straight up

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Codemark Certificates
SBCO Forum 2015

Building Officials Institute of NZ

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straight up

IN THIS ISSUE

From the President

"The Members have voted!"

I am often amazed how often people who are involved with not-for profit organisations don't visualise the importance of these organisations to our economy.

Your Institute is a not-for profit charitable organisation, which has the vision statement, "Improving the Quality and Performance of the Built Environment." This is a huge and worthy ambition, which your Board believes wholeheartedly in. Our mission statement prescribes operatically how we will go about achieving our vision; by "Supporting the professionalism of our membership through: Effective leadership, Quality education, Compliance with legislation, Creation of industry partnerships, and Provision of relevant products and services."

So I can hear you saying, "What's all this got to do with our economy?" Well, for a start, the work we do is to support you, our members, in your roles. Without a core professional body working on your behalf, the so called "goods and services" BOINZ provides would need to be sourced from other parties; more often than not, individuals, groups and organisations that don't have your interests, or that of the building surveying profession, at heart.

Not -for profit organisations, often known as the "third sector," contribute significantly to a country's bottom line GDP. I couldn't find a New Zealand example, but in the United States, it is a significant 5.5%, or nearly $805 billion. Most governments recognise this vital contribution to the economic wellbeing in many ways. In New Zealand, government regulators work closely with peak bodies such as BOINZ to affect rounded pragmatic and consultative legislative and regulatory outcomes. Why? Because generally speaking, the voice of a sector is a collective voice. In the case of BOINZ, our vision is both inward and outward serving. We have purposely positioned the Institute for the greater good of the built environment.

So when your Board realised a few years back that we needed to have strategy that added value both to our members and the wider stakeholder community, it was always going to be a mix of output and outcomes in terms of how we achieve our goals.

For the most part, the recent operational focus has been around outputs; outputs that have materially changed the perception of building surveyors and building surveying. The single biggest investment has been in training; that will not be a surprise to you. Outputs generally deliver quick results, and there is no doubt our efforts have brought improved knowledge and consistency to the profession over the past 4-5 years. However, outcomes are also important, and these are generally long term by nature. The results are not often seen immediately, and they are generally the result of a project or multi project activity. The impacts are often described as being "part of a life cycle."

So when we moved to introduce new category changes to the Institute's membership, it was looking to the bigger, long term outcomes the profession of building surveying could and should achieve. We had visions around career pathways, higher qualifications, public recognition, consistency of knowledge, skill and interpretation, and so forth. The Board does not see the profession of building surveying being followers; rather, we are leaders. By defining who we are within our membership, why we belong to a membership category, and how our membership categories will allow individuals to progress, we will pave the way for a solid and well-resourced building surveying community.

At the recent Special General Meeting, your Board was heartened to receive a strong element of support for the vision and future we were advocating. There comes a point in time when change needs to occur. Those who read the documentation carefully immediately comprehended the vision; others had questions, and these were answered. The important point is that the "members have voted" and they have voted for a better future.

Our next steps are about taking advantage of the change; to position the Institute and its members into the new categories, and manage the wider changes, processes and opportunities these categories offer. It will require time, and I expect some hurdles; small change considering where we have come from.
To all the members who voted – well done!!

Stu Geddes
President

September - December 2015 Training Schedule

SEPTEMBER		
14-16 September	TA002 Building Controls	Auckland
17 September	CCANZ CP 01 Weathertightness for Concrete Masonry	New Plymouth
21-23 September	Accredited Building Surveyors Training Programme	Christchurch
21-22 September	TA012 H1 Energy Efficiency	Auckland
OCTOBER		
12-16 October	TA019 Plumbing Drainage & Compliance	Wellington
13-14 October	TA013 E2 Weathertightness	Dunedin
15 October	CCANZ CP 01 Weathertightness for Concrete Masonry	Tauranga
19 October	TA001 Communication/TA003 Ethics	Timaru
20 October	TA004 Accreditation	Christchurch
21 October	TA010 Light Steel Framing	Auckland
NOVEMBER		
2-4 November	TA020 Fire Documents	Christchurch
5-6 November	TA009 NZS 4229 Concrete Masonry Buildings not Requiring Specific Engineering Design	Christchurch
9-12 November	TA008 NZS 3604 Timber Framed Buildings	Wellington
12 November	CCANZ CP 01 Weathertightness for Concrete Masonry	Christchurch
16 November	TA015 Clause D1 Access Routes/ TA016 Clause F1 Safety of Users	Auckland
16-18 November	Accredited Building Surveyors Training Programme	Auckland
18-19 November	TA005 Plan Processing	Wellington
19 November	TA015 Clause D1 Access Routes/ TA016 Clause F1 Safety of Users	Dunedin
23-25 November	TA002 Building Controls	Christchurch
DECEMBER		
1 December	TA010 Light Steel Framing	Wellington
3-4 December	TA014 B2 Durability	Wellington
7-8 December	TA013 E2 Weathertightness	Auckland
7-8 December	TA012 H1 Energy Efficiency	Christchurch
10-11 December	TA007 Advanced Plan Processing (Using Simple House Acceptable Solution)	Auckland

The Training Academy also provides an In-house training option for our courses, which has been utilised by individual councils, cluster groups, or stakeholder organisations.

Please be aware that for various reasons we may have to change our course 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

Education Milestones Reached

By Tony Conder
Technical Manager
Building Officials Institute of New Zealand

Your Institute has achieved two important milestones to support you, its members. BOINZ has recently completed the "Approval to List" phase of the 'Targeted Review of Qualifications' (TRoQ) for the two existing national diplomas for building surveying (presently awaiting NZQA approval) and has now completed all of the short courses that provide the technical knowledge to support the practical experience required to achieve these qualifications. The BOINZ Training Academy is now able to offer a course for all 32 clauses of the building code, including the Acceptable Solutions and Verification Methods attached to them.

In carrying out the review of the qualifications and developing the new "New Zealand Diploma in Building Surveying" the Governance and Working Groups were focused exclusively on the specific information needs of the building surveying profession, now and in the future. It is therefore of interest that the existing BOINZ short courses very closely align with the requirements of the new diploma. This is perhaps not surprising in that the Building Act and Building Code continue to form the core of a building surveyor's essential knowledge base. Because of this close alignment building surveyors new to the industry will not have to repeat courses they have already attended and can attend future courses with confidence that their efforts are not wasted, but contribute to the knowledge base they require to successfully work in the building surveying profession.

With the availability of the suite of courses, now covering every Clause of the Building Code, we would expect to see an increased uptake by unqualified members to ensure they acquire a complete knowledge of the legal requirements that govern all building work in New Zealand.

Listening to one's customers

A course providing Advanced Plan Processing

By Tony Conder
Technical Manager
Building Officials Institute of New Zealand

Attendees to our Plan Processing course have expressed a need to also gain experience with applying the clauses of the New Zealand Building Code (NZBC) to actual plans, particularly in residential work. This is in addition to the instruction in BCA processes, forms etc., provided by the existing Plan Processing course. In order to respond to this call, BOINZ is now providing a Plan Processing course designed specifically to instruct in the application of the NZBC to proposed buildings.

The new course will cover each of the clauses of the NZBC that are applicable to a stand-alone house and apply these to check for compliance with the NZBC. To consider each clause in its entirety would of course not be possible within a reasonable time frame. It has therefore been proposed that the Simple House Acceptable Solution (SHAS) be used for this purpose. This Acceptable Solution covers each of the NZBC Clauses that apply to housing but in a format that is manageable and easily understood, and that can be applied within the time constraints that apply to these courses.

The SHAS is able to provide an extremely useful introduction to all of the clauses that apply to housing, without the need for complicated calculations or intimate familiarity with these clauses and their accompanying Acceptable Solutions or Verification Methods. This streamlined approach will enable students to apply each clause to a real set of plans and understand the processes involved. They will also acquire an understanding of the mechanisms by which compliance to the objectives of these clauses might be achieved. This will prepare the student for the processing of plans using the appropriate compliance path when back in the office.

PrefabNZ Top 5

PREFABNZ WELCOMES NEW BOARD MEMBERS

PrefabNZ welcomed two new board members at its recent AGM in Rotorua. Tim Porter is leading product development projects for Holmes Solutions in Christchurch, and Craig Davison is involved in a range of residential and commercial projects for Stanley Group in Matamata. The full board now consists of:

- Daiman Otto (Board Chair)
- Chris Moller (Deputy Chair)
- Andre Hodgskin
- Craig Davison
- David Fraser
- Eli Nuttall
- Gordon Barratt
- Jason Cordes
- Matthew Hay
- Tim Porter

(http://www.prefabnz.com/About/People/)

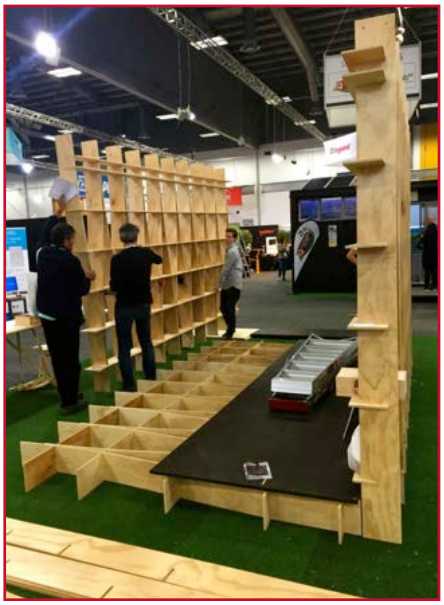
Some of the PrefabNZ Board at the CoLab in April 2015: (from left) Gordon Barratt, Matthew Hay, Daiman Otto, Eli Nuttall, Chris Moller, and Andre Hodgskin.

PANELISED TECHNOLOGY FACTORY OPENS IN CHRISTCHURCH

The opening of the new Concision Panelised Technology factory in Christchurch brings a touch of Europe and North America to New Zealand. The use of panelised systems in construction is common in countries such as Germany and Sweden, and offers an efficient building system that enhances traditional construction in both residential and commercial projects. The Concision Panelised Technology factory was officially opened in Rolleston's industrial zone recently and is a joint venture between Spanbild Ltd and Mike Greer Homes Ltd.
So far a number of homes have already been constructed using this system, with another 100 in various stages of the consenting process.
For more info see their website here. (http://concision.co.nz/)

PREFABNZ GETTING INTERACTIVE AT BUILDNZ

A team of PrefabNZ members volunteered from CMA+U (including PrefabNZ deputy chair, Chris Moller), Makers of Architecture and University of Auckland to assemble the PrefabNZ Interactive display at Buildnz in June. Over three days, the Click-raft CNC-cut plywood pieces were slowly slotted together over many, many conversations with interested passers-by, then more quickly deconstructed as the show drew to a close. See the full construction process on Youtube here. (https://www.youtube.com/watch?v=eb25VUivrLI)



Pipeline report released for Retirement and Social Housing

PrefabNZ recently released the RaSHpipe report, a visible pipeline for retirement and social housing opportunities in New Zealand. This is the fourth part of the BRANZ Research Levy funded Levers for Prefab Action Plan and highlights the increasing shortfall and opportunities that exist in these sectors. A copy of the report is available here. (http://www.prefabnz.com/News/RaSHpipe_news/)

PrefabAus Conference targets industry transformation

With prefab industries already widely established across Japan, Europe, USA and UK, Australia's prefab sector is at long last emerging from the alternate to being at the forefront of the mainstream market.
PrefabAus is holding its second annual conference in September and this year's theme is 'industry transformation', including transitioning auto manufacturing skills to the prefabrication industry, this three-day event hosts a unique opportunity to be part of Australia's rapidly changing building manufacturing industry.

(http://www.prefabaus.org.au/conference/)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YOU'VE LEFT THE SITE.
We put all our time, energy and care into delivering reliable products, systems, services and support that help your jobs run smoothly. So you can move on with confidence.
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GIB

ACRS Seminar Series on the Risks of using Non-compliant Steel October 2015

"ACRS IS YOUR TOOLKIT FOR STEEL COMPLIANCE" is the theme for an international series of seminars being held by the Australasian Certification Authority for Reinforcing and Structural Steels in six cities across Australia and New Zealand in October 2015

National & International Speakers on Compliance Risks will cover:
-How to Ensure Product Conformance to Standards
-Examples from Australia, New Zealand and major European countries.

Perth	Monday October 12th	5.30pm-8.30pm
Sydney	Tuesday October 13th	5.30pm-8.30pm
Melbourne	Thursday October 15th	5.30pm-8.30pm
Christchurch	Monday October 19th	5.30pm-8.30pm
Auckland	Tuesday October 20th	5.30pm-8.30pm
Brisbane	Thursday October 22nd	5.30pm-8.30pm

Independent Third Party
Australasian Standards
Certification & Verification of
Reinforcing, Prestressing &
Structural Steels
Compliance

Attendees will be given the free ACRS toolkit to assist in ensuring that construction steel products are independently third party certified

As you will be aware, the issue of non-compliant building products is a topic of much discussion at present with COAG ministers meeting and a Senate Enquiry both in train. ACRS Certificates of Compliance are the low cost low red tape solution, based on the European model and available here, together with checklists for specifiers and builders to make compliance easier.

Australia and New Zealand are part of a global supply chain and building & construction products are now being sourced from both overseas and local manufacturers and suppliers. Alarmingly, there is increasing evidence that many suppliers of products, regardless of where they are made, are not providing evidence that they meet Australian and New Zealand Standards and building requirements, and hence they may not comply.

Formed in 2000 by peak construction industry bodies, the Australasian Certification Authority for Reinforcing and Structural Steels, "ACRS" assesses and certifies manufacturing & processing at over 150 locations in 15 countries worldwide for construction steel products supplied to Australian and New Zealand standards. ACRS is accredited to ISO17065 by the Joint Accreditation System of Australia and New Zealand "JAS-ANZ".

ACRS certification gives unmatched confidence to specifiers, designers and customers that steel from suppliers holding the ACRS Mark complies consistently with Australian and New Zealand Standards. ACRS Certificates of Compliance cover reinforcing, prestressing and structural steel products supplied to Australian and New Zealand standards.

ACRS IS SUPPORTED BY THE FOLLOWING ORGANISATIONS

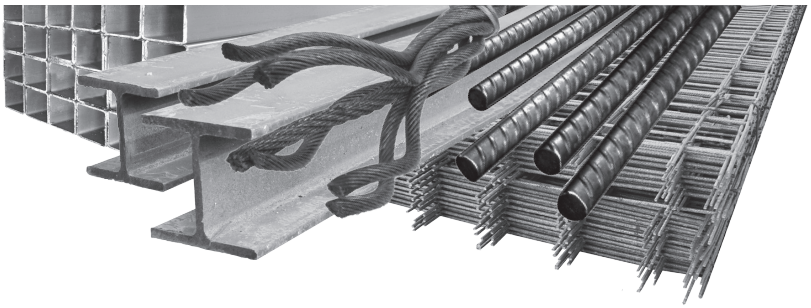
- Australian Constructors Association
- Australian Institute of Building
- Australian Institute of Building Surveyors
- Australian Steel Institute
- Australasian Wire Industry Association
- Austroads
- Building Officials Institute of New Zealand
- Bureau of Steel Manufacturers of Australia
- Concrete Institute of Australia
- Consult Australia
- Engineers Australia
- Heavy Engineering Research Association of NZ
- Housing Industry Association
- Master Builders Australia
- National Precast Concrete Association
- Post-tensioning Institute of Australia
- Steel Reinforcement Institute of Australia
- University of Melbourne

ACRS 2015 SEMINAR SERIES
Avoid the risks of using non-compliant steel
ACRS IS YOUR TOOLKIT FOR STEEL COMPLIANCE

TO REGISTER FOR THE ACRS SEMINARS PLEASE GO TO:
www.steelcertification.com OR www.steelcertification.co.nz

AUSTRALASIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEELS LTD

ABN: 40 096 692 545 Phone +61 (0)2 9965 7216 Mobile+61 (0)401 010 202
Email: info@steelcertification.com PO Box 1369 Crows Nest NSW 1585 Australia
www.steelcertification.com – for details of ACRS Certificate holders
www.steelcompliance.com – how to reduce the risks of non-compliant products



- **Avoid the risks of using Non-Compliant Steels**
- **How to assure product conformance to standards**
- **National & International Speakers on Compliance Risks**

ACRS
Steel Compliance Seminars

Australia & New Zealand – October 2015

PERTH – Monday October 12th, 5.30pm-8.30pm
SYDNEY – Tuesday October 13th, 5.30pm-8.30pm
MELBOURNE – Thursday October 15th, 5.30pm-8.30pm
CHRISTCHURCH – Monday October 19th, 5.30pm-8.30pm
AUCKLAND – Tuesday October 20th, 5.30pm-8.30pm
BRISBANE – Thursday October 22nd, 5.30pm-8.30pm

SEMINARS ARE FREE TO ATTEND AND CPD POINTS MAY BE APPLICABLE.

- Australia and New Zealand are part of a global supply chain and building & construction products are now being sourced from both overseas and local manufacturers and suppliers. Alarmingly, there is increasing evidence that many suppliers of products, regardless of where they are made, are not providing evidence that they meet Australian and New Zealand Standards and building requirements, and hence they may not comply.
- Formed in 2000 by peak construction industry bodies, the Australasian Certification Authority for Reinforcing and Structural Steels, "ACRS", independently assesses and third party certifies steel manufacturing & processing at over 150 locations in over 15 countries worldwide for construction steel products supplied to Australian and New Zealand standards.

ACRS is your toolkit for steel compliance.

To register for the free ACRS Seminar Series visit:
www.steelcertification.com or www.steelcertification.co.nz

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Structural Steels
Compliance

Call ACRS on (02) 9965 7216, email info@steelcertification.com or visit **www.steelcertification.com**

ACRS – The Australasian Certification Authority for Reinforcing and Structural Steels Ltd ABN 40 096 692 545

Good ~~Vibrations~~ Foundations

By Paul Robertson, Heaney & Partners

A council has been found not to be liable for defects in the foundations of a Southland home. The plaintiffs sued their builder and the council for $365,000, which represented the losses associated with the need to repair the foundations. The High Court accepted that the damage to the foundations was likely to have been caused by a previously unidentified vein of unsuitable matter (blue pug) under the house. Neither the builder nor the council were at fault for failing to identify the blue pug.

In spite of this finding, the court commented on the informal practice of accepting an alternative material (pea gravel) to support concrete slab floors saying that a more formal process should be adopted.

"... I consider it would be expected that there would be a formal decision [regarding the acceptability of the pea gravel and] why it is regarded as an acceptable alternative …"

Apart from the comments on the practice of the council, the decision confirms the importance of engaging competent witnesses when defending decisions of a council. The evidence of the witnesses instructed by Heaney & Partners for the council was preferred to the evidence of the plaintiffs' witnesses.

ROCK AND ROLL

The case involved a single storey house built on what had been a farm paddock. The owners of the land arranged for a kitset house to be constructed. A local and friend of the owner was engaged to prepare the foundations. Because the area was prone to flooding, the regional council imposed a requirement that the floor be elevated. The decision was made to use a thick layer of pea gravel under the concrete slab floor.

The perimeter foundations were excavated until the builder and council inspector were satisfied that they were observing 'good ground'. The grassed area that would be excavated was left grassed to stop the site becoming too muddy.

By the next inspection the ground under the floor had been excavated, pea gravel had been spread, underfloor heating, steel and insulation had been installed and the house was ready for the pouring of the 100 mm concrete floor. The builder confirmed that grass and other organic matter under the pea gravel had been removed and, with the approval of the council inspector, the pour went ahead.

Once completed the house was occupied by the plaintiffs until serious cracks in the concrete floor were observed following an earthquake. It was discovered that there was a void under the floor. How had this happened?

THE COMPETING THEORIES

The plaintiffs relied upon evidence from two engineers to establish the reasons for the void. They also called a former council inspector who criticised the council's processes.

The plaintiffs' experts said that grass and related organic material had not been removed from under the concrete floor. This would have rotted away leading to the formation of a void. They also complained about the use of pea gravel saying it does not meet the requirements of B1 (pursuant to NZS 3604:1999 clause 7.5.3.1) because it cannot be compacted. This is because pea gravel is smooth and regular in size; there are no smaller rocks to fill the voids and the gravel does not crush down. Their theory was that the gravel had migrated into the soft soil contributing to the void above. They also said that a high water table would have contributed to the settlement of the pea gravel.

The builder gave evidence that grass and related organic material had been removed in accordance with accepted practice to a depth of 75 to 100mm. The judge accepted this evidence which removed one of the main causes of the subsidence relied upon by the plaintiffs / their experts.

In relation to the pea gravel, the court accepted evidence that it would have become intermingled with the soil underneath the foundations during construction. Then, given the incompressible nature of the pea gravel, the pea gravel would have remained 'locked in' by the concrete perimeter foundations. It was unlikely to have subsided contributing to the void under the floor slab.

Because of these findings, the court held that neither the builder nor the council had caused or contributed to the subsidence.

WHAT WAS THE PROBLEM?

A layer of blue pug was discovered in the course of remedial work. The pug was in a localised area immediately under the house, was not found in the excavations for the perimeter foundations and was not seen by the builders or the council. There was evidence that such pug has high shrinkage characteristics. The compaction of this layer of pug was the more likely cause of the subsidence.

PEA GRAVEL AS AN ALTERNATIVE SOLUTION

Because the plaintiffs could not link the cracking of their concrete floor with the presence of organic material, or the use of pea gravel, the claims against the builder and the council fell away. However, the court went on to comment on the use of pea gravel. It found that:

- Pea gravel does not comply with clause 7.5.3.1 of NZS3604:1999;
- There was evidence of the use of pea gravel in foundations over many year, and that it was likely to be acceptable as an alternative solution;
- There was no specific consideration of the use of pea gravel on this job; and
- If the council wanted to allow the use of such an alternative solution on a widespread basis, then it would be prudent of the council to make a formal decision on the use of pea gravel.

Having failed with their claim, the plaintiffs were ordered to pay the builder and the council a contribution towards their costs (amount to be confirmed).

COMMENTS

The use of pea gravel in foundations goes back many years in Southland. There is no record of when and why the material had first been accepted as a suitable material. It is suspected that the use of pea gravel had been approved by the council's engineer sometime before the passing of the Building Act in 1991.

The concerns of the judge illustrate that, from the court's perspective, councils must follow through on processes set out in the Building Acts. The long 'in service' history of the pea gravel may not have been a good defence to the claim against the council if the pea gravel had been found to have caused the cracking of the concrete floor.

Currie v Gordon [2015] NZHC 2057 [28 August 2015]
(a copy of the decision of the court is available on the Heaney Partners website – www.heaneypartners.com)

***Please note that this is an update from the author of the article, and that the Institute takes no responsibility for the accuracy of the claims made in this article.**

Waterproofing Membrane Association (NZ) Incorporated (WMAI)

By Kevin Turley
Aquatite Enterprises Ltd

The information and detail below has been lifted from the recently published Internal Wet Area Membrane (IWAM) Code of Practice document. In this this article I am going to outline the basic principles of shower design and the particular areas to be looking for when undertaking a tanking inspection.

4.5 GENERAL DESIGN PRINCIPLES FOR SHOWERS

In most internal wet areas, showers are usually the location where membranes are exposed to water in the normal course of use. Poor design decisions can lead to greater risk of failure, including but not limited to:

- Locating windows within shower enclosure is not recommended because of the risk of water permeating through joints in the window reveal. Where windows are located in shower enclosures, window head, jamb and sill junctions must be impervious, sealed and meet the requirements of NZBC B2 AS/1 Durability. Sills must fall inwards to the shower area.
- Shower floors and bases can be constructed with or without upstands depending on the Designers intention. Where installed for use by people with disabilities, they shall have either a level threshold or a 10mm step-down.
- When enclosures, such as walls, screens, doors or curtains are used, they shall be continuous from floor level or top of upstand to 1800mm minimum above floor level and not less than 300mm above the shower rose
- Where the shower floor has no upstand or where a wall, screen or door is omitted, the floor shall have a fall of no less than 1:50 towards the floor waste. The fall shall apply to the floor area within a radius of 1500mm taken from a point vertically below the shower rose. A waterproof membrane is required over the entire room floor area, including an upstand of 75mm at all floor to wall junctions, and containment at door thresholds.
- Water control valves and shower roses shall be waterproofed by sealing with proprietary flange systems or a sealant in a manner that allows access to enable repairs and replacement of washers or ceramic disks without damaging the seal.
- This last clause should have particular attention paid to it as an access hole is a requirement from all tap ware manufacturers for warranty purposes and a unsealed access hole will lead to water penetrating past the wall lining and into the wall cavity.

The IWAM Code of Practice document is a must have for all building officials as it covers aspects of internal waterproofing from membrane selection to design and installation method. The IWAM Code of Practice is available as a downloadable copy or as a hard copy from the WMAI website www.membrane.org.nz. Head to the publications page to purchase your copy.

Fit Out Construction – Time to Get Serious

By Shaun Evans- Shore Solutions Ltd

BRACING CHECKLIST

Those involved in the interior fit out industry know how difficult it has been to comply with building code requirements and ceiling manufacturers warranties.

For decades the manufacturers of two-way ceiling grid have stated that no materials should be connected to their product – for decades this requirement has been largely ignored.

However, there is a proprietary bracing system that is easy to install, is cost effective and complies with building code requirements and ceiling manufacturers warranties.

Let's look at how all the parts of an interior fit out project come into play and how they relate to bracing.

CEILING GRID

Ceiling grid is designed to carry its own weight, measured at approximately 15kg/m2 or less. Attachment of a partition wall or glazing line to a suspended ceiling will exceed this weight, and restrict the ceiling grids design performance. Remember, partition walls weigh 40kg/m2 or more, while the glass from glazing lines weighs in at approximately 25kg/m2.

In addition to this, the ability of the ceiling grid to support itself during a seismic event is grossly compromised when walls are connected against the manufacturers specification. Walls connected to the two-way grid will cause the two-way grid to fail, resulting in significant damage.

Partition walls and glazing lines need to be braced at all times, at a minimum of 40kg/m2 these walls have the weight to create catastrophic failure when horizontal deflection occurs.

PARTITION WALLS

Bracing needs to allow for horizontal deflection of up to 40mm each way, while allowing for inter-story drift of 50mm. There is also a need for 90mm of in-plane deflection, which is required when the floating head of the partition wall moves in line with the wall.

Although vertical deflection is taken up in the construction of the wall itself, there are some projects where the connection, to widely spaced C purlin top floor roof structures, additional vertical deflection may be required.

SERVICE CLASHES

The improvement in the co-ordination of service trades continues and as early collaboration improves, service clashes will be greatly reduced.

Bracing of walls, ceilings and services need to be considered early in the design and construction process to allow efficient sequencing on site.

Using a bracing system that provides for flexibility, in terms of bracing angle and direction or placement can allow partition installers to mitigate most service clashes.

WHAT THE BUILDING CODE SAYS

Turning to the building code for guidance on what is required for bracing best practice, we find Clause B1 Structure, B2 Durability, F2 Hazardous Materials and other cross over codes.

These outline what is required to properly brace non-structural items, clause B1 specifically states the need to safeguard people from injury, loss of amenity and protect other property from damage caused by structural behavior or failure.

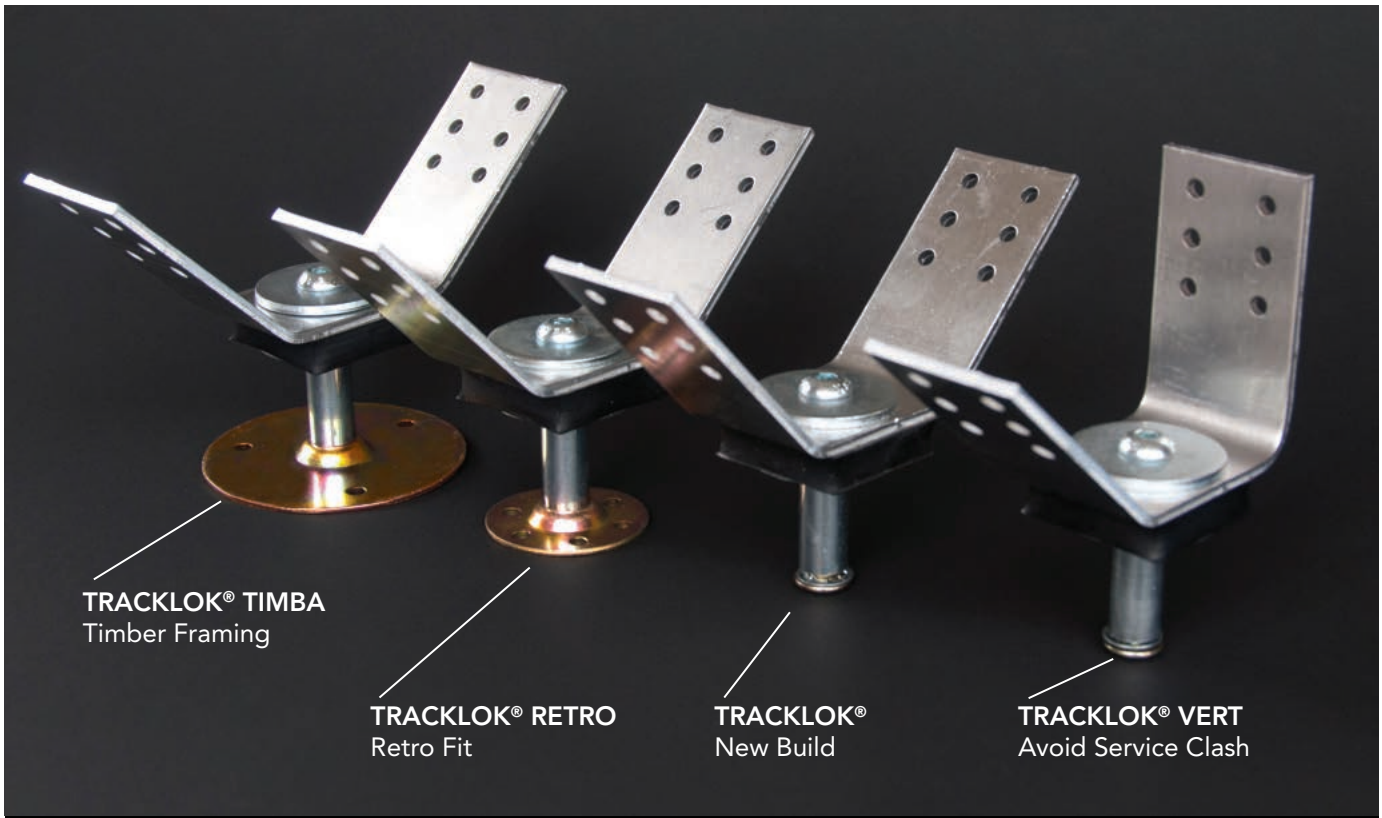
Then parts loading can be found in AS/NZS1170, giving you the minimum requirements for a robust bracing system.

Take into account wind loadings, snow loadings and earthquake parameters (SLS and ULS) and you have the parameters for a bracing system that performs.

Please note that this is a product technology update from the inventor of the system and that the Institute takes no responsibility for the accuracy of the claims made in this article.

TRACKLOK®

SEISMIC AND STRUCTURAL PARTITION BRACING



TESTED | PROVEN | COMPLIANT

TRACKLOK® has been specifically designed to ensure partition walls and glazing lines in fit out construction comply to the building code – no excuses. Consenting officials and building inspectors can ensure compliance under B1 Structure and AS/NZS1170.5 quickly and easily.

www.tracklok.co.nz

Codemark: more than meets the eye

By Louise Swann, The Building Business Ltd

As we all know Codemark is a third party product certification scheme, allowed for under the Building Act 2004. But neither product certification bodies nor certificate holders realise that the primary audience is the BCA because first and foremost the Codemark certificate is a compliance pathway.
Under s19 of the Building Act a BCA must accept a current product certificate as a means of compliance if all conditions are met.

TYPES OF CERTIFICATES

Codemark can be issued for tangible and intangible products. The most common type of certificate is for the tangible product. In the Building Act and Regulations this is referred to as building materials.

Less common but potentially more valuable, from a compliance pathway, are Codemark certificates that relate to building design, building methods or methods of construction.
A building design Codemark is analogous to a document such as E2/AS1 or NZS3604. These documents prescribe how to design building work in order to assure compliance with the relevant provisions of the NZ Building Code. Another way of describing a building design Codemark is as a "proprietary acceptable solution"
It is not so clear what the difference is between building methods and methods of construction. In the past MBIE have suggested that building method applies to the building work that occurs in a factory setting, such as the manufacture of trusses or the manufacture of prefabricated houses. Methods of construction, covers the building work that is undertaken on site.

Eighty eight Codemark certificates have been issued and all but one relate to building materials (products or systems). Schindler NZ Lifts has recently had a certificate issued that covers building design, building materials and methods of construction.

As more complicated certificates come into the market it will become more difficult for BCAs to easily establish that all conditions have been met.

CONTENT OF A CODEMARK CERTIFICATE

Codemark only provides a BCA protection against liability if all conditions are met. The Building (Product Certification) Regulations 2008 specify what is to be included on a certificate. A summary of key information is as follows :

- A description of the product
- The purpose or use of the product
- References to specific NZ Building Code clauses to which the certification applies
- Certificate holder's full contact details
- Conditions and any limitations of certification
- Specific reference to any relevant publication such as installation manuals

ESTABLISHING THE RELEVANCE OF THE CODEMARK CERTIFICATE

When a building consent application is lodged, checking the applicability of a Codemark certificate can be time consuming. It can also be confusing particularly when faced with an applicant telling you "you have to accept the certificate". But it is really important to make sure that the "every condition is met" ie the s19 test is addressed.
A certificate must be clear. If you don't know what the certificate actually relates to, then it is always going to be difficult to establish whether or not all conditions have been met.

It's all about due diligence or reasonable grounds. It is not necessary for a BCO to check that every detail on the plan is as per the installation manual. Rather it is making sure that the installation manual was readily available and then relying on the designer to have followed what was required and maybe checking a couple of details. A BCO is entitled to rely on other people doing their job correctly. Similarly it is not necessary for a BCO to read a fire report, it was for the product certification body to read and interpret the report.
Preparing a Codemark certificate is a surprisingly difficult task. Ensuring the right amount of information is a challenge and not surprisingly many of the certificates on the MBIE website do have drafting problems and given these issues it is doubtful that a BCA will be able to be assured that "all conditions have been met". If this is the case then the Codemark certificate does not provide the liability protection.
But it doesn't have to be this way, and it could so easily be changed. BCAs have the ability to influence the quality of certificates and have the incentive to ensure that all certificates are robustly and accurately crafted.

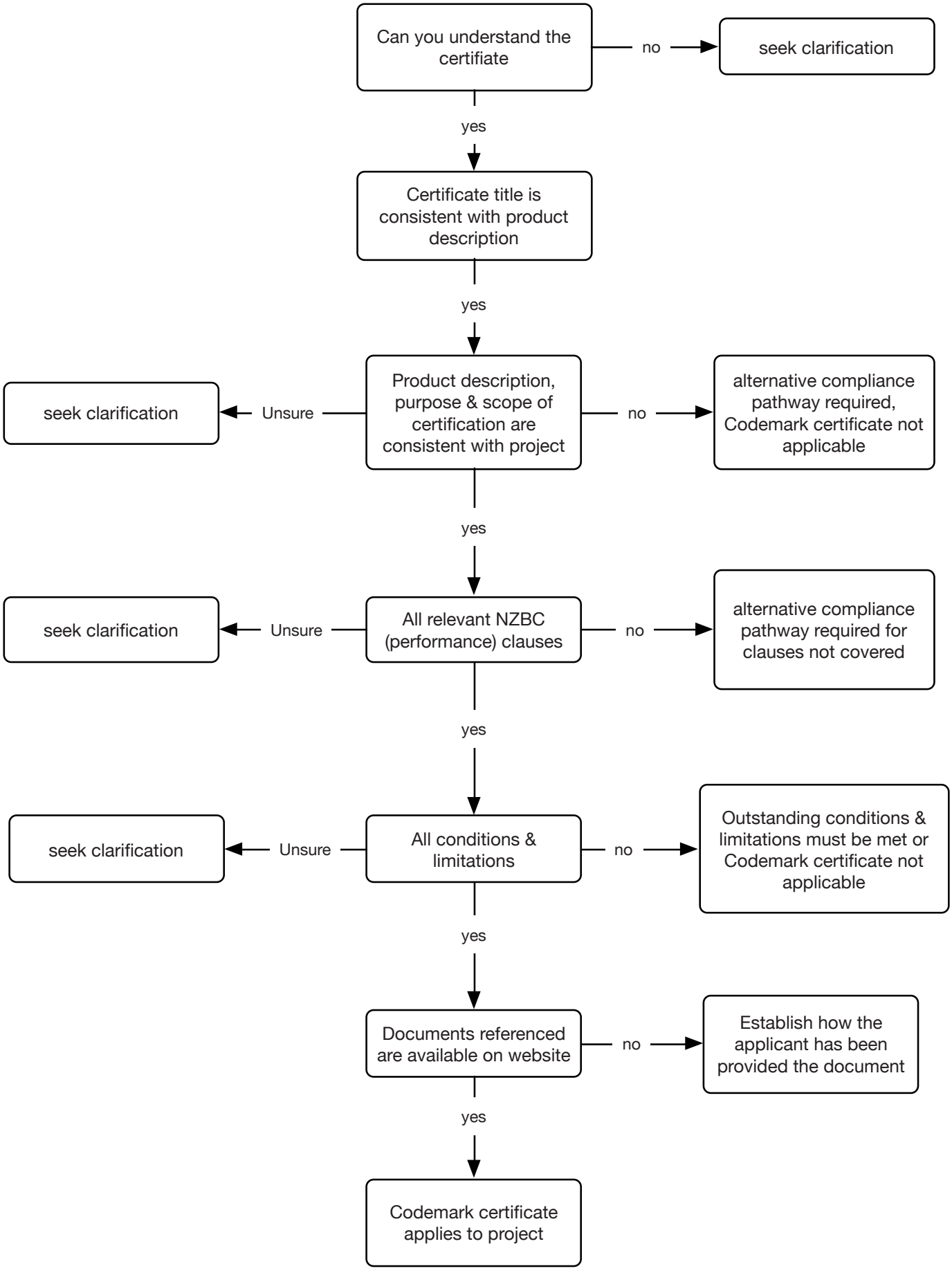
OPTIONS FOR THE BCA

A BCO should only accept a Codemark certificate where they are certain that all conditions of the certificate have been met. There are a number of options that a BCO has where there is uncertainty or incompleteness.

- Never be afraid to go back and ask for clarification, ask what the scope of the certificate is. Make sure that the reply is in writing and that you keep the reply
- Where not all code clauses are covered advise the applicant that an another compliance pathway will be required for the balance of the clauses
- Where referenced documents aren't on the website ask the applicant how they have assured themselves that the manuals have been followed.
- Where the project falls outside the scope of the certificate, don't reject the project but do request an another means of compliance. In general a Codemark certificate will cover 80-90% of all uses, and
- Finally if the certificate is really too confusing contact the certificate holder and suggest they work with their product certification body to improve the quality and robustness of the certificate. They have paid money for the certificate and so it is in their interest for them to address any issues.

- **For a more complete list refer http://www.legislation.govt.nz/regulation/public/2008/0360/latest/DLM1606433.html**
- **The use of the word product is taken to mean building method, building materials, methods of construction, building design**

Establishing if a Codemark Certificate is relevant to a project



ITEM	WHAT WE HAVE SEEN	WHAT WE THINK
Title and product description	A certificate is titled as a cladding system, but the product description covering a panel only.	The title must line up with the description. If in doubt the description should apply since it is specified in the Regulations
Purpose of product	A certificate that describes the product use that is inconsistent with the product description.	The title, description, purpose and scope of certification must line up otherwise the certificate is marginalised
Scope of certification	A certificate for a liquid applied membrane system says that the product is intended for use on new and existing roof substrates.	Scope of certification should be documented even if the scope is unlimited. In our view the absence of a scope is a problem as it requires the reader to make an assumption
NZBC clauses	Certificates that articulate the former C clauses Certificates that claim compliance with a clause eg E2.3.2 Certficate that claims compliance with C3.4 Inclusion of code clauses such as H1.3.1 that doesn't make sense	It is important that certificates are kept current Many clauses apply to the building, building envelope or external wall. This means that compliance cannot be attributed to a single element, rather the element only contributes to compliance. To be of any use to a BCA compliance needs to be carefully articulated (eg C3.4(a)) and then in the conditions the material group number should be specified, or alternatively carefully worded as to the scope of use. Certificate holders and product certification bodies need to take care as to how clauses are articulated otherwise it is a nonsense
Conditions & limitations	Requirement for reliance on an appraisal which imposes it owns scope limitations	Scope of certification must be clearly, logically and simply articulated so that it can be followed by a BCA
Referenced documents availability	Certificate that requires installation in accordance with the fabrication manual and registered installers – neither of which is available on the website	If a referenced document is not on the website it brings into question as to how the designer (etc) has ensured that it has been specified in accordance with the relevant document
General clarity of certificate	A certificate relates to a mix that is added with concrete to produce structural and non-structural members	In our view we do not think that additives to products carry building code obligations and so it makes the certificate difficult to interpret

***Please note that this is an update from the author of the article, and that the Institute takes no responsibility for the accuracy of the claims made in this article.**

Welcome to the wonderful world of Natural Building in New Zealand!

By Graeme North
Architect – www.Ecodesign.co.nz

The New Zealand Earth Building Association was started in the 1980s to promote the art and craft of earth building. Earth building was seen as "alternative" at the time. However as time went by it became very clear that not only were the members of the Earth Building Association of New Zealand (EBANZ) interested in earth building, but many of the practitioners involved were interested in many other forms of building materials and techniques too. This included strawbale building, untreated timber, non-toxic paints, stone, lime plasters and mortars, shake or thatch roofs, not to mention re-used fittings and materials. We built with materials that were available locally, drawing on the vernacular at times, involving the use of local labour or an owner builder. Collectively, these types of buildings have now come to be known as natural building.

In recognition of this, EBANZ changed its strap line to "promoting the art and science of earth and natural building". It is in this role that EBANZ has taken on the task of organising an international natural building conference, one that is part of a series of international conferences that are held in different locations around the world every two years or so, focused largely on strawbale building.

Planning for the International Strawbuilders Conference (ISBC) is well underway, and will cumulate in March 2016 in Methven in the South Island of New Zealand.
One of the major appeals of natural building has a lot to do with the sense of environmental responsibility.
Would you be interested if there were building materials that:

- Are abundant in many places;
- Are readily found and used with minimal processing;
- Are non-toxic;
- Have low environmental impact;
- Have low material cost;
- Require low maintenance;
- Are sturdy and durable;
- Can be readily made into many different and sculptural shapes;
- Are readily used by owner-builders;
- Are able to moderate swings in temperature and humidity inside buildings?

Indeed – why wouldn't you use them more often? This is a question often asked by visitors to buildings made with natural materials.

While writing this I have been thinking about other meanings of "building," a word that is not only a noun but also a verb.
We are all, by now, I hope, very aware of the host of environmental calamities that are impacting on the Earth as it becomes more and more obvious that humans have overshot the carrying capacity of our planet to support most of the developed world's current lifestyles.

Natural materials will play a really important part of building buildings that at least do no harm, and can contribute to helping restore or repair ecosystems, and become part of a wider strategy for repairing the Earth's ecosystems. Regarding our buildings as an integral part of a dynamic ecological system requires us to consider both the source of our resources and the impact on our surroundings. So in this sense we are in fact Earth re-building, or Earth building in a very wide sense by appropriate use of natural building methods that include, naturally, earth building.

So when we start to look at earth building from this wider perspective, then suddenly we have grasped something really BIG.
So there we have it. ISBC 2016 has a really important role to play to help promote natural building in New Zealand by bringing together international and local experts on natural building and appropriate technology together to share knowledge and experience. Let's hope you are already planning to attend.

Building Inspectors are pivotal!

By John Oliver
Marketing Manager
Hiandri Solutions Ltd

I often feel the role of the building inspector is under-rated and under-valued by many in the building industry; for far too many, inspectors are just a pain in the butt! Good responsible builders and we all know who they are in any one area, don't have that attitude. They value their reputation, take pride in the quality of the home they are building, and know the power of word of mouth advertising. They want to build compliant homes, with minimal delays and have customers they can chat to for the next 10 years, without crossing the road. In other words, they are quality focussed and just want to do the job right.

These builders I refer to, also know and appreciate that building inspectors are pivotal to this whole process and its success. Establishing relationships and mutual respect means when issues arise, they can be discussed and resolved rationally, both parties learn something and the inspector is viewed as an important member of a team. Sadly, builders with this approach appear to be in the minority and the home owner is totally reliant on the building inspector protecting their interests and their large investment.

Hiandri Solutions Ltd, like many responsible suppliers of products to the building industry, also views the building inspector as pivotal in the whole process. Companies like ours, spend a small fortune on testing, getting compliance and marketing our products to improve the building process and solve industry problems. In our case, we market HIANDRI bottom plate packers, which lift the timber frame 12mm off the floor, the bottom plate is kept out of water, allows air to circulate, timber to drain and dry. We, and of course the home owner, rely on building inspectors to ensure that the moisture content in the bottom plates is 20% or less prior to lining. We know, timber sitting in water, can become saturated very quickly. We also know that it takes forever to reach a moisture content that is compliant with E2/AS1, particularly in the winter. Driving around large sub-divisions of frantic building, one question is just how many bottom plates are being tested for moisture, as they do not seem to experience delays, which can be weeks! It is disheartening to receive comments on our Facebook page such as- 'Our last inspection they checked the first row of nogs 800 off the ground'. Our slogan is 'Raising the building industry to a new level'; building inspectors play a pivotal role in making that happen.

*Please note that this is a product technology update from the inventor of the system and that the Institute takes no responsibility for the accuracy of the claims made in this article.

Senior Building Control Officers' Forum 2015
20 – 21 August, Novotel Tainui, Hamilton

The 2015 Senior Building Control Officers' Forum was held at the Novotel Tainui in Hamilton from the 20th – 21st of August. This year's Technical Programme promised a variety of speakers and topics, with the theme being "What's new, what's different, what's working, what's not." What was delivered was a fast paced programme which featured industry experts, thought provoking discussions, and the opportunity for delegates to think critically about what is working and what isn't, and how the new and different will influence the built sector in the years to come. The quality of this year's SBCO Forum was further enhanced by the addition of five exhibitors; James Hardie, International Leak Detection (ILD), BRANZ, Shore Solutions Ltd, and New Zealand Cupolex Ltd, who each had a new or innovative technology or product to demonstrate to delegates.

Our opening speaker was Professor Geoff Boughton from TimberED Services Ltd, Australia. Geoff's succinct and energising presenting style ensured that the tone of the Forum was set for the next two days. Following Geoff's opening address was our "What's New" session; a presentation by Lynda Amitrano, which showcased the latest research projects being undertaken by BRANZ. The rest of day one was dedicated to our "What's Different" session, which included John Gardiner (MBIE) and Jonathan Kaye (Interwoven Law) discussing "Product Technical Statements" and a presentation from Jon Davies (Proclima New Zealand) about the expectations of roof underlay.

Thursday afternoon's session also included our "Special General Meeting: Membership Category Changes." At the SGM, the remit was successfully passed. This decision means that the Institute can now proceed forward and promote the skills, qualifications and value that our members encompass, with the confidence that the risks associated by the old membership categories have now been minimised. No doubt the positive effects of this decision will reverberate well into the future of the Institute.

The first day of SBCO Forum was celebrated with a guided tour of the world famous Hobbiton film set. Delegates were treated to the sights, sounds and smells of "The Shire." Hobbit "holes", canapés' and ales at the Green Dragon; warm, rustic fire places and armchairs, and a grand feast in the Marquee were all features of the night, with the overall winner being the tremendous amount of networking that took place.
The second day of SBCO Forum started with delegates making the most of the free barista-made coffee from the ILD Coffee Cart, and the "Key Interest" session, opened by Helen Rice (Rice + Co Lawyers) discussing the recent Nautilus decision. Several high quality presentations featured in this session, including Darryl O'Brien's 'tantalising' "Data Loggers: A Tool For Validating Building Performance," Alex Cutler's excellent presentation about "BWoF and the Technical Requirements of 1-10 Grading," and Rose Mclaughlan's highly entertaining but explanatory "Fraud and the Consenting Process."

Prior to our next session commencing, Simon Tonkin from Invercargill City Council reflected on his exposure to the Southland Stadium roof collapse inquiry. Simon was very forthright during his brief presentation, and it was acknowledged by all as a very poignant and valiant moment at SBCO Forum.
After lunch, our "What's Working" session was kicked off by Peter Laurenson, who illustrated how to effectively co-ordinate BCA cluster training. Peter Downey concluded this session with his excellent and much discussed presentation, "The Impact of BIM on Consent Processing," which provided delegates with a detailed insight into the role BIM has, and will continue to have, in the consenting process.

Our last session for this year's Forum was the "What's Not" section. Our opening speaker, Professor Geoff Boughton, revived attendees with his upbeat presentation "Structural Timber in Multi Storey Buildings," while Tony Barbarich & Stuart Hayman from New Zealand Metal Roofing Manufacturers delivered the closing presentation, "Why & How Attic Spaces Should Be Ventilated."
This year's SBCO Forum was stimulating, uplifting and enlightening. The tone and energy which dictated this year's event was a direct result of the knowledgeable speakers, enthusiastic exhibitors, and most importantly, engaged and responsive delegates. We would like to thank you all for your involvement in the making of this year's Senior Building Control Officers' Forum a success.

Senior Building Control Officers' Forum Dinner 2015 Hobbiton Film Set - Matamata

It's the community that matters

By Katja Lietz
Hobsonville Land Company

Residents say it is the quality of the community that has brought them to Hobsonville Point, and that community amenities are a vital complement to this medium density, mixed house size/typology development.

Hobsonville Point is a new master-planned development built on the former Hobsonville Airbase in Auckland's northwest.

Its vision is a strong, vibrant community which offers people a wide variety of homes to choose from, ranging from free-standing homes to apartments, and from one to five bedrooms. In addition, the higher densities at Hobsonville Point are supported by high levels of amenity and good access to public transport and community facilities.

RESIDENTS APPRECIATE BEING PART OF COMMUNITIES

We undertook a neighbourhood sustainability survey, developed by Beacon Pathway, asking residents about their experiences and behaviours. This allowed us to benchmark our performance against other neighbourhoods in New Zealand.

The neighbourhood assessment showed that residents felt that there was a strong sense of community and that more residents than in Auckland on average believed this was important. All but one person surveyed agreed that Hobsonville Point was a great place to live. 87% of residents say the neighbourhood is safe for children (compared to 70% of Auckland residents) and 83% say it is safe to walk after dark (compared to 56% of Auckland residents)

85% of residents surveyed rated public space as good or very good (86% had used a local park or playground in the last month), and good levels of neighbourly interactions were reported. These results confirm what we hear anecdotally; that residents enjoy the diversity, and have met more neighbours here, and feel more connected, than where they lived previously.

We notice a strong trend toward people wanting to be part of a community and being keen to spend their leisure time in public spaces rather than their own backyard. For us, as developers, that means more focus on what is provided in public spaces, such as creating parks where residents can meet and engage in activities that traditionally happened in private gardens. Hobsonville Point reserves include facilities such as BBQs, lawn areas and in-ground trampolines, and we are even planning sheds that store play equipment such as swing-ball or croquet for residents to use.

COMMUNITY AMENITIES COMPLEMENT SMALLER HOUSES

We built three small homes on small sections to test people's reaction to them. The Axis Series Small Home Test Lab included:

- a 40m2, single storey, one bedroom home on a 111m2 section
- a 87m2, two storey, two bedroom home on a 152m2 section
- a 89m2, single storey, three bedroom home on a 185m2 section.

The Test Lab attracted a lot of interest, and visitors were asked for their feedback. The results were fascinating. 69% said they could comfortably live in one of the three show homes. Many linked the house with the community, stating that a small house and a small but well landscaped backyard works in a location with easy access to public open space.

Visitors responded well to features important to the New Zealand lifestyle, such indoor outdoor flow and a vege garden, which are sometimes missing in higher density designs.

Overall the Test Lab project has shown that there is a significant market for small homes on small sections in a location with good amenities.

VISITOR COMMENTS ON THE AXIS SMALL HOMES

"Modern design with sustainability."
"Sensible layout."
"Loved that emphasis was on living space rather than bedrooms."
"Loved that garden was planted with vegetable and incorporated worm farm."
"Perfect size for a modern family :-)"

ACHIEVING COMMUNITY IN DEVELOPMENTS

Incorporating a mixture of typologies and house sizes in the same block achieves a good design outcome and surprisingly high densities without the need for apartments. Some of our blocks have densities exceeding 45 dwellings/hectare (net), without feeling overly tight.

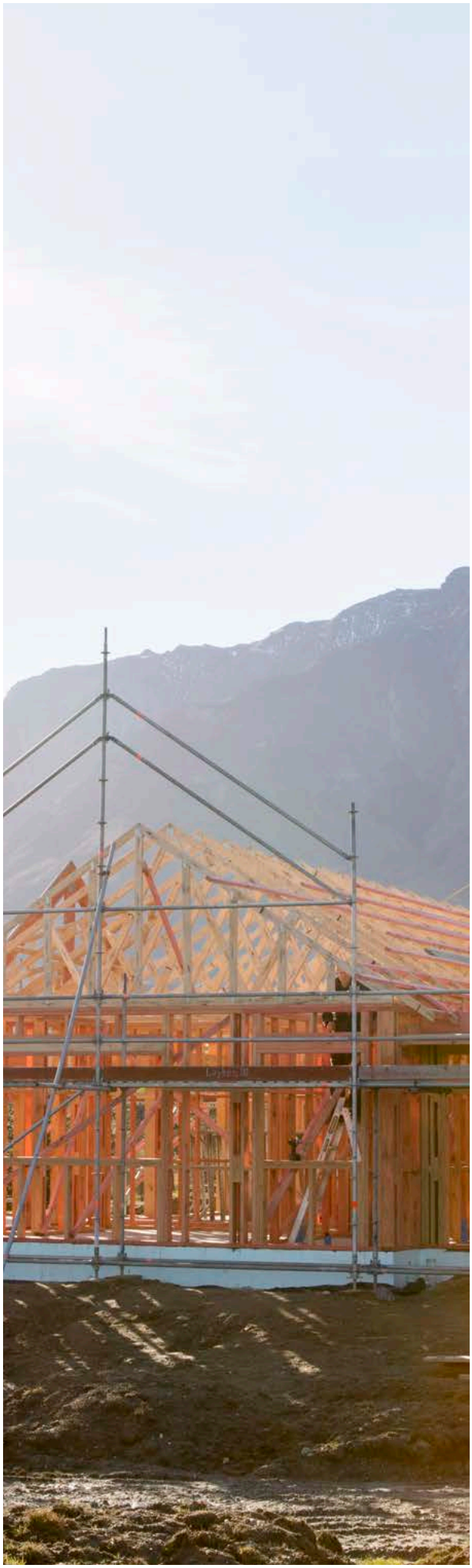
An integrated design process becomes critical to ensure a good outcome. The entire block needs to be designed as one and ideally before the surrounding roads are constructed. This ensures that levels are correct and that vehicle crossings, street trees and other features are in the right places. While this means more design expenditure upfront and a collaborative approach, we believe this investment pays

off in much better design outcomes. At Hobsonville Point we use a design review panel process to ensure that the design guidelines, which are part of the resource consent requirements, are adhered to.

Across Hobsonville Point such diversity means that residents can move within their neighbourhood and importantly retain their community connections as their needs change.

Including non-residential uses is important to support density and diversity so that people can undertake their day-to-day business locally. There are already local schools, a café, and farmers' market, and our first local shops will open this year.

Links
Hobsonville Point website: www.hobsonvillepoint.co.nz
Hobsonville Point sustainability report: https://www.youtube.com/watch?v=e1KwqO6C5m0



BUILDINSITE

REFRAMING COMPLIANCE AS A POSITIVE MARKETING TOOL FOR BUILDERS

There is now an online solution in the market to allow builders to impress their clients while also complying with the recent Consumer Protection measures introduced under the Building Amendment Act 2013.

BuildInsite is software for builders. It helps builders to easily comply with the Building Act while also creating a positive brand impression and provide additional value to their clients.

BuildInsite runs in the cloud meaning it is available anytime, anywhere. There's nothing to install, upgrades are free, and everything is backed up automatically.

There is a free disclosure form that allows builders to meet their pre-project information requirements. Not only is the mandatory information included, but there is also the chance for builders to provide additional information on their business and showcase themselves, their company and any previous work. BuildInsite is enabling builders to use this compliance requirement as a positive marketing tool and create a professional and memorable first impression to prospective clients. MBIE's prescribed checklist is automatically included and previous disclosures can be used as templates allowing new disclosures to be quickly and easily sent to future clients.

The project handover tool included in BuildInsite allows builders to easily meet the project completion requirements by providing their clients with an 'Owner's Manual'. This enables builders to provide a complete digital record of the project to their client including General Project Information, As Built photos and documentation, Guarantees or Warranties, Maintenance requirements, and any Insurances that continue beyond the completion of the project. When a builder sends an Owner's Manual, a free HomeOversite (homeoversite.co.nz) account is automatically created and pre-populated for their client ensuring that they receive and have all of the information in a format that is convenient to them – that is, online (and not lost in a drawer).

You can now tell builders there's an easier way. To find out more, please visit buildinsite.co.nz

BUILDINSITE

Marlborough District Council ASB Theatre Visit

By Paul Guile
Building Control Officer
Marlborough District Council

Recently, the Marlborough District Council BCO team enjoyed a guided tour of the ASB Theatre building site. We donned our personal safety gear and walked the 150 metres to the site. Most of the team had only witnessed progress from the outside, as inspections to date have been carried out by the project engineers.

This is a $20 million dollar plus project, which will deliver a state of the art theatre to the edge of the Blenheim CBD. Overlooking the Taylor River and adjoining the 560 seat Marlborough Conference Centre and Combined Clubs, the theatre complex will include one large auditorium seating 460-710 (depending on the configuration of the orchestra pit) and a 200 seat studio theatre. With a new 4 storey carpark building nearby and between 500 and 600 hotel beds within 5 to 7 minutes' walk, the theatre constitutes the last component of Blenheim's conference and performance hub capable of accommodating over one thousand delegates.

The new building includes a small café/ lounge overlooking the popular river walkway while the basement area provides spacious changing rooms, ablutions and a lounge for the artists. The orchestra pit will be equipped with a 14 tonne lift, which, apart from raising and lowering the orchestra will provide access to the massive under-stage storage area, or additional seating when required.

The stage itself is 23 metres wide, and features a 20 metre high ceiling which will have set lowering and raising facilities. The view from the ceiling platform down over the stage and seating gallery is stunning and more than a little dizzying!

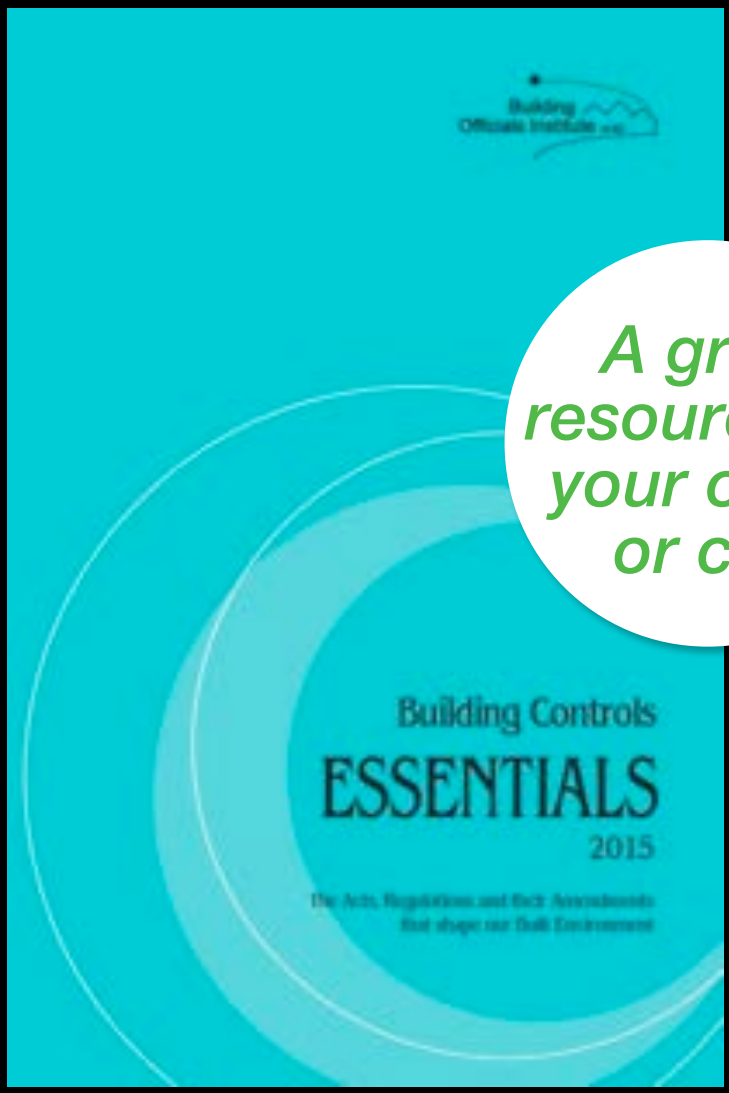
The theatre is constructed on deep and reasonably soft ground. It is founded on nearly one hundred massive screw piles. Originally planned to be of steel framed construction, it was redesigned

to be constructed of concrete tilt slabs. Construction has not been entirely problem free, with work brought to a crashing halt by an overturned crane in December of last year. Fortunately, and miraculously, no one was hurt, the damage to the structure was limited, and the holdup was not too extended.

The project is very complex and numerous changes throughout the construction have slowed progress at times. Recently, the crane was moved from its central position in the building to the outside of the building, allowing the roof and last remaining wall section to be completed. The building is due for completion early next year.

The theatre is a very ambitious project for a town of Blenheim's size. The building control team were very impressed with the design and scale of the building, and with Blenheim based builder Robinson Construction's well planned and methodical approach. We look forward to a repeat visit closer to opening time and of course to the first performance.

Building Controls Essentials 2015



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- Building (Residential Consumer Rights and Remedies) Regulations 2014
- Building (Earthquake-prone Buildings) Amendment Bill 2013
- Subject Index

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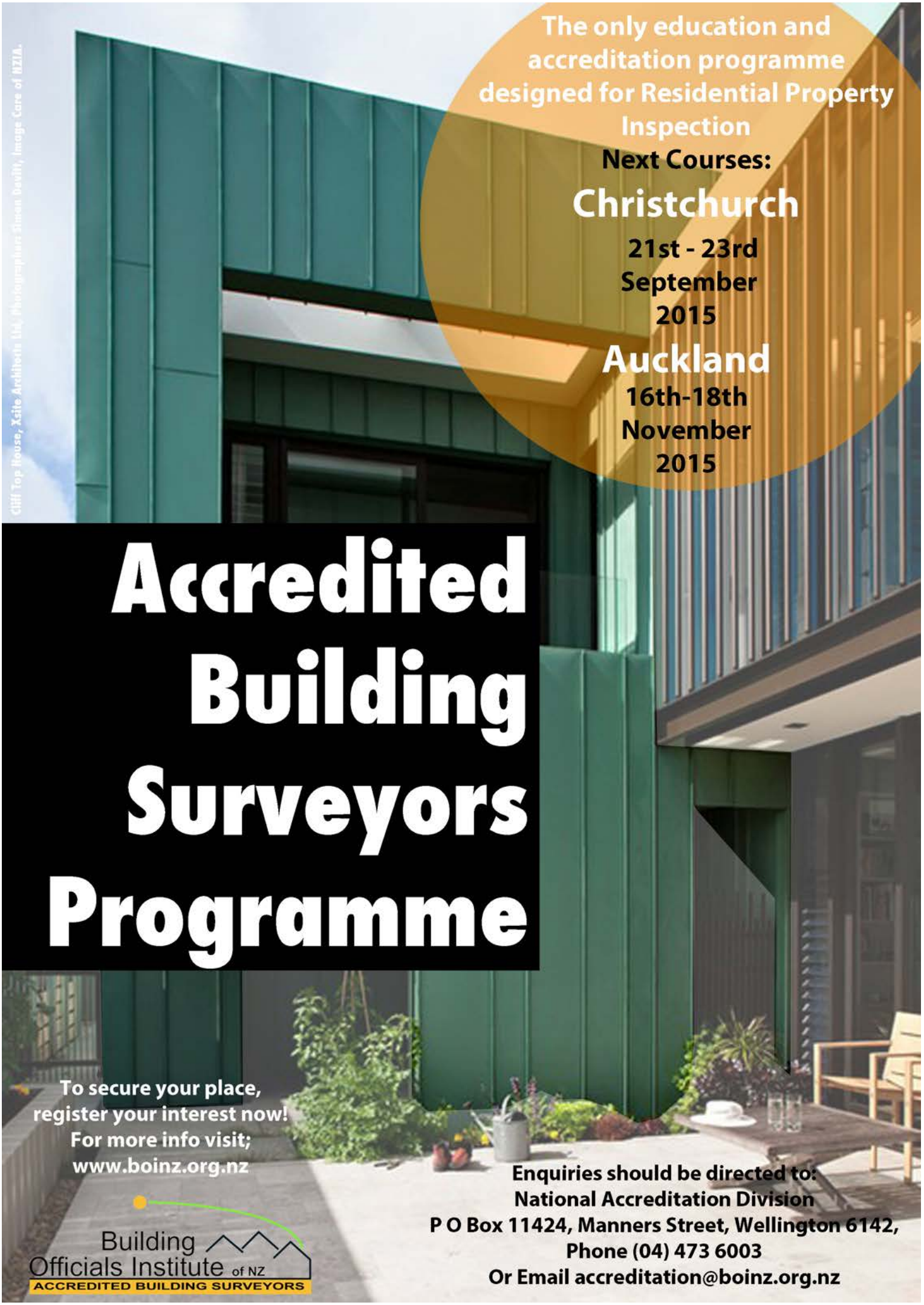

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