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2015 Edition 2

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An introduction to the Australian Institute of Building

The Australian Institute of Building (AIB) is incorporated by Royal Charter and is the preeminent professional body for building professionals in Australia and the Asia-Pacific region. The AIB has a long and proud history of supporting and serving the building profession. For more than sixty years the Institute has worked with the building and construction industry, government, universities and allied stakeholders to promote the building profession, support the development of university courses in building whilst promoting the use of innovative building techniques and a best-practice regulatory environment.

The AIB is proudly supported by:



A Message from the National President Norman Faifer FAIB FAIQS FIAMA



Welcome to my second Construct magazine column as National President of the Australian Institute of Building.

Some members may know that for the first time in perhaps many years the CEO, Robert Hunt, and I visited every state Chapter and attended a regular meeting of the Chapter committee to present our National vision of our way forward and the reason why certain matter and events can take and why others cannot. Without exception we were well received by all and it was an absolute pleasure to personally interact with members of each committee; in terms of inclusion, fraternalism and collegia not to mention what I consider to be good governance, this “roadshow” was both necessary, long overdue and absolutely worthwhile.

Being a truly national and united organisation we do not suffer from being a federation – a collection of states and chapters each doing their own thing but rather practicing a unified “united we stand” approach.

During our state Chapter visits, the CEO and I had the opportunity to visit some of the universities and TAFE Institutes (and meet their deans, head of schools and professors et al) and meet with various state MBA, HIA and government regulator and Building Commission CEO’s and Executive Directors. We were always very well received in presenting our Institute to these local industry executives and stakeholders and this Institute is working hard to cement those relationships even further.

At this time the annual round of State Professional Excellence in Building Awards and Chapter Annual Dinners has commenced and the WA and ACT events have already been conducted, both were most successful

and I congratulate those state winners and wish everyone success in the remaining state events culminating in the National Awards to be held this year in September in Sydney.

Our profession and the industry we work in, manage and direct is dynamic, things – legislation, acts, regulations, materials, equipment, processes and procedures are ever evolving and changing. We as the professionals sitting on top must be vigilant and recognise this.

A most welcome recent development by the Australian Building Codes Board has been the free online availability of accessing the National Construction Code, after having been a user pays hard copy purchase for all for many years. All industry practitioners should (must) be aware of the contents and philosophy of this Code and how it references other documents to it.

We all have noticed that the manufacturing base in Australia for homemade (and grown) items in many industries is shrinking, the world despite our being “girt by sea” is shrinking too. New and alternative materials, products and resources are landing on our shores and being incorporated into the structures we build, many overseas products being used with less than the desired result.

The recognition, testing, accreditation, certification and approval of new and/or alternative products, whether local or overseas, must be closely watched and administered by the regulators (state building commissions/authorities et al), designers (architects, engineers et al), certifiers (building surveyors and certifiers) and we, the builders.

The use of voluntary Codemark and mandatory Watermark material and product approval processes through the Australian Building Codes Board must be fully understood, unambiguous and properly administered and promoted. The testing of material regimes attached thereto must also be fully understood and be sensible.

A recent fire in a high rise building in Melbourne may prove to be a significant event in the statutory administration of the BCA and may well become an “elephant in the room” issue.


On the international front; in January 2015 this Institute signed a Tripartite Agreement (of cooperation) between us, the New Zealand Institute of Building and the Singapore Institute of Building Limited and at the recent Western Australian Professional Excellence Awards event this Institute signed a Memorandum of Understanding/Agreement with the University of Pretoria, South Africa, our sphere of firm international relationships is growing; watch this space.

I wish us all smooth seas and fair winds in our building and construction endeavors.

Norman Faifer FAIB FAIQS FIAMA

May 2015

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Success in Construction

By Matt Stevens PhD

Our firm has studied success in construction for many years reading and applying the works of Welch, Giuliani, Stockdale, Collins, Robbins, Covey, and others. Each has written about it extensively, but we feel there is more to add.

Commonalities as well as differences exist among the best professionals in every industry. We know and have worked with hundreds of construction people. Our clients and their employees are a small sample considering that employment is somewhere above seven million. However, our data set is from several countries and dozens of market sectors.

First, let's separate personal and professional success.

Personal Success

Personal success is between your ears. If you think you are successful, you are. Of course, if you think you are not, you are absolutely correct. In human history, people in all walks of life have made this determination about themselves. Some of them took action and hurt themselves – slowly or quickly. The same is true to today. Alcohol, drug abuse, food obsession, and self-inflicted gunshot wounds are activities of the negative individual. We all know someone who has many blessings, but does not value them. Obviously, the reverse is true. Some people who live below the poverty line see the world and their existence as an opportunity, full of possibilities and overall, a divine gift.

Changing a person's perception from negative to positive is almost impossible work. The person has to want to change; rarely can you make him/her see things differently. If someone thinks they are successful, it is true. A visit to any developing country confirms this. Not a great insight, but it has to be said.

Does anyone besides me believe they are "personally successful"? Sure, most of us do. There are millions of construction professionals who have dinner with their loved ones every night, go to sporting events, music recitals and generally participate in the lives of people they love. Many consider this success.

As a guide to our discussion, let's start by reviewing how one group of people – new immigrants – defines success. As a side note, all native born Americans would be wise to review the two points below:

- 1) Provide for your family. Family is primary and most new immigrants view providing food, clothing and shelter for their loved ones, whether here or outside the United States, as their responsibility.
- 2) Keep your family together. Keeping close to and communicating with family on a regular basis is important. The desire is to have your family with you. Sometimes it is not possible. In the southwestern

United States, construction projects are all but halted in December as most workers head south. They do so to keep close to their families and make sure each family member is visited during the holidays.

This has nothing to do with cars, clothes or memberships. It has everything to do with your ancestors, successors and your role in life.

Judging whether someone is personally successful is an offensive exercise. It takes into account our personal bias. Each of us shades facts due to our experience and hindsight. The same goes for those who judge you and your actions. To make it simpler, let's all agree to worry about ourselves. To be frank, it only matters what you do. A friend once told me, "Worry about yourself, it is a full-time job".

Professional Success

As we studied professional success, we found that many personally successful construction people are excellent at their jobs. No surprise. Statistically, many perform their function better than 75 percent of others in the same position. They are the "go-to" people.

How does one accomplish this? Anyone can by focusing on continuous improvement. The most common approaches are by studying, observing and just plain working hard. Savvy individuals "compete with themselves". They don't worry about how others might be doing. They know what they do matters. Twenty years later, whether or not you challenged yourself against your personal best will determine your professional effectiveness. Furthermore, we also see this as a dramatic example of the rule of cause and effect.

Here are our 5 foundations of professional success in construction:

Construct Magazine

Just a short note to remind you of the discounts you can receive by supporting the Australian Institute of Building **Construct** magazine.

As you are aware the **Construct** magazine goes to all members of the AIB, the last edition was distributed electronically and has received almost 10,000 reads so far from the AIB website, increasing exposure to more businesses other than members.

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- Successful construction professionals worry about controllable events and spend minimal time on uncontrollable ones. As our world is more complicated, this is especially important. We can worry about how things are changing, but we can continue to search for things that help us improve our technical and human skills. Competing against your personal best is one of the controllables. In 20 years of this, it is predictable you will have improved in every facet of your life.
- Successful construction professionals are independent thinkers. They take time to quietly think through a problem or issue. They resist making a snap decision. Certainly, they seek counsel from smart and trusted friends. However, they think in detail about the reasons they should or should not do something. Emotion is absent. It includes considering unintended consequences that may bite them later.
- Successful construction professionals know there is no “100 percent” solution or perfect answer. They manage the negative of any direction they take. Without exception, high-performing people do the best they can and then “turn the page,” focusing on tomorrow’s challenges.
- Successful construction professionals believe the Stockdale Paradox. Former Vietnam prisoner of war Jim Stockdale practiced two principals while surviving his ordeal 1) He was faithful that he could survive through his talent and focus. 2) He was brutally honest with himself about his situation. Contrast this to others who were overly optimistic to themselves about “being home by Christmas” and some even died after being broken hearted several times.

In Jim Collins’ book, “Good to Great”, successful companies expressed a faith that they could figure out any situation. However, they all were frank internally about what they did well and did not do well regardless whose feelings it might hurt. Taking into account “what is weak” not “who will it hurt” is an example of this thinking. Subsequently, each “great” firm worked the hours needed to solve problems or reach goals and moved personnel that was best for the team and maybe not the individuals involved. .

- Successful professionals know people have a more certain future than companies. Companies come and go for reasons small and large, but there is always a need to hire superior professionals. They are rare and are paid better. There is market competition in pay packages to attract these people. It happens each day. Shelter and infrastructure have to be built. At over 90 percent employment in the U.S., there is no economic recession for capable professionals.

There are several more but, these are our five foundations for being professionally accomplished.

We have all heard the term “best of class” contractors. It is a consulting term that has been thrown around like the word “superstar”. What it means in the mainstream press and what it should mean are two different things.

“Best of class” contractors are judged by financial ratios achieved in their business. That is, they are financially successful. There is no consideration for technical knowledge. The “best of class” construction firm is one that does well fiscally, but not necessarily in craftsmanship. There is some, but not complete correlation as to technical construction ability.

In our experience, many financially successful contractors are great business partners to their subcontractors by leading, coordinating and managing construction projects with them in mind. There are dozens

of other reasons that we don’t have space here to discuss. With that, the best subcontractors focus on working for these superior general contractors, builders and construction managers.

Overall, construction professionals do not mind the demanding client; however they appreciate the fair client. “Hard but fair” describes the greatest owners, funders and users. Projects get built very well and outsiders wonder how the construction team does it consistently. This is one of many reasons.

So, would you agree we should start using “financially successful” and stop using “best of class”? Financial success is about money management and not about building work. In these days of political correctness, the former title accurately describes the fiscally savvy construction firm. It does not guarantee it can build work with higher quality or faster than a craft-able or personally successful one.

Professional success is not a fuzzy concept. We conclude it means you are better at what you do than three-quarters of others who do the same thing. Whether one is a project manager, superintendent, foreman or labourer, being excellent has many rewards, including personal satisfaction.

We believe success is not a number or a title. Numbers can be fudged and there is always someone who posts a better one. We know that it is not about riches. Titles betray a person’s contribution and promote the idea of position as important. In fact, all these denote competition and thus emphasise winning over others at any cost. Of course, there are unlucky people who fail to reach their goals not based on controllable activities such as effort, discipline, foresight or planning.

We need a description that can be used in all circumstances. Here is my one sentence definition:

Professional success is the respect of intelligent people.

These knowledgeable and experienced people know how unfair and demanding the construction industry is. In other words, intelligent people know your challenges and appreciate your approach. You have a reason for everything you do. Others might say “you have figured it out.” These intelligent people are not the opinionated or egocentric folks who do not work in the construction industry and do not know our business. However, they are the smartest people in the country (just ask them).

As we respect many people in the industry for their perspective, reason, intellect and hard work regardless of title or wealth, we ourselves demonstrate the above. In our opinion, “the respect of intelligent people” gets to the core of professional success.

Matt Stevens PhD is a management advisor who works exclusively with construction contractors. He has been doing so since 1994. Additionally, he is a Senior Lecturer in the Master of Construction Management program at the University of Melbourne, Australia. Matt is the author of The Construction MBA and Managing a Construction Firm on Just 24 Hours a Day published by McGraw-Hill, New York. Also, his firm has several mobile apps which calculate critical ratios to construction contractors. Reach him at mstevens@stevensci.com or matthew.stevens@unimelb.edu.au.

Durability in Buildings - corrosion protection of structural steel using hot dip galvanizing

By Peter Golding, CEO, Galvanizers Association of Australia

Steel is used in all residential and commercial buildings in Australia, from the commonly seen Colorbond® roofing to bearers, joists, bolts, nails, tie down straps, bracing rods, lintels, verandah posts, light steel frames and the less visible structural steel beams and columns providing strength to the overall design. Steel has the advantage of being relatively easy to specify and design for structural integrity for engineers, but many designers do not understand the need to include full and proper corrosion protection detailing to meet the durability requirements of the BCA. Indeed, Table 3.4.4.2 in Volume 2 of the 2015 BCA (protective coatings for steelwork) provides only minimum advice for builders and designers, sometimes leading to poor application of structural steel components.

A recently released Australian Standard, AS/NZS 2312:2014, Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings (available in two parts with part 1 dealing with paint systems and part 2 dealing with hot dip galvanizing) promises to provide significantly enhanced information on developing complete corrosion protection for the structural steel used in commercial and residential buildings alike. This article will deal with part 2 (hot dip galvanizing) of the new Standard.

AS/NZS 2312 part 2 provides designers with answers to the six key questions that must be understood when considering durability of a structural steel member:

1. The design life of the component, including the ease of maintenance

2. The site specific corrosivity category
 3. The available options and their life to first maintenance
 4. The effect of connections on durability
 5. The need for painting the component
1. Design Life

The normal design life for buildings is assumed to be 50 years, with some components of that building which are not accessible or not economical to replace or repair required to last the design life (for example, lintels) while other components of the building which have moderate ease of access but are difficult or costly to replace or repair (for example, roof cladding) are required to last only 15 years. The tables in AS/NZS 2312 part 2 provide guidelines for the durability of common galvanizing systems and a selection can

be easily made based on the design life requirements (see Table 1).

2. The site specific corrosivity category

AS/NZS 2312 part 2 provides simple descriptions of the corrosion environment within capital cities of Australia and generic advice for the less populated area. (There are maps available of the estimated corrosivity categories in AS 4312, Atmospheric corrosivity zones in Australia.) The designer can use AS/NZS 2312 part 2 to align the durability requirement of a component from the BCA with the corrosivity category of the environment. Typically an R3 durability component will be required in a moderate environment (C3 corrosivity zone), while an R4 durability component will be required in the severe environment (C4 corrosivity zone).

| System | Reference Standard & Designation | | Minimum thickness | | Selected corrosivity category & Calculated life (minimum-maximum, years) | | | | |
|-----------|----------------------------------|-----------|-------------------|----|--|---------|-------|-------|------|
| | | | g/m ² | µm | C2 | C3 | C4 | C5 | CX |
| Batch HDG | AS/NZS 4680 | HDG390 | 390 | 55 | 78->100 | 26-78 | 13-26 | 6-13 | 2-6 |
| | | HDG500 | 500 | 70 | >100 | 33-100 | 16-33 | 8-16 | 2-8 |
| | | HDG600 | 600 | 85 | | 40->100 | 20-40 | 10-20 | 3-10 |
| HDG sheet | AS 1397 | Z350 | 140 | 20 | 29->100 | 10-29 | 5-10 | 2-5 | 1-2 |
| | | Z450 | 180 | 25 | 36->100 | 12-36 | 6-12 | 3-6 | 1-3 |
| HDG tube | AS/NZS 4792 | ZB135/135 | 140 | 20 | 29->100 | 10-29 | 5-10 | 2-5 | 1-2 |
| | AS 4750 | ZE50 | 50 | 7 | 10-70 | 3-10 | 2-3 | 1-2 | 0-1 |

Table 1 Durability of selected hot dip galvanized coatings on structural steel from AS/NZS 2312 part 2



Figure 1: The Moment by Damian Vick, showing the four key stages of fabrication, galvanizing, painting and the final structure in place. This aesthetic sculpture is an example of a complex shape with sharp edges and is therefore suited to a duplex coating.

3. The available options and their life to first maintenance

The Standard provides durability estimates for a wide range of common galvanized products (as shown in Table 1). For example, a batch hot dip galvanized steel component produced to AS/NZS 4680 with a coating mass of 600 g/m² will have an estimated durability of a minimum of 40 years to a maximum of more than 100 years in a C3 category, which is typical of most cities more than 1 km from a surf coast and this product can be reasonably assumed to provide 50 years of service life in this environment. By contrast, the corrosion protection offered by a Z350 purlin is expected to be 10 – 29 years in the same category, meaning it is more likely to be suitable for applications requiring on 15 years design life – unless maintenance is easy to carry out.

As noted earlier, building designers should be aware that Table 3.4.4.2 in Volume 2 of the 2015 BCA (protective coatings for steelwork) provides options that need to be assessed against the application of the component. For example, in a “moderate” environment, defined in the BCA as more than 1 km from breaking surf or more than 100 m from salt water not subject to breaking surf or non-heavy industrial areas (a C3 corrosivity category in Table 1), the minimum protective coating for hot dip galvanized steel is 300 g/m² which will provide an estimated design life of 20 – 60 years, meaning major maintenance would be required for many building locations during a 50 year design life. In the more corrosive “severe” environment defined in the BCA as being within 1 km from breaking surf or within 100 m of salt water not subject to breaking surf or heavy industrial areas

(a C4 corrosivity category in Table 1), the minimum protective coating quoted for hot dip galvanized steel remains at 300 g/m², even though the life is reduced to 10 – 20 years, so these components would be typically unsuitable for most structural applications. (Important Note: Within 100 m of breaking surf the corrosivity category will be equivalent of C5 and the durability of a building component will need to be R5.)

Designers can avoid durability issues by using materials that deliver thicker, hence more durable galvanized coatings in applications where a longer design life is required by the BCA. These can be simply calculated using AS/NZS 2312 part 2.

4. The effect of connections on durability

Site welding of galvanized components is usually not recommended as the repairs required are less reliable, and therefore a reduction in the durability is often seen. However, methods for repair are detailed in the Standard and these include organic zinc rich epoxies and inorganic zinc silicate paints which must be applied to the at least the same thickness as the original galvanized coating and to a clean steel surface free of weld slag and spatter.

5. The need for painting the component

An all new and detailed section on the design of duplex coatings (paint over HDG) is included in the Standard, with two performance options for durability (aesthetic and corrosion). A duplex system will increase the service life of the HDG article beyond that of the unpainted article. Further, the total life of a properly specified, applied and maintained duplex coating system is significantly greater than the sum of the lives of the HDG coating and the paint coating alone (by 1.5 – 2.3

times, depending on the environment).

AS/NZS 2312.2 includes seven standard decorative and industrial paint systems suitable for most corrosivity environments and applications.

Summary

In summary AS/NZS 2312 part 2, can assist building designers choose the appropriate corrosion protection that meets the needs of the building owners; providing maximum durability that meets the requirements of the BCA. Advice on selecting the right hot dip galvanized coating and more information on the new Standard, AS/NZS 2312 part 2 can be obtained from the GAA (www.gaa.com.au) or from the hot dip galvanizing companies listed below.

The Galvanizers Association of Australia (GAA) is an industry Association established in 1963 to represent galvanizing companies and to provide technical consulting services on a not for profit basis. The Association’s objectives are to provide the highest standards in design and quality of galvanized products and to assist consumers achieve the economics inherent in the correct design and application of galvanized products. We provide free technical publications and practical assistance on all aspects of design, application, process, bolting, welding and painting of galvanized steel. Further information is readily available from the GAA or any of the leading galvanizers listed in our members’ directory (www.gaa.com.au).

Rebuilding of the Isaac Theatre Royal after the 2011 Christchurch Earthquakes

By AIB CEO Robert Hunt CPA, with the assistance from the Isaac Theatre Royal Website and Staff

The Isaac Theatre Royal (ITR) was subjected to severe shaking during the earthquakes of the 22nd of February and 13th of June 2011 and sustained considerable damage. This damage was exacerbated by the constant and frequent aftershocks throughout 2011 and subsequent significant earthquake of 23rd December 2011.

The Back of House and Stage House which were newly built in 2004/5, suffered only moderate damage and were repaired, but the 1908 auditorium and 1928 foyer spaces were not considered repairable in their original form, due to the dangerous nature of the original unreinforced masonry walls. It was noteworthy that the structural earthquake strengthening carried out in 1999/2000 prevented complete collapse of the theatre and enabled the retrieval and salvage of key heritage items and stabilisation of the Edwardian façade prior to deconstruction. All heritage fabric has been retained, restored and/or reinstated.

The design has achieved 100% of new earthquake building code with the original style and finesse of the original "Grand Old Lady" of Canterbury theatre being maintained throughout, but with various technical and design enhancements necessary to provide Christchurch with a world class theatrical experience for future decades in

the strongest and safest performance venue in New Zealand.

The ITR has long been the premiere performing arts venue in Canterbury, a region which polls consistently show has the second highest number of attendees at performing arts in New Zealand. A healthy arts sector is integral to a diverse and exciting community. The Isaac Theatre Royal's rebuild plays a key role in the recovery of our city and region, especially in the performing arts sector, and is highly regarded as an inspirational example of hope in the emotional mind-set of Cantabrians.

The Theatre re-opened on 17 November 2014. The project was significantly more elaborate in design and complexity of construction than originally estimated with the Theatre essentially being rebuilt from Façade to Proscenium Arch. The rebuild and restoration had significant challenges throughout, making it one of the most intricate building projects in the earthquake damaged Christchurch CBD with an overall rebuild cost of NZ\$40 million.

During the NZIOB Conference in March 2015, a small delegation of AIB members were included in the site visits associated with the conference with one of the sites being the completed theatre site. Words cannot describe the awe inspiring rebuild process that went on here.

The main areas damaged in the earthquakes comprised the auditorium, orchestra pit, foyer spaces, egress routes, mechanical systems and theatre management offices and kitchen above the tenanted restaurant space below. The damage sustained included:

- ▤ Partial collapse of the walls and decorative plaster ceilings in the auditorium and foyer;
- ▤ Subsidence of the foundations supporting the side walls and floor to the auditorium;
- ▤ Uplift and flooding of the orchestra pit from liquefaction pressure;
- ▤ Partial collapse of the first floor office walls and roof parapets above New Regent Street;
- ▤ Damage to the heritage façade, painted



Photo 4 - Cleared our area for Auditorium

canvas ceiling dome and western boundary wall;

▤ Damage to building services (heating, ventilation, lighting and fire safety systems).

The stage house, side of stage, backstage and dressing rooms also sustained damage albeit to a far lesser extent due to the fact they were built in 2004/5 to much higher standards of earthquake resistance.

The reconstruction was required to comply with increased and more stringent building standards with respect to increased earthquake resistance, fire protection, egress and accessibility. The heritage restoration of the ITR is extremely important to the city with so many historic buildings already demolished. The restoration team has worked closely with NZ Heritage and Christchurch City Council's Heritage Team to either preserve or faithfully replicate the original interior heritage fabric so that the historic venue looks substantially the same as it did prior to 2011. The repairs included:

- ▤ Restoration, new foundations and structural strengthening of the original 1908 heritage façade (see the use of shipping containers to secure the façade during the reconstruction (Photo 3))
- ▤ Complete replacement to new building codes of the auditorium, foyers, and western egress (Photo 4 - Before Shot and Photo 5 the After Shot)



Photo 3 - Shipping Containers used to secure facade

//// Restoration and reinstatement of the original key heritage items:

- Painted Original 1908 Canvas Auditorium Ceiling Dome (Photo 6)
- Royal Boxes on either side of the Proscenium Arch
- Leadlight interior “Poppy” windows and original leadlight Façade windows
- Retention of the Marble Staircase between Stalls and Circle Foyers (Photo 7)



Photo 5 – Finished Auditorium with Dome



Photo 6 – Removal and Storage of Dome during rebuild

//// Restoration (where possible), or replication of the ornate and decorative plaster work, doors and windows throughout the auditorium and foyer spaces

//// Replication of the first floor façade, walls and roof over the previous tenanted space.

//// Repairs and replacement of the auditorium lighting, air conditioning, theatre seating and venue services

Without a doubt the most impressive part of this rebuild was the salvage, restoration and eventual reinstallation of the 16 metre diameter dome and the salvage and protection of the original marble staircase left in situ for the entire rebuild.



Photo 7 – Protection of original marble staircase during rebuild



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AIB Policy on Continuing Professional Development

One of the primary functions of the Australian Institute of Building is to support its members, and the wider Australian Building and Construction professions, with targeted and topical programs that assist participants to continually develop their knowledge, understanding and skills as a Chartered Builder™.

The AIB through its Chapters and via a nationally coordinated short course program provides a variety of seminars, forums and practically focussed site visits for members and others.

Members are encouraged to maintain a level of involvement in continuing professional development. A minimum of 70 points over three years has been set as a guide with a minimum of 20 points each year. Members are able to record their CPD activities on their member record through the member only section of the AIB website.

Australian Institute of Building CPD Points allocation (Minimum 20 points required per year)

The following are recognised as CPD activities and show the credits that can be claimed each time they are completed together with the maximum number of credits that can be claimed in any one year. Note the points are not only accumulated through AIB sanctioned activities, and coverage of CPD through other organisations and associations can be recorded and accumulated. **NOTE: 1 Point is allocated to every 1 Hour of Activity.**

| Theme | CPD Activity | Credits per activity | Max credits per year |
|--|--|--------------------------------|----------------------|
| Formal Study and Qualification Upgrade | Undertakes formal relevant learning (where not a student member) e.g post grad degree, degree, diploma or certificate. | 10 points (on any) | 10 (on all 3) |
| Short Courses and Workshops | Short courses | 1 point (for each 2 hrs) | 10 |
| | Attendance at technical presentations, site visits or AIB Chapter events | 3 points (per event) | 9 |
| | Industry training seminars or workshops of technical relevance. Also as a facilitator - which includes preparation and delivery (2 hrs minimum) | 5 points | 5 |
| | Industry training seminars or workshops of technical relevance. As an active attendee - (2 hrs minimum) | 3 points (per event) | 9 |
| | | | |
| Personal Study | Private Study and Research that extends professional skills | 1 point | 5 |
| Research and Publications | Industry publications (other than manufacturers promos) e.g writing articles for Industry related publications | 5 points (min 1500 words) | 10 |
| | Research and publishing of industry related topic publication based on established international research and publishing rating system (published in an AIB industry related publication or similar) | 10 points | 10 |
| Lecturing / Guest Presenter | Lecturing/teaching at a recognised tertiary institute as a guest speaker. | 5 points (per session) | 10 |
| Licensing / Registration | Participation in Registration / Licensing programs | Licensing Board rates to apply | 10 |
| Service to the Institute | Industry service e.g AIB Council or Chapter. | 3 points | 5 |
| | Attend working sessions and active participation at a national or State AIB conference | 5 points | 5 |

The allotment of points can be considered by the AIB and varied on a case by case basis.

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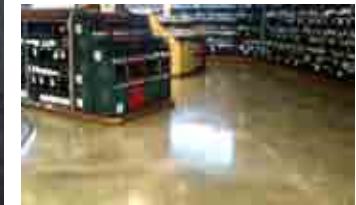
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Hobart Site Visit

By Peter Overton, Tasmanian
AIB Chapter President

The AIB Tasmanian Chapter held its first event for 2015 by conducting a site visit of one of Hobart's largest and most complex projects. Citta Property Group is redeveloping the land between Davey Street and Parliament Lane in Hobart, known as the project: Parliament Square.

Hansen Yuncken is now constructing the new Salamanca office building which has a basement, two Lower Ground floors, Ground Floor and six above ground levels. Piling and excavation has been completed and the structure rising out of the ground. At the same time as the new Salamanca office building is being constructed, the sandstone buildings at 34West and 36 Davey Street will be restored and adapted for re-use. This work is being done by Vos Construction and Joinery Pty Ltd.

Designed by FJMT Architects, the project is focused on design excellence and enhancement of the public domain. When complete, the development will include open public space, an amphitheatre for public events, preserved and restored heritage buildings, a new five-star-rated green office building, and shops and cafes. The development will see the 21,000 plus square meter, \$100 million private investment project bring 400 jobs to the community and produce a new office building in 2016 with expected completion by 2018.

In Tasmania we are fortunate to have the Tasmanian Building Construction Industry Training Board (TBCITB) to fund and promote training for our industry. The AIB and TBCITB has facilitated The University of Newcastle to provide it's Construction Management degree to Tasmanians over the past 20 years. It was great to see both lecturers (in Hobart visiting from Newcastle) and students at the event.

A big thank you to Barney Phillips (MAIB) of Citta Property Group, Bruce Maher (MAIB) Hansen Yuncken, and Vos Construction & Joinery for making the tour possible. If you are a student anywhere in Australia and would like to watch this building be built and learn from an industry legend, keep an eye on Barney's photos and blog at:

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NZIOB SMART Conference, March 2015

By AIB CEO Robert Hunt CPA

On the 18th and 19th of March this year I was fortunate to join a small but influential delegation of AIB members at the New Zealand Institute of Building's SMART Conference. The Conference Chair, and new NZIOB Acting CEO, Malcolm Fleming, had succeeded in running some core themes into the conference, and these were picked up by the speakers and interwoven into their presentations.

The presentations covered a wide reaching number of themes including the transformation of the University of Canterbury after the devastation of the Christchurch earthquakes, a truly inspirational presentation on the award winning design and build of social housing in Wellington and the urban regeneration model used on the Auckland's waterfront. In addition the delegates heard from the Reserve Bank of New Zealand on the economy and construction (no surprises there) and an interesting couple of presentations on the use and adaptation of Building Information Modelling (BIM) in the New Zealand construction industry.

The work of the Wellington Council on its social housing projects was quite inspirational and the daunting task of the rebuild of the University of Canterbury after the earthquakes had all the delegates glued to the presentation. The work by the university on moving from a lecturer centric design and construct model to one that is student centric really was quite an amazing project.

The conference dinner of the same day provided an opportunity for the Minister of Building and Housing to engage with the construction industry, and for conference delegates to reflect on the day's proceedings and to power network within the confines of the stunning Cardboard Cathedral.

Day Two of the Conference involved a walking tour of the Christchurch CBD in the morning, which took in five site visits including the Justice Precinct and the Isaac Royal Theatre. Lunch at, and tour of, the new Christchurch Botanical Garden building, was followed by a bus trip to view the monumentally scaled Burwood Hospital project.

There is a separate article in this edition of Construct on the rebuild of the Isaac Theatre Royal as it was truly an amazing rebuild.

Members interested in reading some of the presentations can download them from <http://www.nzio.org.nz/page/nzio-conference-2015>. The bios of the speakers and the program can be downloaded from <http://www.smart15.co.nz/nzio15/home>.



AIB Reps on Site



AIB Reps Debating Richie McCaw's Rugby Skills



Conference Dinner



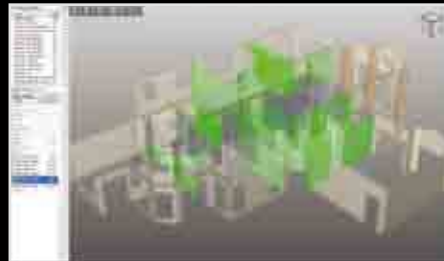
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Barangaroo Cultural Centre

How a range of Ancon shear load connectors and locking pins contributed to the build of the cavernous new Cultural Centre at Barangaroo Headland Park, Sydney, Australia

by Annabelle Wilson, Ancon Building Products

Lend Lease has installed 1,300 slab-to-slab connectors from Ancon in the suspended post-tensioned concrete floor of the stunning Barangaroo Cultural Centre in Sydney. Use of these products at the temporary movement joints, in place of traditional pour strips, has significantly accelerated the build programme, saving both time and money. The design uses a combination of Ancon DSDQ double shear dowels and Ancon ALP locking pins to accommodate the initial shrinkage of the concrete and then allow the joints to be locked preventing further movement, whilst simultaneously transferring high shear loads in both the locked and unlocked state without the need for additional mechanical supports.

Barangaroo Cultural Space

On the banks of the world-famous Sydney Harbour, the development of a landmark 22-hectare site known as Barangaroo is taking shape. On completion of this scheme, not all of Sydney's iconic structures will be above ground.

Hidden below the surface of the new Barangaroo Headland Park, will be a giant void reserved as an undefined 'cultural space'. Measuring some 140 metres long, 50 metres wide and 18 metres high, illuminated by skylights set into the landscaping above and featuring a dramatic sandstone cliff face along one full side, this inspirational space will cater for all future cultural events that the client, New South Wales Government, may hold on the site.

Engineering Challenge

As expected with such a distinct project of this scale, a number of engineering challenges have arisen. These include

the design of the enormous suspended concrete floor of the void, which must not only be strong enough to withstand the undefined demands of the completed public space, but also the weight of the construction activities involved in the creation of the colossal green-roof which soars above the void and will form part of the park itself.

The roof comprises 300 precast concrete bridge segments. Each segment is 30 metres long and lifted into position by a 450 tonne crane standing on the suspended post-tensioned floor slab.

Issues with Pour Strips

A key design consideration in any post-tensioned concrete slab, where long uninterrupted spans can be achieved, is the accommodation of normal concrete shrinkage. This has traditionally been accommodated by leaving 1 metre wide 'pour strips' or 'delay strips' in the slab.

These strips are filled once movement has stabilised, typically 1-2 months after the first pour, providing the desired continuity to the slab.

Although common, these strips are not ideal, as they require the slabs to be propped from below. This restricts site access and delays construction work and follow-on trades both above and below the slab while the mechanical props are in place.

Benefits of 'Lockable' Connectors

Dowel Bars transfer load across joints in structural concrete and are used with a sleeve component to debond the dowel where movement is required. Ancon developed this principle further by engineering a dowel which could be locked after an initial phase of movement.



Barangaroo Headland Park (front left) and Barangaroo Central (front right), courtesy of Lend Lease



Ancon Locking Pin Sleeve, Fixed to Formwork

Ancon's 'Lockable' range was developed specifically for use at temporary movement joints in post-tensioned concrete. These products accommodate initial concrete shrinkage and are then securely locked, mechanically and chemically, preventing further movement taking place.

The original Ancon Lockable Dowel, launched in 2009, transfers shear load in both its locked and unlocked state while the Locking Pin, a recent extension to the Ancon range, is ideal for applications where tension loads are high and there is a requirement for a joint to be locked but the shear load can be accommodated by other means.

On the Barangaroo cultural space, Ancon Locking Pins were used in conjunction with Ancon DSDQ double shear dowels; the first enabled the joint to be quickly and cleanly locked after movement, while the latter carried the high shear loads without any requirement for additional slab supports. Together, these products provided the fastest, safest and most cost-effective solution for this unique application.

Aaron Blanchard, Lend Lease Project Engineer, said:

"Prior to Ancon's involvement, our design was for a delay strip. This design would have slowed us down as we had a set

date to install the roof. By using Ancon's products, we were able to eliminate the pour strip, and saved that time on our programme. We were able to save around AUD\$15,000 (£7,500) per day with the accelerated program which was anywhere between 50-60 days. In addition, savings simply in the revised joint design were estimated at around AUD\$80,000 (£40,000)."

System Components

Locking Pins comprise a pin and a sleeve component. The pin is manufactured from coil bar; one end features a hot forged head which increases its resistance to tensile forces and the other end features a notch to accept the Ancon locking plate.

When installed in the heavy duty injection moulded L-shaped sleeve, the pin is cradled to ensure even distribution of the high strength, cementitious, non-shrink Ancon grout poured from the top of the slab. The sleeve is ribbed on the outside for increased bond with the concrete and features indentations on the inside to maximise grout bond.

The Ancon DSD is the original two-part, double dowel, high load shear load connector; specific to the 'Q' version used here, the dowels fit in cylindrical sleeves contained within rectangular box sections to provide movement in two directions.

Both products allow some lateral and rotational movement in addition to longitudinal movement in the initial phase.

Installation & Performance

Reflecting on this part of the project, Lend Lease Site Engineer, Mike Cummins, said:

"We've had no problems with the slabs. They stood up to the weight of the cranes during the roof installation and we've had plenty of trucks on them since with no adverse deflections. For our purposes it worked exactly how we wanted it to and locking the joint up was really quick and clean."

When it opens to the public later in 2015, the Barangaroo Headland Park will provide an attractive new vantage point from which to take in the atmosphere of Sydney Harbour, while the awe-inspiring cultural space below, with a floor area of between 10-20,000sqm, will provide the flexibility to house almost any future event.



Barangaroo Cultural Centre, Post-tensioned Suspended Floor Slab

UWS Construction Management students undertake student placements in Hong Kong and Singapore in January and February 2015

Fifteen undergraduates from the University of Western Sydney (UWS) spent six weeks in Hong Kong and Singapore earlier this year in sponsored work placements with local construction companies. The AIB was able to assist with setting up the placements through its international network of industry contacts. Funds were provided by the Australian government's New Colombo Plan.

In Hong Kong, the students worked with Leighton's Asia, Yau Lee Constructions, Chun Wo Construction and Engineering and Beria Consultants. The Singapore students were placed at Santarli Construction, Hexacon, Soil Build, Tiong Seng and Barton Bruce Shaw. A broad variety of work experience on some large-scale projects was provided.

It is encouraging to see the opening up of cross border contacts that can only be beneficial for the next generation of young builders in the Australian industry.



2014 Industry Support Program Success

In 2013 the WA Young Builders Alliance (YBA), an initiative of the Australian Institute of Building (AIB), in conjunction with our major sponsors John Holland, developed the Industry Support Program.

Continuing for its third year in 2015, the Program aims to provide YBA members with a platform to increase industry knowledge and expertise. This mutually beneficial program sees key John Holland employees sharing their industry experience with selected YBA members/current students.

As part of this program, John Holland supports chosen, high achieving members of the YBA by providing key personnel to assist in developing the member's key skills in areas including career management, the transition from university to employment, as well as acting as a resource for industry related questions.

The program objectives include:

1. Development of professional industry skills of the YBA member over the period of the program.
2. Improvement in the level of interpersonal skills of both the John Holland advisor and YBA member.
3. The YBA member is to improve their understanding and comprehension of the building and construction industry.
4. Industry perspective from the John Holland advisor is to improve the academic learning of the YBA member.
5. The leadership and mentoring skills of the John Holland advisor are to develop through advising and assisting the YBA member.
6. The program is to improve the relationship between John Holland, the YBA, the AIB and their respective members and employees.

Three YBA members were selected to take part in the 2014 program were Christopher Norris, Daniel Mascione and Hayden Bristow.

"Prior to the program I had little exposure to the actual working environment on construction sites. I believe the program helped me attain knowledge from practicing construction industry professionals and I now feel a lot more confident about working in the industry", said Hayden Bristow.

When asked which particular aspects of the program he considered most beneficial, Christopher Norris believed it was the realistic application of knowledge to real life projects experienced during the numerous site visits to John Holland civil construction sites.

"An experienced industry professionals view and knowledge of what makes a project function and the pitfalls and traps associated with successful project management is beneficial in my understanding of theory learnt during my university studies", said Christopher.

After another successful year of the program the YBA and its members are looking forward to a chance to once again work with major sponsors John Holland in delivering the ISP program in 2015.

The YBA committee and its members would like to thank John Holland and in particular Will Roberts, Woodrow Forte, Nicole Donald, Michelle Ferrari and Dahna Mckay for their outstanding contribution organising and mentoring the ISP program participants.

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AIB links extend to South Africa

By AIB CEO Robert Hunt CPA

For several years now one of the AIB's strongest supporters and tireless workers, Mr Graham Teede FAIB, has been slowly and carefully nurturing links with South African construction industry and the construction management profession.

Recently, during the visit to Perth by the National President of the AOIB Mr Norman Faifer and the CEO Mr Robert Hunt, the culmination of this good work by Graham saw our National President sign a historic memorandum of understanding and partnership with the University of Pretoria (UP).

This Agreement seeks to build closer cooperation between the two organisations in enhancing the professionalism of Builders, Construction



Prof Tinus Maritz FAIB, Mr Graham Teede FAIB and Mr Norman Faifer FAIB

Managers, Academics and Graduates within the Profession of Construction Management in Australia and South Africa respectively.

AIB and UP have agreed to exchange information relevant to the development of the building and construction management profession in Australia and South Africa in order to facilitate an understanding of each other's work. This will include:

- forwarding information distributed to their respective organisations such as magazines and newsletters to a representative nominated by each organisation acting as the Liaison Officer
- promoting each other's jointly organised Continuing Professional

Development events on their respective websites.

- promoting the agreement on their respective websites, including a link from each website to the other party's website
- annual formal contact to review the agreements and identify opportunities to strengthen the relationship

This signing continues with the objective of the AIB to spread its message and contacts throughout the regions around us which has included the recent MoUs with the Hong Kong Institute of Engineers and Hong Kong Institute of Construction Managers.



Prof Tinus Maritz FAIB and AIB National President Mr Norman Faifer FAIB

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The National Construction Code (NCC) 2015 now applies

As of 1 May, the NCC which includes the Building Code of Australia (BCA) came into effect.

NCC 2015

1 May 2015 was the national adoption date for the 2015 NCC with all the latest amendments incorporated into both the Building and Plumbing Codes of Australia. With the NCC now freely available online and for download, it is the time to visit the Australian Building Codes Board (ABCB) website at www.abcb.gov.au and ensure you have access for the 2015 adoption period.

Education materials and practitioner resources

In addition to the freely available NCC, the ABCB has developed a series of educational materials and practitioner resources, all of which are available from the ABCB website.

You will notice the NCC 2015 release includes a new document, being the Performance Requirements extracted from the National Construction Code 2015 which notes that: a building, plumbing or drainage solution will comply with the NCC if it satisfies the Performance Requirements, which are the only legal requirements of the NCC. Included in the ABCB's materials are a series of handy YouTube clips that are delivered in an easy and highly informative format.

The most recent clips include:

Meeting the Performance Requirements: This clip provides an overview of the

Assessment Methods contained in the NCC. Assessment Methods are used to demonstrate compliance with the Performance Requirements.

Developing Performance Solutions: This clip provides an overview of the ABCB's guide to the Development of Performance Solutions (Alternative Solutions).

To view these, or any of the ABCB's other YouTube clips, visit the ABCB's Playlist.

ABCB's National Seminar Series

For those unable to attend the recent National Seminar Series, the 2015 changes have been developed as a series of online videos that can be viewed online from the ABCB website.

ABCB's Building Australia's Future Conference

The ABCB is hosting an informative 'Building Australia's Future Conference' in September 2015 which will include an extensive program of presentations and workshops on the latest in contemporary building and construction issues presented by industry leaders. To find out more, visit: www.baf2015.org.au

If you would like further information on the NCC, and to access the range of freely available practitioner resources and education material, please visit the ABCB website at www.abcb.gov.au, email ncc@abcb.gov.au or call 1300 134 631.

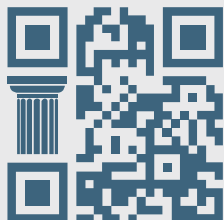


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ACT Professional Excellence Awards 2015 – Celebrating excellence in craftsmanship, internationalised skillsets and construction competency.

Gesa Ruge FAIB, AFHERDSA, Assistant Professor, Building and Construction Management, University of Canberra

The AIB ACT Chapter Professional Excellence Awards (PEA) were held on 1 May 2015 at the Hyatt Hotel in Canberra. This year's awards focussed on expertise in three areas, which will be of critical importance for the future success of our industry: excellence in craftsmanship, internationalised skillsets and construction competency. It was exciting to see the range of high quality nominations and projects across each of these categories and the AIB congratulates all awardees.

Excellence in craftsmanship. Site Managers are leaders through their day to day professionalism on site, demonstrating lifelong learning and advancement of building practice. With a stern glance, a clarifying instruction and infallible sense of anticipation, our site managers foster cooperation and commitment across all trades. Importantly, they make time to mentor our next generation of project and construction managers by passing on their professional values and attributes.

The AIB ACT Chapter congratulates:

||||| Doug Flynn, Site Manager for Jamieson Apartment, Reid - High Commendation

||||| Ian Tompsett, Site Manager for No.1 Canberra Ave Office Building- Professional Excellence Award

||||| Martin Cairns, Site Manager for the heritage refurbishment to the Australian War Memorial and First World War Galleries Redevelopment - Professional Excellence Award and 2015 ACT Building Professional of the Year Award.

Internationalised skillset for adaptation and innovation. Our young and emerging project managers in the ACT took on a range of challenging projects including projects with a highly technical focus, remote site context, international client or heritage significance. Each of these aspects brings its own challenges and requires commitment and confidence for successful project delivery. Design, procurement, construction and operation involved negotiation and engagement with international manufacturers, clients or stakeholders. What stands out is the adaptability and commitment to excellence by our young AIB professionals.

The AIB ACT Chapter congratulates:

||||| Jack Harris, for the Reconstruction of the Directors Residence, Mt Stromlo – Professional Excellence Award

||||| Brett Price for the Australian National University Centre for Advanced Microscopy – High Commendation

||||| Jemma Butt for the Christmas Island Health Services Extension Project – Professional Excellence Award

||||| Jack Turnbull for Mercedes Benz Showroom Canberra – Professional Excellence Award

Brett Price, Jemma Butt and Jack Turnbull, are all graduates from the AIB accredited Bachelor of Building and Construction Management at the University of Canberra.

Complex construction competency. This year saw a range of large scale construction projects delivered

by our experienced senior project and construction managers in complicated contexts and under challenging conditions. Here professional excellence ensured leadership and high quality outcomes.

2015 AIB PEA congratulates:

||||| Paul Djikic, for the University of Canberra Sports Common – High Commendation

||||| Michael Gilmour for the Sorell Apartments – High Commendation

||||| James Hickey, for Furlong Apartments and Heritage Restoration of Furlong House – Professional Excellence Award

||||| Scott Waller for the ADFA Education Facility Redevelopment - Professional Excellence Award

||||| Ben Owen for Project Air 9000 Phase 8 MH-60R Helicopter Facilities - HMAS Albatross Works - Professional Excellence Award

||||| Domenic Staltari, for the Australian National University, Australian Centre on China in the World – Professional Excellence Award.

The AIB ACT Chapter congratulates all finalist and winners and is in the process of organising several professional development events where our 2015 PEA award winners will share their expertise and showcase their projects.



Western Australian AIB Professional Excellence Awards

The President and Committee of the WA Chapter of the Australian Institute of Building (AIB) were delighted to host the Chapter's annual dinner to celebrate the achievements of the AIB and its members in Perth.

During the evening the winners of the 2015 AIB's Professional Excellence in Building Awards were presented. The AIB's Professional Excellence in Building Awards are the only Australian awards that recognise the contribution of individual building professional excellence in the building and construction process.

The dinner was held in the magnificent Pan Pacific Hotel was an event that provided all key industry professionals the opportunity to celebrate the success of the building and construction industry in Western Australia. John Worsfold, former AFL football player and coach of the West Coast Eagles, was the guest speaker at the event.



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*Construction Management Students
2014 Hong Kong Internship.
Photography by Jeroen Klaassen*



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POSTGRADUATE PROGRAMS

- Building Surveying
- Bush Fire Protection
- Fire Safety Engineering
- Engineering
- Doctor of Philosophy

AIB Hunter Region and University of Newcastle Evening Seminar, 'Safety in Design'

By Professor Peter Davis, University of Newcastle, NSW

The Hunter Regional Committee of the Australian Institute of Building (AIB) and the University of Newcastle (UON) recently organised an event described as the presentation of RMIT research results into the topic of 'Safety in Design'. Approximately forty members and guests including experienced Architectural and Engineering Consultants and AIB Members, UON Construction Management students and academics attended the evening held at the University Business School in the Newcastle CBD. Prof Nick Blismas (Centre for Construction Work Health and Safety Research) from RMIT's School of Property, Construction and Project Management was the keynote speaker and presented research work on behalf of his Centre and described its application to industry.

The research focus and presentation by Prof Blismas concentrated on above the line safety that he considered was most effective, including concepts of elimination, substitution and engineering. The latter concept was described as making something new to address the safety issue. These concepts were elaborated on and contextualised around challenges that were described as supply chain capability and fragmentation, the dynamic and complex nature of construction work and inherent problems associated with defining and differentiating design aspects of our industry. In accord with many contemporary construction researchers who champion the benefits of integration in the supply chain, integration of the delivery process appears to be pivotal to enhancing better safety outcomes in construction. This concept is appropriately highlighted in a slide captured from the presentation, figure 1 below.

Prof Blismas proposed that using a methodology of integrated construction that effectively moves the large red arrow to the left of the image enables access to construction process knowledge with the ability to influence positive safety deliverables and above the line safety.

Prof Blismas described a thorough research investigation that tested two propositions that considered the relationships between health and safety preconstruction stages of construction projects and the quality of health and safety solutions realised. The research project described incorporated US and Australian case studies broadly across four major delivery systems with

forty-three carefully selected work packages. The outcome of the research project would be of particular interest to construction professionals, inasmuch as it shows support for the time-safety influence curve – cases in which the constructor had input into decision-making at the early project stages were more likely to realise above the line safety outcomes. In other words, hazards were eliminated or engineered out of construction activities as a consequence of early intervention.

This outcome raises an important question for our industry: how do we get better construction process knowledge upstream into early project decision-making? Prof Blismas provided answers to this question to the attendees at the seminar. However I propose that a follow-up article in this magazine will provide Nick with the opportunity to present this in more detail to you, our wider audience.

In closing, Prof Blismas highlighted two particular documents that reside on the Australian Constructors Association website that may prove

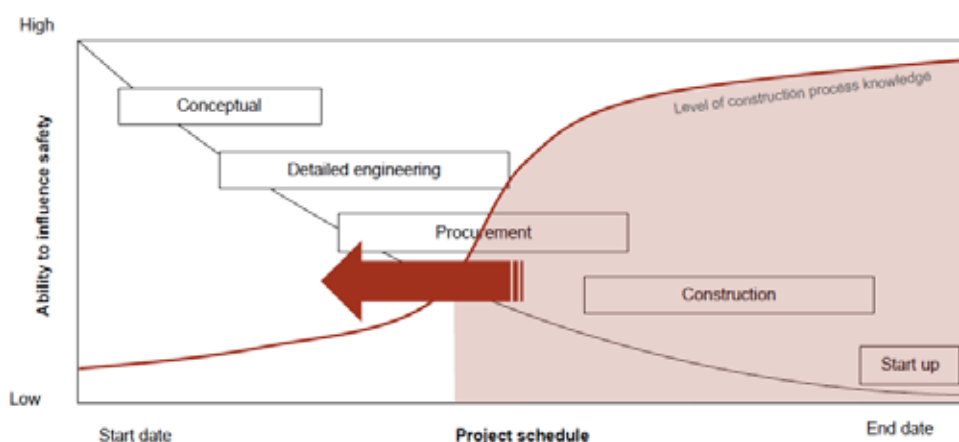
useful: (<http://www.constructors.com.au/safety.php>). They are entitled Health and Safety Culture, and Safety In Design.

Hansen Yunken, RLB and GHD through the AIB combined with the University of Newcastle's Construction Management discipline to jointly sponsor the evening which was very well received by the attendees as evidenced by a vigorous Q&A session which was informally concluded over refreshments.

The URL of the presentation can be found at: https://www.youtube.com/watch?feature=player_embedded&v=Fu_PR9KUTHw

The University of Newcastle is currently undertaking research on Building Information Modelling uptake and usage in construction. We would appreciate your completion of a survey that may be found at: <https://www.surveymonkey.com/s/BTFPVJD>

Time-process knowledge influence curve



Adapted from Szymberski (1997)

RMIT University©2015

Centre for Construction Work H&S Research

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Figure 1 time process knowledge improvements curve (Blismas 2015)

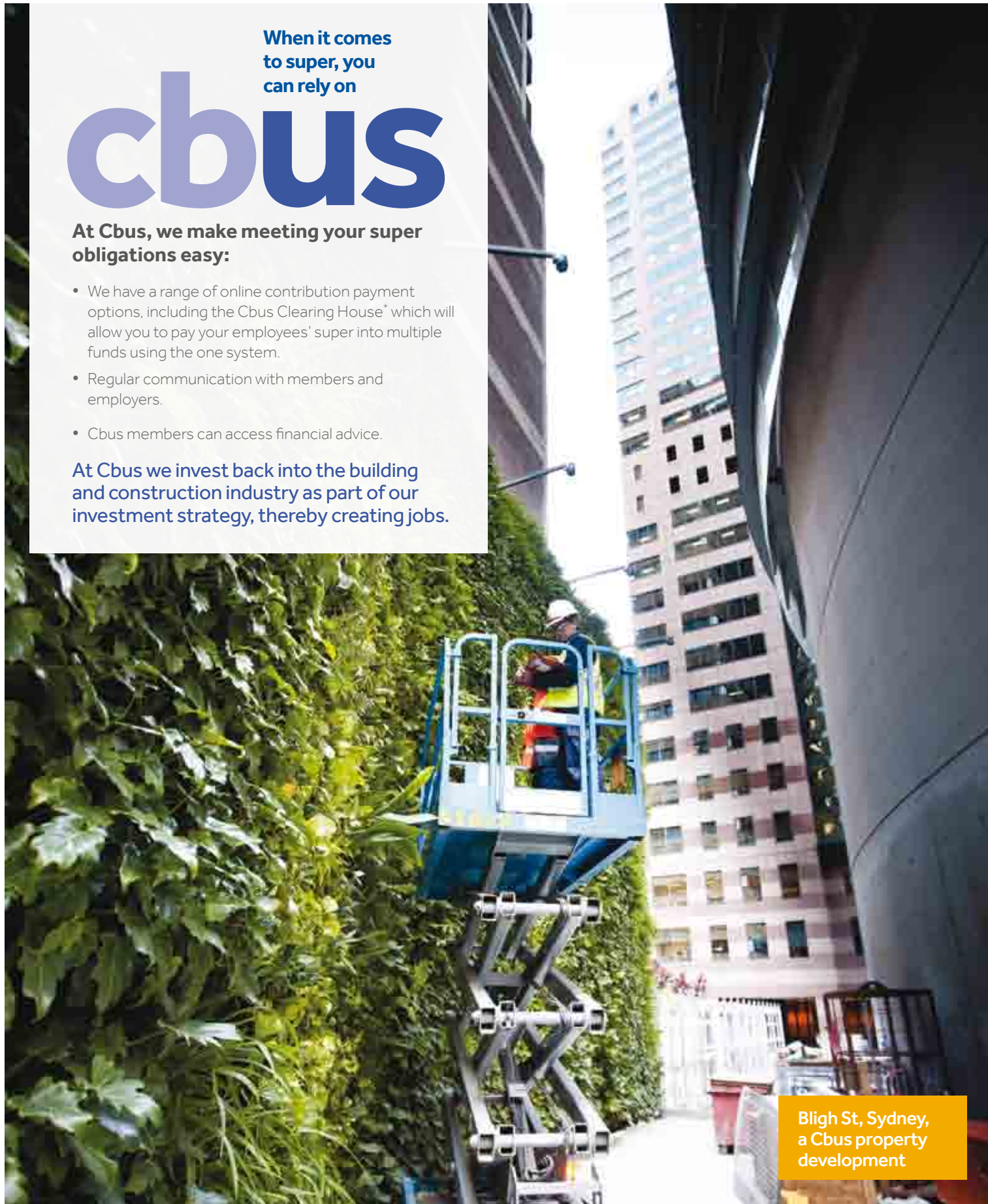
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Retention money trust accounts now required for large NSW projects

By now, you should be aware of the changes to the NSW Building and Construction Industry Security of Payment Act 1999 which came into effect in April last year. The April changes foreshadowed that future regulations could require retention money to be held on trust.

Those foreshadowed regulations have now been made,^[1] and will affect contracts entered into from 1 May 2015.

Do the amendments apply to me?

You are only required to hold retention money in trust if:

- |||| The project is located in NSW
- |||| You are the head contractor (meaning that you have contracted directly with the principal)
- |||| Your construction contract is valued at over \$20 million including any variations
- |||| Your construction contract is entered into after 1 May

I'm a head contractor – what do I have to do?

Under the new law, head contractors on affected projects are required to hold any retentions in a separate trust account for the benefit of the subcontractor(s) from whom the money was taken.

The head contractor can only withdraw from the account:

- |||| to pay money in accordance with the terms of the subcontract under which the money was retained;
- |||| as agreed in writing by the relevant subcontractor; or
- |||| in accordance with an order of a court or tribunal.

There are also very substantial record keeping and reporting requirements, including a requirement to participate in an annual audit process at a cost of \$1,500. The head contractor commits an offence if it does not comply or provides a false or misleading statement as part of that process.

If you are likely to be a head contractor on any substantial new NSW projects, you should seek advice about the record keeping and reporting requirements for trust accounts.

I'm a subcontractor – what does this mean for me?

This change is good news for subcontractors. The requirement to hold retention monies in trust means that the head contractor cannot use those monies to fund other projects prior to completion of the work and the end of the defects liability period. Importantly, if the head contractor becomes insolvent the retention monies held on trust will not be available for distribution to creditors as a whole and can only be paid to those subcontractors who have a valid claim to them.

There are limitations, however:

- |||| It does not apply to projects outside of NSW, or projects that are already underway.
- |||| Smaller jobs, where the head contractor may be more susceptible to an insolvency event, are not caught.
- |||| It is only the head contractor that is required to use the retention trust account. Subcontract arrangements on large jobs are not caught, even if the value of the subcontract is itself over \$20m.
- |||| There is still no cost-effective mechanism for resolving disputes about return of bank guarantees.

Whilst the changes will be welcomed by anyone who has been affected by an insolvency event, they do not go far enough to provide protection for everyone in the construction industry.

Need help?

Meyer Vandenberg's commercial dispute resolution team can also help you with any contract administration issues you may have regarding approvals, payment, defects and retention monies on a building project, whether in the ACT or interstate.

For more information or assistance, please contact:

Alisa Taylor
Partner
Commercial Dispute Resolution Group
(02) 6279 4388
alisa.taylor@mvlawyers.com.au

^[1] Building and Construction Industry Security of Payment Amendment (Retention Money Trust Account)



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Are you worried about your final progress payment?

No... should I be?

We are seeing more and more residential builders struggling to recover their final progress payment. There are a number of factors that contribute to this problem, including:

||||| The owners have underestimated the true cost of the job once variations or provisional sums are taken into account, and they have literally run out of money.

||||| The owners and the builder disagree about the meaning of 'practical completion', with the owner expecting all minor defects rectified before the final amount is paid.

||||| The owners are worried that the builder will not return to fix future defects that emerge during the defects liability period, and want to keep the last progress payment as security.

Sometimes the fact that there will be a dispute becomes obvious during the course of the project. But sometimes there is no indication that the last progress claim will be a problem, until the due date comes and it is just not paid.

What can I do?

There are a number of pro-active steps that you can take to protect yourself. Not all will be necessary or suitable for your situation, but they are worth contemplating before you enter into your next contract.

||||| **Make sure the owners have sufficient money from the outset.**

Most standard residential building contracts give you the right to ask for evidence of the owners' capacity to pay for the work. This entitlement exists at the commencement of the contract (i.e. capacity to pay the contract price), and every time a variation is requested (i.e. capacity to pay the cost of that variation). By insisting on getting this evidence, you are not only protecting yourself but also assisting the owners to manage their budget for the work.

||||| **Be vigilant with documentation for variations and extensions of time.**

Owners cannot budget for costs that they did not expect. If you follow the contract process for variations and extensions, you will be giving the owners as much warning as possible of increases in costs and ensuring that they can afford them. You may think that you have gotten away with not complying with the variation notice provisions because the owners have paid without complaint. However it is likely that payment was made from a limited pool of money, in which case problems will arise in the later stages.

||||| **Practical completion.** Never, ever, ever hand over the keys until you are paid! Most standard residential building contracts set out a process for achieving practical completion, and you should follow it, to the letter.

||||| **Use a trust account or joint account.** If the owners are funding the project (rather than a bank), it is possible to set up a joint account to hold the contract sum while the work is being undertaken so the money is secured in the event of a dispute. If you do not have security but a dispute arises about the last progress payment, consider negotiating with the owners to get them to agree to at least pay the last payment into a trust account to be released to you once all defects are fixed. Most legal firms (including us) would be happy to facilitate this arrangement for you.

||||| **Offering a smaller retention could alleviate these concerns.**

Of course, there is a risk that it will never be paid, but the risk of losing \$2,000 or \$5,000 may, depending on how frequently it occurs, be better than the risk of losing an entire progress payment.

||||| **Consider getting security.** In cases where you have large exposure (for example, ordering expensive materials such as customised windows) consider asking for a bank guarantee or monies to be deposited into a trust account as security for payment. Where you want the right to hold security for in-scope works, it needs to be documented up front as part of the contract. However, where the large exposure arises as part of a variation, consider making your acceptance of the variation conditional on security being provided.

||||| **Lodge a caveat.** Most standard residential building contracts in the ACT (not NSW – it is not permitted!) give you the right to lodge a caveat to protect your unpaid invoices. Whilst a caveat does not entitle you to sell the land, it does mean the owners cannot sell without your consent, and, if the owners' bank steps in to sell it, any money left over after the bank satisfies its debt must be given to you to satisfy your claim before any is paid to the owner. You can, however, be liable for damages if you lodge a caveat without reasonable cause so it is important to check your rights first. We can generally provide you with advice and assist you with the lodgement process for less than \$1,000, including the caveat lodgement fee.

Some of these steps require adding special conditions to the standard terms of the contract. If you are interested in discussing how to implement any of these options, or would like assistance in understanding any of the existing rights and obligations under your contracts, the expert construction team at Meyer Vandenberg would be happy to assist.

For more information or assistance, please contact:

Alisa Taylor
Partner
Commercial Dispute Resolution Group
(02) 6279 4388
alisa.taylor@mvlawyers.com.au

Are your showers ticking time bombs?

Despite builders best efforts, leaking showers are consistently listed in the BSA's top ten defects.

Sadly, sometimes this is due to sub-standard workmanship, but most of the time it is the design of the shower itself which is creating the potential for disaster.

Most contractors are at a complete loss as to why, but detailed testing has shown how, by the action of expansion and contraction, water is "pumped" along glue cavities to escape the shower enclosure, no matter how well it is water-proofed.

The best way to prevent the problem is to seal the screen directly to the membrane, and NOT to the tiles.

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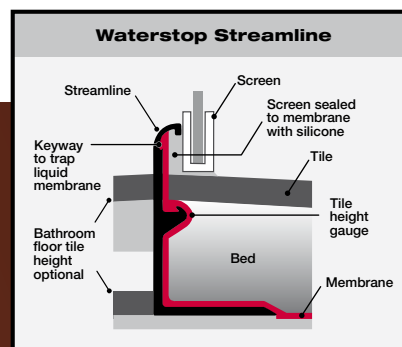
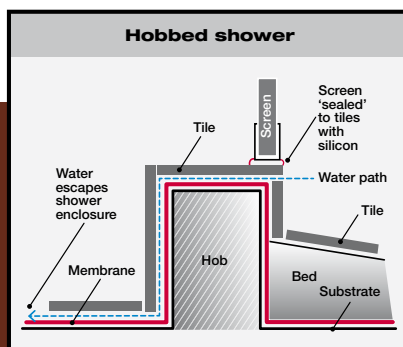
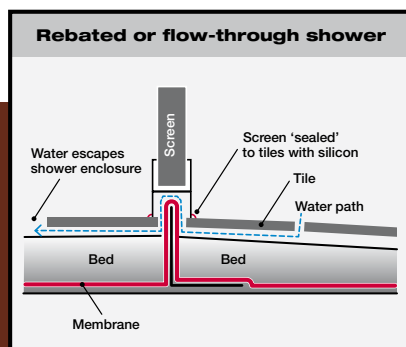
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Mr Fred Meddings, Managing Director
Watertight Australia (Water-proofers)

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Mr Glen Whitehead, Managing Director
BJM Developments

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Do you have to pay your insolvent subcontractor, even though the job is now going to cost more?

Insolvency continues to plague the construction industry. As a result, contractors and suppliers increasingly need to understand how processes such as administration and liquidation interact with (and often override) their normal contractual and statutory rights.

Two recent Australian court decisions have considered the impact of insolvency on rights under the security of payment legislation.

'Pay now, fight later' versus the right to offset debts in a liquidation

The state and territory based security of payment legislation implements a 'quick and dirty' dispute resolution system that aims to get cash to contractors fast, while preserving the right to lodge a court claim to get the money back if there is a real dispute. Where an adjudicator has decided that a claim is valid under the construction contract, the respondent must pay it even if the respondent alleges a counterclaim.

Where a contractor on a building site goes into liquidation, its head contractor will frequently get a letter from the liquidator asserting the insolvent contractor has a right to payment for work completed. The head contractor often responds that it has a far greater counterclaim for damages for the losses it will suffer in engaging a new contractor to finish the job at a greater cost. But adjudicators are only empowered by legislation to assess the value of the work done, not offsetting damages claims – so a head contractor generally cannot raise this sort of claim as a defence in any adjudication instigated by the liquidator.

However, under the Commonwealth Corporations Act 2001, when a company is in liquidation and the liquidator is pursuing a debtor of the company, that debtor has the right (s 553C) to offset against the debt any amounts the company owes it.

In two decisions this year, the courts have stated that, because the Commonwealth legislation trumps the state and territory based security of payment legislation, such a counterclaim can be a defence even to an adjudicated claim.

Western Australia: Hamersley Iron Pty Limited v James

Hamersley Iron contracted with Forge Group Construction Pty Limited to construct fuel hubs in the Pilbara. In February 2014, mid-contract, Forge went into liquidation. The liquidators commenced adjudication under the Construction Contracts Act 2004 (WA) seeking payment for completed work, and obtained a decision in their favour for some \$641,000. Hamersley refused to pay on the basis of its \$7.4 million offsetting damages claim against Forge.

Forge sued for the adjudicated amount. The court found in favour of Hamersley, noting that the purpose of section 553C is 'to do substantial justice between the parties where a debt is really due from the bankrupt to the debtor'.

Victoria: Façade Treatment Engineering Limited v Brookfield Multiplex Constructions Pty Limited

In September 2011 Brookfield contracted with Façade to assist construct the Upper West Side Redevelopment in Melbourne. Disputes arose during 2012 and, in February 2013, Façade went into liquidation.

Façade's liquidator sued Brookfield on the basis that Brookfield had not provided a payment schedule in response to Façade's statutory payment claim. (The security of payment legislation says a respondent who fails to give a payment schedule cannot raise any claim under the construction contract as a defence.) Brookfield, in defence, said it had an offsetting claim under s 553C against Façade for delay and failure to complete the works.

A s 533C set-off is not available if the creditor was aware that the company was insolvent at the time it gave the credit. Façade argued that Brookfield had notice of Façade's insolvency at the time Brookfield's counterclaim arose. Interestingly, the court disagreed and said that the relevant time was the date the contract was entered in September 2011, and found in favour of Brookfield.

Conclusion

Security of payment legislation was implemented in an attempt to avoid insolvencies on building projects, by 'keeping the money flowing in the contracting chain by enforcing timely payment and sidelining protracted and complex disputes.' Once insolvency has occurred, the problem the legislation was designed to avoid has already happened. That is, security of payment rights are wasted on a company in liquidation.

Whilst liquidators can engage adjudicators to help with the task of assessing contractual claims, the practical utility of doing so is now doubtful. The liquidator will still be left with a potential dispute about the value of the damages offset, and frequently that damages claim will extinguish any right to payment.

This is, of course, good news for head contractors who now have a much stronger case to argue they are entitled to use money owed to an insolvent subcontractor to cover the additional costs arising from that subcontractor's failure to complete.

For more information or assistance, please contact:

Bernice Ellis
Senior Associate,
Dispute Resolution Team
Direct phone number: (02) 6279 4385
Email: bernice.ellis@meyervandenberg.com.au

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10 YEARS OF INNOVATION

Industry sentiment and the impact on Small–Medium Enterprises (SMEs).

By Grant Daly, Director Policy & Research CPSISC

Industry sentiment as a term in wide usage amongst economists and financial experts gets tossed around a bit without the public really understanding what it actually means in practice. According to economists ‘industry sentiment’ relates to the ‘confidence’ or lack of it by the specified group of people, in this case industry itself :

“Confidence indicator is a measure of the mood of consumers or businesses. It is usually based on a survey during which respondents rate their opinion on different issues concerning current and future conditions. There are many kinds of confidence indicators as institutions measuring them use different questions, sizes of samples or frequency of publications.

Consumers opinions are typically expressed with answers like: better, same, worse or positive, negative and unchanged. Results of such surveys are calculated by subtracting the negative replies from the positive ones..... Therefore it is carefully watched as an indication of possible changes in the overall economic growth.”

CPSISC carried out an industry stakeholder survey in late 2014 as a part of our annual Environmental Scan requirements and on this occasion we focussed as much as possible on the impact of sentiment on business activity and whether economic upturn, as evident in some parts of Australia, had impacted on overall sentiment, in other words whether the first sporadic ‘green shoots of regrowth’ had influenced what industry participants actually thought about economic recovery and in particular, their own business prospects. In both construction and property services industries there is a significant number of practitioners who identify as SMEs many of whom are micro-businesses typically consisting of family members to support the business administration and a single operator working by themselves.

There is clearly a relationship between industry and consumer sentiment because for most industry participants their views about their businesses and the economy more broadly were prefaced by the comment that there was definitely more work available and that they were busy once again doing quotes and carrying out their roles.

More than 70% of survey respondents were optimistic about their own business and about economic recovery although for most there was some caution about what an improvement might look like and whether the process of recovery would take some time to get back to pre-Global Financial Crisis (GFC) times. There was an overwhelming sense that this global financial event had knocked not only their business activity but also their business confidence.

For many this period of time had them learn a lot more about economics, bear markets and the domino effect on smaller businesses which are the backbone of the construction and property services industries. In short their experience of downturn had precipitated their enquiry about not only how to survive their businesses but also how to read economic indicators so that they could be more responsive rather than reactive in the future. There was also a widespread realisation that economics is not a static discipline, that markets go up and down and a big part of business success is being

able to weather downturn so that upturns can be exploited to put money away for such ‘rainy days’.

Small businesses, emerging from economic downturn, are presently very much focussed on getting their businesses back into earning mode and for many of the smaller SMEs, there is a return to their trade, so to speak, and away from other work activities which they engaged to keep an income coming in in harder times. There is a palpable interest more strategic considerations by industry participants at this level of operation but not as a distraction from business activity and as consumer sentiment improves, it seems, so too does business sentiment. What was interesting was that industry sentiment has tended to take a lead from consumer sentiment.

Industry participants remain cautious about the current economic situation and even though there is more work available the benchmark for full confidence remains high and it is widely set on pre-GFC ‘boom’ levels of trading. The current situation is seen as the middle ground only and as a passageway to prosperity; there is therefore little appreciation for other than the peaks in economic activity – chasing a boom or avoiding a bust are the only economic issues being considered.

Smaller business also talked about financial strategies to operate their businesses more competitively. This discussion revealed that their charge-out rates often took greater account of attractiveness to consumers than business bottom lines. There were other influential issues such as ‘poaching’ by competitors (mainly in the human resource context), the need to work more flexibly (when project work could be completed) and accessing cheaper products and materials to drive costs down. These considerations were posted alongside more predictable reactions to red and green tape interference in service provision – but the latter types of issues were very secondary to more basic and introverted considerations like surviving their businesses.

The issue with industry sentiment is that it is a driver for economic recovery but it is understandably inwardly-focussed post GFC. The bigger issues are related to business survival and uncertainty about the future and this has had the effect of ratcheting down activity towards less financially risky activities. The dollar bottom line has impacted on SMEs’ abilities to operate entrepreneurially with few survey participants willing to engage work where the costs are not largely containable.

The vulnerability for this group of industry participants therefore will be how they are able to remain realistic about business overheads and to price work so that their businesses can attract and carry out new opportunities without biting into their bottom lines. Few have not expended their meagre savings or cashed up their superfluous assets over the last few years as a means of surviving their businesses in downturn and as the largest single group of industry participants, SMEs are also arguably the most vulnerable to bankruptcy and business failure, most especially given the volatility of contract and project industry business foundations.

Below Ultrafloor engineered and manufactured lightweight flat soffit flooring slabs.

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The DECO - 155 Clarence Street redevelopment presented a unique opportunity for Ultrafloor to demonstrate why they are a flooring solutions provider and not just the manufacturer of the nationally acclaimed prestressed Ultrafloor beams. As well as installing the precast flooring, Ultrafloor was responsible for pre-pour inspections and engineering certification of the finished slabs. Their early involvement in the project by Probuild, ensured maximum benefits from Ultrafloor's in-house engineering team and the contract was structured such that Ultrafloor became the sole contractor for all design aspects of the suspended precast floor slabs.

Ultrafloor's challenge was to find structural concrete flooring to complement the modern precast interpretation of the original art deco look from the original plastered ceilings and grand, mushroom-inspired column capitals. To achieve this, Ultrafloor engineered and manufactured lightweight flat soffit flooring slabs, produced at their Rutherford manufacturing site. All Ultrafloor slab designs aim to reduce the amount of concrete and reinforcing steel. For 155 Clarence Street it saved 280m³ of concrete and around 30 per cent of the reinforcing, while achieving spans of up to 9.7m.

Longitudinal band beams, with projecting stirrups to tie into the insitu

concrete topping were formed with 100mm thick prestressed flatslab units between the columns. Slabs spanning onto these beams were formed with similar prestressed units providing a continuous soffit with a high quality finish. Polystyrene void formers, 900w X 150d, were fixed to the top surface, providing greater structural effectiveness and sustainability.

Logistics were important, with delivery times restricted to off-peak hours, with each semi-trailer carrying 100m² slabs, needing to be off-loaded in 45 minutes with just three Ultrafloor installers. Ultrafloor's system allowed earlier programming of the fitout trades. Most of Ultrafloor's temporary supports are able to be stripped out much earlier than non-precast systems.

DECO is a great example of Ultrafloor tailoring a flooring solution to the specific project needs. Significant direct cost savings were delivered through the concrete and reo de-materialisation. Indirect cost savings resulted from the faster build and the provision of a comprehensive design service. Other buildability advantages flowed and enhanced environmental outcomes were achieved.

For more information contact Ultrafloor, 74 Kyle Street, Rutherford NSW 2320, phone 1800 858 723, fax 02 9868 4548, website www.ultrafloor.com

Six-star building for five-star health and science learning and research opens



Photograph by Andrew Worssam

Six prized stars for sustainable design have been awarded to the third major building in the University of Technology Sydney's billion-dollar City Campus Master Plan by the Green Building Council of Australia.

The new Faculty of Science and Graduate School of Health Building features advanced health and science labs, learning technologies and state-of-the-art sustainability solutions. It is also only the second university building in NSW and ninth in Australia to achieve the six-star Green Star Design rating.

NSW Health Minister, the Honourable Jillian Skinner formally opened the building at a reception held on 27 April that showcased

the new facilities to industry and health and science education stakeholders.

Vice-Chancellor Professor Attila Brungs said the new building and facilities further consolidates a decades-long investment by UTS to be a hub for innovative applied research and highly valued practice-oriented education in health and science.

"A super lab accommodating 220 students, psychology clinics, a simulated drug dispensary, high-tech research technologies and learning aids, and a forensic crime scene simulation lab all feature in the new building," Professor Brungs said.

"Notable in the building's sustainable design is a 'green roof' providing recreational space, insulation, improved air quality, plant and animal habitat and the ability to filter and clean stormwater run-off.

"Other features include daylight architecturally fed through the building to subterranean spaces, high performance insulating glazing and water bottle refill stations are located on each floor for thirsty staff and students."

Professor Brungs said UTS was nationally and internationally recognised for excellence in health and science education and research. He added that a six-star Green Star Design rating demonstrates world leadership in sustainable design of tertiary education buildings.

"We bring creative, innovative minds together from across diverse disciplines such as the humanities, sciences, engineering, business, law and partner with allied industries to find new and innovative ways to address urgent health and science challenges faced at home and abroad," he said.

"The technological and architectural features of this new building combined with the revolutionary design aspects facilitate UTS's innovative learning and educational experience and dramatically enhance our research capability.

"Interdisciplinary collaborations have already led to breakthroughs in disciplines such as nursing, midwifery, environmental science, data analytics, engineering and social sciences. The recent addition of postgraduate programs and research in pharmacy, psychology, orthoptics, and soon physiotherapy, will see the impact and reach of our work grow further.

"UTS is globally recognised for leadership in health and science. We host a World Health Organisation Collaborating Centre. We are a lead partner in researching Sydney Harbour's marine life. Funding from Google is leading to technologies that can help us map, measure and better manage precious ground water in our driest regions.

"This building, and our entire newly-developed Campus, embodies UTS's vision to be a world-leading university of technology and an

inspiring place equipping our graduates for jobs of the future and delivering research with impact.

“Being awarded a six-star Green Star Design rating for this building and five stars for our other two recently opened buildings is a huge reward to many staff at UTS who have worked hard for many years now to lighten the university’s environmental footprint.”

NSW Health Minister Jillian Skinner said, “I am proud of the strong relationship the NSW Government has built with tertiary education providers such as the University of Technology Sydney.”

“Last year alone, UTS students undertook many thousands of clinical placement hours in public health facilities across the state, in fields such as nursing, midwifery and pharmacy.

“I am particularly excited this fine building will house a psychology clinic - staffed by masters students working under supervision - which will have a research role with a multi-disciplinary approach to issues such as pain management.

“This is a marriage of two issues I am absolutely passionate about - medical research and better pain management.”

UTS worked collaboratively with project architects Durbach Block Jagers, in association with BVN Architecture, after the Sydney-based practice won a competitive design competition in 2011, as well as contractor Richard Crookes Constructions.

Notable design features include the building’s façade which, inspired by the organic forms of a tree grove, work in total harmony with the trees lining Alumni Green.

A wide concrete stairway connecting levels 2 to 7 is both a grand feature and the building’s main artery, with a light-well created by a skylight on the roof above the spiral stairway combined with a shimmering mosaic tile wall creating an inviting, active way to move around the building.

Spanning eight occupied levels, including three below ground, and with a gross building area of 13,800m², the building has capacity for approximately 900 students and 300 staff. Excavation commenced in 2012 with construction starting in 2013 and finishing in October 2014. Teaching commenced in Semester 1, 2015.

The new building on the corner of Jones and Wattle Streets, Ultimo, overlooks UTS’s revitalised Alumni Green in the heart of the campus. Its opening follows those of UTS’s

new Faculty of Engineering and IT and Business School buildings during the past nine months and an underground robotic Library Retrieval System.

Faculty of Science and Graduate School of Health Building (CB07) SUSTAINABLE DESIGN FEATURES

////// Awarded a 6 Star Green Star Design rating Certified by the Green Building Council of Australia.

////// Natural daylighting provided via innovative architectural solutions e.g. portholes, skylights, oculus, light well.

////// High performance glazing; insulated double glazing with low emissivity coating to reduce heat transfer.

////// Adjustable blinds minimise glare.

////// Building cladding made from over 75% recycled glass.

////// Energy efficient building services; air handling units & fan coil units with Carbon Dioxide & Volatile Organic Compound (VOC) sensors, timers & individual controls. Efficient floor displacement ventilation in the lecture theatre.

////// Thermal labyrinth around Library Retrieval System cools fresh air for supply to basement plant room, reducing running costs.

////// Heated & chilled water supplied from CB01 Central Thermal Plant.

////// Roof-top solar hot water technology.

////// Energy efficient LED & T5 lighting, zoning & controls.

////// Highly visible internal staircases function as “bump space” to connect people, reduce lift energy use & improve health & wellbeing.

////// Energy & water sub-meters connected to campus-wide Energy Management System.

////// The building is a “living lab”; students are able to access data from meters & sensors monitoring indoor air quality & part of the Level 8 roof is dedicated to tree research.

////// Real-time sustainability performance data linked to digital screens in public areas.

////// Water bottle refill stations & drinking fountains on every floor.

////// Water efficient fixtures e.g. toilets, hand basin taps, waterless urinals.

SUSTAINABLE DESIGN FEATURES

////// Green roof provides recreational space, insulates the building, improves air quality,

provides habitat for plants & animals, & absorbs, filters & cleans stormwater run-off.

////// Rainwater capture, treatment & re-use to supply the building’s toilets, green roof & landscaping.

////// Capture, treatment & re-use of fire system test & maintenance drain-down water.

////// Improved Indoor Environment Quality through selection of materials, furniture, flooring, paints, adhesives & sealants & carpet with zero or low VOCs & use of composite wood products with zero or low formaldehyde content.

////// Low environmental impact flooring, joinery & loose furniture.

////// Timber re-used, recycled or from certified sustainable sources.

////// Steel sourced from environmentally responsible steel manufacturers.

////// Green concrete; a proportion of cement substituted with flyash (a waste product from power stations).

////// Polyvinyl Chloride (PVC) products avoided where possible.

////// Zero Ozone Depleting Potential refrigerants & insulants.

////// 98% of construction waste recycled.

PROJECT TEAM OWNER University of Technology, Sydney

PROJECT MANAGERS Savills + University of Technology, Sydney

ARCHITECT Bligh Voller Nield / Durbach Block Jagers

ESD / GREEN STAR + MECHANICAL + ELECTRICAL Steensen Varming

CONTRACTOR Richard Crookes Constructions

FAST FACTS SIZE Gross Floor Area 13,800m² Useable Floor Area 8,900m² 8 levels 3 basement + 5 floors + plant + roof COST Project cost \$154M (includes Alumni Green + Library Retrieval System)

DATES Start date (demolition) December 2007 Early works completion October 2012 Main works completion October 2014 Official opening 27th April 2015

Alkimos Beach sets the bar for world leadership green communities

Alkimos Beach in Perth's northern coastal corridor has been awarded Australia's first 6 Star Green Star – Communities rating for a residential master-planned project from the Green Building Council of Australia (GBCA).

The first 240 hectares of the 710 hectare master-planned community is being developed by Lend Lease and LandCorp, and is set to become the most significant coastal development north of Perth in 50 years. Upon completion, the first stage will deliver more than 2,000 homes for 6,000 residents.

Green Star – Communities, operated by the GBCA, is one of the world's first independent, transparent, national schemes designed to assess and certify the sustainability of large-scale master-planned development projects.

GBCA's Chief Executive Officer Romilly Madew said that Lend Lease had achieved many 'firsts' in the sustainability space over more than a decade, but up until now these have all been in buildings and fit-outs.

"This 6 Star Green Star rating for a community project sets the bar for world leadership community development and demonstrates a long-term commitment to sustainability at scale," she said.

Alkimos Beach was assessed against best practice benchmarks for governance and innovation, design excellence, environmental sustainability, economic prosperity and liveability.

Chief Executive Officer of Lend Lease's Property business in Australia Tarun Gupta said that the 6 Star Green Star rating was an example of the integrated capability of Lend Lease combined with disciplined execution enabling the delivery of outstanding results.

"Our team in partnership with the Western Australian land development agency LandCorp has achieved world leadership in environmentally sustainable planning, design and construction at a precinct scale," he said.

"We are very proud about achieving an Australian first and on leading the market on sustainability and community development. What better way to demonstrate our vision of creating the best places?"

LandCorp chief executive officer Frank Marra said LandCorp's key focus is growing WA in a planned and sustainable way.

"We encourage innovation and are delighted that our Alkimos Beach project has been recognised by the nation's authority on sustainable buildings and communities and acknowledged as a world leading development with global significance," he said.

The project site will eventually host 3.6 hectares of playing fields, six hectares of conservation reserves and 41 hectares of dune and foreshore reserves. All homes will be within 800 metres of both the local centre and transport links. Thirty per cent of the site will be reserved for open space; no home will be more than 200 metres from a park, and walking and cycle paths will link the beach, the town centre and the train station. WiFi will be provided in major public spaces to foster economic and social opportunities.

"We applaud the range of initiatives – from education campaigns to financial incentives to technology – that will help the residents of Alkimos Beach embrace more sustainable living," Ms Madew said.

"The importance of this rating cannot be understated. Lend Lease, LandCorp and the people of Alkimos Beach now have independent proof that this community will deliver economic, social and environmental sustainability.

And the industry has proof that 'world leadership' benchmarks in community development are achievable".

Key sustainability innovations at Alkimos Beach currently include:

- ▮▮▮▮ Mandatory solar panels and gas boosted solar hot water systems as well as other energy-efficient

appliances, supported by a financial incentive package from the Alkimos Beach development partners that range from \$4,500 to \$6,000 are expected to reduce home energy bills by up to 50%.

- ▮▮▮▮ Smart water initiatives are planned throughout the site including stormwater retention, bore water irrigation

and water efficient appliances in each home.

- ▮▮▮▮ Fibre-to-the-Premises internet connectivity is being provided throughout the development to encourage the notion of working from home.

Curtin University awarded Australia's first 5 Star Green Star – Communities rating

Curtin University has been awarded Australia's first 5 Star Green Star –

Communities rating from the Green Building Council of Australia (GBCA).

Western Australia's largest university received the rating for its Master Plan, which will see its Bentley Campus developed into a 'city of innovation'.

Green Star – Communities is one of the world's first independent, transparent, national schemes designed to assess and certify the sustainability of large-scale master planned development projects.

According to the GBCA's Chief Executive Officer, Romilly Madew, the Curtin University Master Plan was assessed against best practice benchmarks for governance and innovation, design excellence, environmental sustainability, economic prosperity and liveability.

"A 5 Star Green Star rating signifies 'Australian Excellence', sets new sustainability benchmarks for Australia's universities, and provides Curtin University with independent proof that its vision will deliver environmental, economic and social sustainability," Ms Madew says.

"We applaud the leadership demonstrated by Curtin University, and also acknowledge the hard work and commitment of the project team responsible for delivering this outstanding result," Ms Madew adds.

Curtin University Vice-Chancellor Professor Deborah Terry said the rating was an important endorsement of the University's vision to transform its Bentley Campus through urban renewal and sustainable design.

"As a university we are continually striving to be leaders in research and education and the 5 Star Green Star – Communities rating validates our ambitions to develop a vibrant urban centre, while achieving our vision to change the world through innovation and excellence. To be the first project in Australia to receive the rating is a significant achievement," Professor Terry says.

James Rosenwax, AECOM Managing Director, Design, Planning & Economics, says: "The Curtin University Master Plan's 5 Star Green Star Communities certification is a ringing endorsement of Curtin University's commitment to sustainability; AECOM is proud to have been a part of what is an Australian first. As the master planner consultant for the Curtin University Master Plan, AECOM worked with the University to embed sustainability through the design development, then work with the University on documenting and confirm its sustainability commitments within the Green Star – Communities rating tool."

The Curtin Master Plan will see 114 hectares of the University's Bentley Campus transformed through urban regeneration over a 20-year period. It supports an urban economy based on education, business, technology, housing, public transport, the arts and recreation.

Stage 1 of the Master Plan is underway. As part of Stage 1, Wesfarmers Court – a dynamic economic and innovative hub – was opened in December last year and was supported by listed company Wesfarmers.

"The Green Building Council of Australia believes that everyone should have the opportunity to learn in a green school, work in a green office, or live in a green home. We believe Green Star – Communities will provide the pathways to create sustainable places for everyone," Ms Madew concluded.

About the Green Building Council of Australia

The Green Building Council of Australia (GBCA) is the nation's authority on sustainable buildings and communities.

The GBCA's mission is to accelerate the transformation of Australia's built environment into one that is healthy, liveable, productive, resilient and sustainable. The GBCA works with industry and government to encourage policies and programs that support its mission. The Council educates thousands of people each year on how to design and deliver sustainable outcomes for Australia's buildings and communities. And it operates Australia's only

national, voluntary, holistic rating system for sustainable buildings and communities – Green Star. See:

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Crane Oversail - The overhanging Legal Issues for Developers, Builders and Owners.

By Stephen Smith, Managing Partner & Alex Milne at Lovegrove Smith & Cotton



Crane Oversail – The overhanging legal issues for developers, builders and owners.

Crane Operation

Building development, especially in densely populated cities, has led to the growing use and need for the deployment of tower cranes in construction. Such cranes, in many cases, provide cost effective advantages in the course of construction.

Tower cranes are typically erected on the land being the subject of the development and have a long boom or jib, which when angled out from the cabin of the crane, is used to lift and deliver materials, brought to the construction site from ground level to higher levels. Tower cranes can also have a counterweight which may also extend horizontally to balance the boom.

The nature of operation of tower cranes means that in some cases and at certain times in the course of such operation, the boom or counterweight may due to the physical title boundaries of the developed land, need to extend over adjoining land. In some cases the crane may be programmed so as not to traverse over

the boundary line of an adjoining property, but this is not always a practical outcome to achieve the desired utility from the crane in the course of construction.

This projection of the boom or counterweight over the boundary line of an adjoining property gives rise to legal issues and practical problems for developers, builders and adjoining owners/residents.

The Historical Recognition of Legal Title

From the earliest times common law has recognised the sanctity of landowners rights. A landowner is entitled to the exclusive use and enjoyment of his land. The voluntary and affirmative act that results in a physical transgression onto another's land by a person, an animate or inanimate object will constitute an actionable trespass.

Trespass as a matter of law has been recognised as extending below the surface of the ground (e.g. mining/drilling under another's land). Property rights of the owner or occupier above the surface have been held to extend to the use of airspace above the ground as is necessary for the proper enjoyment of the surface: *Kelson v. Imperial Tobacco Co Ltd* [1957] 2 QB 334 ACQ Pty Ltd v. Cook [2008] NSWCA 161.

Subject to regulatory controls, an owner of land has the right to erect structures to any height and for any purpose.

There is no legal entitlement to construct structures overhanging or passing over

the top of a neighbouring property, whether there is any actual damage or not thereby occasioned.

There is clear authority that the direct invasion over land by artificial projections such as a swinging crane constitutes trespass and proof of damage is not required to justify a valid claim warranting the granting of a mandatory injunction to compel removal: *Anchor Brewhouse Developments v. Berkeley House* [1987] 2 EGLR 173; *Graham v. Morris* [1974] Qd R 1.

Legislative Intervention through the Courts

In New South Wales by virtue of the Access to Neighbouring Land Act 2000 in Queensland by virtue of the Property Law Act 1974 (s.180) and in the New Zealand the Property Law Act 2007 (ss. 319 and 320) have each enacted legislative provisions that allow for a builder or developer to make application to a Court to obtain an order facilitating the oversail of a crane onto neighbouring/ adjoining land. On one level this may be viewed as the legislative interference with a landowners legal rights to exclusive possession of their land free from unauthorised entry.

However, the legislation seeks to strike a balance between the land owner and an adjoining developer and/or builder by facilitating the intrusion of adjoining land space with the egress of overhanging crane booms/jibs, whilst ensuring that there is a reasonable level of protection and comfort afforded to the adjoining

land owner.

The legislation provides a practical solution and balances the interests of all parties. It does abrogate the common law position so long as an application is made to the appropriate Court for an order granting entry onto or over neighbouring land.

It is likely that other Australian States and Territories will in time follow the legislative reforms of New South Wales, Queensland and New Zealand.

The current position in other Australian States and Territories

Although the historical position of trespass exists at common law by the unauthorised oversailing of a crane boom/jib onto adjoining land remains the law, there has been some development of that strict position.

In *Woolerton and Wilson Ltd v. Richard Costain Ltd* [1970] QB 479 the Plaintiff's airspace had been oversailed by the jib of Costain's tower crane, but the Plaintiff refused to grant a licence despite Costain offering a substantial amount of cash. The Claimant had not suffered damage as a result of the trespass. The Plaintiff obtained an injunction but significantly the Court decided that in appropriate cases, it would use its discretion to suspend the coming into effect of the injunction. This is precisely what the Court did – remarkably the injunction was suspended until Costain's works were complete.

This decision considered the rule that an injunction should not be granted where damages are an adequate remedy. In considering whether damages provide an adequate remedy the Court considered a wide range of issues including how much prejudice and inconvenience the neighbour will suffer and whether or not the contractor has acted reasonably in offering payment. If the adjoining owner holds a contractor to ransom, rather than acting reasonably, such conduct may be taken into account by a Court in considering whether the granting of an injunction, and an injunction may well be granted but its introduction may be suspended such as

to commence only after the time required by the builder has elapsed. In many cases there will be no physical damage to the use and enjoyment of neighbouring land, and it is submitted that an adjoining owner needs to act reasonably in seeking compensation from a builder/developer.

Nevertheless it is clear that:

- a. boom/jib oversail without the adjoining owners permission is trespass;
- b. the granting of an injunction is an appropriate remedy;
- c. the court will consider the conduct of the parties including whether the parties have acted reasonably towards each other and the builder sought prior permission and offered compensation, and the adjoining owners response;

Oversail License Agreements

From a practical perspective it would be prudent for a builder/developer to offer a minimum of \$5000 to an adjoining land owner as a license fee. This is because the Court would award nominal (token) damages for trespass even where no actual damage has been occasioned.

This can all be costly for the contractor, especially if the area is built up and a large number of landowners are involved, who would all need to be granted separate licences if the crane oversailed their respective space. Innovatively, however, a few contractors have managed to offset some of this cost by using the jib as advertising space, though note that this use may be restricted by both planning controls and restrictive covenants.

It is strongly recommended that a lawyer be consulted in these circumstances, to draw a license agreement that will serve the purposes of all parties.

In Victoria, notwithstanding the application of the law of trespass and the rights attaching thereto, the Building Act 1993 provides a useful mechanism to developers in circumstances of anticipated crane oversail.

Part VII of the Building Act 1993 enables

developers in a practical sense to accommodate crane oversail by virtue of a protection works notice.

Conclusion

The issue of cranes overhanging property can cause particularly vitriolic sentiments between the parties. In many cases an adjoining owner will already feel aggrieved by the fact that a large development is being built next door, and this may make it difficult for the parties to deal with the question of a crane overhanging dispassionately. Meanwhile the builder/developer may not appreciate that an adjoining owner has rights in relation to their airspace which need to be compensated for.

However a calm approach from both parties will more than likely lead to the best results. Once again legal advice may be helpful, as it allows the legal advisors to dispassionately negotiate an appropriate licensing agreement which adequately compensates and protects the rights of the adjoining owner whilst allowing the builder to proceed with minimal disruption.

In the event that a licensing agreement cannot be agreed, or a crane is allowed to overhang a neighbouring property without a license in place, the parties will have to resort to legal action, either at common law, or pursuant to the relevant statute, depending on the jurisdiction. There is a significant risk that a builder could have an injunction awarded against them preventing them from using the crane on site. This could have huge economic impacts on such a builder.

However courts in other cases have been inclined to resolve these matters by allowing overhanging, and ordering appropriate compensation. It would seem to be in the economic interests of both parties as well as the wider community if these disputes can be resolved without resort to the court system.

Design and Construct contracts: who cops it in the neck when things go wrong?

By Kim Lovegrove FAIB and Partner at Lovegrove Solicitors

This article is based upon insights developed after being involved in D and C litigation over the years. It seeks to draw out some of the “bugs” that frequently blight D and C contracts. They are protracted, expensive and dangerous, as the D and C animal is a confusing beast. It also has a tendency to mutate and rarely is one D and C contracting model similar to another.

What is D and C?

In its purest form it is a contract where a contractor undertakes to design and construct a building. This type of contracting also embraces two separate disciplines or skills:

- Design which is generally associated with the disciplines of engineering, architecture and drafting;
- Building which concerns itself with the actual construction of a building.

This makes it different to other types of construction contracts. Builders contract to build, engineers contract to carry out engineering, but D and C contractors undertake to deliver an amalgam of design concept development, design approval and construction of the “as built” product. This generates somewhat of a risk amalgam for reasons that will become evident in this article.

The importance of identifying the two distinct sub-sets of disciplines within D and C contracts is to prevent any misunderstanding as to the inherently different tasks and, more importantly, risks that fall within the curtilage of the skill subsets. Regrettably in practice confusion does occur as the discrete and separate disciplines become blurred and merged.

It is ironic that in places like Victoria, architects, engineers, draftsperson and builders have to be registered in distinct categories by the registration body, the Building Practitioners Board, yet the hybrid discipline of D and C does not generate the discrete registrant profession of design and construct contractor.

It is also interesting that save for Victoria it is very difficult to obtain insurance for civil construction, yet D and C cover is more prevalent, even though it provides indemnification for a far more extensive risk amalgam.

When the D and C contracting entity is sued, one often finds

that a separate design sub-contractor has carried out the design. The D and C contracting entity ordinarily comprises a head contractor that is solely the building arm of the contracting concern. The head contractor contracts out the design task to a design sub-contractor but in so far as the principal relationship is concerned it inherits the liabilities of the designer.

In building disputes where defects are due to design rather than construction the contractor often becomes ‘the fall guy’ the plight of the fall guy is worsened if the head contractor has not availed itself of appropriate insurance cover because it may lack the resources to defend a litigation. The appropriate insurance cover would be a D and C risk policy that, although available, may be difficult to secure. If the contractor cannot get hold of such cover a strictly commercial construction cover will prove to be an even more illusive quarry. Only Victoria has a government gazetted commercial construction cover that is limited to structural defects.

This is in contradiction to the designer who would ordinarily carry professional indemnity insurance cover where the insurer under the indemnity ordinarily funds and assumes conduct of the insurer’s defence.

Scope of works, risk – how long is a piece of string?

There are very few standard industry D and C contracts. They normally have to be adapted to suit the needs of the given project. The problem with some of the standard contracts is that although they are well written and comprehensive, more often than not they are incompatible with the contractual subject matter. When one tries to reconcile the standard contract with the project pathology of the particular project it can be a bit like putting a “square peg in a round hole.”

I once had to prepare a contract for an oil company for the construction of petrol stations. At first instance I had resort to a standard form contract but although the contract was well crafted it was unsuitable as it was too detailed. The over detailing emanated from the fact that the client had prepared very detailed in-house designs based on design prototypes. The design input of the contractor was thus limited, hence a plethora of contractual provisions were rendered superfluous.

The two types of D and C models

Conceptually and broadly speaking there are two models;

- |||| D and C with major contractor design input;
- |||| D and C with limited contractor design input.

Both of these creatures are profoundly different types of contracts in terms of assumption of risk.

It follows as a matter of logic that the limited contractor design input model is the low risk option for the contractor. This is because it is the owner who has generated the paramount design ideas and elements not the contractor. The contractor is quoting upon something that it essentially certain, so there are fewer variables. In other words the contractor has a clear idea of what it is being engaged to construct. Hence if there is any design litigation, unless the contractor has modified the design, the primary design liability should attach to the owner. Furthermore, the issues will ordinarily be pretty straightforward because the risk apportionment is clear.

Major contract design input

Conversely where the contractor elects to carry out the majority of the design input, the risk that the contractor inherits is exponentially greater.

Regrettably there is no rule of thumb as to how it can be measured. It depends upon many things including;

- |||| The detail given to the contractor by the principal at first instances;
- |||| Has it rough conceptual documentation?
- |||| Does it comprise drawings that have been vetted by an architect, or is it documentation that was developed over a “boozy lunch” on table paper?
- |||| Does it comprise plans that have been approved by council?
- |||| What is the documentation’s status within the constructs of the design continuum: embryonic? Crude? Advanced?
- |||| Does the briefing documentation have any inherent flaws, will it have to be modified or varied?
- |||| Is the briefing documentation capable of generating council approval?
- |||| Have professional designers prepared it?
- |||| What are the finishing details like?

This type of contracting model is the Pandora’s box model. It is full of unknown potentials, twists and turns. As an aside, attention is drawn to the paradoxical nature of the D and C beast. D and C contracting can rarely be pure in that there is always some design input from the principal. The simplistic and pure definition of D and C contracts is that the contractor does all of the designing, as the term “D and C” would imply. This is rarely the case as the contractor normally carries out only some of the design, albeit “that some of the design” may happen to be

the greater part of the design.

If a contractor is intent on entering into a design and construct arrangement when given the barest of design details then it is axiomatic that the contractor should have the ability to vary the price depending upon the magnitude of the design input and potential changes. It could be commercially suicidal for a contractor to lock into a lump sum D and C contract when the design brief is embryonic.

Ideally the contract would be priced so that there are two pricing phases, a price for design development and building approval procurement, and then a price or construction. Obviously the construction price should be crystallised as late as possible mindful of the imponderables and variables that may be encountered during the design evolution phase. Alternatively the arrangement should be cost plus, which although increasingly an anathema to principals, is nevertheless from the contractor’s point of view the safest D and C methodology.

If the contractor is not enamoured with this approach, wanting the price to be fixed at the front end, the contractor must be aware that the very act of contractual execution may be a defining moment in the ongoing solvency of the company. It may prove to be the precursor to the financial demise of the company on account of the massive assumption of risk.

Typically a D and C contractor contracts directly with a principal under a fixed price arrangement for design and construct services.

Contractors perform D and C services in one of two ways, either by:-

- |||| Using the services of an in-house design team; or by
- |||| Sub-contracting out the design function.

The in-house approach to D and C

The in-house approach contemplates an in-house design team, whether they be architects, draftspeople, or engineers.

Prudence dictates with this approach that the contracting entity has taken out insurance for the risk amalgam of design and construct. Prudent principals will normally ask for insurance cover that provides comprehensive indemnity for design and construct malaise.

If a building dispute arises the in-house approach will prove to be far less fickle than the outsourced approach. The reason is that the contracting entity has imported and embraced the design risk, and has internalised the risk. In addition, as it has carried out the design with internal resources, it will be better positioned to confront a liability and fix the problems, knowing that there is no ability to outsource the risk or the blame.

Outsourcing the design

This approach raises profoundly different issues with regards to insurance and risk. It normally entails a build incorporating a company that contracts directly with the principal to tender D and C services. The design function is subcontracted out to an

independent designer and the builder ordinarily interfaces with the designer.

In the author's experience this method is often associated with a large dose of naiveté on the part of the contractor. Rarely does the head contractor ensure that the insurance cover taken out by the design subcontractor embraces either the magnitude or the "pathology of the risk."

Take the case of a \$10 million project the question needs to be asked what amount of cover should the designer carry. In assessing the risk, consideration needs to be given to the potential consequences of design negligence and the "project pathology."

The consequences can be forecasted by analysing the nature of the project. For fear of stating the obvious, one of the designer's primary responsibilities is to ensure that the structural design is sound. In the worst case scenario, if the structural design is deficient it can lead to building collapse. More often it may lead to partial collapse. The consequences of any type of collapse or serious design malaise are multifaceted. They impact upon completion costs by way of;

- ▄▄▄ Time blow outs
- ▄▄▄ Critical path interruption
- ▄▄▄ Renegotiations of critical subcontracts
- ▄▄▄ Liquidated damages
- ▄▄▄ Sometimes union interference

The net effect is that the very viability of the project and the contractor's ability to remain solvent are brought into question. Yet all too often the contractor may negotiate an indemnity limit with the design sub-contractor that is woefully inadequate. The criteria used are often calculated on the basis that the design task in dollar terms is nominal, hence the limit of indemnity should be nominal. Rarely is the negotiated level of design indemnity commensurate with the real risk.

I have observed that in many cases a builder under-insures for major building works and, moreover, abides an under insurance scenario with the designer. Using the current example it is not unusual for a builder to accept one million dollars' worth of design indemnity from the designers. Yet the magnitude of the design negligence may exceed the design indemnity value by 300%.

As a result, the contractor having contracted under a D and C contract assumes the liability of the designer in so far as its obligations to the principal are concerned and it has to fund a sizable shortfall. In this case the contractor again becomes the fall guy because it assumes liabilities on account of the workings of contract law and poorly negotiated risks that rightfully reside with the designer.

The only way that the contractor can protect its position is to ensure that the level of design indemnity can adequately cater for the likely costs of design rectification and the consequential costs emanating from that rectification.

Hence in the current scenario \$10 million worth of indemnity may be conservative.

It also places the builder's insurer in an invidious position because the builder's insurer has only limit resort to the design insurer on account of a low level indemnity.

One possible solution is available during principal-contractor contractual negotiations. The D and C contractor could negotiate a term the import of which provides that in the event of defective design then the principal can sue the designer directly and independently of the construct concern. Furthermore, immunity would attach to the contractor for any design costs and consequential costs that emanate from that design loss. Even though this is unorthodox it achieves the dual outcomes of:

- ▄▄▄ Responsibility attaching to the author of the malaise
- ▄▄▄ The on-going viability of the project is increased because the construction team can remain largely intact. This can lead to massive cost savings because of the terms' unique knowledge of the intimate workings of the project.

An additional problem with this D and C contract scenario is deconstructing or separating the "amalgam". If there is a dispute over the adequacy of the design the traditional accord enjoyed by the contractor and the designer will generate into discord and adversarialism. Positions will be polarised and the opportunity for relationship resurrection and project resurrection will be minimal.

Where design negligence is the principal cause of a construction failure inevitably the designer will blame bad workmanship or contributory negligence. A typical argument is that the contractor was remiss with its supervisory obligations. It is also common that memories regarding key representations will fade, recollections become blurred and the distortion of facts assumes currency. This leads to protracted and costly litigation with commensurate risk that only generates one set of beneficiaries, the likes of the learned fraternity of lawyers.

The problem is made even more acute by the fact that the sub-contractual arrangements between the designer and the head contractor rarely address risk "divvy-up" in the event of D and C litigation.

www.lsclawyers.com.au

Record \$27 billion Victorian building permits in 2014

The value of building permits in Victoria in the 2014 was a record \$26.9 billion, 11 per cent above the previous highest calendar year total of \$24.2 billion reported in 2011.

Chief Executive Officer of the Victorian Building Authority (VBA) Prue Digby said the record building permit activity reported to the Authority in 2014 also was 14 per cent higher than the \$23.5 billion reported in 2013.

"All building work requires a building permit to be issued by a building surveyor unless there is an exemption for the proposed works under the Building Regulations 2006. The building surveyor is obligated to report details of each permit, including the value of works, to the VBA at the end of each month," Ms Digby said.

"The data provided to the VBA in 2014 reveals that, compared with 2013, the value of building permits was higher for all seven regions of the state, which also all posted increases in the number of building permits reported.

"The percentage increase in value of building permits in Rural Victoria outstripped the level of increase in Metropolitan Melbourne, 21 per cent compared with 13 per cent.

"The Inner Melbourne region reported the highest value of building permits, \$12.3 billion overall, while in Rural Victoria the South West region reported \$1.9 billion. The North Central region had the biggest percentage growth in value, rising 33 per cent to \$1.3 billion when compared with the previous 12 months," Ms Digby said.

In 2014 building permits by building use compared to 2013 showed:

- Domestic rose 18.3 per cent to \$13.7 billion
- Residential (including high rise) increased 8.3 per cent to \$4.1 billion
- Commercial fell 13.0 per cent to \$2.9 billion
- Retail increased 14.9 per cent to \$2.0 billion
- Industrial jumped 28.0 per cent to \$728 million

Hospital/Healthcare leapt 119.2 per cent to \$1.7 billion

Public Buildings rose 2.5 per cent to \$1.8 billion

By region, the value of building permits in 2014 compared to 2013 showed:

Inner Melbourne increased 11.5 per cent to \$12.3 billion

Outer Melbourne rose 14.3 per cent to \$8.8 billion

Gippsland was 12.3 per cent higher at \$812 million

North Central leapt 33.0 per cent to \$1.3 billion

North East rose 9.7 per cent to \$680 million

North West increased 21.8 per cent to \$1.2 billion

South West jumped 21.9 per cent to \$1.9 billion

In addition to building use and regional building permit data, the VBA's 2014 building permit activity report shows that on a municipality basis, the City of Melbourne had the highest value, at \$3.4 billion, followed by the City of Wyndham (\$1.4 billion) and the City of Greater Geelong (\$1.3 billion).

The following table shows the top 10 municipalities by value of building permits in 2014:

| Municipality | Total Reported Cost of Work \$ |
|-----------------|--------------------------------|
| Melbourne | 3,378,337,926 |
| Wyndham | 1,376,441,106 |
| Greater Geelong | 1,302,122,744 |
| Boroondara | 1,189,842,362 |
| Stonnington | 1,064,723,715 |

| | |
|-----------------|-------------|
| Casey | 982,185,393 |
| Whittlesea | 933,173,976 |
| Monash | 900,686,199 |
| Yarra | 893,743,666 |
| Greater Bendigo | 758,123,810 |

2013 Top 10 Metro and Regional Municipalities by Value of Permits

| Municipality | Total Reported Cost of Work \$ |
|-----------------|--------------------------------|
| Melbourne | 3,480,287,116 |
| Greater Geelong | 1,008,151,406 |
| Boroondara | 1,004,723,582 |
| Wyndham | 954,819,230 |
| Casey | 818,911,535 |
| Stonnington | 785,197,669 |
| Hume | 781,748,542 |
| Whittlesea | 764,818,273 |
| Yarra | 732,000,750 |
| Monash | 671,341,305 |

The largest building permit in Victoria in 2014 was for construction of a laboratory, office, a plant and equipment building and storage and ancillary buildings valued at \$210 million in the Horsham Rural City Council. The second largest building permit reported statewide was \$148.9 million for the Epworth Geelong Hospital building at Waurn Ponds in the City of Greater Geelong.

The VBA collects Victorian building information monthly from building surveyors who provide details of building permits they issue. This media release is based on a summary of that information for the 2014 year.

AIB NEW MEMBERS

A very warm welcome is extended to all these new additions to the AIB family.

AIB NEW MEMBERS

| Title | Given Name | Surname | State/Territory | Grade |
|-------|-------------|---------------|-----------------|-------------------|
| Mr | Saso | Acevski | VIC | Student |
| Mr | Malte | Adam | QLD | Student |
| Mr | Ming Yin | Au | HK | Member |
| Mr | Timothy | Barber | WA | Student |
| Mr | Nicholas | Brennan | NSW | Student |
| Mr | Wesley | Browne | QLD | Student |
| Mr | Tak Sum | Chan | HK | Member |
| Mr | Pedro | Da Silva | ACT | Member |
| Ms | Nicole | Detsimas | QLD | Associate Level 1 |
| Miss | Kelly-Maree | Duncan | QLD | Student |
| Prof | Abbas | Elmualim | SA | Fellow |
| Mr | Brendon | Fry | WA | Student |
| Mr | Grant | Galvin | QLD | Affiliate |
| Ms | Bridgett | Glasson | ACT | Student |
| Mr | Adrian | Granato | WA | Student |
| Mr | Man Cheung | Ho | HK | Fellow |
| Mr | Max | Hough | NSW | Associate Level 4 |
| Mr | Mohammed | Islam | VIC | Student |
| Dr | Sittimont | Kanjanabootra | NSW | Member |
| Mr | Kwok Chung | Lai | HK | Member |
| Mr | Wing Hang | Lo | HK | Member |
| Mr | Bede | Maguire | NSW | Student |
| Mr | David | Marshall | WA | Fellow |
| Mr | Peter | Moore | WA | Fellow |
| Mr | Yiu Wing | Ng | HK | Member |
| Mr | Luan | Nguyen | WA | Associate Level 2 |
| Mr | Michael | Pritchard | VIC | Associate Level 4 |
| Mr | Haotian | Qu | ACT | Student |
| Mr | Andrew | Robertson | SA | Student |
| Mr | Patrick | Sleeman | NSW | Associate Level 4 |
| Mrs | Andrea | Stewart | SA | Associate Level 4 |

Apology

Due to an administrative error, the edition 1 2015 of Construct magazine listed Andrew Packer FAIB as being a new member. Andrew originally joined the AIB over 30 years ago, rose through the ranks and was admitted as a Fellow on 1 December 1998. He was also previously Queensland Chapter Vice President for several years and has served on several committees with the AIB. Therefore, our sincere apologies are extended to Andrew.

NEW AIB Merchandise

Membership of the Australian Institute of Building (AIB) provides recognition and distinction amongst professionals within the building and construction industry. To assist members demonstrate their support for the building profession through their AIB membership the Institute is pleased to make available a range of merchandise.

AIB Safety Hard Hat \$24.95*
One size fits all

AIB High Visibility Vest \$15.95*
Sizes available – small, medium, large and extra large

AIB Scheduling Calendar \$5.95*

*All prices include GST and postage within Australia.
Orders from outside Australia incur a AUD \$7.50 surcharge.

To purchase any items of merchandise,
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email administration@aib.org.au



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No more 28 day render cure delays before painting

Fresh or “green” cement render and concrete is HIGHLY ALKALINE, traditionally requiring time to stabilise before painting, resulting in costly project delays and extended scaffolding costs.

In the real world, project schedules compress and painting sooner often results in coating failures or unsightly alkali staining (white salts or “efflorescence”).

AcraTex® GREEN RENDER SEALER eliminates the “28 Day” wait cycle - meaning project dollar savings and enhanced durability.



Eliminate unsightly efflorescence



Scaffolding costs reduced

Safe, Durable & Assured

- Water Based
- AcraTex® GREEN RENDER SEALER chemically reacts with free cement alkali to bind and block its migration
- Paint after only 2 days* render drying - instead of waiting 28 days
- Superior adhesion to masonry

Safe to paint over render In 2 days* - No more delays

Dulux Approved System for Cement Render

Cement render is highly alkaline and rigid due to the inherent nature of the cement binder. Coating systems for cement render must block alkali (salts) leaching and expand and contract to accommodate render shrinkage cracks. Low build (conventional) paint coatings are NOT recommended for cement render.

| System Component | Dulux Recommended System | Feature Benefits |
|------------------------|---|--|
| Primer Sealer | AcraTex Green Render Sealer Suitable for application over 2 day old cement render | - Blocks Cement Efflorescence - Reduces Project Delays - Optimises System Performance |
| Crack Bridging Topcoat | AcraTex AcraSkin Available across the full Dulux exterior colour range | High Build - Crack Bridging Protection Nap Roller - Paint Like Appearance Superior Application - Low Roller Spatter |

Note: GRS is “Safe to paint after only 2 days” based on adequate drying of the substrate to a stable moisture content.

For further information about Dulux AcraTex Green Render Sealer please go to our website www.acratex.com.au

Fast track your project completion...

and reduce your scaffolding costs

SAFE TO PAINT
OVER RENDER IN
2 DAYS*
No more delays



AcraTex® Green Render Sealer™

The Anti-Efflorescence Primer-Sealer for fresh cement render eliminates project delays and unsightly efflorescence.



Fast Track - coat Render after only 2 days*



Lower Scaffolding Costs - drop scaffold faster



Restricts Efflorescence



Superior Adhesion



Water Based - low VOC

Dulux recommended system for cement render with AcraSkin crackbridging topcoat.

* Safe to paint over 2 days based on substrate adequately drying to a stable moisture content.



For further information go to: acratex.com.au
Dulux Customer Service: 13 23 77

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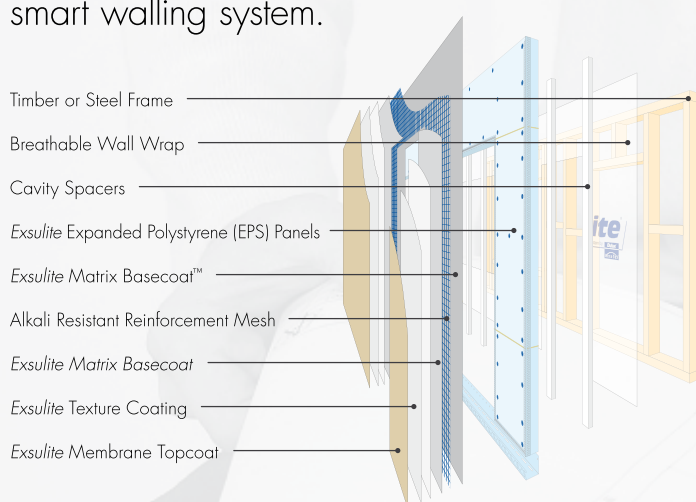
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