

SUMMER 2019

# Sheet Metal Journal

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British Columbia



## SMACNA-BC Celebrates 50 Years

Labour Ethics

Technical Resource Library

Automating Safety

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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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## PRODUCTIVE SUMMER FOR SMACNA-BC

**SMACNA-BC 50th Annual Convention, May 9 - 12, 2019, Delta Hotels by Marriott Grand Okanagan Resort, Kelowna, BC**

This year's convention marked a special milestone as SMACNA-BC turned 50 years young. Out of the 175 attendees this year, there were quite a few new faces, and this was to my personal advantage as the new attendees had never heard my bad jokes before, giving me the upper hand. Out of the 175 attendees, 20 were children or, as I prefer to recognize them, the next 50 years of SMACNA-BC. Through my 21-year tenure with this wonderful association I have witnessed literally dozens whose first SMACNA-BC convention was as an infant and 21 years later they continue enjoying the experiences and friendships established throughout time.

Thank you in advance for providing me the opportunity to give special thanks to everyone who attended this year and the forum to provide a brief recap of the events at our 50th AGM & Convention.

Thursday, May 9th was the Meet & Greet event where as the more the room filled, the louder and busier it got. Everyone enjoyed viewing a PowerPoint loop of photos from the past 50 years and sharing personal news and events that had transpired since they last convened.

On Friday, May 10, SMACNA-BC President Aaron Smith welcomed some of our special guests, including SMACNA President-elect Angela "Angie" Simon, who will become SMACNA's first female national president this October at the Annual Convention in Austin, Texas. Making the trip from the Bay Area in California with Angie were her husband Michael and son Alex. We welcomed Executive Director of Labor Relations for the past 31 years, Deb Wyandt, accompanied by her childhood buddy and partner in fun, Trudy Dona. Representing Inland Northwest Sheet Metal Contractors Association was Bette Price.

Also recognized were the pioneers of SMACNA-BC, the Honorary Life Members, Allister Inglis along with his guest Dalana Rayner, and Rick Baty and Sandy Bragg.

Special acknowledgement to Brad and Stephanie Popoff of Equity Plumbing & Heating Ltd. in Prince George, BC. It's a long drive from Prince George to Kelowna, especially with four young children in the car. All four of them (Zachary, Elianne, Emmelise, and Matthew) are great kids, and I am sure they enjoyed the overall convention experience.

After the recognitions and a hearty breakfast, SMACNA-BC delegates ventured out in the unseasonably warm temperature offered by spring in Kelowna and travelled to their selected offsite activities.



By / Bruce Sychuk, Executive Director, SMACNA-BC

The activities offered were:

The always-popular South East Kelowna Wine Trail Tour, co-sponsored by e.h.price-Vancouver, Apollo Sheet Metal Ltd., and ECCO Supply.

There was golf at the truly magnificent Harvest Golf Club. This event was co-sponsored by Ridge Sheet Metal Co., Wm. P. Sommerville 1996, and Ames Metal Fabricators 82 Ltd.

Okanagan Lake Yacht Charter, co-sponsored by AARC West HVAC Solutions, Austin Metal Fabricators, Apollo Sheet Metal Ltd, Summit Sheet Metal Ltd., and ECCO Supply.

Scandia Golf & Games, where the kids let loose enjoying mini golf, go-carts, arcade games, and much more. This event was co-sponsored by Progressive Air Products, Tri-Metal Fabricators Ltd., All Therm Services Inc., and Ridge Sheet Metal Co.

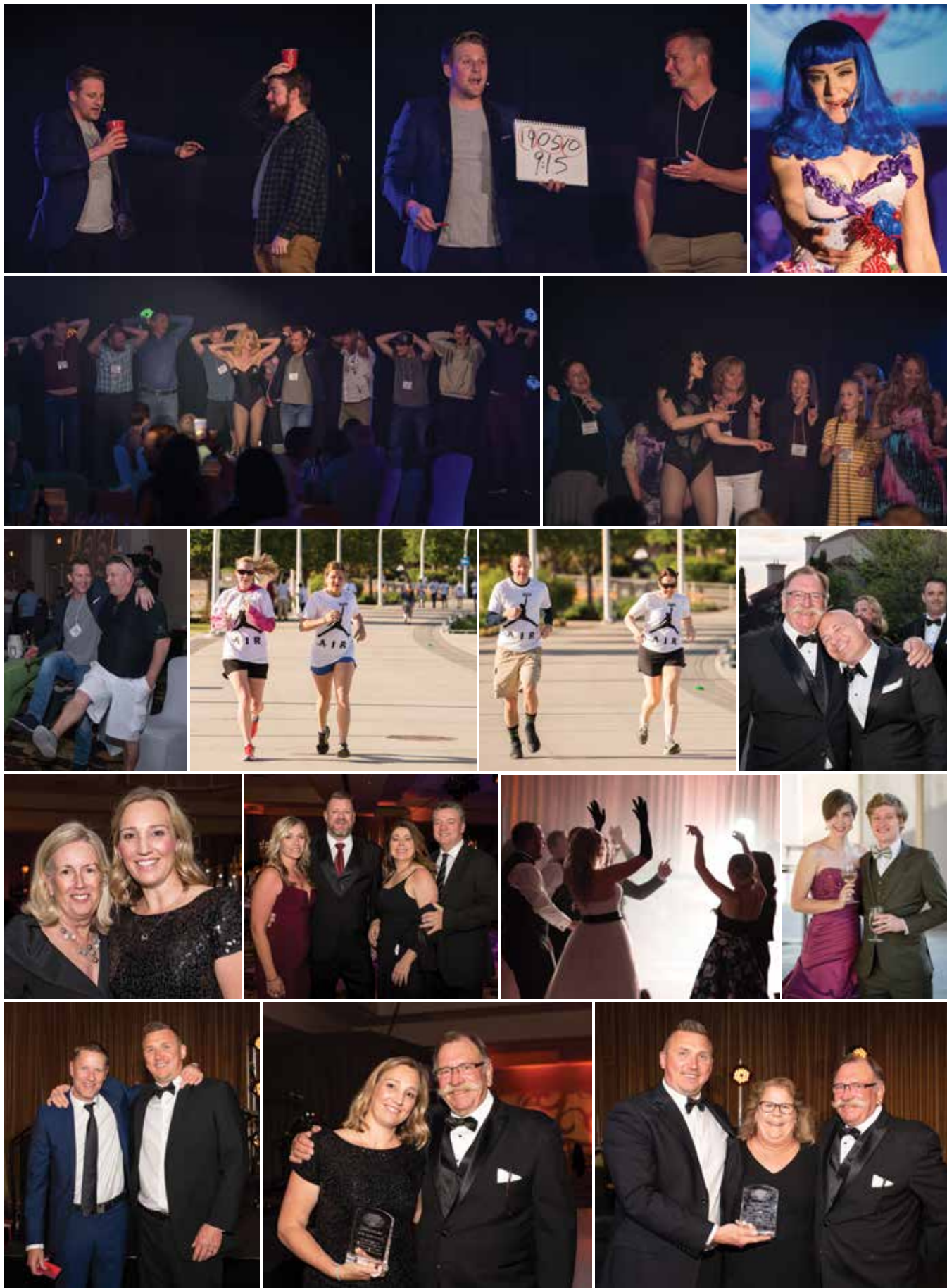
Friday night "Fun Night" this year was not as per the usual format. In lieu of interactive team events, it was decided for the 50th anniversary to offer an evening of strictly entertainment. The entertainment included an entertainer the SMACNA-BC gang is familiar with, one-man show, Andrew Johns, followed by Wes Barker, master of magic and comedy, and one-woman show Tracey Bell who brought down the house with her interactive, quick change impersonations of Cher, Marilyn Monroe, Celine Dion, Liza Minnelli, Madonna, Janis Joplin, Tina Turner, Dolly Parton, and Julie Andrews. The evening concluded with dancing and partying to the sounds of Andrew John.

On Saturday, May 11, the early Saturday morning event was the world-renowned 6th Annual Air System Supplies Fun Run. Thanks to Colleen Braun, Glenn Matthiesen, and the rest of the Air Systems gang for hosting and organizing this event.

After breakfast Saturday morning, we got down to the business part of the weekend—the Annual General Meeting. President Aaron Smith called the meeting to order and introduced the Board of Directors and special guests before getting into the business of approvals and reports. I conducted the elections for the nominated positions whose terms had been completed and now needed to be filled.

Photos by / Dean Kalyan deankalyan.com





Mark McLaren of Ridge Sheet Metal Co. was re-elected for a five-year term on the Joint Conference Board.

Paul Charbonneau of Cascade Metal Designs Ltd. was re-elected for a four-year term as management trustee on the Sheet Metal Industry Training Board.

Angelo Paris of Apollo Sheet Metal Ltd. was elected to serve a four-year term as director on the SMACNA-BC Board of Directors.

(Note: Dan Taillefer of Viaduct Sheet Metal Ltd. has since been appointed by the Board of Directors to serve as SMACNA-BC vice-president for 2019-20).

Special guest Deb Wyandt, Esq., Executive Director Labor Relations, SMACNA Inc., reported on recent developments relative to the SMART and SMACNA, Inc. She also reported on the most recent experiences with her farm animals (Deb should write a book) and a variety of new / updated SMACNA Inc. sponsored membership services and programs.

Under the heading Other New Business the delegates moved, seconded, and carried that Darryl Gordon of Austin Metal Fabricators LP. and Craig Benson of Paramount Sheet Metal Ltd. receive SMACNA-BC Honourary Life Memberships. Congratulations to Darryl and Craig and enjoy a very long rewarding retirement. SMACNA-BC is so blessed to have both of you serve the membership in the numerous capacities. The combined servers of these two gentlemen totals 48 years, with Craig Benson serving for 27 years and Darryl Gordon serving for 21 years.

The AGM concluded with President Aaron Smith passing the gavel to SMACNA-BC President for 2019-20, Bernie Antchak of Northwest Sheet Metal Ltd. in Surrey, BC.

After the AGM and the luncheon that followed, delegates received the opportunity to get to know SMACNA National President-elect, Angie Simon. Angie shared some up close and personal experiences along with life lessons learned throughout the years.

Saturday night was the President's Ball – and concurrent kids' party – where once again the gang from Noteable Entertainment transformed the ballroom from a typical hotel meeting space to a luxurious venue worthy of a 50th anniversary celebration. To enhance the décor, the ladies were all dressed to the nines and the men were unrecognizable in their tuxedos. There was dining, fine wine hosted by Chris Ceraldi and the rest of the gang from AARC West HVAC Solutions, then dancing the rest of the night away to the great quality music provided by, back by popular demand, Kelowna's own #1 dance band, **Easy Fix**. From the ambiance of the décor, the food and drink, the kids at the kids' party, and some of the best entertainment

we have ever had, the formula for a successful event was now complete.

Special shout out and thank you to Dean Kaylan for all the great photos <https://deankalyan.com/>.

See you all next year at the [SMACNA-BC 51st Annual Convention, April 30-May 3, 2020, Delta Hotels by Marriott Victoria Ocean Pointe Resort, Victoria, BC](#)

I would like to take this opportunity to thank all our sponsors for their continued support of the convention and SMACNA-BC.

AARC West HVAC Solutions  
All Therm Services Inc.  
Air System Supplies  
Ames Metal Fabricators 82 Ltd.  
Apollo Sheet Metal  
Austin Metal Fabricators  
Downtown Custom Metal Works  
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Northwest Sheet Metal Ltd.  
Progressive Air  
Ridge Sheet Metal Co.  
Spectrum Sheet Metal Ltd.  
SPI Specialty Products & Insulation  
SMACNA-BC  
Summit Sheet Metal  
Tri-Metal Fabricators  
Wm P. Sommerville 1996 Ltd.

### **June 20, 2019 SMACNA-BC Membership Meeting – Welding gases & fumes**

SMACNA-BC welcomed Hans Kriekenbeek, CRSP, ROHT, Specialist, Industry & Labour Services – WorkSafeBC, to provide a presentation to the membership regarding updated WorkSafeBC regulations dealing with welding gases and fumes.

Welding gases and fumes pose a serious threat to anyone who inhales them. Every welding project emits a different combination of gases. The fumes can cause occupational asthma and damage the nervous system. Keeping your head out of the plume while welding is one of the best ways workers can protect themselves from harmful exposure.

As an employer, you need to know if there is the potential welding fume exposure present in your workplace. It's your responsibility to regularly inspect your workplace and to ensure your safety procedures and practices control the risk.

Hans covered topics such as:

- Introduction/Types of metals of concern
- Health effects of metals of concern
- Brief summary of legislative requirements
- Typical safe work controls applied in industry

If you wish to have a copy of the PowerPoint presentation, don't hesitate to email me at [smacnabc@smacna-bc.org](mailto:smacnabc@smacna-bc.org)

## SMACNA-BC / SMART Local Union No. 280 Standard Agreement Negotiations

I am pleased to announce that SMACNA-BC & SMART Local Union No. 280 have successfully concluded Standard Agreement Negotiations. Many thanks to the SMACNA-BC negotiating committee for their time and efforts expended and to the SMART Local Union No. 280 counterparts for their professionalism and efforts in addressing the future of the unionized sheet metal industry in British Columbia as we know it.

## First Piece of Artwork on Wall of New SMACNA-BC Office

SMACNA-BC obtained its final permit for occupancy from the City of Surrey on April 3, 2019. Now, Michelle and I have the arduous task of sorting through the archives of files and

documents, creating digital copies, and overall organizing of our brand new space. One item I am hesitant to venture in is the hanging of miscellaneous plaques and photos as my interior decorating skills leave a lot to be desired. However, I am very pleased to announce that we have finally hung our first piece of artwork on the wall thanks to the efforts of Dan Taillefer, Mark Halvorsen, Adam Sims, and the true craftsmen at Viaduct Sheet Metal Ltd.



On behalf of the SMACNA-BC Membership I'd like to thank the following companies for their generous support and services in assisting in making this new office space happen.

- Ridge Sheet Metal Co. – HVAC
- Air System Supplies – Grilles and diffusers
- AARC West HVAC Solutions – Insulation supply and installation
- KD Engineering – Air, water balancing, and commissioning

## Mark your Calendars:

Friday, September 13, 2019  
SMACNA-BC Golf Classic  
Northview GC, Surrey, BC

Thursday, September 19, 2019  
Young Executives Committee Meeting  
Civic Hotel, Surrey, BC

Thursday, September 19, 2019  
SMACNA-BC Membership Meeting  
Civic Hotel, Surrey, BC  
Topic - TBA

Sunday, October 20 to Wednesday, October 23, 2019  
SMACNA National Convention  
Austin, TX

November 29, 2019  
SMACNA-BC Annual Christmas Party, Pan Pacific Hotel  
Vancouver, BC ■

A promotional advertisement for ECCO Rewards. The background is a light blue sky with a white grid pattern. At the top, the 'ECCO Rewards' logo is displayed in large, stylized red and black letters. Below the logo, the text 'Earn Points. Get Rewards.' is written in bold black font. In the center, there are three images: a smartphone showing a landscape, a chainsaw, and a red utility vehicle. At the bottom, a red banner contains the text 'Contact ECCO Supply™ today to enroll.' Below this, contact information is listed: Burnaby 604-420-4323, Langley 604-530-9755, Victoria 250-361-3395, and Chilliwack 604-702-4400. The ECCO logo is repeated in the bottom right corner, along with the website 'www.eccosupply.ca' and the text 'Expert Service Quality Products Since 1960'. A vertical '© 1960-2019 ECCO' watermark is on the right edge.



## SMACNA-BC PRESIDENT: BERNIE ANTCHAK

By / Jessica Kirby • Photo by / Bernie Antchak

SMACNA-BC welcomes a new president for the 2019-2020 year—Bernie Antchak, part owner of Northwest Sheet Metal. Bernie assumed his role at the AGM in May and is looking forward to his primary mission as president: helping educate contractors that profit isn't a four-letter word.

“With the economic outlook weakening, it isn't necessary to cut margins just to keep people busy,” he says. “All this does it lower the mark and most follow suit. A better strategy is to make more with less during slower times.”

Maintaining a competitive profit margin means contractors have to look carefully at their real costs and start from a realistic baseline. This is an important message every contractor needs to hear, Antchak says. “Contractors need to know their profit and know their true overhead,” he says. “Now, with employers taking on the new MSP tax, wage escalation, business taxes, etc., a contractor needs to know that their hourly rates have increased significantly and reflect it accordingly on their tenders.

“A lot of contracts are 5 and 5, meaning 5% mark up and 5% for overhead on changes,” he adds. “This makes zero sense and no sheet metal contractor operates with a less than 15% overhead alone in BC, and yet you still have no profit in there—so, again, this should be reflected in your pricing.”

*Sheet Metal Journal* interviewed Antchak for Meet the Board in 2012, and at the time he identified recruiting and retaining skilled labour, attracting new people out of school, and the retiring demographic as the main challenges in the sheet metal industry. Today, very little has changed in that regard.

“The biggest challenge now, I would say, is manpower and trying to recruit new staff,” Antchak says. “There is a ton of work out there and with the challenges of retirement and also motivating the younger generation to take more responsibility there are many obstacles we face.”

That said, he believes contractors are doing their best when it comes to recruitment. “The younger generation really has no idea what sheet metal is, and trying to get sheet metal known as a common trade, such as plumber or electrician, is vital to our industry,” he says. “Everyone does their part. Some contractors promote through video, most through social media, and some are word of mouth, but in essence everyone is on the same page of getting our trade more recognized.”

Antchak is ambitious about the quality of training courses provided by SMACNA-BC and recommends them to every new manager and up and comer. “This is where SMACNA separates itself from the non-signatory contractors—by being the leaders in our industry.”



He also believes that although SMACNA's chief role is to be a liaison between labour and management, the association could make important headway by continuing to enlighten the consultant – especially the new generation – on what quality installation looks like and why SMACNA standards have always been the benchmark.

“This will help the industry as a whole and ensure that the owners get what they are paying for,” he says. “Plus, it creates a healthier industry for everyone.” ■



**Business Manager & F.S.T.**

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**Ken Elworthy**

**Business Representative**

**Richard Mangelsdorf**

**Business Representative**

**Troy Clutchey**

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**Fax: 604-431-1864**  
**Email: [agents@smw280.org](mailto:agents@smw280.org)**

**FRANCO ANTONIO PEDERZINI**  
**MAY 2, 1984 – JULY 29, 2019**



Franco will be joining his grandparents Franco and Angela, great grandparents Maria and Martino, and cousin Liana, waiting with open arms and embracing him once again. He leaves behind his loving mother Enrica, father Paul (Tammy), brother Anthony, grandparents Maria and Antonio (Paris), aunts, uncles, and cousins Anna (Bob), Mathew, Anthony and Jordan, Angelo (Kelsey), Sofia and Marco. The great strength of his love and kindness for all will forever be felt in the hearts of everyone who knew and loved him. His loved ones will miss him deeply, but his spirit will forever live within them.

“Family Forever and Forgiveness through Prayer”  
—Franco

Service was held St. Francis of Assisi August 6 and 7. ■

It is with deep sadness and a heavy heart that SMACNA-BC announces the passing of a young, wonderful person, Franco Antonio Pederzini. Franco began his career as an award-winning apprentice, worked as an accomplished sheet metal worker and project manager for his family’s business, Apollo Sheet Metal, and was a management trustee on the Sheet Metal Industry Training Board.

Most importantly, Franco was a warm, welcoming, young man who was kind to others and quick to laugh and brighten a room with his smile.

**ROSS BYRON BRYANT**  
**SEPTEMBER 26, 1942 – JULY 25, 2019**

Ross went home to be with Jesus after an 18-year battle with prostate cancer. He passed away peacefully in the North Okanagan hospice at the age of 76 years. Ross will be lovingly missed by his wife of 44 years, Colleen, daughter Tara (Jason) Stanley, son Russell, grandsons Tyler and Matthew, daughter-in-law Erin Bryant, brothers Alan and Jerry Bryant, and numerous nieces and nephews. He was predeceased by his parents Sydney and Elma Bryant, sister Norma, and brothers Vern, Ken, Elwood, Harold, and Walter.

Ross and Colleen moved to Armstrong in April 1974 where he started a 43-year career as journeyman sheet metal mechanic. His first job was working at Ron Brown Ltd. until 1999 when his dream came true to own and operate his own company. In 1999 Ross and Tom MacGillis started mechanical contracting company Bry-Mac Mechanical Ltd. where he worked until retirement in 2017. Ross was a loving husband dedicated father and grandpa. He enjoyed every chance he had to meet up with friends for a game of cards or BS over coffee, breakfast, lunch, or ice cream.

A celebration of life was held at the Armstrong Bible Chapel August 10. ■



## SMACNA-BC CONTRACTOR EARNS HONORABLE MENTION IN 2019 SAFETY EXCELLENCE

SMACNA National presented its 2019 Safety Excellence Awards to 29 contractors who made outstanding contributions to safety culture in their locales. Among those honoured was SMACNA-BC member, VETS Sheet Metal, a full-service sheet metal company offering general contracting through fabrication, construction, installation, and proactive service and maintenance programs.

With an overall lower average experience modification rate (EMR) from last year, the 2019 safety survey results show that safety and health continue to be a high priority for SMACNA contractors. SMACNA congratulates its members for their outstanding performance in occupational safety and health through SMACNA's Safety Excellence Award Program (SSEAP).

SMACNA is proud to formally acknowledge the 2019 SSEAP winners and to salute the top chapters with the highest level of survey participants. For the SSEAP, member winners are determined by man-hour categories and OSHA incidence rates. The Canadian SSEAP awarded an overall first place winner and one honorable mention winner based on statistics particular to Canadian safety programs.

Modern Niagara, based in Toronto and Ottawa, was the other Canadian company honoured as part of the SSEAP.

Learn more at <https://www.smacna.org/news/latest/archives/2019/07/18/smacna-announces-the-2019-winners-for-safety-excellence>. ■

### SMACNA NATIONAL EVENTS

**September 9 - 10 , 2019**

**Planning Your Exit and Business Valuation Program  
Seattle, WA**

**September 9 - 10 , 2019**

**NJAB September 2019 Meeting  
Salt Lake City, UT**

**September 22 - 26 , 2019**

**Project Managers Institute  
Denver, CO**

**Oct 20 - 24 , 2019 2019**

**SMACNA Annual Convention  
Austin, TX**



### 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.

#### CONTRACTOR MEMBERS

101 Industries Ltd.	Horizon Metal Systems Inc.
Admiral Roofing Ltd.	KD Engineering Co.
All Valley Metals Ltd.	Modern Niagara Vancouver Inc.
Alliance Metal Fabricators Ltd.	M&T Air Conditioning Ltd.
Allied Blower & Sheet Metal Ltd.	Northwest Sheet Metal Ltd.
Ames Metal Fabricators 82 Ltd.	Pacific Rim Industrial Insulation Ltd.
Apollo Sheet Metal Ltd.	Paramount Sheet Metal Ltd.
Austin Metal Fabricators L.P.	Piedmont Sheet Metal (1997) Ltd.
Boston Sheet Metal Ltd.	Quest Metal Works Ltd.
Bry-Mac Mechanical Ltd.	R.H. Jones & Son Mechanical Ltd.
CC Industries Ltd.	Ridge Sheet Metal Co.
Cascade Metal Design Ltd.	Samson Metals Ltd.
Century Plumbing & Heating Ltd.	Smith Sheet Metal Works Ltd.
City Sheet Metal Ltd.	Spectrum Sheet Metal Ltd.
Crosstown Metal Industries Ltd.	Summit Sheet Metal Ltd.
Downtown Custom Metal Works Ltd.	Tri-Metal Fabricators
Duncan's Ltd.	VETS Sheet Metal Ltd.
ECCO Supply	Viaduct Sheet Metal Ltd.
Equity Plumbing & Heating Ltd.	Western Mechanical Services (1977) Ltd.
Harbourview Sheet Metal Ltd.	York Sheet Metal Ltd.
Horizon Cladding Ltd.	

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Bailey West Processing Inc.	Mestek Machinery
Brock White Construction Materials	Modern Tool (BC) Ltd.
Canadian Western Bank	Nu-West Construction Products
Crossroads C&I	Pacaire HVAC Supplies Ltd.
DDK Ventilation Products Ltd.	Power Suction Services
EH Price Vancouver	Progressive Air Products Ltd.
EMCO (HVAC Division)	Raven Hydronic Supply Ltd.
Engineered Air	Samuel, Son & Co., Ltd.
Envirotech Air Inc.	WesternOne
ETP Energy Technology Products Ltd. (a div. of IPC, Inc.)	Winroc – SPI
	Wm. P. Somerville 1996 Ltd.

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# LABOUR ETHICS

## SMACNA-BC contractors build trusting relationships to combat labour poaching

By / Jessica Kirby

Employee “poaching” (also known as job poaching, talent poaching, or employee raiding) is what happens when a company recruits and hires an employee currently employed by a competitor. It is most common in growing industries, like IT, and in specialty industries, like skilled trades, where a highly trained and skilled workforce is essential. Obviously, the more technical and specific the skill set required, the more likely certain companies are to “poach” or lure workers away from their competitors with the promise of greater pay, bonuses, or perks like access to a company vehicle, but although it is legal, the practice is generally agreed upon as unethical among signatory contractors.

So why do it? The benefits for the poaching company are access to temporary skilled labour and, theoretically, the upper hand if they are recruiting the best talent in the industry. The downside, of course, is that in circles where poaching is deemed unacceptable, companies who do it render themselves a bit of an island—a particularly tenuous position for a signatory contractor.

Poachees experience short-term benefits of a pay increase, bonuses, and, potentially, work in a more favourable location or sector of the industry. At the same time, leaving one company for another on a regular basis gains the employee a reputation and could affect the employees chances of being hired in the future. Staying with a company offers more opportunities for

advancement and promotion, and serial employment means employees could miss out on the incentives and intrinsic benefits of being part of a team.

Bruce Sychuk, executive director of SMACNA-BC, says labour poaching is unethical and has to stop in the sheet metal industry. “What we need is top down ethics,” he says. “Employers and leaders need to instill ethical practices and behaviours so these resonate throughout the company.”

It is generally known throughout the industry which companies engage in this practice, though most doing it will deny it. “Everyone is responsible for maintaining certain ethical standards,” Sychuk says, adding it applies to all facets of business from labour stealing to underbidding jobs. “People can’t go to jail for being unethical so we must expose them,” he says.

Phil McDonald, partner at Summit Sheet Metal, says labour poaching is common in the BC sheet metal industry. Contractors who do it are offering more money or perks like access to a truck, and some will take it to stay employed in slow periods or because they are after the monetary bonus.

“But when they do they are losing out on more important things,” McDonald says. “Unfortunately, they don’t see it until it’s too late.” He means that however the deals are sweetened,

the bonuses are usually temporary, since construction in general remains subject to market fluctuations.

“You can’t offer long-term in construction,” McDonald says. “We had a guy a few years ago who said he was approached by a company guaranteeing three years’ employment and three dollars more an hour. How can he do that? The most anyone can guarantee is the job you are working on. Is this guarantee something you can take to a lawyer?”

Contractors who poach labour and employees who follow these offers aren’t being smart or looking at the bigger picture, McDonald says, or perhaps they are just looking out for number one.

“You can’t just be in for yourself and be successful,” McDonald says. “It takes a village. And the guys who leave are chasing a buck or two an hour feeling like it’s a big deal, but they are giving up the benefit of being with a company long-term and being valued and rewarded for their loyalty. If you don’t have a conscience or respect for the rules or guidelines, then why be part of this organization?”

Adam Sims, operations manager with Viaduct Sheet Metal, agrees poaching is a common problem the company sees all the time. “A code has been put in place to *not* poach and we all hope it will be upheld, but some people continue to do it,” he says. “I feel with the labour shortage here in the Lower

Mainland and a small pool to choose from it leads some companies to continue to abuse the fact.”

Kevin Taylor, owner of City Sheet Metal, says poaching is most common in extremely busy times, and is successful when workers have a “grass is greener” attitude or when the job they would be leaving for is closer to home. Though he disagrees with poaching, he believes contractors are simply trying to manage a difficult part of the job.

“Man power is the single hardest thing to manage in a sheet metal company,” he says. “With expedited timelines or delays on a job it is often hard to juggle when you need to gear up or gear down to ensure you are using your work force most efficiently.”

All three companies – Summit Sheet Metal, Viaduct, and City Sheet Metal – have something in common. They have each established labour sharing agreements with trusted competitors that allow loaning and borrowing of skilled tradesperson based on fluctuations in each company’s work cycle. When one company foresees a downshift in activity, the contractor will start calling around to see if anyone has work for tradespersons who would otherwise be laid off. If work is about to pick up, he will call employers – not the worker directly – to see if he can borrow as many workers as needed for a given timeframe.



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“Building relationships with other contractors helps mitigate some of the highs and lows and ease some of the burdens that come with fluctuations,” Taylor says. “It also ensures you are keeping guys employed and takes some of the stress off your workers who may otherwise have to go through a lay-off and go out to find their own work.”

Creating a network of contractors that share labour starts with developing trust and communicating the terms of such an agreement so everyone is clear on what is expected. “We feel this is much better practice and gives the individual an opportunity to come back to us after a slow period,” Sims says. “This can be a great short-term solution and can work well for everybody involved.”

Once Summit loans a worker, McDonald checks in with that person to make sure the loan is a good fit. If it isn’t he will offer the employer a replacement. The company has had workers who didn’t want to go back out because they preferred working for Summit and others who didn’t want to come back because the borrowing company offered work in a different sector or locale that better suited the worker. Flexibility is key in mitigating any issues that arise.

“There is always that risk you can’t take them back,” McDonald says. “If the time comes and we want him and he can’t come back (say he is running a job), we can borrow a guy. At the end of the day it comes down to the guys. They all



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have the families and lives, and last thing they want is to be laid off or in a job they don't enjoy."

Either way, the system is self-propelling in that the extra effort on McDonald's part helps the worker understand he or she is valued and more likely to remain loyal.

"It's a lot of work, and it's not," McDonald says. "It's an investment because putting them first is putting the team first, referring not just to our company but to all the companies that participate in this system. We want these guys to stay in the group and part of the team, and not become part of the team that doesn't want to participate or be ethical about it."

Most of the connections with other contractors are made through networking at golf, dinner meetings, conventions, and other events. It requires a bit of vulnerability in setting up the relationships, and there are rules: employers wanting to borrow a worker or need their worker back need to call the contractor, not the worker directly. The timeframe must be set out with reasonable accuracy in advance, and in the event something changes both parties must be fluid and flexible and be willing to adjust to make things work for everyone involved.

It sounds like a fool-proof system, yet few contractors participate. McDonald thinks it could be lack of interest in co-operation or simply outdated thinking.

"It could be an old school mentality that everyone is competition," says, McDonald, "but there is enough work out there for all of us so we should co-operate. We don't need to have one company be the biggest. Or, maybe companies who

don't want to participate were poached in the past and have their guard up."

Sharing labour is just one way creative hiring can help companies combat the labour shortage, Sims says. "We also need to recruit from further afield—other areas, provinces, or countries even," he says, noting he is originally from the UK. "We have to try to encourage youngsters to join the trades, provide seminars in schools, and do talks and tours of the facility."

He adds that social media advertising and promotion is key in achieving these goals. "If you are not on social media these days then you should be. It has changed the way people live their lives."

Taylor urges contractors to participate in association activities and take seriously opportunities to build a trusting networks of companies with whom to share labour.

"In times when it is extremely busy and you can't seem to find anyone on the Local 280 board, reach out to other sheet metal contractor to see if they can help you out," Taylor says. "Become active and attend SMACNA events and dinner meetings, and build relationships and trust with other owners who are in the same situation."

McDonald agrees, noting that co-operative relationships are what being a signatory contractor is all about. "There is a good group of us that are on the same page, and it's not like we are divulging secrets," McDonald says. "We are just recognizing we have to get the job done. There is a reason we are in this organization together. It is a resource, so let's start using it." ■

## Retaining Workers: Legal vs Ethical Options

In Canada, many companies – signatory or not – can ask employees to sign non-compete or non-solicitation clauses in their contracts. A restrictive covenant is a contractual clause, typically in an employment agreement, that seeks to limit a former employee's ability to solicit the employer's clients and/or to compete for those same clients in the same area.

A non-solicitation agreement will allow a former employee to work for a competitor, but prevent them from soliciting the clients (and possibly the employees) of their former employer for a specific period of time. These clauses or agreements attempt to limit the former employee's ability to work for a competitor or open a competing business.

However, Canadian judges are generally reluctant to uphold agreements of any kind that restrict a person's right to earn a living or pursue any job they like. Employers can sometimes

make a case for enforcement but these instances are rare. It certainly doesn't hurt to include them, however, as a way to let employees know your position on these matters.

While contract clauses are a more formal way to keep employees, at least for the short term, building trust and investment in your workforce might have more longevity. This means engaging them on a personal level when possible and appropriate, and letting them know you have their best interests in mind. Work from the ground up towards an inclusive and morale-boosting company culture with initiatives or activities that help workers feel part of a team. If labour sharing is an option, be sure to develop a clear set of rules and processes around how this works, and check in on workers who are loaned to other companies to see how things are working out. The extra time spent on this will pay off in the long run with committed employees who are less likely to leave.

# SMACNA's Technical Resources Library

## Nearly 300 resources for higher standards and quality workmanship in the sheet metal industry

By / Jessica Kirby

SMACNA's Technical Services & Research Department fulfills many roles and responsibilities for SMACNA members and the HVAC, architectural, industrial, and building codes community at large. The department's members develop industry related standards and technical presentations, work with the model code groups to ensure proper code enforceable language is adopted, and answer day-to-day technical questions of interest to SMACNA members and the general design industry.

Eli Howard III, executive director, technical resources for SMACNA National, says, "As an ANSI accredited standards developer, SMACNA follows specific procedures for the development of ANSI related documents to ensure a broad reach of the industry that may be materially affected by the standard, and can provide technical feedback during the development process to ensure a genuine consensus-based standard has been developed."

The department also provides interpretations of SMACNA standards through the SMACNA Technical Inquiry process via the SMACNA website. "This allows anyone to submit a technical question and receive a technical interpretation and/or intent of the standard as relates to the specific area of the inquiry," Howard says.

Currently, there are nearly 300 resources available for SMACNA members including books and supporting materials, technical papers and guidelines, apps, webinars, and technical training workshops and seminars.

"2019 will also see SMACNA's Technical Services and Research Department releasing new editions of the *SMACNA HVAC Duct Construction Standards*, *HVAC Total Systems Leakage Manual*, and *SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems*," Howard says.

Future ongoing projects include revisions to the *Rectangular Industrial Duct Construction Standards*, *TAB Manual*, *Food Grade Ductwork Guidelines*, and *Seismic Bracing*.

The highly coveted SMACNA Technical University will also continue as an intensive 1-2 day program covering the top SMACNA standards and their use and application. Visit <https://www.smacna.org/technical> for a full list of resources, and <https://www.smacna.org/events-education> for Technical University and other SMACNA training opportunities.

**Available from SMACNA's Technical Services and Research Department**

### Apps

#### SMACNA HVAC Duct Construction App

The app will provide SMACNA compliant options for rectangular duct with dimensions from 1 inch to 120 inches for applications from negative to positive ten inch water gage. The app is intended to be used in conjunction with SMACNA's HVAC Duct Construction Standard.

#### SMACNA Air Duct Leakage App

This tool allows engineers, architects, designers, and contractors to easily and accurately estimate the leakage of air from ductwork. It also allows a quick and easy way to determine the pass/fail mark for properly specified Duct Air Leakage Tests (DALT). The method used is compliant with ASHRAE 90.1, IECC, IGCC Version 2, IMC, and the UMC.

#### SMACNA's Round Industrial Duct Construction App

This app allows the user to create an infinite number of solutions using the methods and formulas covered in SMACNA's Round Industrial Duct Construction Standards Manual. After selections are made the user can then create a full engineering report that outlines the procedure used to create the specific solution.

#### SMACNA's Downspout & Gutter Sizing Calculator

This tool allows engineers, architects, designers, and contractors to easily and accurately size downspout and gutters per SMACNA's Architectural Sheet Metal Manual. The Design Area Wizard makes it easy to calculate the roof design area by providing various shape calculations and the



calculation for Vertical Walls area per International Plumbing Code (IPC.)

### Papers and Guidelines

This section contains white papers, research reports, and resulting guidelines developed by SMACNA or its partners, or commissioned through private research firms. Topics include construction techniques, inspection, standard development, fabrication methods, best practices, design recommendations, building code compliance, and other topics. It also includes a Master Index of SMACNA's technical publications, which is searchable by keyword or phrases. The following are available as of this writing:

- Soldering Copper Flat Lock Roof Seams
- Residential Sheet Metal Guidelines
- 2017 Update for Architectural Fascia and Coping Wind Tests Report
- Architectural Sheet Metal Inspection Guide
- Architectural Sheet Metal Manual
- Effects of Imposing a Universal Requirement on All Components of Ductwork
- Custom Fabricated Sheet Metal Test Report
- ICC/International Code Adoption
- Technical Guideline on Through Penetration Firestopping
- SMACNA Master Index of Technical Publications
- ERRATA, Rectangular Industrial Duct Construction Standards
- New Test Standards for Fire, Smoke and Combination Fire/Smoke Dampers
- SMACNA CAD Standard
- Improper Fire Damper Installation
- Duct Cleanliness for New Construction Guidelines
- ERRATA, Guide for Steel Stack Construction, 2nd Edition 1996
- Building Code Update

### Books

SMACNA publishes hundreds of books and supporting figures, CDs, and drawings available on for download from its website: [smanca.org/technical](http://smanca.org/technical). Simply navigate to your area of interest or enter keywords to browse the extensive collection. Some of its most popular publications are:

- *Round Industrial Duct Construction Standards*
- *Architectural Sheet Metal Manual*
- *HVAC Systems Commissioning Manual*
- *HVAC Duct Construction Standards – Metal and Flexible*

### Webinars

Technical webinars cover a variety of topics that leverage the knowledge and standards set out in SMACNA's standard and guidelines documents. Webinars are available live by



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Left: Jud Martell, Local Union No. 280 President.  
Right: Bernie Antchak, Northwest Sheet Metal Ltd., SMACNA-BC President.



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registration in advance, or archived versions are available for download by members. Some of SMACNA's current webinar offerings include:

### HVAC Duct Construction Standards 103 - Round and Oval Duct, Hangers, and Casing Construction

Gain solid understanding of how to construct duct in a resource efficient and sustainable manner that is compliant with SMACNA's *HVAC Duct Construction Standard*. This is the final session in a three part series.

### HVAC Duct Construction Standards 102 - Rectangular Duct Tie Rods, New Tables (TDC/TDF), and Rectangular Duct Over 120'

Gain solid understanding of how to construct duct in a resource efficient and sustainable manner that is compliant with SMACNA's *HVAC Duct Construction Standard*. This is the second session in a three part series.

### HVAC Duct Construction Standards 101 - Rectangular Duct External Reinforcement

This presentation will cover the following (with respect to rectangular duct): - Basic definitions used to properly describe rectangular duct - Limits and proper application of various joints and seams - Use of the manual to determine proper construction options - and more

### SMACNA Fire, Smoke & Radiation Damper

Session highlights the considerations in specifying and installing fire dampers, smoke dampers, combination fire and smoke dampers and ceiling dampers in HVAC systems.

### SMACNA Seismic Restraint Manual - Webinar

Session highlights the SMACNA *Seismic Restraint Manual – Guidelines For Mechanical Systems* 3rd Edition (ANSI) means and methods for seismically bracing ducts and pipes to meet the requirements of the regionally appropriate seismic hazard levels so that ducts/pipes are more likely to maintain their integrity and remain attached to the building's structure during a seismic event.

### HVAC Air Duct Leakage

This webinar presentation on duct air leakage will define what duct air leakage is and how it relates to equipment air leakage, accessory air leakage, and HVAC system air leakage.

### HVAC Duct Construction Standards

This webinar will demonstrate how to use SMACNA's Third Edition of the *HVAC Duct Construction Standard* to determine the proper range of construction options of rectangular duct used in today's commercial market. ■



# AUTOMATING SAFETY:

## Port Coquitlam contractor boosts safety and creates jobs

By: Rosa Diaz and Ada Slivinski • Photos courtesy of Cobotix

Automation is an inevitability in manufacturing as technology advances, and Cobotix Manufacturing in Port Coquitlam, British Columbia, is ahead of the curve when it comes to integration of staff and robots—or the collaborative robots they call cobots.

In their early days as a sheet metal fabrication shop, the company saw the waste and inefficiencies common in the industry and pivoted to embrace new technology and production methods, first integrating robots into their process about two years ago. The practice is revolutionizing the way they do business.

“Robots never tire and repeat the same operation shift after shift all year long. Set them up on Friday and come in Monday morning to a stack of parts,” said Cobotix President Ron Adolf.

For a sheet metal fabricator where time is of the essence, this means they can increase output and profits.

“That product was never touched by a human being. Since automating the manufacturing process, our customer’s price has dropped from \$10 to \$3.90. and Cobotix has increased its profit on every part, a real win/win for both of us,” said Cobotix COO Alex Kurilyak.

He said that as far as retaining their team, integrating robotics works out exceptionally well because it allows staff to do the more interesting, complex work instead of the risky, repetitive tasks they were charged with previously.

“A job that could be carpal-tunnel inducing, that’s repetitive, boring, or has any element of risk, a robot could do that,” said Adolf. “We’re not replacing people; we’re giving our team better and safer tools to work with. More interesting work turns into better pay. And because of the efficiencies of automation, it allows our pay scale to go up as well,” said Adolf.

And the benefits extend beyond the company to the workers. When salaries, wages and bonuses go up as well as new initiatives like profit sharing, that’s when companies can start to see even greater buy-in from their team. “If companies don’t do that [share the benefits of automation], their employees may actually try to sabotage the automation efforts,” he said.

Not only does automation speed up and add efficiencies to the manufacturing process, there are also significant safety benefits. “You cannot put a price on that,” said Adolf, “People cannot be injured anymore.”

“Having someone standing in front of a machine doing the same thing over and over again, can be a real safety concern.



Some modern equipment cannot accommodate light curtains or safety devices. Robots can be an excellent solution,” said Kurilyak

Much of the work of integration and on-the-ground implementation has been done by machine shop lead Marc Saunter, who spends part of his days programming and designing automation solutions.

“We’re integrating robots to address safety, quality and efficiency,” he said.

For training, often the approach Cobotix will use is to have a robot working near a machine using traditional fabrication methods. By slowly starting to interact with the robot, staff grow more comfortable and familiar with how it works. They also lean on training videos provided by companies like Trumpf and Universal Robots as well as the assistance of a safety advisor from the Manufacturing Safety Alliance of BC.

“The Alliance knows all the regulations and standards, and you’re not afraid to open up. It’s non- intimidating,” said Saunter. “It feels like we have a partner, a safety team. It gives us far more confidence in developing our safety program and feels like we have someone really strong in our corner.”

Recently, Cobotix has set up a facility in house at Fluxwerx Illumination, a commercial lighting company in Surrey— another example of how the company innovates and stays ahead of the times. Co-locating production in the customer’s facility has eliminated a lot of traditional waste. This includes transportation and logistics costs, saving about \$150,000 to \$200,000 per year.

This symbiotic relationship, it is a shift from the traditional vendor/supplier relationship that can be fraught with a lot of waste and inefficiencies.

“We give our customer what they need, when they need it, eliminating excessive inventory and space” As a result, we help them be far more competitive in their market place” said Kurilyak.

The company’s five-year plan is to have manufacturing cells in Seattle, Southern California, Texas, and Atlanta, Georgia. In British Columbia, they plan to grow from two facilities to five.

“We grow together, we win together... and that’s a much more interesting place to be,” said Adolf. ■

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# #1 ATTRIBUTE OF HIGH PERFORMING TEAMS

## Psychological Safety: A Foundation for Teamwork



By / Mark Breslin

Ask people you work with what they are afraid of. You might hear answers like heights, snakes, public speaking, failure or the dark. The most dishonest will tell you they are not afraid of anything. The truth is that the deepest fears, and ones that impact us most, are ones we would find it hard to reveal or describe.

This reluctance to be honest with ourselves or others plays a big role in our security and happiness in life—and at work. And the tendency of most leaders to ignore these fears in the workplace has a significant impact. Now some very compelling research backs it up. It turns out that for teams to best work cooperatively, collaboratively, and creatively, there is one attribute above all others that contributes to success. This attribute is psychological safety.

Thus, with that word, *safety*, we address a set of fears that not only limits teams, but limits individuals in their personal growth and evolution. What would be these fears that can only be soothed by psychological safety? How about these?

- Fear of being vulnerable.
- Fear of being rejected.
- Fear of being judged, and listening to the whispers of insecurity many of us hide with great skill.
- Fear of failure, and thus of risk and of taking that hit to our self-image and esteem.

Minimizing this fear impact truly has extraordinary power and the reasons behind it are important for leaders to consider. Safety for and with each other builds bonds that enable people to stretch, risk, trust, and open up. They also allow people to be authentic and bring their best selves to others and the workplace. For learning, coaching, mentoring, and motivating, this is essential.

In many, if not most, workplaces this safety does not exist because it is not valued as it should be. What takes its place are politics, gossip, negativity, and conflict, which are direct results of people acting out of their own insecurities and fear-based emotions. Many leaders accept this because that is what they are most accustomed to. But those with courage and vision will put in the work to create safety and mutual commitment, which combine to create one driving force pushing the team forward. That force is contained in the words of those team members to one another and they might sound like this:

- I accept you and don't judge you.
- If you bring your best, and meet the team standards, you don't have to prove anything to me.
- We share in success and failures together.

- We are not negative or destructive with one another, no matter if we like each other or not.
- Everyone owns what they do or say.
- Honesty is our default at all times.
- I've got your back.

For leaders it can be a challenge to prioritize psychological safety. It doesn't seem to pay the bills. People will test the limits, and truthfully there are a lot of people who don't have the security and internal maturity to act like adults. But none of that matters. The leader sets expectations. The leader sets limits. The leader sets the tone. The leader sets consequences. For me as a CEO, it happens in an employee's first staff meeting, and it is in front of everyone on the team. I lay out what constitutes the safe zone at work. I tell them that if anyone gossips, shit-talks, or character assassinate anyone on our team, they are fired that day. And don't test me because I have done it. Those who test it express their guilty outrage. They said you can't fire me. I say I told you upfront, now pack your shit in this box and be out of here by noon. I am HR's nightmare. I am the team's protector.

My zero tolerance approach is certainly not for everyone. But that is how seriously I take psychological safety and team acceptance. I don't hope people are coming as their best selves. I encourage it, support it, and I demand it. People cannot do their best work operating out of fear. And what I find is that when an individual feels this and embraces it, they bring a level of commitment and productivity that you cannot pay for. Performance rises, retention increases, risk tolerance expands, and positive group norms get set in stone.

### Here are three ways to lead your team through a workplace foundation of psychological safety

1. Own your own emotions, behaviour and insecurities. A leader that shows authenticity, vulnerability, and empathy gets loyalty and buy-in in return. You don't have to be the hard ass 24/7. Some people think it might look weak—and that is mostly insecurity talking in your head. Being your best self no matter what others think is real strength.
2. Communicate your expectations. Recognize and praise openness and team risk-taking. Treat failure as a team learning experience, and give people the time, coaching,

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## LEED AND SMACNA IAQ GUIDELINES: AN UPDATE

In 2008, an article was published in *Sheet Metal Journal* titled, “SMACNA’s Indoor Air Quality Guidelines and LEED Environmental Quality Credits”. Eleven years later, it’s time for an update.

In 2008, the Leadership in Energy and Environmental Design (LEED) Green Building Rating System for new construction and major retrofits was titled LEED Canada NC-1.0. Since then, there have been several revisions and updates, including LEED Canada 2009, a major change with the introduction of LEED Version 4 (known as LEED v4) in 2016, and most recently, the release of LEED v4.1 in Canada in January 2019.

These various versions of LEED have pushed the global green building market progressively, with over 90,000 registered and certified projects and more than 19 billion square feet of space worldwide.

LEED continues to provide a benchmark for the design, construction, and operation of high-performance green buildings, and promotes a whole-building approach to sustainability. LEED v4.1 now recognizes performance in eight key areas: (1) location and transportation; (2) sustainable sites; (3) water efficiency; (4) energy and atmosphere; (5) materials and resources; (6) indoor environmental quality; (7) integrative project planning and design; and (8) innovation.

LEED certification continues to be based on the total point score achieved, following an independent review and an audit of selected credits. There are four levels of LEED certification: Certified, Silver, Gold, and Platinum. Successful LEED projects across Canada are frequently highlighted on the CaGBC website at [www.cagbc.org](http://www.cagbc.org)

Even as LEED requirements have changed with each revision, a SMACNA publication continues to play a key role in obtaining one of the Environmental Quality (EQ) Credits. In LEED v4.1, the stated intent of the EQ credit titled, Construction IAQ Management Plan During Construction is “to promote the well-being of construction workers and building occupants by minimizing indoor air quality problems associated with construction and renovation”.

In LEED v4.1, to achieve this EQ credit, the following requirement is specified:

During construction, meet or exceed all applicable recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) *IAQ Guidelines for Occupied Buildings under Construction*, 2nd edition, 2007, NSI/SMACNA 008 2008, Chapter 3.



By Chris Collett  
Principal Consultant and CEO  
Christopher Collett and Associates Ltd.

Chapter 3 in the *SMACNA IAQ Guideline* describes a series of control measures to help minimize contamination of a building from construction activities. These include HVAC system protection, Source control, Pathway interruption, Housekeeping, and Scheduling.

The primary goal of HVAC Protection is to prevent construction debris from entering the ductwork and spaces. To achieve this, the return side of the HVAC system should be isolated during heavy construction or demolition. At times when the HVAC system has to be operated during construction, temporary filters should be installed, and these should be replaced just prior to occupancy.

Source control is achieved through the selection of low emission materials and finishes including paints, sealants, adhesives, carpeting, other furnishings, and cleaning products. There is an ever-increasing number of low-emission products available in the construction industry.

Pathway interruption is an important strategy to prevent the migration of contaminants through a building during construction. Approaches can include ventilation using 100% outside air during installation of volatile organic compound (VOC) emitting materials and erecting physical barriers between work areas and non-work areas.

Housekeeping should be standard practice in all projects, with frequent cleaning to remove construction dust and debris, immediate clean-up of any spills, removal of accumulated water, and other actions to keep work areas dry to prevent the potential for the growth of microbial contaminants.

Careful scheduling of the sequence of construction can minimize the absorption of VOCs by other building materials that can act as “sinks”. For example, paints, sealants, and other volatile materials should be applied and allowed to dry before ceiling tile and carpets are installed.

While the SMACNA IAQ Guideline provides the framework to achieve the LEED v4.1 EQ credit for Construction IAQ Management, successful application of the credit requires

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## BEST PRACTICES FOR AVOIDING PREVENTABLE INJURIES

*Slips, trips, and falls lead to lost person-hours, which costs shops money in lost productivity*

The hazards of metalworking often are thought to be obvious: operation of heavy machinery, exposure to chemicals, poor ergonomics, noise, vibration, potential burns, and being struck by materials or swarf. But what about the stubborn risk of slips, trips, and falls? This risk is rarely top of mind, though the effects of a slip, trip, or fall can be lasting.

In British Columbia, nearly 10 per cent of short-term and long-term disability claims reported in machine shops between 2014 and 2018 were related to a fall from the same level or from an elevation.

It's also a big problem for the manufacturing industry as a whole. Each year close to 1,000 workers in manufacturing suffer a fall-related injury, resulting in 49,000 lost workdays and more than \$22 million in workers' compensation payments.

While such incidents often are not perceived as significant, about 20 per cent of the manufacturing industry's fall-related injuries were defined as serious, requiring an average of four months for recovery. In one case, a worker was unable to return to work for a year after slipping on a wet staircase and fracturing an ankle.

When shops take a consistent approach to health and safety, injuries of this kind are among the most preventable. Employers need to have a system in place to identify potential hazards and either eliminate them or mitigate them by following the hierarchy of controls.

### How injuries happen

In machine shops, the most common slip, trip, and fall injuries were from descending stairs and icy outdoor conditions. Other injuries occurred while ascending stairs, slipping on oil, being struck by an object causing a loss of balance, and while exiting a piece of equipment.

Slips happen where there is not enough grip or traction between the footwear and the walking surface. This often results from having substances on the walking surface, such as water, ice, oil, grease, dust, and debris. These substances may come from work processes, spills, weather, leaks, and even mopping. Loose rugs or mats, floors with varying traction, and the wrong footwear can also cause slips.

Trips happen when people lose their balance after colliding with objects or missing a step on a curb or stairs. Tripping hazards include changes in elevation, curled carpets, misplaced rugs and mats, raised grates, other uneven flooring, cluttered walkways, unsecured cables, extension cords, poor lighting, unmarked steps, curbs, and obstructed views. Wearing the



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wrong size or type of footwear, or not picking up your feet completely when stepping can also lead to trips and stumbles.

Hazards also are present in outdoor areas such as parking lots, yards, and exterior walkways where ice, snow, rain, raised curbs, and unmarked obstacles may contribute to workers falling.

### Best practices

Employers should consider replacing flooring with slip-resistant materials and ensure they use slip-resistant cleaning products. If a work process results in a liquid accumulating on the floor and the liquid creates a hazard, floor drains or other suitable means must be used to control the hazard.

Metal shops have unique needs where safety is concerned. Every tool and piece of equipment must have a designated place to prevent clutter and minimize tripping hazards. Oil spills should be cleaned up immediately, and the source of the spill must be identified and fixed to prevent further spills.

In addition, an employer must routinely assess workspaces and eliminate or otherwise address hazards right away. That includes covering electrical cords or running them where they won't cross pathways. Lighting must be sufficient enough to perform tasks safely, and damaged or uneven flooring must be fixed.

Walkways in a shop must be clearly defined and marked. This will simplify the controls needed to keep these areas clean and help cleaning staff to focus their efforts accordingly. Workers should walk (not run), avoid distractions such as using a cellphone while walking, and avoid taking shortcuts instead of designated pathways.

Handrails must always be used when ascending or descending stairs; if a worker is carrying something that blocks their view, they should find another means of transport. Three points of contact should be maintained when entering or exiting vehicles

Workers must wear appropriate slip-resistant protective footwear at all times, ensuring the tread is in good condition

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## IF YOU HAVE A CONTRACT, DON'T FORGET TO FOLLOW IT

Standard form construction contracts, such as those put out by the Canadian Construction Documents Committee (CCDC), can be an effective means of balancing the rights and responsibilities of the various parties involved in a construction project. However, it is a dangerous practice to simply rely on standard form construction contracts without reviewing and understanding their terms, as well as making sure that all requirements of these agreements are actually followed in practice. The recent case of *Campbell Construction Ltd. v. Abstract Construction Inc.*, 2019 BCSC 113 highlights how failing to strictly follow the terms contained in a standard form agreement can limit your rights.

### The Facts

In 2017, Abstract Construction Inc. (“ACI”), as general contractor, retained Campbell Construction Ltd. (“Campbell”), a concrete subcontractor, to complete formwork, concrete, and reinforcing steel (the “Work”) at a development project in Victoria, B.C. (the “Project”).

On March 16, 2017, ACI and Campbell executed a standard form CCDC construction contract (the “Contract”) which, among other things, set out a specific process whereby the parties agreed to refer disputes arising from the Work to binding arbitration.

Although the Work was to be performed in accordance with a mutually-agreed schedule, delays occurred causing the start date to be deferred. As a result, Campbell had to pour concrete during winter months, which required an additive to ensure the concrete set properly. Disputes soon arose as to the extra costs of this additive, as well as who would bear the costs of construction delays. As the relationship soured, both ACI and Campbell pointed the finger at each other as being responsible for the delays.

After Campbell filed a claim of builders’ lien, ACI argued the parties were required to follow the alternative dispute resolution process in the Contract, which prevented Campbell from suing ACI in Supreme Court. Campbell, on the other hand, took the position that this clause was either void or inoperative and commenced an action against ACI and the owner/developer of the Property in the BC Supreme Court to enforce its lien claim.

ACI brought an application requesting the Court to halt the lawsuit on the basis that the parties were required to follow the contractual dispute resolution process rather than suing in Supreme Court.

### The Decision

The BC Supreme Court ultimately permitted Campbell’s



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lawsuit to carry forward, and refused ACI’s application for a stay of these proceedings.

In its decision, the Court examined the terms of the Contract dealing with important notice requirements in relation to disputes and dispute resolution processes. Specifically, the Contract set out a dispute resolution process which could be initiated by a notice of dispute. If the notice of dispute was not issued by the general contractor within the specified time, however, then the general contractor was deemed to have waived its rights to ensure the dispute resolution process was followed.

ACI argued that while it may not have followed the specific requirement to provide notice of dispute, as contemplated by the Contract, it effectively put Campbell on notice through various email correspondence complaining of delays. Campbell ought to have known, ACI argued, that delays were an issue and therefore had notice this would be a subject for dispute resolution.

The Court ultimately held that ACI had failed to give notice in writing as required by the Contract. ACI’s emails to Campbell amounted to mere “grumbles”, and did not constitute proper written notice under the Contract. ACI’s failure to strictly follow the terms of the Contract prejudiced its right to rely on this agreement against Campbell.

### Lessons Learned

1. Standard form construction contracts, such as CCDC contracts, are frequently used in the industry. However, care should still be taken to review these contracts in advance to ensure you understand and are following key requirements in practice.
2. Seek legal advice if you are unclear of certain provisions in a contract you intend to sign. Clearly understanding your rights and responsibilities in advance is a good way to avoid problems down the road. ■

*This article was written by Andrew D. Delmonico and Matthew T. Potomak, lawyers 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).*

FEATURE FOCUS

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CONTRACTOR'S ADVICE

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and resources to grow and change. Internal change, especially when it comes to going beyond fear, can take time and courage.

3. Do not compromise, rationalize, or ignore any destructive behaviours of your team. Not because they make you money. Not because they've always been there. Not because you are afraid to directly confront it and solve it. When you let it go, you let down your team and yourself.

Who knew that psychological safety could make such a difference at work? But really isn't it obvious? What makes a healthy person—a healthy family or a healthy child? What helps them grow and thrive as they should? Yeah. Same thing. Psychological safety—it's worth the time, effort, and commitment. ■

*Mark Breslin is an author, speaker, CEO, and influencer inspiring change for workplace success across all levels of business. His new micro-learning video series, "The Professional Construction Leader" is revolutionizing construction foreman training as well as field operations, performance, and profitability. For more information on Mark go to [www.breslin.biz](http://www.breslin.biz)*

ENGINEER'S DESK

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clear documentation of the IAQ Management Plan and effective communication of the practical management

procedures to the trades working throughout the construction process. In successful projects, on-going review of these construction related IAQ issues is included as part of the regular commissioning meetings.

The current *SMACNA IAQ Guideline* is available for purchase on the SMACNA website at [www.smacna.org/bookstore](http://www.smacna.org/bookstore). ■

SAFETY

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and laces are tied correctly. Not all safety footwear is slip-resistant. Employers should contact their footwear supplier to identify the type of footwear that matches their workplace floor contaminants and conditions.

Sometimes a hazard may have been identified but can't be fixed immediately. In these cases, employers should place signs and barriers to draw attention to the hazard so workers can anticipate it or avoid it altogether.

Investigating falls

As part of a robust health and safety program, employers must investigate all slip, trip, and fall incidents, regardless of severity—even close calls. Employers should consider the conditions that were present when the worker fell, including obstacles or substances on the floor, the work processes involved, the education and training of workers, and the actions and personal protective equipment (including footwear) of the worker who fell.

The goal is to identify the hazards, control the hazards, and empower workers to report opportunities for improvement. ■

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