

straight up

THE MAGAZINE OF THE BUILDING OFFICIALS INSTITUTE OF NEW ZEALAND

JULY 2018



In this month's issue:

- Drones in the workplace - all you need to know
 - Can a Building Really Affect Your Health?
- Apprenticeship vs. Degree



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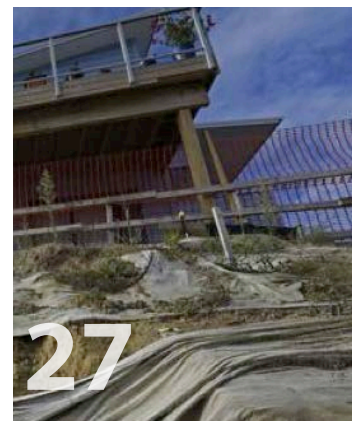
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straight up

IN THIS ISSUE

From the CEO	2
Eco Solutions	8
PrefabNZ Top 5	10
Drones	12
Spotlight on a Member	14
Apprenticeship vs Degree	18
Treatment of Timber Windows	19
Annual Conference Debate	22
Annual Conference Keynote	23
Low Carbon Strategy	25
Bella Vista	27



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Managing Demand – Our Skills Shortage Dilemma

Our recent conference held in Dunedin provided attendees with extremely valuable insights into the environment in which we operate. Statistically we couldn't have been more spoilt than by the presentation of award winning social researcher Mark McCrindle. For me the most lingering statistic was the rate of New Zealand's growth, how rapid it has been and how poorly we as a country have forecast our growth.

In 1998 we were predicting a 31% population increase by 2050 taking our numbers to an anticipated 4.7 million. Yet here we are in 2018 with a population nudging 4.9 million. Mark then provided some "Century of Growth" statistics that had Germany at 25%, United Kingdom at 37%, Denmark at 73% and New Zealand at a whopping 450%. Along with a myriad of other statistics, I was left with a view that while forecasting is difficult, in New Zealand's experience we seem to regularly undershoot. Therein lies our dilemma.

As a country we have relied on a #8 wire mentality and reputation to get us by. But does this mentality actually still work in today's global confluence? Probably in areas of new innovative technology streams, but certainly not in the mature sector like building and construction. This mentality has and continues to cause compliance and quality deficiencies. I would suggest the buying public are well and truly over a construction sector costing them their hard-earned dollars, as a result of an unplanned, poorly trained, and an all too often unskilled workforce. If we require proof, rapidly expanding media coverage around design-build failings should be enough. In this current boom environment, construction is regular front-page news, for all the wrong reasons.

At the same time businesses are reporting labour shortages becoming more acute; a net 49% of business reporting trouble finding skilled labour and 31% having trouble finding unskilled labour (NZIER QSBO). These figures have been steadily increasing since 2009. The same report indicated 20% of businesses surveyed were reporting labour as the single biggest factor limiting their ability to increase turnovers, and the figure increases to 39% among builders. Coupled with this, MBIE has forecast employment growth over the next 3 years, with Business Services (up 33,000) and Construction and Utilities (up 19,400) making up the largest contributions to this growth. Within this growth forecast Planners and Surveyors are amongst the highly skilled group for strongest growth requirements, while construction workers, project administrators and drivers are in the strong opportunity group for lower skilled workers (MBIE Quarterly

Labour Report Feb 2018).

Given all regions are reporting solid construction activity, there are already strong indicators that finding and recruiting skilled and unskilled labour is exasperating business growth and efficiency. With an employment rate recently peaking at an all-time high of 67.8%, I would suggest the risks ahead are significant for the construction sector and while different from the systemic issues of the eighties and nineties they are non-less potentially as serious for those who are investing in alteration, remediation and new builds. Hence, I can't stress enough the increasing value and importance of Building Surveying and Building Control in providing the appropriate capacity and capability of service to mitigate this looming risk both internally within your organisations and externally in how non-compliance is dealt with. The media also have a role in this regard to appropriately investigate, bearing in mind that the building consenting function is designed to protect the building owner and subsequent owners as well as the occupiers. In my view it is no longer acceptable for building consenting sector to be the punching bag of the inefficient, untrained caches within the development, design and construction sector. That said there is an equal and important level of understanding in respect of a council's role in appropriately resourcing their BCA's. So how does one manoeuvre to advantage our wider building surveying sector in face of these hurdles? You position yourself and constituent business ahead of this pack. We make our profession attractive and highly valued. No-one ever shy's away from certainty and quality.

BOINZ has been working to deliver support, to its members, and to BCA's, having read the signals of unprecedented construction growth, and skills needs. We have:

- developed and delivered training to support regulatory qualification requirements,
- led the review of qualifications ensuring qualification suite (Certificate and Diploma) to meet the modern business demands,
- established different qualification pathways, in particular the in-employment cadetship pathway to assist BCA's achieve their regulatory requirements (Regulation 8, 9, 10, 11 and 18 of the Building (Accreditation of Building Consent Authorities) Regulations 2006), and
- established a recruitment division to facilitate the sourcing of internationally

qualified surveyors for BCA's and the wider building surveying community.

This has been a big body of work for a streamlined organisation, and I believe appreciated by our members.

Feedback though would indicate employers are still to view these achievements as part of a partnership. Members report workplace skills shortages, a requirement for more training, pressures on achieving work outcomes, performance targets that stretch quality, and a lack of recognition and support. No surprises these are symptoms of a workforce under duress. In our own environment within the Institute's National Office, we are also acutely aware of the scarcity of skilled and qualified labour to support our own initiatives.

As a profession we are at a cross road. Employers can't solve the problems of skilled shortages in isolation. What we are experiencing is a national dilemma. It's time for greater levels of collaboration and mutual support. There is a need to combine resources to make our sector, building surveying, as attractive as it can be. We need to recruit, we need to train. We must achieve a level of popularity that demonstrates realistic manning, appropriate training and a culture of risk minimalisation on the public's behalf, and that demonstrates a level of service scrutiny and consistency to consent applicants to ensure an awareness of minimum expectations from them. We know we work in a rewarding and challenging profession, yet we need to strategically counter employment decisions that have potential candidates look at and opt for other roles.

To start the ball rolling, and to support our training, qualifications and recruitment initiatives, the Institute is soon to launch a careers booklet to raise the profile of Building Surveying and attract newcomers to the profession. We will also be looking to work with BCA and private employers to maximise the appeal of building surveying to attract applicants across a broad spectrum of entry pathways. As the peak body for building surveying, we are well placed to work collaboratively to benefit the sector and its customers. We look forward to this dialogue and challenge and the opportunities it can deliver.

Nick Hill

Chief Executive

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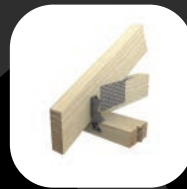
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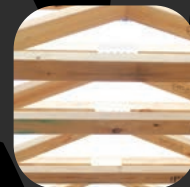
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Q: Whether the council can set a time frame for further information under s48(2) of the Building Act to be provided? *From Kelvin Goode, Far North District Council*

A: The short point is that there is no explicit requirement to or limitation on the council setting a time frame for the provision of further information (either under the Act or in case law). While the wording of s 48(2) of the Building Act (Processing application for building consent) seems to leave the period for providing information open, this does not seem like a pragmatic approach. We conclude that the council can set a timeframe for the information to be provided or the applicant getting in touch with the council and refuse to issue the building consent if this timeframe is not complied with. However, if the council does refuse to issue the building consent because it has not received the additional information within that timeframe, it will have to provide the applicant with written notice of the refusal and the reasons for the refusal (in accordance with s 50 of the Act).

For reference, the Building Act says:

48 Processing application for building consent

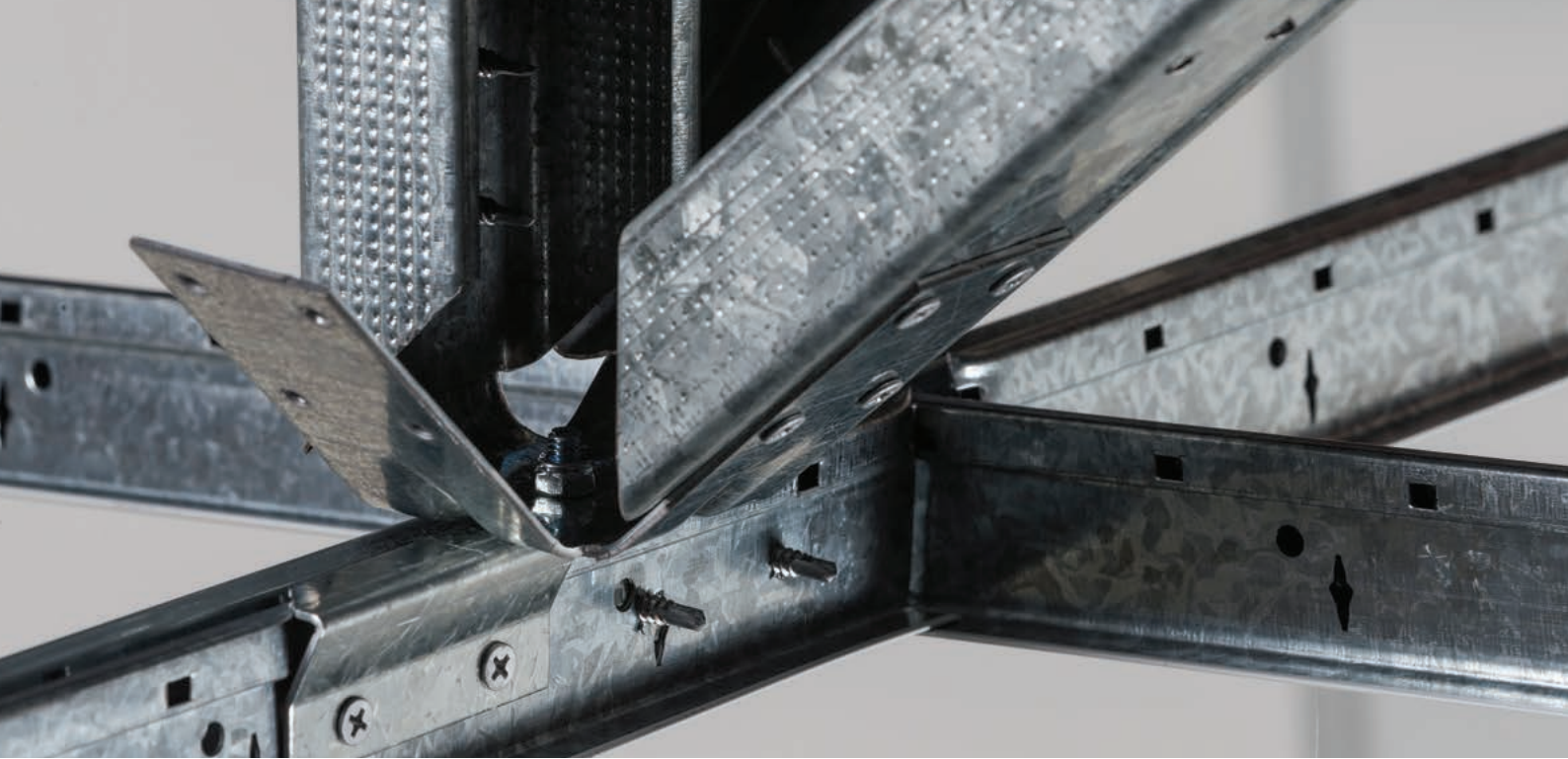
(1) After receiving an application for a building consent that complies with section 45, a building consent authority must, within the time limit specified in subsection (1A) [10 or 20 working days depending on whether a national multiple-use approval has been issued]

(a) grant the application; or

(b) refuse the application.

(2) A building consent authority may, within the period specified in subsection (1A) require further reasonable information in respect of the application, and, if it does so, the period is suspended until it receives that information.

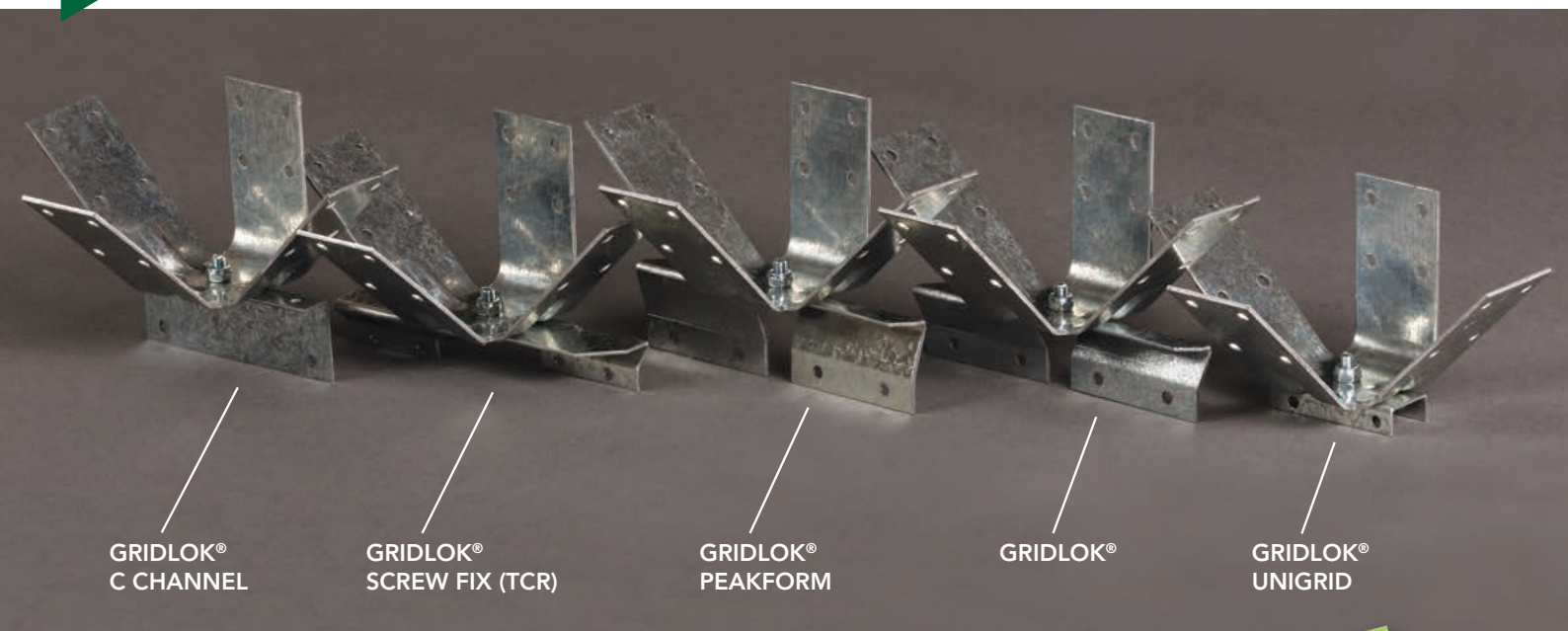
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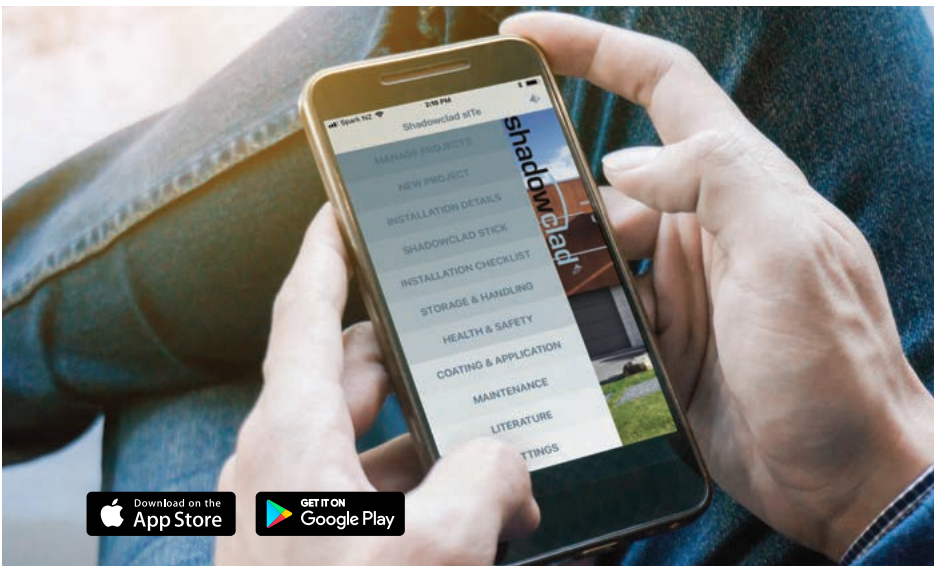
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Can a Building Really Affect Your Health?

Understanding the Hidden Hazards Within a Built Environment that Can Adversely Affect Health and Wellbeing



Lucinda is an experienced Building Biologist and CEO of Eco Health Solutions. With a background in health sciences and education, she has a thorough understanding of ways in which homes and workplaces can adversely affect overall health and vitality.

Her own illness due to environmental factors is her catalyst for supporting others in identifying and finding solutions for making healthy living choices. With a passion to make the world a safer place, Lucinda finds great joy in empowering her clients in enhancing their wellbeing through making positive changes to the built environment and in their lives.

She is leading her team to provide Environmental Health Assessments™ around the Australia, and is an advisor to the Chemical Free Community. Lucinda is past-president of the Australasian Society of Building Biologists (ASBB, past- secretary of the Indoor Air Quality Association (Australian Chapter) and served the LEAD group both as a committee member and as a technical advisor. With a focus on education, she is a lecturer at the Australian College of Environmental Studies, runs training for allied organisations, and created the Environmental Sensitivities Symposium, and is a keynote speaker at international conferences.

When you realise that most people spend at least 90% of their time indoors, it quickly becomes apparent how important a role our built environment can play in our health, and in particular, our bedrooms. This is because when we sleep, our bodies heal; produce melatonin (a natural antioxidant); and detoxify. Detoxification is a necessity in our modern world partly due to the vast array of toxicants that we are exposed to. However, when there are stressors present, the ability to detoxify goes down, think of a seesaw. When stress goes up, detoxification goes down.

Stress can be emotional and psychological stress, but it can also be from environmental stressors. There are so many sources of exposures both outside and within our homes, including nearby industry, being near or under flight paths, nearby busy roads, shopping centres, schools, carparks, rubber soft-fall surfaces in playgrounds, drinking from aluminium cans or plastic bottles, amalgam fillings, drinking water, toothpaste, dishwasher tablets, cleaning products, water pipes, pesticides, herbicides,

crop dusting, leadlight glass, paint, dust from the roof space, furnishings, mattresses, clothes and footwear, bedding, food, drinking water, bentonite clay, mould, perfumes, scented reeds, air fresheners, new cars, smog, fires – fireplace and bushfires, house dust mites, hair dyes, personal care products, and more! Here, we will focus on the building side of things and leave the other aspects for another day.

CASE STUDY

Scenario

A 28 year old woman moved into a brand new home and quickly developed rashes and breathing problems.

Issues

Polystyrene had been used as insulation. This material is not only vapour impermeable but also off-gassed styrene. There were new building materials and new furnishings and furniture.

End Result

Poor indoor air quality from the styrene and volatile organic compounds (VOCs) released.

INDOOR AIR QUALITY

The US EPA (2017) stated that pollutants in the indoor air can be 2-5 times more concentrated than in ambient (outdoor) air. Other sources have said it can be up to ten times more polluted.

According to the Australian Bureau of Statistics (2004), newer buildings are particularly at risk of hazardous air pollution due to low ventilation rates and off-gassing of new building materials. They go on to identify another major source of indoor emissions - the use of gas cookers and unflued gas heaters.

The shift to energy efficiency, the increased reliance on HVAC units, the increased use of insulation, vapour impermeable materials, and composite woods (that frequently use formaldehyde-based glues), and other man-made materials also play a role.

One of the most crucial elements in managing indoor air quality is ventilation – passive and mechanical.

It is also recommended to choose materials that are natural for both building and furnishing.

CASE STUDY

Scenario

A four-year old boy was frequently scolded at bedtime because of his going to bed “antics” whereby he would cough, complain, get out of bed, and even refuse to go to bed.

Issues

House dust mites in his bed and bedding.

End Result

The development of allergies.

Allergens

House dust mites (HDM) are everywhere and they are often concentrated in beds and

bedding due to the presence of warmth, moisture and an abundance of food (shed skin cells). House Dust Mites (HDM) are the leading cause of hayfever and allergic asthma throughout the world (Rao & Bhat, 2015; Demoly, Matucci, Rossi & Vidal, 2016). Many people tend to be allergic (or sensitive) to more than one thing. In my work, I have come across numerous people with chemical sensitivities who also have a list of food sensitivities and some are sensitive to electromagnetic fields. For those with allergies, there is a five-to-thirteen-fold increased risk of becoming chemically sensitive (Lind, Soderholm, Palmqvist, Andersson, Milqvist & Nordin, 2017). With regards to pets, Bousquet, et al (2007) found that pet allergens affects up to 8.8% of the global population. Interestingly, early exposure to pets can decrease the risk of developing allergies later in life. Research has shown that children under 5 years old raised in a house with two or more dogs are less likely to develop allergies (Owenby & Johnson, 2016). Chemicals can trigger allergies, too. Sources can include tobacco smoke, traffic-related air pollutants, fragrances, fabric softeners, latex, epoxy resins, and polyurethane products (Matsui, 2014; Kim, et al, 2011; Feleszko, et al, 2014; Claeson, et al, 2016; Wang, et al, 2017).

Prevention is better than cure – so ensuring the use of natural products, solid wood, vapour permeable wraps and building materials, natural paints and finishes can all make a significant positive difference.

Of course, ventilation is also important. However, an air purification system that utilises true-HEPA filtration and activated carbon may also be a necessary addition.

CASE STUDY

Scenario

The entire family with general feelings of being unwell, fatigue, poor concentration, increased food sensitivities. The family members that spent most time at home had more pronounced symptoms.

Issues

Building design, the use of box gutters, and water ingress.

End Result

Mould – under and within carpets, within the wall cavities and ceiling void and also spores within the house itself.

MOULD AND WATER DAMAGE

The health effects of a water-damaged building can be catastrophic for health. It has been well-established mould is linked to with cough, wheeze and asthma. There are more than 370 “asthmagens” (substances that cause asthma) found in microbial stew of mouldy buildings (Pinto, 2016). Here we are looking beyond just the presence of mould, but also to the spores, hyphae, microbial volatile organic compounds

and mycotoxins; bacteria; and pests that benefit from being in this environment. In 2011, World Health Organisation research found that indoor mould and dampness problems in the home environment contributes a considerable burden of asthma in European children. In New Zealand, 25-33% of the respiratory health effects can be explained by indoor dampness (Prezant, 2011). Mould is being associated with other conditions as well. Research from the US has found around 24% of the population to have a genetic predisposition to not be able to mount an adequate immune response to a mould exposure. This results in chronic inflammation, and as such, Shoemaker has coined the term, "Chronic Inflammatory Response Syndrome" (CIRS) to describe this. How big is this problem? It is estimated that the following homes are water-damaged:

- 25% in New Zealand
- 25% in Nordic Countries
- 33% in Canada
- 40% of new builds in Australia
- 50% in the US

(Dewsbury, et al, 2016; Gunnbjörnsdóttir, et al, 2006; Mudarri, et al, 2007; Elkink, 2012) When you consider the cost of proper remediation and restoration and the health effects, the enormity of the problem starts to come to light. In some cases, it is not possible to restore a building to a pre-damaged condition to bring an end to the problem – and this is particularly the case where building design is the issue.

Some considerations in preventing water damage and mould:

- Consider the topography – ensure that water can bypass the building
- Plan for weather events – go bigger for drains, gutters and the like
- Understand that where there are occupants, there will be moisture, so plan for ways for the moisture to be removed
- Ensure that insulation is installed in such a way so as to maintain the temperature of building materials within a few degrees of each other
- Ensure there thermal breaks to prevent temperature variations, particularly in windows, roofs and walls
- Use double-glazing
- Use vapour-permeable materials
- Ensure that there is an adequate slope to the roof to prevent issues with condensation dripping (at least 22o)

Please remember these three keys points:

1. We have a 48-hour window to dry materials that have become wetted;
2. Mould can be present in levels that are

- problematic to both health and the integrity of the building but may not be visible or detected by smell; and
- 3. Mould doesn't have to be black to be a problem.

CASE STUDY Scenario

A semi-retired couple were experiencing poor sleep with vivid dreaming, exhaustion, constant migraines, tinnitus (ringing in the ears) and the husband was diagnosed with Chronic Fatigue Syndrome.

Issues
The solar panel inverter, switchboard, and smart meter were located on the exterior aspect of the bedroom wall.
End Result
Extremely high levels of ELF AC electric and magnetic fields and also radiofrequency electromagnetic fields.

ELECTROMAGNETIC FIELDS (EMF)

Whilst there is much contention about the safety of EMF, there are also some very clear positions on it. The International Agency for Research on Cancer (IARC) classified both of the following as category 2B (possible human carcinogens) radiofrequency EMF (in 2011) and ELF AC magnetic fields (in 2002).

Research from the early 1970s by Wertheimer and Leeper found that low levels of AC magnetic fields were linked to increased incidences of childhood leukaemia.

ELF AC magnetic and electric fields are emitted by wiring and appliances, including powerlines. They can pass through building materials. It is important to consider the placement of wiring and power points when designing a building to ensure that they are not in areas where people spend time.

Radiofrequency EMF (RF) is from wireless technology. This technology is being rolled out with very little testing for safety and exposure standards are based on thermal effects (heating of body tissues) which does not take into consideration any other biological or health effects.

As a building biologist, I have strongly embraced the precautionary principle – in that if something hasn't been proven to be safe, it is wise to minimise exposure to it. Building Biology standards, as set by the German Institut für Baubiologie + Nachhaltigkeit IBN are set at levels below which biological effects have been demonstrated. These are significantly lower than standards set by ARPANSA and governments in New Zealand, Australia, United States, Canada and the United Kingdom, often thousands of times lower. Countries including China, India and

Israel have all set much lower standards than what we have. What is important to consider is that RF can bounce off metal and shiny surfaces, and can create "hotspots" inside a building – much like is the case of a microwave oven. It can also penetrate building materials.

Important points when planning and designing – particularly in relation to where people spend a lot of time:

- Consider the location of power lines in relation to first floor rooms. Relocate bedrooms away from power lines
- Consider the locations of nearby phone towers, it may be necessary to install some RF EMF shielding to prevent it entering the property (and care needs to be taken to do this wisely, as shielding can create more problems if done improperly)
- Plan for wiring and power points to be located in places which people won't spend a lot of time, eg run wiring down hallways, avoid power points and wiring around beds
- Consider the locations of meter boxes and switchboards – have these as close together as possible and not on a bedroom wall
- Install smart meters as far away from the building as possible, ideally on the perimeter of the property
- Place solar panels, inverters, batteries and wiring well away from bedrooms
- Choose materials that won't bounce RF around, but instead allow it to escape from the building

CONCLUSION

In this paper, we have just skimmed the surface of the ways in which our buildings can affect our health. Having this level of understanding means that in your role, you are empowered to make more salubrious (healthful) choices and recommendations. Planning for a healthy building is a crucial step in making our buildings safer, and it certainly plays an enormous role with the prevention of issues.

There is absolutely no doubt that occupant activity, including maintenance, is also significant. As a result, occupant education is also very important as well. With a focus on health, buildings can be designed to be nurturing and healing spaces.

REFERENCES

Will be supplied on request.

www.EcoHealthSolutions.com.au

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Building Biology

PrefabNZ Top 5

1. INNOVATION ECOSYSTEM IN CONSTRUCTION – HOW DO WE RESPOND? INNOVATION BITES!

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2. ARCHITECTURE AWARDS, MULTI-UNIT HOUSING AWARD FOR ARIA APARTMENTS, AUCKLAND BY TOA

These apartments “raise the design bar high by meeting the challenge for entry-level housing within a high-density urban development,” the jury commented. A mixed-use of prefab materials: precast concrete, engineered timber, pressed metal and glass. www.toa.net.nz



3. HOUSING NZ COMPLETES FIRST CLT PREFAB BUILD

Housing New Zealand’s Clayton Ave apartment complex in Otara, Auckland, uses prefabricated CLT and was finished in just six months, half the time of traditional builds. Housing NZ’s Andrew Booker says: “This is housing of the future and it is here, now.” The building of 8 new apartments replace one old statehouse. See www.hnzc.co.nz/



4. CONSTRUCTION COMPONENTS ACHIEVE CODEMARK FOR DESIGN AND MANUFACTURE OF BATHROOM PODS, CHRISTCHURCH

Sapone bathrooms are high-quality pods manufactured on a Henry Ford style production line in Christchurch. They now carry CodeMark and full certification, easing programme time, consenting and compliance. <https://www.constructioncomponents.co.nz/> [image: Sapone factory checks]



5. MC ARCHITECTURE STUDIO IN CHRISTCHURCH WINS WORLD ARCHITECTURE NEWS AWARD

For anyone who thinks prefabs are dull or low quality, MC Architecture Studio’s stunning Black Door House dispels all concerns. It won the ‘Modern Methods of Construction’ Award from WAN. The award celebrates innovation and new technology. We’re so proud of our Members leading the world in innovation! See <http://www.wanawards.com/>





Pamela Bell, PrefabNZ CEO,
pam@prefabnz.com

Right now, there is a clear need for more housing options for first-time home buyers. Currently, there are one or two methods, you either purchase an existing house or contract a builder to assemble a traditional stick-built home at site. Both of these are serviced by a traditional mortgage between a bank and a single party.

Great. This has worked for many people to date, but our mounting housing shortage indicates that the market needs more than just these two traditional options.

How can we increase home ownership through creating more ownership options? The outcome of home ownership is good for NZ Inc in that it enables self-financing of small enterprises, some investment for small business growth, and participation in both broader society and the political voting system.

One other path is to create a viable first-homeowner pathway to purchasing a newly built offsite-constructed 'transportable' home. Folks choose offsite construction for its controlled quality, large time-savings, increased value, known outcomes, multiple design options, improved sustainability outcomes such as waste minimisation, reduced noise and disruption to the neighbourhood, plus other intangibles such as improved health and safety outcomes. See the range of evidence on the 'Why Prefab?' infographic download at www.prefabnz.com/Resources/

Choosing to go down the transportable housing path does mean separate transactions for the land purchase and the home procurement. In some cases, the land may be part of a larger piece of land, perhaps one owned by the wider family, or a leasehold situation such as iwi land.

The main barrier to transportable housing being an easy alternative for first-home buyers is that it is a non-traditional pathway and there are some small road-bumps along the way. PrefabNZ is keen to iron out these blockages – with help from BOINZ Members like you.

1. Bank Finance – most banks don't lend directly on a house that is constructed

independently of the land that is the security for the loan –

a. PROBLEM = how to reduce risk for the bank and enable the bank to access the home being made offsite –

b. SOLUTION = pre-approval of home manufacture (see Westpac's first-mover solutions here <https://www.westpac.co.nz/rednews/property/unlocking-the-prefab-housing-conundrum/>) OR direct finance to manufacturer so client doesn't pay instalments OR a third-party assurance scheme that removes risk for bank – watch this space for updates
<http://www.prefabnz.com/Projects/Detail/better-bank-finance>

2. Consenting – most BCAs insist on two separate and often non-concurrent processes where the BCA consenting the foundations waits until the BCA consenting the house has issued CCC

a. PROBLEM = extra time and cost of two consents that often don't happen in parallel, so any benefits of offsite construction (manufacture offsite at same time as constructing foundations at site) are lost

b. SOLUTION = only a single consent is needed – this is what we should do (see Hurunui District Council case study below / in box / sidebar)

3. Covenants – many property covenants on land sections carry an outdated clause that restricts use of 'relocatable' dwellings

a. PROBLEM = the word 'relocatable' can be interpreted as new or old building at present and puts everyone off investigating their full range of housing provision options

b. SOLUTION = an unbundling of 'relocatable existing' dwellings from 'new transportable' housing would enable the intent to be clarified – if older homes are the problem, then clearly a solution pathway for new homes needs to be identified...

The good news is that PrefabNZ has work programmes in finance (see Better Bank Finance <http://www.prefabnz.com/Projects/Detail/better-bank-finance>) and consenting (see Good Offsite Guide <http://www.prefabnz.com/Projects/Detail/good-offsite-guide>). Help is needed to address the covenant challenge.

PrefabNZ is keen to work alongside BOINZ Members and BCAs on how we can offer a single building consent system for transportable housing in a consistent way. One thing we could do to help, is to develop a one-page 'how-to-buy-a-transportable-home' flow-chart which can then be distributed to banks, transportable home providers, and members of PrefabNZ and BOINZ. We are open to all your good ideas also. Please get in touch with any ideas info@prefabnz.com

The good folks at Hurunui District Council (HDC) – including BOINZ President Kerry Walsh – have come up with a single consent system for transportable housing, which reduces the financial burden on first-home buyers – ka pai!

Transportable Housing Case Study – with Genius Homes, Timaru www.geniushomes.co.nz

Genius Homes applied for a building consent for a new dwelling on a site within Hurunui District Council. The major part of building work was to be carried out at their Timaru facility in a 'controlled yard', within the Timaru District Council (TDC).

An agreement was reached between the receiving Council (HDC), the construction manager, and the owner of Genius Homes, where a single building consent was to be applied for in the final destination where the house would be permanently sited. Normally, two building consents are requested, one for the building plans at the construction site and one for the foundations and drainage plans at the final relocation site. Under the single building consent arrangement, HDC agreed to pay TDC to carry out the building process inspections in the yard. Genius Homes agreed to move the house to the final site where HDC would take over the final inspections and sign off the Code Compliance Certificate. All inspection reports by TDC were agreed to be supplied to HDC as part of this process.

There were considerable savings and customer service advantages for both the client and the builder, including:

1. Time saved by not needing a second consent.
 2. Cost savings by not needing a second consent.
 3. Ease of inspections for the builder.
 4. The builder had certainty that the house was approved for the new site (wind, earthquake, snow and planning issues were all confirmed up front).
Steps for a single consent:
 5. Construction / manufacture council carries out inspections and invoices costs to final location council.
 6. Final location council issues whole consent and allows for inspections by construction / manufacture council to inspect on their behalf.
 7. Final location council signs off whole project.
- Hurunui District Council has been refining this arrangement for three years now and it has been very successful. The same method has been applied to other prefabrication typologies, such as panelised construction. Kerry Walsh comments, "I think we need to set up an easy way for prefab companies to link with BCAs so that an arrangement can be put in place prior to starting their business. Each region could nominate a person to represent their BCA that would be available to agree on similar arrangements."

Drones in the workplace - all you need to know

by Ryan Groves

The use of drones in the workplace is slowly becoming a more accepted and tested tool for businesses to utilize when gathering regular data about their buildings or operations. They provide an aerial platform for photography, surveying and mapping to a wide range of industries including utility companies, agriculture, construction, forestry, humanitarian aid, border security and emergency services.

To date there are more than 250,000+ drones in New Zealand and the ways that this technology is being used has exploded into a wealth of possibilities, as they are now not only in the air but also on the land and under the water.

Technology has advanced so significantly that people now have the option to work more efficiently whether surveying land, buildings or forests, searching for stock or spraying crops. The technology isn't new, we know this by looking at industries such as aviation where airlines have been using autopilots to keep people safe for years. The big difference is that the more we learn about and develop this technology the more cost effective it has become to use it within businesses.

So how exactly can building owners and asset managers use this technology to benefit their businesses?

Think about your day to day operations... what do you need to do in order to assess a roof of a building for damage or deterioration of products? You may say I'd need to hire someone to go up there and inspect it which means I need equipment like a cherry picker or simply someone who

can abseil. Then again you may have found yourself leaning over the edge off the building inspecting the gutters to help you save time and money.

But what if a drone could gather this data for you time and time again? Think about the savings not only in money, but in time, effort and risk to people. Drones have the ability to service areas that would ordinarily need substantial planning and qualified technicians to access.

With lower costs this will mean that



building and asset inspections, which gather valuable data for maintenance and repair requirements, can be scheduled on a more regular basis providing you with the ability to detect maintenance issues before they become costly repairs if left too long. Sound good right, but it doesn't come without it's own set of compliance and regulations - after all it would be a nightmare if every man and his dog was flying a drone around your property.



Everyday users who use drones for hobbies and recreational use must follow Civil Aviation Authority Rule 101 - the twelve basic rules are listed at the end of this article. In the commercial sector many drone operators are moving to a new set of Civil Aviation Authority rules known as 102. When hiring a consultant to conduct inspections of your building or assets it's important to consider the credentials and skill-set of your drone operator.

Above all it is critical to meet your health and safety obligations in regards to training and competency of either staff or contractors. Drone operators should be able to provide you with a competency certificate (eg RPA Skills Flight Management or Flight Test NZ 102 Certification) and risk management plans to ensure that they have demonstrated competence in using the aircraft for the task and can adequately control the risks associated with operating a drone in the given environment.

So when it comes to using this extremely versatile technology for your next inspection or surveying needs, I recommend looking up the services of more than 100 commercial drone operators throughout New Zealand on Air Share www.airshare.co.nz or you can contact me at RPASkills.com and I can put you in touch with a local operator.

With technology ever advancing the question is are you ready to move with it?

CAA rules, and compliance 101

There are 12 key things that are required under Part 101 - you must:

1. Not operate an aircraft that is 25 kg or larger and always ensure that it is safe to operate
2. At all times take all practicable steps to minimize hazards to persons, property and other aircraft (ie, don't do anything hazardous)
3. Fly only in daylight
4. Give way to all crewed aircraft
5. be able to see the aircraft with your own eyes (eg, not through binoculars,



a monitor, or smartphone) to ensure separation from other aircraft (or use an observer to do this in certain cases)

6. not fly your aircraft higher than 120 metres (400 feet) above ground level (unless certain conditions are met)
7. have knowledge of airspace restrictions that apply in the area you want to operate
8. not fly closer than four kilometres from any aerodrome (unless certain conditions are met)
9. when flying in controlled airspace, obtain an air traffic control clearance issued by Airways (via airshare My Flights)
10. not fly in special use airspace without the permission of the controlling authority of the area (e.g. military operating areas or restricted areas)
11. have consent from anyone you want to fly above
12. have the consent of the property owner or person in charge of the area you are wanting to fly above



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Spotlight on a Member



Introducing Jamie Nikora, the Institute's Northland Branch Chair. Jamie works at Kaipara District Council as a Building Control Officer. Recently he accepted one of our Excellence Awards; Branch of the Year 2018, which makes him an award winner for the second year in a row after his achievement of Emerging Leader in 2017. With a focus on the next generation coming into the industry it is important that the Institute recognises and gets to know their leadership, knowledge and zeal that they bring to the sector. Jamie is one of our youngest members, however you wouldn't pick it with his commitment and enthusiasm for the industry.

What was your first full-time job?

When I was 15 I worked part-time while still at school on an oyster farm and at the age of 16 I was working full time, which included growing, harvesting and opening the oysters.

What were you doing before you got into the industry?

From a young age I have been employed in differing areas of work from horticulture, agriculture, aquaculture and was at a stage of seeking new work skills. I worked at a Kumara Factory in Ruawai which included working in the field, planting crops and harvesting, I then got my forklift license and worked in the packing plant for 2 and a half years.

How did you get into the industry?

I took on a council cadetship where 32 people applied, 16 people got to do the cadetship for 2 months learning all about the roles and functions of council and if we would like to take up a job in one of these areas. This was funded by government. Out of the 16 cadets, 4 were chosen to work in certain areas of council for 10 months, I was lucky enough to get into the building team and carry on employment after the 10-month test period. That was the start of my career as a building surveyor. The one question that secured my cadetship was to the Building Team Leader at the time and I said – "what exactly do you do and what does it take to become a BCO?" Cadetship should be a nationwide opportunity in BCAs and cadets should be taken on as often as possible.

What do you think has changed about the industry since you first started working in it?

The age of BCAs has definitely changed since I first started in the industry. It is gradually becoming a younger and younger workforce. Systems have definitely changed going from paper to digital and then of course there's the changes to audit schemes, the requirement for regulation 18 and all BCO's to have or be working towards some sort of qualification.

What does the future of building control look like to you?

For me Building Control, I see it going the same sort of way that Australia has gone and steering more towards privatisation and it not being predominantly a council function. What a lot of people don't realise is BCAs have quite separate policies from the rest of the council. We have our own manuals, regulations and policies. I can definitely see it going private at some point in the future.

I see the future of the industry being of a higher quality. Having IANZ audits; without that our systems would definitely be nowhere near where we are now with the systems that we run. As well as coming from the paper ages to now being all online, this will obviously continue to expand.

What is the most interesting part of your job?

Getting out on site and meeting people, networking and bouncing ideas and knowledge off other people. There's always things that we learn but there are always things that builders and designers learn from us too, which keeps it interesting. Meeting new people and discussing building compliance is very attracting but mainly the ability to help people through such a difficult process and help with advice where ever I can, gives me a big sense of satisfaction.

What do you consider to be the biggest challenge in your role?

The constant change and need for learning. It is a constant learning environment and knowing where to find answers. Knowing the multitude of things that we need to know, so knowing where to find the answers can sometimes be a challenge. While it isn't a major hindrance, not having a building background can be a struggle but that just comes down to knowing where to find the answers and keeping up to date. Having knowledge of the practical side of the job is important, once I started doing inspections as well consents, it really opened up my eyes and I became a better processor.

There is a focus on encouraging the next generation to get into the industry, what would be your advice be for those wanting to get into Building Control?

Asking questions. Spend a day or two in the industry, team up with a BCA and ask if you can put your hand up to live a day or 2 in the shoes of a BCO, look at lodgement, processing, TA Functions and Inspections and get your head around all roles played by a BCA.

Nobody learns about what it takes to do this job or even what we do in schools, so

Spotlight on a Member

Could you be next?

If you're interested in talking to us for future issues or you know of someone who is doing great work within the industry and deserves to have the spotlight on them, please email

Sarah Wood:

marketing@boinz.org.nz

a lot of the time there isn't knowledge about the job. The perception is that we inspect buildings but there's obviously a lot more that goes with it, so asking questions and talking to people already in the industry at this point in time is probably the best way to get into the industry.


There is a perception that you have to know about the industry or even have a building background which I personally disagree with. We need to get away from that thinking, it is all down to how you have been trained and, growing confidence from your peers.

Bigger councils will have a team for lodgement, a team for processing, a team for inspections, even teams for paperwork and CCC etc. to achieve a high level of knowledge. It's best to get a grip on every area and know a bit about all functions. I was very lucky to have been in every area. Jump in and give it a go! I never wanted to work in an office but here I am 6.5 years on and my career just keeps moving forward, stagnation doesn't keep any job interesting. There are so many opportunities in this line of work.

What do you think is different about being in Building Control in Kaipara versus other regions?

Firstly, I haven't really experienced any other Building Control areas but one thing that is a lot different is we aren't silo to a specific role because we are a small team, we get to work in all areas of the department. With bigger councils, some may only ever know one part of the job because they have a full team and the responsibilities are split up, where as with smaller places like Kaipara, we gain a broad knowledge of every aspect of the department because we are a smaller team. I believe Building Managers need to start cross pollinating people in different areas, so if you start as a processor and then jump in and learn BWOF's, compliance schedules and TA, just moving around. It which has definitely been an upside for me working in Kaipara because I have a broader knowledge of the whole job.

LEADERSHIP IN THE INDUSTRY WORKSHOP
15 AUGUST 2018
11am - 5pm



NAPIER CONFERENCE CENTRE

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We are offering a training workshop for all SBCO attendees which will be held the day before the Senior Building Control Officers Forum at the Napier Conference Centre on **Wednesday 15 August, 11am – 5pm.**

Regardless of position or role, exhibiting and delivering strong leadership skills results in effective and efficient operations.

Leadership is about you, your staff, and customers. Good leaders exhibit vision, have and value relationships, know how to understand people, accept responsibility and have an understanding how to minimise decision liability.

In BCA environments, senior management roles typically build on technical roles. Leadership doesn't usually come naturally, as it is complex and multi-faceted. Establishing and articulating organisational needs and then producing the right outcomes are often seen as the book ends of a leadership role. The complex pathway in-between is often the navigator's nightmare. Preparation isn't second nature and learning on the job is problematic.

The good news; management and leadership skills have been well studied and are well understood and behaviours can be learnt, practised and improved with implementation on the job. This workshop is specifically structured to deliver to senior managers essential tools to:

- Transition from the technical to management and leadership
- How better to read and understand people
- Manage direct reports
- Build the next generation of leaders
- How to influence within your organisation and with stakeholders

This is a critical first step in a leadership training pathway following requests from BCA's and BCO's for a programme to equip existing and emerging leaders. It follows on from 'taster' and subsequent feedback, from a presentation Dr. Paul McDonald provided at our Annual Conference in Dunedin.

CALL Sarah on 04 4736005 to REGISTER TODAY!

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Earnings potential of Apprenticeship vs Degree

How you can benefit personally from the Institute's focus on and investment in qualifications.



by Daniel Scheibmair

We're all aware of acute skilled staff shortages in industries associated with construction and building - our own Building Surveying sector not being immune. And while the reasons are many and varied a focus in the last decade on higher education no doubt contributed to 'discouraging' uptake of trades roles and associated apprenticeships. Maybe though there is good reason to reverse that trend.

A recent Industry Training Federation (ITF) initiated report by Business and Economic Research Limited (BERL) modelled costs and benefits of apprenticeships versus degrees across a working lifetime and showed an apprenticeship and career in the trades can be just as financially lucrative across a lifetime as a university degree. The same logic behind that study would no doubt also hold true for Building Surveying; Taking average wages at different stages of a career path, average study costs (student loans), house prices and savings rates, the financial position at retirement for someone with a level 4, 5 or 6 industry training was nearly equal to that of a graduate (Bachelor degree or above).

The study determined that on average the apprenticeship path proved financially stronger through most of the career until closer to retirement when higher education graduates caught up. That's because an apprentice gets a head start not paying huge study fees, often managing to purchase property earlier, and able to pay off mortgage borrowings sooner. Those in the trades also often accumulate retirement funds sooner having started earning and paying into Kiwisaver earlier. All of these factors can also provide greater financial security to those in trades throughout the earlier career stages than highly qualified graduates; overall financial security depends as much on your income as your ability to save, the debt you take on, and ability to purchase property.

Similar overseas studies such as one for example by Barclays in the UK identified some sectors in which those with apprenticeships even surpassed earnings of University graduates. Unsurprisingly, regardless of whether study below or above Level 6 qualifications was undertaken, potential lifetime income greatly exceeded that of someone with no further post school education.

BOINZ also recognised that for qualifications to be of value to the sector and provide tangible benefit to individuals committing to study, these must be closely aligned with the work environment and business practices. Further the qualification study pathway impacts on offering value equally to employers and their employees; the recent BERL study proves that greatest financial benefit to the individual is realised in apprenticeship type studies rather than 'full-time' classroom based study more akin to Bachelor degree or above qualifications. Apprenticeship type approaches also benefit the employer as it provides a more immediate redress to staff shortages.

Broader sector improvements in professionalism and consistency have been discussed in previous Institute communique, though often employers are set to benefit more from these than individuals undertaking

committed study in their practice field.

The qualifications initiative the Institute has invested in and committed to so heavily over the past years therefore not only aims to raise the professional standing of building surveying but it also provides individuals with an opportunity to leverage personal gain to derive an equal if not arguably better financial position than someone committed to much higher tertiary education. Personal time commitment that may need to be made to study the new NZ Diploma in Building Surveying via the in-employment study option should be considered against the financial benefit an individual will stand to gain - to an employee it's a very low risk investment with potential for substantive gains well worth considering. It's a win-win for employers and employees alike, and contributing to raising the professionalism of our sector.

To learn more about the NZ Diploma in Building Surveying in-employment study option contact the Institute's delivery partner Otago Polytechnic www.op.ac.nz/buildingsurveying or email BOINZ's Technical and Education Manager Daniel Scheibmair at Technical@boinz.org.nz.



Supplementary Treatment of Timber Window Reveals

In the Window Industry, the window is an integral part of the weather-tight envelope that protects the structure and asset of the owner. As such, the more that can be done to protect the asset from future potential damage the better, and these actions required are best carried out during the assembly & installation phase of the process.

NZS3602 Timber & Wood Based Products Used in Building requires the use of a "Supplementary Treatment". As the H3.1 treatment used on timber liners is a surface treatment only, all faces machined post treatment (e.g. ripped to size) must be treated to maintain the original level of durability. Section 2.3.5 Supplementary Treatments, specifically details this requirement and what is an acceptable solution.

While it can be argued that "Timber Window Reveals" are inside the building envelope, the fact is that the window is a system, and any part of the window forward of the Air Seal & exposed to moisture (including in the form of condensation) needs to meet the requirements of Durability clause B2.

As the "Timber Reveal" is not a singular element within the system, but is part of the make-up of the entire "Window System" it too needs to meet the requirements of NZ3602.

This "Supplementary Treatment" can be achieved in several different ways:

- Copper Naphthenate (at least 15g/l elemental zinc) or
- Zinc Naphthenate (at least 25g/l elemental zinc) or
- Boron based treatment (at least 52g/l elemental boron) in conjunction with acrylic paint coatings.

There are a number of reasons why it is not only "Best Practice", but it is a compliance requirement to carry out the supplementary treatment on the window reveals during the manufacturing process:

- Preservation of the end grain timber,
- Barrier to bacterial and fungal ingress,
- Barrier to potential moisture ingress into the timber structure,
- Compliance with the requirements of NZ3602

Support for the supplementary treatment of the exposed cut edges of timber reveals is supported by the major NZ Aluminium Proprietary System Suppliers providing window systems within the NZ market & overseas. They collectively view this as compliance with Building clause B2 by providing this increased level of protection of the associated window systems to their clients, something that may or may not be present on some local and overseas products.

Prepared by Steve Loveridge



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What Lies Beneath My Policy?

As Insurance Brokers we often get asked questions and one of the most common questions is "I paid for a Professional Indemnity policy so why am I not covered for something like this?". Generally it is because the policy has not been created/set-up correctly to cater for your business needs. So here are a few tips to keep an eye out with your own Professional Indemnity policy or if you are looking to obtain one.

Professional Business (Business Description)

It is important to make sure that you fully disclose and ensure that all your business activities are detailed on the policy schedule, if they are not comprehensively and correctly detailed and a claim arises from an activity not specified then you run the risk of no cover.

Retroactive Date

Means the policy will cover a claim made and reported during the policy period for a wrongful act that occurs after the retroactive date. When possible it is preferred to extend this to the start date of your business if the insurer permits. If a claim arises from a wrongful act occurring before the retroactive date then the policy will not respond.

Building Defects Exclusion / Pollution Exclusion / Asbestos Exclusion

It is standard for Professional Indemnity policies to exclude these types of losses. If you undertake Pre-purchase inspections that report on weathertightness issues (or anything that might cause a claim being made against you that can be linked to a weathertightness issue), Meth or even Asbestos then it is important that your policy is extended (or endorsed) to write back some form of cover to ensure there is coverage when you need it.

The good news is that Crombie Lockwood have the insurance solution to cover your business. Our exclusive offering to NZIBS members provides the type of cover you need (including weathertightness issues, Meth testing and Asbestos testing). We also ensure that your policy is set up to respond when you need it.



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New earthquake-prone building resources now available

New resources are now available online for council staff responsible for identifying and making decisions on potentially earthquake-prone buildings (EPBs), as well as engineers responsible for assessing potentially EPBs, and building owners affected by EPB legislation.

The resources are available on a new online learning site, learning.building.govt.nz, which was launched by the Ministry of Business, Innovation and Employment in February 2018.

Currently there are four modules available, which reflect the key roles that council staff, engineers and building owners play in the new system for managing EPBs. The modules are:

- Identify (identifying potentially EPBs)
- Assess (assessing potentially EPBs)
- Decide (deciding if buildings are earthquake prone)
- Building owners (understanding your responsibilities under the new system).

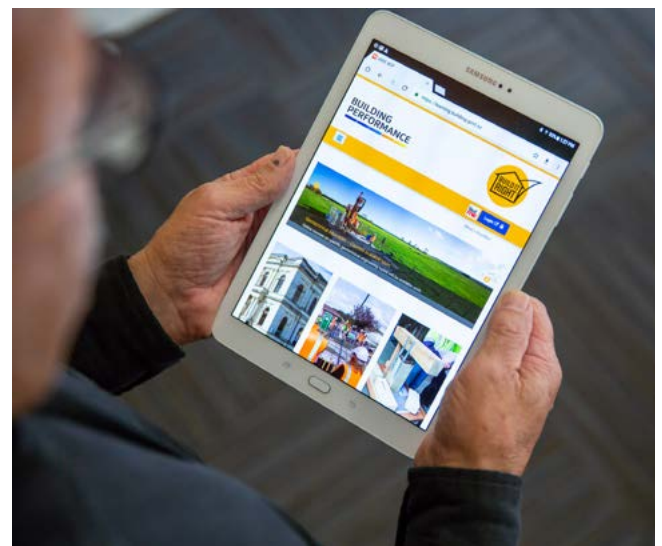
The Identify and Decide modules are interactive, with opportunities to test knowledge and understanding. The content is based on a series of workshops presented by EPB experts after the system was introduced on 1 July 2017. They are a refresher for building officials and engineers who attended the workshops, and a training supplement for others.

Under the national system for managing EPBs, engineers assessing and reporting on potential EPBs must follow the process laid out in the EPB methodology, which is available on building.govt.nz. The Assess module guides users through the relevant sections of the methodology, with a focus on parts of buildings and reporting requirements.

The module for building owners guides them through the process that occurs if they are notified their building may be earthquake prone. It includes advice on engaging an engineer to assess the building and things to consider when deciding whether to strengthen or demolish the building.

The online learning site has been developed to supplement face-to-face workshops by offering accessible and flexible learning on building legislation and regulations. Learners can access the website from work or home at a time that is convenient to them. More modules on other building regulatory pieces will be added to the site in the future.

learning.building.govt.nz has the modules and further information – you will need to log in using your Real Me account. You will also need to register your details the first time you do a module.





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BRANZ puts spotlight on quality issues



Helen Rice

That no clear winner emerged in the BRANZ debate 'The push for housing growth is suppressing the industry's focus on quality' demonstrates the disparate views on issues of quality in the construction industry.

BRANZ recently brought the issue of questionable building construction quality to the public stage at the BOINZ Conference in Dunedin. Six debaters, all industry representatives, used BRANZ research to shape their arguments, in particular data from the research programme, 'Eliminating Quality Issues'.

The lively debate challenged people's thinking around quality and voting switched throughout the debate but interestingly still ended in a draw.

ELIMINATING QUALITY ISSUES

The result shows there are many views and perceptions around quality in New Zealand buildings. The BRANZ Eliminating Quality Issues (EQI) research programme aims firstly, to identify barriers to the consistent construction of quality buildings and, secondly, to determine a pathway to overcome these barriers.

Prior to BRANZ starting the EQI programme, little work had been undertaken in this area, which highlights the need for new thinking and untested approaches around the elimination of common quality issues. There is a range of possible barriers preventing the industry from consistently constructing quality buildings. These range from a lack of standard details, through to systematic issues such as the way we procure buildings or a lack of understanding of the expected performance of a building.

But until the barriers can be properly identified, solutions to address lapses in quality will have limited impact.



AFFIRMING TEAM: Simon Novak, Grant Florence & Connal Townsend

In fact, several studies have exposed recurring instances of poor construction quality in New Zealand in recent years. These include poorly installed insulation, badly-poured concrete slabs, non-compliant steel reinforcing and other materials, and non-compliant passive fire assemblies. Despite solutions being found and suggested to industry, these have not always been translated into building improvements.

For the industry to reverse the cycle, it will take a quantum shift in thinking and culture. Practitioners must be inspired or persuaded to adopt quality solutions – for the current building boom and beyond.

FUTURE RESEARCH

BRANZ is about to begin a new stream of research to understand performance requirements and how clients can specify expected performance within their building contract. This will determine what performance clients can expect from buildings that are up to code (i.e. minimum standards) and the benefits of improving the specifications of the building beyond code.

BRANZ will be running its second new-house

quality survey. This survey has a surveyor on-site at key construction stages to identify quality issues during construction. It will provide key data for the research programme and inform future research needs. BRANZ is considering the best methodology to use for the survey, and any input from BOINZ would be greatly appreciated. This could lead into a similar survey for new-commercial buildings.

GETTING INVOLVED:

If you would like to hear more about the EQI programme, or would like to get involved, please contact programme leader matthew.curtis@branz.co.nz or visit www.branz.co.nz/eqi.



NEGATING TEAM: Malcolm Fleming, Peter Laurenson & Helen Rice

BOINZ Keynote Speech given by Mark McCrindle sponsored by Heaney & Partners



**By Frana Divich, Partner
Heaney & Partners.**

Heaney & Partners were thrilled to bring Mark McCrindle over from Australia to speak at last month's BOINZ Conference in Dunedin. Mark's passions lie in tracking emerging issues and researching social trends. His keynote address was called "Understanding the Times, Shaping the trends: A Snapshot of the Global Mega Trends Transforming the Building Industry."

"Only occasionally in history do massive demographic shifts combine with huge social change and ongoing generational transitions and rapid technological trends so that within the scope of a few decades, society altogether alters" he said.

Nothing demonstrates the rapid technological changes more vividly than the Smartphone. It is difficult to imagine life without them, but the first iPhones only appeared in 2007. Mark showed a compelling visual of the Vatican in 2005 with only one mobile phone showing in a corner of the photograph. In 2013 the same scene was a mass of screens held up recording Mass in St Peter's Square.

In the last few years we have also witnessed the rapid growth digital disrupters like Uber and airbnb who have very successfully challenged the ways things have traditionally been

done to make them more nimble and digitally friendly.

Mark used the example of Netflix to demonstrate the speed of change. In 2008 they were a mail order DVD library. In 2018 they are one of the biggest companies in the world together with other web based companies like facebook, amazon and Google.

We now have apps that provide us with location specific information at our finger tips. We did not have those 10 years ago.

In 1998 our population was projected to increase by 31% to 4.7 million by 2052. It is already at 4.9 million and is continuing to rise. Germany has grown 25%, the United Kingdom 37% and Sweden by 73%. In comparison New Zealand has grown by 450%.

It is little wonder that housing affordability is such a hot topic. It is fuelled by our population growth. In 2008 the median annual earnings

of a Generation Xer was \$37,908. In 2018 the median annual earnings of a Generation Yer is \$49,868 – an increase of 32%. In comparison the median house price has increased by 59% (from \$345,000 in 2008 to \$550,000 in 2018).

Our population is changing. Our population increase is made up of a natural increase of 28% and 72% net migration. It is also aging. Our longevity has increased from 73.9 years in 1984 to 81.2 years today. By 2044 we will have a life expectancy of 86.6 years. In 1898 New Zealand enacted the Old Age Pension Act which entitled every person 65 years or older to a pension. In 1898 the average male life expectancy was 56 years old. It does seem inevitable that New Zealand's pension age will increase in the foreseeable future.

Our population is moving. The next generation – Generation Z (currently aged between 7 and 21 years old) can expect 17 jobs and 5 careers in their



Photograph taken at the Vatican 8 years apart.

lifetime. Many of their jobs do not even exist yet.

4.7 quintillion (4,700,000,000,000,000,000) bytes of data are created every day. More data was created in the last 2 years than in the history of civilisation!

With so much change occurring Mark says our approach also needs to change. We need to be responsive, digital, global, social, mobile, visual, innovative and collaborative.

To attract and retain staff from the newer generations we need to create work cultures of collaboration and innovation. Our leadership styles need to change from the traditional command and control to collaboration and contribution

He finished his presentation by quoting Ferris Bueller "Life moves pretty fast. If you don't stop and look around once in a while, you could miss it."

For more information on McCrindle Research please visit:

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Mark McCrindle, speaking at BOINZ 2018 Annual Conference



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iOS:



A low carbon strategy for the built environment



All New Zealanders deserve to be healthy and happy in our beautiful country – at home, at school, at work. Everywhere.

But millions of us are not healthy and happy, simply because our buildings are not good enough.

New Zealand businesses are losing money because their buildings are inefficient, pushing up their monthly bills, and pushing down their staff productivity, wellbeing and retention. And too many homes in Aotearoa are damp, and cold. But this is changing, thanks to the members of the New Zealand Green Building Council.

Hundreds of Kiwi businesses are making their buildings better. And tens of thousands of new family homes are now set to be healthier, happier places to be, after being built better.

Here at the New Zealand Green Building Council, we're doing all we can to make our buildings better. And we can't do that without our members – 450 councils, construction and property companies that are helping to drive change.

Our work, broadly, is made up of three strands. We run well-liked and well attended events and education programmes; we manage trusted building authentication schemes, like Homestar (for new build homes) and Green Star; and we also, increasingly, advocate. We care and we're independent, ensuring that we're unafraid to speak truthfully and frankly to those who hold powerful positions.

Over the last few months we've been in contact with Government Ministers and their advisors, putting forward the case for healthier, more efficient buildings. Sometimes we've done this through media interviews and news coverage, and at other times we've advocated in less public ways, directly to key influencers.

Thanks to your direction, our efforts are now starting to gain real traction. The team and I have had numerous meetings with Ministers at Parliament's Executive Wing and laid out a plan for New Zealand's buildings and homes, putting New Zealanders at its heart, to five Government Ministers, and a host of their advisors.

Government Ministers we have been meeting include: Phil Twyford, the Minister of Housing and Urban Development, and the Minister of Transport; Dr Megan Woods, the Minister of Energy and Resources, and Minister of Greater Christchurch Regeneration; David Parker, the Attorney-General, Minister for the Environment, and Minister for Economic Development; Jenny Salesa, the Minister for Building and Construction; and James Shaw, the Minister for Climate Change.

At its heart we are calling on Government to lead with their own homes and buildings and to help the sector recognise better buildings through tools such as Green Star and also through a new tool for existing homes, to be launched in September

The presentations were well received. We are now working with officials on a low carbon strategy for the built environment. One key area we talked about in the Beehive was housing, and the state of New Zealand homes. Housing is an important focus for us this year. We'll be launching an exciting, innovative project around September specifically focused on improving our homes.

And in June we'll be hosting the New Zealand Green Building Council Housing Summit. There's a packed schedule of exciting speakers. Check out the details here. These are exciting times. Green buildings are building momentum – undeniably.

Homes and buildings make up 20% of our carbon emissions. Better buildings reduce water use, reduce construction waste 70% and improve productivity and health of our workers and also our tamariki and mokopuna.

GET INVOLVED

- Train up on the new standard for existing homes – email eion.scott@nzgbc.org.nz
- Have your council as a member [click here](#)
- Consider the 10 ways your council could incentivise a resilient lower carbon buildings and homes

I hope that is of use. We look forward to working with you to deliver better buildings and homes for New Zealanders.

Ngā mihi o te tau hou

Andrew

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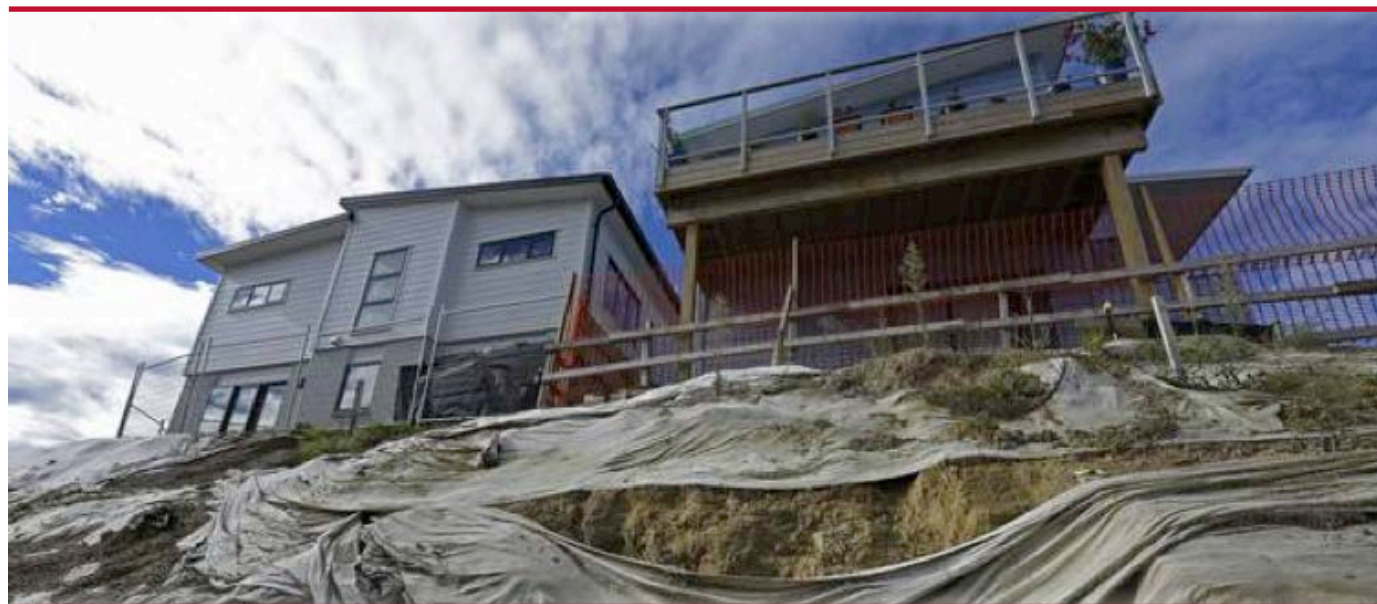
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Dangerous and affected buildings in 2018



Rice Speir's recent involvement in the "Bella Vista Homes" situation in Tauranga has prompted this update on the dangerous and affected building regime in the Building Act 2004 (the Act). As media reports such as this suggest <https://www.stuff.co.nz/bay-of-plenty/103189572/21-bella-vista-homes-to-be-issued-dangerous-building-certificate> it is unprecedented for 21 homes to have been issued with dangerous and/or affected building notices at the same time. In addition, this case appears to be the first documented use of the "affected building" classification that was introduced to the Act in 2013 following the Canterbury earthquakes.

OUR TAKE HOME POINTS

- The dangerous and/or affected building provisions are for the protection of the public. They should be considered in a fair, large and liberal way.
- Councils everyday deal with real people with real problems. As regulators operating within a statutory framework, councils work at the edge with short notice and in difficult situations. We know from our experience working with councils that they go the extra mile and they care.
- Just because notices aren't often issued does not mean that they shouldn't be in appropriate situations.
- The decision to issue notices can be urgent and is sometimes finely balanced. Not everyone will agree with your logic but you need to be at your best when your best is needed.
- Your thinking and preparation of the notices will be scrutinised at a later time by others without context. In these times, you need to be thinking clearly and recording your steps in a logical way.
- You are not alone in making these tough decisions. You belong to a team

that must come together in order to achieve the appropriate outcomes.

WHAT IS A DANGEROUS BUILDING?

The dangerous building provisions of the Act have not received a lot of judicial consideration. Most of the reported cases are pre-2004 and therefore are only of limited value. The overriding objective of the regime however is the protection of the public. The starting point in considering whether a building is dangerous is 121 of the Act. The section is to be interpreted in a fair, large, and liberal way.

121 MEANING OF DANGEROUS BUILDING

- (1) A building is dangerous for the purposes of this Act if,–
 - (a) In the ordinary course of events (excluding the occurrence of an earthquake), the building is likely to cause –
 - (i) Injury or death (whether by collapse or otherwise) to any persons in it or to person on other property; or
 - (ii) Damage to other property

What is "in the ordinary course of events"?

The District Court has determined the phrase "in the ordinary course of events" to mean:

The usual gamut of climatic occurrences likely to be encountered in this country. Such climatic occurrences would include the range of temperature variations and different climatic conditions that are likely to be encountered in the course of a year. For example, dry and wet spells, heavy downpours, winter storms, equinoctial gales. The phrase would not include, however, incidents not normally occurring such as for example 50 year floods and cyclones.

Local conditions can also be factored into the consideration. For example, Rotorua has a more corrosive atmosphere given its unique climatic conditions and, arguably, Tauranga is more prone to slips than some other parts of New Zealand as evidenced by the fact that a 2005 storm event caused over 2000 slips in the area.

What is "likely to cause injury or death"?

The phrase "likely to cause injury or death" has been considered on several occasions, albeit some time ago. In one case it was held that "likely" does not

mean “probable” as that put the test too high. On the other hand a mere possibility is not enough. Essentially, what is required is “a reasonable consequence or [something which] could well happen” or “the reasonable probabilities are that the building will cause injury or death unless it gets timeous attention.”

What sort of “damage to other property” is anticipated?

It is often overlooked that a building doesn’t have to cause injury or death to be dangerous. Damage to other property is an equal trigger. Therefore, you have to be able to point to one building being a risk to another building nearby. This creates an interesting overlap with the “affected building” regime that was introduced in 2013.

WHAT IS AN AFFECTED BUILDING?

In 2013 the Building Amendment Act introduced a new category of “affected building”. The section has its origins in the Orders in Council enacted to assist the Canterbury region to deal with dangerous buildings following the 2010/2011 earthquakes.

Section 121A provides that councils can issue dangerous building notices in respect of buildings that may not be dangerous buildings in themselves but are “affected” by another building.

The affected building must be adjacent to, adjoining, or nearby a dangerous building.

Perhaps the most common situation where this could arise (as was the case with Bella Vista) is roofs lifting under gale force winds and the potential for non-dangerous buildings “down wind” to be affected. Similarly, where buildings are perched on cliffs for example there is the potential for an otherwise safe building below to be affected due to the risk of the building above collapsing and causing danger to people or property below.

WHAT POWERS ARE AVAILABLE TO THE COUNCIL WHEN IT IS SATISFIED THAT A BUILDING IS DANGEROUS AND/OR AFFECTED?

If satisfied that a building is dangerous or affected, a council may attach a notice warning people not to approach the building; fence off access to the building; issue a notice restricting entry to a building; and/or give notice requiring work to be done to reduce or remove the danger.

There is no particular process or procedure that must be followed for the issuance of a dangerous building notice. No form is prescribed and there is not even a requirement that the notice be signed. However, where a notice

requires work to be carried out on the dangerous building, certain criteria must be met. The council can apply to the District Court for an order authorising it to carry out the building work if the work is not completed or not proceeding with reasonable speed.

If a council has identified a building as being dangerous or affected, it is an offence for a person to use or occupy, or to permit another person to use or occupy that building.

CONCLUSION

The dangerous and/or affected building provisions in the Act are not often used but that doesn’t mean they shouldn’t be in appropriate situations. Remember, the provisions are designed for the protection of the public and should be interpreted in a fair, large and liberal way.

The circumstances around dangerousness can present urgently and the decision is sometimes finely balanced. Not everyone will agree with your logic but you need to be at your best when your best is needed. In saying that, you are part of a team that must come together in order to make these tough calls.

Decisions by local authorities always involve competing issues. However, if you are thinking clearly and recording your steps in a logical way you are best placed to find the right way forward. The team at Rice Speir are passionate about building control and are available to discuss difficult decisions before they are made. We look forward to receiving these types of calls.

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Nathan Speir



Luka Grbavac

Nathan Speir leads the compliance and enforcement team at Rice Speir. He experienced with building control issues and as a former Crown Prosecutor has been involved in cases covering the full spectrum of regulatory offending. Luka Grbavac comes to Rice Speir from Auckland Council, with experience from the District and High Courts. He practices primarily in the compliance and enforcement, and litigation and dispute resolution areas.

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