# straight up

THE MAGAZINE OF THE BUILDING OFFICIALS INSTITUTE OF NEW ZEALAND

JUNE 2016


## In this month's issue:

## BOINZ Conference 2016

## International Straw Building Conference 2016

## The Changing Face of Prefabrication

## Building Product Assurance

Building Officials Institute of NZ

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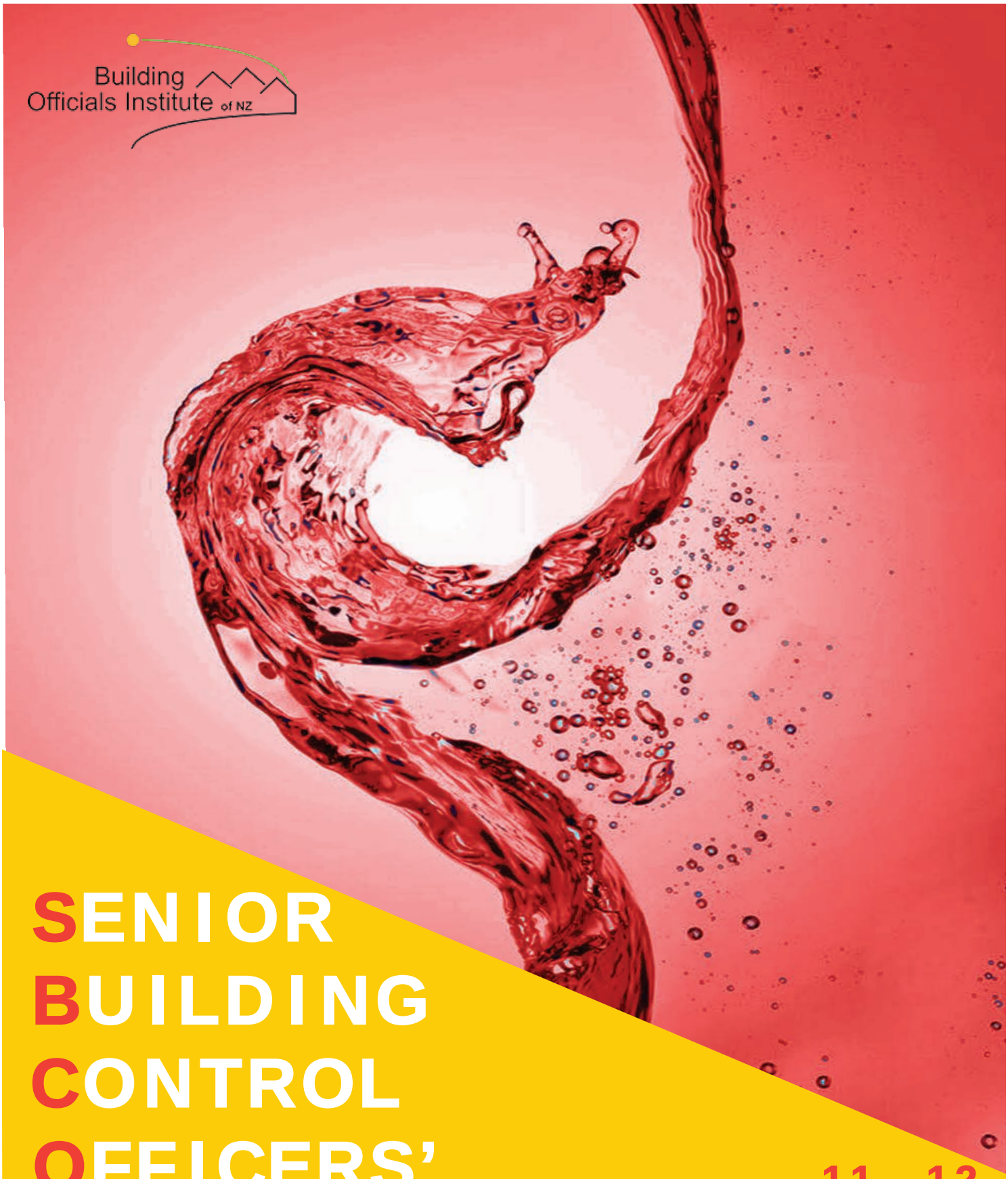

# SENIOR BUILDING CONTROL OFFICERS' FORUM

**11 - 12 AUGUST 2016**

## Marlborough Convention Centre

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# straight up

IN THIS ISSUE






# From the President

As your newly elected President, I am truly delighted and honoured to lead such a prestigious organisation. As many of you will know I have been a passionate and involved member over many years. I don't hesitate in explaining to colleagues, business partners, friends and industry stakeholders when asked, how I achieved what I have in my short time – I put a significant amount of it down to my involvement in BOINZ. The old adage of "you get out what you put in" has certainly applied to me.

As members you will all know that BOINZ has been at the vanguard of professionalising Building Surveying. As an organisation we will be 50 next year and will be celebrating this milestone, so I hope you all take the opportunity to participate.

On the point of participation, I would like to emphasise that BOINZ is an organisation that represents you as individuals. We are here to support and grow your careers. I would encourage you to look at the Institute in this light and seek to include your professional development as part of your employment contract. In this way you manage your own career development. I have always found an employer will support those who help themselves, so remember the "win-win" approach when seeking employer support.

The year to date has been an interesting one and I don't see the built environment dynamics changing dramatically in the near future. The consenting boom that has seen consents double over recent years has exerted significant pressure on all areas of Building Surveying. The most prominent area being Building Control where there is a media focus on skill shortages. My predecessor Stewart Geddes alluded to this in his address to members at our recent annual conference. This boom has been signalled for many years and it is unfortunate that the support for BCA's by many in local government has been wanting. Despite the voice of reason – the Institute believes it would be useful to see the media spotlight go on local government politicians who have final control over budget expenditure and risk management within the built environment.

The issue of product non-conformity and non-compliance has been to the fore over recent times, and will likely continue to do so in these times of heighten activity. It has been pleasing to see the regulator (MBIE) act with a team established to look at this issue. The quality concerns in regard to construction products should not be taken lightly and we have been pleased to see the issue gaining media attention. Plumbing and glass balustrades hit the headlines earlier in the year, but the big story was around seismic grade reinforcing mesh, where Commerce Commission investigations revealed a number of products not complying with AS/NZ4671 Steel Reinforcing Materials. The Institute was pleased to see these products withdrawn from the market until the suppliers could demonstrate they meet the rigors of independent testing to the Standard. The Institute is very firm on the need for independent third party testing for mesh, reo and structural steels to certify and protect the integrity of the build and safety of New Zealanders. Suppliers to the sector have traditionally promoted themselves as guardians of quality when the reality is build quality in New Zealand is continually under pressure. In critical areas independent third party testing makes common sense. In the global building supply and purchase environment there are obviously multiple reasons for independent third party certificate participation.

**Kerry Walsh**
**President**

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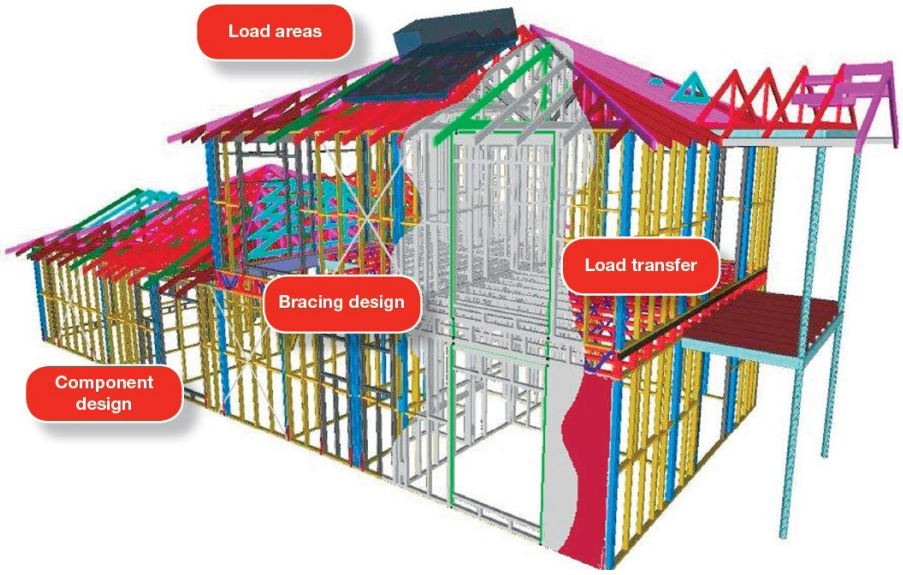
# The changing face of Prefabrication in New Zealand

One could be forgiven for thinking that the Frame & Truss industry does today what it has done for a good 10+ years. In the infancy of the prefabricated wall frame and roof truss industry, many of the initial practices were simply moving the traditional onsite assembly into a shed, out of the sun and away from the impact of wind and rain.

Things however are changing and Pryda is leading the industry to a higher level of automation, providing sophisticated design software and advice on automated sawing and assembly equipment to transition its customers from a traditional frame and truss business to a successful automated supplier of prefabricated building components. These changes create greater efficiency and accuracy and enable Pryda fabricators to work much more collaboratively on projects to provide a more cost effective outcome without reduction in quality. Pryda is also providing solutions and system to promote greater prefabrication in panelisation and modular construction and a move toward multi-storey and multi-residential structures not traditionally associated with timber. It is evident that Pryda's strong focus on product and process innovation over the past years has seen its product and service offering evolve since its launch in Napier 51 years ago, but the vision remains. As Jon Hill (National Sales Manager – Fabrication) tells us: "Product innovation based on deep market insights and unsurpassed quality are guidelines that form how we operate today. We call it our 'Value Proposition' to ensure that 'quality' infuses everything we do, including product development, choosing business partners and of course the exemplary service we offer. Our real value is providing efficiencies that genuinely save our customers time and costs."

## SOFTWARE

Progression toward panelisation and multi-storey construction is supported by Pryda in its Whole of House software design package available to prefab fabricators. Pryda's Engineering & Technical Marketing Manager Daniel Scheibmair says 'While traditional software designs roof trusses and details the supporting structure, Pryda's software considers load paths and designs items such as lintels and their supporting studs based on the loads of the supported structure above. Pryda's latest software version Pryda Build v4




(PBv4) is also based on Building Information Modelling (BIM). This can enable a transition of the architectural model into the PBv4 software, and equally passing the resulting structurally designed PBv4 model back into the designers architectural BIM software. A true collaborative approach unlocking the full potential BIM offers.' It is a true multi-user platform that allows roof, floor and wall detailers to work off a single master plan at the same time. Another benefit is releasing updates over time, based on market insights we develop and releasing updates incrementally thereby avoiding the 'one big learning curve'. "Like our products and other services, we don't develop software for our customers, we develop software with them." Jon proudly adds.
To learn more about Pryda's products and services and the work they're undertaking with their fabricators, take a look at www.pryda.co.nz or call them on 0800 88 22 44.

**By Daniel Scheibmair**

Building Officials Institute of New Zealand

Training Academy

# Prefab Technical Workshop Series

**This series of two 1 ½ hour interactive presentations, brought to you by Daniel Scheibmair of Pryda, is designed to provide the technical and structural principals behind prefabricated timber structures.**

The workshops will assist Building Surveyors and designers to understand the 'why' of NZS3604 and of Alternative Solutions utilizing specifically engineered design.

**This course can also be provided as an In-house training option for individual councils, cluster groups and stakeholder organisations**

**For further information & bookings please contact:**
www.boinz.org.nz
training@boinz.org.nz
04 473 6003

Building Officials Institute of NZ TRAINING ACADEMY

**AUCKLAND**
30 JUNE 2016

**DUNEDIN**
14 JULY 2016

**CHRISTCHURCH**
15 JULY 2016

**WELLINGTON**
28 JULY 2016

**HAMILTON**
8 SEPTEMBER 2016

**TAURANGA**
13 SEPTEMBER 2016

**NEW PLYMOUTH**
20 SEPTEMBER 2016

**PALMERSTON NORTH**
27 SEPTEMBER 2016

**NELSON**
25 OCTOBER 2016

# BOINZ Training Academy Training Calendar
# July – September 2016 Training Schedule

| | | |
|---|---|---|
| **JULY** | | |
| 1 July 2016 | TA001 Communication/TA003 Ethics | Hamilton |
| 4 - 6 July 2016 | Accredited Building Surveyors Training Programme | Auckland |
| 4 - 6 July 2016 | TA022 BWoF and Specified Systems | Christchurch |
| 4 July 2016 | BRANZ Answers 2016 seminar | Whangarei |
| 5 July 2016 | BRANZ Answers 2016 seminar | Auckland |
| 6 July 2016 | BRANZ Answers 2016 seminar | Wellington |
| 7 - 8 July 2016 | TA005 Plan Processing | Christchurch |
| 11 July 2016 | TA004 Accreditation | Christchurch |
| 11 July 2016 | TA010 Light Steel Framing | Wellington |
| 11 July 2016 | BRANZ Answers 2016 seminar | Auckland -North Shore |
| 12 July 2016 | BRANZ Answers 2016 seminar | Hamilton |
| 13 July 2016 | BRANZ Answers 2016 seminar | New Plymouth |
| 12 - 15 July 2016 | TA008 NZS 3604 Timber Framed Buildings | Wellington |
| 13 - 14 July 2016 | TA009 NZS 4229 Concrete Masonry Bldgs not Requiring Specific Engineering Design | Auckland |
| 14 July 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Dunedin |
| 15 July 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Christchurch |
| 18 July 2016 | BRANZ Answers 2016 seminar | Tauranga |
| 19 July 2016 | BRANZ Answers 2016 seminar | Rotorua |
| 20 July 2016 | BRANZ Answers 2016 seminar | Auckland - Central |
| 28 July 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Wellington |
| **AUGUST** | | |
| 5 August 2016 | TA016 Clause D1 Access Routes/ TA015 Clause F1 Safety of Users | Hamilton |
| 8-9 August 2016 | TA012 H1Energy Efficiency | Wellington |
| 8 - 11 August 2016 | TA008 NZS 3604 Timber Framed Buildings | Dunedin |
| 10 - 11 August 2016 | TA014 B2 Durability | Wellington |
| 15 - 16 August 2016 | TA017 Services and Facilities | Christchurch |
| 15 - 17 August 2016 | TA020 Fire Documents | Auckland |
| **SEPTEMBER** | | |
| 12 - 14 Sept 2016 | Accredited Building Surveyors Training Programme | Christchurch |
| 5 - 9 September 2016 | TA019 Plumbing and Drainage Compliance | Wellington |
| 8 Sept 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Hamilton |
| 12 - 14 Sept 2016 | TA002 Building Controls | Dunedin |
| 13 Sept 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Tauranga |
| 15 - 16 Sept 2016 | TA006 Site Inspection | Christchurch |
| 20 Sept 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | New Plymouth |
| 27 - 28 Sept 2016 | TA013 E2 Weathertightness | Christchurch |
| 27 Sept 2016 | PRYDA Prefab Technical Workshop Beyond 3604 2 x 1.5 hrs seminars | Palmerston North |

**The Training Academy also provides an In-house training option for our courses, which has been utilised by individual councils, cluster groups and stakeholder organisations.**
**Please be aware that for various reasons we may have to change our dates, so check the BOINZ website for the most up to date information.**
**For more information, course details and to register, please visit our website www.boinz.org.nz or contact the Training Academy via training@boinz.org.nz**

# PrefabNZ Top 5

## 1. HIVE – NZ'S FIRST HOME INNOVATION VILLAGE

A Limited Edition commemorative book about HIVE, New Zealand's first Home Innovation Village in Christchurch has just been published.

The HIVE showcased a range of high-quality, sustainable, well-designed prefabricated houses at Canterbury Agricultural Park from April 2012 – November 2014. Facilitated by PrefabNZ in response to Canterbury's earthquakes, it showcased a number of innovative prebuilt housing options to the public.

As more New Zealander's seek affordable and alternative housing solutions, there are growing reasons to establish a permanent display village. There have been several investigations by PrefabNZ into potential sites in Auckland and Wellington – watch this space!

**To order a HIVE book, email info@prefabnz.com ($40 PrefabNZ Members, $60 for Non-Members).**

## 3. EMBRACING TIMBER - CHANGE IN AUS BUILDING CODE

Effective from 1 May 2016, Australia's National Construction Code has altered so that the permitted height of timber buildings has increased from three to eight storeys.

The new regulations are better aligned with buildings codes in North America and Europe, where many seven to nine storey timber buildings have been completed and a series of timber-framed skyscrapers are proposed. The changes are expected to offer cost savings of up to 15 per cent compared with other construction systems. Mass timber, Cross Laminated Timber panels and Laminated Veneer Lumber components are being used instead of concrete and steel structures. It's these modern engineered timber products which are considerably stronger and more stable than regular wood and are making timber high-rises possible.

A thumbs up in helping to address the need to find safe, carbon-neutral and sustainable building alternatives and no doubt lots of excited timber manufacturers in NZ!

## 2. UNIPOD – PREBUILT, STACKABLE SERVICE POD

Are you interested in an open-source bathroom / kitchen pod? Free to download for manufacturers – free to specify for architects / designers / engineers – easy to assemble at site for builders.

Prebuilt chunks like the UNIpod can help the industry build smarter and faster. It's a one-piece bathroom / kitchen pod that is stackable, making it ideal for multi-unit housing developments. Deputy Mayor of Auckland Penny Hulse launched the UNIpod prototype at the PrefabNZ CoLab conference - the pod was designed by Wellington's award-winning First Light Studio.

Although pods aren't a new idea, the fact that it's open-source is and potentially a first in New Zealand and the world. Anyone will be able to freely access the design (we'll keep you posted!). It's all about sharing information collaboratively – potentially a way forward for the construction industry in the future.



## 4. PREFABNZ IN CHRISTCHURCH

Join the Cluster event on Tuesday 28 June 4.30-6.30pm for a tour of the All Star's Inn on Bealey in Christchurch. The building uses a unique XLam prefabricated building system including prefabricated flooring, walls and roofs, made from natural green resources. Columns and beams have been eliminated altogether as cross-laminated timber walls carry the floor spans.

The site tour will be followed by quick-fire presentations from three industry-leaders on innovative Canterbury projects at the nearby Speight's Ale House. The Cluster is a series of events across the country which bring together builders, designers, developers, researchers, regulators and planners to share information, explore case studies and learn about the latest in the design and construction industry. FREE for members of PrefabNZ, NZIA, ADNZ, DINZ, NZGBC, IPENZ - register at

## 5. JOIN PREFABNZ TODAY

PrefabNZ members span the design and construction sector, from builders to engineers, manufacturers to researchers. The organisation delivers strategy, policies and outputs on behalf of the prefabricated building industry. Benefit from events, news, research and development initiatives and connect with potential collaborators. Make sure you're up-to-date with everything prefab – join PrefabNZ, visit www.prefabnz.com.

# Imported Building and Products – A BOINZ Perspective

Building work carried out in constructing a pre-fab building in Asia, Australia or elsewhere does not come under New Zealand jurisdiction. Therefore there is no requirement for it to comply with the New Zealand Building Act or New Zealand Building Code. Likewise, according to MBIE's interpretation in their draft 'Guidance on Manufactured Building Solutions', a building or component constructed in a factory in New Zealand that is not built for a specific site is also not 'Building Work' under the Building Act, and by implication does not need to comply with the Building Code. (We believe that this interpretation does not reflect s8 Building: what it means and includes)

*A "G Home" container house ready for transport and installation on a residential allotment – not in NZ (as yet)*

However, irrespective of whether they are 'Building Work' or not, either of these buildings will eventually need to be installed on a building site for a specific client. In order to do this an owner will need to apply for a Building Consent for foundations, connection to services, etc.

A BCA could take the attitude that a limited building consent is able to be issued for the installation of the possibly (probably) non-compliant, non-building work building. When the installation is complete the owner can then be issued with a 'Code Compliance Certificate' for the completed work as consented (which would exclude the building).

However, this course of action would be in complete contradiction to Section 3 (b) of the Building Act 2004 (Purpose and principles) which clearly states "to promote accountability of owners, designers, builders and building consent authorities who have responsibilities for ensuring that building work complies with the Building Code".

We believe a BCA must be satisfied on reasonable grounds that a completed building does comply with the Building Code, irrespective of its origins. Failure to ensure compliance has been adjudged by the courts as negligence on the part of the BCA with respect to their duty of care to the building owner. However, the person(s) responsible for demonstrating to the BCA that compliance has been achieved is the owner or their designated agent.

BOINZ would actively support any amendment to the Building Act that would remove current confusion and doubt around imported or manufactured buildings and components. The legislation needs to clearly support and define the responsibilities of the various team members involved in the construction of buildings, namely; owners, designers, manufacturers, importers and suppliers, builders and regulators.

**By Antony Conder**

# Industry Events Calendar

| Date | Where | Host / Event |
|---|---|---|
| 4-6 August | Auckland | CCNZ Conference |
| 6-8 October | Auckland | NZ Concrete Industry Conference |
| 27 – 29 October | Auckland | ADNZ Conference (and celebrate 50 years) |
| **2017** | | |
| 9-11 February | Auckland | NZIA Conference |
| 2-5 April | Auckland | BOINZ Conference (Celebrating 50 years) |
| 1-3 August | Wellington | BOINZ Senior Building Control Officers' Forum (Celebrating 50 years) |


Cliff Top House, Xsite Architects Ltd, Photographer: Simon Devitt, Image Care of NZIA.
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# International Straw Building Conference 2016

The International Straw Building Conference (ISBC) takes place every four years, and in 2016 under the sponsorship of the Earthbuilding Association of New Zealand (EBANZ) the event was superbly organised in the Canterbury town of Methven.

As is frequently the case with big events in New Zealand there was a last minute rush - the final 40 locals all joined up in the last week. For the organising committee this was a blessed relief and profit, plus handsome vindication for their vision. Also gratifying was that 20% of the attendees were from abroad - a good proportion given the remoteness of New Zealand from the wider world. Two or three speakers reached these shores for the first time ever, and another stated he'd love to drop in 'on his way to Antarctica...'

The Ski resort town of Methven was brilliantly chosen as the venue. Out of season it allowed copious accommodation and the conveniently located Information Centre offered adequate conference space in the form of a hall - capable of seating the 200 participants comfortably - a theatre, kitchen and car park – this last being vital for the many outdoor demonstrations. The season was as carefully chosen – during late summer there is plenty of straw available from the Canterbury plains both for demonstration purposes and the famed, or perhaps infamous, Straw Bale Olympics. Once local straw has been baled farmers continue to burn their stubble – with predictable results in the strong afternoon winds that blow up. During our stay the Methven volunteer fire brigade was called out on three occasions on one day alone.

Covering the pizza oven with cob

So packed were the days with quality speakers and workshops that the organisers were obliged to begin proceedings at 0830 each morning. However with such luminaries in the alternative building sector as authors David Eisenberg, Bruce King, Graeme North and Catherine Wanek, together with builders and architects, Emily Niehaus, Craig White and Rachel Bevan the extra effort was worthwhile.

A strong feature of ISBC was the broad reach of its brief. An underlying theme seemed to be that home-builders should really seek the material that suits every aspect of their requirement. Straw Bale, particularly affords fairly simple construction, and Sven Johnston with Pat Mawson gave excellent practical demonstrations of straw bale wall panel systems, together with plastering techniques. As we found, with enough manpower these panels can be moved – but then there was a large potential workforce available! Under normal building conditions having some kind of mechanical lifting devices available makes life much easier to move these substantial sections.

Another underlying them of the conference was that those people (an increasing number) seeking to build with material other than conventional concrete or steel are at the forefront of those seeking a more harmonious, 'earth-friendly' planet. Intelligent questions posed were 'what is a building?' As Bruce King suggested it is just a device for protecting human beings from their environment. In some parts of the world, certainly the tropical regions the 'need' for building for protection is minimal as the temperatures are ambient enough for most people to exist comfortably without. The fact more and more people are moving to Urban Areas may well have a beneficial side – it leaves more of the country free. 'Today,' he went on, 'we are living within the peak of the plastics era, and our challenge is to recycle, improvise,

Touching up the plaster after the panel has been raised to the vertical

and perfect the use of any available material, from clay based concrete, as used in the Yemen, to the "world's most useful plant – bamboo." Bamboo was the one obvious alternative material that had no demonstrations at ISBC. However one of the organisers, Sarah Johnston, recently went to Korea to examine bamboo construction techniques and will be publishing her findings.

From the west of England, Craig White presented his 'Modcell' system of building with straw bales. This system allows construction costs to be kept right down by moving the 'factory' to the site. The construction team rent a nearby empty agricultural building and build the straw panels under cover before delivering them to site for erection. It has been used successfully on several properties.

Two notable speakers, Barbara Jones from the UK, and Emily Niehaus from the USA spoke of the ways and means to involve local labour with vested interest in the end results. Quite a lot of complex 'financial modelling' was involved in the USA example, but the end result was habitable homes for those in society less able to join the great fiscal rampage.

Jade Kake gave an excellent presentation about solving the housing problems for her extended family in Northland. Ironically, while the materials and labour are readily obtained, some of the houses have to be 'transportable' – built on

poles - to satisfy the requirements of the Mortgage Company. Both Jade and Rosa Henderson gave compelling talks on their topic: Jade grew up mostly in Australia and spoke with passion and commitment about the solutions she is helping to put in place. Rosa Henderson seems to have crammed several lifetimes' of experience in moving around the world and teaching people to build using mud and straw. Both these young women gave presentations of enormous scope and power, with an inspiring command of language demonstrating wisdom well beyond their years. Dare we hope that civilisation can begin a transformation with this clearly tangible example of a younger generation making such a mark?

Rachel Bevan talked of and demonstrated her experiments with hemp and lime in Northern Ireland. The end results seem to offer many advantages in construction – cheap 'waste' material being processed into lightweight construction offering promising longevity. A visit to one of the Canterbury's first legal hemp crops had to be cancelled, but certainly hemp residue seems to offer considerable promise as a building material in addition to its many other enormous uses.

ISBC 2016 was far from being a purely trade gathering. There were gratifying numbers of people attracted by the availability of 'hands-on' experience across a very wide range of building disciplines. Suffice it to say the conference was a terrific success, and many must have gone home uplifted, inspired and with a whole trunk load of ideas to play with – author included!

The International Straw Building Conference in Methven was a triumph. To the organising committee, Min Hall, Sarah Johnston, Verena Maeder, Kerry Mulligan and Tim Bishop, all of whom spent three years putting it together, must go congratulations and thanks on every level.

**Emplacing a mud brick**

**Article and photos by Crispin Caldicott**

***Our thanks to The Owner Builder for permission to republish this article. Crispin Caldicott is editor of 'earthbuilding' the journal of the Earthbuilding Association of New Zealand – EBANZ.***

**Sven Johnson outlining finer points of straw.**

**TOB straw panel filled & plastered, awaiting erection**

**Rose Henderson encouraging the younger generation of builders**

**The wall grows.**

# Building Performance

**From John Gardiner, Manager Determinations and Assurance Ministry of Business, Innovation and Employment**

MBIE's successful workshops for product manufacturers and suppliers last month [May] have highlighted this group's appetite for learning more about how to provide the right information to BCAs and others – and how to back this up with suitable evidence.

As you're well aware, product manufacturers and suppliers make up a disparate and dynamic group that includes a number of small players, one-off importers and the like that don't necessarily belong to any professional associations; so they can miss out on general education and support. Our recent workshop series is part of our current product assurance campaign that's mainly targeted at this group and which should help them better understand their Building Act obligations, how to show Building Code compliance, and how to provide suitable information about their products. This is important because everyone relies in turn on this information, including building officials when issuing a building consent.

Our product assurance campaign includes a variety of activities and resources including updated material and online tools (at www.building.govt.nz/product-assurance), workshops and seminars, face-to-face meetings, articles and other direct communications. We're also planning more targeted work with small importers and various ethnic groups.

All this is proving particularly timely given some recent media concerns about particular building products. In April we set up a dedicated email address products@mbie.govt.nz to help us gather some hard facts – and so far we've received a handful of complaints that merit a closer look. You will have already seen some product alerts via recent BC Updates and we're pursuing some joint investigations with the Commerce Commission (which deals with false claims and misleading advertising).

However, the message I want to reinforce here is that monitoring and enforcement is only one part of the picture – education and support is also critical. Improving the building system is a major task and everyone has an interest in making this work. Building officials can help by being supportive of suppliers providing good product information and by getting the message out there, as well as by drawing our attention to any products of concern. Designers, builders, homeowners can also contribute by being responsible specifiers and purchasers.

As part of our product assurance work we're encouraging more manufacturers and suppliers to create product technical statements (PTSs), which provide a standardised format for summarising compliance and other critical product information. You're likely to see more PTSs in building consent applications and you should be able to put some reliance on these; although obviously the "reasonable grounds" decision is still up to you.

Points to consider when looking at a PTS include that it covers the key content, quotes the relevant Code clauses and has an appropriate scope of use. Other considerations are that the supporting evidence claimed in the PTS exists and is relevant, and whether the supplier is known and competent.

***You can find out more about PTSs at www.building.govt.nz/product-assurance. Our website also contains useful resources you can direct people to, including a product assurance decision tool (downloadable as an editable PDF) and more about providing suitable evidence of compliance***

# Raised Standards for Glass Balustrades Still Allows for Frameless Glass Systems

**By Andrew Hibbert, National Marketing Manager at Viridian Glass**

As societal needs change and technology advances, the New Zealand Building Code and relevant standards are reviewed and updated. This ensures the building industry is providing acceptable standards to promote Health and Safety of building occupiers. This holds true for glazing and from our perspective, the recent changes to NZS 4223.3:2016 Glazing in Buildings – Part 3: Human Impact Safety Requirements in relation to balustrade solutions make balustrades safer by addressing the unlikely event of glass failure.

NZS 4223.3:2016 addresses consequence of glass failure by offering 3 design options for cantilevered glass balustrades:

1. Toughened safety glass with interlinking rails
2. Toughened laminated safety glass with top capping or interlinking brackets
3. Heat strengthened or toughened laminated safety glass with a stiff interlayer, such as SentryGlas®, that prevents collapse in the event of glass failure.

Options 2 and 3 still provide the frameless look that many developers, architects and home owners would like, and it is important that building officials can readily identify stiff glass interlayers onsite and in plans. In the coming weeks we (Viridian Glass) would have developed a glass stamp specifically for SentryGlas®. The stamp will be placed on the glass itself indicating this stiff interlayer, eliminating the need for interlinking rails or capping requirements. Sentryglas® is an example of a stiff interlayer. It is five times stronger and up to 100 times stiffer than conventional laminating materials.

Whilst there are many changes that are coming into effect under NZS 4223.3:2016, the building industry needs to be aware that frameless glass systems can still be designed and installed.

Recently, we have been advising home owners, builders, architects and BOINZ members that there are three options in relation to the new balustrade changes. For simplicity, we have categorised these as Safe, Safer and Safest, as the strength of the glass unit progressively increases. For the safest environment possible, it is our hope that home owners and developers will use the safest option for their glass balustrades. This will indicate their desire to protect the people they care about, with uninterrupted views provided by the latest in glass technology and glazing techniques.

## SAFE

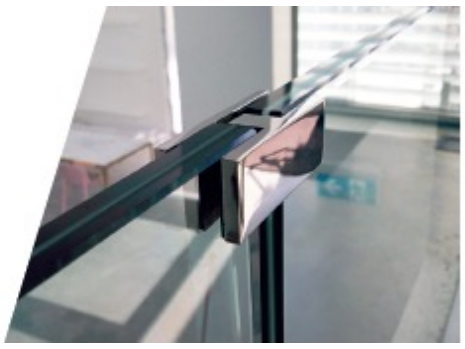
### Viridian Toughened Safety Glass With Interlinking Rail

Interlinking rail connects to each pane of glass and to the building. Toughened glass is stronger and breaks in a safe manner compared to normal glass. In the unlikely event of the glass breaking the glass will fracture into small safe fragments.

## SAFER

### Viridian Toughened Laminated Safety Glass With EVA Interlayer

In the event of the glass breaking, the fragments of glass stay bonded to the interlayer. Interlinking clamps or capping will prevent glass collapse in case of dual pane fracture.



## SAFEST

### Viridian Toughened Laminated Safety Glass With SentryGlas® Interlayer

SentryGlas® structural interlayers are 5 times stronger and up to 100 times stiffer than other conventional interlayers. This interlayer stays together and erect even when both panes of glass have been broken.

# Building Officials Institute of New Zealand's
# 2016 Excellence Awards Winners


## VIRIDIAN GLASS NEW ZEALAND CONTRIBUTION TO TECHNICAL AND LEGISLATIVE IMPROVEMENTS AWARD:

This Award is given to the individual who has excelled in contributing to advancing the technical and/or legislative understanding of members.

**WINNER:** Ian McCormick

## BRANZ OUTSTANDING COMMITMENT TO INFORMATION, SKILLS DEVELOPMENT AND EDUCATION OF BUILDING OFFICIALS:

This Award is given to the individual or organisation who demonstrated outstanding commitment to providing information, developing skills and advancing the education of Building Officials within the Industry.

**WINNER:** Peter Gallagher Of Timaru District Council

*Peter's award was accepted by Mr Grant Hyde, Timaru District Council's Building Control Manager on Peter's behalf*

## PACIFIC STEEL THE YOUNG* BUILDING CONTROL PROFESSIONAL OF THE YEAR:

Young* defined as under the age of 35 as at 31st December 2014. This Award goes to an individual that reflects strong professional growth and has dedicated their time to enhancing the Building Control profession.

**WINNER:** Scott Tulloch Of Hamilton City Council


## RESENE CONSTRUCTION SYSTEMS EMERGING LEADER AWARD:

This Award is given to an individual who has shown exceptional leadership skills at a local and/or national level and whose actions have grown the value of BOINZ among members.

**WINNER:** Ian Chamberlain Of Chamberlain Carpentry And Joinery

***And Chairman of our Waikato/Bay of Plenty Branch***


## HILTI ORGANISATIONAL COMMITMENT TO CUSTOMER SERVICE AND EXCELLENCE AWARD:

This Award goes to an organisation who demonstrates dedication to exceptional customer service and excellence.

**WINNER:** Invercargill City Council

*Representative(s) of Invercargill City Council's BCA unit, Mr Barry Holstead and Mr Brendan Monaghan accepted the award on behalf of Invercargill City Council.*

# Building Officials Institute of New Zealand's
# 2016 Excellence Awards Winners

## MITEK NZ TRAINING COMMITMENT AWARD:

This Award goes to the individual or organisation that has committed to significantly improving the position of training in their field.

**WINNER:** Timaru District Council


*Mr Grant Hyde, Timaru District Council's Building Control Manager accepted the award on behalf of his team.*

## CARTER HOLT HARVEY INNOVATOR OF THE YEAR AWARD:

This award recognises a building surveying professional, or a team engaged in building surveying activities, who has demonstrated commitment to innovation in building surveying.

**WINNER:** West Coast Councils (Buller-Grey-Westland)


## PRYDA NZ CONTRIBUTION TO BOINZ AWARD:

This award is given to the individual or organisation that has made a significant impact to the advancement of BOINZ in the market place.

**WINNER:** Kerry Walsh Of Hurunui District Council


## WINSTONE WALLBOARDS BRANCH OF THE YEAR AWARD:

The Branch of the Year Award is considered by the Institute's Board each year based on participation, innovation and member value at a local level.

**WINNER:** Wellington Branch

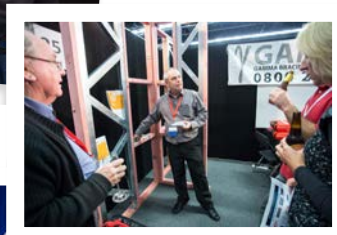

## LIFE MEMBER APPOINTMENT

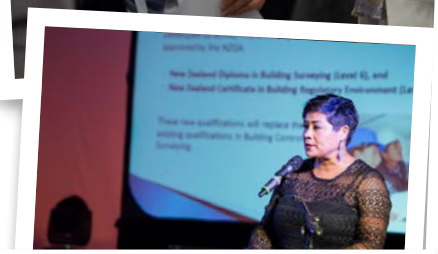
Mr C Ray Smith

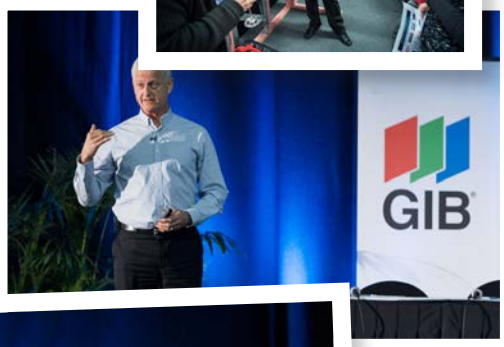
## HONORARY MEMBERSHIP AWARD

Mr Jack Lyons (Left)


ROYAL NEW ZEALAND AIR FORCE







Thank you to all of those who attended our Conference this year – it was great to see you all having such a great time and gaining valuable information from our many fantastic speakers. We look forward to seeing you again for our 50th Anniversary Conference next year!

# Steel for Huntly bypass bridges fails test

**Phil Pennington from Radio NZ.**

Sixteen hundred tonnes of steel from China has been found to be too weak for four bridges on the $450 million Huntly bypass that forms part of the $2 billion Waikato Expressway.
Contractors building the 'Road of National Significance' chose a very low bid for the steel tubes.

But the test certificates for them have turned out to be wrong, and now an expensive fix-up job is under way.
The contractors, Fulton Hogan and HEB Construction, have admitted to RNZ News the steel tubes were not good enough. They did not comply with standards for structural steel, which for bridges were very high as they must resist impacts, heavy loads and low temperatures.

It was only after a third lot of testing that the contractors found out. The first tests were done in China by the steel mill and the tube manufacturer; it is understood the second tests were done in New Zealand on samples sent here from China.
Both lots of tests said the steel met the New Zealand standard.

As for the third testing, there are two versions of events. The contractors and the New Zealand Transport Agency say that, following established quality control processes, they tested the tubes after they arrived and immediately found out the steel was no good.

But RNZ News has been told it was only when workers began pounding the tubes into the ground, and the steel ballooned on the ends, that tests were done by an accredited laboratory.

The steel failed in this third lot of tests.
The contractors said the weak steel was "identified on delivery to site, when the piles were assessed against our designers' specification through our standard quality assurance process".

They have used some of the tubes anyway, for two bridges in the Huntly bypass, but say they were made safe by concrete reinforcement.
They say they did not have time to do anything else.
The contractors are now looking to buy replacement steel tubes for the two other bridges.

The road-building contract means none of this cost falls on the taxpayer - it all falls on the contractors. There are probably commercial warranties in place, but it could also be that the contractors now pursue the supplier of the tubes.
RNZ News is trying to identify the supplier or intermediary; the contractors would not disclose whether it was a New Zealand supplier, or if they had their own supply chain in China.

The New Zealand Transport Agency has declined to talk about what assurances it was seeking from the contractors to ensure this did not happen again.

In a statement, the agency said there was no safety issue with the four bridges, and that "steel pipe piles and reinforced concrete piles do exactly the same job and last exactly the same time".
It said there would be no delay in the project.

RNZ News understands the contractors went for a bid that was 30-40 percent lower than an average market price for these tubes.

This was in a world market flooded with Chinese steel, ranging from the very good to the very bad. RNZ News is working to identify the mill and manufacturer in China and what accreditation either has there to make or test steel tubes.


*A road sign on the Waikato Expressway*
*Photo:RNZ / Andrew McRae*

# INTEGRA

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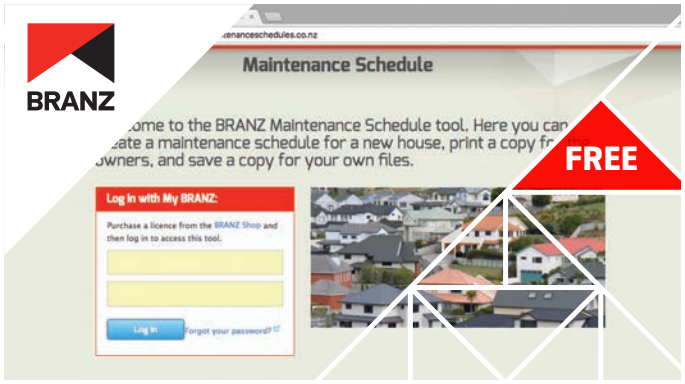


# Maintenance Schedule

## Free to builders

BRANZ Maintenance Schedule is now available as a **free** web-based tool that allows you to simply select the materials and finishes used in a building via dropdown boxes.

With its enhanced features, the tool creates a professional maintenance schedule for a new or renovated home which can be supplied to clients or local authorities.

- Record in one handy place all materials used in a building
- Give your clients a comprehensive maintenance guide.

Go to:
www.maintenanceschedules.co.nz

branz.nz | Technical Helpline 0800 80 80 85

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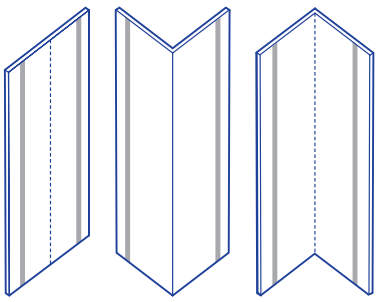
UNIVERSAL BACK FLASHING

BY DYNEXbuild

ONE PRODUCT, MULTIPLE APPLICATIONS

NO JOINS | LESS WASTE
UNIQUE FIXING STRIP
COMPRESSIBLE CO-EX BEAD

| 50X50 MM<br>75X75 MM | BOTH IN 25M COIL |
|---|---|

BRANZ Appraised
Appraisal No.913 [2016]

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www.dynexbuild.co.nz

# Accredited Building Surveyor Promotion on Trade Me

We have an exciting advertising promotion underway for our Accredited Building Surveyors. The BOINZ Board approved a three-month trial with Trade Me advertising our Accredited Building Surveyor's on the property sections of Trade Me.

We are running a range of advertisements for ABS we think will attract consumers looking to purchase a home. When they click on our advertisement, it will take them to our "Find an Accredited Building Surveyor" website page.

The advertisements will be on both the property home page, and on the regional listings in all areas where we have Accredited Building Surveyors.

It's still very early in the Trade Me advertising trial, although we have some initial feedback based on the first four weeks of the trial, and we are very pleased with the results.

You may find it a bit tricky to see our adverts in the first instance. This is because the adverts rotate with other advertisements on Trade Me until the number of impressions/ads purchases have been delivered. Saturation is dependent on budget and it looks at this early stage like there are other companies spending more than we are, hence their ads rotate quicker, or they are funding more advertisements than we are. In addition, our ads are focused only on regions that have Accredited Members. ABS members are already reporting referrals from Trade Me linkages.

We are still in the initial stages of identifying what advertising and where on Trade Me is going to be most cost effective. At this stage the 160x600 banner advert that shows up on the left by the map when you open a property, and the "Found a home you love" banner is the best performing. It's performing above the Trade Me average for that style and ad placement.

In the short time the adverts have been running we have been pleased with the click rate.

When clicked, people are taken to our "Select an Accredited Member" page on our website. This is good news for Accredited Members.

Later in June we will be talking with Trade Me to enhance and maximize our offering. It's still early days at this stage.

We will be evaluating the success of the trial at its completion, but so far we are pleased with the results.

If you are interested in undertaking the Accredited Building Surveyor Programme please email accreditation@boinz.org.nz for more information.

**Members working in Property Inspection must undertake the training this year (before December 2016) in order to keep their membership valid.**





# Cantilevered balconies are not grandstands

**Nathan Speir is a Senior Associate at Rice + Co Lawyers and specialises in providing judicial review and enforcement advice to local authorities across New Zealand.**

On 4 March 2016 during a "coming home" concert by local band Six60, a cantilevered balcony at a student flat on the infamous Castle Street in Dunedin collapsed causing serious injuries to 18 of the 1500 students in attendance. MBIE investigated the cause of the collapse with a particular focus on whether the balcony was designed, constructed and maintained to the required standards. MBIE concluded that the primary cause of the collapse was overloading and this article summarises its findings and recommendations.

## The Facts

### THE PROPERTY

The property is a two storey building in a privately owned student flat complex. A building consent was issued on 9 December 1999 and a code compliance certificate was issued on 24 November 2003.

### THE BALCONY DESIGN

The balcony was designed with eleven cantilevered joists spaced at 400 mm centres, projecting 1200 mm from the external face of the building framing and extending 1800 mm into the floor to double floor joists running at right angles on the balcony's joists. The consented drawings show the joists as continuous nominal 200 mm x 50 mm members. The finished size of the joists were measured by MBIE as 190 mm x 45 mm with a 50 mm step down that reduces the size to 140 mm x 45 mm.

The design standard of the day anticipated a loading of 10-12 people distributed evenly over the balcony.

### THE COLLAPSE

On 4 March 2016 some 1500 students gathered on Castle Street to watch local band Six60 play in an open courtyard as part of the extended "O week" festivities. The concert was being filmed for a music video. The footage, which was provided to the Police following the collapse, shows approximately 18 people crowded at the end of the balcony closest to where the band was playing. Shortly after Six60 started, that end of the balcony can be seen moving up and down in time with the music. Soon afterwards the front-right hand corner of the balcony dropped and then the whole balcony rotated approximately 45 degrees before separating from the building and dropping vertically to the ground. The collapse was rapid and the students both on the balcony and below it were unable to take evasive action. The result was 18 injured students including two with serious injuries.

## MBIE's Conclusions

Following its investigation MBIE concluded:

- The primary cause of the collapse was that the number of people on the balcony at the time of collapse significantly exceeded the design capacity of the timber joists supporting the balcony.
- The design and construction of the balcony met the standards and Building Code requirements of the time.
- There were no observable defects or deterioration of the balcony that would have contributed to the collapse.
- A design detail, notching of the balcony timber joists at the step between the first floor and the balcony, may have been a contributing factor to the collapse. MBIE concluded that further research is required to clarify whether changes need to be made to the Standard and what, if anything needs to be done about other balconies built in a similar manner.
- Design standards have changed since the balcony was constructed and required timber joist sizes for this type of structure have increased. It is likely that, given a similar level of student congregation on a similar balcony built to current standards, the balcony would have collapsed.
- The collapse highlights the brittle and sudden manner in which cantilevered balconies can collapse. In this case the balcony was designed for normal domestic use, not as a public grandstand, which would have higher loading expectations.

## MBIE's Recommendations

MBIE preliminarily recommended further research to determine the reduction in strength of cantilevered timber joists with notches to form stepped joists. Depending on the research results, MBIE identified that the NZ Standard NZS 3604:2011 may need to be changed and advice may need to be provided to homeowners with similarly constructed balconies to seek professional design advice.

## Conclusion

In a residential area it is difficult to regulate against an unprecedented event such as a 1500 person pop concert. Balconies such as these were not designed to be grandstands. It would be interesting to ask the band's management and promotion companies about the lessons they have learned. That aside, MBIE's investigation confirms that the design, build and regulatory processes met the requisite standards.

# GIB® BIM Objects now available

Building Information Modelling (BIM) is becoming an important tool and process in the industry, particularly for large and complex commercial jobs, but efficient and effective BIM modelling requires accurate and up-to-date BIM objects.

The advantages include improved, detailed information like the ability for a Quantity Surveyor to identify the number of screws required or to test different scenarios or performance requirements like calculating energy use. Significantly, it allows better collaboration and communication between designers, engineers and contractors allowing engineering to be refined and clashes identified and mitigated, including health and safety issues. By keeping all project data together in one place, BIM avoids data loss and is particularly helpful for future maintenance and alterations.

GIB® has developed over 100 BIM objects that contain linked data to GIB® systems and are now available on the GIB® website as Revit files. The new BIM Objects are available for GIB® Bracing, Fire, and Noise Control systems as well as standard walls. The Objects include data like the fire rating, STC rating and BRANZ appraisal number as well as the visual and graphical representation. This linked data allows you to compile essential information in one place, make fast and accurate schedules and identify clashes or potential risk areas like penetrations in fire walls. CAD files are also available for all GIB® systems.

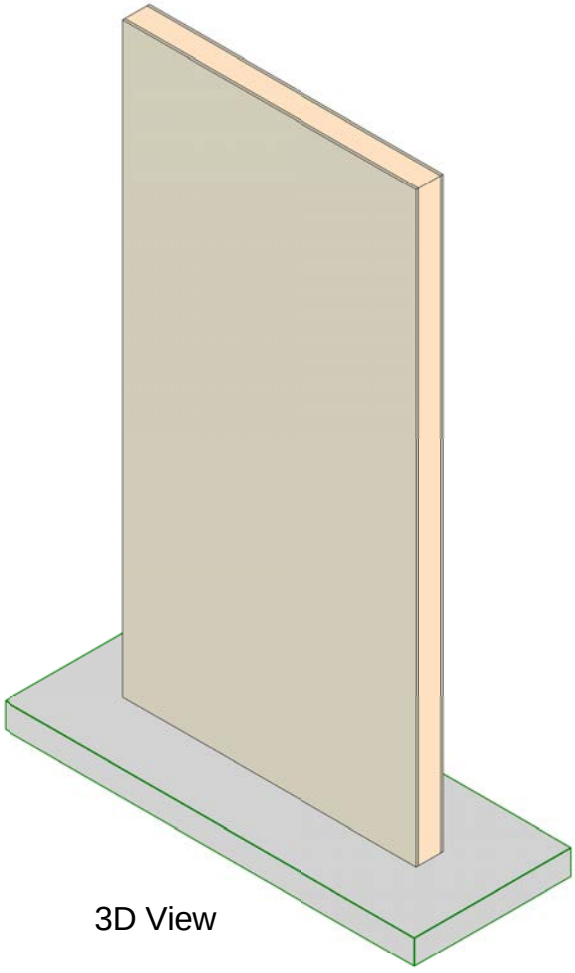
Designers and contractors need to be certain that the data in every GIB® BIM object is correct and relevant and so GIB® BIM Objects for fire and acoustics systems have been BRANZ appraised. This is a New Zealand first and underscores Winstone Wallboard's commitment to supplying accurate technical information to the industry. The BRANZ appraisal means that the data within the GIB® BIM object has been verified by a third



Associated BIM Object Data

| | |
|---|---|
| GIB® Specification: | GBTL 15 |
| Type Name: | gib_fire_gbtl_15 |
| Issue: | 1 |
| Structure: | LB |
| Approximate System Weight (kg/m²) | 22 |
| Sound Transmission Class (STC): | 36 |
| Weighted Sound Reduction Index (Rw): | - |
| Fire Resistance Rating (FRR): | 15/15/15 |
| BRANZ Appraisal Reference: | BRANZ Appraisal No 289 (2012) |
| Insulation Requirements: | None |
| Lining Requirements: | 1 Layer 10mm GIB® Standard Plasterboard each side |
| Web Site Link: | http://www.gib.co.nz/systems/gib-fire-rated-systems |

Plan
1 : 20




Plan
1 : 5

3D View



All Dimensions are to be site checked before construction and installation

GIB® Fire Rated Systems

GBTL 15 - FIRE RATED WALL SYSTEMS – TWO WAY FRR – TIMBER FRAME

| | |
|---|---|
| File: gib_fire_gbtl_120.rvt | |
| Scale: As indicated | Reference |
| Date: July 2015 | GBTL 15 |

EXEMPT BUILDING WORK ORDER 2016

**There has recently been a minor amendment to Schedule 1 of the Building Act, 'Building work for which building consent not required'. A drafting error that excluded standalone carports has been amended to now include them. The conditions upon which the exemption can be used remain in place.**



# Building (Exempt Building Work) Order 2016

Jerry Mateparae, Governor-General

## Order in Council

At Wellington this 30th day of May 2016

Present:
His Excellency the Governor-General in Council

This order is made under section 41(2) of the Building Act 2004 on the advice and with the consent of the Executive Council.

### Contents



## Order

**1 Title**

This order is the Building (Exempt Building Work) Order 2016.

**2 Commencement**

This order comes into force on 30 June 2016.

**3 Schedule 1 of Building Act 2004 amended**

In the Building Act 2004, Schedule 1, replace clause 18 with:





**18 Carports**

Building work in connection with a carport that—

(a) is on the ground level; and

(b) does not exceed 20 square metres in floor area.

Michael Webster,
Clerk of the Executive Council.

## Explanatory note

*This note is not part of the order, but is intended to indicate its general effect.*

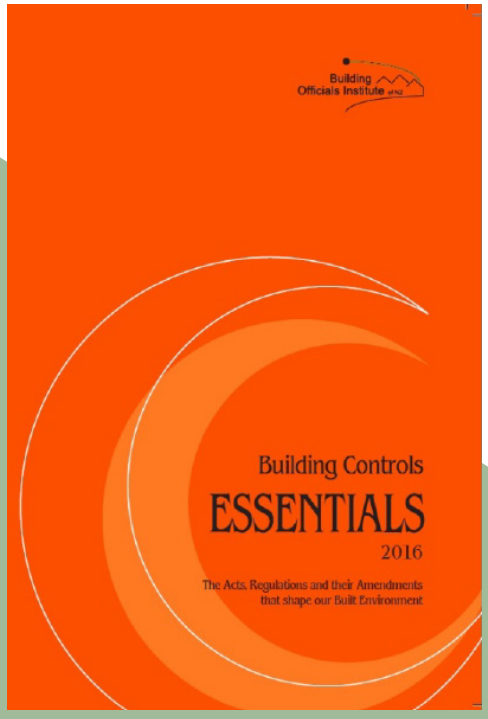
This order, which comes into force on 30 June 2016, replaces clause 18 of Schedule 1 of the Building Act 2004. Schedule 1 of the Building Act 2004 contains a list of building work and classes of building work for which building consent is not required. Clause 18 of Schedule 1 relates to carports and contains conditions that must be satisfied for building work in connection with a carport to be exempt.

This order replaces clause 18 to remove the condition that required a carport to be on or attached to an existing building. A carport that is not on or attached to an existing building may now fall within the scope of the exemption in clause 18. The effect of this order is therefore to extend the scope of building work in connection with a carport for which building consent is not required.

Issued under the authority of the Legislation Act 2012.
Date of notification in *Gazette*: 2 June 2016.
This order is administered by the Ministry of Business, Innovation, and Employment.

Wellington, New Zealand:
Published under the authority of the New Zealand Government—2016

Building Officials Institute of NZ
TRAINING ACADEMY




Building Officials Institute of New Zealand

**Building Control Essentials 2016**

Building Control Essentials contains the key legislation governing the building industry in New Zealand. It has been consolidated to include all amendments before 1 January 2016.

For every Building Surveyor who wishes to keep up to date, this is an essential publication.

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