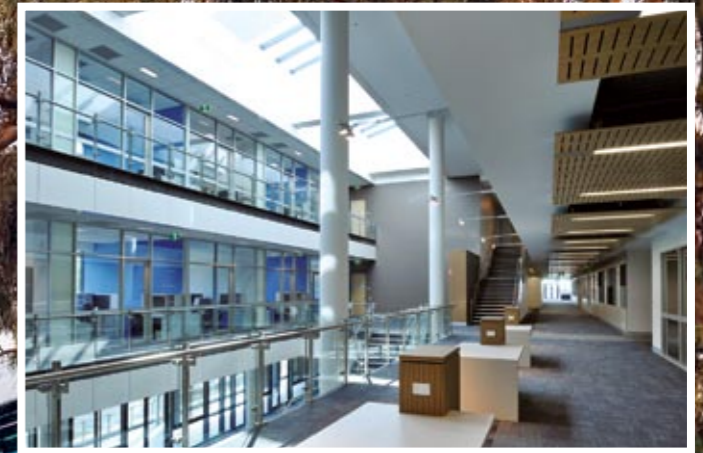


S.M.A.R.T. INFRASTRUCTURE FACILITY



MAIN CONSTRUCTION COMPANY : Cockram Construction
ARCHITECTS : Graham Bell Bowman Architects
STRUCTURAL & CIVIL ENGINEER : Hughes Trueman
CLIENT : University of Wollongong
PROJECT END VALUE : \$35.2 Million
COMPLETION : January 2011

A SMART SOLUTION

A new world class Simulation, Modelling and Analysis for Research & Teaching (SMART) Infrastructure Facility is paving the way in addressing the future needs of Australia's infrastructure industry. This impressive facility is the first of its kind to be built in Australia.

The University of Wollongong, acclaimed for its research and education excellence, is the privileged recipient of this state-of-the-art facility. The local community has benefited from the creation of approximately 340 local jobs during construction, plus a further 150 positions when the facility is up and running.

Cockram Construction (formerly Hooker Cockram Projects), is the construction contractor for this complex and sophisticated project. The Australian owned business has offices in Asia and the Americas and has specialised in construction projects of scientific, medical and high end laboratory research for decades. This portfolio of project experience was a significant factor in the business winning the project, and a reflection of Cockram's industry reputation.

"We are seen as specialists in this type of technical construction and are currently constructing our twelfth research facility in NSW alone" says State Manager Michael Read.

Work on the \$35.2 million SMART Infrastructure Facility commenced in April 2009 with an ambitious target of practical completion in January 2011. With the construction and integrated fit out now complete, the University will open its doors to the SMART project in April 2011.

The four storey multidisciplinary facility designed by Graham Bell and Bowman Architects is equipped with a Simulation Centre, research and training labs including Power Quality, Water, Transport, Rail, Maritime and Ports Laboratories. The project also features environmentally friendly initiatives using low-VOC products and the inclusion of structurally compliant products that are environmentally sustainable.

Cockram Construction offers a range of specialist skills including Construction Management, Design and Construct and Building Contracting.

"The SMART project was delivered under the Construction Management delivery mode, which essentially makes us responsible for managing the sub-contractors on behalf of the university with regards to all facets of construction including time, cost, quality and most importantly safety. All sub-contractors needed to be approved by the University prior to engagement and were required to be National Code compliant."

Located on the main campus of the University of Wollongong, the SMART Facility sits connected to the existing Engineering, Science and Information Technology faculties. Space on the site was at a premium and the close proximity to the neighbouring buildings posed logistical challenges for the team. The interaction with services from the surrounding buildings resulted in having to work out of hours in order to meet program requirements.

Due to the location on the busy ring road within the university precinct a detailed traffic management plan was required.

"Running a construction project within the confines of an operational facility requires experience. You need to be sensitive to needs of staff, students, visitors and others. It means working in with the University community, and trying to keep disruptions to a minimum. Our handling of this student and public interface as well as our pedestrian and traffic management plan greatly contributed to the University's high level of satisfaction with Cockram Construction."

Cockram Construction is celebrating its 150th year of continuous operation in 2011 and has worked with over 18 different Universities around the country including current projects in Queensland and Victoria.

"This is the fifth project we've done for the University of Wollongong due to not only our successful management of their projects, but the building functionality and the outcome being of such a high quality."

These projects include the \$22 million Illawarra Health and Medical Research Institute completed mid 2010. This project was being constructed concurrently in the same precinct as the SMART Facility. Given there were two project sites under construction within fifty metres of each other a high level of importance was placed on ensuring the safety of students and the public at all times.

A \$6.7 million Common Teaching Facility was also completed in January and Buildings 8 and 39, refurbishment and fitout valued at \$3.7 million was previously completed in 2007.

COCKRAM CONSTRUCTION
Level 2, 500 Pacific Highway
St Leonards NSW 2065
t. 02 9818 6099
f. 02 9818 6155
www.cockram.com

AWARD WINNING ROOFERS



Multi-award winning company, Red 8 Roofing, take pride in their work and strive to provide 100% customer satisfaction. The dynamic team provide metal roofing solutions for a wide range of commercial, industrial and residential projects throughout Sydney. With a new office recently opened in Orange, New South Wales, Red 8 Roofing now successfully service the Central West region. Looking to expand further, an office is soon to be established in Queensland.

Red 8 Roofing supply and fit a wide range of metal roofing in the latest trends, styles and colours. Their services cover many applications including Colorbond Metal Roofing, guttering, wall cladding, thermal and acoustic insulation and other specialised materials.

A team of eight worked tirelessly to deliver the SMART Infrastructure Facility. "The relationship between Hooker Cockram and Red 8 Roofing was second to none and everyone worked to program throughout the entire project" says Project Manager Steven Clarke.

Red 8 Roofing supplied and fitted the 60mm RW Kingspan roofs, the 30mm FB Kingspan roofs, multiple penetrations, 350mm stainless steel half round gutters and 200mm 1.6 316 stainless steel feature downpipes to the SMART Infrastructure Facility.

"The main 200mm feature 1.6 stainless steel downpipes were a huge challenge on this job. The installation and manufacturing of the downpipes had to be completed on site. The weight of the stainless steel downpipes also created a huge obstacle which we had to overcome."

Putting the safety of their team first, temporary netting was used when working on the main plant room roof. The Clad Boy system, a versatile vacuum lifter, was used by the team to safely install and lift the large roof and wall panels into place.

Red 8 Roofing's major projects include the recently constructed Orange Hospital, Mascot ING Business Park, Emirates Resort in Wolgan Valley, the Kurnell Desalination Plant, Equinix Data Centre and Warragamba Dam. Other projects include multiple BER Schools, railway stations, universities and major shopping centres.

RED 8 ROOFING
5/12-16 Mangrove Lane
Taren Point NSW 2229
t. 02 9531 1880
f. 02 9531 2885
www.red8roofing.com.au



WORLD-CLASS ARCHITECTS PAVING THE WAY

Graham Bell & Bowman Architects (GBB), have risen to the challenge of designing and delivering a complex project that will undoubtedly transform the way infrastructure related disciplines are taught and researched.

GBB provided architectural services, design documentation and contract administration for the SMART Infrastructure Facility. "The construction management contract between the client and the contractor allowed the commencement of building works to be expedited while tender and construction documentation was being finalised," explains Architect Graham Betts.

A simple circulation pattern comprising of a central atrium and open stairway links three floors encouraging staff, student and interfaculty collaboration. Located alongside three existing faculties GBB designed a series of pedestrian bridges to facilitate connectivity with the surrounding buildings. The entry to the building on Level 1 addresses the main flow of pedestrian arrivals from the western end of the campus.

The tight and compact site required thorough planning to marry together disparate program requirements such as the need for traditional offices and teaching spaces coupled with heavy engineering laboratories. A 1.5m deep concrete Strong Floor is located on the Ground floor in the Highbay Laboratory. This was required to be reinforced with steel floor rails to withstand engineering test loads.

The incorporation of ESD strategies such as rainwater harvesting for toilet flushing and a mixed mode ventilation system ensured that the facility achieved a minimum 4 Star Green Star rating as assessed under the Green Star Education rating tool. Energy efficient lighting, BMS monitoring of energy and water usage, Solar hot water, Photovoltaic panel power generation to supplement the conventional power supply and Low VOC carpets, paints and sealants were also used.

GBB operates predominately in NSW providing full architectural services for private and public, institutional and commercial clients such as universities, schools, government authorities and councils. Their previous projects for the University of Wollongong include the \$30 million IHMRI Medical Research Facility, iC Central located at the Innovation Campus, staged works to the University Library and an Ecological Research Centre.

GRAHAM BELL & BOWMAN ARCHITECTS PTY LTD
PO Box 316
Wollongong NSW 2520
t. 02 4272 6700
f. 02 4272 6577
e. gbb@gbbarchitects.net