

PP20 Albany Senior High School



A view of the new Albany Senior High School

Project: Albany Senior High School
Publication date: 2010
Client: Ministry of Education
Architect: Jasmax Architects
Client Representative: White Associates
Contractor: Arrow International
Region: Auckland
Sector: Education/Public Building
Final Contract Value: \$60m
Tender: Design & Build
Construction timescale: January 2009 to April 2010
Form of Contract: NZS 3915

In the latest addition to the Pathfinder Programme, we return to school to examine how key stakeholder management and a team commitment to collaborative working delivered the next generation of school in Albany.

Background

The \$60m five-storey facility is New Zealand's first senior secondary school. It is a state-of-the-art secondary school comprising of two levels of car parking and three levels of learning communities that can cater for up to 1,300 students (Years 11–13). The building is 20,000m² and has specialist areas for faculties including art, science, hard tech, media, dance & music, a separate gymnasium complex with a sports field and hard courts.

Over the course of the 13 months build the project team managed this complex project and ambitious project, producing a school built for the next generation where students and staff are fully integrated with flexible and open learning spaces that enable an innovative learning environment. The project team transformed a bush-clad four-hectare site on Albany Highway with an ecologically important stream running through it and also included the restoration of a heritage school building that has been located on site since 1897.

Challenges Faced

Managing a space constrained site

The Ministry of Education had previously undertaken a feasibility study for the planned four hectare site for the school. However, for a school of this scale that includes 1300 students, a 20,000m² building with 300 car parking spaces as well as capacity for 12 buses, the site was extremely limited.

When this space was further reduced to three hectares due to the need to protect an area of natural bush and a stream running

through the site, the design constraints were even more onerous. It also created significant logistical issues and site constraints during the delivery of the project.

Dealing with an environmental setback

Due to the environmentally-sensitive nature of the site and local wildlife the project team faced delays in getting the site designation and had to develop temporary accommodation that enabled the team to test some of the design concepts that the team had been considering. The designation conditions compromised the original design and the team had to innovate orientating and migrating the structure closer to the road and utilising the space over the bus bays.

The new design was more complex and varied in height. It did, however, maintained the commitment to deliver the same teaching and learning space as in the original design and, as a result, created a richer building and site for the school.

Handling shorter timescales

As a result of the delay in obtaining consents, the building period was reduced to 13 months. Prior to starting on site the project team met in a series of pre-planning workshops to micro manage the construction programme and to phase the relevant consents and packages accordingly to accelerate the programme.

As a result, the team worked together to develop a solution that would meet the revised build timetable. This included changing the originally planned concrete frame to a steel frame. A pre-fabricated glazed and solid cladding system was introduced.



This was widely recognised by the project team as a critical success factor in delivering the project to programme and on budget.

The system was manufactured off-site and, whilst it was the higher capital cost solution, it delivered the value the school was seeking in delivering the completed building ready for the new school year. By having the panels manufactured off-site also reduced logistical issues and associated movement around site as well as reducing health and safety risks.

Successful Outcomes

Experience from previous school projects

Arrow International was selected for the project on their previous experience and expertise on education projects and for their strong working relationship with architects, Jasmx. Having worked on previous school projects meant that the project team understood the Ministry of Education requirements and procedures in tendering for the contract as well as the facilitation role the Ministry of Education plays.

The Ministry of Education's approach to stakeholder engagement and management and in attending meetings with the project team and the Board of Trustees in a facilitation role enables the team to focus on the learning outcomes for the schools and its students rather than focusing on the construction of a new school. The Ministry played a key role in managing expectations and in enabling the Board of Trustees to get the teaching methodology that they wanted for the school and then briefing Jasmx accordingly to create the right design and environment to enable the design to meet the Board's brief.

Working with the Board of Trustees

A critical factor to enabling success on this project was how the construction team used their experience of working on previous education projects to managing the client and community engagement. Regular meetings created an open and honest environment that enabled the project team to learn what was important to the community and the Board of Trustees. A further critical aspect was to develop the senior high school concept for school years 11, 12 and 13. Different concepts were considered to influence teaching and learning outcomes.

To understand what was achievable, trips were arranged for the Trustees and the project team to visit a range of schools in Australia that had similar learning aspirations. The visits encouraged the Trustees to think and decide about the expected learning outcomes and innovative teaching methodologies before considering the design or format of the building that would then reflect on these learning aspirations.

Once the teaching and learning strategy had been agreed, the project team ran a series of workshops with the Board of Trustees and the Ministry of Education to discuss the design concepts for the learning spaces.

Delivering a proactive learning environment

The preferred concept was to use an open-plan learning space to encourage enhanced interaction and improved teaching and learning environments. This was accompanied by laboratory spaces where students can undertake practical work related to what they are studying in the open-plan teaching environment. These laboratory spaces were distributed throughout the schools to encourage interaction between students as they moved around the school between learning sessions. Also built into the design of the school are a number of private spaces for special-needs students and for one-on-one and small-group teaching.

One of the key successes of the school has been the holistic approach and shared vision for the entire school that was taken. This included encouraging inter-departmental discussion and interaction for the benefit of the teaching outcome.

Commitment to the team ethic

Critical to the success of the project was the team's commitment to the team ethic and building trust through collaborative working principles throughout the project. This enabled the team to develop excellent working relationships within the team and to focus on solutions rather than more adversarial ways of working, and to innovate and share risk.

Key principles for repetition

- Use of pre-planning workshop to inform more effective project decision making
- Considering delivery innovative solutions to maintain programme and manage site risks
- The Ministry of Education facilitation role works in managing key stakeholder relationships
- How continuity within the team is critical to success
- Work with stakeholders to deliver desired outcomes

Key Lessons & Possible Improvements

Key lessons to take forward from this project have been identified as:

- **Stakeholder engagement and management:** Getting the engagement with the Board of Trustees was arguably the most critical issue to the success of this project. Without their commitment to the vision developed for teaching and learning the design concepts would have been very different.

- **Team ethic delivers results:** A commitment by the project participants to work collaboratively, build trust and share risk enabled the team to deliver an outstanding outcome and encouraged them to innovate when faced with space and time constraints that would typically result in adversarial behaviour.
- **Innovation and pre-planning enables delivery with shorter timescales:** The shorter timescales forced onto the project team as a result of delays in obtaining consents enabled the project team to innovate and explore alternative building solutions to complete the building on an accelerated programme.
- **Use of off-site construction to minimise site risk:** The redesign of the site over a 3 hectare site presented a range of issues around site accessibility and storage/movement of materials around the site. The decision to use an off-site manufactured construction solution reduced these risks as well as assisting with the accelerated programme.
- **Utilising experience from previous projects:** Critical to the success of this project was Arrow International's previous experience of working with the Ministry of Education, in their facilitation role, and on previous schools. Previous experience brings expertise that can be applied to future projects.

Conclusion

The approach adopted on this project to understand the learning outcomes prior to design has truly created a school that is fit for purpose and for teaching the next generations of students. This has been confirmed through the wide interest in the school since its completion. Barbara Cavanagh, Foundation Principal of Albany Senior High, says that working with the Arrow team has been a huge success. "The collaborative approach of partnership and consultation implemented by Arrow enabled all the stakeholders to be involved and was extremely effective. Adding to this, the sheer speed at which the project has been completed has left a lasting impression on me and my staff."

This project faced a number of challenges that have been overcome through commitment to the team that has challenged buildability in reduced timescales and has enabled real innovation through collaborative working principles. The project team has engaged the client and board of trustees in developing an innovative model for teaching and learning and has used their skills and expertise to deliver the facility in a condensed building programme.

Craig Brosnan, the Albany High School Project Director for Arrow International has the final word: "In this fast moving environment, it is often difficult to keep your perspective on what is being achieved on a daily basis. It's not until the end of the project, when there is time to step back and reflect that you fully understand the enormity of your teams' efforts. The Albany Senior High School project has been challenging and, ultimately, extremely rewarding."

The commitment shown and the time spent by the project team prior to the construction phase of this project has enabled the team to fully understand the requirements of the Ministry of Education and of the board of trustees.

This approach plus the team's commitment to collaborative working has enabled the team to deliver a class-leading school that will provide a quality learning environment for future generations of students.

Summary of Benefits

Stakeholder engagement and management

Getting the engagement with the Board of Trustees was arguably the most critical issue to the success of this project.

Team ethic delivers results

A commitment by the project participants to work collaboratively, build trust and share risk enabled the team to deliver an outstanding outcome.

Innovation and pre-planning enables faster delivery

Construction challenges usually lead to innovation as was the case with site and programme issues with this project – planning is the key to meeting these challenges.

Use of off-site construction to minimise site risk

The decision to use an off-site manufactured construction solution reduced these risks as well as assisting with the accelerated programme.

Utilising experience from previous projects

Where possible use experience and working relationships from other projects – one person's best practice can be another person's innovation. Never underestimate the experience of previous projects.



For further information on Pathfinder Projects visit www.constructing.co.nz