



**A project's success usually boils down to how well people work together, this Pathfinder Project demonstrates that the most important thing is people.**

## Whanganui UCOL

Client: UCOL

Contractor: Lockwood Naylor

Architect: Designgroup Stapleton Elliott and DLA Architects

Publication Date: August 2009

Region: Whanganui

Sector: Education

Total Project Value: \$36m, Construction Cost \$25m

Project Timescale: Construction - December 2006 to April 2008

Form of Contract: Contractor NZIA SCC1 with special conditions

## SUCCESS IS ALL ABOUT PEOPLE

**This Pathfinder Project is another example of an extraordinary achievement under difficult circumstances. As we have repeatedly seen a project's success usually boils down to how well people work together; this Pathfinder project was no exception.**

### Background

The merging of Whanganui Regional Polytechnic with Universal College of Learning (UCOL) in 2002, allowed for the development of a new integrated campus for the Whanganui region.

After careful deliberation, the Client chose to build within the Whanganui Old Town Conservation Overlay Zone. The outcome was the construction of a new three-storey teaching and administration block, the upgrade of three other existing buildings, a four storey historical building requiring major structural strengthening and refurbishment, plus link-ways and bridges between the buildings.

Many challenges were faced in this project. The client required a fast-track process due to term time constraints and securing a reputable contractor in a boom market was going to be challenging. In addition, Resource Consent issues were abundant as the project involved building within a heritage precinct. Sensitive navigation of the zone's controls was required to ensure no delays.

Yet the project was successful because of everyone's willingness to communicate, plan and work together as a team. *"Paramount to going forward was the need to have positive relationships and people prepared to be adaptable in their decision-making and positions. A team approach allowed the ability to address any issues that arose"* Jule Einhorn.

*The interior of the refurbished heritage block.*

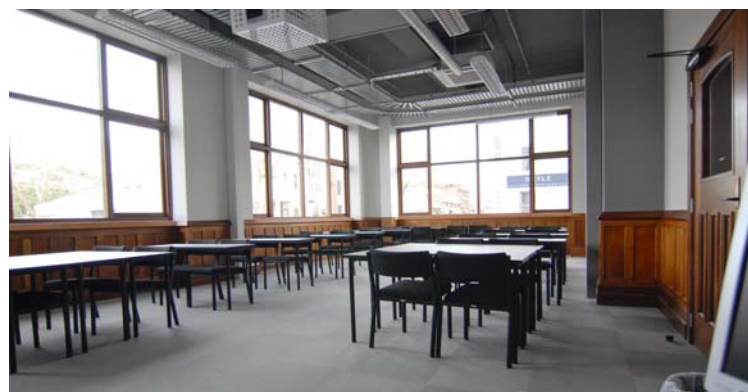
### Challenges Faced

**Time Pressures** One of the key objectives set by the client was the importance of meeting the beginning of term year.

This was vital to prevent disruptions to teaching and ensure that the client's business and cash flow goals could be met. Any delay from the agreed time would mean waiting until the end of semester before being able to occupy the building, which would be catastrophic for the client.

The resulting intense time pressure placed upon the project team meant that from the time of purchasing the land in December 2005, the foundations were being poured exactly one year on. Within the year, the design, application and approval of Resource Consent, all documentation, appointment of the Contractor and the start of the staged Building Consents had been carried out.

Fourteen months from the commencement of construction the majority of the work was completed and ready for teaching.



**Heritage Zone** The site selected was within the Whanganui Old Town Conservation Overlay Zone. To move forward a Resource Consent was required to demolish part of the site as well as a further Resource Consent for the new building to fit within the scale and feel of the historic precinct. It was vital that both Resource Consents be non-notified to ensure completion of the work within the client's timeline. A considered methodology was developed to enable this significant project to be built in the middle of the city in a tightly controlled heritage precinct in a short period of time.

**Boom market** The client had difficulty obtaining a suitable contractor in a regional area such as Whanganui in boom market conditions. All trades were already under significant pressure.

Initially the clients were advised to create a Special Contract that included Liquidated Damages. With such tight time constraints placed by the client and given the boom market conditions at the time, contractors were unwilling to enter the original litigious contractual position.

Following advice from consultants, UCOL moved towards a fairer contract, gaining Lockwood Naylor as the contractor for the project. *"We were really fortunate to work with Lockwood Naylor, who couldn't have been better from start to finish. We sat down and worked through contractual issues. Paramount to going forward is the need to have positive relationships"* Jule Einhorn, Client Project Director.

Once Lockwood Naylor was on board and the initial concept established a cost estimate was provided. The boom market conditions meant escalated prices were above the client's budget and a value management workshop was held to find ways to reduce the costs yet maintain the client's objectives.

### Fast track nature of project

In order to achieve the timeline, work had delivered under a fast-track process. The fast track nature *"literally meant keeping one pace ahead of where we were, while one part was going for consent and work commenced on another part, developed design was being completed for another stage"* Jule Einhorn, Client Project Director. This meant that overall there were 12 Building consents for this project. Trades were let in packages as documents were made available.

An advantage of the fast tracking process was that the architects could discuss details with the Contractor.

Project manager Paul Booth remarked that *"the architects were prepared to listen and implement certain suggestions. We were not afraid to offer suggestions as we knew they would work with us to find solutions"*.

Brian Elliott, Lead Architect, supported this and stated that *"in many cases Lockwood Naylor's input was important in establishing the cost/time/quality triangle, in conjunction with us all working together to establish a deliverable level of detail suitable to the time frame whilst still ensuring a high quality outcome"*.

*Night shot of the Rutland Street facade, a new building.*



*The Entry Court*

### Crossover between completion of construction and Furniture and Fitout stage

Due to the tight timeframes, whilst the contractor was finishing off construction the furniture and fitout was also being installed. *"This was certainly a challenge, but because of the goodwill and excellent relationship with the Contractor and subsequently the subbies it all did work under exceptionally trying circumstances"* Jule Einhorn, Client Project Director. Trust and cooperation were key as UCOL were responsible to record any damage to the completed works during the furniture installation.

### Successful Outcomes

It is not one but many aspects working together that make a successful project. Below is a summary of the key practices that ensured the realisation of this project within the extremely tight timeframe set by the client.

#### Time

Completing on time was one of the key objectives of the client. The construction commenced on time and met all agreed key milestones.

To meet the deadline, significant changes to materials and additional resources were made at a July 07 meeting. Everyone, including the client was involved and helped towards realising agreed completion time.

At this meeting, the tool, Last Planner™ was introduced to help navigate the complexity of the construction process. In addition it was agreed to partially complete the majority of work on the agreed date and extend the final handover of the Heritage building.

The handover of the project was well managed, flexible and informal, working in with the client whilst some parts were being finished off during student and staff occupation.



## Cost

The costs were managed and communicated well with monthly reporting at the PCG meetings. The Quantity Surveyor established a rigorous system and ensured that trade packages were competitively tendered.

Where unexpected increases or changes occurred, the client was always informed and understood the reason. Awareness of the risk of cost management due to the fast-track nature of the project meant that control of costs was a priority. This was balanced with awareness that escalation is common in a fast-track process. For example, materials were sometimes upgraded for expediency to meet the timeframe.



*Detail of the Rutland Street facade showing the cladding.*

## Quality

The selection of materials and the detailing were carefully considered to achieve the target quality level set within time and at the right cost. The project was handed over without any significant defects and defects were on the whole, quickly and efficiently resolved. *"The workmanship was excellent – the result of excellent teamwork by the Contractor, Paul Booth and his Foreman who were very much in tune with the architect"* Jule Einhorn, Client Project Director.

## Health and Safety

The Contractor placed great emphasis on maintaining safety procedures and in providing a safe, tidy and efficient site. The site was run as a Site Safe site with induction workshops for everyone who came on site. *"They were excellent on this front, probably the best I have worked with"* Brian Elliot, Lead Architect. There were no LTI's recorded during the construction process.

## Well considered brief prepared by the client

Eighteen months before design began, UCOL developed an in-depth Education Plan and heritage study that addressed demographic and community needs for education and the development site. This, in addition to a Project Design Description ensured a clear understanding of the UCOL's objectives and enabled the Project Team to constantly refer to them during the project and be able to deliver on these expectations.

## Methodology of achieving a significant project built in sensitive heritage zone

The architectural team had a strong knowledge of the local district Council systems and convinced UCOL of the importance of the need to create a partnership with Council, particularly due to the tightly controlled Heritage Zone. Talks commenced with Council during the early days of developing the design. This prompted the Council to employ their own Heritage Architect to oversee and be part of process from the start, which meant at Resource Consent there were no surprises and the buildings could proceed non-notified.

## Value Management workshop

Holding an early value management workshop was important on many levels. The workshop provided an opportunity to challenge every aspect of the design and materials whilst still holding to the key objectives. It also provided an opportunity for the client and consultants to work as a team and understand why decisions needed to be made. *"The Value management workshop and heavy debate of what had to occur provided a deep sense of what was important"* Jule Einhorn, Client Project Director. In addition it allowed UCOL to change its view on its contractual position in selecting a Contractor, moving to fast track.

## Last Planner™

A significant outcome of the July 2007 meeting was the introduction of Last Planner™, a Lean Construction tool. As part of setting up the Last Planner™ process, a one-day workshop was run with all key trades to highlight significant goals and milestones and to collaboratively plan the construction sequence.

Weekly 'Production' meetings were then held to address work planned in detail for the upcoming week and review risks on work projected out to the next 5 weeks. The process aided sub contractors in keeping to time, and gave them a greater understanding of how they fitted within the project as a whole. With up to 200 tradespeople often on site at once, Last Planner™ helped them to 'self-coordinate' smoothly. The process became transparent as everyone could see what problems people were facing and trust developed as work spaces became available when planned and the programme became more predictable.

## Summary of Benefits

- A proactive and involved client helped to speed decision making, essential in a fast track process.
- Last Planner™ smoothed the planning process and formed a collaborative team based on trust.
- Upfront workshops involving the whole team including the client enabled everyone to understand how their part fitted within the process, gave ownership and built trust
- Partnering with the council early on enabled the complex resource consent process to go smoothly.
- The fast track process enabled integrated design and construction

## Key principles for repetition

- Collaboration with key players outside of project team – e.g. the Council
- Team spirit over adversarial protection
- Valuing each other's roles and experience
- Importance of safety procedures and maintaining a tidy and efficient site
- Strong emphasis on collaborative project planning supported by a programmer
- Last Planner™
- Value and Risk management workshops
- Integrated design and construction once the Contractor appointed



## Staying ahead of the game on project planning

The client acknowledged the tremendous pressure they placed on the project team and were committed to their part in making decisions in a timely manner. In turn, the team realised the pressure that they would be under to meet the contract obligations and took extra care with planning the project. *“The client knew they were asking for a tight programme. Everybody was aware of it, and everyone tried to fulfil their side of the bargain to get there”* Paul Booth, Project Manager.

The project programmer who worked for the Contractor also programmed the documentation delivery dates, indicating the true partnership approach adopted by the project team. Using the Last Planner™ process, the team continuously planned ahead and through the weekly production meetings, also attended by the client, they were able to highlight and resolve potential problems before they became an issue.

In July 2007, it was clear that the original timeframe could not be fully met. A meeting was called to find a way to expedite the construction process. Realising that the project team was doing its utmost to meet the deadline, and that there would be minimal disturbance to their teaching, the client shifted from their original immovable position and agreed to two completion dates. They further agreed materials changes and additional resources to help meet the deadline.

## Key Client Actions

This project demonstrates a number of areas where the client directly and positively affected the outcome of the project **for all**, by adopting specific Collaborative Working practices, including:

- **Client on board:** The client formed a vital part of the project team and partnered with the council for consents.
- **Planning:** The client was involved in the up-front planning and documentation which was developed to clearly inform the project objectives
- **Involvement in decisions:** The client made a point of being involved in all key decisions throughout the process which had an effect of speeding up decision making.
- **Approach:** The client adopted a fair and reasonable approach and was willing to be flexible and work with the team to meet the project requirements to achieve the goals.

*The light and airy linking bridge in the new block.*

## Teamwork

No formal partnering charter as such was in place, but an understanding developed through workshops with the project team which ensured the culture was open and honest. The strong rapport meant that the contract played less of a role than the team culture. For the few errors that did arise - and there weren't many because of the integrated nature of the work, there was a 'no blame understanding' and people worked together to find a solution. *“We put the contract in the drawer and worked on the basis of relationship and that we were all here to achieve the best outcome possible”* Brian Elliott, Lead Architect. *“There was a huge spirit of cooperation between the client, the consultants and ourselves – I would rate it up there as one of the top two projects that I have managed in my career – and that is over 28 years in the industry”* Paul Booth, Project Manager.

## Excellent communication between the team

Brian Elliott, lead consultant for the project expressed his view that the communication was the best he had ever experienced. *“It was novel not to experience the traditional idea of the contractor being on one side and the consultant on the other, but for all of us to really be a team”*. The positive outcome of this teamwork was excellent workmanship.

Regular meetings supported the culture to operate in an open and honest manner. *“We were able to communicate freely with each other”* Paul Booth, Project Manager. Constant dialogue was established with fortnightly Project Control Group (PCG) meetings, recorded by the project coordinator. After the introduction of Last Planner™ regular weekly 'Production' meetings were held with subcontractors and various consultants in addition to the fortnightly Site Meetings. All meetings were recorded and circulated to all the Project Team. *“The communication was very open and honest, vary rarely was there any discord. We had some serious issues to address at times, but it could not have been better – absolutely brilliant”* Jule Einhorn, Client Project Director.

## Risk Analysis

One of the project coordinator's roles was to provide a risk analysis that was updated at the fortnightly PCG meetings. He did the initial risk analysis in conjunction with UCOL and then opened it to input from the rest of the Project team.

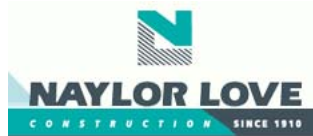


The new block steel frame goes up next to the older buildings.

## Lessons learned

Key lessons to take forward from this project are:

- **'Intelligent Client':** The key client representative was responsible for the preparation of the client brief and had a strong understanding of her roles and her responsibility in decision making.
- **Removal of Liquidated Damages and a shift to a fairer contract:** This project highlights the advantages of establishing trusting relationships over following a contract to the letter. *"Acting in a formal and litigious manner stalls things – it is not to anyone's benefit"* Jule Einhorn.
- **Integrated team and programme:** Allowed to work on multi and non-sequential programming. Every project presents its challenges, but it is important to establish good relationships with the key participants, reflected by a fair contract. Teamwork requires people prepared to be adaptable. The team approach allowed the ability to address any adversity or new issues that arose.



designgroup  
stapleton elliott

## Possible improvements

- **Greater emphasis on sustainability.**  
Whilst sustainable design and features were met where possible, often the sustainable objectives set by the client came down the priority list in order to meet time, cost and heritage issues.
- **Client to be more informed around programming**  
Client recommended that in future they would request regular detail of the programme of works. The programme provides useful information around the sequence of tasks and helps to report progress in-house. Even though the client was able to observe on-site progress it would have been helpful to understand the Contractor's view of programme.
- **Keep Building consents to a minimum**  
The staged consent process can become a nightmare. Producer Statements and Compliance Schedules that are required by the trades do not always marry consent requirements. At the time of tender the sub contractors do not know what building consent they are part of. Obtaining 12 Code of Compliance Certificates was complex and difficult. One way forward is the need to reduce number of consent applications. To do this the Council will have to work with a project team to ensure that applying for consents has a logical rational behind it.  
Ideally a better system for stage projects needs to happen rather than staged consents. For this to happen, the Building Act would need to be amended.
- **Handover of project**  
Although the handover of the project was well managed there was scope for improvement. Ideally the building should have been finished prior to fitout. It all worked out but it was very challenging.

## Conclusion

Because of the goodwill and excellent relationships established, the project came together under exceptionally trying circumstances. And from the words of those involved in the project, - it seems to boil down to the people. *"If people are reasonable and respect each other's roles than you will get a good result"* said Brian Elliott, Lead Architect. At times, serious issues needed to be addressed, but as Jule Einhorn confirmed *"it comes down to people and commitment. It is in the relationships between us all that made the project come off. Trust was developed very quickly and from our point of view we had confidence in the team. There were such pressures that it could still being completed now"*.

On reflection, echoes of a Maori proverb come to mind

*He aha te mea nui o te ao?*

*He tangata! He tangata! He tangata!*

*What is the most important thing in the world?*

*It is people! It is people! It is people!*

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