

# construction

in vancouver



## Modular innovation

Fraser Valley-based firm helps lead the way in off-site construction methods | B6

Employees lay out and build wall assemblies at Metric Modular's construction facility in Agassiz, B.C. Modular construction "provides cost certainty, better quality control and faster construction, not to mention significant environmental and sustainability benefits," says Craig Mitchell, Metric Modular's director of innovative solutions. See story on page B6 | SUBMITTED

### FINDit



**CONSTRUCTIVE COMMENT** B7  
Following a great year, VRCA looks toward the future



**LEGAL SPECS** B8  
Proving a delay claim is more complex than it may seem



**KUDOS: Electrical industry brothers** rake in awards B2

**OUTLOOK: B.C. construction industry** challenges and solutions B3

**LEADERSHIP: Outstanding woman in** construction offers career advice B4



**ENERGY: Passionate about** Passive House building B5

**STANDARDS: VRCA study lays** groundwork for measuring performance B6-B7

# KUDOS: ELECTRICAL INDUSTRY BROTHERS RAKE IN AWARDS

David, Ron and Wayne Fettback of Western Pacific Enterprises share their advice for those starting out in the industry

BY BRIGITTE PETERSEN

**K**nown for pursuing complex and challenging landmark projects across B.C., the Fettback brothers have made significant contributions to the electrical industry over the last four decades.

With **David Fettback** at the helm as president, **Ron Fettback** as operations manager and **Wayne Fettback** as director of safety and procurement, the brothers have helped grow Coquitlam-based **Western Pacific Enterprises Ltd.** (WPE) into one of the largest electrical contracting firms in Western Canada, and the industry has taken notice.

Ron, now retired, was inducted into the **Electrical Contractors Association of BC's Hall of Fame** in 2018. The brothers raked in awards for themselves and WPE at the **Vancouver Regional Construction Association's (VRCA) Awards of Excellence** last October. VRCA made Ron a life member, and he and his two brothers also received Lifetime Achievement Awards. These were in addition to WPE winning awards – two silver and one gold – in all three electrical contractor categories and a Safety Award for achieving a zero-frequency injury rate.

WPE's president said the company strives to be innovative, and he's proud that it's becoming paperless at its head office and in the field.

"Software platforms such as SharePoint, Revit and Bluebeam have been leveraged to create cutting-edge ways of ensuring ease of communicating, tracking productivity, tracking safety and providing accurate information to the field and our clients," said David.

The Fettbacks are also proud of their diverse staff.

"Our shared most-proud-of things are the growth of so many men and women from all parts of society that have worked for us for years and form the fabric of WPE," said David.

### Family business

Started in 1972 by the Fettbacks' father, **Dieter Fettback**, and his business partner **Ernie Moore**, WPE is known for its work on the Quintette mine, SkyTrain and Canada Line, **Howe Sound Pump and Paper**, the **Alberta-Pacific Forest Industries Inc.** pulp mill, Royal Jubilee Hospital, Gordon and Leslie Diamond Health Care Centre, Stanton Territorial Hospital, Vancouver and Surrey pre-trial facilities, BC Place, Rogers Arena and Vancouver Convention Centre, to name a few.

In 1991, WPE's ownership transferred to the brothers, including another brother, **Mark**



David Fettback, president of WPE: "don't sit on the sidelines and complain... Be a voice that helps to change things" | SUBMITTED



Ron Fettback, former operations manager (retired), WPE: "if you want to change or enhance the industry, you need to be involved" | SUBMITTED



Wayne Fettback, director of safety and procurement, WPE: "there are so many good people in the industry and at WorkSafeBC that are willing to share their knowledge" | SUBMITTED



Now retired, Hal Moore was WPE's office manager from 1991 to 2016 | SUBMITTED



WPE is known for work on BC Place stadium among other major projects | JOSEF HANUS/SHUTTERSTOCK

**Fettback**, who retired early from his project manager position, and Moore's son **Hal Moore**, the company's office manager from 1991

**David Fettback** David, 62, who has been an active VRCA board and committee member and has served on sev-

Contractors Association of BC, has served on numerous industry committees for training and industry lobbying.

dealing with job-site injuries. WPE has earned various safety awards over the years, including the Lieutenant Governor Safety Award, which recognized an innovative approach to tracking and managing statistics, incidents and the company's safety program.

"If you want to change or enhance the industry, you need to be involved. I have tried to be a mentor to those around me and always supported employees and others to get involved in industry associations. My advice to youth is: the industry is what you make it, so work hard, be involved and help others whenever you can."

Wayne advises those starting out in the field to volunteer on regulatory review committees at **WorkSafeBC**, join associations and be active in the **BC Construction Safety Alliance**.

### RON FETTBACK, FORMER OPERATIONS MANAGER (RETIRED), WESTERN PACIFIC ENTERPRISES

## The industry is what you make it, so work hard, be involved and help others whenever you can

to 2016. The second generation owned and managed WPE until 2016 when it became a subsidiary of **MYR Group Inc.** Today, the third generation of Fettbacks – the sons of Ron and David – are a vital part of WPE's staff.

eral other industry committees, encourages those starting out as electrical contractors to be interested in learning and growing. "Don't sit on the sidelines and complain. Get involved. Understand the issues. Be a voice that helps to change things."

**Wayne Fettback** Focused on fostering a culture of safety at WPE, Wayne, 58, has worked to improve the safety climate in B.C.'s construction industry. Through his safety programs, the company has been able to reduce lost-time accidents to almost zero when

With so much history and experience behind them, *Construction in Vancouver* asked the Fettback brothers to share some of their best advice for the industry:

**Ron Fettback** Ron, 60, former chair and board member of the Electrical

"My advice for someone starting in the construction safety field would be to get involved with the industry as a whole. There are so many good people in the industry and at WorkSafeBC who are willing to share their knowledge. Don't be afraid to ask questions or try new things." ■

## OUTLOOK: B.C. CONSTRUCTION INDUSTRY HAS CHALLENGES, BUT IT ALSO HAS SOLUTIONS

Construction school dean sets out a lesson plan for the industry

BY PETER CAULFIELD

From his vantage point as dean of the School of Construction and the Environment at the **British Columbia Institute of Technology (BCIT)** in Burnaby, **Wayne Hand** sees a provincial construction industry that is facing a number of challenges of varying severity.

"One of the B.C. construction industry's biggest challenges is attracting enough skilled workers to replace the ones who are retiring," he said. "Demographics are not in our favour now. We have an aging workforce that is leaving the industry and that needs to be replaced.

"Too many young people, however, aren't aware of all of the attractive career pathways that are available to them in construction. There is a large and growing diversity of jobs and opportunities for advancement."

Another challenge facing the industry is the gender gap, which is still too wide.

"We need to get more women into the construction workforce," said Hand. "To that end, the various respectful-workplace initiatives in the industry are a welcome sign of a changing environment in construction."

Hand says construction needs to improve its productivity and will have to transform many of its traditional practices if it is going to meet the challenge ahead.

"Technology is changing the



Wayne Hand, dean of BCIT's School of Construction and the Environment, advises the construction industry to invest in talent and upgrade workers' education | SUBMITTED

way construction operates, and there are technological advances coming all the time," he said. "In the future there will be more off-site and more mass-timber construction, to cite just two examples. These changes are resulting in a shift in workers' skill sets that are required by employers."

In addition, says Hand, changes in the BC Building Code and the recent introduction of the BC Energy Step Code, which promotes energy efficiency in new construction, will create more challenges for contractors.

In the future, says Hand, there will be more large construction

projects and, therefore, more work.

"Much of that work, however, will be outside the Lower Mainland, and getting enough workers to go there could be a challenge," he said.

How should the B.C. construction industry respond to all these challenges?

"Invest in talent," said Hand. "Education is key, so upgrade the education of your workforce."

Hand was recognized last October with the Education Leadership Award at the **Vancouver Regional Construction Association (VRCA)** Awards of Excellence.

"I'm very pleased and proud,"

WAYNE HAND, DEAN, SCHOOL OF CONSTRUCTION AND THE ENVIRONMENT, BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

### Technology is changing the way construction operates

said Hand. "The award reflects well on the work of BCIT and its long-standing relationship with the VRCA and the local construction industry."

A major player in construction education, the BCIT School of Construction and the Environment offers a wide variety of programs in applied and natural sciences, engineering, and trades and apprenticeship.

As dean, Hand oversees more than 500 faculty and staff, 13,000 students and six centres of excellence in applied research. The school offers 60 different full-time programs and more than 270 part-time courses.

The many construction-related facilities include a fire simulation theatre, Building Envelope Test Facility, Elevated Research Platform, housing demonstration project (AFRESH Home), Green Roof Research Facility and Building Science Materials Laboratory.

BCIT has been identifying skills gaps in construction and filling them by adding new courses. Hand has developed many new credentials programs, including the carpentry framing and forming foundation program, interior design diploma and degree,

architectural science degree and two master's degrees in building science.

He is particularly proud of the BCIT Zero Energy Buildings Learning Centre. The centre was created to help the construction industry make the transition to the new BC Energy Step Code and new **City of Vancouver** zero-emissions building bylaws.

BCIT provides a full suite of short, hands-on courses. Some of the courses are offered in the High Performance Building Lab and some on the road, in its Lab-in-a-Box.

BCIT also offers a master of engineering in building science degree that focuses on whole-building performance. The program includes courses in acoustics that are delivered through the BCIT Centre for Architectural Ecology.

In its electrical trade program, BCIT offers evening courses on renewable energy systems. According to the institute, the Advanced Certificate in Renewable Energy Electrical Systems Installation and Maintenance is needed because of the widespread introduction of technological advances in electrical installations. ■

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# LEADERSHIP: OUTSTANDING WOMAN IN CONSTRUCTION CARVES OUT 40-YEAR CAREER

Susan Pospisil offers her top five pieces of advice for women and other under-represented groups in the industry

BY BRIGITTE PETERSEN

Women continue to be a minority in the construction industry, and those who end up in leadership roles are a rarer breed.

While construction may be male-dominated, that's never stopped Susan Pospisil from pursuing work in the industry. In fact, Pospisil has excelled, working her way up the ladder over her 40-year career.

This tenacity led to her being awarded the 2019 Outstanding Woman in Construction Award at the Vancouver Regional Construction Association's 31st Awards of Excellence last October.

Pospisil, director of preconstruction and estimating at Turner Construction Co.'s Vancouver office, got her start in the industry at a young age.

"My dad was a small general contractor, so I grew up around it," she said. "I worked with him a few summers, probably mostly because my mum wanted me out of her hair."

Earning a diploma of technology from the British Columbia Institute of Technology in 1980, Pospisil later worked as a junior estimator at Dillingham Construction, where she was the only woman in a technical role. At Dillingham, she worked on several large projects, including BC Place, Pacific Centre Block 42 (now Holt Renfrew), the reconstruction of Granville Street into a pedestrian zone, the No. 2 Road Bridge in Richmond, numerous pulp mills and the Calgary Young Offender Centre.

She was then hired as an estimator at Concord Pacific



Susan Pospisil, director of preconstruction and estimating at Turner Construction Co.'s Vancouver office and winner of the 2019 Outstanding Woman in Construction Award at the Vancouver Regional Construction Association's 31st Awards of Excellence: "when I started out, I thought that men knew more about construction than I did, but it didn't take long to figure out that was not true" | ELISEA ANDREWS/VANCOUVER REGIONAL CONSTRUCTION ASSOCIATION

Developments, where she worked on many large projects in Vancouver. While in Concord's parks and infrastructure division, she worked on David Lam Park, Andy Livingstone Park, the False Creek seawall and the Roundhouse

community centre in Yaletown. She was later promoted to senior estimator for the residential towers division, where she worked on multiple projects including the Spectrum and TV towers and managed the budget estimate

SUSAN POSPISIL, DIRECTOR OF PRECONSTRUCTION AND ESTIMATING, VANCOUVER, TURNER CONSTRUCTION CO.

## Have a sense of humour, not a chip on your shoulder

and trade tenders for Costco and the four towers above.

She later became chief estimator for Concord Pacific/Centreville Construction and was Beedie Development/Beedie Construction's director of estimating for three years before starting at Turner.

A longtime advocate for women in construction, Pospisil was instrumental in forming Canadian Construction Women (CCW), a non-profit organization that supports and connects women in the construction industry, in 1981. She was elected CCW's president at age 23 and was an active member for many years. Today, she continues to be dedicated to providing women with opportunities to mentor, network, learn and give back to the community.

The active volunteer enjoys sharing her experiences and providing guidance to women entering the industry. Pospisil offers her top five pieces of advice for women and other under-represented groups in the construction field:

### 1. Keep learning

"Study everything; be curious. When I started out, I thought that men knew more about construction than I did, but it didn't take long to figure out that was not true."

### 2. Don't be too serious

"Have a sense of humour, not

a chip on your shoulder. I was tested a number of times, like when the site super in a Quesnel pulp mill took me on a tour, right to the top of the open grating stairs, at least 10 floors, to try to scare me. Stuff like that happens. Shake it off."

### 3. Ask questions

"Spend as much time as possible on site and ask loads of questions. I spent a valuable six years on site at the downtown Vancouver Costco and towers above and learned so much just listening to daily problems and solutions."

### 4. Get a mentor

"Find a person you look up to and follow their example. I had a boss named Tom Ngai when I started out who was a great example. When trades would call with questions, and not trust me for an answer, I would transfer the call to him. He transferred it right back, so the trade was forced to deal with me. I consider myself lucky to have worked with him."

### 5. Embrace a life balance

"You can have a family and a career - find creative ways to make it work. When I had my second child, the company had never had a part-time estimator, but they were willing to give it a try. It worked, and before long, one of the guys who was near retirement also went part time. In this age of remote access, we can almost work anywhere." ■



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## ENERGY: PASSIONATE ABOUT PASSIVE HOUSE BUILDING

Fear of change tops the list of challenges facing the construction industry as it's pushed to build greener: Monte Paulsen

BY BRIGITTE PETERSEN

As one of Canada's leading Passive House professionals, **Monte Paulsen** is looking forward to a zero-emission building future and is dedicated to getting others on board.

The Passive House specialist at **RDH Building Science** received the inaugural Zero Emissions Building Leadership Award at the **Vancouver Regional Construction Association's** 31st Awards of Excellence last October. Passive House (PH) is an international standard for energy efficiency focused on airtight structures, high-quality windows, superinsulation and good ventilation.

A passionate advocate for zero-emission building, Paulsen has consulted on a wide range of projects, from single-family homes to residential highrises, and has conducted performance testing on more than 600 buildings. He's been recognized for his work with the **Passive House Institute** and the **Zero Emissions Building Exchange (ZEBx)** and has trained more than 100 professionals, helping them earn certified Passive House designer credentials.

Paulsen previously worked

making energy models using tools like Hot2000 and eQUEST, and ran his own small firm called **Red Door Energy Design**, which RDH acquired in 2016.

The first Passive House project in Canada – the Lost Lake Passive House in Whistler, a pilot project by Austrians for the 2010 Olympic Winter Games – motivated Paulsen to pursue a career in zero-emission construction.

"I was inspired to learn more about how these Europeans achieved such high performance at relatively low cost," he said.

Another inspiration for Paulsen, 56, was **Guido Wimmers**, now an associate professor and chair for the Integrated Wood Design program at the **University of Northern British Columbia**. Paulsen studied with Wimmers in Vancouver and travelled to Germany several times to study at the Passive House Institute in Darmstadt. He soon began consulting on a couple of small, single-family Passive House projects. Today, the Vancouverite is responsible for RDH's Passive House projects across North America. RDH is also looking into providing Passive House services on projects overseas.



Monte Paulsen, Passive House specialist at RDH Building Science: "we cannot advance as an industry unless we do so as a team" | SUBMITTED

"We are likely among only a handful of firms worldwide working on such a large roster of large PH buildings. And this experience has given us the chance to learn lessons and develop expertise that not many firms have," said the father of two.

Paulsen shared what he believes to be the top five challenges facing the construction industry as it's pushed to build greener:

### 1. Fear of change

"Fear of change is the top

challenge. Climate change is changing everything. We are already learning how to mitigate greenhouse gas emissions through strategies such as PH, Net Zero, Step Code. We are starting to learn how to mitigate impacts of climate change, such as overheating of apartment buildings and smoke events. Our industry has not faced this kind of onslaught of new demands coupled with new technology since the advent of steel girders and elevators."

### 2. Slow training

"Too-slow training is probably the next hurdle. We need to accelerate training of architects, engineers, estimators, tradespeople, project managers, developers and real estate marketers. We cannot advance as an industry unless we do so as a team. We have to ... help everyone see the role they can play in creating a carbon-emissions-free future that is more comfortable and provides better indoor air quality."

### 3. Supply chain

"Supply chain is a hurdle. The situation is dramatically better than it was in 2012. We used to have to import windows and heat

recovery ventilators (HRVs). Now we have great windows made here in B.C. and great HRVs made in Canada. But we need many more vendors, and new products, to bring the cost of high performance down. A lot of today's window products will be obsolete within a decade. Many of the walls we consider 'normal' will be illegal in a decade."

### 4. Real estate marketing

"Real estate marketers remain a barrier. Marketers have perfect rear-view mirrors: their sales data shows quite clearly what has happened in the past. This is of little use in a rapidly changing future."

### 5. Government requirements

"Government requirements remain contradictory. The **City of Vancouver** is the best of the lot, but even here, one department takes away what another department gives. Planning and plumbing are the most out of date, often circumventing efforts to green buildings in Vancouver. The Step Code is a great leap forward and has done more to create consistency across the province than any other policy. Yet there is still work to be done." ■

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# INNOVATION: IS MODULAR CONSTRUCTION THE WAY OF THE FUTURE IN BRITISH COLUMBIA?

Agassiz-based Metric Modular cites benefits, challenges of increasingly popular building method

BY PETER CAULFIELD

In business for more than 40 years, **Metric Modular** produces a variety of modular structures – temporary and permanent office buildings, affordable and multi-family housing, education facilities, worker accommodations and facilities for the hospitality industry – and has its headquarters and main manufacturing facility in Agassiz, B.C. The company has 150 to 200 employees, depending on the volume of activity, and gets most of its wood from the B.C. Interior and the coast.

**Craig Mitchell**, Metric Modular’s director of innovative solutions, says the main advantage of modular construction is its ability to de-risk construction projects.

“It provides cost certainty, better quality control and faster construction, not to mention significant environmental and sustainability benefits,” he said.

Mitchell says the term “modular construction” describes the use of factory-produced, pre-engineered building units that are built off site, delivered to a building site and assembled as large volumetric components or as substantial elements of a building.

“Modular construction is one form of off-site construction,” he said. “Other examples are bathroom pods, panels, mass timber and pipe racks.”

Many, but not all, building types can be built using modular construction, Mitchell says.



Craig Mitchell, director of innovative solutions, Metric Modular: “new technology is starting to shake up the ‘we’ve always done it that way’ mentality.” | SUBMITTED



Trinity Western University’s Jacobson Hall student housing facility in Langley won Metric Modular the General Contractor Award for projects valued up to \$15 million at the Vancouver Regional Construction Association Awards of Excellence last October | SUBMITTED

“You have to look at projects differently and ask yourself if they lend themselves to modular,” he said. “Are there repeatable elements that lend themselves to efficiency in production? Hotels, student dorms, affordable and multi-family housing all have great potential for modular construction.”

Until recently, most applications of modular construction in Canada have been temporary housing in remote resource camps.

“Canada is well known for that application of modular,” Mitchell said. “New applications are more urban now, because of the lack of skilled trades and increasing construction costs.”

In modular construction, Canada is five years behind the U.S. and 10 to 15 years behind Europe

and Asia, Mitchell says.

“Unlike Canada, they have a lot of financial pressure to use innovative methods of construction, such as modular,” he said.

Mitchell says that, until now, most modular construction has taken place in western Europe, the United Kingdom, the west coast of North America, especially San Francisco, and New York.

“Modular construction has lots of potential in Canada, too,” he said. “But the fact that our population is spread across a large area with dispersed population centres hinders the development of modular. We need more modular projects to be undertaken in order to build industry capacity; otherwise factories can’t grow and there won’t be any investment.”

Mitchell says modular is very

capital intensive.

“You need to invest a lot of money up front and develop a long pipeline of projects,” he said. “The modular construction business is definitely not for the faint of heart.”

Despite modular’s advantages, many project owners are reluctant to give it a try.

“The modular construction process is different,” said Mitchell. “It requires collaboration up front with all the different contractors, which is different from the old competitive approach that owners are familiar with.”

Future adoption of modular construction depends on education and awareness and greater comfort with innovative construction methods.

“New technology is starting

to shake up the ‘we’ve always done it that way’ mentality,” said Mitchell. “It’s the early adopters who are experimenting now. They’ll be the leaders when modular construction goes mainstream.”

Last October, Metric Modular won the General Contractor Award for projects valued up to \$15 million in the **Vancouver Regional Construction Association (VRCA) Awards of Excellence**, for **Trinity Western University’s Jacobson Hall** student housing facility in Langley.

The five-storey wood-frame housing facility was built using modular construction.

“We are extremely proud to have won, because we were up against some really amazing traditional construction projects,” Mitchell said. “It’s the first time a modular structure has won a VRCA award for a general contractor. It shows how off-site construction can solve some of the current construction challenges facing our industry.”

The first five-storey modular structure in Canada, Jacobson Hall was framed completely with wood and contains 90 modules. The student residence was completed in nine months. To achieve the required fire-resistance rating, steel bars were threaded through the frames of the structure.

Looking ahead, Mitchell says building codes need to change to keep pace with new methods of construction. ■

# STANDARDS: VRCA STUDY LAYS GROUNDWORK FOR

VRCA commits to working with the local construction sector to roll out an industry KPI program in B.C. to

BY DAVID WEIR

British Columbia’s \$21 billion construction industry is the province’s largest employer in the goods sector, providing good-paying jobs to almost 250,000 men and women.

While those numbers are impressive, they do not paint a complete picture of how well the industry is doing. That’s because there is no centralized, industry-specific data collection or monitoring of performance.

That could change in the wake of a report commissioned by the **Vancouver Regional Construction Association (VRCA)** and funded in part by the **Construction Foundation of BC**.

Published in 2019, *Measuring Up: Key Performance Indicators*

for B.C.’s Construction Industry, identified 30 key performance indicators (KPIs) that would help the province’s construction industry understand where it excels and where it needs to improve. The report also confirmed that data is already available for 20 of the proposed 30 KPIs and could be compiled and reported without requiring any direct involvement of construction firms.

“Construction KPIs paint a picture of the health of the industry as a whole,” wrote report authors **Helen Goodland** and **Albert Lam**. “They also provide a set of tools that can be used by companies across the sector to evaluate their performance and raise their game against their peers, bringing lasting benefits to the whole industry.”



The need to develop a set of KPIs for the construction industry was acknowledged in a 2016 report published by the **BC Construction Association**. The report, *Construction Innovation Project: Building B.C.’s Vision*, proposed a series of “ambitions” to begin to lay out a path forward.

As part of that initiative, an “industry insights” survey was conducted, which found that 73% of industry respondents agreed it would be useful if the performance of B.C.’s construction sector was tracked and reported.

“Our industry suffers because every project is essentially a one-off, with lessons learned accruing largely to the individuals working on the project or, at best, to their respective companies,” said **Markku Allison**, vice-president of strategy at **Chandos Construction** and past president of the **Integrated Project Delivery Alliance**. “If we adopted a set of common success metrics that all companies and projects tracked and shared across the market, our ability to learn and improve would expand exponentially.”

“Sharing and giving knowledge back is considered an ethical responsibility in professions like medicine and law – we can adopt a similar attitude in design and construction and fundamentally change the game, all through the simple adoption of common metrics.”

The 30 proposed KPIs are organized into three categories: performance, which focuses on quality of service and product, environmental impact and community; people, which focuses on workforce, education, safety and diversity; and growth and resilience, which focuses on economic performance, project pipeline, business costs and technology.

The report includes a discussion about the state of performance benchmarking for construction,

## Following a great year, VRCA looks toward the future

Agenda includes formalizing school outreach program, pursuing regional advocacy issues and enhancing training and networking offerings



*ZEBx has delivered its first year and claimed its spot as an industry hub that facilitates knowledge exchange across owners, consultants and contractors*

BY FIONA FAMULAK

The beginning of a new year has me thinking about what has been, what is and what can be.

As president of the **Vancouver Regional Construction Association (VRCA)**, I have the privilege of leading a dynamic association that is in the final year of its current three-year strategic plan.

The 2018-19 fiscal year, which ended September 30, 2019, was one of the association's most successful years, and we have our membership to thank for it.

With a rich history dating back to 1929, VRCA is the largest regional construction association in British Columbia and the fifth largest in Canada. We serve the small, medium-sized and large union and non-union companies that operate in the industrial, commercial, institutional and highrise residential construction sectors in B.C.'s Lower Mainland.

Our members are at the centre of everything we do at the association, and in the past year we've continued to be laser-focused on delivering what they need. By listening carefully to their feedback, we enhanced our programs and services in several ways that include:

- evolving our education program, which includes the annual Construction Leadership Forum, so that the content

delivered aligns with their education needs;

- vigorously advocating on their behalf on files that include the Community Benefits Agreement, steel and aluminum tariffs and the **WorkSafeBC** review; and

- hosting new events such as the member-exclusive Infrastructure Series that helps members access bidding opportunities with the region's largest procurers of construction.

To help our members respond to the unprecedented pace of change in our industry and, in particular, the new regulations pertaining to building emissions and energy use rolled out by the **City of Vancouver** and the provincial government, in 2018 we launched Canada's first and only **Zero Emissions Building Exchange (ZEBx)**. Seed-funded by the City of Vancouver and garnering support from across the industry, ZEBx has delivered its first year and claimed its spot as an industry hub that facilitates knowledge exchange across owners, consultants and contractors, and catalyzes action to accelerate the market transformation that is in our future.

Our obsession with delivering member value has paid dividends. Since 2016, and with our members' help, we have grown membership by 27%, the number of education course attendees by 32% and the number of guests

at networking events by 14% to more than 4,000 industry professionals per year.

So, what's planned for this year? Because our industry, particularly in the Lower Mainland, is facing unprecedented demand for construction services and challenges that include a skilled labour shortage, unfriendly government policies and the introduction of new regulations, products and practices to the marketplace, we will build on our solid foundation and:

- formalize our school outreach program, which already has great traction, so that we inspire more young men and women to pursue a career in construction;
- collaborate with our partners to proactively pursue regional advocacy issues that cause our members angst, while continuing to respond to provincial and national issues as they arise; and
- continue to enhance our education, training and networking offerings offered through VRCA and ZEBx.

We will also work with our board of directors to develop a new three-year strategic plan

for 2020-23 that will continue to be laser-focused on our members' needs and include a decision about how best to leverage our real estate on East 4th Avenue in order to further enhance member value.

As I reflect on what has been and what is, it's clear to me that VRCA is incredibly blessed to have had visionary board leadership and exceptional operational support over its 90 years. Just as important, however, is its extended team of members and the thousands employed by them who engage with us daily. We couldn't do it without them.

Looking forward to what can be, we are very excited by the future and our role in it and are sincerely grateful for our members' continued support.

To learn more about VRCA, check out [vrca.ca](http://vrca.ca). ■

Fiona Famulak is president of the Vancouver Regional Construction Association, which represents general and trade contractors, manufacturers, suppliers and professional service providers that operate as both union and non-union employers in B.C.'s industrial, commercial, institutional and highrise residential construction industry.

## MEASURING PERFORMANCE

standardize collection and monitoring of industry data

how the metrics were selected, and an analysis of various models. The proposed industry-level metrics are based on an assessment of programs and models elsewhere supported by consultation with local industry.

While there are several construction KPI models operating successfully in other jurisdictions, local industry leaders have voiced the need for caution when considering the rollout of an industry KPI program in B.C.

Among the concerns is the possibility of data overload, which could turn potential data users away. It's also noted that the construction industry is busy and may be reluctant to participate in surveys, especially when the value of the KPIs may still be unclear. Companies may also be concerned

about sharing sensitive data if there's a risk of it being exposed to their competitors.

Additionally, there is a risk that certain indicators may be selected, ignored and/or distorted to bolster an otherwise weak argument or a political agenda. As such, an unbiased third party may need to take on the administration of the KPI program.

"We hear the industry's concerns," said **Fiona Famulak**, VRCA president. "Rest assured we will continue to engage industry in our next steps to ensure that B.C.'s performance measurement program is of value."

The report is a first foray into industry-level performance measurement for construction, and, while it has been motivated by interest in B.C., there is

relevant activity emerging in other provinces. In particular, Alberta is starting to apply its performance measurement experiences within its oil and gas sector to its construction sector.

"Ultimately, industry performance measurement needs to be undertaken at a large scale, and we look forward to learning from and sharing with other jurisdictions and sectors," said Famulak. "However, we need to walk before we run. Our next steps will be to work with our members and other industry stakeholders to determine how best to kick-start industry performance measurement in B.C. and to get it underway." ■

David Weir is the Vancouver Regional Construction Association's manager of industry and government relations.



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English Bay Residences, Vancouver  
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# Quantum of delay: proving a delay claim is more complex than it may seem

Failure to establish critical elements will result in dismissal of the claim



BY NORM STREU AND CHRISTOPHER HIRST

**D**elay is one of the most common reasons for financial loss on a construction project and has the potential to cost everyone money – the owner, the general contractor and the trades.

However, proving damages in a construction delay claim is not as straightforward as it may first appear.

When most people first approach a delay claim, they typically apply a simple formula to calculate the allegedly resulting delay.

If the delay to a specific activity is, say, 10 days, they will just multiply daily site operating costs by 10 and submit the result as the amount of damages suffered.

Unfortunately, most delay claims are not usually so simple.

To recover damages for delay, the party advancing the claim must establish to the satisfaction of a court that:

- the cause of the delay is an event under the contract that entitles the party to compensation;
  - the cause delayed the work under the contract by a quantifiable amount of time; and
  - the damages were actually caused by the delay.
- A failure to establish any one of these critical elements will result in the dismissal of a delay claim. In addition, there are a number of factors that add complexity to the delay analysis. Those factors include:
- Float – the slack in overall duration of a sequence of related and necessary activities measured against the critical path of the project. If an activity has float, it can be extended or postponed (to the extent

of the float) without affecting project completion. The ownership of the float needs to be considered. It is not always the case that you are entitled to its use.

- Acceleration – occurs when a contractor mobilizes resources or incurs expenses beyond the original contractual expectation to meet the project schedule. This happens when a contractor provides additional manpower, works overtime or works more than one shift. The contractor may have been late by two weeks in performing a certain aspect of the work, but the contractor’s work in relation to other activities may have been accelerated. A specific delay-causing event cannot therefore be looked at in isolation.

- Concurrent delays – delays are not the responsibility of solely one party but are shared

among several parties. To be successful in your claim, you’ll need to segregate out the various causes of a particular delay.

Successfully proving a delay claim is generally more complex than simply multiplying costs by the days of delay.

Before going down the road of a delay claim, it is important to have a full appreciation of the potential evidentiary issues to a successful claim and an understanding of the legal risks and costs.

Wading naively into it without careful consideration can give rise to a long and nasty legal headache. ■

Norm Streu is president and chief operating officer of the LMS Reinforcing Steel Group. Christopher Hirst is managing partner and leader of the construction and engineering group at Alexander Holburn Beaudin + Lang LLP.



A specific delay-causing event cannot be looked at in isolation

## CONTRACTS: NEW AND UPDATED STANDARD DOCUMENTS COMING TO INDUSTRY IN 2020

Standard construction contracts result in more clarity, more goodwill and less legal anxiety

BY ERIC LEE

**C**anada’s construction industry will gain three new standard documents in 2020.

The **Canadian Construction Documents Committee (CCDC)** is planning to update its CCDC 2 “Stipulated Price Contract” and introduce “Master Specification for Division 01” and CCDC 31 “Service Contract Between Owner and Consultant.”

CCDC is Canada’s only source for recognized Canadian standard construction industry documents, offering consensus-built documents and contracts that are transparent, balanced and standardized.

The **Canadian Construction Association** and its regional partners, which include the **Vancouver Regional Construction Association**, promote the use of standard construction contracts that are written with simple, easy-to-understand language because they result in more clarity, more goodwill between the parties and less legal anxiety.

### CCDC 2 Stipulated Price Contract

Last updated in 2008, the Stipulated Price Contract is a standard prime contract between owner and prime contractor that establishes a single, predetermined

fixed price, or lump sum, regardless of the contractor’s actual costs.

In 2020, CCDC 2 will introduce a new milestone to trigger the handover of warranty, care, custody and control. There will also be a new provision that addresses early occupancy by the owner.

Some of the CCDC 2 provisions that relate to project-specific processes will be moved to the new CCDC Master Specification for Division 01 “General Requirements.” This will minimize the need for supplementary conditions.

Changes have also been made to address new provincial payment legislations that govern payment under construction contracts (such as the Ontario Construction Act). These changes include the introduction of the new general condition (GC) 8.2 – Adjudication, adding “Payment Legislation” as a defined term referred to in the payment provisions, and more.

### CCDC Master Specification for Division 01 “General Requirements”

The new Division 01 Master Specification is fully editable, assisting owners and consultants in creating their project-specific general requirements specifications.

Division 01 is organized into sections addressing common subject matters in accordance

with MasterFormat standards. It is written in the simple imperative grammatical mood and uses terminology consistent with the defined terms in other CCDC documents.

Additionally, there are General Spec Notes to provide brief descriptions of the intended use of each section, explain the various options to assist the editing process, identify the need for co-ordination where co-ordination is required, and provide

common product requirements; examination and preparation; execution; cutting and patching; cleaning and waste management; closeout submittals; demonstration and training; and general commissioning requirements.

### CCDC 31 Service Contract Between Owner and Consultant

As requested by the **Association of Consulting Engineering Companies of Canada (ACEC)**, CCDC

**In 2020, CCDC 2 will introduce a new milestone to trigger the handover of warranty, care, custody and control. There will also be a new provision that addresses early occupancy by the owner**

other supplementary guidance information.

Division 01 addresses the following subjects: summary of work; contract assignment; assignable contracts; work restrictions; allowances; substitution procedures; contract modification procedures; payment procedures; project meetings; construction progress documentation; submittal procedures; special procedures; quality requirements; temporary utilities; construction facilities; temporary barriers and enclosures; temporary controls;

accepted the task of bringing ACEC 31 into the suite of CCDC documents.

To fully integrate the new CCDC 31, some common provisions and general conditions of the existing CCDC contracts were added and the terminology was updated for consistency between documents.

And to better reflect what is seen in the current market, a number of other changes were also made, including adding a section addressing anti-bribery and increasing the required insurance limits and limits of liability.

### Next steps

The new documents are tentatively scheduled to launch in summer 2020 following a series of CCDC seminars conducted across Canada to introduce them.

The seminars will be conducted by CCDC members who have worked on the development of the documents, and will provide important background on key provisions, outline significant changes to previous documents and deliver valuable takeaways for those in attendance.

### About CCDC

Formed in 1974, CCDC develops, produces and reviews standard construction contracts, forms and guides. It is a national joint committee comprising architects, engineers, specification writers and contractors, as well as public- and private-sector owners.

All CCDC documents, including the contracts, forms and guides, are developed and approved with the consensus of the committee members and their respective professional organizations. This ensures that CCDC documents balance the interests of all the major stakeholders of a construction project in a fair manner. ■

Eric Lee is vice-president of industry practices for the Canadian Construction Association and secretary of the Canadian Construction Documents Committee.