STRAIGHTUP BUILDING OFFICIALS INSTITUTE OF NEW ZEALAND

Changes to H1

How they will affect new building work

Building the Dream

An interview with departing CE of NZCB, Grant Florence

Building Surveyor Competencies

Developing an effective conceptual framework



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Let's Talk About The Future

The last two years have been full of turmoil for most of us, as we needed to constantly adapt to different levels of disruption. Organisations have also had to change their business models, often overnight or at short notice with little notification.

Navigating uncertainty, particularly during COVID-19, has tested the nation and the Institute. By and large the Institute and the wider construction sector have achieved admirable outcomes. Credit goes not only to sector leadership for making tough but timely decisions but to all in sector who have responded positively and enthusiastically to ensure relatively smooth ongoing operations.

The lessons of the last two years have instigated a transformation, which in my view has delivered an adjusted mind-set in respect of how we adapt when there is a switch in our environment; a transformationimposed crisis. This will positively position us for the many challenges ahead.

The shape of our future is very much a current talking point as we attempt to predict the unpredictable. Good examples are the urgency of dealing with both climate change and sustainability. Both are now headline topics and will influence the strategic decisions and future investments of nations, the organisations you work in and the stakeholders you deal with. These megatrends of the future will have a more enduring and lengthy impact on us than the various crisis of the past fifty years.

Establishing the details around the

impacts on the building sector, building surveying and building control needs to happen sooner rather than later. Some observations and predictions will generate decisions of the urgent variety, others may be considered more of a slow burn. Either way, we should expect turmoil and disruption to varying degrees. During their last two meetings your Board has viewed the future with a critical eye and set the Institute's strategic focus on professionalism, the value of relationships and collaboration, and importantly, sustainability pathways ensuring the Institute delivers member value and certainty on quality building outcomes

A future lens is vital for our profession. We need to plan confidently and comfortably to resource capability and capacity to deliver to the expectations of those who invest and live in our buildings.

As recently notified, our two main events for 2022 are again combining as we deftly negotiate foibles of living with COVID. The combined SBCO Forum /Annual Conference is themed 'Let's talk about the Future' and will allow us to explore and prepare for the challenges ahead. The awareness this event will deliver will allow us to shape and lead with a level of proactivity to minimise uncertainty, while importantly delivering a level of robustness as to how the Institute and its members can positively influence necessary outcomes to assist legislators, employers, and stakeholders alike. Without these important insights and conversations, we will not deliver on expectations of us as professionals.



Nick Hill - BOINZ CEO

The shape of our future is very much a current talking point as we attempt to predict the unpredictable.

Your input will assist in framing the needs of the next ten years. I look forward to seeing as many of you as possible in Rotorua at our combined SBCO Forum/Conference in August. Coming together in person is a great opportunity. It makes you seek out more information, firms up the direction we all need to travel and makes us all more successful.

OUR BOARD





2

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A steel bar about to be tested in one of five testing machines at our laboratory in Otahuhu.



Picture credit: NZ Herald

GEOTECHNICAL ENGINEERING

When is a Geotechnical Engineer Required?

Structural engineers doing residential work are frequently asked to provide geotechnical engineering input. Often, this work is within the bounds of their competence, and they can undertake it. But where do those bounds lie? How does a client, architect or building consent authority (BCA) know what an average structural engineer is capable of undertaking?

A recent Disciplinary Committee decision by Engineering New Zealand found an engineer had acted beyond his competence and experience concerning geotechnical investigations, analysis, and design. His approach did not represent good engineering practice – the investigations he undertook were insufficient and relied heavily on empirical solutions and third-party reports prepared for other purposes. The engineer was censured, fined, and ordered to pay costs.

It's not a new problem. More than a century ago in Dunedin, R A Lawson designed many schools, warehouses, commercial buildings, churches, and one cathedral from 1862. Several of his designs still stand today, but he also designed a mental hospital on ground susceptible to landslides. Structural defects began to appear even before the building was completed, and a major slip rendered the northern wing uninhabitable. In 1888, Lawson was found negligent and incompetent.¹

Most structural engineers do not

undertake complex geotechnical work, and therefore cannot be assessed in the area when they apply to become chartered. CPEng Registrar Peter Lourie says Practice Area Descriptions and Practice Fields do not preclude an engineer from practising in other areas or fields of engineering. Through self-regulation and an annual commitment to the Code of Ethical Conduct, a CPEng is expected only to undertake work that they can complete successfully within their competence.

The confusion leads to some BCAs refusing to accept foundation work from structural engineers because of concerns those engineers are working outside of the bounds of their competence. That has led to multiple Request For Information

¹ https://teara.govt.nz/en/biographies/2l5/lawson-robert-arthur

(RFI) chains, and BCAs and clients laying complaints against engineers. According to a BCA checking engineer, approximately half of retaining walls raise substantial RFIs because the engineer has provided insufficient information for the design or an inappropriate design approach.

So we know there is a problem. But why is it occurring? And what is the solution?

From speaking to engineers, BCAs, the Registrar, and the complaints resolution team, the main drivers behind these problems are:

- 1. Clients pressure engineers to push their competence boundaries, and engineers are uncomfortable saying "no".
- 2. Lack of knowledge you don't know what you don't know.
- God Complex I've been doing this for years, who are you to tell me I'm wrong?

To help solve this, we need a tool to:

- 1. Back up engineers when they are speaking to clients.
- 2. Let the engineer know what they don't know.
- 3. Let BCAs push back against the God Complex engineers.

Engineering New Zealand developed a tool in conjunction with the Engineering General Practitioners Group, the New Zealand Geotechnical Society and with input from various BCAs. It's a simple, one-page flowchart that works through from the start of the design phase and moves onto the site.

If you answer "no" to the first question, move on to the next one. If the answer to any of the questions is "yes", then geotechnical engineering input is likely to be required.

We have deliberately made most of it interpretable by clients, architects and BCAs. The intent is that an educated layperson will look at the site and the design and know upfront that a geotechnical engineer will be required. The information prepares the client to expect the additional fees and time to have the engineering design go through to consent.

Likewise, BCAs can use the tool to reduce confusion and put parameters in place for a consistent approach. In the words of a BCA checker, "This flowchart will be useful for structural and general practice engineers to recognise several different factors in their designs. Firstly, do they have all of the information they might need? Reviews often find that the engineer has carried out insufficient desktop and site investigations even to undertake a design. Secondly, this will help alert engineers where they're getting into more complex situations and normalise getting a second opinion from an expert on their approach."

In addition, it can be difficult for BCAs to define what a good ground report looks like from a structural/ civil engineer. As a result, we have developed templates for engineers to submit their work. The templates provide BCAs with an example of what you can reasonably expect.

Will it solve all the problems? No, that's unlikely. But will stop a lot of them.

You can download a copy of the flowchart and templates under the guidelines section of https://www. engineeringnz.org/engineer-tools/ engineering-documents/practicenotes-and-guidelines/

If you have any issues, please don't hesitate to contact me directly, martin.pratchett@engineeringnz.org or 027 6033 310.

OUR PREMIERE PARTNERS

We would like to thank our Premier Partners for their support and commitment to the Institute.



Galvanic Action

Mismatching of corrosion protected steel products

Generally, galvanic action occurs where different levels of corrosions protection are in contact and the hierarchy of corrosion protection will influence the overall performance. Lower level corrosion protected elements will 'sacrifice' themselves ahead of higher protected materials they are in contact with.

alvanic Series of Metals	
Corroded End (Anode)	
lagnesium, Magnesium alloys, Zinc	
luminum 1100, Cadmium, Aluminum 2024-T4, Iron and Steel	
ead, Tin, Nickel (active), Inconel Ni-Cr alloy (active), Hastelloy alloy C	(active)
rasses, Copper, Cu-Ni alloys, Monel	
ickel (passive)	
04 stainless steel (passive), 316 stainless steel (passive), Hasteloy alloy C	(passive)
ilver, Titanium, Graphite, Gold, Platinum	
Protected End (Cathode)	

As a result, dissimilar metals (such as Type 316/304 stainless steel and zinc) in contact with each other and located in a corrosive environment will exhibit an increase in the rate of corrosion activity, compared to the rate of corrosion activity that would ordinarily occur for similar protected materials in contact. The increase in the rate of corrosion activity is affected by many factors, such as the specific dissimilar metals and the local environment. BRANZ has investigated galvanic action and more information can be found on their website.

In an effort to better understand the corrosion effect, particularly of combining stainless-steel fasteners with zinc protected products, Simpson Strong-Tie also conducted a controlled corrosion test in a salt-spray environmental chamber (ASTM B117). The test consisted of a zinc coated washer and zinc coated and powder-coated post bases assembled with both zinc-coated Titen HDs (the control samples) and with stainless-steel Titen HDs (the subject samples). After 1000 hours of salt spray, the corrosion amounts were measured. The results of this test showed that the corrosion rate for these assemblies was not increased when the dissimilar metals (stainless-steel Titen HD and zinccoated post base) were in direct contact. An important note is that other dissimilar metal assemblies will not perform the same under similar conditions.

That is because surface areas of the dissimilar metals contribute significantly to the overall performance, and so using a large zinc protected steel element with stainless fastener for example would



Large Anode (Carbon Steel) area, small Cathode (stainless steel fastener) area showing no attack on the fasteners and relatively insignificant attack of carbon steel.

be expected to perform reasonably well - as the Simpson Strong-Tie study showed. Whereas a large stainless connector fixed with zinc protected fasteners will result in significantly accelerated corrosion of the fasteners. This is due to the galvanic action by which the zinc on the fasteners will 'sacrifice' itself to 'protect' the surrounding stainless. Because of the small amount of zinc present on the fasteners, this would quickly be consumed and the remaining black steel is left to corrode. It is particularly important therefore to use stainless fasteners with stainless connectors. Potentially stainless fasteners can be used with zinc protected connectors, however, using zinc protected fasteners with stainless connectors should be avoided unless a proper study to understand the effects has been undertaken.

Article written by Daniel Scheibmair from Simpson Strong-Tie New Zealand Limited dscheibmair@strongtie.com



Large Cathode (Stainless Steel) area, small Anode (carbon steel fastener) area showing no attack on the stainless steel and relatively increased attack of the fastener.



NEW DATES!

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BOINZ Combined Conference/SBCO & Expo ROTORUA







CORROSION

Protection of Fasteners

Metal connectors, fasteners and anchors can corrode when installed in corrosive environments or when installed in contact with corrosive materials, and potentially lose load carrying capacity.

The many variables present in a building environment make it impossible to predict accurately whether, or when, corrosion will begin to reach a critical level. This relative uncertainty makes it crucial that specifiers and users be knowledgeable about the potential risks and select a product with suitable corrosion protection for the intended use.

Commonly outdoor applications and uses where the product might intermittently be exposed to elevated moisture levels would result in corrosion of steel products without corrosion protection.

In low risk ('dry') environments unprotected 'black' steel may be acceptable.

At medium risk levels protection is added to the parent steel by

way of a sacrificial zinc layer, that essentially 'corrodes' or slowly diminishes over time sacrificing itself to prevent the steel corroding. This method obviously has limitations in that if left in too high a corrosive environment for prolonged periods the zinc initially present will eventually be completely dissipated and corrosion protection lost. The zinc can be applied to the parent steel material by different methods, including electroplating or hot dip galvanizing. It is worth noting that the thickness of steel is a critical aspect to the amount/weight of zinc that will bind itself to the steel; for thin steel products it is not feasible to achieve a high density/ weight of zinc. That's because the zinc will no longer be properly bound to the steel but only bind to itself. Therefore, higher weights of zinc coating can only be achieved with thicker steel products.

An alternative method to sacrificial surface protection is changing the composition of the steel itself – this is what defines stainless steel for

example. While the entire material composition changes, rather than relying on a sacrificial layer, even stainless steel depending on the grade can be affected by moisture. Stainless grade 304 for example can exhibit what is often referred to as 'tea staining' on the surface, whereas this is far less likely to occur with the higher 316 grade. The presence of some surface corrosion does not mean that load capacity has been affected or that failure is imminent. Factors other than moisture can also affect corrosion, including exposure to chemicals. So if significant corrosion is apparent then the environment should be considered also, and the fastener, anchor, or connector and the timber it is fitted against should be inspected and replacement of affected components be undertaken.

Article written by Daniel Scheibmair from Simpson Strong-Tie New Zealand Limited dscheibmair@strongtie.com



NEWS FROM MBIE

MBIE BSP – The Year Ahead

We will be testing potential issues with the current building consent system, and potential desirable outcomes for a new or amended building consent system. Building Performance at the Ministry of Business, Innovation and Employment are New Zealand's central building regulator. John Sneyd, General Manager from the Building Performance team lets us know what is coming up in 2022.

The Building Performance team have an exciting and varied work programme this year. We're always looking to work closely with the building industry to provide better building outcomes for all New Zealanders, and our relationship with BOINZ is invaluable in this area. We know many BOINZ members are also our co-regulators at building consent authorities, and we sincerely appreciate the work put in by local government to improve building systems in practices.

Below I discuss what's on the work programme this year for Building Performance. We are also looking at other emerging areas of work, including supply chain storages, how to improve the quality of medium-density housing and buildings accessibility.

Improving the building consenting system

Improving the consenting system is a key priority for the Government, and although several incremental changes have been made since the Building Act in 2004, this time we'll be looking at the system as a whole.

We will be testing potential issues with the current building consent system, and potential desirable outcomes for a new or amended building consent system.

A Sector Reference Group has been established, to provide my team with more regular, in-depth guidance from sector stakeholders on the detailed policy work.

Building system law reform

The work underway as part of the Building System Legislative Reform Programme will help streamline processes to improve product information flows to building consent authorities, and to reform the regulation of professionals who play a key role within the consenting system.

There are some key milestones this year for this multi-year programme.

This year regulations will be made for Phase one of the reform programme, which focuses on:

- new minimum information requirements on building products (with a two-year transition period)
- a new and voluntary modular component manufacturer certification scheme
- improvements to CodeMark.

We've got plenty of work on in in the lead up, including the development of rules and guidance documents. We'll be consulting on the new rules in May this year.

Phase two of the programme focuses on strengthening the occupational regulations schemes, for professions such as Licenced Building Practitioners. We have already made some changes to our proposed regulation scheme for LBPs based on the consultation feedback and were very pleased to see broad support for the scheme overall. We are also starting work looking into the regulations around engineers, architects and electrical workers to ensure that they are fit for purpose and encourage high performance.

Phase three is looking a Consumer Protection and Risk and Liability in the system. We expect to have a policy position document on risk and liability published in the middle of this year to provide clarity, particularly for building consent authorities.

Building for Climate Change and Building Emergency Management

Our Building for Climate Change and Building Emergency Management programmes will continue in earnest in 2022. Recent weather events have demonstrated the need for action in both areas, and we know councils have been putting in a lot of effort to reduce their carbon footprint and we are looking for ways for the sector to reduce waste and create more efficient buildings.

Through the Building for Climate Change programme hawse have proposed mandatory reporting requirements for the whole-of-life embodied carbon of buildings.

This can be a challenging process, so we've now published a proposed technical methodology for whole-of-life embodied carbon assessment. The methodology is available on the Building Performance website (building. govt.nz) and we encourage anybody interested in this area to take a look and let us know your thoughts.

Improving and maintaining the Building Code

Our annual building code update is underway for 2022. This year we're looking at three areas - plumbing and drainage, hollow core floors and fire safety for residential homes.

We'll be providing plenty of opportunities for people to reach out and ask questions about the update and look forward to hearing everybody's great feedback in the coming months.

The consultation documents will be available very soon – keep an eye out in the news section of Building.govt.nz.



GIB Sustainability updates

Environmental sustainability continues to be a high priority at Winstone Wallboards. Throughout 2021 we've been working to improve our sustainability position particularly around improving the availability of plasterboard offcut recycling options.

GIB® Plasterboard Offcut Recycling

Working with a diverse range of waste collection businesses from around the country plasterboard offcut site collection services are currently available in Auckland, Nelson, Christchurch and Queenstown with further regional services on track to be introduced throughout 2022. There are also a growing number of regional council offcut collection points at landfill sites as well as a growing number of composting companies looking to accept plasterboard offcuts into their operations.

Why does this all matter? Because not only does it reduce the amount of waste going to landfill, but the gypsum that's extracted from the plasterboard offcuts is reused for compost and other agricultural products.

To learn more about recycling options for GIB® plasterboard including a list of current providers go to gib.co.nz/ sustainability/

Minimising Plasterboard Waste

Most of us know that plasterboard offcuts are among the largest contributors to site construction waste, and to effectively tackle the problem everybody has a part to play. Clear ownership and accountability for waste minimisation, both during design and construction, is essential, and reducing the amount of plasterboard waste created on site is a vital piece of the puzzle. That's why our team has developed a series of practical steps to help installers with 'Onsite Tips' and designers with 'Design Tips' to support the building industry minimising construction waste especially as landfill disposal costs continue to increase year on year.

Composting Guidelines

Why you should consider including Gypsum into composting products is outlined on our 'Plasterboard composting guidelines'. It covers best practice guidance through to the many benefits composting brings

Environmental Certifications

Winstone Wallboards' holds a number of environmental certifications to help support your project including an Environmental Product Declaration (EPD) for GIB® plasterboard and other certifications such as Global GreenTag and Declare. In 2021, GIB Aqualine®, GIB Weatherline®, GIB Barrierline®, GIB Toughline® and GIB Toughline® Aqua became the GECA (Good Environmental Choice Australia) Ecolabel certification which is a recognised ecolabel on both sides of the Tasman.

Moving in to the New Year and reflecting on 2021, we take great pride in our achievements and new partnerships. But the journey is far from over, we look forward to having an even greater impact on all things green in 2022 and beyond.

What's New with H1

MBIE's Consultation with the Industry in 2021 has resulted in amended verification methods and acceptable solutions of H1 including lifting the bar in some areas. At Oculus we have reviewed these changes and explained how they will affect your building.

Which building falls into what acceptable solution, or Verification method?

To be fair, there has been some initial confusion over the wording in H1/AS1 but in short - all housing falls under H1/AS1, or H1/VM1, regardless of the floor area as well as other buildings up to 300m2.

The allocation for using the Schedule method, Calculation method, or modelling method remains largely similar to before with a few minor limitations for the schedule method to be applicable.

The glass area to external wall ratio determines which minimum verification method you must use.

The schedule Method in principle is the most straightforward method to show compliance – you just need to have your glazing and door areas in moderation, e.g.

- Less than 30% glazing on all walls
- Less than 30% glazing on east south and west
- <1.5m2 skylight area
- <6m2 door area, or 6% of total wall area

This means that you can have any shape building, small, large, sprawling, or compact. BUT! You need to now meet the minimum R-Values for all your construction systems – which is where it gets tricky.

The new minimum R-Value tables are now different from before. With small increases in walls and floors, roofs and windows have made a



≤30% glass

The calculation method hasn't changed besides using the new R-Value tables for your reference building. This method becomes a mandatory minimum when your glazing percentage across all walls lies between 30-40%. The reference building is calculated using a lesser area and hence your building must have higher R-Values to perform better, up to 30% across all envelope elements. While a 30% increase in your R-Values is a conservative estimate it is still quite a step up from your already higher R-Values.

In addition, we are repeatedly asked about the steep increase in roof R-Value, using the calculation method to compensate your insulation elsewhere in the building. This may become a balancing act for compliance whole providing little insight into how the energy efficiency is really affected.

This is where **the modelling method** can pick up the slack. If you have more than 40% glazing across your total wall area you have no choice but to use this method, but really – this method should be applied to all buildings' compliance because it does so much more!

H1/VM1

40% glass

≤40% glass

With the modelling method, you can predict how the building will perform. What is your power bill going to be? Will it be overheating? And if you use this method early in your design – HOW TO DESIGN POTENTIAL SHORTCOMINGS OUT! -Before you spend money and find out the hard way.

These are just a few questions that can be answered using a so called energy model:

- My energy use for heating and cooling – what's my power bill going to be?
- Overheating and mitigation strategies
- Airtightness and Ventilation (yes they go hand in hand), which approach is best for my building?
- Effects of thermal bridging – steel structure, slab edge insulation, balconies, etc.
- How big does my heating system need to be? (yes most solutions are just oversized systems that cost a lot to buy, install, and to operate)
- Could I have a Passive House, or Low Energy Building, or a Homestar rated building?

• Can I be net Zero, or off the grid? How much renewable do I need to generate to cover the use?

Who can do these "models"?

Traditionally H1 Compliance has been done through Architects, Designers or Mechanical engineers, but in recent years and through the rise of Passive House in New Zealand energy models can be done through Passive House designers or Envelope Experts like ourselves. The difference in engaging a separate professional to do this work lies in the focus on the optimisation of the building fabric (passive) rather than the mechanical system (active). Envelope design is not just about calculating R-Values but also looks at the follow on effects of thermal bridging, vapour control and the overall balance of heat gain versus heat losses. Thermal bridging effects increase with increased insulation and lead to localised areas of either increased heat flow to the outside or to comparably low interior surface temperatures that lead to mould or structural damage inside the walls, or roofs. With increased insulation, the interior climate is more stable (warm) which can lead to higher absolute (humidity) moisture content in the air.

What tools can be used?

Considering the way windows must be calculated now the easiest way is to use PHPP (Passive House Project Planner). An intricate excel spreadsheet that can work with a SketchUp plugin to export building geometry from a 3D model.

PHPP is also the underlying tool for NZGBC's new Homestar ECCHO and PHINZ is about to publish a guide on how to use PHPP for compliance.

Other tools, such as dynamic software (Energy Plus, iesVE) were able to provide a compliance pathway in the past but the new calculation methods for windows and floor may not currently be considered and require updates on the way data can be entered and how reference buildings are calculated using the updated R-Value tables of H1/AS1.

More Climate zones

Why more climate zones? That's self explanatory - 3 climate zones across New Zealand weren't doing reality any justice. The climatic conditions are of essential importance for the planning of insulation requirements for buildings. Climate zones are structured into average temperatures, solar radiation, wind speed, precipitation and the influence of topographical influences, such as mountains (snowfall) or proximity to the ocean.

How to calculate the R-Value for windows now?

In short:

$$Uw = \frac{Af^* Uf + Ag^* Ug + lg^* \Psi g}{Af + Ag}$$
$$R = \frac{1}{Uw}$$

Uw = total window U-value in W/m²K Af = frame area in m² Uf- frame U-value in W/m²K

Ag = glass area in m²

Lg = length of the glass edge in m

 Ψ g = glass edge Psi-value in W/mK

Changing the way windows are now calculated is probably the most fundamental change to H1 and a very welcome one. In 2021 we have written about how in New Zealand the performance of windows is greatly overestimated (about 20%) when the calculation methods are compared. https://oculusltd.co.nz/ resources/

The way windows are now calculated is by considering the frame area to glass ratio and considers the glass connection into the frame (Psi). While the table provided in H1/AS1 is still simplified it generally allows for a more accurate evaluation. But for all compliance each window is calculated individually – which generates a lot more work than previously. A tabulated entry will do for the schedule and calculation method.

Meaning of the Psi value and the spacer

While the R-value of the glass and the frame are probably more commonly known, we might need to explain the term "spacer"

The Psi value refers to the respective edge lengths of the glazing and describes the additional heat flow caused by the interaction of frame profile and insulating glass edge, including the influence of the spacer. In this case, the higher the Psi value, the more heat is lost across the peripheral union than a thermal bridge. The Psi value is measured in W / mK. This means that at a psi value of 1 W / mK per meter edge length and per degree temperature difference 1 watt of heat is lost over the glass edges.

This heat loss can be lowered using warm-edge spacers and thus also the entire U-value of the window, or the glazed door. However, the extent to which the PSI value can be lowered by the spacer depends on the size of the insulating glazing. In this case, the influence on smaller insulating glass panes is greater than on larger panes of glass.

For standard double and triple glazed units, the range of spacer Psi is between 0.03 – 0.11 W/mK, with the lower values being achieved using thermal spacers (Swissspacer, Technoform) and the higher Values being metal spacers (Aluminium). Higher Psi Values will automatically lead to lower R-Values, so make sure to ask for better. A thermal spacer also reduces the chances of condensation forming at the glass edge.

The most crucial outcome from this update is that non thermally broken frames are now a thing of the past – and so they should be.

Floor slab R-Values:

Another important update is that floor slabs are now calculated using the slab area to perimeter ratio. This means that the effects of thermal bridging at the perimeter are now considered for the total heat loss across the slab. Sprawling buildings with a long perimeter will perform significantly less using the same construction system than a more compact floor slab. H1/AS1 went through great lengths to provide 27

If you don't ventilate sufficiently, you run the risk of that moisture moving through the gaps into walls and roof where it eventually condenses and causes more substantial problems over time.

tables under Appendix F for various wall to slab edge connections which you can use provided your slab to perimeter ratio fits within the table.

If not, you have two other choices:

- You're building a high 1 performance house; look up the psi-Value tables in the PHINZ High performance details handbook and calculate the R-Value as a weighted ratio of slab R-Value and edge Psi, https://passivehouse. nz/2021/06/14/launched-highperformance-constructiondetails-handbook/?utm_ source=rss&utm_ medium=rss&utm_ campaign=launched-highperformance-constructiondetails-handbook
- 2. Your detail isn't shown or close to what is shown; you must get a Psi-Calculation done for your specific detail.

Psi_Value and thermal bridges:

Thermal bridges are localized areas in the heat-transferring shell of a building that have a higher heat flow density than the neighboring undisturbed components. Therefore, thermal bridges are also referred to as disturbed components. In terms of thermal insulation, these areas are a weak point in the construction since increased heat losses from transmission occur here. The Psi Value is the correction for this disturbance and gets added (or sometimes subtracted) from your wall and floor R-Value.

What does a standard Roof roof look like now?

A standard "cold" roof where fibrous insulation is placed between rafters the resulting thickness of the insulation could be up to 380mm, or R9.8. There will be variations possible depending on timber framing percentage and insulation thickness and R-Values available. For these types of roof systems, we generally recommend not using rigid board insulation (despite the R-Value being tempting) for reasons of moisture management within the roof. A better solution is to break the insulation into two layers - the thicker layer being placed between the standard sized rafters and a smaller layer into an internal "service cavity". The service cavity allows for the use of an airtight membrane (which is important for moisture management) and uninterrupted distribution of electrical, or mechanical services which makes the work on site faster and hence more cost effective.

In contrast to a "cold" roof, the "warm" roof solution can allow for less insulation thickness and the use of rigid insulation boards. These systems typically come with an internal vapour control system that keeps the construction dry and airtight. Comparing solid board insulation (without framing) the thickness here must be about 240mm. One aspect to be considered however is the thermal bridging introduced through fasteners. A full-length metal fastener can reduce the total R-Value by 1 point every 4-5 per m2.

Conclusion

We can say that the improvements on R-Values and calculation methods will lead to a more energy-efficient building and the calculation method for windows is likely to result in less surface condensation on windows (because the frames must be better performing to meet the minimum R-Value) but the side effects are more complicated to predict across the country. It is plausible that the increased insulation will lead to reduced energy demand for heating, but where glazing is not carefully designed, or adequately shaded solar gains can turn into the opposite problem – and higher insulation will amplify the effects of overheating (= heat can't escape). This may then lead to an increase in air-conditioning and yet again less energy-efficient buildings.

Another problem not currently addressed is the increasing moisture loads inside buildings. Not because we generate more moisture than before but with higher insulation and naturally more airtight construction the moisture cannot escape through the usual gaps. For moisture management, a hygienic air exchange of 0.3 is the recommended minimum. This means that the entire interior air volume is replaced over the course of \approx 3 hours, or 0.3 times every hour. Ideally, this should be done using a mechanical system over window openings and balanced over extract only. If you don't ventilate sufficiently, you run the risk of that moisture moving through the gaps into walls and roof where it eventually condenses and causes more substantial problems over time.

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ACADEMIC - PHD RESEARCH

Warm, Healthy, and Green Historic Buildings

Researcher: Rachel Paschoalin

Rachel Paschoalin's PhD research looks at how renovation guidelines can be of benefit to create warmer and drier historic buildings. Her research investigates how to sympathetically retrofit historic buildings to reduce their energy use and greenhouse gas emissions so that they can continue our heritage, protect the climate, and serve their communities.

Rachel's research is timely as it provides an alternative to the recent debates that saw historical character areas, like Mt Victoria in Wellington, accused of protecting damp, cold, and unhealthy rental properties from renovations. Over the past year environmental and rental organisations, such as Generation Zero and Renters United, submitted on the Wellington City Council's Spatial Plan consultation to reduce the size of character areas in order to enable more intensive, healthy development in inner-city suburbs. Much of their submissions argued that historical homes are cold, damp, and unhealthy.

In her research, Rachel interviewed architects, conservation professionals, engineers, asset managers, planners, and policy experts to understand what retrofit measures are suitable under local best heritage practices. She explored whether New Zealand could benefit from adopting international procedures. "New Zealand's historic wooden buildings pose unique insulation difficulties. They often require carpenters with traditional skills, but our industry is small, making it harder to serve these needs at an affordable scale and cost".

To develop guidelines, Rachel explored different retrofit measures while balancing the economic factors, heritage outcomes, and energy use. The measures range from installing roof and floor insulation, thermal curtains, installing double glazed windows, and various internal and external wall insulation options. Each has varying degrees of reversibility and appearance impact, so she is gauging their suitability from the expert interviews.

Her initial findings identify that heritage experts are cautious with retrofitting's visual, spatial and material impacts. Conservation professionals were hesitant to adopt overseas' guidelines if they potentially introduce unforeseen moisture decay of existing fabric and do not satisfy New Zealand's unique climate, seismic, materials, and construction methods. Instead, her research found that guidelines should be tested locally along with training local experts before adopting such solutions. However, all the experts also appreciated the recent societal ambitions to reduce carbon emissions and ensure heritage and historic buildings are valuable contributors to the

community they serve. "There is debate amongst experts between the macro-scale need to reduce energy use and increase liveability and the micro-scale goal to protect the historic building's authenticity", Rachel highlights.

Rachel's interviews have been recently completed and she is now developing best practice policy guidelines to inform construction, design, and government sectors in New Zealand. She will engage Heritage New Zealand Pouhere Taonga and conservation professionals to shape these specific local guidelines.

She notes that "historic buildings should not be exempt from energy efficiency requirements, but policies should allow flexible targets, even if by little improvements". "Warmer and drier environments are possible through sensible changes that will noticeably enhance the environmental and liveability factors of historic buildings", she adds.

Rachel Paschoalin is a candidate in the Wellington Faculty of Architecture and Design Innovation under the supervision of Dr Nigel Isaacs and Dr Fabricio Chicca.

Request that Rachel presents at your business or organisation. Email her on rachel.paschoalin@vuw.ac.nz or Dr Nigel Isaacs on nigel.isaacs@vuw.ac.nz.

Construction Industry Takes Comfort in PhD Finding

Researcher: Germán Molina

The construction industry can take comfort in the findings of Germán Molina's PhD research that informs house designers to better serve New Zealand's diversifying population and buildings. He recently defended his PhD thesis that developed the 'Feeling of Comfort' model, which realistically balances the subjective and objective elements of comfort within residential homes for the first time.

The model is timely as the ongoing work of Kāinga Ora and industry regulators, such as the Building Research Association of New Zealand, target increasing comfort and health metrics as priorities in existing and new houses. Germán highlights that "the recent legalisation to create warm and dry homes, coupled with the increase in new housing designs and different communities, requires us to rethink how we quantify and deliver comfort".

In this thesis, Germán explains that in the context of housing and buildings, comfort is generally defined as a subjective 'state of the mind' that expresses satisfaction with the built environment. While correct, this definition struggles to translate into useful insights for delivering liveable homes and offices. It often leaves building professionals unsure how to define this 'state of the mind' and ensure that their structures are truly comfortable.

Germán notes that it is common for architects, housing policymakers, and building scientists to develop distinct criteria of comfort based on quantifiable environmental factors such as air temperature and humidity. However, this contradicts its subjective premise that cannot be entirely captured through objective means. This contradictory interpretation often drives the development of architectural projects, building codes, simulation tools, standards, and policy. In addition, he stresses that it can be challenging to anticipate comfort levels before construction in new designs when using different material combinations other than traditional bricks and timber. Homebuilders like Kāinga Ora and private companies are increasingly constructing apartments and townhouses, and the well-documented construction material shortages felt across the industry resulted in many builders turning to new materials such as plastics for cladding and insulation. These changes introduce further complexities into ensuring homes and offices are comfortable in the design stage.

After graduating in November 2021, Germán will deliver his research to industry through his Buildings for People initiative that is run with his supervisors Dr Michael Donn from the Wellington School of Architecture, Dr Micael-Lee Johnstone from the School of Marketing and International Business, and Dr Casimir MacGregor from the Building Research Association of New Zealand (BRANZ). The Buildings for People website offers resources to understand the subjective and objective elements that contribute to comfort and a blog about recent news, such as insulation requirements in the New Zealand Building Code, and how it relates to designing comfortable homes.

Germán will work with the Wellington School of Architecture to engage with home builders and industry policymakers and use his findings to improve the homes and offices across New Zealand's growing cities. He is part of the School's new industry outreach programme that is presenting relevant research at businesses and organisations across Wellington. He states that "the 'Feeling of Comfort' model has the advantage of being concrete enough to inform regulators and architects while also reflecting comfort's 'state of the mind' principle".

Request that Germán present at your business or organisation. Email him on german.molinalarrain@vuw.ac.nz or Michael Donn on Michael.Donn@vuw.ac.nz.



Building A Stress Building Officials Institute of NZ



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Mates in Construction



Ehara taku toa I te toa takitahi engari I te toa takitini /

My strength is not of a single warrior but that of many

The MATES programme builds and strengthens communities in the workplace and across the industry – helping our people to be supportive and provide an environment that encourages positive wellbeing.

The impact of this communitybased approach then goes beyond the workplace and into our everyday lives. MATES engages with workers through on-site training and provides those identified as at-risk with case management support that connects them to suitable professional support. MATES Field Officers are trained in suicide intervention skills and have experience with the Building and Construction Industry. This allows them to engage easily with the workers on site.

The sudden change in alert levels affects everyone differently. Whilst working during Covid restrictions, it is normal to have feelings of anxiety and stress. As Omicron becomes more prevalent in New Zealand, we want to remind everyone to remember that if you are struggling or recognize that you are not travelling well, remember that it's OK to not be OK, but it's NOT OK to do nothing about it. Chances are you or a mate may have to self-isolate in the coming weeks, and it is more important than ever to continue checking in. This can be a call to ask how they are, an offer to drop off groceries, or a scheduled video call.

5 Simple Steps to help you manage stress

- 1. De-Stress: Go through the steps below to help you de-stress. This will give you the time to manage your feelings and emotions more easily.
- 2. Step Back: Stop what you're doing, remove yourself from the situation immediately. This is for your health and safety and the safety of others around you.
- 3. Take a Breath: Take 10 seconds for yourself. Take a breath and breathe out slowly a few times. This will help slow your heart rate and calm your mind.

- 4. **Re-Focus:** Focus on here and now and clear your mind of the stressors you are feeling. Focusing is one of the best ways to alleviate stress by paying attention to what is going on right now. This will help you calm your busy mind.
- 5. Engage: Now that you have had a few minutes to re-centre, what do you need to engage with from here?
 - You might be OK. Heading back to work right now is OK for you
 - You might need to chat to someone, talk to a mate, your boss, or a friend/family member
 - You might still be struggling, if so, tell someone onsite and/ or call MATES in Construction

Remember the team at MATES are here to support you and have a range of resources available through our website www.mates.net.nz or call our Helpline – 0800 111 315





INTERVIEW

Building The Dream An interview with departing CE of NZCB, Grant Florence

Grant Florence has just stepped down as CE of New Zealand Certified Builders Association after 10 years at the helm. On his second to last day, we decide to find out more about the journey that led him there.

After completing a bachelor in commerce at university, Grant started his working life as a banker and then moved overseas for 8-10 years. Upon returning to New Zealand, he was brought into Fletcher Residential to start a mortgage company. It was a time when mortgages were very hard to get and people who bought from Fletcher Residential housing companies could also apply and receive a mortgage. It was unique at the time and Fletcher grew to become the fifth-largest mortgage lender in the country. After a while, Grant wanted a change from banking and decided to jump the fence to learn about the construction industry.

Grant notes that back in the early 1990s, the industry had a different set of pressures and was probably more fragmented. Fletcher was the largest homebuilder at the time but even then, they were doing less than 10% market share. It was less complex than now, that was the big thing. It was about the time of the financial regulations and slumps in the housing market. Building consents had dropped down to only about 13,000 a year compared to the current amount of around 50,000.

Regarding his career and what interested him in the industry, he says he saw a gap in how homes were marketed when he crossed the table from mortgages to construction. Along with his managing director, he started a change project around building communities. The project was about planning, design and building consistency and introducing the first type of planned communities to be built. Up until then Fletcher Homes and the whole industry just built different houses randomly down streets and didn't really care how it looked. Grant saw an opportunity to be smart with the product they built that could deliver a better product for homeowners. It had consistency, design, better affordability, and

with people living in their home in a community rather than just a suburb. They were pre-planned so the homeowner could make a choice from six design types with some but limited options, but the core of the house stayed the same. Back in the 1990s, that was ground breaking. Grant mentions It is quite cool now 25 years later to drive around and see how some communities have matured and the things you planned earlier on have developed.

Finding out what has kept Grant in the building industry, and he explains it is an old cliché but it's the people. They are genuine and the end product is fantastic. In residential, you are building somebody's dream and turning it into reality which is powerful. The building industry is a complex and fragmented industry, but the end result is where someone is going to live, grow and breathe. To walk through someone's new home and see the pride that got it there is amazing.

When asked how many emails Grant had in his inbox, he replied 'heaps' but said that was a good thing. He has never had a near-empty inbox and would be concerned if he did. 'You do not want to have an empty or up-to-date inbox because it means you are not doing your job and that would raise a red flag for stakeholders'. Grant has a discipline with emails and that is he never starts his day with them. He will only look at them once or twice a day, so he does not get bogged down. He likes to start his day off by reading trade journals or what is happening overseas. He often travels with over 125 flights a year, and this discipline still allows him to start his day off the same.

When talking about interests out of work, Grant notes 'I don't think I'm particularly good at a work/life balance' (too much work) He lives by the beach and spends a lot of time in the water. I like to get in the sea at least two-three times a week or out on my mountain bike at least twice a week. 'Work/life balance is a skill I'm still working on, but I've learned not to look at my emails on the weekend unless there was a critical issue in play.

You do not want to have an empty or up-to-date inbox because it means you are not doing your job

When asked about his biggest accomplishments, Grant says one would be the work they did with the change project at Fletcher Residential. Fletcher went from building random houses down the street, to building communities. Getting the whole organisation on board to understand what was being done, changed the whole business model within the company and the way they operated.

The second one was when he drove the launch of a homeowner's guarantee and changed the landscape with that. This created a safety net for homeowners and their building projects when working with highly qualified and approved builders. The third one is seeing people who have worked for me, go on and succeed. Grant said, 'It's cool and fills the heart with joy'. He thinks it is a fantastic achievement to see staff go on and be successful in their own careers.

The world is a fast-moving place, as is the building industry. How do you approach change?

I've always had a management philosophy to get out in front of it, rather than react to it. A guy called Jack Welsh who was the CEO of General Electric in the 1990s had a simple mantra of 'change before you have to'. I have always loved change, personally, that means the start of something new and has always been enjoyable for me. I will always grab change or if I see it coming, I'm hopefully ahead of it. You can learn that, but I think you either embrace change or you get run over by it.

What are the biggest changes you have seen in the building industry during your career?

I think one of the bigger ones is the disappearance of the owner-builder. There was a time when people project manages their own build and that would have accounted for around 25-30% of all homes. Now that has gone which is a good thing.

The other thing is the level of compliance. I think that has been the biggest thing in the industry. When I go back to when I started, there were a few regulations but nowhere near where we are right now. It's compliance right across the industry, whether it's driven through local BCA's, regulation, health, and safety, or governance with pricing regimes. It is significant and costly to the industry and costly to the communities. We have moved to an 'inspecting' quality in the building process where everybody must rely on somebody else to make sure they are doing it right. Rather than people taking responsibility for their own actions. It is philosophical but that is where we have ended up.

Where do you see the industry heading?

I just want to see it get through its current crisis, it is the hardest I have ever seen it. The pressure on all those people in the building industry is immense right now, whether it is builders, officials, designers, or engineers. That is from the pandemic, shortage of skilled trades, and materials. I just want the industry to get through that and I'm not sure how quickly that will be. That is the short-term challenge of the industry.

In the longer term, I think there will be many attempts to bring in more prefabrication or modular housing into the industry. I don't think it will succeed at scale because we don't have a big enough market for it. There is a place for it but I don't think there are great cost savings in it and in the end people still want choice but that type of construction does not always allow for it.

This year the BOINZ conference theme is "Let's talk about the future" and with that in mind – What would you like to see achieved, if you had another 5 years at the helm of NZCB?

We started our own guarantee company, we need to develop that further. That would be something I would like to continue to see be achieved.

The other thing that we have just started doing, is a lot more business training. Builders in general are good at putting things together but managing those other things in their business they can do better. It is about providing education for our builder members to do the simple things in their business, which are nonbuilding. Whether that is pricing, administration, or human resource, we need to do more. That would be a major achievement, we have started the journey but there is still a long way to go.

A third one would be a good, honest review of the consenting system as it is not currently 'fit for purpose'

Finally, what advice would you give to someone just starting their career in the Building Industry?

Understand your customer, communicate, communicate, communicate, and lastly manage and understand your costs. Successful builders do all these three things well. Also, don't forget to rip into it and have fun!

As we were finishing the interview, I asked Grant what his plans were now he is stepping down from his CE role and he replied, "one or two weeks of holiday, some Board director work, and then trying to beat my wife at golf!"



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MEMORIES THAT ARE NOT STORE BOUGHT

Lecturer Builds Future

New Building Surveying Lecturer Sam Hay is helping students make a difference at the grassroots of construction.

The Rolleston resident has joined the team at Future Skills Academy to teach the NZ Diploma in Building Surveying (Level 6).

He says the personal pain building failure can cause is real. "This course is getting students at the beginning of the process. It's not an ambulance at the bottom of the cliff approachwe are building a future."

Sam knows first-hand the legal ins and outs of construction law. With more than 25 years in the building and regulatory environment, he has been deeply involved in building claims and litigation. He has represented and settled matters before the High Court, the Weathertight Homes Tribunal and the Coroner's Court.

Employed as a technical specialist for Wellington City Council, he represented the council "in a tense climate of leaky building litigation. Having been in numerous expert conferences on issues before the High Court and Weathertight Homes Tribunal, I have been at the razor's edge of technical discussions before the court. Unfortunately, I have needed to undertake building surveys on behalf of the Coroners Court, making statements on compliance where a death had occurred."

Sam has been an integral part of several working groups with the Ministry of Business, Innovation and Employment, delivering the Financial Assistance Package where the Crown and Council together would pay 50% of the cost of repairs for leaky buildings.

He boasts an extensive background in compliance, regulation and accreditation. Driven by the passion to share his knowledge, Sam has given technical and legislative training to building control staff. "To me teaching is not about showing I know the material, rather making that material accessible to others. I want them 'to get it' and not to feel dumb for asking questions."

For his students coming into building control, acknowledging this is a daunting body of knowledge helps, he says. "Between earthquakes, building collapse, leaky buildings together with trying to digest the law, the building code and regulations, I'd expect students to feel a little overwhelmed. Having rubbed shoulders with some of the best experts in New Zealand, I am confident to say I don't know it all and there are times even I need to ask for advice." Sam shares this fact with learners so they are comforted knowing they are not alone in such an expansive industry. He teaches a framework that empowers students to know when to ask for help and where to look for information.

To me teaching is not about showing I know the material, rather making that material accessible to others.

Success is not always obvious but sharing the lessons learned is easy, says Sam who offers business mentoring for struggling businesses. "This interests me as helping people in need helps us all."

Building runs in the family with his dad a builder. Sam launched his early







career as a carpenter before following in his father's footsteps to share the same career. "I have had two fulltime apprentices and mentored two others," Sam says. "They had some success in the National Skills Competition- one competed at a national level and another came third in the worlds."

He delivered both commercial and residential work across the country and still fields Christmas cards from satisfied customers today.

Outside the classroom, he loves heading into the hills with his dogs to go hunting. "Sitting above the clouds watching the sun come up is always a time to respect. I give away most of what I have shot to those in need, but the family does love tucking into the venison too."

A blackbelt in Taekwondo, he is now training in karate. "Despite appearances, this is more to assist with staying fit, stopping the middleage spread, and helping with mental health."

The hunter and martial artist devotes his leisure time to dabbling in an unexpected hobby- decorating cakes for his two daughters' birthdays. "I wanted to give the kids something to remember, memories that are not shop-bought. I have been thinking they are getting a bit too old for it now, but they have assured me they are not. On a budget it's cheap, and they love showing it off to their friends."

Half the fun is planning the cake and brainstorming ideas with his children weeks before their birthdays, he says. "The cakes usually take five to six hours with the stereo turned up." Sam has created a wide array of cakes ranging from Harry Potter and Star Wars to an edible karate gi bearing a blue belt.

He left the cake designing very late one year and was forced to buy edible silver paint from Spotlight on his way back from hunting. "Covered in mud and smelling of sweat and blood, I'm still not sure if they were going to sell me paint or call the police!" he quips. "I guess I did not fit their typical customer demographic."

BOINZ BCA LEARNING DEVELOPMENT PATHWAYS

A major challenge facing the Building Control Environment is attracting, retaining, and upskilling staff to meet industry requirements.

The BOINZ Training Academy has been working closely with BCA managers in developing a clear learning pathway, designed to quickly grow BCA capacity and capability to better meet future needs. The result is the Training Academy's "Entry to BCA" learning development package.

This two-part programme reduces costs and increases efficiencies to the employer by combining online interactive technical sessions, with practical on the job training.

Part One was launched in April and commences with a set of three self-paced online learning modules. This consists of ;

Complying with the Building Code
 Writing for BCOs
 The Building Control Process

These are followed by two half day facilitated online group sessions in Communication and Ethics. Part one provides new recruits with a foundation overview of the BCA environment and its requirements. Part Two will be launched at the BOINZ conference in August later this year, with the pilot programme commencing shortly afterwards. This will be delivered over a 12-week period and with a week of **technical training** followed by a week of on-the-job practical experiences. Part two provides a blended approach which reinforces and cements the learnings.

This package supports those new to the BCA environment with a complete development programme, upskilling them quickly, efficiently and cost effectively.

Training dates for three 2023 programmes will be released shortly.

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PROPOSED BUILDING SURVEYOR FRAMEWORK

Building Surveyor Competencies

Developing an Effective Conceptual Framework By Darryl O'Brien PhD

Introduction

Following several high-profile building failures, the construction sector, including the building surveying profession has come under increased scrutiny. For example, reviews into the building and construction industry have been undertaken in Scotland and Australia. Perhaps the most significant was the Building a Safer Future Independent Review of Building Regulations and Fire Safety: Final Report authored by Dame Judith Hackitt in the wake of the UK Grenfell fire tragedy.

Whilst each inquiry made several valuable and significant recommendations to improve the building regulatory system, the Hackitt review identified improving practitioner competencies as of particular importance.

The identification and mapping of practitioner competencies are

upstream of, and significantly inform, education and CPD training packages. Thus, it is critical that competencies reflect the needs of both the profession and the broader community to ensure that both graduates and practitioners have access to relevant and accurate training. This paper sets out a conceptual competency framework for the building surveying profession.

The statutory building surveyor – an overview

To better understand the need to identify the range of required building surveyor competencies, it is first necessary to describe the role of the building consent authority. As described by the NZ Building Act 2004, consent authorities have responsibility for auditing building work in three broad areas:

Assessing applications to determine compliance against the building code and issue building consents

- Inspecting stages or aspects of work to determine compliance against the relevant building consent
- Issue code compliance at the completion of work.

However, as we know this shorthand description of what constitutes statutory building surveying work does not fully capture the nuances and complexities associated with our profession. It is by identifying and understanding the complete role of a building surveyor we can ensure that the education and CPD training being provided is fit for purpose.

When considering the roles and responsibilities of building surveyors it may be helpful to consider a broader definition. The Australian Institute of Building Surveyors (AIBS) a building surveyor as a 'professional who is tasked with understanding the building control process. A

Building Surveyor has the authority to assess building plans to ensure that they comply with the Building Code of Australia, the Australian Standards referenced within it and any other relevant Building Acts or other legislation or requirements of the jurisdiction the building is in. Building Surveyors are either private or municipal' (AIBS, n.d.). As both New Zealand and the Australian building control process are similar in many respects, it is considered that this definition provides an effective benchmark of required roles and responsibilities. These definitions in turn provide a basis for understanding and describing the role of the statutory building surveyor, a necessary step in benchmarking required competencies.

This paper will now describe competencies in more general terms, before moving on to describe how these competencies can be applied to specific building surveyor functions.

What are competencies?

There are numerous definitions of what constitutes competency. Tovey and Lawlor (2008) define competencies as being able to proficiently perform required activities to a recognised standard. The Australian Skills Quality Authority Users' guide to Standards for VET Accredited Courses (2021) defines competencies as 'The consistent application of knowledge and skill to the standard of performance required in the workplace. It embodies the ability to transfer and apply skills and knowledge to new situations and environments.' Thus, competencies require practitioners to demonstrate and apply relevant skills and knowledge to a workplace situation against a recognised standard. Additionally, practitioners require the ability to adapt and apply competencies to new situations and circumstances as required.

In the application of competencies, Tovey and Lawlor (2008) identify four aspects that inform the application and performance of competencies, being:

Competencies are benchmarked against recognised standards agreed to by industry, regulators, and educators. It is the demonstration of proficiency against recognised standards that determines and quantifies the required level of competency

- Competencies must be demonstrated – knowledge must not simply be known, it must be demonstrated within the appropriate context
- 2. In a workplace context, competencies are not measured or graded. Rather, a practitioner is either competent or not (Tovey and Lawlor, 2008) and thus outcomes are either satisfactory or not
- 3. This last point reflects the prevailing view that it is necessary to apply functional criteria to ensure that the application of competencies reflects the required level of skill and knowledge to successfully complete the task/s against the identified benchmarks.

However, in addition to identifying the application of knowledge required to express professional competencies, it is necessary to recognise the role of knowledge in the development and application building surveyor competencies.

The integration and application of competencies require an understanding of the application of relevant knowledge and skills within the context of a specific work task, requiring applied expertise related to specific tasks that vary in complexity and scope. Effective application of competencies requires building surveyors to apply both generic and specific skills to develop and facilitate problem diagnosis and strategies to complex problems in a range of contexts. This process is known as the field of knowledge, which will now be discussed.

The field of knowledge

The previously described model of competencies identifies the structural attributes of a competency framework. However, this model does not describe the critical role of knowledge in a competency framework. Competencies reflect a hierarchy of information and knowledge that is developed and refined over a building surveyor's career based on formal education and training, work experience, and continued professional development. These competencies must be identified and quantified to provide a benchmark of required knowledge, allowing for revisions to education and training packages. This revision is a necessary process that reflects ongoing changes in practice,

based on evolving practice and investigation. The knowledge base of a building surveyor is not static.

Occupational knowledge

Within this framework, occupational knowledge is defined as the foundation skills and information necessary to provide a basic understanding necessary to conceptualize tasks associated with building surveying. Occupational knowledge is foundational, without which building surveyors would be unable to develop specific competencies necessary to acquit their functions.

Occupational knowledge is required to perform routine building surveying tasks and includes the application of social and general cognitive skills. Occupational knowledge represents a critical, but introductory skill level.

Occupational social skills include interpersonal and communication skills and the application of appropriate ethical and professional behaviours. Cognitive skills include mathematics, literacy, and IT skills necessary to successfully execute functions within the context of a building surveyor.

Within an educational and training context, occupational knowledge would typically be provided in first year units. It would generally not be considered appropriate to inform CPD content with occupational knowledge.

Functional knowledge

Functional knowledge represents the theoretical knowledge obtained by undertaking specific units of study to equip students with the knowledge necessary to perform building surveyor functions. This field of knowledge includes information and concepts required to understand core concepts associated with building surveying. Functional knowledge builds on and develops foundational information introduced during the occupational phase, but in greater detail to provide a foundation to develop specific skills. Functional knowledge will introduce new concepts and theories relevant to building surveying and will consolidate occupational knowledge.

Functional knowledge is obtained during studying a recognised qualification and is generally not directly transferable to other professions without further education. The identification and mapping of functional knowledge is most relevant mid-course units within undergraduate or postgraduate building surveying qualifications. It would generally be considered appropriate to inform CPD content with functional knowledge.

Realised knowledge

Realised knowledge is the application of specifically aligned units of study within an industry and is used in a certain context.

- Realised knowledge is the capstone of previously studied occupational and functional knowledge.
- It requires the building surveyor to understand and apply theoretical concepts when performing their functions, with the ability to adapt this knowledge within a range of contexts.
- This is obtained through formal units of study and the application of this knowledge in the workplace environment.

As with functional knowledge, realised knowledge is not directly transferable to other professions or trades without additional specific study or training. Ongoing maintenance and development of realised knowledge is generally achieved through work experience and continued professional development. Realised knowledge represents the highest ranking of skill and level of competence.

Within an educational context, realised knowledge would typically be provided in a final year's units. In relation to CPD content, realised knowledge should account for most of the content.

Functions performed and administered by building surveyors

Within the contemporary built environment, it is recognised that statutory building surveyors must rely on other practitioners and professionals to perform their roles, and such reliance is supported by various provisions of the Building Act 2004. Thus, to develop an effective competency framework and accurate fields the specific functions performed by statutory building surveyors in the building approval, inspection and final certification process need to be identified. It is necessary to identify these functions, as these reflect the distinct roles of building surveyors within the construction process and provide the necessary context to understand the application of different competencies within the same project. These functions are described below.

The first function is described as primary building surveying practice. Primary building surveying practice occurs where the building surveyor carries out and has direct responsibility for stages of the compliance assessment of the building project. Primary Building Surveying Practice may occur at the approval, inspection, and final stages of a building project.

As with functional knowledge, realised knowledge is not directly transferable to other professions or trades without additional specific study or training.

The second function is described as concurrent building surveying practice. Concurrent building surveying practice occurs where the building surveyor has statutory responsibility for stages of the compliance assessment of the building project but is permitted to delegate this task to other licensed and registered practitioners.

The final function is described as supervisory building surveying practice. Supervisory building surveying practice occurs where the building surveyor has no direct responsibility for compliance assessment of these aspects of stages of the building project. In this situation, these aspects are performed by other licensed and registered practitioners. When undertaking supervisory building surveying practice, building surveyors collate documentary evidence of suitability from other licensed and registered practitioners who are responsible for these stages or aspects. The responsible building surveyor will use this documentation as part of the process of issuing the required occupancy permit or certificate of final inspection.

Required building surveyor competencies

These functions comprise the specific aspects of statutory building surveyor competencies deemed necessary to properly acquit their functions. In developing this competency framework, these competencies are described as:

- Technical
- Legislative
- Probity
- Administrative.

These competencies will now be discussed within a statutory building surveyor framework.

Technical competencies

These are broadly defined as the ability to recognise and apply relevant building standards and building technical knowledge, including the National Construction Code and reference documents to the process of assessing and inspecting assessable building work.

However, it is not sufficient to simply assert that building surveyors require generic technical competencies to acquit their responsibilities. Rather, it is necessary to recognise that in applying technical competencies, building surveyors apply both primary and delegated functions. This is an important distinction as whilst not having a detailed technical knowledge of all technical aspects of a project, building surveyors require a degree of understanding of these aspects to ensure that delegated agents are correctly performing their functions.

Legislative competencies

These are broadly defined as the ability to recognise and identify, understand, and apply relevant statutory instruments (including the Building Act 2004 and The Building (Forms) Regulations 2004) with the appropriate skills and knowledge when performing functions related to statutory building surveying practice.

Probity competencies

These are broadly defined as the ability to apply relevant statutory instruments, codes of practice and guidelines to building surveying functions in a professional, financially responsible, and ethical manner that meets acceptable community standards.

Administrative competencies

These are broadly defined as the ability to interact with others using a range of media effectively and appropriately (written, verbal, etc.) to clearly communicate relevant technical and professional concepts and ideas.

Methods of gaining competencies

Qualifications are the result of completing an accredited and structured program of learning in a relevant field that leads to the attainment of an official qualification. Within this conceptual framework, qualifications reflect functional competencies. That is qualifications provide theoretical rather than applied knowledge, reflected in the fact that statutory building surveyors are generally required to document a period of relevant work experience prior to applying for registration.

It is noted that the existing building surveyor qualification and accreditation pathway recognises qualifications from either VET or Higher Education institutions. With reference to the Building Officials Institute of NZ Academy of training, it is seen that the prescribed training packages reflect the development and application of an effective competency framework.

Similarly, the Building Officials Institute of Continuing Professional Development (CPD) program provides for knowledge and skills development that takes place through a structured program of learning that supports the continued application of realised competencies. Continuing Professional Development is the term used to describe any learning activities that are undertaken post registration to acquire and apply knowledge and skills in relevant technical, legislative, communication and probity aspects of building surveying practice.

Conclusion

As building surveying professionals, we understand that our profession is critical in the development and maintenance of a safe and healthy built environment that benefits all members of the community. The development of an effective competency framework is one important aspect of building surveying practice to ensure that education, training and CPD content is evolving to keep pace with this dynamic environment. It is hoped that the concepts outlined in this brief paper will assist in the development and maintenance of effective competency frameworks.

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Dr. DARRYL O'BRIEN

Dr O'Brien is a private building consultant based in Old and acts as a sessional lecturer in Built Environment studies at both CQUniversity and Victoria University and is a subject matter expert for select government departments. Prior to this, Darryl was Director of Technical and Regulation at the Victorian Building Authority and was a lecturer and Head of Course for CQUniversity. Darryl holds Undergraduate degrees in Building Surveying and Building Design and Postgraduate qualifications include a PhD, Masters Environmental Planning and Graduate Certificates in Tertiary Education and Urban Planning.

Darryl is a Fellow of the Australian Institute of Building Surveyors and past QLD NT Vice President, former member of the AIBS QLD State Executive Committee, AIBS National Technical Committee and AIBS National Education Committee.

Board Elections 2022-2024 Term Nominee Profiles



Karel Boakes

Education

BSc (Building Management, Design Construction, University of Northumbria, Newcastle Upon Tyne, UK 1994

SOLGM Opus Business School, Leadership for Middle Tier LG Managers May 2011

Certificate in AMINZ mediation skills intensive March 2019

Institute of Directors Finance Essentials Feb 2021

Experience

Currently the Regulatory Manager for the Manawatu District Council, I have 18 years' experience working within NZ local government with a proven track record of delivering new initiatives to enhance operational efficiency and customer experience I have a BSc (in Building Management, Design and Construction from the UK and have worked within the local government and construction industry in the UK and South Africa prior to emigrating to NZ in 2002.

I am skilled in stakeholder management, quality management systems, continuous improvement,strategic policy, conflict resolution, construction and development, project planning and management I am a dependable, approachable leader determined to achieve successful outcomes utilising strategic and analytical thinking and extensive knowledge and experience.

I am a licensed member of BOINZ, have been an active member for 18 years and was privileged to have been elected as a board member for the 2020-2022 term.

Collaborative activities and positions held

I am a founding member of the change management group of the Simpli initiative, established with the aim of achieving consistency across Building Consenting Authorities and actively support and implement the Simpli products.

I am also a member of the Taituara Regulatory Reference Group I enjoy the collaborative discussion and challenge of reality checking new government policy and regulation and I consistently submit on new government policy and regulation.

Future direction and goals

During the last 2 years and my first term on the board I have been energised and excited by the discussions and decisions made in what has undoubtedly been a challenging time.

The institute has maintained a strong financial position, improved content, flexibility and accessibility of training courses, strengthened key relationships with MBIE and stakeholders and continues to improve benefits to members.

The Institute is also building increasing resilience, credibility and reputation as a strong advocate in the industry and is working on enhancing the organisation objectives to deliver on our vision.

There are still interesting and challenging times ahead with significant pressures on the constructionindustry and the opening of borders with its associated risks.

Future goals I believe are important include continued development of our increasingly diverse member group through training, connections, resources and information maintained focus on financial stability and ongoing advocacy and partnership strategies with MBIE and other key stakeholders.

I have been humbled and heartened by the support of our members and should I be successful in gaining your ongoing support I will continue to use my knowledge, skills, drive and passion to consolidate and build on the good work that has already been done and ensure that the Institute continues to be forward thinking, inclusive and sustainable in a rapidly changing environment.



Jeff Fahrensohn

Manager Inspections - Auckland Council BOINZ Member since 2004

Experience

Jeff comes from a design and build background running his own company from 1991 before joining Waitakere Council in 1996 and then Auckland Council in 2010 where he has held various building control roles.

During this time, he took a break from council to play rugby professionally between 1999 and 2003 where he played in France's top league for Stade Aurillac, then London Irish in the English premiership before returning to his inspection role at Waitakere Council.

Jeff has held various roles such as inspections team leader, regional processing manager, and the BCA training & competency manager before taking up his current role managing the Auckland Council inspection team which also includes the CCC and BWOF teams. Like everyone, his team has been very busy. Over the last year, they have carried out over 200,000 building inspections, issued 16,000 CCCs, and received 16,500 BWOFs.

Jeff enjoys being part of the current BOINZ Board and is also actively involved in several industry advisory boards and working groups. His ongoing involvement in Disability Action Committees and Universal Design forums in Auckland has provided him with key experience to support his role as the Auckland Council technical leader for NZBC:D1. Currently, Jeff holds all Residential 3 and Commercial 3 inspections and processing competencies.

Goals

Jeff believes that his front-line experience is helping add value to BOINZ members by using a forward-thinking approach to ensure we can handle the challenges of a fast-changing industry era post-Covid. He is fully involved in BCA game-changers like remote inspection tools, modular QA, Lidar & virtual reality inspection tools and he is looking forward to sharing his experience with BOINZ members whenever he can.

Lastly, and most importantly to him as a BOINZ member, is his dislike for the years of industry perception where building surveyors and inspectors were considered less qualified than engineers and architects. He sees his role on the BOINZ board as a key contributor to correcting this misperception and he is extremely proud of the board's current direction towards an alternative professional pathway option by supporting the new Degree level qualification for building surveyors. He sees this as a key factor for members who wish to pursue future opportunities such as professional chartership or similar avenues which would further enhance the building surveying profession within our industry. His drive for equivalency with ENZ and NZIA is within sight, and he would love to stay on the BOINZ board to see this goal through to completion.



Cory Lang

Building Unit Manager, Hamilton City Council

Education

National Diploma in Quantity Surveying National Diploma in Construction

Management

National Diploma Building Control Surveying (small, medium and large buildings)

Experience

I've been a member of BOINZ for more than 15 years and been fortunate to have attended many conferences, senior forums, branch meetings and training days. I'm currently the Building Unit Manager at Hamilton City Council and have a proven track record for delivering new initiatives to improve customer experiences and driving efficiencies while building strong collaborative teams. As a manager, I'm also responsible for key stakeholder management, strategy and policy setting whilst leading my team through the everchanging building environment.

Activities

I am involved in a number of industry working groups which allows me to understand the wider sector. I'm a member of the Regulatory Environment workstream, on the Construction Accord and a member of the Rapid Building Assessment working group. I enjoy these opportunities to challenge the status quo, influence government policy and regulation to deliver positive and practical outcomes.

In terms of governance experience, I've held a number of board positions in private and not-forprofit organisations. This last term on the BOINZ board, I've been a member of the Audit Committee and represented BOINZ on the MBIE Code Advisory Panel. I'm also a current and active member of the New Zealand Institute of Directors.

In the last 12 months, I've completed the BOINZ Accredited Building Surveyors course, as I see BOINZ as the peak body across the Building Surveying discipline. I believe the next 24 months will be pivotal for BOINZ due to the changing economic outlook, changing political environment (local and national elections) and MBIE Building Consent System review.

Goals

I am a strong advocate of the Institute and see it as my role to work hard alongside the other board members to achieve the Institute's strategic priorities. I believe there are three key focus areas for the Institute moving forward;

- Membership and Profile, Focus on membership support and engagement to increase benefit and recognition while elevating our awareness and profile as a recognised and trusted profession.
- Advocacy and Representation, Leverage wider industry relationships / partnerships and have a voice in the right circles to influence and deliver on the Institute's strategic priorities.
- Sustainability of the Institute,
 Complete the constitution
 review to strengthen and

stabilise the organisation. This will also underpin our membership and inclusion at all levels.

I believe the Institute has a key role in representing its members and taking our profession to a higher level like that of engineers and architects. The need to influence decision-makers is also going to be important with government reforms and legislative reviews, BOINZ has a critical role in engaging and enabling its members through this change.

I believe my experience puts me in a strong position to contribute to and represent you as a member on the board. It is on this basis that I put myself forward for election on the Board of BOINZ.



Peter Laurenson

Institute Involvement

- Member of the Institute for 19 years, actively involved with several branches and activities, including Conferences, and SBCO forums. Currently BOINZ President.
- Proud of achievements
 - Membership Value professional, financial, interpersonal
 - Continuing development of specialised Qualifications and training opportunities
 - Effective governance link between members, executive, government, Industry

Industry Experience

- Manager Project Assessment (Auckland Council)
- IANZ BCA Professional Advisory Committee for 10 years (currently chairman).
- Previously
 - Manager Building System Controls for MBIE. Responsibility for the Building Code and Consenting Systems interacting with BCAs.
 - Building Services Manager for QLDC for 13 years
 - Building supplies industry (carters) for 22 years.
 - I gained a BCom degree whilst working in marketing and computer system roles
- Additional Board experience
 - Queenstown Chamber of

Commerce for 8 years (3 years as President)

Queenstown Rotary Club board for 8 years (President 2014)

Direction for the Institute

- The last period of time has been incredibly tough for organisations, families, and individuals including our members. The value of a professional membership organisation has been evident through new connections and services (albeit online mostly) and has reminded us how important it is to provide support to our peers.
- The ongoing development of services that I see as being important for the Institute which I want to assist through a governance role are :
 - Qualification pathway growth and development allowing further specialisation and professional recognition
 - Improved standardised training provision, especially in times of changing regulation and system reviews (Building Act and Local Government)
 - Continued advocacy with central and local government (MBIE, Ministers, LGNZ, etc) providing a clear voice on legislative review impacting our profession
 - The review and modernising of our Constitution allowing

growth whilst protecting continuity. Delivering a stronger professional recognition for Building Surveying toward professional chartering

- Getting back to physically interacting with our industry colleagues, customers, and BOINZ members. Allowing for personal development and having some fun along the way
- Continue to grow a differentiated professional approach in the prepurchase inspections field and consolidate a requirement for legislation and/or mandatory professional qualifications.
- Providing value to our employers and the community of building owners/users
- I intend to contribute to the institute through my various industry roles and experience, learning from others and allowing us to "put our best foot forwards" as a professional institute.
 - I ask for your vote of support to serve as a Board Member over the next term.



Alana Reid

BCO - Independent Contractor BOINZ member

Education

Batchelor Building Science (Victoria) and Post Graduate Certificate - Emergency Planning (AUT)

Experience

Public Service Association (PSA) Elected Board Member - 2020/2021, PSA Local Government Elected Sector Co-convenor -2007-2021. The PSA is the largest Union in NZ, with 80,000+ members. Other governance experiences include running charitable trusts and being a community board member.

I am a contracting building consent processor with ten years of experience in the building compliance industry. I have 20+ years of experience in the building industry, including design, construction, and retail. Also, I have spent time as a paramedic and managing community housing. This work has given me insight into the sometimes detrimental effects of the built environment on our communities.

As the professional organisation for Building Consent officers, BOINZ holds a unique position; our work involves day-to-day contact with the construction industry. We influence decisions on the construction of buildings and how they perform over time.

In addition, there are significant challenges facing members;

 The rate and pace of change, including how we do our work (use of technology, mixed working models) and what work we do.

- New learning demands liquefaction, structure, thermal modeling, ventilation, carbon assessment, adapting to climate change.
- Unstainable workloads,
 pressure to get consents
 out the door or to fit extra
 inspections in the working day.
 Often at the expense of training
 and professional development.
 This lost opportunity costs the
 sector; too much time 'in' the
 work rather than working 'on'
 the work.
- An aging workforce, so the recruitment and retention of members in the sector are essential.

My vision for BOINZ is to continue to draw on members' knowledge to continue influencing the development of regulations and their implementation in the building industry.

Also, to continue to grow the influence of BOINZ training for our members and educate designers and builders to put the people and performance standards of the NZ Building Code at the centre of their buildings.

To draw on Blair Dickie from the Waikato Regional Council, ' with a 1.1degC increase in atmospheric temperature we have LEFT the climate where all our social, cultural and economic systems developed'. As part of the regulatory process, BCOs will need the knowledge and skills to assess thermal models, quantities of embedded carbon, and rainwater harvesting, to name a few.

In addition, BOINZ is in the position to advocate for independent

building design and assessment tools for building compliance. It is for the public good and should have funding independent of supplier influence.

BOINZ provides a valuable resource for anyone working in the building compliance industry. I bring advocacy, strategic thinking and collaborative leadership skills.



Phil Saunders

I joined BOINZ in 1978 when it was the NZ Institute of Building Inspectors, so I have a long association with the organisation.

During this time, I have involved myself at local branch level and also at a national level. I have enjoyed leadership roles as Branch Chairman, Board Chairman and President and I have served the last 2 years as a Board member. Looking back over the last 2 years for BOINZ it has been an extremely trying period with Covid affecting all parts of our country and many of our people. I think back to the Christchurch earthquakes to recall a time when BOINZ staff and the board have been under so much pressure. We are still in a high-demand building cycle which leads to pressure on the BCA/BCO environment to not only do more with less, but to provide a service that is often unreasonably challenged in respect of its commitment to compliance requirements. It is apparent that many in high-level roles do not care about our problems and expect us to carry on providing the same high level of service we always have. That said, we have learned from the challenges that Covid continues to put in front of us and we have as an Institute found new and innovative ways to carry on working and supporting our members in these most trying times.

In my role as the Building Control Manager at Otorohanga District Council, my small team has been involved with one of the largest prison new builds in the country where we are dealing with a project of 36 new buildings with a project value pushing out to over \$1.5 Billion. The project employs about 1,700 staff and we are 2.5 years since starting with another 1.5 years estimated until completion. There have been and are still significant challenges for our small team, but we have developed innovative processing and inspection methods because we have had to deal with a number of obstacles including Covid. Looking across our members and their organisations I know that there are many examples of creative thinking and innovation and I maintain that under trying conditions our members have the ability to step up and work their way through these challenging times. We as an Institute are all about supporting our members and particularly understand the need to assist our members through trying times. As a board member with a lifetime's work in the Construction Industry, I am very aware of the efforts it takes our Building Surveyors to carry out their work to a high standard. I am always here to support anyone if they need my help.

My goals for the future development of the Institute are around growing and supporting our people to be successful to become and remain effective and professional Building Surveyors. Education, mentoring, and personal development are an essential part of developing an effective professional Building Surveyor, but we also need the support of Central Government Agencies and the Ministers who are instrumental in making the highlevel changes including laws that affect the way we do our work. With recent leadership changes across ministerial and MBIE teams, our Board has focused on ensuring our

network of contacts reaches up to the highest levels. This has included one-on-one meetings with Ministers and the leadership within MBIE. Importantly, BOINZ Board members, our CEO and several of our members currently represent member interests across key government and industry working groups, sister organisations, and Standards NZ. My aim is to continue to foster this representation at all levels to remain an effective and credible voice for our members We will continue to strengthen and grow our networks and our voice around the table.

The entire construction industry is struggling in the recruitment of trained personnel, and BCAs and private companies supporting BCAs are in the same boat. We can no longer afford to struggle in the recruitment area because we do not have enough qualified people to fill roles. With that in mind, the development of the Building Surveying Diploma, a long-standing vision of mine, is now being well supported by BCAs and the private sector. The value delivered from the successful candidates allows for a larger pool of qualified people who strengthen the resources in our sector. It is of immense pleasure to see what we have been working on for over 10 years has taken hold where our sector leaders now see the value in a higherlevel qualification for BCOs. The qualifications are being delivered to a wide range of people including those already with roles in Councils and others seeking a career as a Building Surveyor. This in time will raise the numbers of new recruits with requisite qualifications in our sector.

The next target is to complete the development of a degree in Building Surveying which will put us on the same level as other recognized professions in NZ and our peers in other countries. I am proud not only of being involved in bringing these necessary qualifications into our sector to enable the professionalism of Building Surveying in New Zealand, but also to see the results and further attributes of those individuals who have made the commitment to get qualified. My vision is clear, and always has been, that we don't stop here as the journey carries on. I continue to support getting our members involved in continual learning and I will keep encouraging and committing my energies to growing and enhancing the Institute's Training Academy online suite of training.

You currently have a board made up of people from within your own industry working to support your interests. These people have a high level of technical, management and life skills and in my view, you are well served with the level of board commitment. I am proud to be part of that Board and should I be successful in gaining your support as a board member, I will continue to use my skills, experience, drive and enthusiasm to support the board and Institute, and importantly to facilitate and develop opportunities for assisting our people.

Now is the time to actively grow the capabilities of our members. Equally, it is the time to add value to the skills of our members who have recently completed their qualifications. Both need support and the Institute is well-positioned and capable of delivering. I am very keen to continue to represent your interests.

I thank you for your support.



Dan Scheibmair

Currently employed as Specification Manager at Simpson Strong-Tie NZ

Key Accomplishments

- Chartered Professional Engineer (CPEng) // Chartered Member Engineering NZ (CMEngNZ)
- Current BOINZ Board Member
- Timber Design Society Past Management Committee Member & Past President
- NZWood Timber Design Awards Judge
- Representative on NZ Standards review committees

Education

Bachelor of Engineering (Civil/ Structural) 2002 // Master of Engineering (Hons) (Civil) 2003

Aspirations

I have enjoyed being able to contribute to the governance of the Institute for the past term as board member, and am standing for reelection.

BOINZ, being the peak body for those engaged in Building Surveying and Building Control, and its vision of Improving the Quality and Performance of the Built Environment fit well with personal aspirations (as well as those of my employer Simpson Strong-Tie). Having spent two years working for the Institute, and more recently having been a Board member has provided great insight not only of the Institute itself, but more importantly its members without which it would not be able to exist. With a background focused more on design, engineering, and construction product development and supply, the divide between the

building control sector and design professionals and builders remains. Some of the Institute's initiatives have been designed to help address this, but further improvements in better recognition of Building Control staff's professional standing and positive engagement from other professions with the Institute's members can still be achieved. While the Institute naturally first and foremost exists for its members, having representation from someone with a design and manufacturing background should complement the Building Controls background the Institute's board has traditionally consisted of and relied upon to guide the Institute's strategic direction.

Experience

Employment history to date focused on technical marketing. education and training, research and development, and engineering. Engaged by BOINZ a few years ago to take on the challenge of evolving the Training Academy to include online learning and develop a cadetship study option for the NZQA approved NZ Diploma in Building Surveying which members are now benefiting from. A role that's seen me expand my technical background to the NZ tertiary education system in creating innovative fit-for- purpose education and training for the not-for-profit's members, and drive positive change in the building control sector as a whole.

Previous roles included Engineering & Technical Marketing Manager in the ITW Residential Division, with responsibility and reporting staff across Australia and NZ, which was a natural progression from prior technical focused support, marketing, and sales roles. All these required interaction with customers, regulators, and designers in one-on-one contact, tutoring training courses, and addressing audiences at local and international conferences and events. Currently employed by Simpson Strong-Tie and developing solutions for taller timber construction in NZ, as well as an education drive to build safer and stronger structures beyond the minimum requirements of NZS3604.

Another career highlight was being elected to the Institute's Board for the past term, and prior to that holding the role of President of the Timber Design Society for 3 consecutive years.

Having been described as 'an acknowledged communicator with a talent for providing clarity from abstract form', I have been/ am a respected member on industry bodies and Standards/ Codes committees. As a regular presenter, the TDS Presidency, and the various roles held in the construction industry, I have gained extensive knowledge of construction, materials suppliers, building compliance, and prefabrication technology and methodology. Contacts established across the design and manufacturing sector, and associated regulatory bodies and government departments, have allowed me to be at the forefront of advances and innovation, and I continually seek to leverage and build on experience and accumulated knowledge in the field of timber engineering, mid-rise and Medium Density Housing (MDH), and building controls.



Peter Sparrow

I have gained a wealth of knowledge throughout my working life from being a trade qualified carpenter in the New Zealand Army to running consenting and compliance departments for Local Government and responding to national and international disasters.

My understanding of legislative requirements under the Building Act 2004 has been achieved by working for central government agencies such as the Building Industry Authority, Department of Building and Housing and the Ministry of Business Innovation and Employment (MBIE). In these roles, I led teams that reviewed the roles and responsibilities of territorial authorities throughout NZ.

I was instrumental in the development, implementation, and continuation of Building Consent Authority Accreditation, developing the regulations, guidance and providing technical expertise for International Accreditation New Zealand.

After the Canterbury earthquakes, I was seconded by Government to the Crown Managers team responsible for re-gaining Christchurch City Council's BCA Accreditation. During this time, I left MBIE to take up a role as the General Manager of Consenting and Compliance at Christchurch City Council responsible for 450 staff, covering the following local government responsibilities:

- Building Consenting
- Resource Consenting
- Animal control
- · Alcohol and food licensing
- Enforcement

After leaving Christchurch City Council I became a consultant and after the Kaikoura earthquake, I consulted to the Department of the Prime Minister and Cabinet and the National Recovery Office on insurance and rebuilding and liaising with central and local governments. I still provide consultation services to MBIE on temporary accommodation, emergency response, and determinations, and I am also an expert witness for construction related cases for legal firms in New Zealand.

Throughout my career, I have had a wide range of life and work experiences from frontline inspection and processing of building consents, management of departments within councils, to developing policy and legislation at a national level. I have also responded to international events, such as the devastating pacific cyclone in Tonga where I managed 440 cyclone resistant housing units to be constructed.

I live on the Kapiti Coast with my partner Fairlie and our family of four kids, two horses, two dogs, and one cat.

For the past three years (as well as continuing to carry out some consultant work with MBIE and Councils), I have been a senior lecturer with Future Skills teaching the NZ Diploma in Building Surveying (Level 6) a Regulation 18 qualification, and also the Certificate in Regulatory Environment (Level 4) to many NZ Council BCA staff members in cohort group that span the entire country.

I have been involved with BOINZ and supportive of BOINZ and what

BOINZ represents for many years. I would be immensely proud to be on the board of BOINZ and to share my extensive knowledge and experience to make BOINZ an even better organisation than it currently is.

June 30th is the Last Day to Claim CPD Points!



Simply go to our website to claim

- Login to My BOINZ
- Navigate to the "CPD Details" tab on the left to check your total credits
- To make a claim navigate to the "CPD Claims" tab directly underneath
- Fill in the details of your activity and submit

If you have any questions or comments, please feel free to contact Dana at 04 473 6002 or <u>Membership@boinz.org.nz</u>



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