



NAYLOR LOVE
CONSTRUCTION SINCE 1910

UNDER CONSTRUCTION

Naylor Love News

Issue 11 | June 2011

Barrie McBride, the senior foreman



Barrie McBride (left) with Dunedin Division Manager, Ian McKie, at Barrie's farewell function

Barrie retired at the end of May after more than forty years with Naylor Love. At Barrie's farewell function, held at the University of Otago Executive Residence, there was much reminiscing about the good old days and Barrie's projects.

Barrie started with the company in Dunedin on 7 May 1970, just a few months following the Love Construction/WH Naylor amalgamation in 1969. Barrie was noted for his experience with concrete on large jobs,

and his ability to run big teams of men.

He often found himself on challenging jobs. When Naylor Love started the expansion of Tiwai Aluminium Smelter at Bluff with the huge carbon bake shed in 1981, Barrie was sent down from Dunedin as foreman. Big projects attract a transient group of guys looking for good dollars who are often difficult to motivate. So it wasn't an easy team, but Barrie's experience was invaluable.

The interisland ferries, the *Aratika*, the *Arahura* and then the *Arahanga*, were brought to Dunedin in 1989 to be refitted. Naylor Love's team worked 24 hours a day to meet the incredibly tight deadlines. Barrie, who oversaw the refits, was awarded the inaugural New Zealand Institute of Building

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What we really need is an organisation where we have leaders in every part of our business from top to bottom”

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Taking the lead



TAKING STOCK



Don Stock
Chief Executive

As our world becomes more complex, leadership is becoming more and more important.

It is no longer good enough to have just the management, technical or trade skills to do the job; we also need healthy dollops of leadership to get things really humming. And leadership is no longer something that is supplied from the top and trickles down through the rest of the organisation. Instead, we need leadership at all levels to drive our business forward.

We all know the old stereotype of the leader, the larger than life personality, leading from the front, decisive and dominant – someone like Jack Welch from GE who was held up as the ideal a couple of decades ago. But real leadership is needed everywhere, and Jack Welch's influence tends to be pretty dilute by the time we get to

the project site. What we really need is an organisation where we have leaders in every part of our business from top to bottom, people who take ownership, set the direction and influence those around and under them to follow.

That sounds great, but where do we find such people? Leaders are born, not made aren't they? Actually, no. While some may have more obvious leadership characteristics than others, everyone has the potential to be a leader in their area if they are only coached to be shown how. And that is the basis of the Naylor Love leadership programme.

Our leadership programme has been designed to develop the leadership capabilities of the current and future leaders in our business. The programme creates a learning culture where all staff feel that Naylor Love is investing in their development.

We are in the first phase of the programme. The first module, which covers the different leadership styles and personality types, sets out how one's own interpersonal preference influences leadership style. Several tools can be used to gain a better understanding of how this knowledge can be applied for more effective interaction with different people. We also gain better understanding about effective communication, the influence of personal and corporate values, and a host of other skills that will help us be better leaders.

Feedback comments from staff show their appreciation: "The programme started to show me the ways we can change our working

“**If your actions inspire others to dream more, learn more, do more and become more, you are a leader.**”

John Quincy Adams

environment and how we interact with people" and "It helped us understand the perspective from which we view the rest of the world, and the basis on which we make our decisions. To be conscious of this, as well as the perspectives of others, is a very powerful tool."

Incorporated into the programme is one-on-one coaching and group sessions, and we encourage managers to bring the course principles into play in day-to-day work as much as possible. So far we have put around 80 people through this first phase and the results have been excellent. Most participants have really enjoyed the course and feel that they have benefited from it. It is quite something to hear the talk around the lunchroom turning to what MBTF type (a personality profile type) so and so is. Perhaps the greatest benefit is that

people now understand that different people think differently, and if someone wants to be an effective leader and get the best out of their relationships, they need to tailor their approach to suit the different personalities.

"I have been provided with ideas of how and what type of questions to ask and, when listening to the answer, how to ask the follow-up question. When communicating, there has to be a clear understanding of the message being delivered."

"So much has changed. Better interaction with all on site." "Even my partner has commented on the changes."

I often hear businesses say that their people are their biggest asset. If you really believe that, then you need to ask what you are investing in that asset to increase its value. Here at Naylor Love, we really are investing in our people to help us become "measurably the best".



Cover background – Oamaru stone facade on the new University Plaza in Dunedin



“Arahura” before its refit and after

“Project Manager of the Year Award” for projects under \$2 million in 1989.

Barrie was responsible for many large projects, among them New Zealand Dairies’ Dry Milk Powder Plant in South Canterbury. At any one time, Naylor Love had about thirty of its own staff on site, and up to one hundred subcontractors under its control. The plant was recognised as the fastest constructed drying plant in New Zealand, with twelve months from turning the first sod to production of milk powder.

Barrie spent a good part of his career, on and off, at the University of Otago campus. His first project there was as sub-foreman on the new Physics Department development in 1975. The Commerce building was said by Barrie to be his most enjoyable large building, which entailed a lot of craftsmanship. The Department of Physical Education’s new building contained a state of the art swimming flume and a laboratory to monitor sprinters’ actions. Other university



University of Otago Commerce Department

projects included the Centre for Foundation Studies and the St David lecture theatre block.

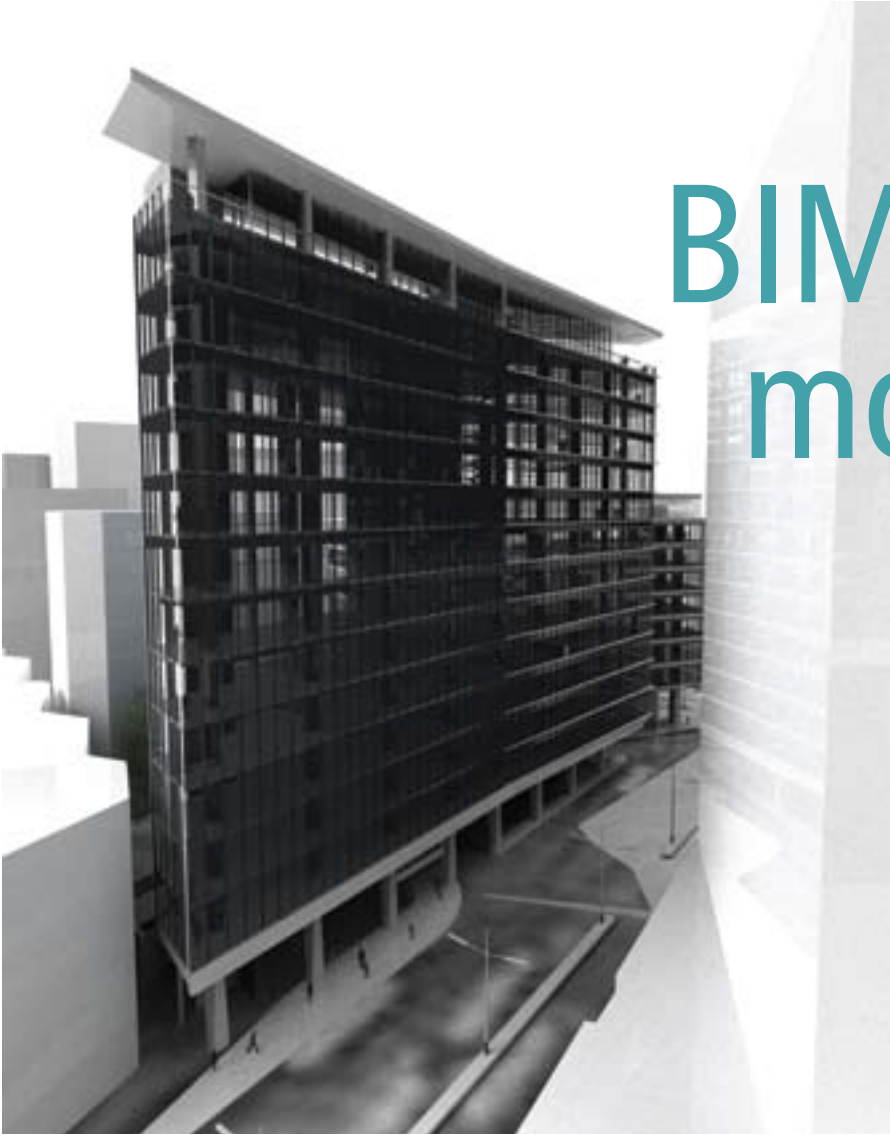
The new Information Services Building, the focal point of the university campus, was a project everyone in Dunedin watched for three years. It incorporated demolition of most of the existing library, a three-level new building, and a new link into the existing Students’ Union. The new five-storey laboratory and teaching block for the Zoology Department, built to exacting international specifications, was a regional winner and a national finalist in the 2004 Master Builders’ Commercial Awards. A new two-wing accommodation block for University College went up in eight months. The Psychology building had to meet 5-Green Star standards.

Barrie’s last project with Naylor Love was the University Plaza, sharing a wall with Dunedin’s new Forsyth Barr Stadium – a very fitting place to farewell his work. We wish Barrie a long and happy retirement.

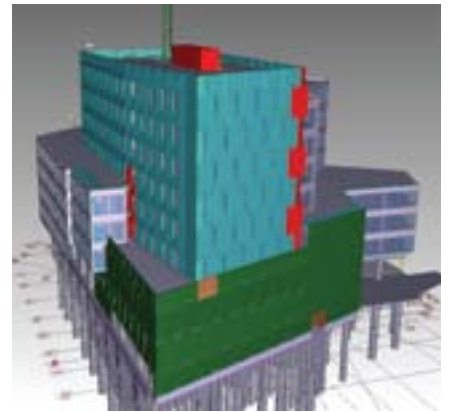


Parting shot Hilton Hotel, Kawarau Falls Station

BIM modelling



The proposed Kate Sheppard Exchange in Wellington



Pipitea Plaza, Wellington



Tim West

Tim West writes about his first twelve months with Naylor Love.

I joined Naylor Love last year on my daughter's first birthday. This year, her second birthday was a great reason to reflect on the year that had passed.

My new role was BIM Manager. BIM stands for "Building Information Modelling", a new tool in the construction industry with the potential to boost productivity enormously. As no one outside of the industry, and many within the industry, have ever heard of it, I am often asked, "What is a BIM Manager?" My response is simply "Building a building before it is built", or virtual construction.

I started with many preconceptions that were soon shattered once I began to meet the team. Firstly, I assumed that BIM was as much a mystery to Naylor Love staff as it was to the rest of society.

It didn't take me long to realise, however, that the idea of a 3D model was by no means new to the Naylor Love staff. 3D models had already been used in all the divisions, and the benefits were clearly understood and appreciated.

I also expected to find resistance to the technology I was to champion. I expected to meet the "This is the way we've always done it" attitude coupled with "Who are you to tell me how to do things?" Fortunately for me this couldn't have been further from the truth. Naylor Love staff have wholeheartedly adopted this technology, recognising that it provides them with a competitive edge, reduces construction delays and streamlines the construction process. By providing 3D walkthroughs and realistic views of both exteriors and interiors, it also helps clients visualise the final product,

BIM in Naylor Love

Naylor Love has invested heavily in the use of BIM, and is already seeing the benefits. Currently, they relate primarily to the following areas:

- Visualisation of the building at different stages of construction
- Quantity takeoff
- Assistance with optimising buildability
- Clash detection for services
- Early detection of errors, omission or detailing problems.

In the future, there is potential to go well beyond this, as having a complete model of the final building can be invaluable at all stages of the project, from design right through to well after completion. For example, we are moving towards incorporating maintenance manuals into the model so that all information relating to the building, including plant and equipment, maintenance schedules and so on, is easily accessible.

The following are a few projects I have worked on in the past year.

Pipitea Plaza

Prior to my arrival, our subcontractor, Predefine, had fully modelled the structure. This proved invaluable in not only coordinating precast and fixings, but in detailing complex beam column joints and multifaceted connections throughout the structure. This had a huge impact on construction, allowing us to optimise the assembling of the joint reinforcing and formwork, which would have been extremely difficult in a conventional manner. It also allowed us to check fits and pick up any anomalies while there was still time to fix them.

My first task on arrival was to complete the as-built model for the Pipitea Plaza, taking over from Predefine. It was a steep learning curve, learning two separate software packages, and defining the delivery vehicle. Working closely with the software developers has been important, as the workflows developed are very new. Pushing the limits highlighted several bugs.

During the process, it was noted that some parts of the model were being delivered too late to always

have a useful impact. This was due to a number of factors, timing of base model construction, software selection, and general implementation of results. Lessons learned during the nine months to completion have shaped our current workflows and reduced timeframes dramatically. Since this project, models have consistently been delivered before the construction has taken place.

Our experience on Pipitea has proven the value of BIM on real projects, a value which goes well beyond 3D visualisation at the business development stage.

Regent Centre culinary school

During the demolition stage of the Regent Centre in Wellington, a phased model was produced from the structural consultants' model. This was requested so that we could easily communicate to subcontractors what they were working on, where they were working and when it was to be done. This project, our first in which the structure has been modelled by the engineering consultant, allowed us to work on a more collaborative basis off the same base model. As more consultants are picking up 3D modelling, we are able to deliver usable information well in advance of manufacture and installation.

The Warehouse Silverdale

The BIM team was asked to model the site establishment and site services prior to works commencing. Several issues with drainage were identified before they were put in the ground. This also highlighted several issues with the in-house coordination of some of the consultants involved, and encouraged them to take their processes to the next level. To communicate time frames and expected progress to the consultant team, and allow location-based coordination, staging plans were generated in 3D.

We are currently confirming buildability of the precast and post-tensioned slab, and ensuring coordination with the steel fabricators/installers. Minor details are being worked out before the precast is made, to ensure a smoother build.

2D BIM services

Introducing a 2D drafting capacity to the regional offices means that we are able to quickly generate clean, clear drawings on a Naylor Love title block for such things as site logistics plans and traffic management plans. There has been uptake for some of our larger projects in Wellington. In line with our "Measurably the Best" policy, the aim is to lift the quality of our tender and other documents.

The future

We have recently upgraded our software suite to include structural and services modelling capacity. In the event that consultants don't provide modelling, we can ensure that quick and usable models are easily generated. The suite also includes a powerful rendering ability and dynamic 3D presentation tools to better market our projects.

It is encouraging to see the recent take up of BIM by many architectural and engineering consultants. It has always been the intent of the Naylor Love BIM team to work with consultants and share resources and technology. In the past, we have had to convert 2D information into 3D models, but in the future we hope to be part of the team that gathers this information for the benefit of all parties.

We are also seeing other large contractors identifying BIM as a vital tool for the future of the construction industry. Because Naylor Love got an early start, our significant lead in applying BIM as a true construction tool (not just as 3D pictures for marketing) will be invaluable. We are well placed to offer several years' experience to the market.

There is a lot of work in the wings that will benefit our use of 3D tools. To encourage movement toward a paperless office/site, I will also be delivering software training and support for a review/mark up/commenting package for all of our staff. The year ahead holds exciting prospects as we gain a firmer grip on 3D techniques and lead the industry forward.

A super fit lifestyle

As if being a carpenter didn't make you fit enough, Sam Smithells, a 20-year-old second year apprentice with Naylor Love in Dunedin, is pushing the boundaries further through practising mixed martial arts and bodybuilding. His first passion is mixed martial arts, a combination of the best techniques from martial arts including Muay Thai (Thai kickboxing) and Brazilian jiu-jitsu.

Sam's history in sport goes back a long way to when he was six and practising karate. Then, as an 11-year old, he went to a club which trained people in the art of kickboxing. Unfazed by the regulation which required members to be 13, Sam pulled a swifty and upped his age to gain admittance. Muay Thai, the ancient martial art of Thailand, is said to be one of the most effective forms of self-defence. Involving punches, kicks, and the use of knees and elbows, it requires a lot of stretching and flexibility.

Sam then discovered Brazilian jujitsu, a grappling art using joint manipulation, chokes, strangulations and positional controls to overwhelm and subdue opponents without the need to kick or punch. The techniques were developed to allow smaller people to defeat opponents of much greater size and strength. On the internet, Sam saw a 60kg Brazilian take out a 100kg striker with minimal effort. He was hooked!

Three years ago, the first place to offer mixed martial arts in Dunedin opened, and Sam went there to train. Mixed martial arts has only recently become mainstream. "It is now the fastest growing sport in the world. Great for all round fitness." In mixed martial arts training, the heart rate is spiked and many different muscles are involved.

Earlier this year Sam underwent surgery on his nose. Because he lost a lot of weight, he decided to concentrate on weightlifting at the gym for a while, and he's become hooked on that too. In September, Sam enters his first bodybuilding competition, which he's taking very seriously. He is now on a bulking diet, eight meals daily of as much carbohydrate and protein as he can eat. His shopping bill is colossal – all those tins of chicken and beef! Thank goodness he's an ectomorph (his body metabolises food very fast) or he soon couldn't fit through a doorway.

Another aspect of training for a bodybuilding competition is posing. "It is really hard. All my muscles have to be tensed at once, and I can't show any flaws." Three categories are judged: muscularity (the definition of muscles); size of muscles; and symmetry/proportions. Contestants line up to show off certain compulsory positions in which all their muscles are compared.

Sam's present training, at two different gyms for



weightlifting and a third for posing training, can only be described as rigorous to the extreme. During the week, he works on different muscles each day for one to one and a half hours: Sunday and Thursday – hamstrings and calves; Monday – back and biceps; Tuesday – chest and triceps; Wednesday – quads; Friday morning – shoulders; Friday night – arms. And then, possibly with a huge relief, comes Saturday, Sam's rest day, and presumably the day in which he catches up with friends, chores around the flat, and whatever else needs to be done. Sam needs a minimum of eight to nine hours' sleep a night to allow maximum recovery. "After ten hours at work, then one or two hours at the gym, sleep comes easy."

Ten weeks out from the bodybuilding competition, Sam changes his diet again, to one of minimum carbohydrate and only good fats. This will allow his body to reach minimum body fat.

Sam, we will be watching your bodybuilding and mixed martial arts career with interest, and possibly some relief that we aren't imposing such strict discipline on ourselves. As Sam says, however, "It's a lifestyle of dedication, but practitioners of bodybuilding seem to live to a ripe old age."



Family fun day

To help support the Christchurch staff and their families after the two earthquakes, Naylor Love Dunedin recently hosted a family fun day picnic at Caroline Bay Timaru.

Included in the fun were a magic show, wheelbarrow and three-legged races, a tug 'o' war and a lolly scramble. It was a moot point as to who was more competitive, the adults or the children. The day certainly brightened the spirits of all who participated.



Green roofed outdoor classroom



Remarkables Primary School in Queenstown, one of a few schools worldwide which has a green roof, is the first in New Zealand to 'wear' one.

Used as an outdoor classroom, the green roof was designed and planted a year ago by Auckland-based Greenroofs Ltd. The plants on the roof are now well established and flowering. Because the school site is only about half the size of a typical New Zealand school site, architect Babbage Consultants included a green roof in its design to provide further outdoor learning and playing space. It is also aesthetically pleasing to the neighbouring houses which overlook it.

The roof also reduces stormwater run-off and provides insulation to the building. Its thermal insulation counteracts the two extremes of summer heat and winter cold. The roof also insulates against the noise of planes in the overhead flight path to the nearby Queenstown International Airport.

Greenroofs director, Will Thorne, is proud that the roof will be used to educate future generations on sustainability. The roof will be used as a tool to educate and promote sustainable practice through a trees programme, composting, gardens and worm farm.

The school's roof is also unique in providing everyday access for children, parents and teachers to the school's entrance way. This green roof will be worn with pride and admired by many.



Designed for the landscape

Orokonui Ecosanctuary's visitor centre, constructed by Naylor Love, has been described as an "inspirational example of sustainable architecture" by the jury of the 2011 New Zealand Architecture Awards.

The visitor centre, designed by Dunedin's Tim Heath of Architectural Ecology, was said to provide "a sympathetic and powerful gateway" for the ecosanctuary. "The visitor centre provides a commanding space overlooking the protected regenerated flora and orientated towards significant landforms." The jury described as an "ambitious strategy" the re-use

of shipping containers to support the over-sailing building form, and they praised sustainability initiatives such as passive solar design and rainwater harvesting.



ACC changes afoot

There are a lot of changes coming to the health and safety and accident insurance areas of business. The first change to be implemented will be ACC Experience Rating.

For small employers this provides for simple discount on the basic premium if there are no claims during the year. For large employers (paying more than \$10,000 premium) the adjustment is considerably more complex.

For these large employers, the calculation involves a mix of average injury rates and average rehabilitation or return to work rates to determine whether a discount or penalty is applied to premiums. This change will do three things:

- It will encourage employers to check more closely – including going back through records of past accidents – the validity of any work accident to ensure that only genuine work accidents are applied for
- It will encourage greater injury prevention in the workplace
- It will make large employers consider their role in assisting injured employees return to work quickly.

The other major change to be applied to accident insurance is the opening of this

market to private insurers. The return to a more open market providing choice of provider and competitive prices will be introduced, possibly as early as next year if the present government is returned in the election later this year.

In terms of health and safety, the biggest change will be the re-defining of serious harm. The government is considering the following proposed new definition:

1. Trauma injury

Physical incapacity caused by an accident or event and leading to:

- permanent loss of bodily function (including from any amputation of body part); or
- a person being unable to perform their normal duties for a period of seven or more calendar days.

2. Acute illness or injury

Acute illness or injury requiring treatment by a medical practitioner, or any loss of consciousness, caused by:

- lack of oxygen; or
- absorption, inhalation, or ingestion of any hazardous substance; or
- contact with any electrical, combustible, or mechanical energy source; or
- a fall from one height to another.



3. Chronic or serious occupational illness or injury

Physical or mental harm:

- resulting in hospital admission for more than 24 hours; or
- requiring in-patient surgery; or
- diagnosed and confirmed as caused by exposure to a workplace hazard, by a medical practitioner who is a registered specialist operating within the appropriate scope of practice.

If adopted, these changes will significantly lower the threshold for serious harm, as in paragraph one the definition looks more like what is currently considered an LTI, and in paragraph two the threshold is medical treatment.

There are some synergies between the changes to ACC and the new serious harm definition, with both placing emphasis on reducing the severity of injuries and on looking at a process to ensure staff can return to work quickly after injury.



Part of the series of Naylor Love's safety posters

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Reaching for the sky



Central

Queenstown International Airport

Over the past two years there have been many comings and goings at Queenstown International Airport. Passenger numbers have risen from 684,000 to 933,000 annually, a new airline has entered the market, Auckland International Airport has purchased a 24.99% stake, and the chairman has come and gone. One thing that has remained constant over this time is the presence of a Naylor Love signboard or two.

Starting off with the construction of the Patagonia Chocolate Café in the main foyer, we have worked for the Queenstown Airport Corporation, duty free stores, Air New Zealand, Qantas, Global Culture, Airways Corporation and a host of car rental companies. We achieved the Koru Club fit-out in four days. Each project has its own complexities of operating in a working airport, dealing with the increasing passenger presence and flights, and extremely stringent security procedures. As a result, much of the



noisy and disruptive work can be done only out of hours when the airport would otherwise be closed.

Our current contracts include the expansion of the incoming baggage halls (1500m²), an international arrivals walkway, two bus stops, and an extension to the power centre for the

provision of switchgear to allow runway lighting to be installed.

Forecasts for the next five years show an increase in passenger numbers of over 30%, so the expansions will continue to happen, and hopefully the presence of Naylor Love will be there for the ride.





Graphic courtesy of Warren and Mahoney Architects

University of Otago Plaza – architect's sketch

Dunedin

University Plaza

Designed by Warren and Mahoney, the first new building at the University Plaza will house academic and recreational facilities and a café. Alongside the Dunedin Stadium, and with the Rugby World Cup looming, the building is forging ahead at a great rate. Nearly 100 people are working on site.

A major milestone was the clearing and handing over of the large plaza area in front of the building. Because of its close proximity to Logan Park and the stadium, this area is expected to be an important one on the university campus where students can socialise.

Now the contractors are starting site works. With the large cranes gone and all the site huts removed, it is easier to feel the size of the building, which is no longer dwarfed by the stadium behind.

The west elevation is nearing completion with the focus moving from the Oamaru stone cladding to the canopies and entries. The north elevation is taking shape with decks and recesses. The real challenge is to complete the exterior of the building by mid-August, well ahead of the Rugby World Cup and, thanks to everyone involved, we are on track to achieve this.

There is also a major focus on the interior, and while we have until December to complete it, the fit-out is very demanding in terms of details and quantity of work. The finished building is going to be fantastic.

For the Rugby World Cup, the site has to be cleared two days in advance, the day of the game, and one day afterwards. It will be interesting to see how the construction team is kept occupied during that time!



Wellington

Kew Properties

The Kew Properties project is a new office building with tenant space for the Downer Groups. The office will serve as a branch in the Porirua area, collocating the Downer Groups and allowing them to function together more efficiently. The project, which started in February 2011, should be completed in early December. Naylor Love's scope involved early input into design to assist with meeting the budget expectations, as well as managing the building construction up to practical completion. We are teaming with Downer to coordinate and complete the site work around the building concurrently with the construction programme.

The job is presently in the structure phase of the programme. The structure is composed of precast external walls and structural steel. The building, with a moderate footprint of 1,200m², has a basement car park and two office levels above. The building exterior has a combination of precast and curtain wall systems that meet the area's seismic restrictions while providing light and energy efficiency. The project has targeted both design and built Greenstar ratings, and the team is certified and experienced in green building.

Aside from minor challenges coordinating the intense seismic restraints in the precast, there have been few others to date, and we are looking forward to delivering a successful project.



The Robertson Library

Robertson Library – client survey results

Value: \$5.5 million
Client: University of Otago
Project managers: Jason Tutty / Dave Hanning
Foreman: Neale Davys

Project background

In this project, the existing Bill Robertson Library was updated into the 21st century, complete with IT and teacher training sites. A fully designed and scheduled tender, Naylor Love was awarded the project ahead of five other contractors.

Client's comments

The client's comments of Naylor Love's performance were very positive. The client felt there was a good team of people with a good attitude working on site. In particular, the client felt Naylor Love excelled at programming. Project manager Dave Hanning received special mention for his excellent understanding of the mechanical aspects of the project and his management of subcontractors. The client described a tendency for communication and momentum to drop off at the end as team members moved on to other projects, but noted a dedicated person was returned to site to manage and improve this. Overall, the project was pulled together well, achieving a great outcome. The client was impressed by the way Naylor Love learned to take more ownership of the subcontractors, and their outcomes and delivery, during the project.



BEST PRACTICE

Learnings

- Maintaining communication and momentum after handover is vital
- Dave Hanning's sharing with other staff how he manages subcontractors.

By the numbers

Client satisfaction with the finished product	90%
Client satisfaction with the overall service from Naylor Love	90%
Impact of defects to client at handover*	80%
Use Naylor Love again	90%

* 10% = totally defective; 50%-60% = some defects with some impact on client; 80% = a few defects with no significant impact; 100% = defect free