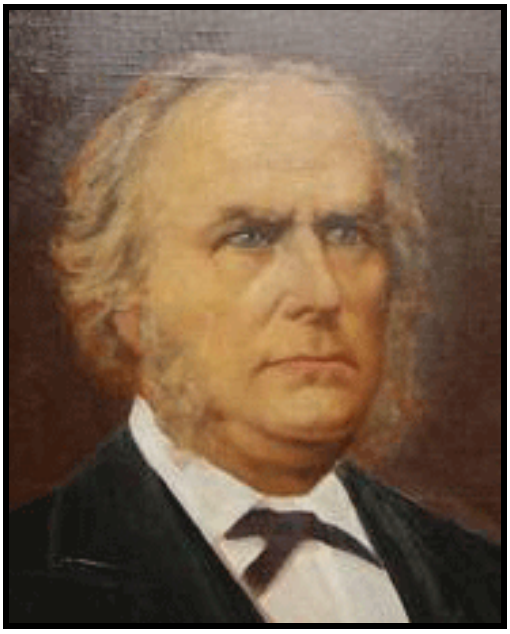
Friday, 8th June 2012

Chairman, Peter Kinsella FCIBSE

AUSTRALIAN REFRIGERATION PIONEERS

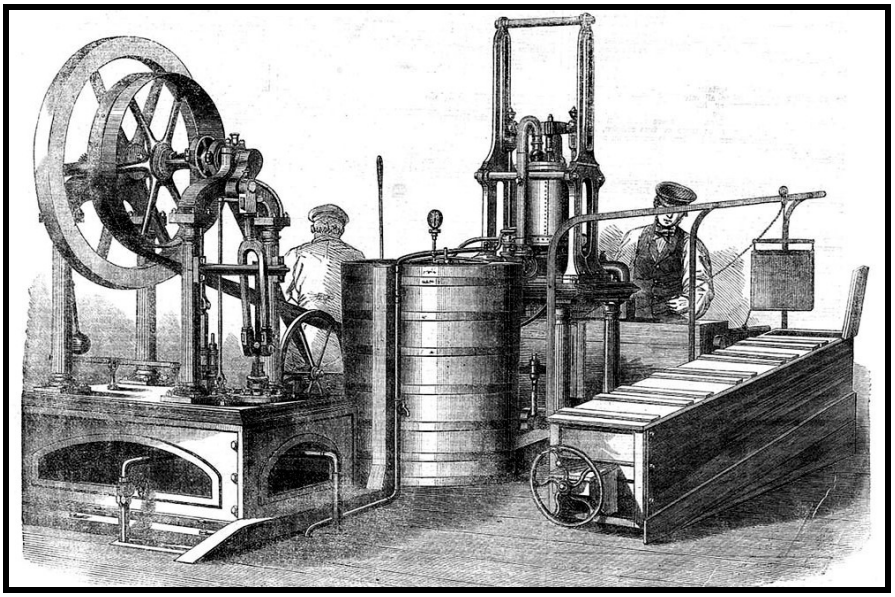


Harrison-Siebe 10 hp refrigerating machine on Public Exhibition,
4 Red Lion Square, London; *Illustrated London News*, 29th May, 1858



James Harrison 1816-1893

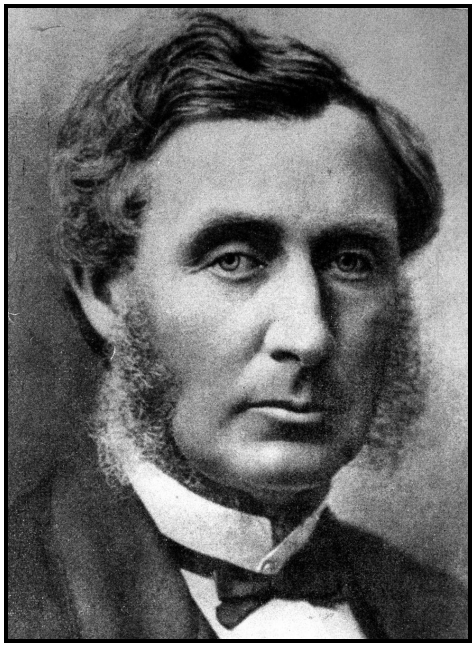
Harrison, a Scot, is considered by many to be the *Grandfather of Refrigeration*. He served a printing apprenticeship in London before moving to Sydney and setting up a printing press. He was here that while cleaning movable type, he noticed that the evaporating fluid (sulphuric ether) left the metal much colder. He built and experimented with a closed refrigerating system, securing Victoria Patent No. 25 in 1855, followed by British Patent 747 in 1856 and then BP 749. He developed a practical machine with the assistance of Siebe & Company. More significant was his partnership with P N Russell & Company "to bring patent ice to Sydney for the first time."



The Siebe-Harrison Ice-Making Machine of 1862

Gathering at Harrison's grave in 1956 to celebrate the Centenary of Refrigeration

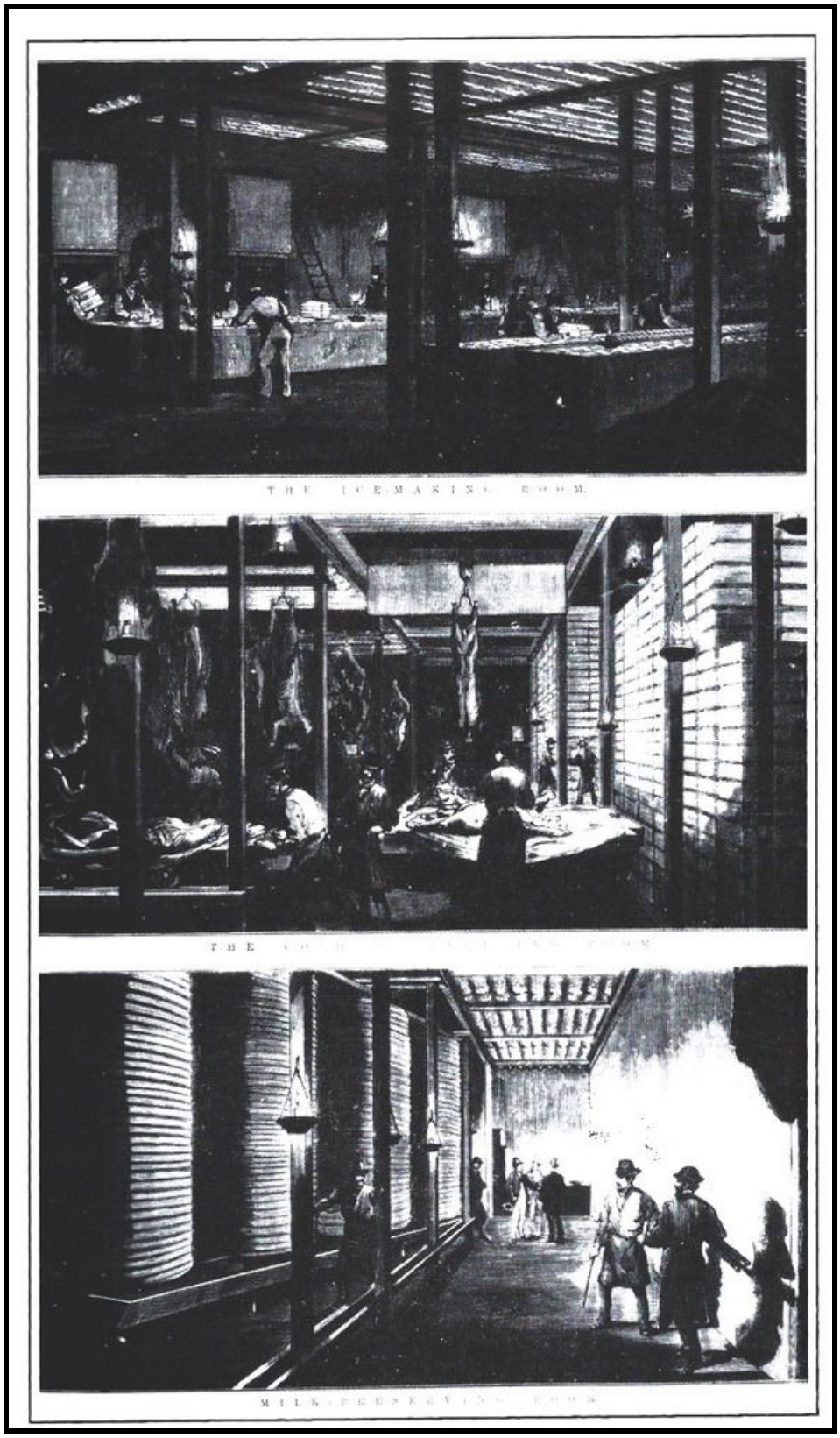
Plaque commemorating *The Centenary of Refrigeration*



Thomas Sutcliffe Mort, 1816-78

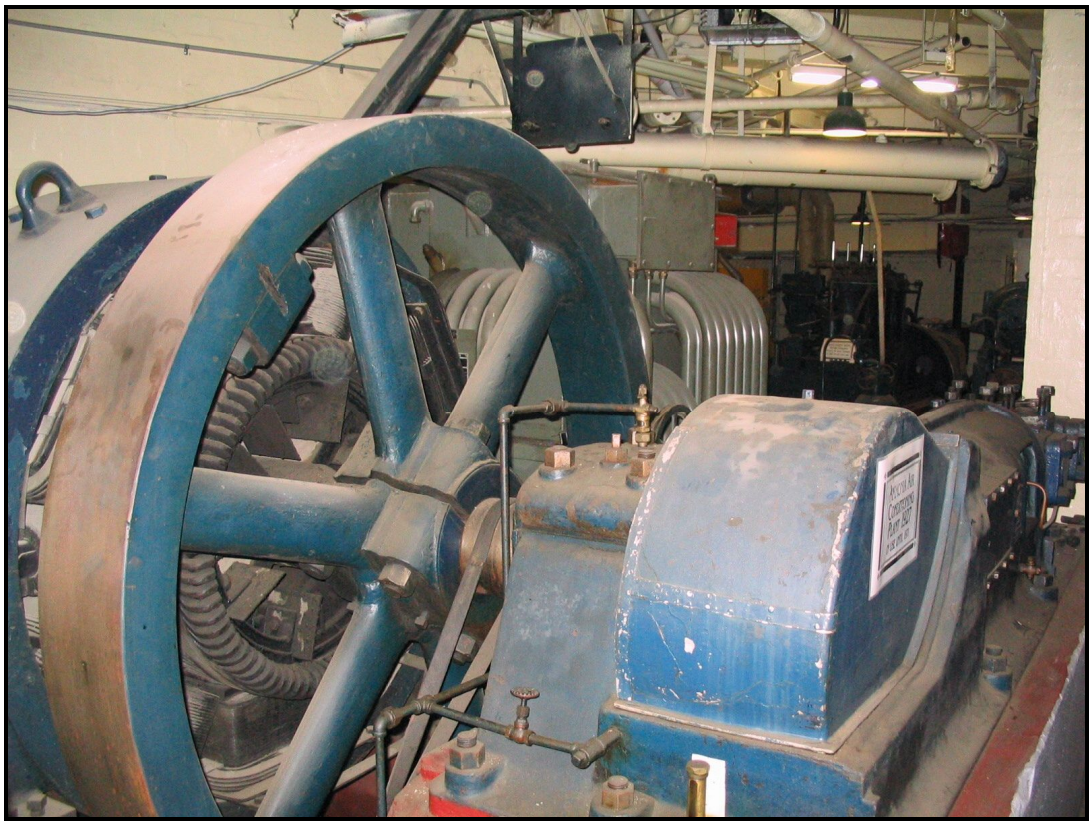
Mort was born in Lancashire, England, moving to Sydney in 1837 where he became the leading auctioneer, then a successful land speculator. He became extremely rich, building a dry dock and investing in farming and mining. He was an entrepreneur not an engineer, but he realised the enormous potential of refrigeration for the storage and transportation of meat, butter and milk, setting up the New South Wales Fresh Food & Ice Company in 1875. Upon his death, he was described as "the greatest benefactor the working classes in this country ever had."

Mort's Statue in Macquarie Place, Sydney



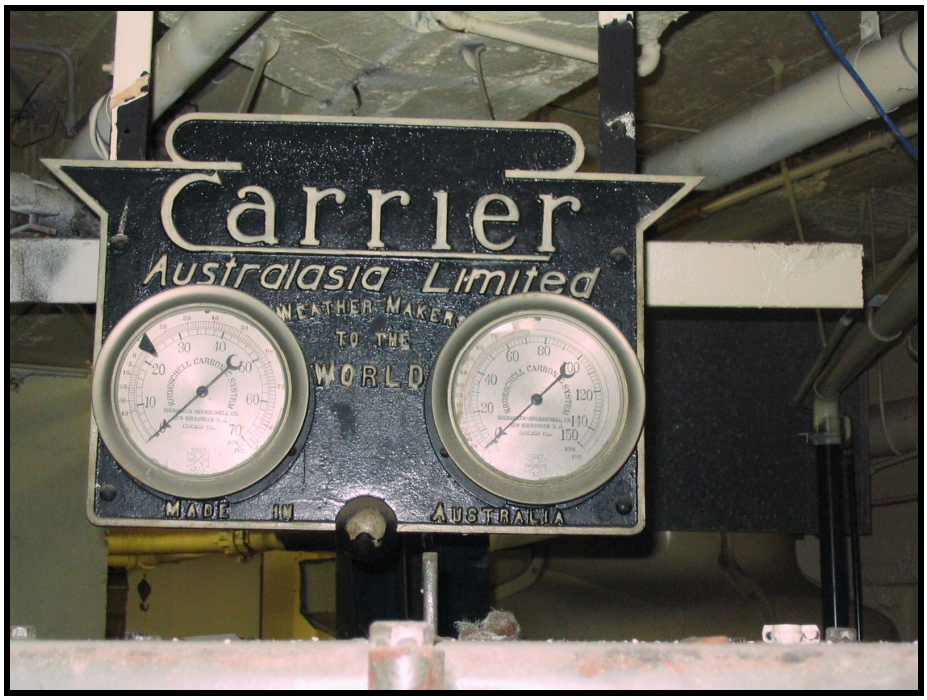
Mort's Freezing Works at Darling Harbour began operating in 1875
From the top: The Ice-Making Room, the Cold & Freezing Room, and the Milk Preserving Room (*Illustrated Sydney News*, 27 May, 1876)

EARLY BUILDING ENGINEERING SERVICES

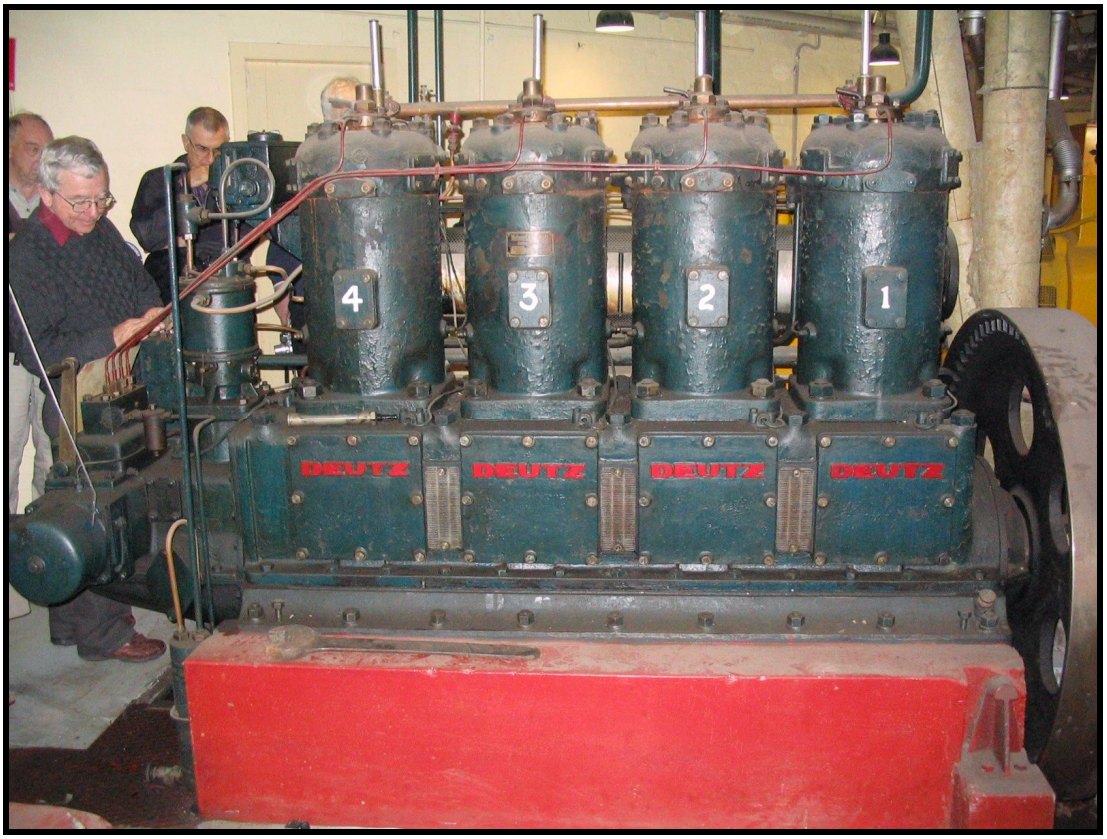


Flywheel of ammonia refrigerating plant, State Theatre, Sydney, 1927

THE STATE THEATRE, SYDNEY

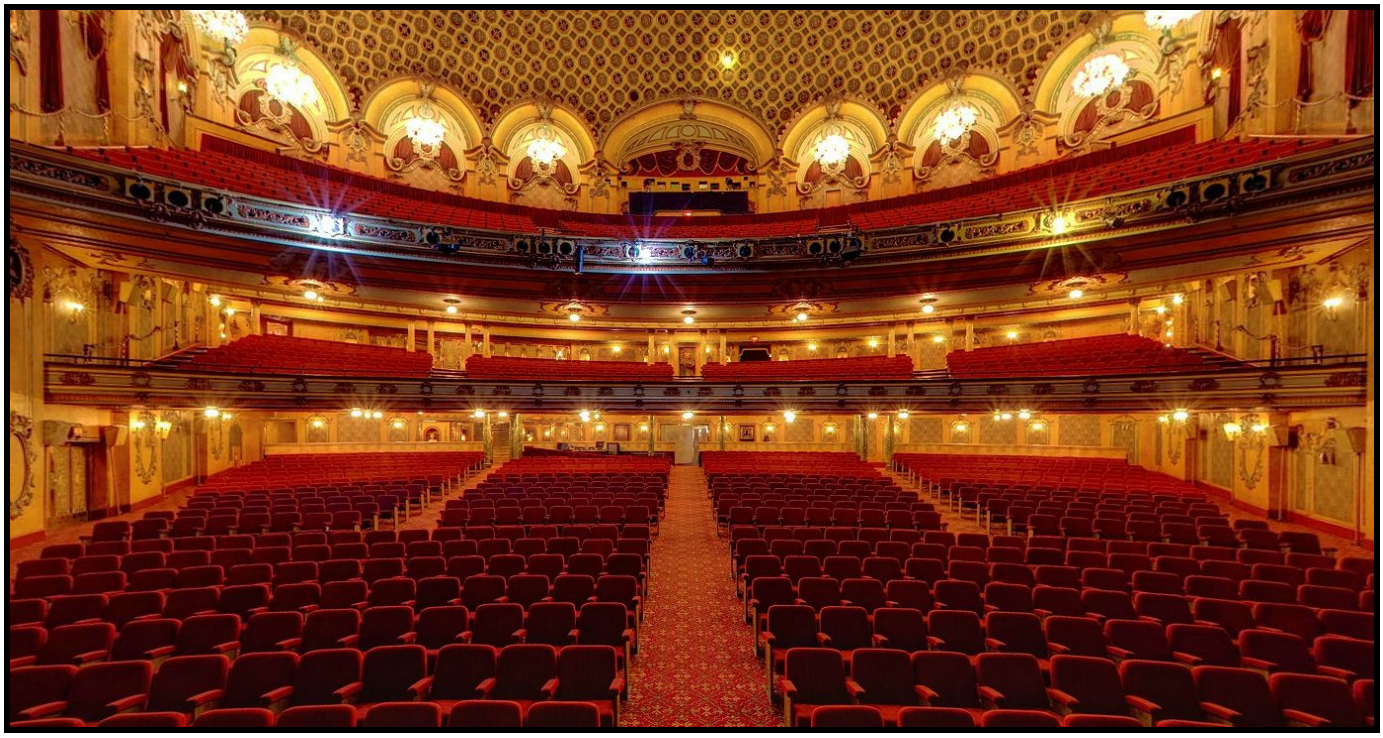


Ammonia refrigeration plant, 1927 (Carrier Australasia Ltd)



German submarine engine provided standby power

Foyer of the State Theatre



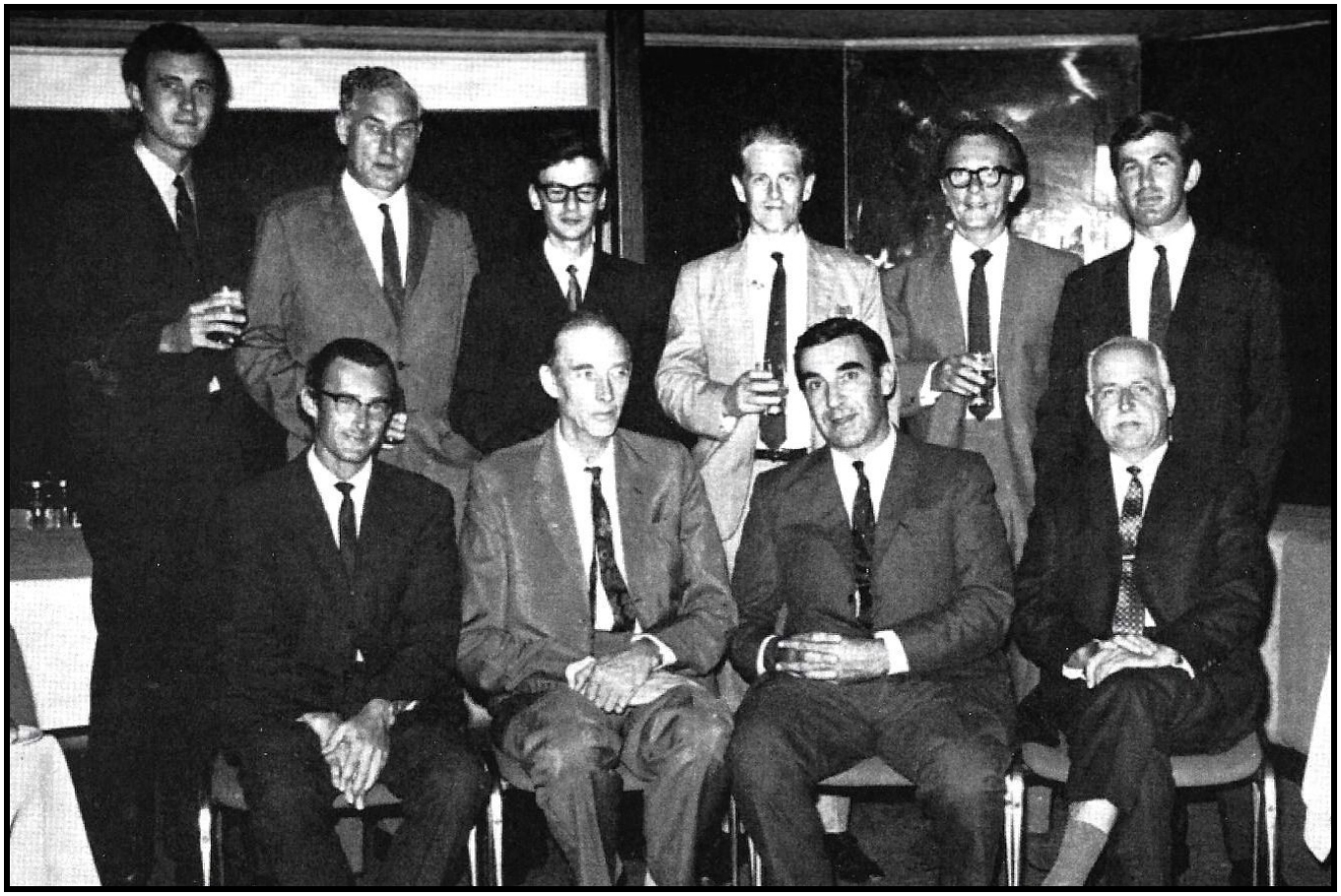
Auditorium of the State Theatre, air conditioned in 1927

SYDNEY OPERA HOUSE

The Opera House had 27 plant rooms, 80 miles of piping, 20 miles of ducting and a cooling capacity of 1500 TR refrigeration

The original heat pump air conditioning system using harbour water and 120 fans was designed by Steensen Varming and installed by Haden in 1957

BUILDING ENGINEERING SERVICES CONTRACTORS



Personnel of Haden UK, Haden Australia & Carrier Australia together in 1970

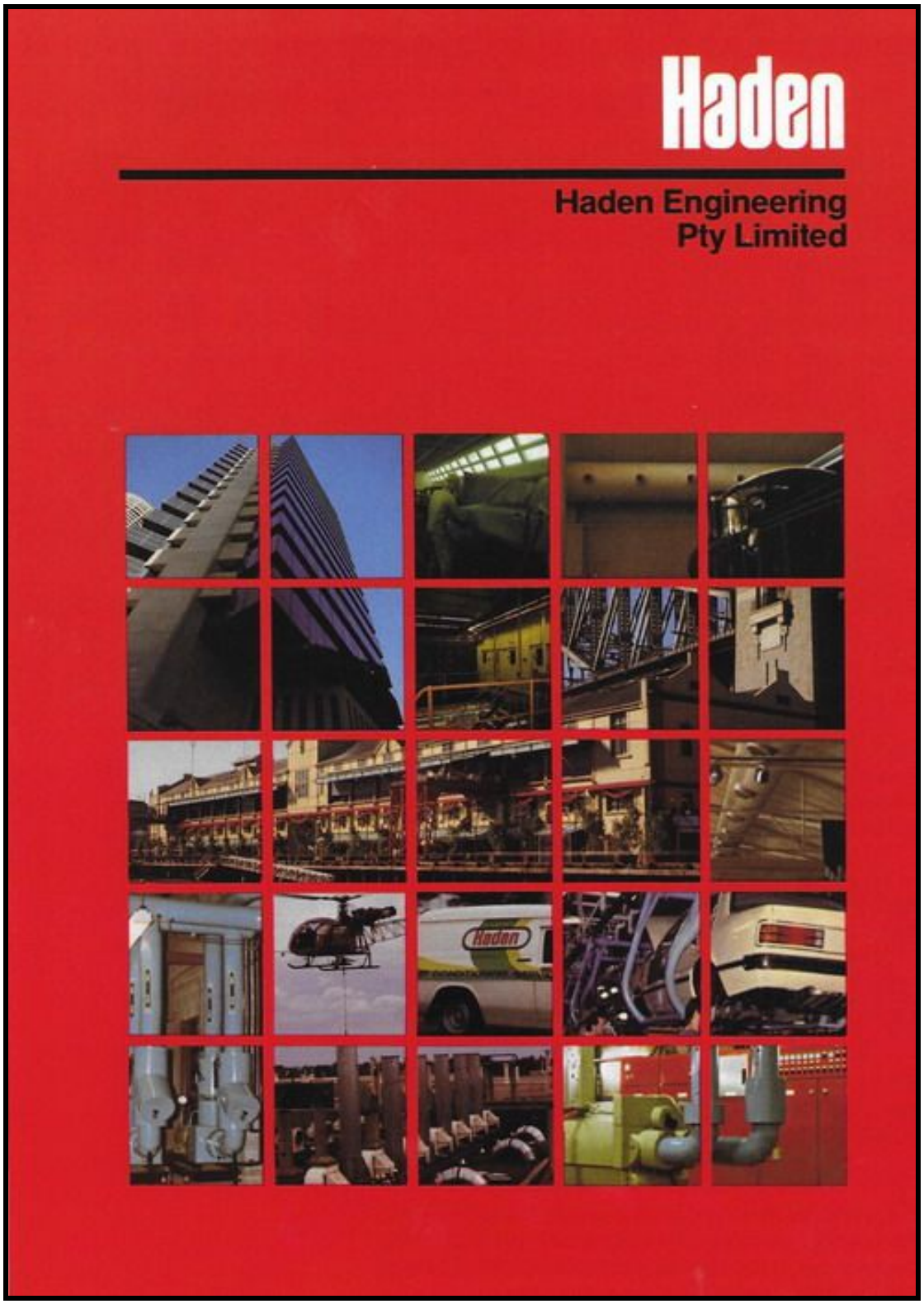
(Back row) David Napier, Ken Sartin, Eric Rossiter, Tony Keeling, Lance Haslam, Gerard Whittaker
(Front row) David Goddard, H C Jamieson, Geoffrey Smith, Hector White

HADEN

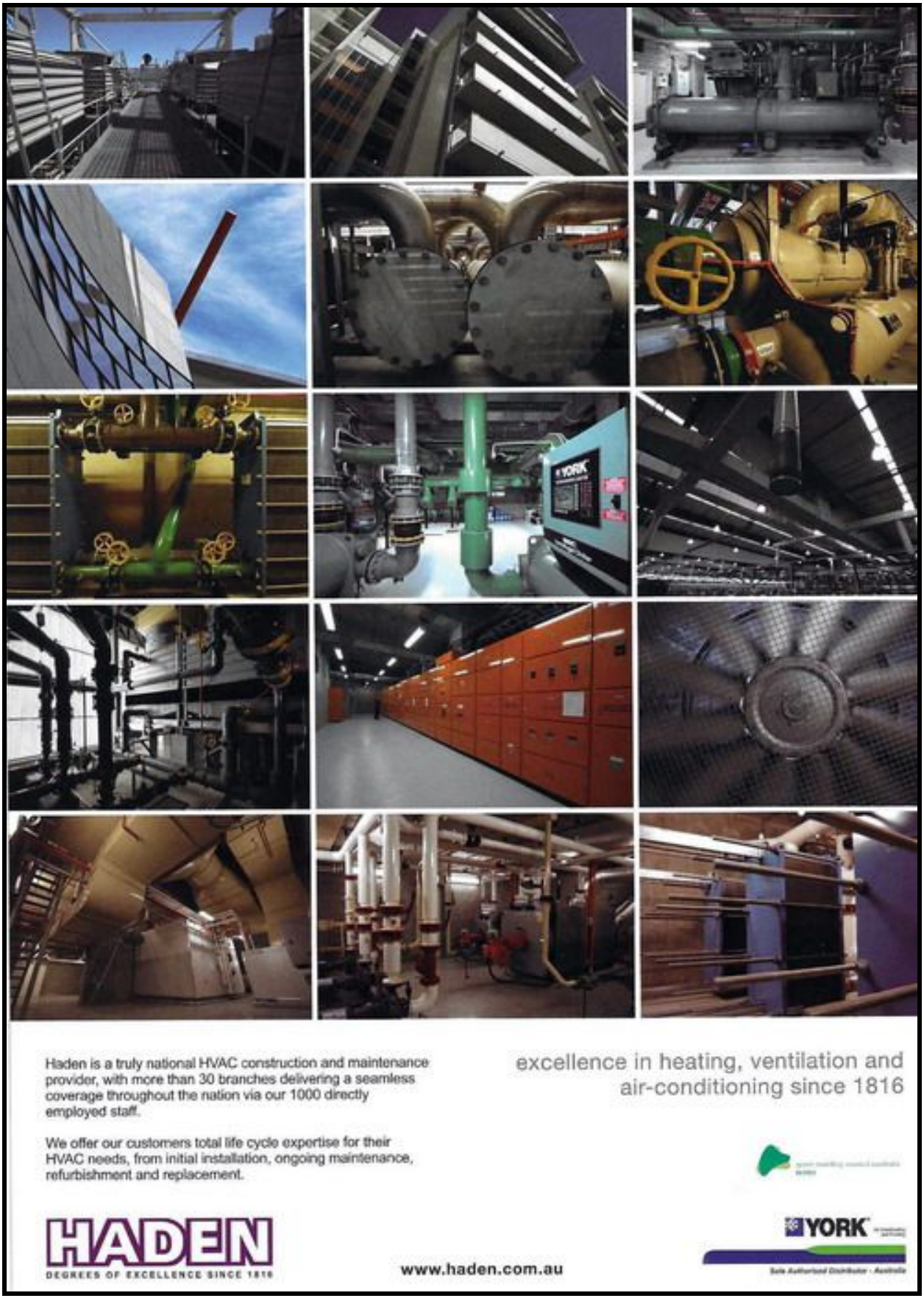
G & J Haden was founded by George and James Haden in 1816 in Trowbridge, Wiltshire in England, to erect the steam engines of Boulton & Watt and went on to install warm air heating stoves in country houses and churches. By mid-Victorian times the firm had become major heating and ventilating contractors, installing services in prisons, hospitals In 1969, G N Haden & Sons Ltd formed a jointly owned Australian Company with Carrier Air Conditioning (Holdings) Ltd which was named Haden Engineering Pty Ltd.

The Boulton & Watt steam engine of 1785 at Sydney's Powerhouse Museum

HADEN ENGINEERING PTY LTD



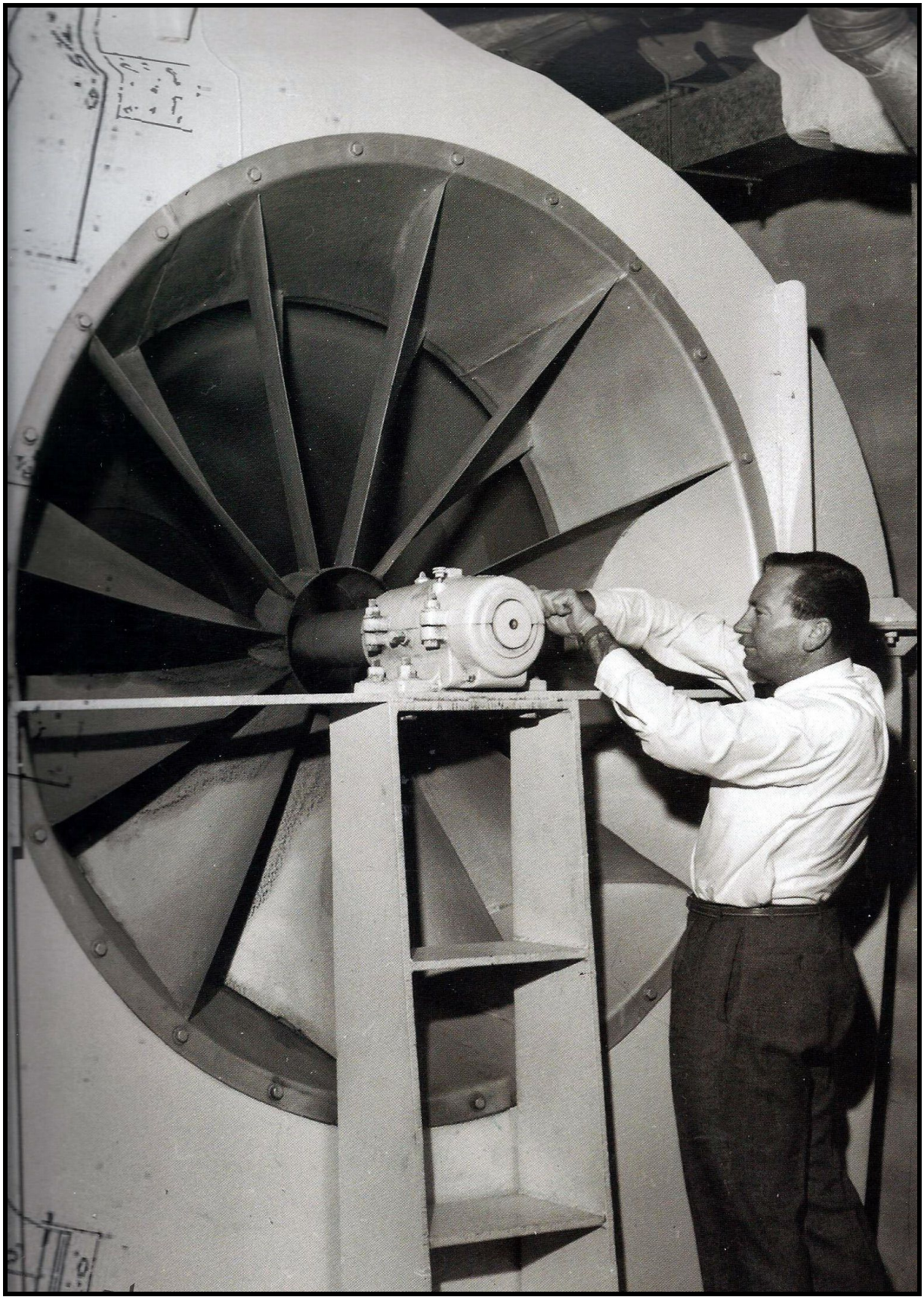
Launch publication for Haden Engineering Pty Ltd, 1969



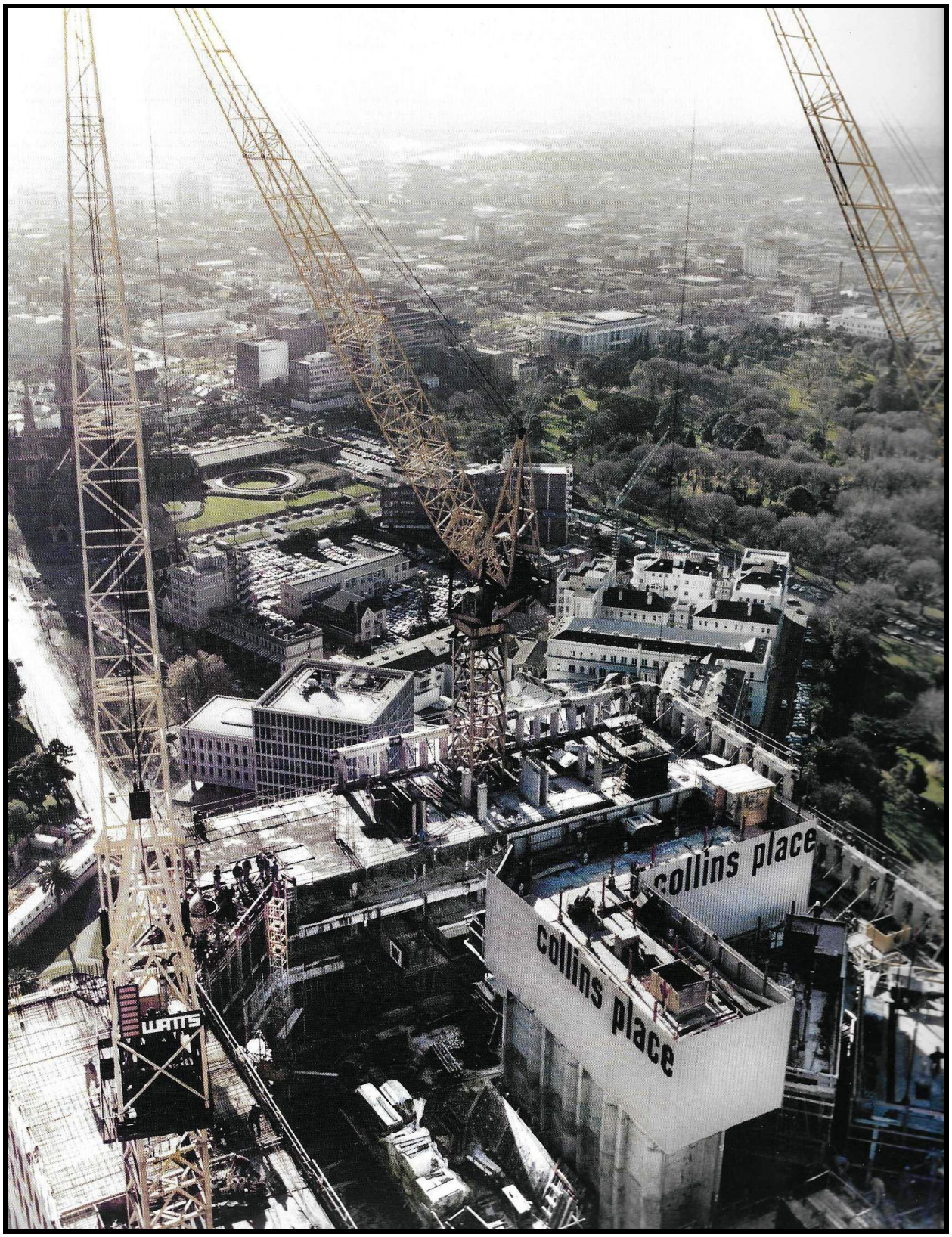
Advertisement of 2006

A G COOMBS PTY LTD

The Company can trace its roots back to 1945



Checking fan bearings at the Royal Children's Hospital, Melbourne, c.1970



Collins Place, Melbourne under construction, 1972 (A G Coombs)

CIBSE AUSTRALIA

Freeworldmaps

NEW SOUTH WALES

Sydney

Sydney Maritime Museum (Consultant: Steensen Varming)

The Warship Pavilion in Sydney's Australian National Maritime Museum

Designed for a sustainable and low-energy solution, the building minimises solar radiation while strategically positioned operable low and high-level openings promote cross/buoyancy-driven controlled natural ventilation with the option of using large industrial ceiling fans to assist air movement on still days.

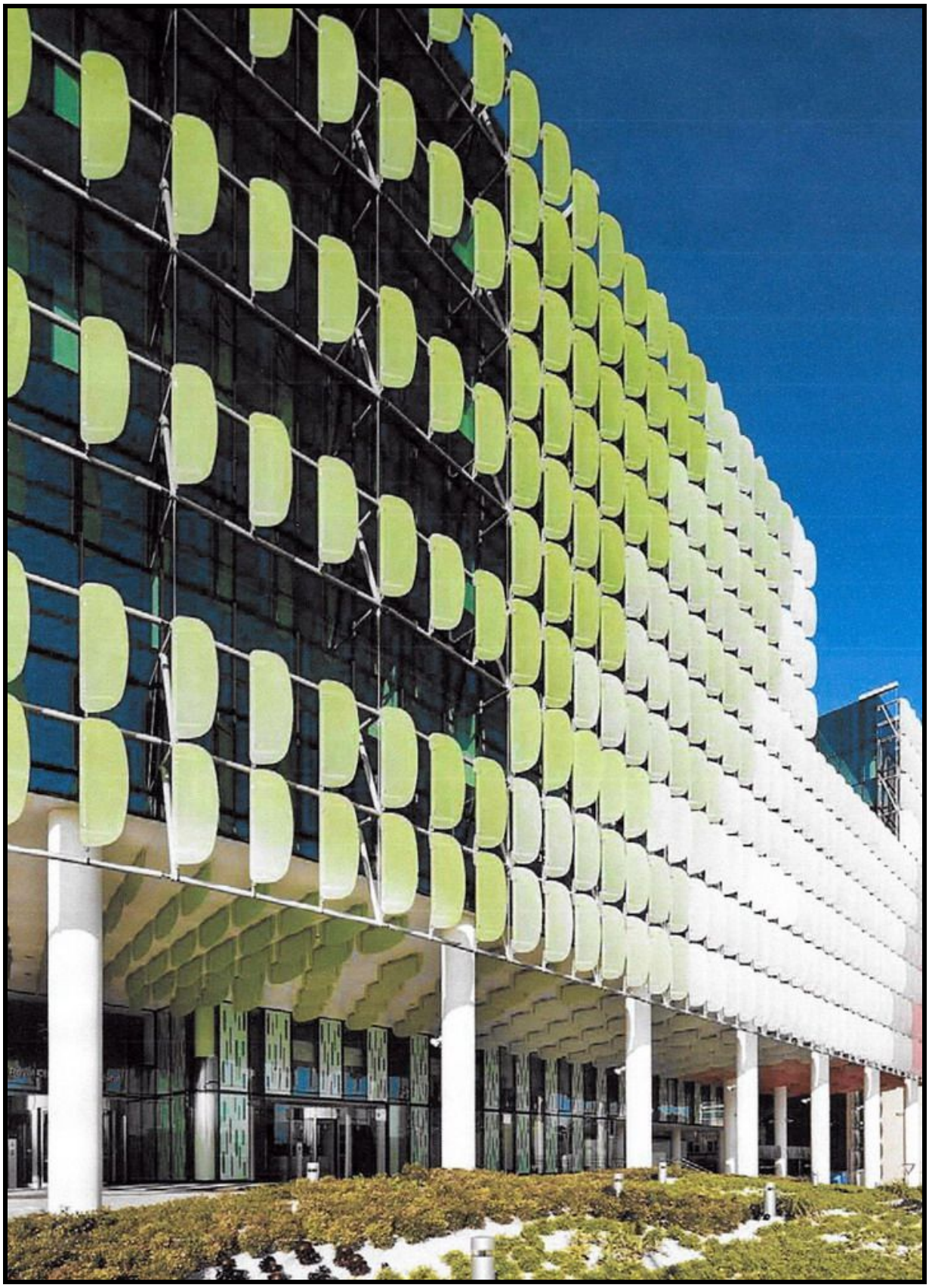
The University of Wollongong's Sustainable Buildings Research Centre

Photo Voltaic solar panels (Consultant: Cundall, Contractor: Medlin Metropolis)

VICTORIA

Melbourne

Melbourne School of Design, University of Melbourne
A large-scale laboratory for built environment education and research
(Consultant: Aurecom, Umow Lai, Contractor: Ellis Air conditioning)



New Royal Children's Hospital, Melbourne
(Consultant: AECOM, Contractor: A G Coombs)

QUEENSLAND

Brisbane

Gold Coast University plant room, Queensland
(Consultant: Jacobs, Contractor: A E Smith, Siganto & Stanley & Triple M)

Unloading a prefabricated services module, Lady Cilento Children's Hospital, Brisbane
(Consultant: AECOM, Contractor: A E Smith)

University of Queensland Engineering Building, Brisbane
Roof-mounted central energy plant (Consultant: WSP, Contractor: A E Smith)

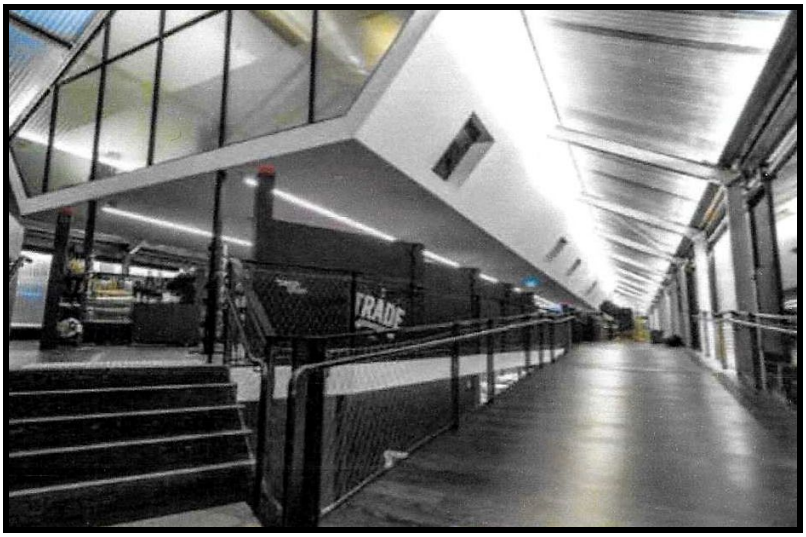
SOUTH AUSTRALIA

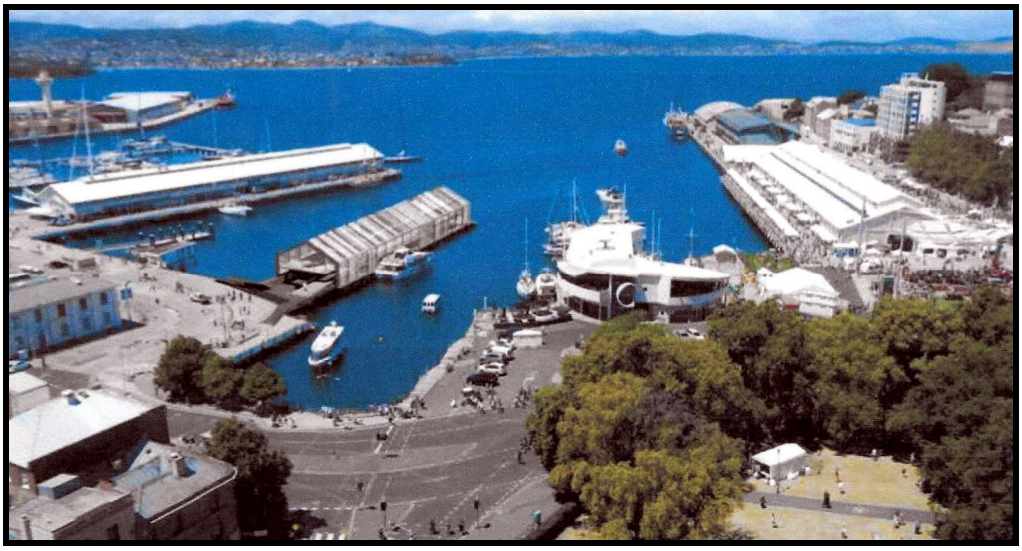
Adelaide

The SAHMRI building in Adelaide (Consultant: Cundall, Contractor: Norman Disney & Young)

TASMANIA

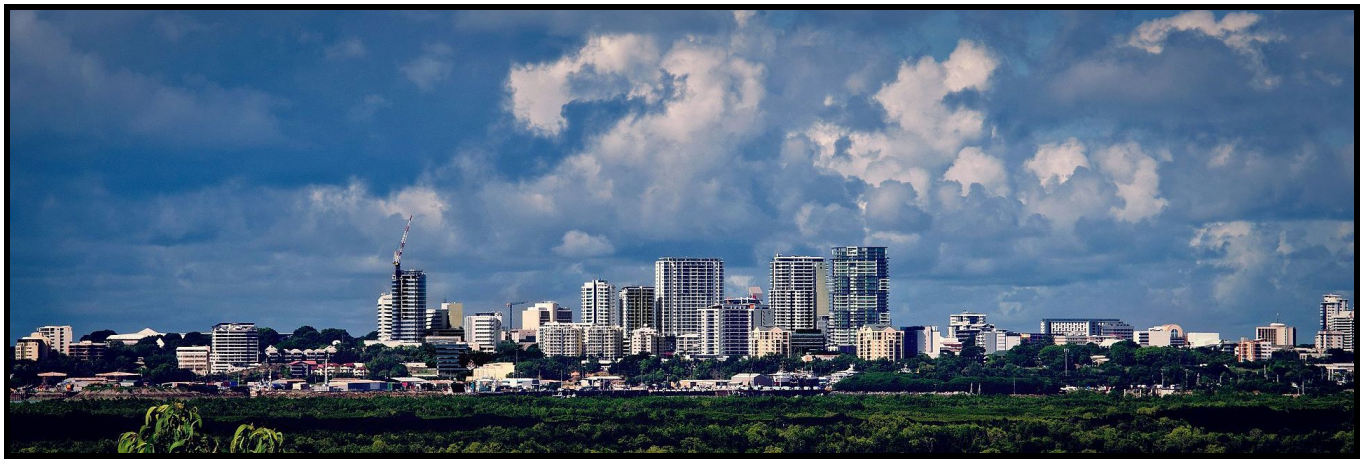
Hobart





Brooke Street Pier (Consultant: Cundall, Contractor: Degree C)

NORTHERN TERRITORY

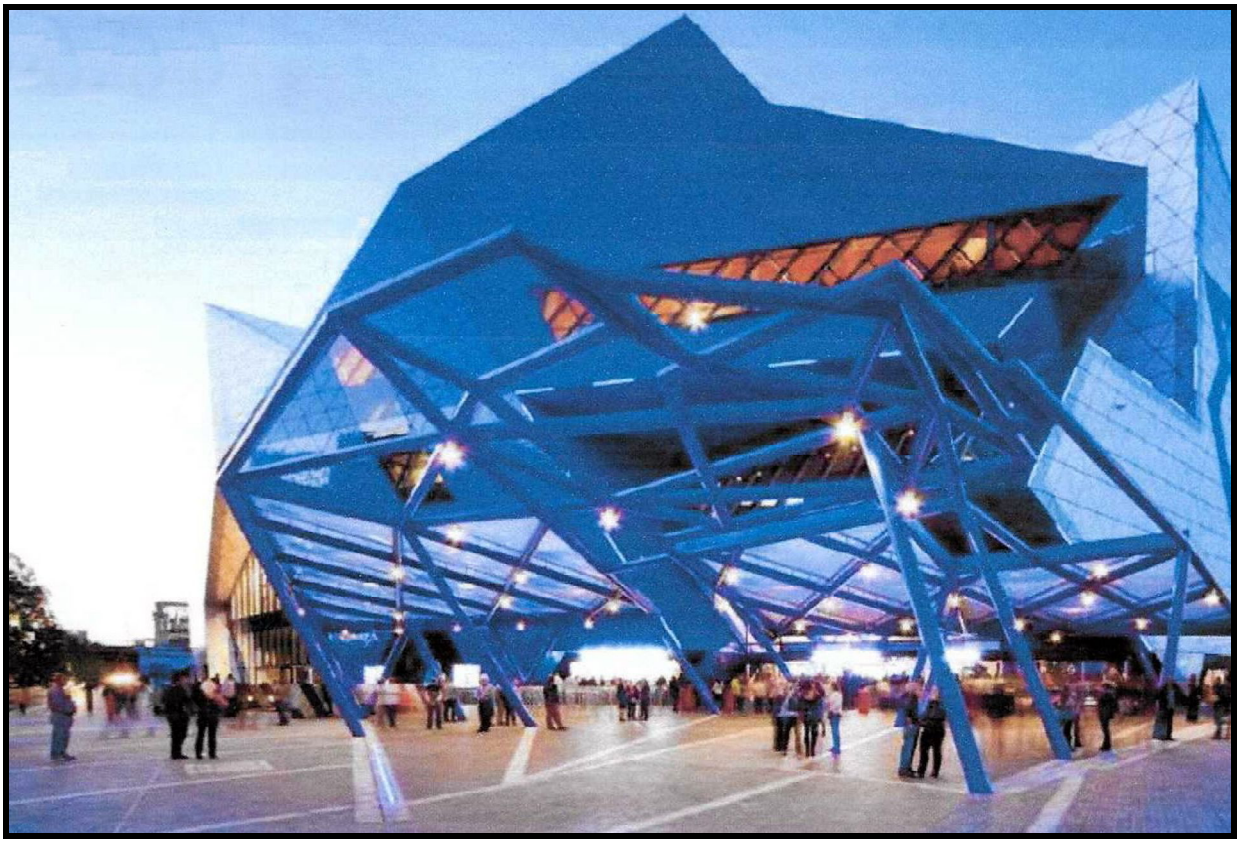


Darwin

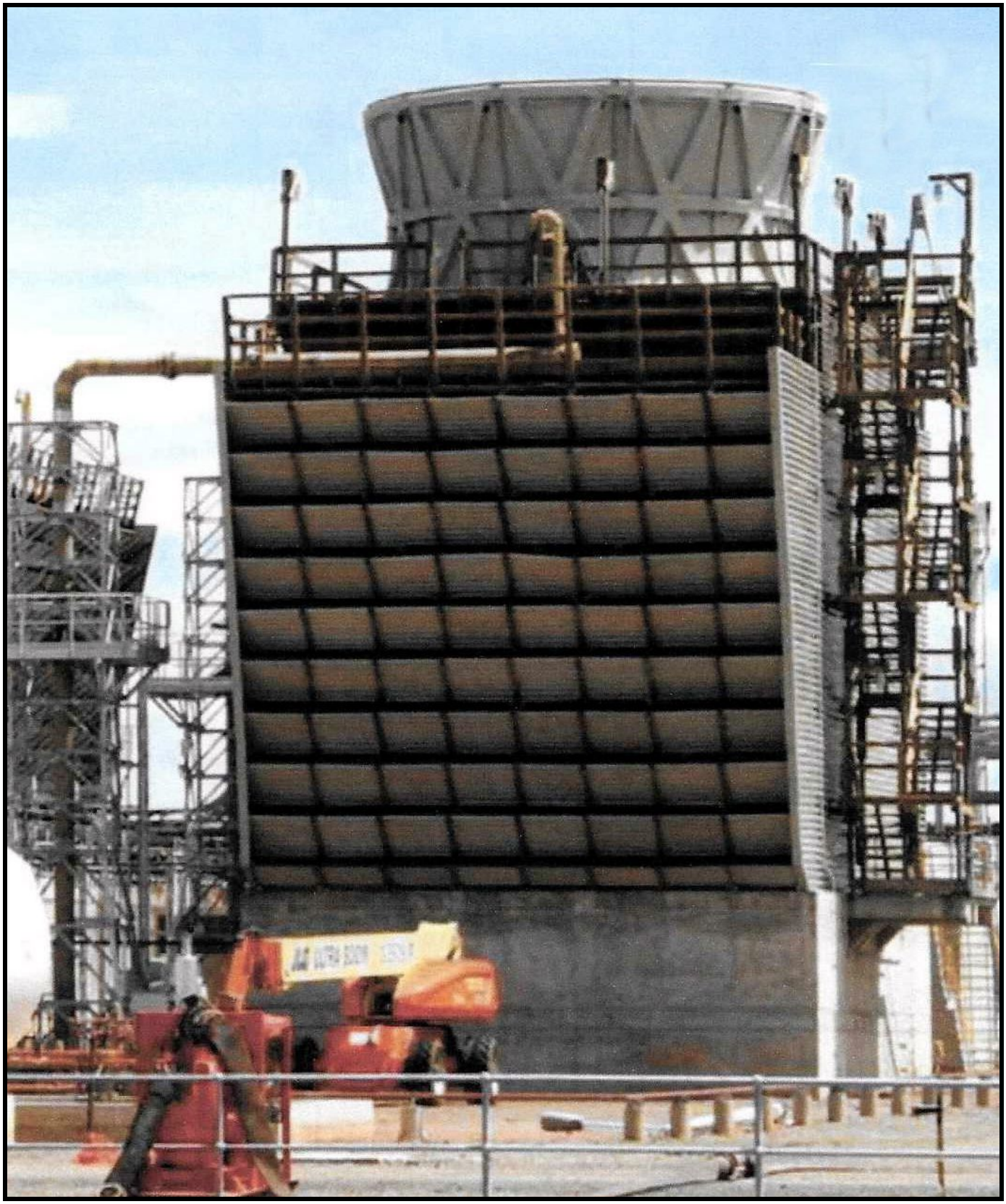
Parliament House

WESTERN AUSTRALIA

Perth



The Perth Arena, nicknamed *the square beer can*
(Consultant: WSP Group, Contractor: Desair/Siganto & Stacey)



The largest salt-water cooling tower in the southern hemisphere at time of installation, serving an ammonia plant in the Pilbara region (Manufacturer: Paharpur Ltd with SWG Group & Thermal Engineering)

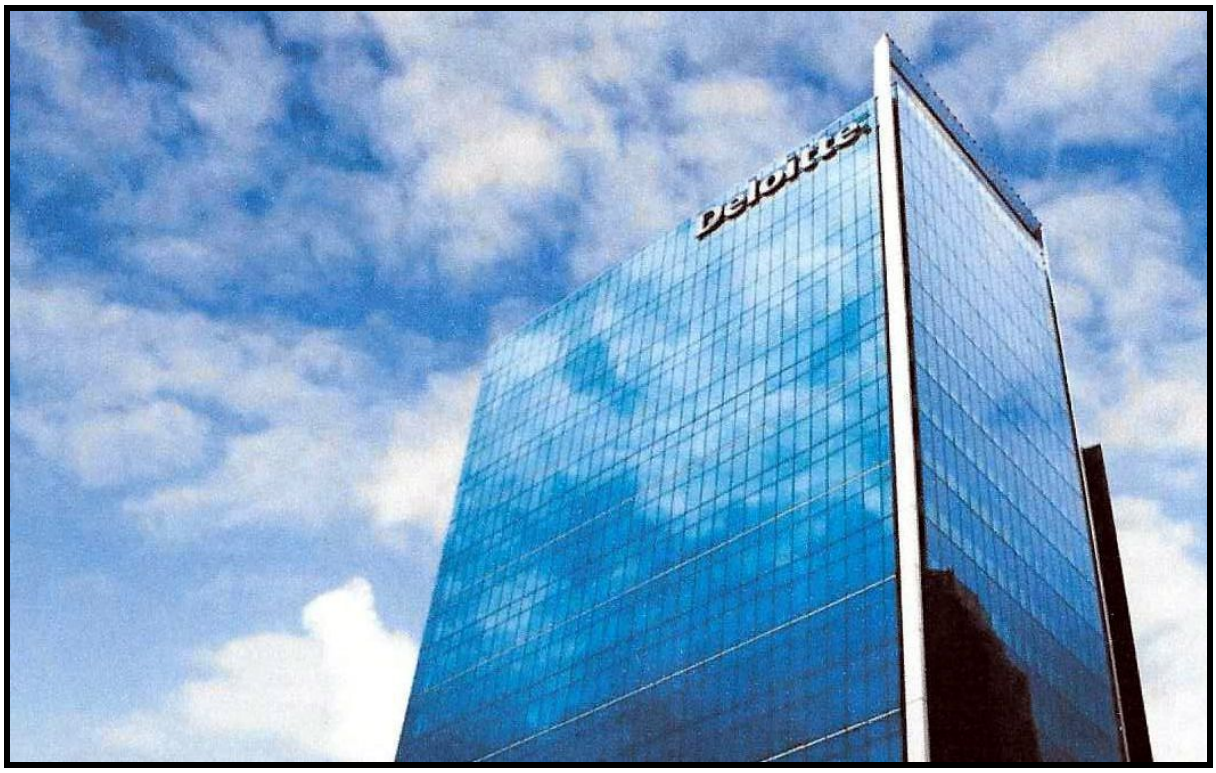
CIBSE NEW ZEALAND

World Guides

NORTH ISLAND

Wellington

ASB Building, Wellington (Aquaheat New Zealand Ltd)



Deloitte Centre, Auckland (Aquaheat)

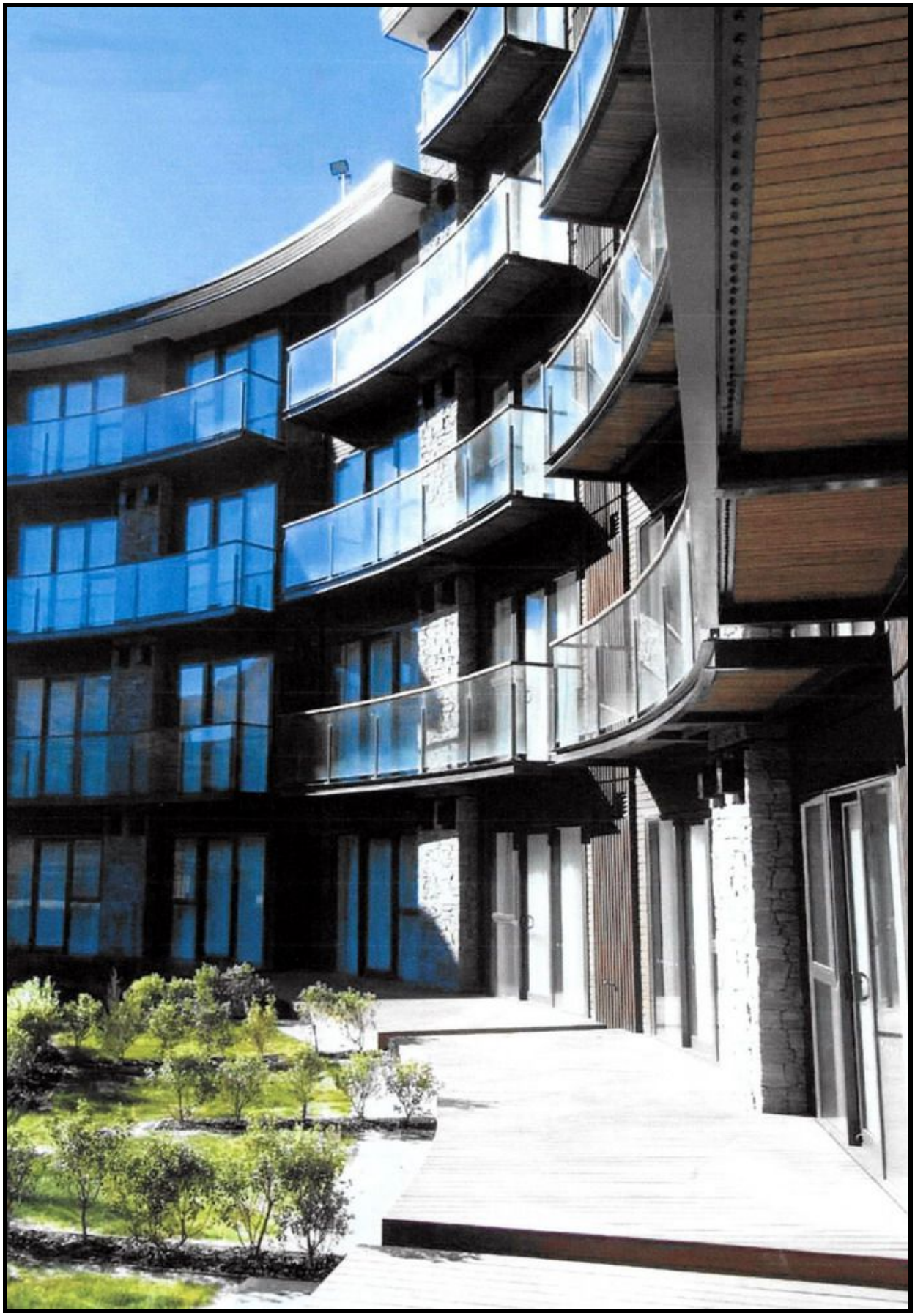
Ormiston Senior College, Auckland (Aquaheat)

SOUTH ISLAND

Christchurch

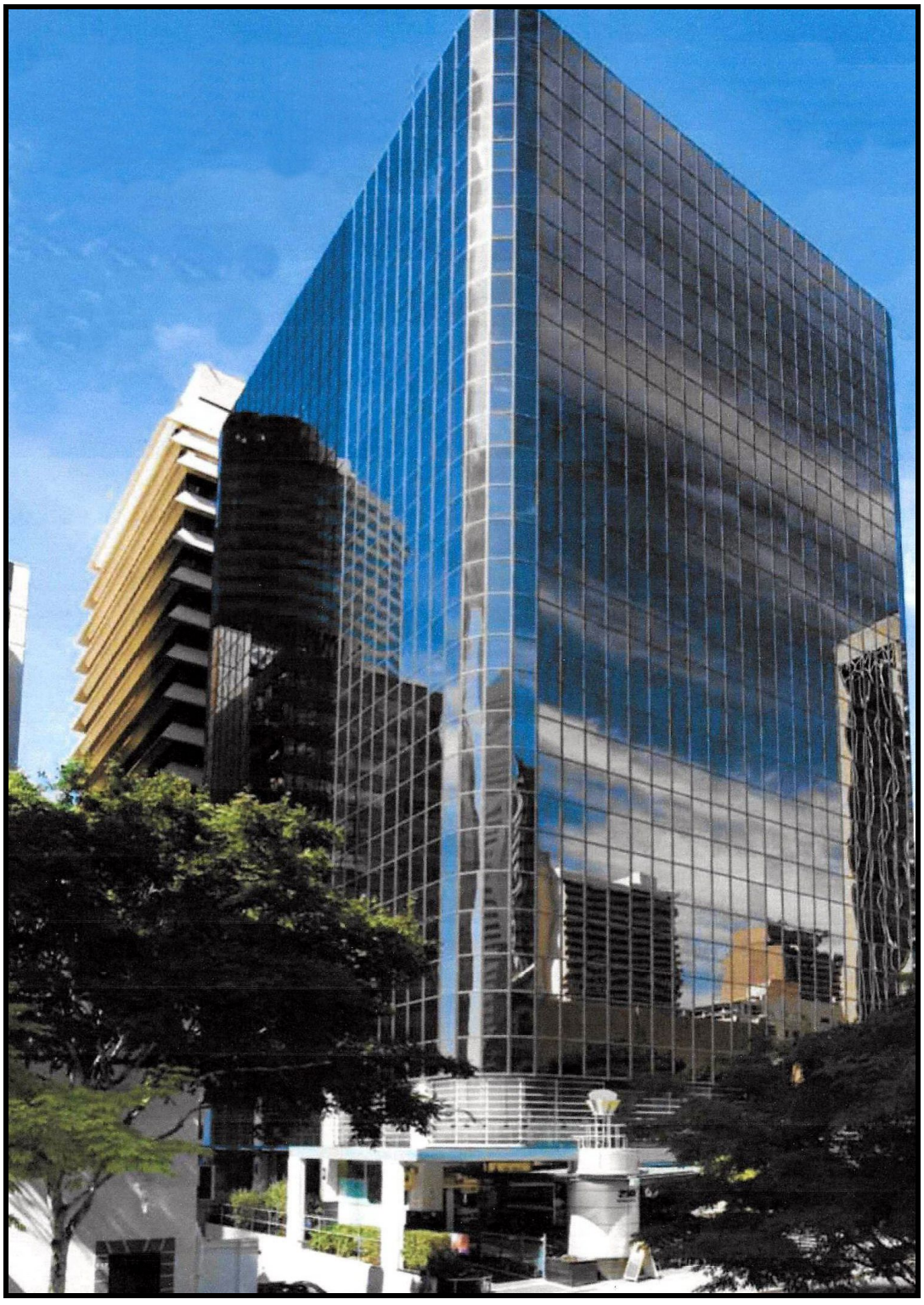
Lake Wakatipu hotel complex

The Reserve North project on New Zealand's South Island pumps lake water through the primary side of a plate heat exchanger while the secondary side comprises a condenser water loop handling the rejected heat from VRV units,

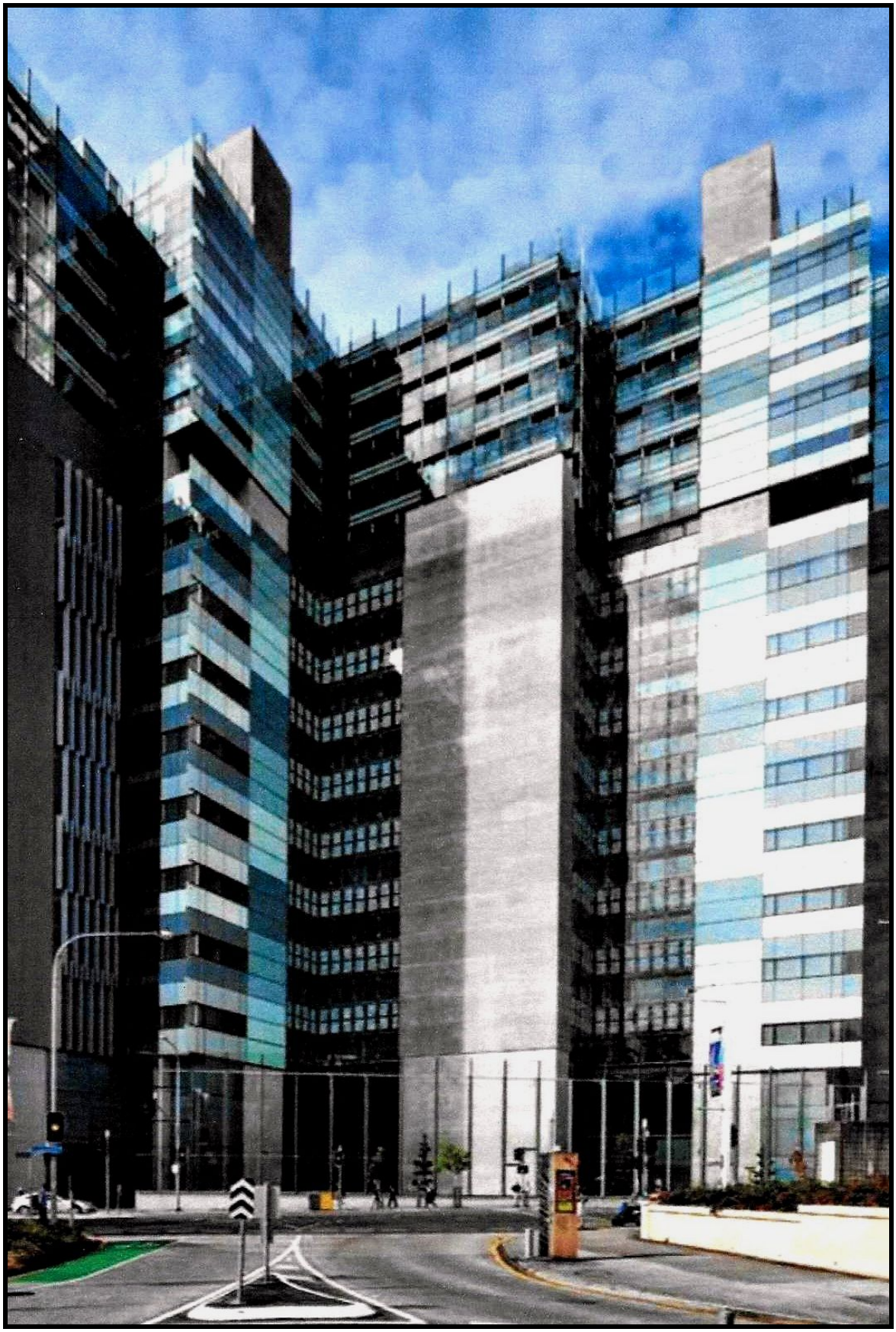


Lake Wakatipu hotel complex

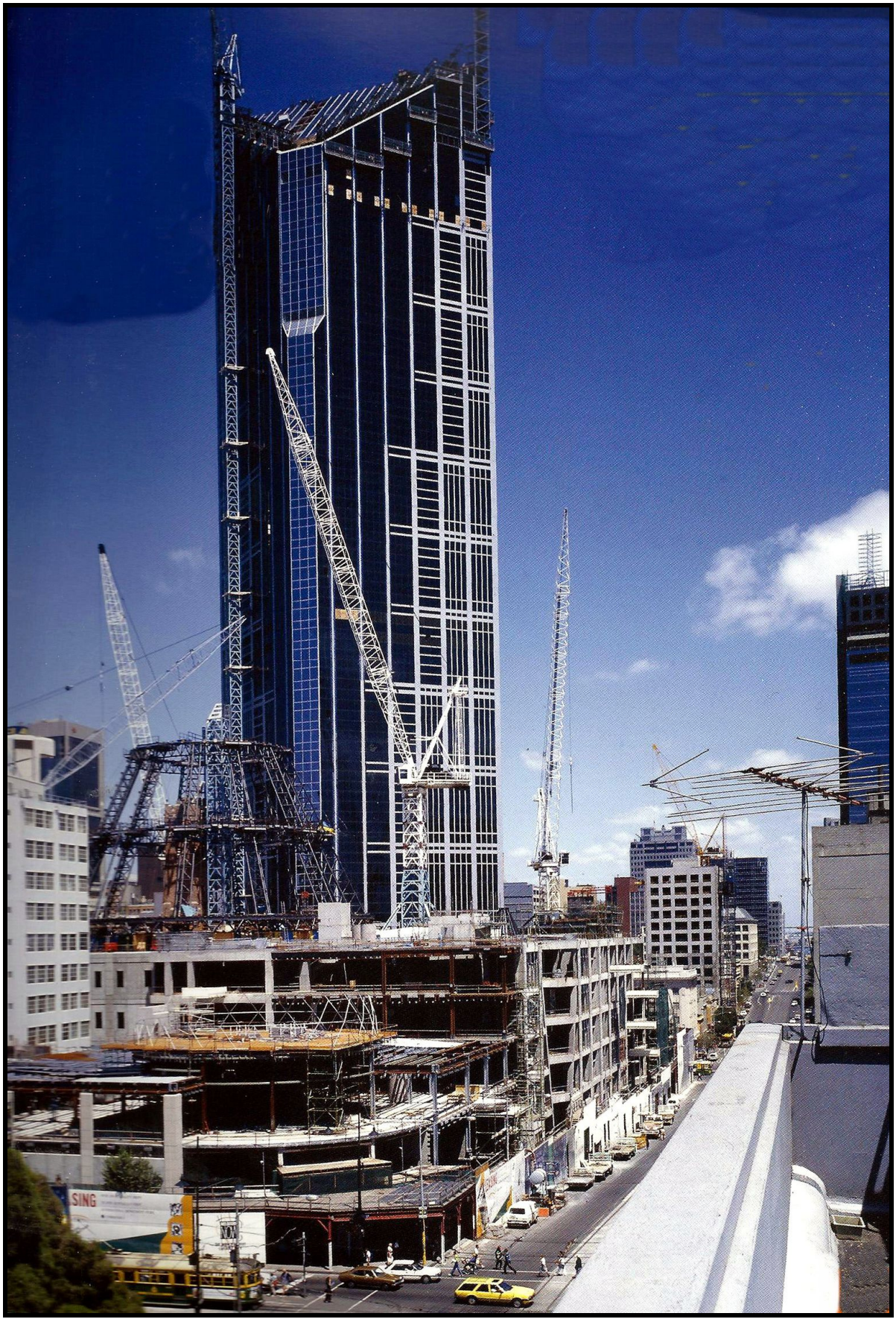
THE RISE OF THE AUSTRALIAN SKYSCRAPER



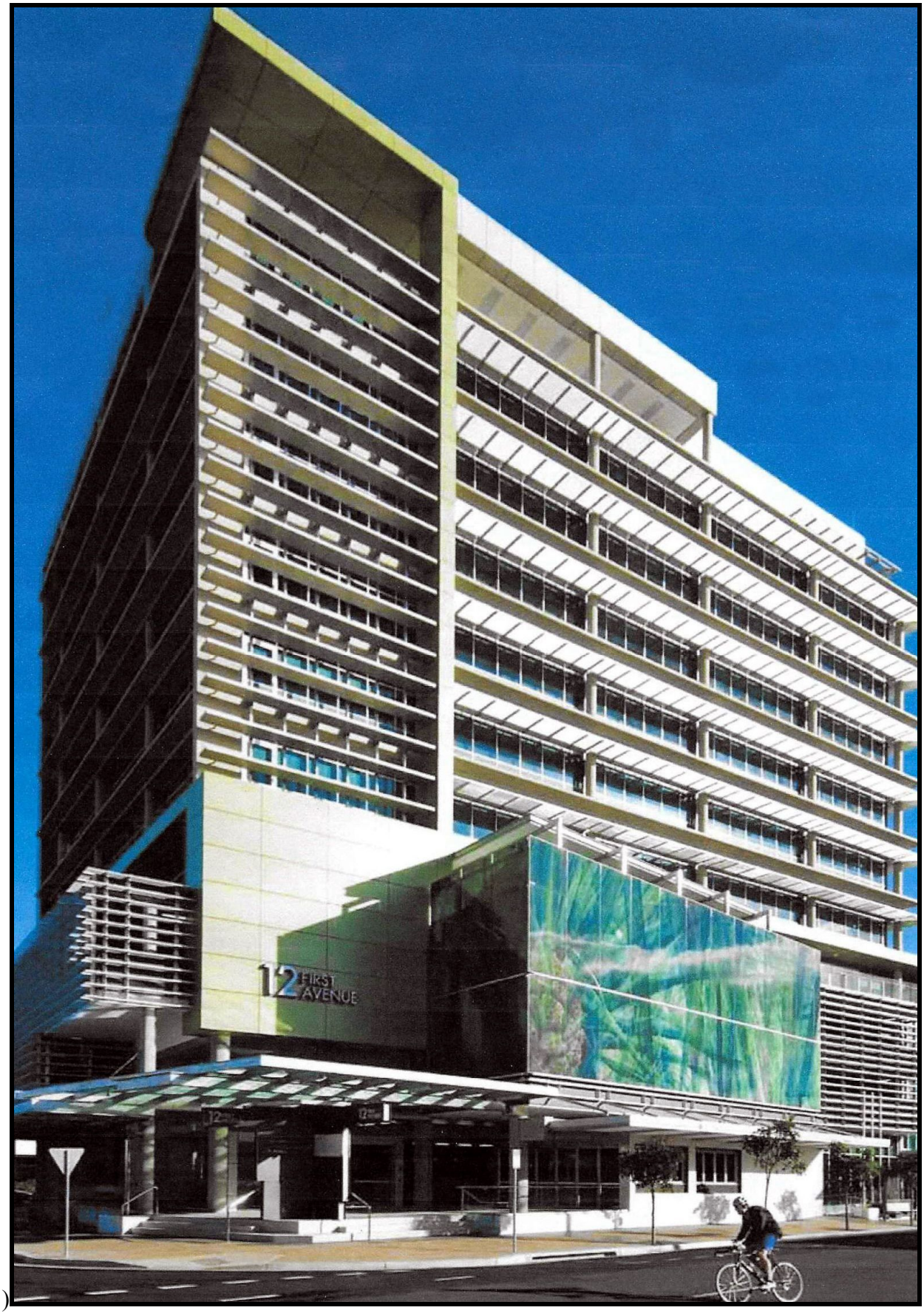
The retrofitted 202 Charlotte Street, Brisbane



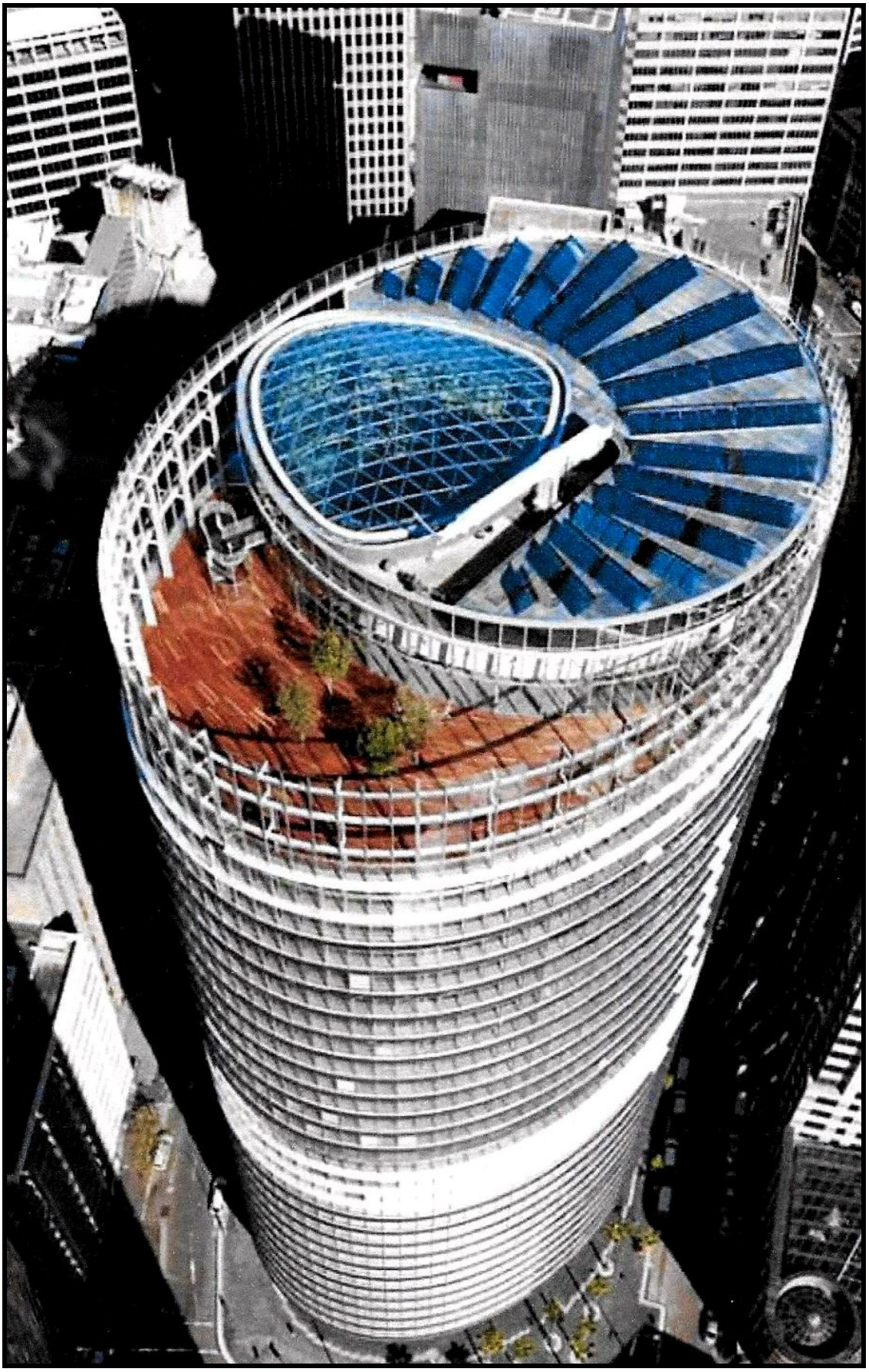
Queen Elizabeth II Courts of Law, Brisbane
(Consultant: Aurecom, Contractor: Siganto & Stacey

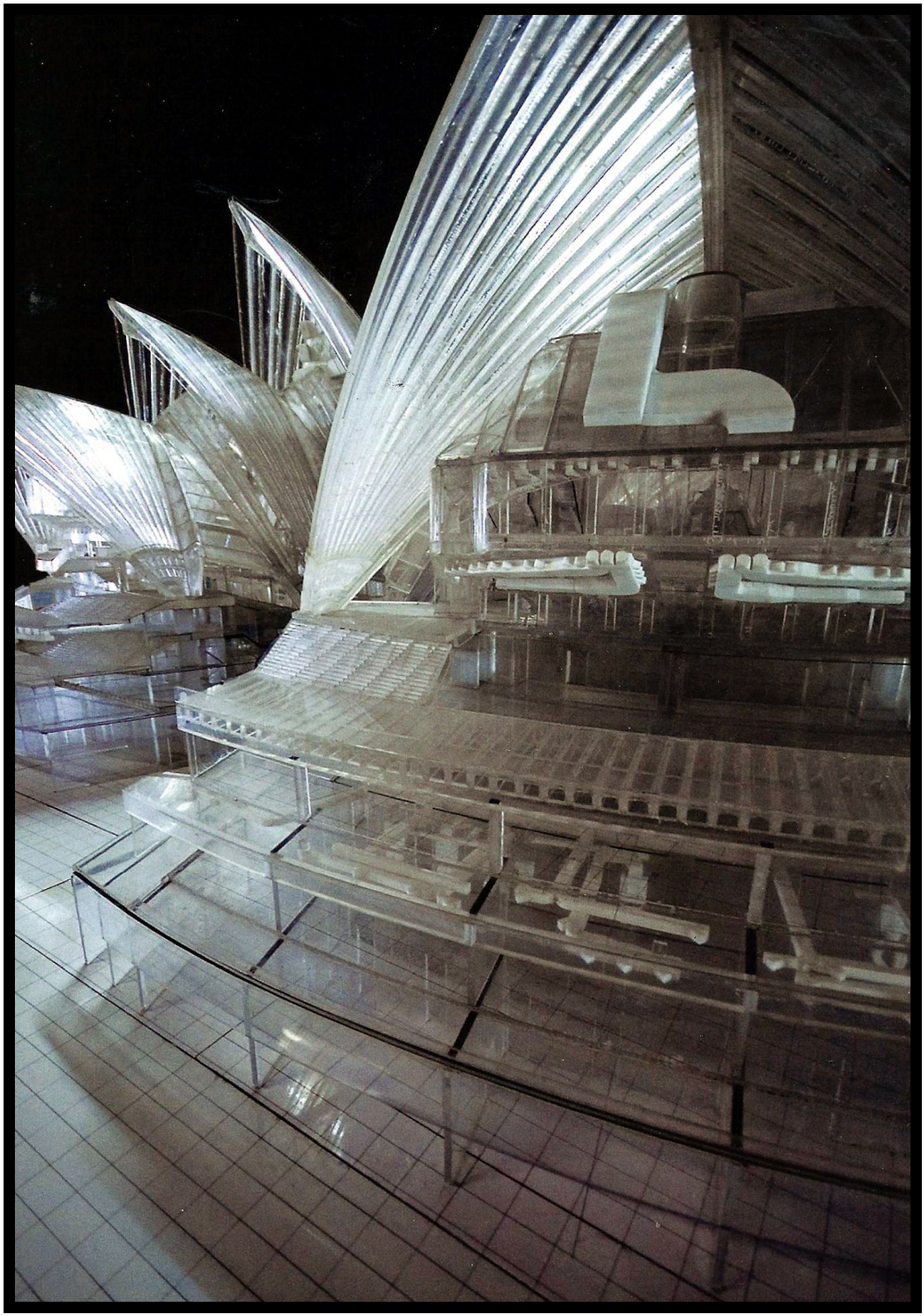


Melbourne Central Shopping & Office Complex, 1986 (A G Coombs)



The Mike Ahern Centre, Queensland's "Sunshine Coast,"
(Consultant: Viridis, Contractor: HVAC Queensland)



1 Bligh Street, Sydney with 500 m2 roof solar panels and a trigeneration system

Collins Wales House, Melbourne, 1978 (A G Coombs)