

NAWIC NEWSLETTER

August 2007



EVENT CALENDER

Late August: Kumutoto Site visit
3rd September: AGM
Late October: Wellington Hospital Talk
6th December: Christmas Function

PRESIDENTS REPORT

Its hard to believe it is August already! The AGM is coming up soon, and this will be my last President's report.

In this newsletter, we point you to some interesting articles on the status of women in the architectural profession. We welcome feedback from you about any similar studies in other construction related disciplines. Your own opinions would also be welcome.

Encouraging young people into the industry is the first step - the Coke Careers Expo will be held again this year 15 - 16 August, and NAWIC will be assisting CIF on the 'CIF - Build your future' stand, promoting careers in the construction industry.

I attended the movie 'The Socialist, the Architect, and the Twisted Tower' during this year's film festival. Not a female in sight as the contractors sat on one side, the architects sat on the other and the verbal games commenced. At least it was heartening to know that it's not all glamour for even the great ones such as Calatrava. The issues are the same - client needs to cut budget, contractor needs more documentation, etc etc!

It was with shock and sadness that we heard of the untimely death of former NAWIC board member, Miriam Dear nee Pettengell. Miriam touched all who met her with her friendliness and energy. Two NAWIC members who knew her well, share their memories of Miriam with you in this newsletter.

We are very pleased that the Hon Lianne Dalziel, Minister of Women's Affairs, has agreed to speak to us at our AGM on 3 September. Lianne will speak about her experiences in parliament as minister, and her initiatives such as Give Girls a Go to encourage more female apprentices. She will be encouraging dialogue, so come ready with some questions!

Thanks to those who responded to my call for new board members, and if you are still deciding, I look forward to hearing from you soon!
See you at the AGM.

Marian Salmon
President

NAWIC NEWSLETTER

August 2007

DOC EVENT

CONSERVATION HOUSE

project team

tenant: Department of Conservation
tenant's property advisor: Bogacki Property Consultants
tenant's project manager: Impact Project Management
building owner and developer: The Wellington Company
building owner's project manager and quantity surveyor: Gill Consultants
main contractor: McKee Fehl Constructors
architect: architecture +
structural, fire and services engineers: Sinclair Knight Merz
ESD consultant: e Cubed Consulting
acoustic consultant: Marshall Day Acoustics
resource planner and surveyor: Connell Wagner

Entrusted with the task of conserving New Zealand's natural and historical heritage, it is appropriate that the Department of Conservation's (DOC) new head office is a demonstration of its commitment to conservation. *Conservation House - Whare Kaupapa Atawhai* is an iconic, environmentally sustainable building with an exciting yet efficient open-plan layout that is strongly connected to the external environment and nature. The building sets a new benchmark for Environmentally Sustainable Design (ESD) in New Zealand and takes DOC to the next step towards achieving carbon-neutrality.

The building was developed by the building owner to DOC's detailed brief, with the tenant's interior fitout constructed as a separate contract utilising the same contractor and consultant team. The project was guided by the following environmental principals: optimising site potential; minimising energy consumption; protecting and conserving water; using environmentally friendly materials; enhancing the quality of the indoor environment; and optimising operational and maintenance practices.

Key achievements include:

- recycling of an existing structure to regenerate a prominent city site
- naturally ventilating open-plan offices mid season
- first use of *chilled beams* in an office building in New Zealand
- maximisation of natural light through glass facades and internal atria
- energy efficient lighting with automatic daylight dimming and presence detection
- harvesting and recycling of rainwater
- interior environment low in volatile organic compounds, formaldehyde and allergens
- building materials from sustainable sources that minimise embodied energy, greenhouse gases and PVC
- construction and demolition waste minimisation through reduction and recycling
- advanced *building management system* to ensure ongoing energy efficient operation

optimising site potential

The development comprised a cradle-to-cradle urban regeneration project, recreating the disused Mid City cinema complex to resurrect what was once an active site. The existing building consisted of a four-storey podium building spanning from Manners Street to Willis Street with a tower building upon the centre. Originally constructed as a cinema, the structure contained expansive floor plates with well-spaced columns and double storey spaces. This arrangement was capitalised to create a low-rise tailor-made building typology, establishing a new paradigm for office environment in Wellington.

Located on the *golden mile* of the CBD, the building is highly visible demonstration of DOC's commitment to conservation, successfully integrating green credentials into the Wellington streetscape through contemporary facades with enduring street appeal.

NAWIC NEWSLETTER

August 2007

minimising energy consumption

The seasonal mixed mode ventilation system combines natural ventilation strategies with active mechanical systems. Mid season (autumn and spring) the manners and willis wings naturally ventilate, drawing fresh air in through the top of the glass atria and expelling stale air through operable windows in the double-skin street façades. The natural airflow is enhanced by the heating effect of the sun on the double-skin cavity, which warms the airspace causing the stale air to rise and leave the building. The *building management system* (BMS) measures temperature, humidity and CO₂ throughout the office space and automatically adjusts the opening windows to optimise ventilation.

In peak seasons (summer and winter) the natural ventilation pathways are closed off and the space is conditioned mechanically to ensure comfortable temperatures are maintained. The mechanical system utilises active *chilled beams* to condition the open-plan office spaces, a first for office buildings in New Zealand. Hot and cold water circulates through copper pipework in the chilled beams, across which fresh air is blown to encourage induction of the air in the room, cooling or heating the air as necessary. Chilled beams consume less energy, reduce greenhouse gas emissions, and the absence of moving fans makes them low maintenance. Enclosed meeting rooms, workshops and laboratories are conditioned by on-demand fan coil units that operate automatically when the lighting presence detectors recognise a room is occupied. Heating and cooling is supplied using energy efficient heat pumps and water-cooled chillers. Hot water for plumbing is also heated with heat pumps.

Partially exposed concrete soffits act as thermal mass to absorb excess heat during the day, which is then flushed from the building at night during summer to reduce cooling demand. The double-skin façades also act to insulate the interior from excessive heat gains and losses. The solar-heated air in the cavity is captured and blown under the heat pumps to further increase their efficiency.

The lighting system utilises a *digital addressable lighting interface* (DALI) to provide energy efficient control of the lighting, including automatic daylight dimming of the perimeter lights and presence detection. Energy efficient low-mercury T5 lamps and solid-state long-life LED lamps are used throughout the building, not only minimising energy consumption but also reducing the environmental impact of disposal at end of life.

Building materials have been selected to minimise embodied energy, reducing the energy consumed in the manufacture and transportation of materials to the building site. For example, a majority of the framing is timber rather than steel stud. This has also included specifying New Zealand made products wherever possible, such as the Formway Life chair.

Consideration has also been given to energy efficient access to the building. The building is immediately adjacent a well-serviced bus stop on the core bus route through the city providing sustainable transportation alternatives to individual passenger vehicles. A bicycle storage facility and showers have also been provided for staff to encourage the use of bicycles. Inside the atrium, the main stairs have been designed to be highly visible and easily accessible to encourage staff to walk between levels rather than take the elevator. Combined, these measures are estimated to reduce power consumption by 40%, saving DOC \$20,000 - \$30,000 per year.

protecting and conserving water

Rather than sending rainwater off the roofs into the City stormwater system, the rainwater is harvested and stored in a 65,000 litre basement tank where it is recycled for flushing toilets, urinals and irrigation. Separate reticulation from the City supply delivers water to the basins, showers and kitchens where potable water is required. Sanitary fixtures are low-flow to reduce water consumption, with motion detectors fitted to faucets to optimise hygiene and ensure water is not left running down the drain. It is estimated that these measures will reduce use of the City water supply by 60%.

NAWIC NEWSLETTER

August 2007

using environmentally friendly products

Construction waste has been minimised significantly by reuse of the existing building structure. The main atrium was designed around the intersection of the two conflicting structural grids, retaining the perimeter structural columns, beams and slabs. Demolition waste was sorted on site by material and collected by salvage and recycling agencies. Waste minimisation will be an ongoing goal for the tenants, with separate bins provided for paper, organic, inorganic, glass, plastic and metal waste for recycling.

The existing structure has been left exposed where possible, reducing the demand for linings and applied finishes, such as ceiling tiles, framing and plasterboard. The use of PVC has been minimised by instead using Wavin AS polypropylene water piping, LSZH electrical cabling for the mechanical system and linoleum flooring to the toilets and kitchenettes. Timbers have been selected from sustainable plantations, such as Pinus Radiata, Hoop Pine and Victorian Ash. Where possible materials with recycled content have been specified, such as the Burgess rubber flooring on the stairs and Woven Image Echo Panel to the meeting room walls. Consideration has also been given to materials' recycling potential at end of life, such as Onterra carpet tiles and the Formway Life chair. The existing chillers have been replaced with new chillers having zero ozone depleting potential refrigerant.

enhancing the quality of the indoor environment

The seasonal mixed mode ventilation system ensures good indoor air quality throughout the year delivering fresh air above the minimum required levels. The photocopier within the publication workspace has been supplied with a dedicated extract to avoid contamination of the air. This high air quality has been optimised by selecting materials with low emissions of volatile organic compounds, formaldehyde and allergens, where possible specifying the *Environmental Choice NZ* products. Selections include Laminex E0 MDF, low-formaldehyde hoop pine and Resene water-based paints.

The atria break up the vast floor plates into three semi-detached structures, creating visual interest and variety. Each of the three sub-structures is divided down the centre with a strip of meeting rooms, storage and utility spaces. As a result each workstation is a maximum of 8 m from either a street façade or an atria balustrade, allowing connection to and awareness of the exterior environment. The generous inter-floor heights optimise the penetration of natural light into the centre of the floor plates. The lighting system responds to this natural light and dims accordingly to provide a more comfortable and natural working environment. Manually operated blinds to the facades allow occupants to control solar glare. High-frequency lighting ensures artificial light is flicker-free.

The atria divide the internal space without the need for solid partitions, allowing visual connectivity across the atria. Office space is distributed over only three levels enabling easy travel between floors using the stairs rather than elevators. This low-rise horizontal arrangement is complemented with strong vertical elements, such as the riser walls at the ends of the atria lined with hoop pine panels staggered in a vertical array, which emphasise the generous proportions of height and space. The combination of horizontal layout, verticality and void creates easy interaction between spaces, increasing the feeling of community and encouraging communication and collaborative working.

Acoustic insulation to the exposed soffits and workstation screens, overlaid with background *pink noise* through the speaker system, ensure a degree of acoustic privacy within the open plan interior. Well-distributed meeting rooms provide convenient spaces for conversations where more privacy is required. The double-skin facades also insulate the building interior from street noise.

The Manners Street façade is punctuated with a *winter garden* to the 1st, 2nd and 3rd floors, creating a breakout space where occupants can enjoy the external environment. These spaces consist of only the outer lay of the double-skin façade, containing manually operated opening windows to take advantage of natural breezes and provide connectivity to the street below. The manners wing rooftop has also been reclaimed with the construction of a new café sitting within landscaped terraces, native gardens and pools. The café provides a pleasant environment for occupants to enjoy their lunch or casual meetings, and will also cater for conferences and events.

NAWIC NEWSLETTER

August 2007

WOMEN IN THE CONSTRUCTION PROFESSIONS

Oct/Nov 06 issue Build magazine published an article entitled 'UK architects: the female brain drain'. The Royal Institute of British Architects (RIBA) report *Why do women leave architecture?* came about due to concern that although the number of women entering and completing architectural education had increased, there was not a corresponding increase in the number of qualified women architects. The research survey identified a number of key factors, such as low / unequal pay; long / inflexible working hours; gender work allocation; macho culture etc. Some of the issues raised were relevant to both men and women (e.g. long working hours). A broad range of recommendations were made to attempt to redress the issues.

These concerns are, of course, not confined to Britain. For a discussion on the state of play in New Zealand, read Ann Clifford's article in Dec 2004 Cross Section magazine.

Nor is it confined to the architectural profession. Studies have been carried out among the other professions such as quantity surveyors and we will report on this in the next newsletter. You may also recall that a workshop session was held at the IPENZ conference in Wellington, to identify issues faced by women in the engineering professions. These issues were generally similar to architects though in some cases more extreme (e.g. male student culture) It was planned that the workshop would be the beginning of an ongoing strategy - perhaps a NAWIC IPENZ member can update us on progress in a future newsletter.

In Architecture NZ magazine, No.3 2007 issue, the article written by Jane Hill entitled 'No ceiling above our dreams' shows that despite the female brain drain concerns being just as relevant in New Zealand, women can and are being successful in the profession. The article features several women architects and discusses with them not only the concerns facing architects in general, and women in particular, but also the positive aspects that women bring to the profession (such as team building, effective communication and collaborative skills). It is a very full article and well worth the read (also includes some good architecture!)

An interesting question raised in the Build magazine article, is that maybe it is time to reconsider the qualities needed to be an architect, and that more diversity among designers could serve society better. As noted in the article, the built environment reflects our culture, and our culture is diverse. This not only means encouraging more women, but more people from different backgrounds and cultures.

NEXT YEARS BIG EVENT

For our big event next year we are looking at holding the inaugural 'COWS' Awards (Construction of Wearable Structures). For this to be a success we are looking for NAWIC members to form a sub committee to help with the organization of this event to be held next September.

If this sounds like something you would like to be involved in please contact one of Board members.

CONGRATULATIONS

Congratulations to Leah Burns for her 2 year appointment as a councillor to DINZ

ADVERTISING

Advertise in our classifieds section: members free, non-members \$25

NAWIC NEWSLETTER

August 2007

OBITUARY

Miriam Dear (nee Pettengell)

Tragically passed away on 18th June 2007. Aged 34yrs.

Newly armed with a Bachelor of Interior Design, Miriam bounced into Fletcher Construction's Wellington office in April 1997, ready to take on the world. A dynamo full of energy and enthusiasm, Miriam was never one to shy away from new challenges. She embraced her work wholeheartedly, she loved construction and she loved the people she met through work.

Miriam was a NAWIC member and served on the Board in 1999 – 2001. Her ability to get things done was legend, and in a relatively short time at Fletchers she developed into a professional and proficient Project Leader, constantly gaining respect from all who came into contact with her. Siteworkers, clients and consultants were often in awe of this determined pocket rocket – for Miriam there was no such thing as a programme milestone that couldn't be met or a problem that couldn't be solved.

Miriam was highly commended in the 2002 NZIOB Building Excellence Awards for the Defence Joint Headquarters Extension in Trentham and was a finalist for the same project in the NZIOB Young Achievers Award. During 2002 Miriam and Glen shifted to Havelock North for yet another adventure.

But Miriam was so much more than a project leader. She was a bubbly, smiling, gorgeous friend and workmate who gave everything a try and did everything at a million miles an hour. Her generosity knew no bounds and as a result she touched many people's lives. She delighted in being married to Glenn, and was so ready to be a mother. Her final achievement was the safe arrive of baby Liam, a final project she can be so proud of.

I was privileged to have worked with Miriam and to have known her as a friend.
Stacey Mendonça.

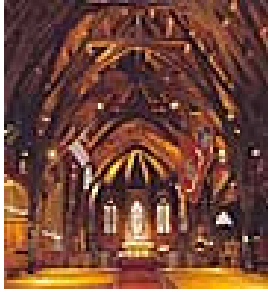


Miriam was a really great friend of mine and I believe we met through nawic originally when we were both on the board there. Miriam was an extremely vibrant and energetic person who always had big projects on the go. She put her all and I mean all! into work and took it all very seriously. working on massive projects here and recently overseas , she worked hard and long hours. Then she'd come home and renovate the house while still finding time for family, exercise and her friends. I'll miss Miriam a lot as even though we lived in different cities we were always in touch and spent lots of time together. Glenn will miss her terribly. He and baby Liam are both well and getting on with life.

Leah Burns

NAWIC NEWSLETTER

August 2007



COMPETITION

In what year was this Historic Wellington Building Built?

Email your answer to keryn@donjamieson.co.nz

April's winner – Sadly no takers!!!

The answer – Building/Location: St Mark's Square, Venice

QUOTE

A truly great book should be read in youth, again in maturity and once more in old age, as a fine building should be seen by morning light, at noon and by moonlight.

Robertson Davies

PERSONAL PROFILE

MEMBERSHIP

To join NAWIC Wellington or if you are on the move

Please contact Nicola Yortt
email: nicola.yortt@halstead.co.nz

NAWIC, PO Box 27 182,
Marion Square, Wellington

BOARD MEMRS

Marian Salmon – President
Nicola Yortt – Vice President
Gillian Topping – Treasurer
Prue Lamason
Keryn Thompson

New Board Members welcome

WEBSITE

We now have a website check it out at:

www.nawic.org.nz