

2015 CEFPI James D MacConnell Award

CRUCI – LORETO COLLEGE



EXECUTIVE SUMMARY

Cruci, is a three storey teaching and learning facility that prioritises community engagement, activated learning and pedagogy, place-making, and quality. The over-arching concept enables ease of expansion to form a future Performing Arts facility. The outcome is true to the character, soul and strong community presence of the College and community.

The team faced the challenge of accommodating the educational needs of an additional 140 students due to the Queensland Government's directive to accommodate Year 7 in all secondary schools from 2015. The commission commenced with a strategic master plan which identified an additional need for future performing arts facilities. Parents, students, staff, College executives, funding partners, music specialists and the broader community were amongst those consulted during this creative process.

The project brief, developed through collaboration, required inspirational learning spaces that students would love to be in. Places with soul, complementing the Mary Ward values of freedom, justice, sincerity, verity and felicity. A strong theme and driving force behind much of the design was focussed upon developing independence, and confidence of the students through the provision of a nurturing and supporting environment, reflected through the architecture and associated experiences.

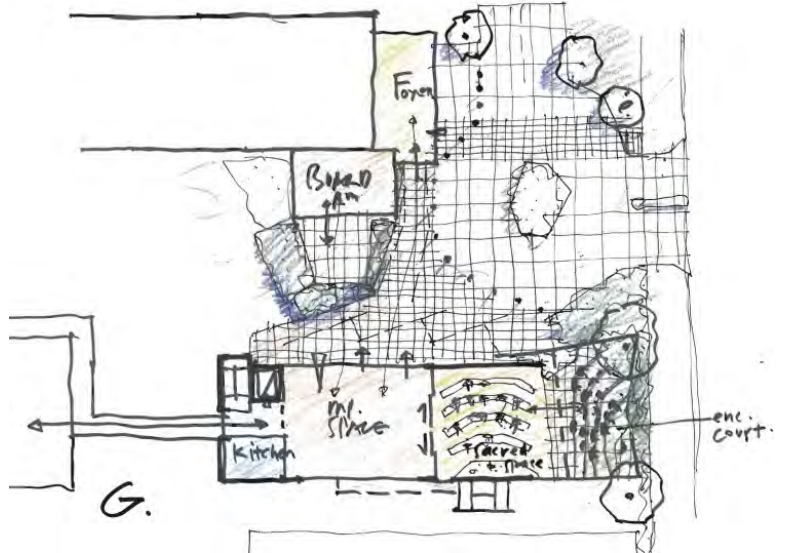
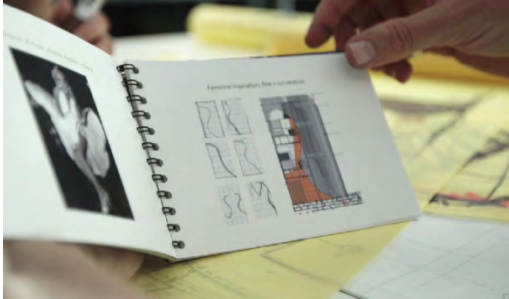
The following project priorities were identified and agreed by all stakeholders:

- To assist integration of a new year level as part of a Queensland Government directive for Year 7 students to be accommodated in all secondary schools by 2015.
- To master plan the above requirement and determine the optimum location for this facility. This process determined that Year 7 should be accommodated in the existing Mulwith Building and that Year 11 should be accommodated in the New Year Level facility building, which has subsequently been named the Cruci Building. This was due to the prominent position of Cruci on a defining edge of the campus located on Cavendish Road, this being considered more appropriate for senior students use due to their transition into the wider global community as they move towards their final school years.
- The above master planning process also realised the potential to create a New Year Level Building of multiple functionalities that could serve the immediate need to re-house Year 11, as noted above, and the longer term goal of transforming the Performing Arts facilities on campus which are currently compromised in the basement of the Casket Building.
- To create stimulating and innovative learning environments, inclusive of outdoor settings.
- To embrace the soul and strategic direction of the College.
- To complete the project in condensed programme for the new year 7 level integration in 2015.



Creating inspirational outdoor learning settings that embrace the wider 'borrowed' site of Coorparoo, Queensland.

This multi-functional approach enabled a solution beyond the client and students expectations whilst realising excellent return on investment. Pre-design consultations and return briefing was critical in this regard. The team utilised listening, sketching, physical and CAD modelling, site studies and the development of a design process booklet to share an understanding the school's culture and needs, with all stakeholders throughout the entire project journey.



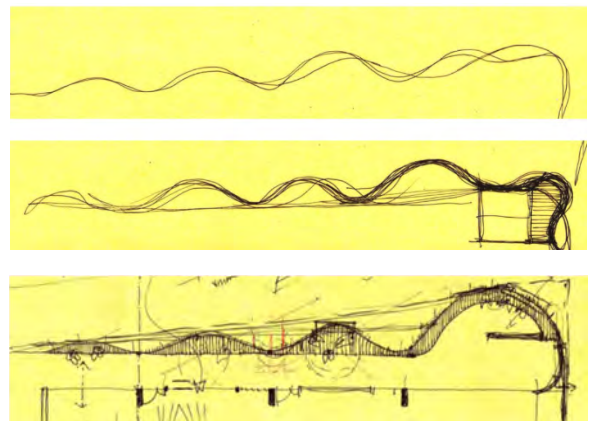
Process booklet and Initial conceptual sketch plan

Site levels presented a challenge with Cruci being located on a constrained rock face. The resultant ground floor datum aligns with a future 'inclusive' mid-level of the auditorium avoiding extensive ground works. A large, multi-purpose ground level space will eventually serve as a theatre foyer, with the lift and kitchen strategically planned for immediate and future needs. Functions such as exams, year level mass and large group activities are readily accommodated. Use of the 15m height restriction was maximised whilst seamlessly connecting to existing infrastructure and maximising sight lines and pedestrian access-ways.

The building offers varying degrees of formal and informal teaching and learning areas. Different sized breakout learning areas generated the curvaceous form, with standard verandas replaced by inspirational outdoor spaces for problem-based learning and recreational use by the students during times outside of their formal classes. Spaces are agile, sub-divisible and flexible, in keeping with the modality and flexibility required by the various pedagogical styles utilised across the campus. Retractable walls, transitions, choice, contrasting settings and maximisation of learning surfaces complement user needs. Carpet colours define learning zones, acoustic textures line classroom walls and translucent glass surfaces enable knowledge sharing. A play of natural light and shade, soffit definitions and robust concrete surfaces generate a differentiating learning environment.



Learning occurring simultaneously, internally and externally



A bold, contemporary, permeable screen surpassed the schools aspirations for collaborative spaces of variable scale whilst celebrating the future connection with the performing arts through a rhythmical, theatrical facade. Verandas embrace the surrounding borrowed landscape. The rich brown colour of the feature façade pays homage to the existing brickwork of the surrounding heritage listed buildings, the school shield and their adjacent landscape backdrops. The curved screen peels back to form a sculptural arch, welcoming users inside by responding to the natural pedestrian pathways and flows.



External screening embracing the teaching, learning and the Arts.

From the verandas, dual-aspect glass create writable 'thinking walls' which capture, share and display learning outcomes in both the formal and informal settings. Wireless technology and mobile furnishings promote collaboration and flexible learning opportunities. These elements all support a wide variety in pedagogy. The delicate, fine grain screen symbolises the serene qualities of the inner site whilst generating a distinctive 'front of house curtain' aesthetic that is in keeping with the principals of independence and confidence promoted throughout the school. This character represents Loreto in a physical, spiritual and contextual manner. The resultant building provides a visionary and contemporary place that maximises and promotes teaching, learning and relationship building, through the engagement with the physical surrounding environment.

The curvaceous off-form concrete benches lining the verandas enable collaboration and contemplation. A sacred courtyard located off the multipurpose space features a cross shaped wall aperture, timber benching and contemplative Japanese rock garden. This serene component of the facility is used to embrace the teaching of the religious education and Japanese curriculums. The benefits of defining a 'sacred space' enhances the opportunities for students to engage in a more spiritual and contemplative manner than may be more readily available through a traditional learning space.



Embracing the College's Japanese curriculum with a serene sophisticated palette of materials.

The new year level intake required an extension to the existing Home Economics facilities to create designated junior and senior Home Economics zones. This brief requirement was surpassed by including a demonstration kitchen within the new seniors domain. This space is utilised extensively to promote healthy eating, lifestyles and wellbeing. Extensive consultations with Home Economics teachers, kitchen specialists and students were held in determining the preferred layout. An adjacent tasting garden has quickly become a critical social space on campus, uniting girls from various year levels.

The extension of Home Economics was planned to retain an existing tree within the tasting garden. This provides an appropriate outdoor setting, engagement with greenery, shade and dappled light. Associated consultations with the staff and pupils led to use of a birds of paradise colour palette within this area, with the interior demonstration bench transitioning from stainless steel internally to a vibrant orange 'tasting' bench externally within the courtyard.

An existing ramp was relocated to a more accessible position as part of these works. This ramp connects Cruci to the expanded Home Economics domain. Consultations with the school community led to a centrally sited ramp position so that disabled access is inclusive and part of the everyday circulation flows of the College.



Internal view of Home Economics demonstration kitchen

Indigenous artworks and story poles, painted with the meaning of land and indigenous community stories, will eventually align this pathway acknowledging Coorparoo origins which are derived from the Aboriginal name of Norman Creek. The symbol of the Jagera people is the goanna and this is also informing continued development of this indigenous art inclusion. Planning the ramp to enable journeys across campus to unite with such significant Australian values and culture was a critical consideration. The consultation process regarding this specific element has been cognisant of the need for this component of the works to follow the Elders associated wider consultation timeline.



Ongoing Indigenous consultation

Research by Dr Esther Sternberg (Professor of medicine and founding research director for the Arizona Center for Integrative Medicine at the University of Arizona), notes the stimulus to the hippocampus area of the brain and the natural release of endorphins and serotonin when an individual is exposed to certain physical environments. Building design features were considered against this research for enhanced learning outcomes, physical, and mental wellness. Key selective views to the surrounding green scape and landscape were framed to engage all users in a positive manner, enhancing their opportunities for user wellness. Utilisation of natural daylight, flexible work areas, clear way finding signage, views of nature and engaging interactive spaces all create an environment that is conducive to the positive neurological activation of the users.



Engaging the hippocampus - Students utilising the external 'thinking walls' and collaborative learning settings.

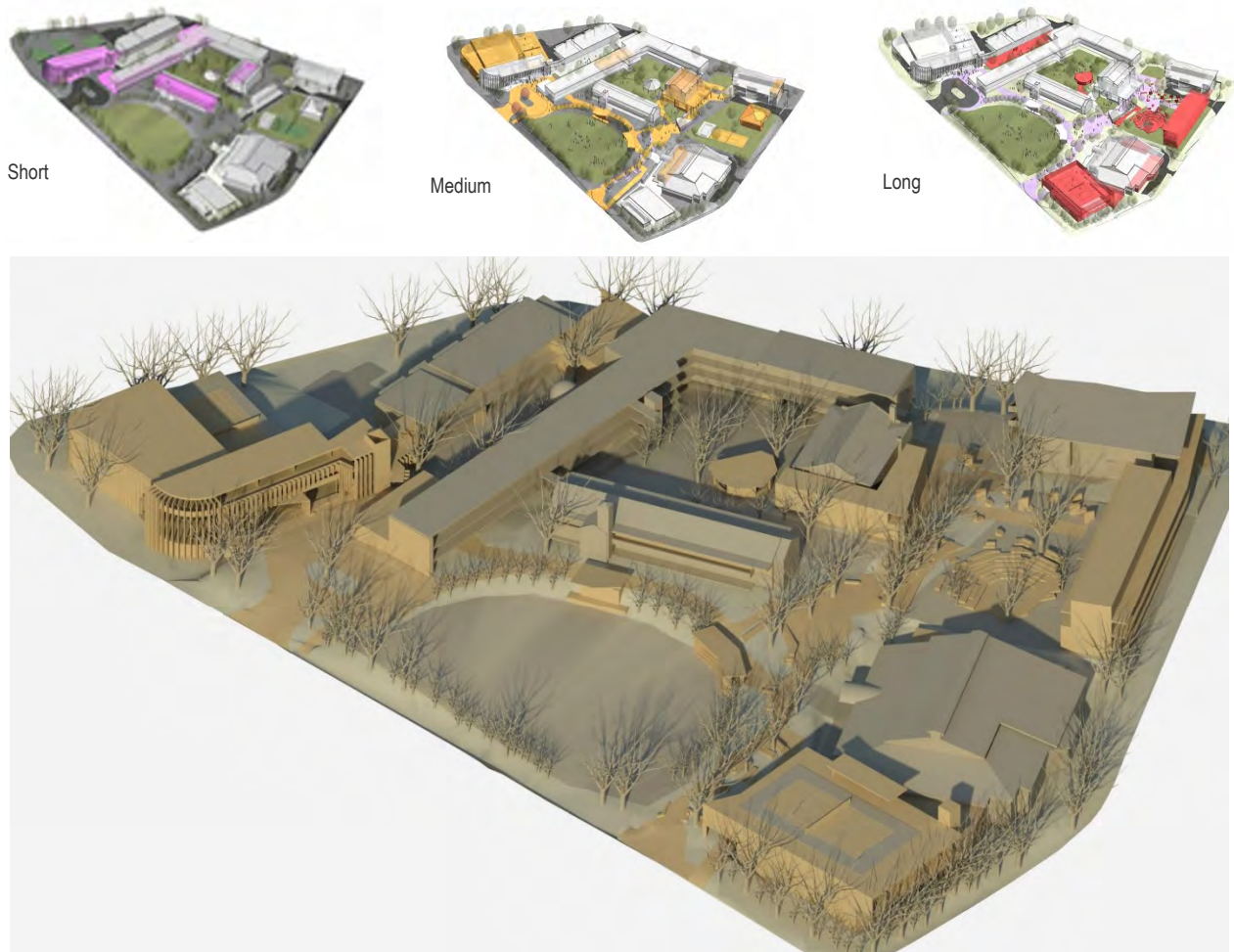
Providing half of the future performing arts facility within this initial built learning program, realised major savings in area, cost and energy consumption by decreasing future expenditure in built forms, all resulting in a significantly reduced long term carbon footprint for the college. Further sustainable measures include maximisation of natural light, passively ventilated verandas, low VOC materials and rainwater recycling. The building has been designed to ensure minimal operational maintenance with use of durable finishes and appropriate life cycles.

To experience the Loreto Design process, please visit the following link:

<https://vimeo.com/123058743>

SCOPE OF WORK

The project commenced with a master plan commission to develop a framework of short, medium and long term projects for the entire Loreto College campus. The master plan was developed in collaboration with all stakeholders and local community members.



Master plan framework for the entire Loreto College site (Cruci and the future Performing Arts Theatre is shown top left in this image)

Subsequently, Stage 1 comprised the New Year Level building (Cruci) which has been conceived to enable expansion to serve the Performing Arts in Stage 2. As such, the Stage 1 scope of work was to provide a New Year Level building with due consideration and planning of this future expansion.

New Year level Building for Year 11 students comprises the following elements:

- A multi-purpose ground floor space capable of being used for year level assembly, year level mass, exams and community functions which doubles in the future to become the Performing Arts Foyer.
- Associated kitchen which can support performance intermissions in the future.
- 5 no. general learning classrooms, 70sqm per classroom capable of being spatially connected as required.
- External learning settings utilising the verandahs as inspirational learning spaces, and recreational zones for the students.
- Writable surface 'thinking walls' to the verandah aspect and stair wall structure.
- Sacred space / contemplative courtyard directly accessible off the ground level multi-purpose space.
- Ground level waiting space to assist pick up and drop off of patrons.
- New staff meeting space / board room.
- Nominal year level coordinator staff offices are located at the upper level of the building, to maximise the agility of lower levels.

- Amenities are future proofed, by providing adjacent stores to enable growth when the Performing Arts is fully operational.
- Capped service connections are provided within the stores.
- New lift sized to service performing arts.
- Storage being strategically located to provide acoustic separation between the staff meeting space and classroom domains.
- New bridge providing both physical and visual connections to the existing infrastructure / Babylon Building.
- Lockers.
- Rainwater harvesting to the undercroft.
- New substation readily accessible from the Cavendish Road aspect.

Initial visualisations of Cruci are shown below.



Initial ply modelling exploring the concept of external learning settings and musicality / a 'front of house' curtain



A fine grain solution - Inspired by the Loreto character: serene, pure, calm, delicate and engaging

BUDGET

We note the following project budget summary for the Cruci Building. The full project cost plan is available on request. \$1M funding was granted from the Brisbane Catholic Education Office as part of the Year 7 funding round with the remaining project funding provided by the College.

Project Building Budget	\$4,000,000
Actual final Building Cost	\$3,931,070
Fittings/Special Equipment	\$224,119
External Services Site Works	\$647,345
Landscaping	\$44,425
Loose Furniture/Equipment	\$358,303
Total Project Cost	\$5,205,262



Physical model of Cruci testing the play of natural light and sculpted welcoming entry form. The physical model was a critical design communication tool greatly assisting stakeholder engagement.

COMMUNITY ENGAGEMENT PROCESS

STAKEHOLDERS

Our team regularly undertook workshops and active engagement with the following stakeholder groups:

- Loreto College Leadership Team and Counsel
- College Executive, including consultation with the IBVM (Loreto Sisters)
- The Queensland Catholic Education Commission (who were the partial funding partners)
- School Capital Projects Committee
- Masterplan Committee
- Students
- Parents and prospective parents associated with the school.
- Maintenance and facilities personnel
- Teaching Staff
- Jagera Elders
- Hospitality and Home Economics industry teaching specialists
- Music specialists and teachers
- Associated Town planning, and Traffic Management specialists
- Quantity Surveyor
- Engineers
- Acousticians
- Landscape specialists
- Accessibility consultants
- AVIT specialists
- Building compliance and regulatory control specialists



CHALLENGES

Limited developable area on site

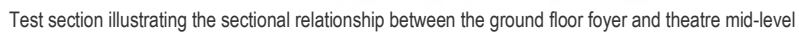
The site is severely constrained in terms of potential developable area due to listed building heritage restrictions and a lack of available physical space on this island site. Post completion of Cruci, we have assisted the acquisition of a remaining large scale house plot, but at the time of Cruci's design and conception, this site was not available. The selected site was a rock face adjacent to the main drop off on the Cavendish Road aspect.

Utilising the rock face preserved the use of the two adjacent tennis courts in the short term prior to expansion to form the Performing Arts Theatre. Future loss of one of these courts has been offset by the above mentioned acquisition. The other court can be also accommodated on this newly acquired site, enabling Performing Arts to be accommodated without any loss of sports infrastructure site wide. Use of the rock face also eradicated existing issues regarding trees with extensive exposed roots and safety / maintenance issues. Whilst the site was severely constrained, the resultant presence of the building on Cavendish Road and relative to the main drop off is a distinctive advantage of transforming this site.



Cruci's striking entrance from Cavendish Road

The site has an overall Town planning building height restriction of 15m from natural ground level. The levels also had to be designed to enable ease of future connection to the mid-level of the Performing Arts Theatre from the Multi-purpose space / foyer level whilst also enabling campus connectivity with the adjacent Babylon Building levels and drop off. The resultant building maximises the available height with a more generous floor to ceiling height provided from ground to first floor level to create an appropriate sense of welcome and scale. Conceptual planning of the Performing Arts was also undertaken to determine the exact building siting relative to future extension to the south and drop off to the north. A gallery of student art is envisaged between the two main entities.



Presence of heritage buildings on campus

The Casket Building and Administration Building are listed on the Queensland State Heritage register. Both assets are constructed from rich red-brown brickwork. This coupled with the colour of the College crest informed the selection of the screen colour. The use of steel angles to form the screen provides depth and articulation to the façade that is contemporary whilst complementary to the above mentioned significant heritage assets.



Above: Casket Building
Top right: Administration Building
Middle right: Cruci Screen and outlook
Bottom right: School Crest and colour testing to screen

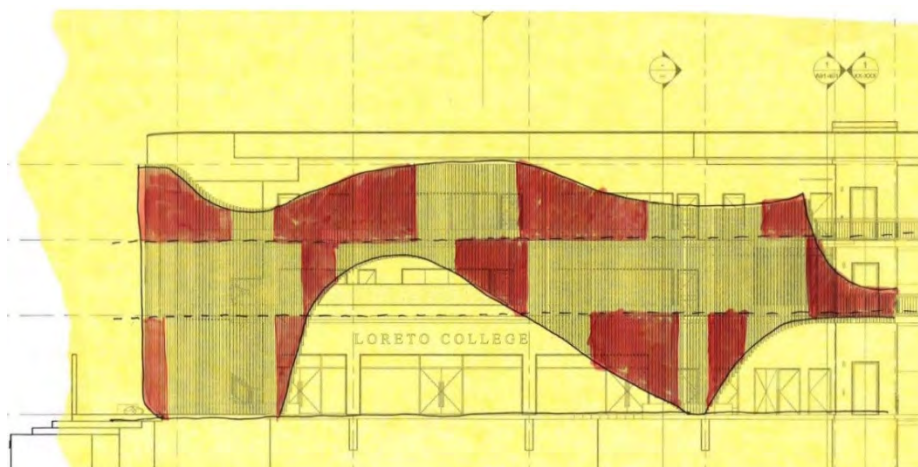


Budget

The project team sought to embrace contemporary teaching and learning practice, create an inspirational and community centric building, embrace the wider site, transform the school identity and plan for Performing Arts Centre expansion with a relatively modest construction value of \$4M. This required a visionary approach, lateral thinking and an efficient building with every square metre utilised for teaching and learning.

Time

The building was completed well in advance of the new year level intake requirements, however, due to the need to construct the facility on a constrained site and adjacent to the principle entrance of the College extensive consideration was given to constructability. The screen was designed and installed in panelised sections whilst being detailed to achieve a smooth, sinuous aesthetic. This element was also programmed as one of the latter construction sequences and painted insitu to ensure quality control.



Extensive analysis of the supporting structure was required to realise the benefits of off-site manufacture whilst retaining the simplicity of the concept.

Close proximity of Cavendish Road

Acoustics were a primary consideration as the project is located next to a busy arterial route into Brisbane, Cavendish Road. Appropriate design measures such as: use of acoustic absorptive surfaces and textures around the entire classroom perimeter, high thermal mass of concrete, acoustic ceilings and partial wrapping of carpet finishes up the classroom walls enabled acoustic compliance whilst supporting teaching and learning, pedagogical flexibility and provision of appropriate comfort.

This Cavendish Road constraint also presented an opportunity to create a distinctive transformation and celebration of teaching and learning, which is further extended by the theatricality of the Performing Arts overlay. The 'front of house' curtain aesthetic frames learning areas of variable scale whilst communicating the future intent and use of the building. This is a bold, brave and efficient approach that embraced such constraints with the intent of creating a highly utilised and a culturally significant community precinct.

AVAILABLE ASSETS

Existing assets and infrastructure were deemed inadequate in terms of accommodating an additional year level. In addition to the need for Cruci, Home Economics expansion and a new ramp were also added to assist this year level transition.

The wider context of Coorparoo offered a significant asset that could be embraced by the design. Leafy rolling hills and suburbs surround the school affording opportunities for external learning settings with panoramic landscape and suburban views. As such, the borrowed landscape is an integral part of the learning environment, uniting students with place, fresh air, views and quintessentially Australian values of embracing outdoor life at every opportunity. This coupled with Queensland's beautiful climate is an asset of immense value on terms of the student and teacher experience.



Framed view of Coorparoo from the upper level verandah

In terms of connectivity with other existing assets Cruci seamlessly connects to the Babylon Building enabling ease of transitions between buildings. The associated link bridges and connections at all three levels have also been planned to enable access to a future continued professional development building between Cruci and the Babylon Building which is envisaged with a roof top garden to further extend wider site connectivity. New assets such as the lift, stair, main power capacity and rainwater harvesting have also all been planned to support the above mentioned building and expansion to form the Performing Arts Theatre.



Seamless connectivity to the Babylon Building on all levels.

Performing Arts is presently undertaken in the basement of the Casket Building and as such this shortfall in facilities provision has been prioritised in terms of Stage 2. We cannot emphasise enough the importance of maximising all assets in such fiscally challenging times. The project team accepted responsibility for embracing future thinking. This new teaching and learning building provides half of the Performing Arts needs through shared use of space and facilities. Considered planning has enabled all new infrastructure to work efficiently and serve multiple immediate and longer term needs. Sustainable design at a macro level ensures every square metre is highly utilised, avoiding the traditional approach of singular functionalities that are grossly inefficient.

Other utilised assets include;

- Orientation of the collaborative learning areas and screen to the North.
- Utilising an elevated position enhancing cross ventilation, daylight and capturing natural breezes
- The street presence was maximised to create a strong sense of identity.
- Views of the existing crescent lawn are afforded from the verandahs; engaging the building with green space.

VALUE OF PROCESS AND PROJECT TO COMMUNITY

The design process fully engaged with the school and wider Coorparoo community and this has been an educational and enriched journey. Master plan consultations, art competitions during the build, bridge building workshops that simulated the design team process and various associated professional roles were all part of a process that has developed great affinity with Cruci.

The school and wider community are being kept fully informed by regular updates on frequently asked questions and this has resulted in immense excitement and support regarding the future phases. An example of how we are assisting communications regarding the master plans implementation is included at the rear of this report.

From a sustainability and pragmatic view point, the project has increased the schools capacity on a very tight site with the subsequent site acquisition of a Dale Street property and the multi-functional design of Cruci combining to increase the ratio of open space to built space. Environmentally, the strategy of build less and design efficiently is less intrusive on the existing residential neighbourhood and character of Coorparoo. This is a significant factor in terms of community support.

Associated upgrades to the drop off and designated waiting areas have vastly improved campus safety and eradicated prior traffic congestion on Cavendish Road.

Cruci's learning environments are encouraging people to think, collaborate and interact. The permeability and prominence of the asset is encouraging parents and students support networks to get involved. This will build a stronger knowledge community with students gaining appreciation of team based cultures and problem solving. The associated engagement with the teaching community will support staff attraction and retention.

The community have gained a significant asset. The multi-purpose space in the short term is capable of staging various events and supporting functions such as the Live and Wired festival, extended use for community clubs and meetings. In the future, functionalities such as drama, dance, musicals and theatrical performances will be commonplace as Cruci continues grow into its full intent.

The artworks resulting from an initiative to paint the construction process are typical of the College's commitment to maximising learning experiences. Construction on school sites often focuses on the negative of construction and factors such as noise and disruption. In this instance, this exercise became an integral part of the art curriculum with students observing construction operations in detail and producing outcomes of an exceptional quality. A magical outcome.



Student artworks of the building under construction – turning the negatives of disruption into a positive learning experience.

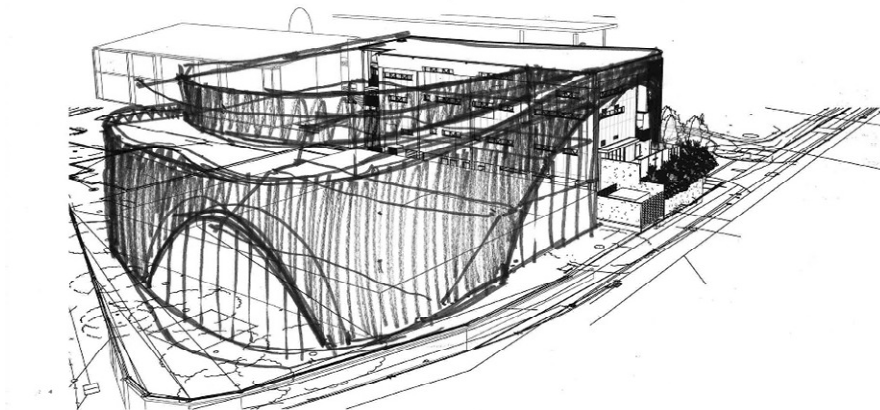
A bridge building exercise further extended community engagement with students undertaking the role of the quantity surveyor, architect, engineer and project manager in a two day consultative workshop. Teams explored the potential for a bridge between the Cruci Building and the Babylon building and members of the project team contributed their time and passion for collaborative working. The results were exceptional with students gaining great experiences in terms of design, cost, management, strategy and presentation skills.



Team bridge design competition of the link between Cruci and Babylon.

In short, the school community is genuinely excited by the arrival of Cruci, their collective buy-in regarding a building that supports immediate teaching and learning needs and a longer term performing arts vision is very difficult to summarise in written form. Many students refer to a love of Cruci. The joy on their faces within the attached video and references to Cruci encouraging various typologies of learning illustrates the value of endeavoring to create inspiring learning environments. Many members of the community have referred to the building as a work of art. This engagement is widening way beyond the immediate school community with the building contributing to global education design debate.

Embracing people's aspirations is at the heart of this engagement. Whilst we had a modest budget, the entire team committed to creating something unique and of Loreto's character. The community has gained a place that will continue to evolve and be responsive to user needs. The sketch below illustrates that the future expansion of the building which will further engage with the community along Cavendish Road. The stage aspect of the theatre will be glazed to promote visibility of various community events within this space. We also envisage use of a roof terrace above the theatre for community events, activating and further energising the presence of Cruci within the community.



Current sketch vision for the future expansion of Cruci that will further unite the facility with the community

In terms of community engagement the building has become an integral component of the Colleges' communication strategy, as highlighted by the visualisation below.



Imagery of Cruci in 1928 to support the College's Great Gatsby fund raising ball – 1928 is the College's founding year

EDUCATIONAL ENVIRONMENT

HOW THE ENVIRONMENT SUPPORTS THE CURRICULUM

'A lot of learning and understanding results from raising awareness. The physical environment of a school really becomes very important. You need to provide students with a flexible and interesting environment if they are to learn' - Paul McGillick, Architecture Writer.



The criticality of collaborative, problem based learning spaces that maximise the utilisation of the verandah space – these are spaces where lasting relationships will be fostered established.

Crucially challenges convention. Creative use of verandahs supports problem based learning, maximises efficiency and activation. This is supported by mobile technologies and furnishings. Students have noted how the space responds to different types of learners: visual, auditory, creative and kinetic learning occurring in open physical spaces with ease of teacher interaction and supervision.

Provision of different sized breakout zones has influenced the form of the building with standard verandas replaced by inspirational spaces. Multiple external writable surfaces termed 'thinking walls' and wireless technology enhance collaboration and enable knowledge exchange. This, together with mobile furnishings internally, enables use of a choice of learning settings which is essential for variety in pedagogy. Acoustic needs are met by absorptive materials around the classroom perimeter and through carpet wrapping up walls.

Five GLA are provided and the formality of the teaching and learning spaces increases as one travels up through the building. This further enables choice with a multi-use activated ground plane contrasting with upper level formal GLA, staff and presentation spaces.



The sacred courtyard accessible off the multi-purpose space with a naturally lit cross and contemplative finishes. Tiered seating enables the internal and external space to be utilised in the round as required for larger groups. Conversely intimate conversation can occur as above.

In order to inform the furniture selections for the project, a prototype was established in the existing library in conjunction with leading furniture providers. This enabled teachers and students to test the proposed furnishings in use in terms of factors such as comfort, integral storage and agility. The results from this study, undertaken in the Spring of 2014, illustrated that the new solutions within the learning environment made a positive impact on student engagement. From the student perspective, the new classroom contributed to an increase in motivation levels and creativity. Feedback offered a deeper understanding of the new active learning environments. Students spoke to how they felt the new environment was more exciting, better for group work, collaboration, interaction with others, comfortable and 'great'.



Furniture testing in existing library

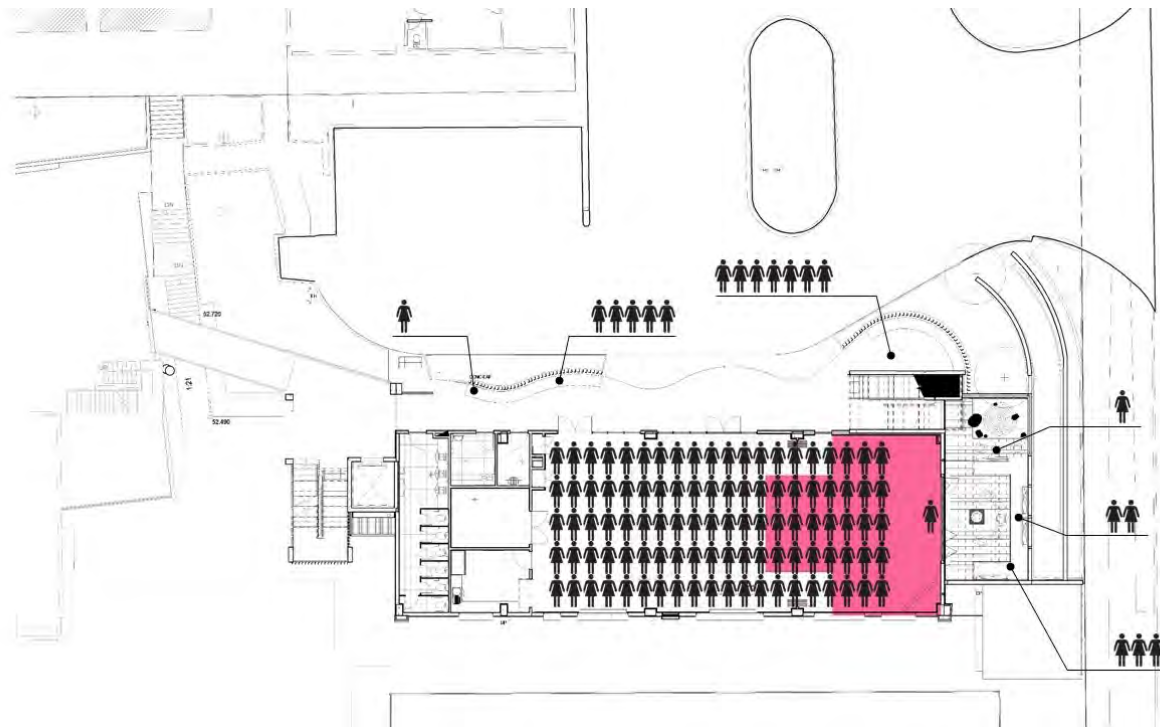
ILLUSTRATE HOW THE ENVIRONMENT SUPPORTS A VARIETY OF LEARNING & TEACHING STYLES

The learning environments support a variety of group sizes, ranging from individual, to small and large group settings, both internally and externally.

Ground Floor

- The lower multi-purpose level can be blended as one large 210sq.m space which can further blend with the sacred space.
- The sacred space can accommodate a medium sized group activity or more intimate contemplation and reflection.
- The internal ground floor can be utilised for functionalities such as presentations, assemblies, a year level mass, ceremonies, exams and large scale collaborations.
- This space is also ideal for extended use and after school hours clubs and activities due to the close proximity to the drop off and pick up and the adjacent provision of supporting amenities.
- Projection screens are provided within each of the three main bays enabling smaller sub-divided spatial use as required.

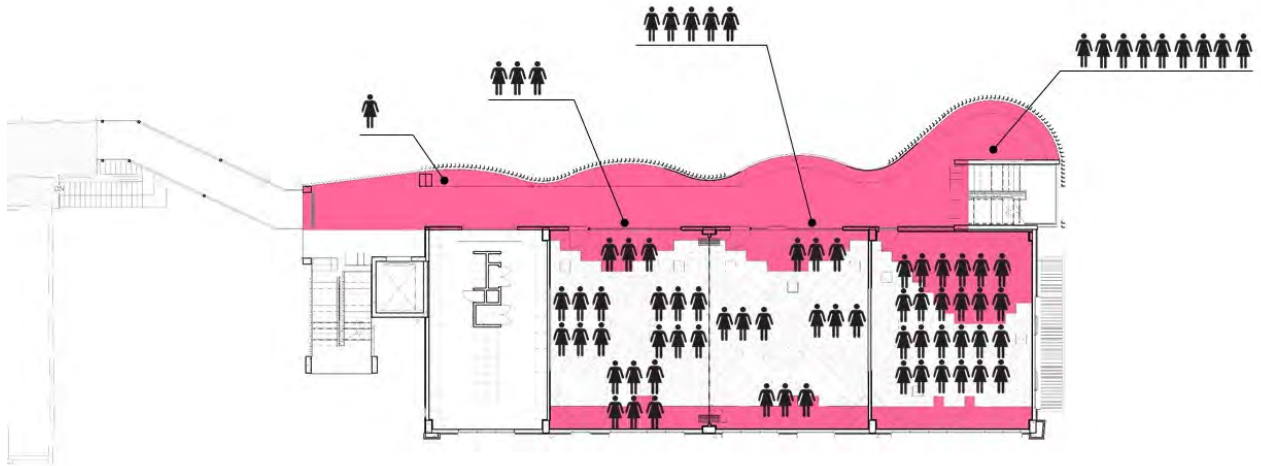
See diagram below.



First Floor

Generally, teaching and learning can occur in multiple modes and at multiple scales as illustrated in the diagram below.

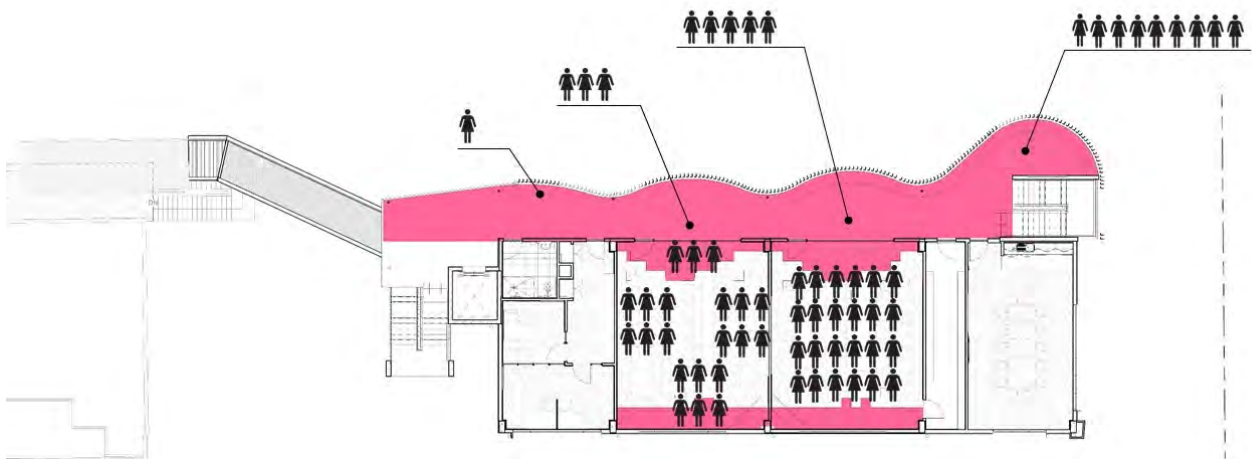
- Spaces can be utilised as one large volume as required.
- 'Thinking walls' and associated continuous concrete seating to the verandah aspect of each classroom provide further teaching and learning spaces of variable scale.



Second Floor

The formality of the teaching and learning spaces increases at this level with space for more formal structured learning and meetings contrasting with the informal spaces below.

- The staff meeting space can also be utilised as a simulated board room for students.
- Nominal staff offices are provided adjacent to the main vertical circulation.
- Further 'thinking walls' and associated continuous concrete seating to the verandah aspect of each classroom and the staff areas provide further teaching and learning spaces of variable scale



PHYSICAL ENVIRONMENT

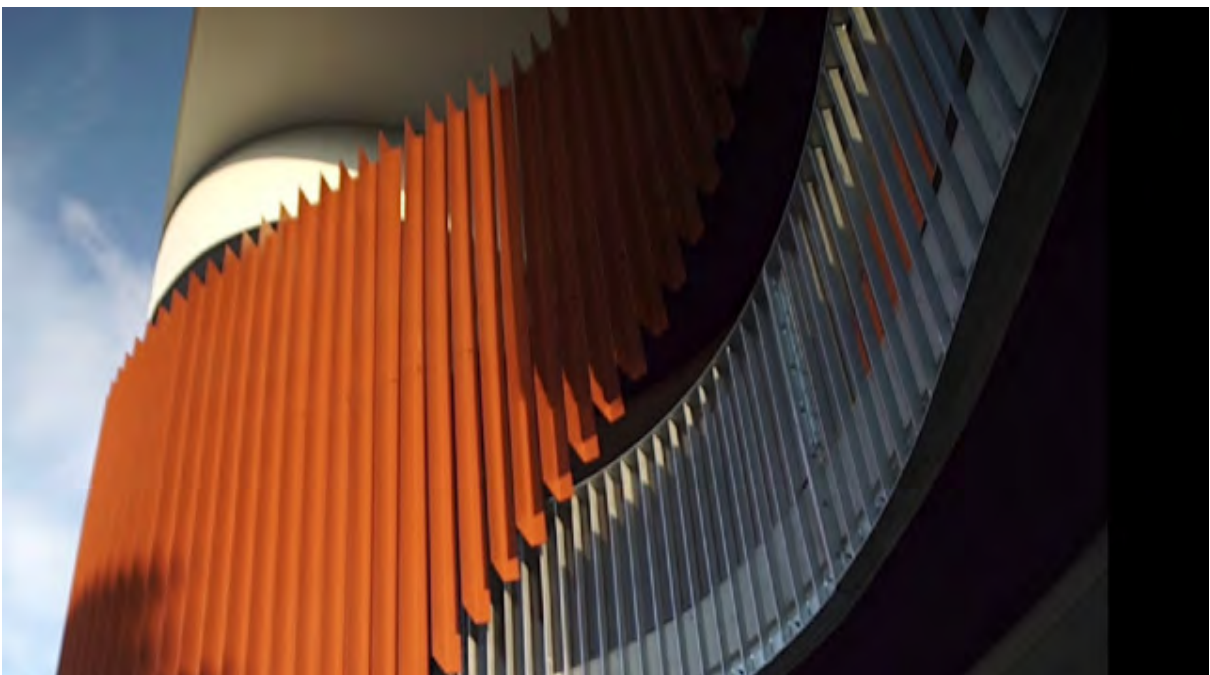
PHYSICAL ATTRIBUTES OF THE ENVIRONMENT

"A lot of learning and understanding results from a raising of awareness. The physical environment of a school really becomes quite important. We need to provide students with a varied, flexible, basically interesting environment if they are to learn. Use of the borrowed landscape is fantastic as well. You're kind of breaking up what you can see. So you're not just getting one single image, you're seeing a constantly changing image as you walk."

- Paul McGillick, Architectural Writer

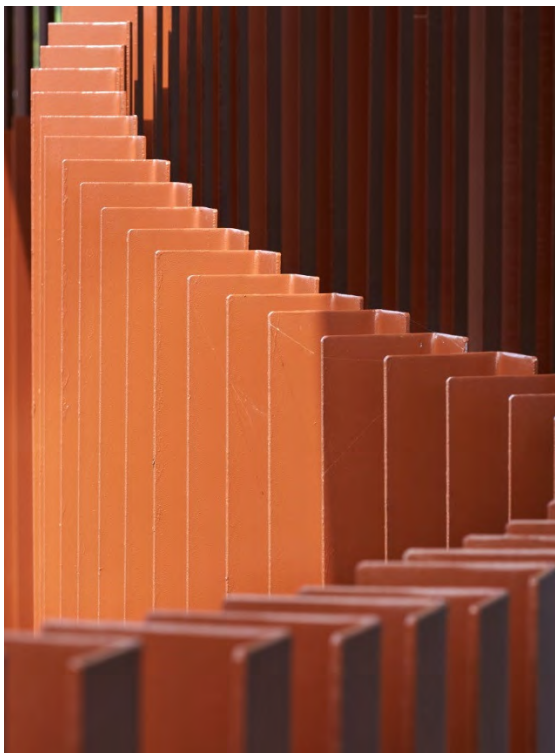


Existing trees are visible through the permeable screen creating ever changing images and perspectives of Coorparoo

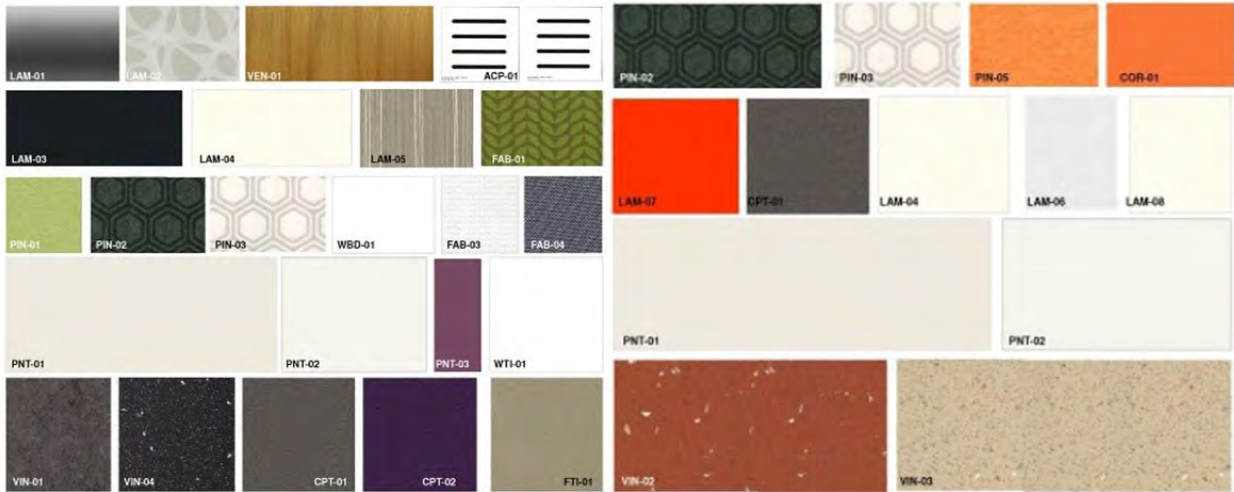


Distinctive, colourful and sculptural forms engage people with place.

Cruci has a definitive, bold and expressive physical presence. A distinctive 'front of house curtain' forms a permeable screen. The sculpted form welcomes students, teachers and visitors to the school. The screen expresses the College's serene qualities, welcoming values, future theatrical functionality, a commitment to collaborative learning and unique, stimulating and differentiating experiences. The rich colour complements the listed brickwork of surrounding heritage buildings and the screen also serves to filter northern light. Continuous and curvaceous concrete seating and courtyard walls increase building mass, assisting the acoustic strategy relative to the Cavendish Road aspect and creating a resilient yet contemporary learning environment.



The interior design consultation process was extensive to ensure that an appropriate balance of Year 11 settings, absorption, durability, colour, longevity and ambience was achieved. Variation of texture, surface and reflectance defines different learning spaces. Splashes of colour complement the learning settings without being overly dominate. Primary colours were avoided to meet the student's desire to express their maturity. The opacity of the thinking walls celebrates the collegiate and collaborative spirit of the building with glazing also assisting spatial management and supervision whilst enabling an appropriate degree of independent discovery for students.

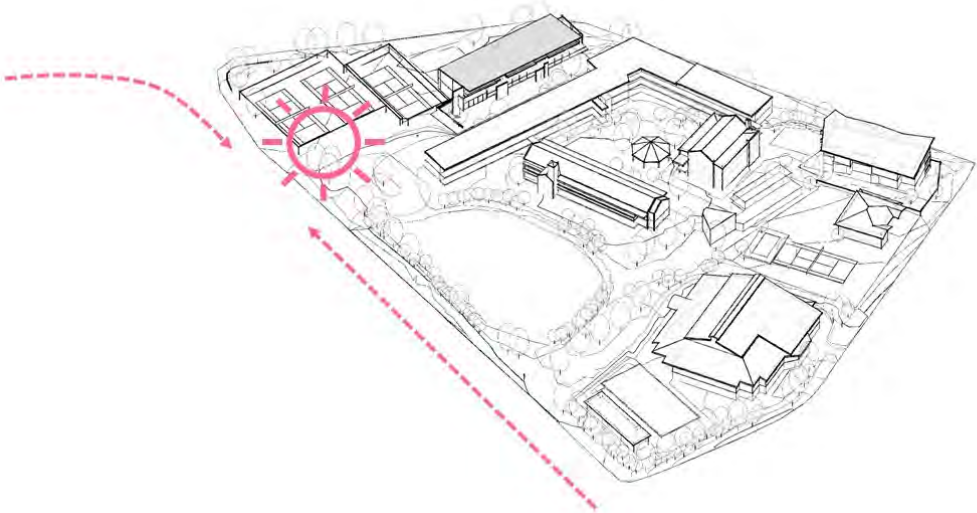


Material and colour palette

HOW THE FACILITY FITS WITHIN THE LARGER CONTEXT OF THE COMMUNITY



Site engages with Cavendish Road with view across the suburb of Coorparoo. The site is 6Km from the CBD.



An opportunity to establish a new identity for the School on Cavendish Road



Before



After

All parties shared the vision of creating something special and worked tirelessly to achieve it. The simplicity of the end result and joy that it is bringing to students, staff and the community is what architecture is all about. The project has created a vibrant, engaging, and creative precinct for the school and the local community. The building will be used as an active backdrop to school and community fetes. It achieves all of these things by positioning itself at the fringe of the school's campus enabling wider community use. The scale of the form addresses the busy frontage to Cavendish Road.



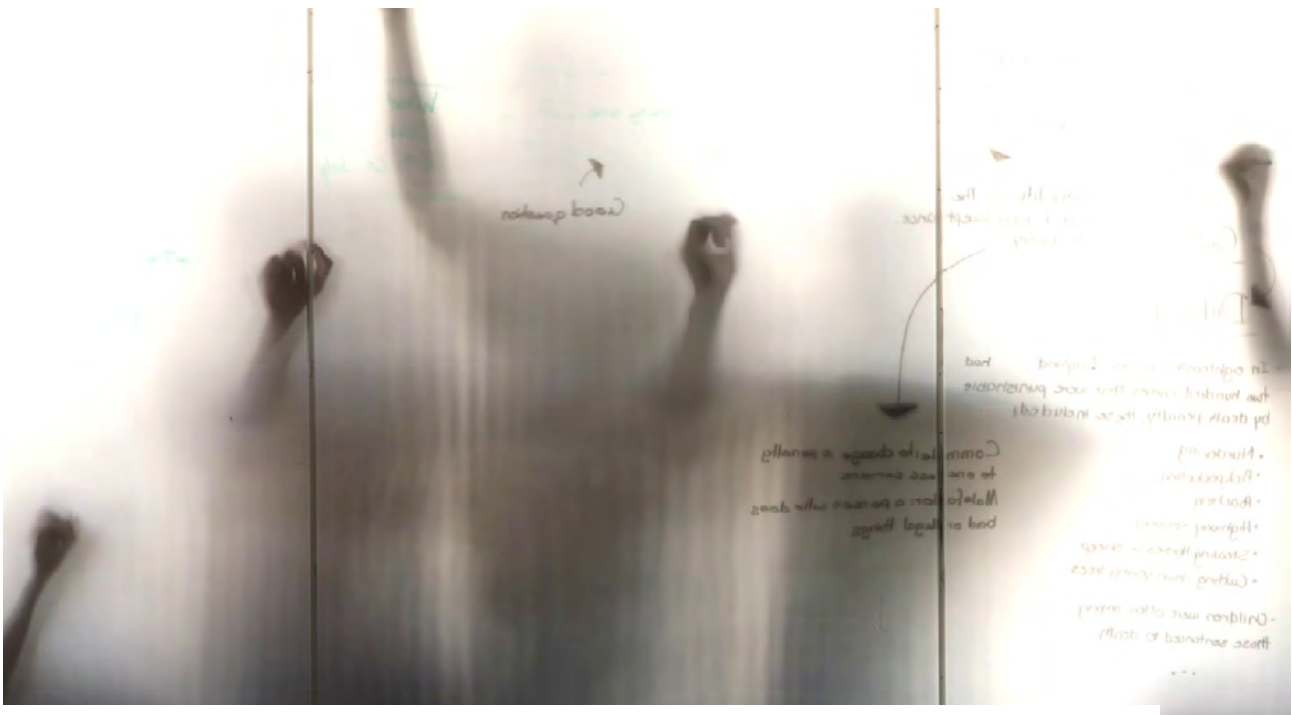
The foreground serves as one of many key meeting and arrival points

HOW THE PROJECT INSPIRES AND MOTIVATES

The design inspires and motivates students by:

- Encouraging collaboration and peer to peer support through the use of elements such as “thinking walls”.
- Creating places which support the fostering of relationships such as the curvaceous and continuous seating benches.
- Through distinctive and expressive use of colour, light and shade.
- Embracing the outdoor environment.
- Embracing Mary Ward values and the overarching serenity of the College.
- Creating contemplative sacred spaces which also supports a focus on culture and Japanese curriculum.
- Providing multiple readily accessible learning surfaces.
- Through use of passively ventilated learning spaces.
- Uniting Cruci with its beautiful wider site context.
- Embracing progressive, contemporary and future proofed design in lieu of conventional classrooms with bag racks.
- Engaging students before, during and after the project with associated learning activities such as master planning, art competitions and bridge building professional team simulations.

Key drivers from a furniture perspective were the need to create agile and flexible learning settings. The formality of the teaching spaces varies on different levels and the furniture's ability to accommodate different configurations has greatly assisted the provision of a range of learning settings. This agility is extended externally through the use of mobile palettes with writable surfaces.



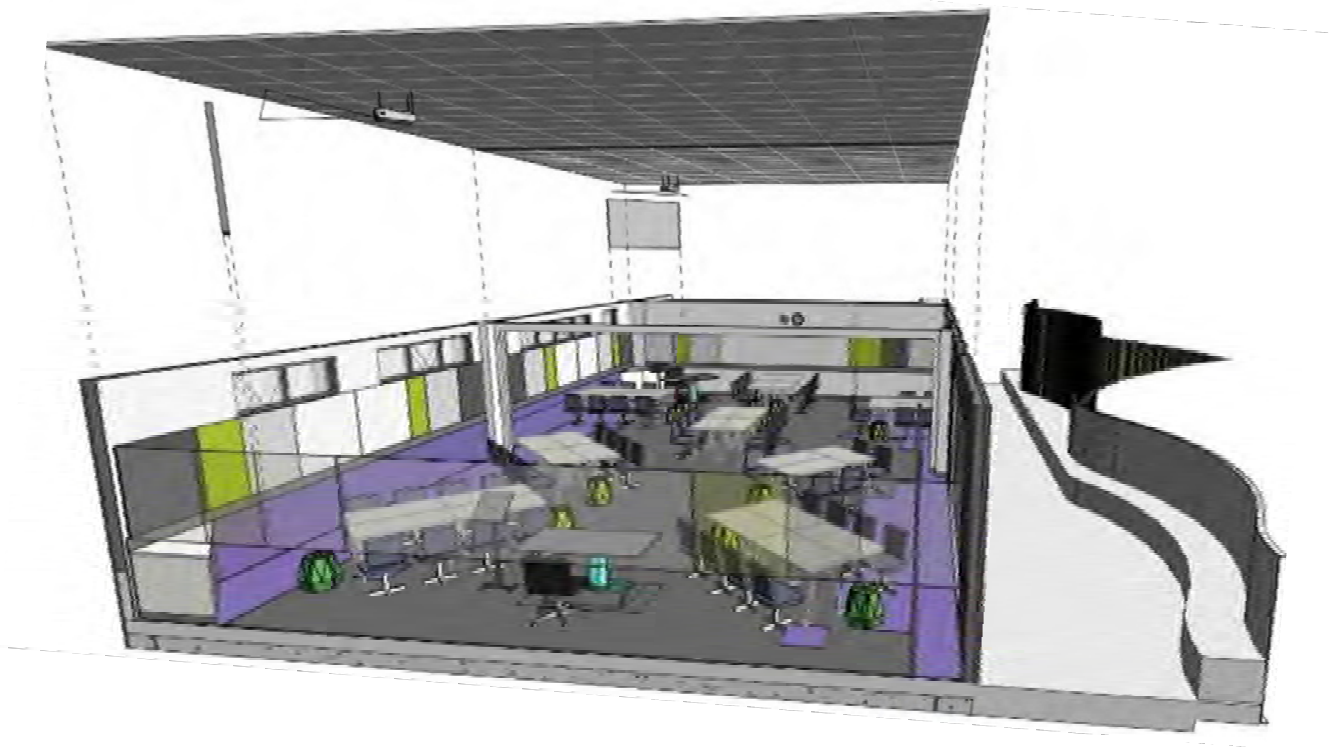
Use of the thinking walls is visible from the classroom interior



Agile furnishings, selected use of colour, light and perimeter wall surfaces creates a learning studio environment



Space can be utilised in a structured or unstructured manner as required.



The entire floor plate can be opened out into one larger blended learning environment as required.

As the above exploded view illustrates, the entire floor plate at first floor level can be opened out to form one large collaborative learning lounge. Purple carpet fringes define peripheral learning spaces and mirror the form of the external screen element on the axis of the thinking walls.

All furnishings are mobile and the use of the perimeter walls for acoustic, writable surface and pin boards adds colour and texture to the learning environment. The environment is ever changing with spaces being opened up or closed down as required. All classrooms break out onto the verandah spaces.

Offering students and teachers spaces that could be personalised and easily reconfigured for different modes of active learning was important. The spaces were designed to reflect everyone's commitment towards collaborative & active learning. Every seat needs to be the best seat in the house.

In addition to enabling large group functionality, the spaces also offer quiet retreats for individualised study as illustrated overleaf.



Providing essential spaces for individual reflection and contemplation.



A blend of internal and external learning activity that breaks down the barriers of conventional classrooms



Student collaborations visible and valued on all levels. People are celebrated as part of the overall composition.

RESULTS OF THE PROCESS & PROJECT

HOW THE PROJECT ACHIEVES EDUCATIONAL GOALS AND OBJECTIVES

Principal feedback:

"The success of Cruci's design intent is very evident. The learning spaces created in Cruci are in high demand. Both teachers and the students love being there. The classrooms and the adjoining break out areas provide an atmosphere for learning that invites genuine collaboration where collective thinking can easily be made visible.

The four walls of a classroom are never enough space, so what you have to do is to create additional breakout space and this building does that in a way that I just think is marvellous and exciting. The girls can quickly get into groups, some can be outside, the teacher can still see them and work with them, they've got workable writable walls, they can move the furniture in the space. So the flexibility of what's in the rooms and then the breakout spaces, that have been done in such a creative way, make it work for us.

They immediately embraced it and we've had overwhelming demand. You can only timetable so many classes in here, and all of the teachers want to teach in here, and all of the students want to be in here. This building is a starting point for many schools and architects to think about the way that they can work together better to produce a result of this quality."

Various teacher feedback:

"The girls love the rooms, especially when we organise group activities to allow them to use the whiteboards".

"

Fantastic space for doing different things continually. Very easy to rearrange student groups and experiment with different dynamics within each lesson as well as from one lesson to another."

"Girls love the colour, find the learning enjoyable, find the space a creative space to learn."

"As a teacher I love the design. I can have any point as the front of the classroom with multiple writing spaces. The outside writing walls are popular and windows allow for easy supervision. Rooms are quiet and cool with no outside noise from road or noisy crows."

"It is essential that the teachers and students enjoy the environment. The spaces created have an affinity with Loreto's values."

"Congratulations on the building. I often gauge learning spaces in terms of whether I feel they would stretch my pedagogical flexibility and take me into uncharted teaching territory. From what I saw on the video this building certainly would prove an exciting place to teach and guide learners."

Various student feedback:

"It's a great way to learn and it caters, you know, for all learners – for visual, for auditory learners."

"Creative and kinetic learners as well – actually doing the work, you know, in an open, physical space. It really, really helps us."

"I love learning it for all the mind maps and just to get your thoughts down."

"It's like a modern art feature for Cruci as well. It's really gorgeous to look at."

"The curves and writing walls are great for group thinking and sharing."

"Open spaces, interactive spaces, a fun building."



Teaching and learning can occur simultaneously utilising the internal and external classroom environments.

The College's facilities and environment development goals and objectives are met as follows;

- Meet current and future educational and business imperatives
 - The building epitomises this objective with the provision of the immediate teaching and learning need, being capable of transformation to the future need of a performing arts facility.
 - From a business perspective, the provision of the new learning spaces enables the integration of an additional 140 students, whilst maximising the gross floor area available for formal and informal learning opportunities.
 - The external learning environments provide extensive collaborative learning settings that are flexible in their use and engagement with the staff and students. The connections with the wider landscape and community areas are enhanced during these learning opportunities by a physical connection with place, and by embracing the quintessential Australian value of the outdoors.
- Develop flexible spaces that support contemporary education directions and a diversity of learning styles
 - A variety of internal and external learning styles can be accommodated with varying degrees of formality on offer to both staff, students and the wider community. A diversity of spaces and settings such as the sacred space, thinking walls, multi-purpose space, dual purpose staff / quasi student board room, collaborative spaces and formal classrooms, are a selection of some of the varied spaces on offer.
 - The extended Japanese cultural programme was embraced by provision of the Japanese Rock Garden within the sacred space, again maximising the multiplicity of the learning environment.
- Create a distinctive Loreto College experience for staff, students and community as a place that enriches, offers broad experiences of cultural and religious diversity, engagement with the church, a strong system of pastoral care and environment which nurtures spiritual development.
 - A distinctive expression of the values of the College are reflected through the built form, inclusive of physical elements such as the spiritual sacred garden, delicate screen, nurturing informal settings, connection to external landscape, environment and community, with flexibility to accommodate large scale student masses and smaller scale places of support, care and reflection.
- Provide places of beauty and for reflection that expresses the Loreto ethos that maintains the quietness of environment where gentle and kind relationships are fostered.
 - The wider site and context greatly contributes to these ideals by fostering respect and consideration of place, and by framing memorable experiences and moments.
 - The screen is considered by many as a sculptural form and work of art that has generated an essential affinity and pride with the environment.
 - Beauty is not only created by the physical form, but through the celebration from the use of the building with active collaborations being an intrinsic component of the overall composition.

HOW THE PROJECT ACHIEVES COMMUNITY GOALS

Consultation through the Master plan and Cruci design processes reinforced the importance of providing inspirational learning spaces, value for money and safety, all whilst addressing identified shortfalls.

Whilst Stage 1 was developed to satisfy the immediate Government directive of the additional learning year, the community has fully appreciated a design strategy which addressed longer term strategic needs and opportunities.

The community has the immediate benefit of utilising a multipurpose space that can support community based functions, events and programmes, whilst looking forward to the enhanced broader range of uses associated with the Performing Arts precinct.

The building communicates a commitment to the Arts through its theatrical beauty and distinctive presence.

The physical presence of the building has complemented the wider site, and has become an intrinsic part of the Coorparoo landscape by activation to the highly utilised Cavendish Road streetscape.

Student's Parent:

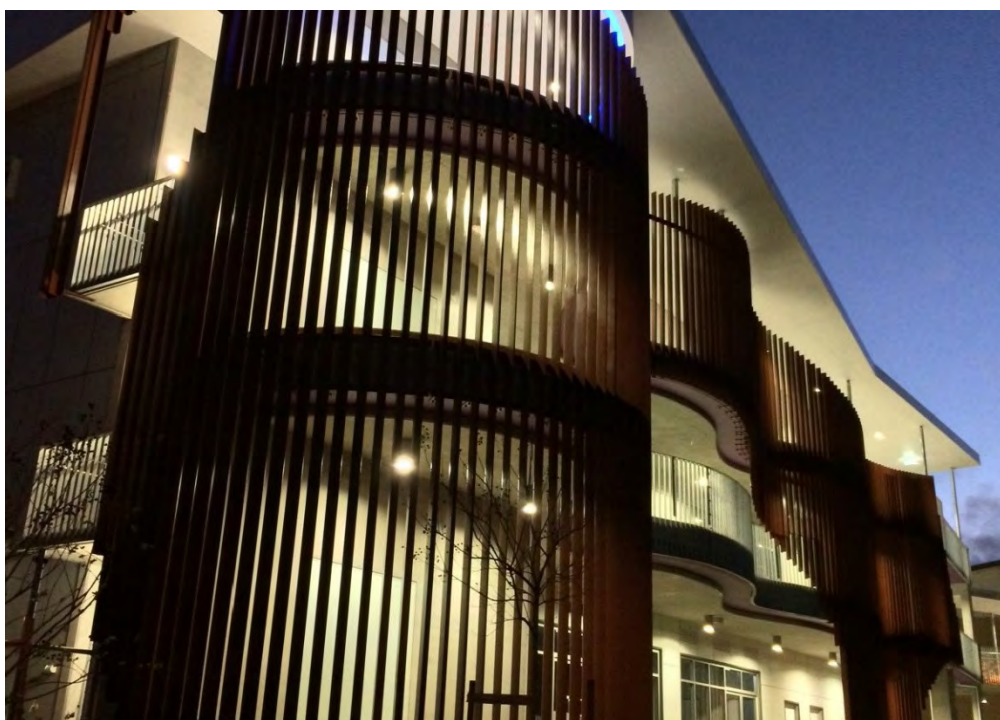
"I have had a lot of positive comments on the building design from people around the local community. They like the design very much."

EXPLAIN HOW THE PROJECT ACHIEVES SCHOOL DISTRICT GOALS

The College recognises the importance of providing spaces that engage the users at a higher level than traditional pragmatic environments. The development of Cruci embodies the College's embracing of the State wide directive to incorporate the new learning level 7, by 2015.

Cruci's future proofing addresses a recognised facility shortfall in the Performing Arts, within the local school precinct. The plan to extend the building within the immediate term will ensure that the school can surpass the districts requirements in the provision of leading cultural learning spaces and performing facilities.

Whilst the overarching long term capital projects are identified, the College recognises the importance of ongoing strategic dialogue with QCEC and all stakeholders. This will ensure that the macro scale vision of the Master plan is delivered whilst continually refining and developing strategies to meet the evolving nature of education



EXAMPLE OF ONGOING COMMUNICATIONS

Ongoing communication with the community is regularly provided by answering FAQ's as noted below:

What's already been constructed? Stage one was completed at the end of 2014, in readiness for the increase in numbers with the addition of Year 7 to secondary school. Stage one encompassed the construction of 'Cruci', a new Year Level building, building including a multi-purpose space and a sacred space, linked to a 'Zen' styled Japanese contemplative garden. Both the Home Economics expansion and Tuckshop upgrades are completed and the 'Tasting Garden' is the perfect area for gathering and tasting of the sumptuous dishes prepared by our students.

When will stage two commence? Stage two is under consideration and community liaison will begin shortly. The entire duration of the Master Plan is dependent on funding and takes us into the next decade.

Will building works be disruptive? We hope to have a bulk of work undertaken in school holidays. Any disruptions due to construction will be kept to an absolute minimum, as much as possible.

What becomes of the beautiful heritage buildings? Buildings of historical significance will absolutely be retained and in some cases, beautifully enhanced.

Why a Performing Arts Theatre? Since we opened our doors in 1928, Performing Arts has enjoyed a strong focus at Loreto College. Music, Drama and the Arts are far more than just 'playing an instrument' or 'performing in a play'; the Arts evoke confidence and discipline in students. Our Past Pupils regularly comment about, and fondly remember their music and drama experiences.

In what other ways will a Performing Arts Theatre benefit the College? The Performing Arts Theatre will not only be used for music, theatre, drama and dance; it includes a beautiful sacred space and will also extend to examinations, rehearsals, information nights, musical events and smaller assemblies.

Will you still use the Mary Ward Centre? The Mary Ward Centre remains - and will be retained - as a cornerstone facility of the College. An obvious outcome of the Master Plan consultation process was that we cannot continue to use this for both Sports and the Arts. We look forward to reducing the curriculum conflict between Sports, Music and Drama, and the development of a more refined Sports precinct on the Cavendish Road and Dale Street corner.

Is the circular drive being moved or altered? The drive will be retained, however it does not function as a drop off and pick up of students. Boom gates are installed and access is only available for approved parties. One consideration of the Master Plan is that eventually our new welcome entrance will move to this area; this is a sensible option and is a far more welcoming, first-impression of the College.

PLANNING PROCESS:

The planning process is demonstrated in the table below.

ACTIVITY	DATE
Master plan commenced. Existing building assessment study undertaken to familiarise ourselves with the school estate and context. Every room and in-between space was visited and appraised. The College and consultants contributed input into this appraisal which informed the master plan. Assessment criteria for this study were agreed in collaboration to ensure holistic and Loreto specific factors such as the Mary Ward ethos were considered, not just building condition.	January 2012
Master plan collaborative consultation sessions held with the pupils, parents, staff, school executive, Loreto body and facilities personnel to obtain insights into what will make the project a success, an understanding of constraints and opportunities. All insights were captured in a detailed master plan report and this process established essential sharing of knowledge and relationships with key stakeholders. In addition to the known need of a new year level, the performing arts facilities were identified as a key shortfall of the existing campus.	February 2012
Smaller scale discussions held to develop a deep understanding of the School, local community and Mary Ward ethos.	February 2012
Assisted appraisal of the Dale street property which was subsequently purchased by the College post Cruci start on site. ThomsonAdsett introduced estates contacts to assist the College with this important acquisition process.	February 2012
Conducted traffic study and traffic count to inform the master plan strategy. Results redefined the drop off strategy and reduced car movements to the frontage of Cruci which will be further developed as a landscape plaza/forecourt in the longer term.	February 2012
Master plan sketches and massing diagrams produced to assist continued collaborations.	March 2012
Ongoing master plan collaborations and development including multiple meetings, presentations to all stakeholders.	March 2012
Initial short, medium and long term staging / priorities identified.	March 2012
Master plan further developed. The master plan was fully cognisant of the need to add year 7 and to address the shortfall in performing arts facilities. Decision made to locate Year 7 in the more inwardly sited Mulwith Building and to accommodate Year 11 in Cruci at the front of the campus off Cavendish Road.	April 2012
Master plan presented to the entire school community and Coorparoo residents in Mary Ward Building.	May 2013
Master plan framework approved.	May 2013
Assisted the College with QCEC funding meetings and subsequent application.	October 2012
Obtained funding approval for the remainder of the project funding from QCEC.	February 2013
Cruci sketched in front of the Principal to communicate the idea of the screen ('front of house curtain') and developed strategy of two buildings in one.	January 2013
Screen precedents analysed. Screen design concepts developed to consider expression of musicality, rhythm, dance, performance, femininity, serenity, fine grain and curvaceous form. We emphasised the importance of the void / negative space in this process and created scoops to open out the arrival and to frame borrowed landscape.	January 2013
Use of CAD plywood modelling to test staging, strategies and form relative to planning constraints such as setbacks and building height restrictions.	March 2013
Schematic Design developed inclusive of further planning and visualisation of the future performing arts functionality to ensure the overarching expansion strategy could be accommodated. This is a very sustainable strategy as this cross utilization will reduce future capital and life cycle costs and the schools carbon footprint.	April 2013
Design process booklet for Cruci ongoing. See attached final booklet which captures a summary of the planning process which encourages a culture of sharing and collaborating to create inspirational learning environments.	April 2013
Rainwater recycling incorporated to provide deliverable sustainability.	April 2013
Prepared all internal and external material and finishes boards. All surfaces for learning maximised utilising pin boards, whiteboards, glass thinking walls for mind mapping, mobile furnishings/tablet pads, carpets wrapping up wall surfaces. Strong emphasis placed on colour and texture with the carpet design mirroring the screen internally and defining internal thinking wall zones. Retractable walls also included writable surfaces maximising spatial agility.	May 2013
Extensive structural co-ordination undertaken with MPN project engineers to ensure the supporting structure was minimal and did not detract from the simplicity of the screen concept. The team committed to creating a piece of art and architecture that inspires learning.	June 2013

Samples of Duragal screen tested in terms of colour options to match the existing listed brickwork on site and to complement the school shield.	June 2013
Great Gatsby (future performance mode) imagery produced of the building to support Loreto's Annual Ball which was themed in this era due to the schools founding year.	July 2013
Detailed design complete.	July 2013
Construction documentation complete.	August 2013
Furniture mock up collaboration held with Steelcase/Inspiration office in the library to test proposed furniture in use. These products were included in Cruci with a bespoke pneumatic teacher/student table created specifically for the project and in response to user feedback.	February 2014
Physical 1:50 scale model made of the proposed building to analyse natural light, form and the screens permeability. This enabled testing of the screen composition and greatly assisted communications with the client body, consultants, contractor supply chain and the wider school and Loreto community. The model was also used as a design tool to assist refinement of the lighting strategy and co-ordination of construction detailing.	March 2014
Value management of screen undertaken to refine the screens simplicity and permeability.	March 2014
Pupil art competition held during the construction process. This made a learning experience out of the construction process and added positivity to the build whilst managing disruption. The resultant art works are absolutely stunning and included in the design process booklet.	April 2014
Cruci completed on site.	September 2014
ThomsonAdsett staff tour of the facility as part of our continued improvement and staff engagement process.	September 2014
Cruci formal opening ceremony / blessing.	October 2014
School bridge building competition held with pupils undertaking the roles of architect/engineer, quantity surveyor, project manager. This event was supported by our Group Director of Design and Education (Graham Legerton) and our Queensland Managing Director (Liza Ringdahl).	November 2014
Cruci published in CEFPI Newsletter and various architectural websites.	February 2015
Professional photography collaborations with Scott Burrows with Alicia Taylor.	February 2015
Cruci published in Arch Daily, the worlds most visited architectural website.	March 2015
Loreto video made on the design. https://vimeo.com/123058743	March 2015
Indigenous master planning consultations ongoing with elders and pupils.	Ongoing
Master plan framework updated. Collaborations ongoing with presentation of future stages including the performing arts theatre to the board due on 30.03.2015. This master plan update also takes into consideration the Dale Street acquisition.	March 2015
Design process booklet updated.	March 2015
CEFPI and AIA building visits.	March 2015
Cruci published in Indesignlive.	March 2015

Related publications:

- Feb 2015 - CEFPI Qld Newsletter - The Cruci Building - revolutionary education design puts future proofing to the test.
- March 2015 - e-architect UK - 'Cruci Building at Loreto College in Brisbane' - <http://www.e-architect.co.uk/brisbane/cruci-building-at-loreto-college-in-brisbane>
- March 2015 - Architecture & Design, 'Joyful educational architecture is what it's all about for ThomsonAdsett' - Loreto Cruci - <http://www.architectureanddesign.com.au/news/joyful-educational-architecture-is-what-it-s-all->
- March 2015 - Arch Daily, 'Loreto College / ThomsonAdsett' – Educational Selected Works, Coorparoo, Australia - <http://www.archdaily.com/608780/loreto-college-thomsonadsett/>
- March 2015 - Indesignlive, Architectural website feature. 'Do you write on the walls at home'.
- March 2015 – 'Good eye for sound: Loreto College Cruci Building nails spatial agility and acoustic performance'

ADDITIONAL IMAGES

Please refer to separate attachment.

CONFIDENTIAL DATA SHEET, SIGNED PHOTO RELEASE & EDUCATIONAL SPECIFICATIONS OR PROGRAM OF REQUIREMENTS DOCUMENT, INCLUDING A SHORT SUMMARY OF STATE/PROVINCIAL GUIDELINES

Please refer to separate attachment.

