

WINTER 2018

Sheet Metal Journal

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British Columbia

Journal

Construction Outlook 2018

Contractors: Labour and Pricing Top Concerns

SMWTC Annual Contest

SMACNA-BC Update

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Official Journal of
Record for SMACNA-BC



PROMOTING GROWTH AND STABILITY IN OUR INDUSTRY

Formed in 1969, the British Columbia Sheet Metal Association (SMACNA-BC) was the first international chapter of the Sheet Metal & Air-conditioning Contractors National Association (SMACNA). Founded in 1934, SMACNA traces its history to the National Association of Sheet Metal Contractors established in 1910, and has 2,300 members worldwide.

SMACNA-BC is a member-driven association representing unionized sheet metal contractors in the Mainland of BC, and suppliers to our industry. It promotes the growth and stability of the members and industry.

OUR MANDATE

- To improve the financial stability and business conditions of the sheet metal industry, and to develop and promote methods to improve managerial proficiency
- To improve quality, efficiency and productivity of this industry, and to implement high standards of work
- To establish and maintain high ethical standards of conduct between members of the Association, and between members and owners, architects, engineers, other contractors, and the public
- To study and help in the development and enforcement of governmental codes and regulations, and such legislation as may be necessary for the best interest of the public and the sheet metal industry
- To promote harmony in labour relations
- To exchange technical, professional, and educational information with other contractor associations in the sheet metal industry and its allied trades in Canada and other countries
- To affiliate as a Chapter with the Sheet Metal & Air-conditioning Contractors National Association, Inc.



[BC Sheet Metal Association \(SMACNA-BC\)](#)

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WHAT GOES AROUND COMES AROUND

As we break into 2018 we bring with us opportunity and optimism, and a touch of melancholy for the year past. 2017 was good for the industry because even in the darkest moments, members stayed strong and calm and kept on keeping on with the quality and tenacity the construction industry is known for.

Besides managing a good volume of work with a sometimes low labour supply, the industry won with unprecedented attention on the role of mental health and addictions in the workplace. While this is still an almost taboo subject and some people have a hard time wrapping their heads around the discussion, mental health and addictions are, unfortunately, part of the human experience and the sooner we talk it out the sooner we can get the facts straight and start checking stigma off the list of things we do to perpetuate the problem.

Another win for 2017 was the push for bringing more Aboriginal workers and women into the construction industry. Women occupy about 12 per cent of the workforce in the industry and about 10 per cent of employed Aboriginals work on construction—of course, we have a long way to go but these continue to grow year over year, with no signs of slowing down given the impending / current labour shortage across all industries.



by / Jessica Kirby, Editor

The opportunity to survey SMACNA contractors about what they see as next year's victories was interesting and, though not surprising, encouraging. Although labour, pricing, and government shenanigans stay at the top of the list of matters to contend with in 2018, there appears no shortage of optimism in terms of how to manage and overcome these and other issues. By far, the most surprising of the research was the comments indicating strong companies, enthusiastic business owners, and a total commitment to meeting the future with gusto. Impressive, indeed. I want to thank everyone who took the time to respond to the survey and my follow-up questions. I would love to make the survey annual and keep up with the happenings, concerns, and challenges facing our readers, your members.

As Sheet Metal Journal enters its 12th year, it remains stable and open to your thoughts and ideas. I enjoyed the project stories we included last year, as well as the features outlining the issues that matter most to contractors. Please do drop me a line about projects you are working on, issues that drive you crazy, or developments that excite you. I want to cover these topics to do my part to inspire you, so don't wait another minute. Email me right now with your thoughts and I will get to work with the same enthusiasm and interest SMACNA-BC members inspired in me when I read the survey replies.

What goes around comes around. Let's talk soon. ■

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INSPECT FOR SAFETY

The fall season of 2017 was a very busy one starting with the SMACNA National Convention in Maui. There were also membership dinner meetings, the annual Christmas party at the Pan Pacific, a trip to Tucson, AZ for a Council of Chapter Representatives meeting, and, of course, all the company and family parties and get togethers that go with the holiday season.

With the holidays behind us and winter upon us, now we can focus on having a healthy, safe, and prosperous 2018. And now the news.

Need help with college tuition?

The SMACNA College of Fellows is now accepting applications for the 2018 scholarship program. Applications will be for the 2018-2019 academic year. The scholarship application and details on eligibility requirements along with instructions for submitting the application are available on the SMACNA website.

The primary goal of the COF Scholarship fund is to provide scholarships to SMACNA member contractors, employees of SMACNA member contractors, SMACNA chapter executives, National SMACNA employees, SMACNA Associate Members, and members of the families of all of these groups who are participating in undergraduate studies in accredited institutions of higher education.

The secondary goal is to create a sense of community and support among the elements of the SMACNA extended family by working toward a common goal—furthering the education of individual members of the family.

Construction growth outlook good for 2018

Looking ahead to 2018, Fails Management Institute (FMI) continues to forecast a 5 per cent increase in total construction spending over 2017. The primary growth segments in 2018 are expected to include residential, commercial, lodging, office, and manufacturing—all with forecast growth of 5 per cent or more. Most other segments are likely to grow roughly with the rate of inflation and may be considered stable. Sewage and waste and water supply are the only segments expected to decline in 2018.

HVAC Fire Life Safety – Is British Columbia ready for it?

Over the past several years I have attended a multitude of meetings where one very important topic surfaces: HVAC Fire Life Safety and Fire Life Safety Legislation and why it doesn't happen in BC.

At the SMACNA-BC membership dinner meeting on January 17/18, John Hamilton & Duane Smith /



by / Bruce Sychuk
Executive Director, SMACNA-BC

ICB/TABB are going to present to the members the importance of Fire Life Safety and Fire Damper Testing.

John & Duane's presentation will explain, firstly, we must become more knowledgeable about other national organizations involved with Fire Life Safety Standards & Guidelines, and, secondly, pass this knowledge on as a reminder to code officials, city inspectors, fire officials, politicians, and insurance providers.

In simple terms fire/smoke and fire dampers are very important components of the HVAC system. In realistic terms, fire/smoke and fire dampers can be the difference between life and death.

Below are excerpts from National Fire Protection Association (NFPA) Standards referencing fire/smoke and fire dampers.

NFPA Standards

- NFPA 80: Standard for Fire Doors and other opening protectives. This covers the requirements for Fire Dampers & Ceiling Fire Dampers
- NFPA 105: Standard for Smoke Door Assemblies and other Opening Protectives. This covers the requirements for Smoke Dampers & Combination Fire/Smoke Dampers.
- NFPA 90A: Standard for the Installation of Air Conditioning and Ventilating Systems.
- NFPA 90B: Standard for the Installation of Warm Air Heating & Air Conditioning Systems.

NFPA 80 Requirements

- Each damper shall be tested and inspected one year after installation.
- In buildings not containing a hospital, the test and inspection frequency of each damper shall then be every four years.
- In buildings containing a hospital, the test and inspection frequency of each damper shall be every six years.
- All inspection and testing shall be documented indicating the location of the damper, date of inspection, name of

inspector, and deficiencies discovered. The documentation shall have a space to indicate when and how the deficiencies were corrected.

- All documentation shall be maintained by the property owner and available for review by the authority having jurisdiction (AHJ).

NFPA 105 Requirements

- Each damper shall be tested and inspected one year after installation.
- In buildings not containing a hospital, the test and inspection frequency of each damper shall then be every four years.
- In buildings containing a hospital, the test and inspection frequency of each damper shall be every six years.
- All inspection and testing shall be documented indicating the location of the damper, date of inspection, name of inspector, and deficiencies discovered. The documentation shall have a space to indicate when and how the deficiencies were corrected.
- All documentation shall be maintained by the property owner and available for review by the authority having jurisdiction (AJH).

NFPA 90A Requirements

- Each damper should be examined every two years to ensure it is not rusted or blocked, giving attention to hinges and other moving parts.

As you probably noticed, there seems to be a common theme in all the NFPA requirements: inspection of dampers. Sort of makes you wonder the last time the fire/smoke and fire dampers in your building were inspected.

In closing, I would like you to take a few minutes, actually 4 minutes and 30 seconds, to just check the YouTube video link below.

“Fire / Smoke and Fire Dampers: What are they and why should they be inspected” <http://www.youtube.com/watch?v=8bSXnd1MO8Q>.

Note: There are three certifications required from International Certification Board (ICB): those for contractors, supervisors, and technicians. The details of the certification and the process to obtain certification are available online at www.icbcertified.org.

SMACNA-BC Christmas Party, Pan Pacific Hotel, Vancouver, BC

The SMACNA-BC Christmas Party was a great way to start the holiday season. It's a great venue and a great meal, and there was lots of door prizes and dancing until 2:00 a.m. Judging by all of the smiling faces it appeared everyone enjoyed themselves as much as we did hosting the event.

Many, many thanks to all who brought gifts and/or donations to support the Helping Families in Need Society and to all the companies that generously donated the plentitude of extravagant door prizes.

We hope you had a good time and will join us again next year, November 30, 2018 at the Pan Pacific Hotel - Vancouver. ■



SAVE THE DATES!

January 17, 2018

SMACNA-BC Membership Dinner Meeting,
Vancouver Guildford Sheraton Hotel, Surrey, BC
Topic / Guest Speakers: FIRE LIFE SAFETY /
John Hamilton & Duane Smith / ICB/TABB

February 13-14, 2018

Partners in Progress Conference Orlando, FL
March 30, 2018, Good Friday

April 1, 2018

Easter Day

April 26-29, 2018

SMACNA-BC 49th Annual Convention, Penticton
Lakeside Resort & Conference Centre, Penticton,
BC

May 3-6, 2018

MCABC Conference, Whistler, BC

June 10-12, 2018

SMACNA National Council of Chapter
Representatives Meeting, Boston, MA



British Columbia Sheet Metal Association (SMACNA-BC)

Providing products and information related to the Sheet Metal Industry, including technical manuals and guidelines.

The unmatched technical and managerial expertise of SMACNA-BC Contractors is enhanced by the talent and skills of the workforce they employ. SMACNA-BC Contractors employ only Red Seal Certified Sheet Metal Journeymen and Registered Apprentices.

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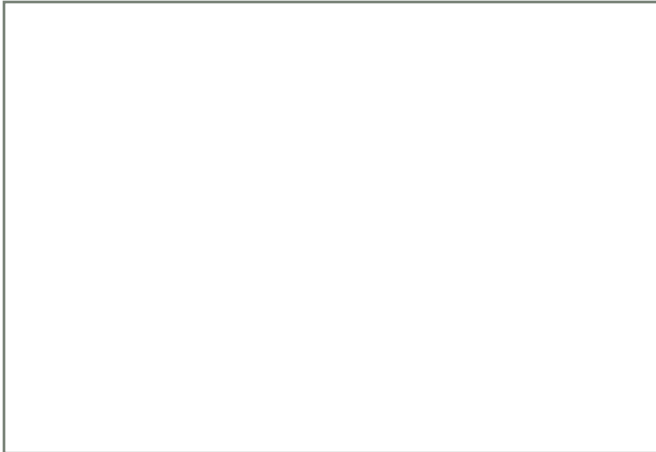
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SMACNA'S COLLEGE OF FELLOWS RECOGNIZES BRUCE SYCHUK

Bruce E. Sychuk, executive director of the British Columbia Sheet Metal Association (SMACNA-BC), was inducted into the Sheet Metal and Air Conditioning Contractors' National Association's (SMACNA) College of Fellows during the association's 74th Annual Convention in Maui, Hawaii, on October 25.

An advocate for building strong labour-management relationships, he has served the industry with distinction in many capacities over the years. He has been an active and effective member of the SMACNA/SMART Best Practices Market Expansion Task Force and on SMACNA's Budget and Finance and Convention Committees.

In 2007, he received SMACNA's Chapter Executive of the Year award for his energy and drive to keep labour-management partnership efforts front and center among his members.

Sychuk has also served as chair of SMACNA's Council of Chapter Representatives, as vice-chair of the Chapter Executives' Institute Board, and on the Convention Committee, iTi Apprentice Contest Committee, and the Multi-Service Chapter Application and Selection Committee.

Membership in SMACNA's College of Fellows is reserved for top industry professionals who have made significant contributions to advance the sheet metal industry, capping years of committed service and dedication.

Visit www.smacna.org. ■

SMACNA SALUTES 2017 SAFETY WINNERS

A good safety record is essential for successful sheet metal and HVAC contractors. The Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) recently recognized its top safety achievers in the United States and Canada through the 2017 Safety Excellence Award Program. The winners were recognized in October during SMACNA's 74th Annual Convention in Maui, Hawaii.

SMACNA is proud to acknowledge the 2017 winners and to salute the top chapters with the highest level of survey participants.

Canada Safety Excellence Award Winners

- Overall Winner: Dilfo Mechanical Ltd. — Ottawa, Ontario
- Honorable Mention – *Over 100,000 hours*
Vets Sheet Metal Ltd. — Edmonton, Alberta
- Honorable Mention – *Under 100,000 hours*
Giffin Sheet Metals Ltd. — Toronto

This year's safety survey findings indicate that survey respondents have effective safety programs. The average number of reported injury or illness incidents (the OSHA incidence rate), was 2.22, continuing the decade-long trend of decreasing incidence rates. The average reported experience modification rate (EMR), was .81, remaining consistently low as well.

Visit www.smacna.org for more information. ■

SMACNA ADDRESSES OSHA RULES ON CUTS AND EYE INJURIES

Cuts and eye accidents are the leading cause of injuries on the job, according to the SMACNA contractors who participated in SMACNA's annual Safety Excellence Awards program.

Although these injuries are often not serious, they are all too frequent and preventable by using personal protective equipment (PPE).

The federal Occupational Safety and Health Administration (OSHA) has two different standards for PPE: one for the construction industry and one for general industry (shops, warehouses, service work, etc.).



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To make it easier for members to meet the OSHA requirements and to address PPE related injuries, SMACNA has developed two separate PPE model programs—one for construction and one for the general industry—that your company can tailor to your own needs.

Both PPE programs emphasize the necessity for hazard assessments to identify related work tasks including chemical use, welding, and using hand tools.

Both of these documents are editable and are available free to members only. Download SMACNA "Guide to Safety Procedures, Policies and Model Programs" on SMACNA's safety webpage. ■

SMWTC OFFERS CONTINUING EDUCATION FOR 2018

The Sheet Metal Workers' Training Centre has a number of continuing education opportunities available this spring.

Lagging

March-April, 2018 (24 hours)

This 24-hour training program focuses on the field layout, field fabrication and the installation of metal lagging of mechanical

system components including flat work, round work, pressure vessels, and specialty components to meet the rapidly growing demand for sheet metal workers that do this work.

Fan Service

March 2018 (24 hours)

The fan service course will consist of motor trouble shooting, fan trouble shooting and servicing. Students will learn to use a multimeter to check motor amperage, replace bearings, and replace/realign sheaves and belts.

Supervisor Training

January-February (24 hours)

This course will teach the required skills to manage resources, time, material and workers.

The Sheet Metal Workers Training Centre Society's mission is to provide the highest quality of training and upgrading to sheet metal apprentices and journeypersons in the Province of British Columbia by delivering the highest standards of instruction and utilizing the most up-to-date teaching methods and technologies.

To inquire or register for these or future sessions, please contact SMWTC at www.smwtc.ca. ■



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Sheet Metal Workers Training Centre Apprentice Contest Results

By / Jessica Kirby and Jud Martell

On November 18, 2017, the Sheet Metal Workers' Training Centre had another great turn out to its Annual Apprentice Contest with 22 apprentices from 14 contractors competing in four levels aligned with their level of study. Thanks to the generosity of 20 sponsors, the contest gave away over \$8,000 worth of prizes to participants.

Though each participant is considered a winner for coming out to support their trade and shop, teach category named top performers as follows:

- Level 1 - Troy Martell, Austin Metal Fabricators L.P.
- Level 2 - Kristopher Brunlees, VETS-Airtek Pneumatics Ltd.
- Level 3 - Kurtis Malm, Ridge Sheet Metal Co.
- Level 4 - Kyle Wellman, Ames Metal Fabricators Ltd.

As in previous years, the shop portion drew the most spectators—participants assembled different projects for each level. These ranged from an aluminum hinged ammo-style



box to on-centre and off-centre square to round fittings and a copper bucket, showcasing contestants' precision and skill across the board.

There was a welding portion, in the drafting room, they laid out fittings commensurate to their level of training, and the theory portions were done online. All four portions count equally in scoring the participants' overall mark.

The contest was judged over the two weeks following the competition with winners announced November 28. Mark Curtis from the International union was on-hand to assist.

A lengthily list of sponsors contributed to the event by way of financial support and prizes.


“Everyone who comes to the contest is volunteering their time and representing their trade, and the contractors are there to show their support,” said Jud Martell, training co-ordinator for SMWTC. “It was fantastic.

“This is one of the largest sheet metal workers' competitions in North America, and the competitors represented so many contractors. As a celebration of the sheet metal workers' craft and a demonstration of apprentices' immense talent—you can't make a guy more proud than how I felt about this contest.”

Bruce Sychuk, executive director of SMACNA-BC, is appreciative to everyone involved in this event.

“Thanks to the organizers for taking the time and efforts in co-ordinating this event and congratulations to all that participated,” said Sychuk.

To learn more about this and other industry competitions, please visit the Sheet Metal Workers' Training Centre online at www.smwtc.ca. ■

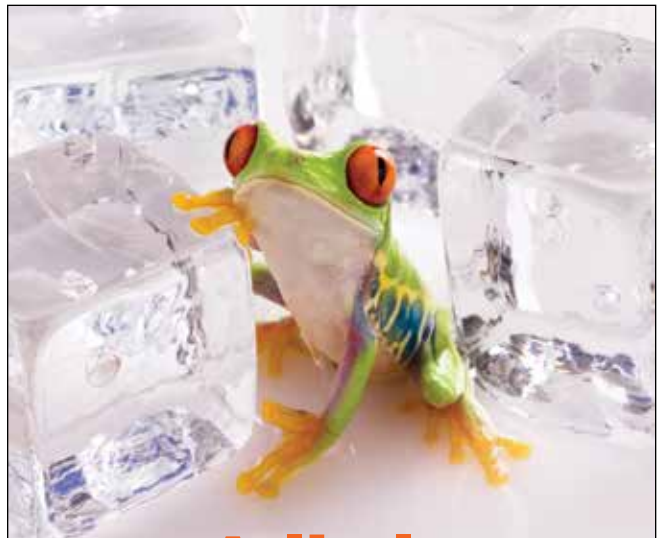
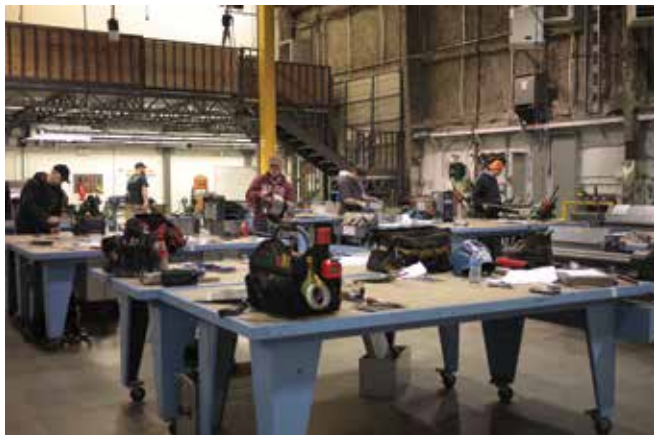


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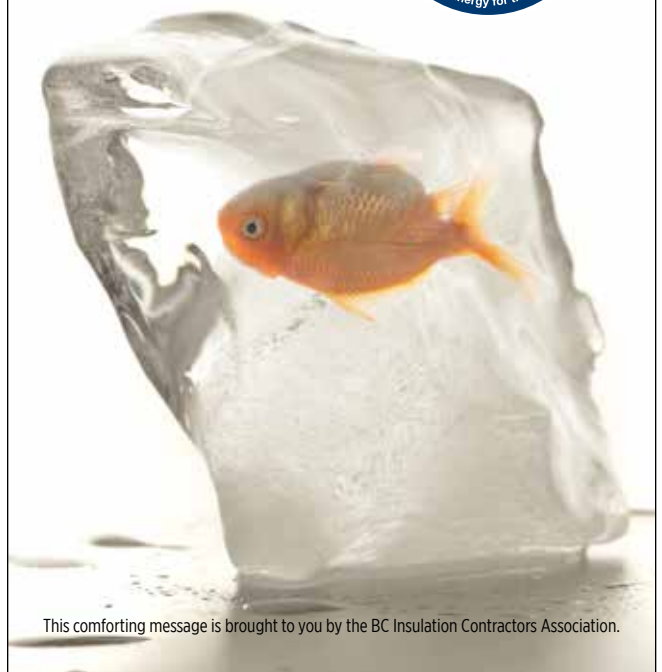
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2018 Construction Outlook

By / James Careless

2018 looks to be a good year for the Canadian construction industry, according to Canada's top national and regional construction professionals.



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“In British Columbia, future growth across our province is strong with the estimated capital cost of proposed construction projects throughout the province hitting \$325 billion.”



Ian Cunningham, president of the Council of Ontario Construction Associations (COCA), is equally bullish. “The level of construction activity in Ontario is very strong and should remain so for 2018,” he said. “Construction activity is strongest in the GTA (Greater Toronto Area).”

In British Columbia, “future growth across our province is strong with the estimated capital cost of proposed construction projects throughout the province hitting \$325 billion,” said Fiona Famulak, president of the Vancouver Regional Construction Association (VRCA). “With \$75 billion of construction currently underway in BC, we are very pleased that our members have a busy future ahead.”

“The construction industry climate here on PEI is very hot at the moment,” echoed Sam Sanderson, general manager of the Construction Association of Prince Edward Island (CAPEI). “We are seeing a big increase in both commercial and residential construction.”

Paul Heyens, chair of the Alberta Construction Association (ACA), was a bit more restrained in his assessment. “For 2018, Alberta is expected to remain steady compared to 2017,” he said. “The overall climate is one of cautious optimism. However, changes in trade agreements and economic changes in tax structure and labour-related costs dampen the expectations.”

2018's Most Influential Factors

Even though 2018 looks to be a good construction year, there will be factors at play that could affect the market in Canada. According to Cunningham, these factors include the strength of the U.S. economy and how it creates demand for Canadian goods and services; the state of the contentious NAFTA negotiations now underway, and, “confidence among business and industry leaders such that they will invest in capital expansions,” he said.

The Alberta construction industry’s historical reliance on the energy sector means “continued public sector investment in infrastructure will be important to support the industry,” said

Bright Economic Skies Ahead

“The future is very bright,” said Chris McNally, chair of the Canadian Construction Association (CCA). “Canada’s infrastructure and many federal buildings are aging, and either need replacing or a complete overhaul to meet a variety of new needs.”

With Ottawa planning for more than \$180 billion in federal infrastructure funding over the next 12 years, “our industry should continue to see historically-high levels of employment and investment in infrastructure,” he said.



"The need to build or replace infrastructure assets in Canada will continue to drive investment at all levels of government."

"The need to build or replace infrastructure assets in Canada will continue to drive investment at all levels of government," said McNally. But capital investment ... is dependent upon the confidence of corporate decision makers," added Cunningham. "There is an abundance of cash sitting on the sidelines waiting to be harnessed."

"At the same time, an estimated 248,000 workers are expected to retire, creating significant demand for new skilled labour in our industry," McNally continued. The result: "The labour market is tightening at all levels in the construction industry from the most senior levels in the largest firms to the front line journeypersons that actually do the building," Cunningham said.

In BC, the construction industry is forecast to be short as many as 15,000 skilled workers by 2026. "The industry attracts only 1 in 69 high school graduates into its construction trades programs," Familuk said. "That number needs to be

Heyens. How this will or will not play out in 2018 remains to be seen.

Meanwhile, "the country needs to figure out how to efficiently and respectfully address environmental concerns while moving forward with important initiatives like the pipelines," said McNally. Unless this is resolved, many promising projects could be shelved.

Money and Labour

Although Ottawa has committed billions for infrastructure construction, the private sector remains cautious—and the supply of labour uncertain as aging Baby Boomers stop working.



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approximately 1 in 7 graduates if we are to effectively address the 2026 projected shortfall.”

The Biggest Challenge in 2018

Now that 2018 is upon us, one has to wonder: What will be the Canadian construction industry's single biggest challenge? On this point, views differed.

“The biggest challenge is planning for uncertainty,” said Heyens. “The economic recovery is somewhat fragile at the moment, even though there are signs of steady growth ahead.”

“The industry's biggest challenge will be adapting to change,” said Cunningham. The environment will become increasingly competitive as more very large foreign contractors that are often state-supported enter the Ontario market.”

For his part, Sanderson sees a number of major challenges facing the construction industry in 2018, not least of which is the shortage of skilled trades.

Familuk agrees: “Unprecedented economic, demographic, and technological pressures are profoundly affecting the construction industry,” she said. “We need to embrace construction innovation because ‘business as usual’ doesn’t cut it any longer.”

The Best Response

The most pressing issue facing contractors is how to respond to economic, labour, and social pressures as they move into 2018 with a solid business plan, but uncertainly on several fronts.

“Cost control,” advised Heyens. “There is cautious optimism and companies who make efforts to develop lean principles and invest in new tech will lead the pack.”

Sanderson said the trick will be to recruit skilled workers.

“Be more open to accepting and using new technology that can improve productivity,” McNally said. “Continuously develop the workforce to use the technology and work smarter.”

“Collaboration is a word that’s almost over-used; however, its importance cannot be over-stressed,” said Familuk. “In business, the search for partners to help address issues, find solutions and deliver competitive advantage is a powerful and essential part of strategy.”

Finally, “the single most important thing a construction company should do is join a construction association in order to stay well informed and up-to-date on changing industry practices, new technologies, and changes to their regulatory and legislative obligations,” Cunningham concluded. ■



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The busy construction schedules of 2017 promise to run on into 2018 with no sign of a slowdown in most sectors of the BC construction industry.

With busy schedules come challenges—skilled labour, underpricing, vulnerability to regional and global economic markets are at the top of the list—and these demand innovation and tenacity among contractors in the mission to overcome.

The dawn of a new year is always a great time to think about what is coming down the pipe and plan business strategies. Sheet Metal Journal, with help and support from SMACNA-BC, launched an industry survey in December to discover what issues contractors face, how they are handling challenges and exploiting opportunities, and what kinds of changes they have planned for 2018.

Jeremy Hallman, Apollo Sheet Metal, said a lot of the work has shifted from large commercial to mixed use residential, requiring a specific workforce with a different skill set.

To adapt, the company has made some changes with how it delegates labour. “We are running more jobs with fewer tradespeople on them because residential tower work typically doesn't require as many people,” said Hallman. “We are adapting with new foreman and a focus on maintaining a percentage of pre-apprentice and apprentices.”

Hallman adds the industry's biggest opportunity in 2018 is the region's fair amount of large industrial work, which may help to some degree with the labour shortage.

“This could be appealing to some of the skilled tradespeople that have typically had to travel for this type of work,” he said. “It could help to improve the overall skill set locally and make everyone more diverse.

“I think you will still have the people that would prefer to work out of town; however, I think it will help Apollo attract tradespeople that might be working locally that would rather

work industrial but don't want to leave their families and live out of town.”

Industrial work ranked highest among perceived opportunities for 2018—others included commercial buildings, expansion and growing of new markets, and diversifying operations to meet market demand.

In terms of challenges, contractors listed ensuring proper communication in the industry, keeping up with the volume of work while maintaining quality, finding qualified manpower, and training in generation Y tactics as the main stumbling blocks, while 25 per cent said they forecasted no challenges for 2018.

More than 65% of respondents said labour retention would be their primary strategy for staying competitive for the coming year.

Aaron Smith, owner of Smith Sheet Metal, is one of several survey respondents who say success in meeting most obstacles like labour and a fluctuating economy is about building and maintaining industry relationships.

Moving into 2018, Smith said the biggest opportunity for the industry will be, “a continued steady growth for companies that have been able to build and strengthen their relationships with their partners along the way. It should be a good year.”

Hallman agrees, noting that although the market dictates labour availability to some degree, companies need to be proactive in retaining their key personnel and managing their skilled labour supply.

“Anytime a company gets busy and needs to hire a lot of tradespeople at one time you are bound to get some duds,” he said. “Good people are working—because they are good. You need to provide the right environment so that they want to hire on and stay on.

“I think the type of work, stability, and the way they are treated will decide if they stay or go.”

Smith is investing in both technology and young workers while the opportunity presents.

“We are investing in both technology and young workers,” he said. “This is the time to strengthen your roots and prepare for when times are not so good again.

“Our past work force was filled with older experienced workers and now is the time to share that knowledge and prepare as best possible for the next wave of workforce.”

Even companies who have experienced a minor slowdown over the past year hinge their plans moving forward on relationship building, both internally and with external partners.

Phil McDonald, owner of Summit Sheet Metal, said his company has experienced a bit of a slowdown because of delays on a few major projects.

“We are going to be bombarded with work in spring carrying us through into next year, which is a positive except I hear we are not the only company in this boat. People power is going to be a real factor.”

The biggest opportunity in this climate will be higher profit on new jobs tendering, and justifying prices with quality and workmanship, he added.

“It comes back to relationships,” he said. “There are a lot of times where the contractor and owner will take cheaper price but will end up calling us in to fix it. That only happens for so long before people are sick of dealing with the lower quality work that comes with a low price.”

McDonald has several examples of projects on which he may not have had the lower price, but he won the tender because of this very principle.

“My price is my price and whenever someone wants to question it, we answer freely,” he said.

“It is an open book and I am happy to explain costs. People tend to understand and after a while, those questions stop.

“We give what the owners want and we are getting what need,” he said. “It doesn't help when guys come in buy jobs and work, and that becomes the standard. There has to be some trust and communication among our industry partners.”

Tony Tesan, Summit Sheet Metal, said while there is a lot of work in the Lower Mainland, developers are still trying to keep costs down. “Competition for bids is still occurring,” he said, “and trying to keep our cost down to land contracts is still a challenge.”

Despite the challenge, Tesan doesn't foresee a drop in the company's workload for 2018, but does predict more workers

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will be required should the company end up with more work than anticipated.

A wildcard, of course, is foreign investment, dictated by regional and global markets.

“Foreign investors stimulate a large portion of the construction in the Lower Mainland,” he said. “Should something occur globally, particularly in Asia, it could greatly affect the industry and construction in general.”

Staying competitive will mean keeping an eye on productivity, he added.

“We need to ensure we are organizing men and materials to maximize productivity,” said Tesan. “Material and equipment can be a fixed cost. Labour can be a challenge if you don't have the skilled labour.”

These values translate into the secret to resilience, especially when labour is contentious. “The answer for us to to treat our guys like an extended family, and ask them to do the same,” said McDonald.

“I always say to the guys, if you wouldn't do it at your house, don't do it here. Take the time to get things right,” he said. “I've never once had to go back on a job again [to correct faulty work].”

Summit also shares labour with other companies—a growing trend among sheet metal companies who want to retain skilled workers and build loyalty among crews. It isn't uncommon these days for a company experiencing a slow period to “lend” workers to a competitor on an honour system with the idea they will come back when things pick up.

“Sometimes contractors don't like it because they think they will get the short end of stick, but the worst thing you can do to someone is lay them off,” said McDonald. “If you loan them out, they still feel welcome and like family—it's a win-win for everyone.”

Over the next five years, 10 per cent of contractors indicated they would be looking to add space or locations, the number of respondents expanding (15%), retiring (15%), or carrying along the same trajectory (15%) was equal, indicating plenty of opportunity for the 45% who plan to develop new markets over the next half decade.

McDonald's five-year plan is simple and wise: “We will continue to build on our family atmosphere,” he said, “and surround ourselves with other companies that want to work together to keep our industry strong.” ■

SURVEY RESULTS:

Biggest industry challenges for 2018:

- Skilled labour 70%
- Pricing 20%
- Political/Economic Markets 5%
- Other 5%

Forecasted contractor performance:

- Much better than 2017 5%
- Slightly better 37%
- Same 42%
- A little down 16%

Forecasted industry performance:

- Much better than 2017 5%
- Slightly better 30%
- Same 45%
- A little down 20%

Contractors' biggest investment for 2018:

- Labour 30%
- Technology 5%
- Expanding 10%
- Education 35%
- Finding projects 15%

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FAN INSTALLATION GUIDELINES

To ensure the proper fan performance as catalogued, caution must be exercised in fan placement and connection to the ventilation system. Obstructions, transitions, poorly designed elbows, improperly selected dampers, etc., can cause reduced performance, excessive noise, and increased mechanical stressing. For the fan to perform as published, the system must provide uniform and stable airflow into the fan.

The proper way of installing a fan is something very basic but quite often overlooked.

We know that a fan performance curve is a graphical representation of the operating capability of a fan, usually at a defined operating rotational speed. Also, this very same fan, if operated at a higher rotational speed, would have a higher output volume, higher pressure generated, and more power consumed. (This can be predicted from the FAN LAWS.)

Fans in our industry are tested and certified by AMCA – Air Movement and Control Association International – see www.amca.org. They are set up for testing with the best possible inlet and outlet conditions. As the fan is tested with the best airflow inlet and outlet conditions, the fan should also be installed on the job with equally good airflow conditions.

Surprisingly, a large number of contractors seem to fail to make this connection, or worse, simply ignore it. There are others still who say, “Yeah, but you don’t ever get ideal lab conditions in the field.” There is a logic fault in this kind of thinking. For a successful fan installation, a good, smooth flow of air in and out of the fan is essential if the fan is to deliver the desired performance.

Providing enough room for the fan and its connecting ductwork can be a problem if the designer has not allowed sufficient space. Unfortunately, lack of space for ductwork is a common oversight. If the problem were electrical it would be relatively easy to just reroute the wiring. When we try to move and re-align ducts, the situation is very different; every elbow, offset, and additional duct length creates resistance to airflow, resulting in an increased load on the fan system.

While it is true that installation space is very often a problem, it hardly seems sensible that the solution to a space problem is to simply cram the fan and its connections into whatever space is available. Every effort should be made to provide the fan/ductwork with the airflow conditions needed to do the job. The first step in providing good airflow for the fan is at the equipment selection stage of the design process, which means providing enough space in the mechanical rooms for the equipment that is to be installed. Cramming or shoe-



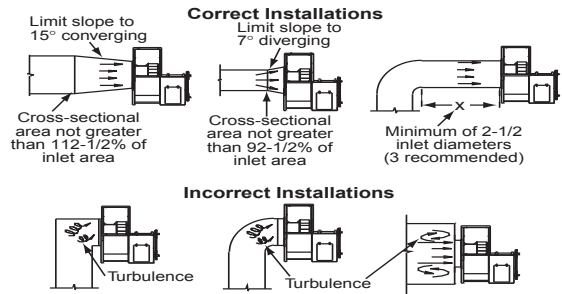
by / Norm Grusnick, P. Eng.
Commercial products manager, ECCO Supply

horning fans and ductwork into too small a space is false economy when one considers the operational problems and associated costs that result; a poor installation is an inefficient installation for the owner.

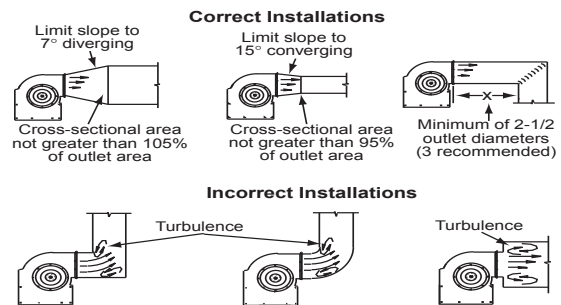
The price of an inefficient installation, even if it is able to function marginally, is a higher operating cost and operational problems with the fan equipment for the life of the installation.

Figure 1 shows correct and incorrect fan installation guidelines for centrifugal fan conditions.

Fan Installation Guidelines
Centrifugal Fan Conditions
Typical Inlet Conditions



Typical Outlet Conditions



Let us assume that we are faced with a situation in which a fan is cramped into too small a space. What are we to do? Well, we are not powerless; there are several ways to cope with the problem. They are listed here in their order of effectiveness.

Continued on page 27

"I CAN'T BELIEVE I SIGNED UP FOR THIS."

And so began a tale of stupidity, short-sightedness, and tradition that reflects a broken culture and wasted talent.

The words were spoken to me by a young man in March 2017 after I gave a presentation to 400 young people serving their union apprenticeships. During my talk, I asked a question that I have been asking for over 10 years to well over 100,000 union craftsmen and women: "How many of you during your apprenticeship were hazed, teased, called names, given meaningless work, ignored, or not taught because the guy in front of you was afraid for their job?" And in that room, like the other 200 times before, 95% of the hands slowly rose into the air.

Ninety. Five. Percent. In the year 2017. Not 1970 or 1990. Today. Now.

The young man in question approached me at the end of my presentation. He waited until everyone else had left. He told me he had military leadership experience. He had seen and done more than any of his apprentice peers. He had joined a union and the apprenticeship to again be part of a team that cared about each other—but he found something entirely different.

His experiences included being degraded; given little to no mentoring or instruction; seeing his peers called names (though no one would do it to him as he had that look in his eyes); and watching poorly performing journeymen be treated with more attention and respect because they were friends with the foreman. He felt he was part of a team only when it was funny to treat the low man on the food chain poorly.

Here is the future of our business. The ideal candidate, signing up with exactly the right reasons and a perfect foundation for success... but it had only taken him two years to go from enthusiasm and belief to, "I can't believe I signed up for this."

This legacy practice of mistreating and degrading apprentices needs to end now, and it is the contractors first – and the union second – who have to start taking a stand. The current crop of apprentices needs to be the very last that are ever abused in the apprentice system as a stupid excuse for developing our young talent. It is being done by insecure people who had it done to them. And it is, decidedly, over.

I know some old-school guys are going to tell me that if you don't have thick skin, don't sign up; if you can't hack it, then you don't belong. I disagree. Talent development is not about hazing or mistreatment. It is about instilling confidence, skills and belief through mentoring, guidance, and coaching. This is not always common behaviour in an industry that prides itself on toughness and independence. As well, many are going to



by / Mark Breslin
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say that the millennial generation is soft and has received too many trophies for too little effort. While some of that may be true, it doesn't justify poor behaviour at the job site on the part of journeymen whose pensions will someday be paid by those very same apprentices.

I would like to suggest three solutions to this challenge – one for the apprentice training staff, one for the contractors and one for the union leadership – so each can play a part in a constructive evolution going forward.

First, apprentices must be given a true picture of what they are going to face. We cannot ignore the fact that this is going to be part of their experience. In my book *Survival of the Fittest* (and especially in the accompanying workbook), I outline roleplaying behaviours for classes to engage in and discuss. Spend 10 minutes at the end of classes doing roleplaying. Stand back and watch the wheels turn. How does an apprentice deal with hazing? How do they respond when told to "slow it down"? How do they ask for assistance or mentorship? How should they go about earning respect on the job? These are not technical skills but job site survival skills that every apprentice needs so they can get through the wringer until we change the culture.

Secondly, contractors need to draw the line: if you abuse, haze, or mistreat an apprentice, you are fired. Foremen are expected to develop apprentices or at least match them to journeymen capable of maximizing their ability. Companies need to move away from the idea that apprentices are cheaper labour with limited skills and begin developing them as our future leaders and workforce. A change in mindset needs to precede a change in behaviour.

Finally, unions can help by standing up for apprentices and giving them the camaraderie they were first offered. The best part of being in the trades isn't the money; it's the people and the work and the pride that come with doing something you feel is important. Sharing that with others and seeing it play out every day, with everyone having each other's backs, is what

Continued on page 27

UNDER PRESSURE: DRIVING TOO HARD A BARGAIN

Homeowners and general contractors often find themselves under various pressures to complete work and advance the project. The rushed approach that often ensues can cause parties to overlook or postpone settling essential terms with subcontractors. The recent case of *Limen Forming West Ltd. v. Stuart Olson Dominion Construction Ltd.*, 2017 BCSC 1485, highlights the dangers of delaying a written contract and later trying to assert harsh or stringent terms to which the parties never agreed.

The Facts

Stuart Olson was the approved general contractor (the “General Contractor”) for construction on the Budzey Building in East Vancouver (the “Project”). Limen (the “Subcontractor”) was the successful bidder on the invitation to tender and was awarded the subcontract for the concrete formwork (the “Contract”). The Contract sum was \$2,868,480.

The General Contractor and Subcontractor never signed a formal contract for the forming work due to a dispute over whether the Subcontractor had to provide a corporate guarantee as contract security.

Notwithstanding the lack of a formalized written contract, the parties negotiated oral terms of agreement with a view to



by / Andrew Delmonico and Matthew T. Potomak

deciding on the corporate guarantee at some later date. The General Contractor instructed the Subcontractor to begin work on the project in the meantime.

Further discussions about contract details and the security dispute continued over the coming months as work progressed. However, because of the dispute and the absence of a signed agreement, the General Contractor made no progress payments to the Subcontractor.

When the Subcontractor performed about 30% of the work required under the Contract, the General Contractor told the Subcontractor it would make no progress payments unless the Subcontractor signed the most recent draft subcontract and provided a corporate guarantee. The Subcontractor did not accept the terms, and threatened to stop working until the owing progress payments were made.

The General Contractor took this threat as repudiation of the contract, terminated the Contract and hired a new subcontractor to finish the formwork. The Subcontractor brought an action, advancing its claim for work performed and loss of profit.

The Decision

The court held the Subcontractor was entitled to payment for the work performed and loss of future profit for the remaining work on the Contract.

The court reasoned that despite the lack of a formalized written contract, the parties had made an oral agreement with all essential terms (i.e. parties, subject matter, time for performance, and price). Further, the General Contractor awarded the contract to the Subcontractor and insisted it begin working on agreed-upon terms. From that point, the General Contractor could not force new conditions on the Subcontractor.

Finally, the court noted that the General Contractor’s refusal to pay progress draws for work performed was a breach: “A contractor will not be found to have repudiated a contract where the owner (or general contractor) imposes harsh and unrealistic terms as a precondition to payment” (para. 123).

**SMWIA Local Union No. 280 /
SMACNA-BC Partnership**

Left: Jud Martell Local Union No 280 President.
Right: Angelo Paris, Apollo Sheet Metal Ltd., SMACNA-BC President.

Labour & Management
“Embracing the Challenge”
- B. Flaherty, Cornell University, Syracuse, N.Y.

ENGINEER'S DESK

Continued from page 25

1. Make the necessary room. This is not always easy, but is best for all concerned.
2. Re-configure the inlet/outlet ductwork. If physically possible, rearrange ductwork to improve fan performance.
3. Provide guidance to the airflow inside the ductwork. This can be done using strategically placed turning vanes, splitters, and other such devices.
4. Rearrange the fan. This is most costly, but long-term, improved operating and maintenance costs may justify this solution.

The best solution is to allow for sufficient space in the design/layout stage to have the fan and related ductwork perform at their best. ■

CONTRACTORS 101

Continued from page 24

it's all about. Every union in North America might consider an annual Mentor of the Year award for the journeyman who is tops in development of apprentice talent. Make it visible. Talk about it at the hall. Put it in the newsletters. Bring the brotherhood (and sisterhood) back to union affiliation.

In summary, it is time for a change. Not every apprentice is going to make it, and we aren't running a babysitting service. If an apprentice doesn't have the heart and passion to be a tradesperson, maybe they need to do something else. But for every young man or woman who comes to us offering us the next 25 years of their life – their blood and sweat and best effort – we deserve to give them more. And the time is now. ■

IT'S THE LAW

Continued from page 24

Lessons Learned

1. Ensure all conditions are first included in a written contract – you cannot later add conditions to an existing contract without “fresh consideration”.
2. Do not permit subcontractors to begin work until a formal agreement is in place and all terms are established.
3. Permitting contracting parties to carry on in breach of a condition of a contract may be viewed later by a court as (i) waiver of that condition; or (ii) if the condition’s existence is in dispute, evidence that the alleged condition never formed part of the original contract.
4. Beware of the risks of using “hard bargaining” to force another party into performing obligations to which it never contractually agreed . ■

This article was written by Andrew D. Delmonico and Matthew T. Potomak, articulated student, who practise in construction law with the law firm of Kuhn LLP. This article is only intended as a guide and cannot cover every situation. It is important to get legal advice for specific situations. If you have any questions or comments about this case or other construction law matters, please contact us at 604.864.8877 (Abbotsford) or 604.684.8668 (Vancouver).



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