

Kirwan High School

Case Study



masonry.
style and
function



Project: Year 7 Facility

Location: Townsville QLD

Function: General classrooms and support facilities

Client: Kirwan State High School in conjunction with Queensland Department of Education, Training and Employment

Architect: Deicke Richards

Structural engineer: Inertia Engineering

Builder: Watpac Construction

Bricklayer/blocklayer: Yellow Block Road

Featured products:

Austral Masonry grey concrete half blocks(10.03), engaged pier blocks (20.60)

Austral Bricks Precision clay bricks in Walnut

Kirwan State High School is one of Queensland's largest, with an enrolment exceeding 2000. Situated 12 kilometres from the Townsville CBD, it serves a rapidly growing and diverse population.

In late 2014 the school opened the most important new campus addition since its foundation in 1979. The Year 7 Facility is different in form and materiality from the established campus, creating a signature building that makes a bold statement to the community it serves.

"The school was adamant that they wanted a building that met the needs of the students and teaching staff," explains Eloise Atkinson, the design director for architects Deicke Richards. (John Deicke was the project director, Tim Zieth the project architect.) "But importantly, it also had to present a public presence for the school, almost as a commercial building does."

The L-shaped, three-storey building stands out in the single-storey campus and is prominently located on a corner adjacent to the intersection of two major arterial roads.

Its primary function is to accommodate 20 general learning areas and the associated teacher and staff facilities. Some rooms can be combined to create a larger space for occasions such as senior exams.

The concrete framed building is clad in coloured steel and compressed fibre-cement sheeting at the upper levels. The ground floor is constructed in face brickwork. "This is a limited material palette but all incredibly robust," says Ms Atkinson. "For any school, the materials need to be very robust and low maintenance, so that money spent on maintenance and operational costs can be minimised."

The use of durable face brickwork at ground level is particularly appropriate for a school that has turned out a string of Rugby League champions!

Brickwork capped with a concrete beam was also used to create low external seating areas scattered around the facility.

However a late addition to the building is undoubtedly its most prominent external feature. A plant room servicing the Year 7 Facility and several other buildings is housed behind two massive perforated screens that rise two storeys.

The screens are constructed in grey concrete masonry that is captured in prefabricated steel frames. The blockwork pattern is repetitive yet demanding on the blocklayers' skills.

Three 190 x 190 mm blocks were stacked, connected by dowels and each block tied back using custom-made stainless steel



ties to a rectangular hollow section steel behind. The cavities of the three half-blocks were then hand-grouted.

Next, an engaged pier block – aka, a “granny chair” – was mortared into position and another engaged pier inverted over this and mortared into place. This continued along the three courses, then rising for the next three.

As the framework was slightly curved, allowance had to be made in the vertical joint widths.

The resulting two panels have a spectacular aesthetic but also serve a ventilation and acoustic purpose. According to Ms Atkinson, there was some concern that birds may nest in the openings “but this hasn’t been an issue.”

From 2015, Queensland schools have adopted Year 7 as the first year of high school, in line with the rest of Australia.

This new purpose-built facility is the hub of Kirwan State High School’s Year 7 Flying Start initiative, assisting students and staff during this significant transition.



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