

FALL 2017

Sheet Metal Journal

www.sheetmetaljournal.com

British Columbia



SMWTC Apprenticeship Contest

Multi-Trade Racks

Project Spotlight: Emily Carr

Publications Mail
Agreement # 40719512



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 \(SMACNA-BC\)](#)

Executive Director: Bruce Sychuk

315-15225 104th Ave. Surrey, BC. V3R 6Y8

Phone: (604) 585-4641

E-mail: smacnabc@smacna-bc.org • www.smacna-bc.org



PUBLISHER / EDITOR
Jessica Kirby
jessica.kirby@pointonemedia.com

CONTRIBUTORS

Mark Breslin
Jeremia S. Chow
Andrew Delmonico
Norm Grusnick
Brian Hickory
Bruce Sychuk

COVER PHOTO

Courtesy of Emily Carr University of Art + Design

ADVERTISING SALES

Christina Tranberg
877.755.2762 ext. 1408
cranberg@pointonemedia.com

GRAPHIC DESIGNER

Lara Perraton
877.755.2762
lperraton@pointonemedia.com

PUBLISHED QUARTERLY BY

Point One Media Inc.

Sheet Metal Journal

P.O. Box 11, Station A Nanaimo, BC V9R 5K4
Toll-free: 877.755.2762
www.sheetmetaljournal.com

While information contained in this publication has been compiled from sources deemed to be reliable, the publisher may not be held liable for omissions or errors.

Contents ©2017 by Point One Media Inc. All rights reserved. No part of this publication may be reproduced or duplicated without prior written permission from the publisher.

Printed in Canada.
Postage paid at Simcoe, ON.

Return postage guaranteed. Canada Post Canadian Publications Mail Sales Product Agreement #40719512.

Return undeliverable Canadian addresses to:
Circulation Department
Sheet Metal Journal
P.O. Box 11, Station A Nanaimo, BC V9R 5K4
email: circulations@pointonemedia.com

Official Journal of Record for
SMACNA - BC

Find *Sheet Metal Journal*
on Twitter and Facebook



FEATURES

14 Showcasing the Region's Best Apprentices

SMWTC's Annual Apprenticeship Contest promises challenge and excitement for the region's best students of the trade.

16 University of Washington Embraces Multi-Trade Racks

Multi-trade racks boost productivity and eliminate waste as multiple trade components are pre-fabricated and housed in racks for installation.

20 The Art of Ventilation at Emily Carr

Northwest Sheet Metal's scope of work at Emily Carr University of Art + Design was nothing short of a work of art.

DEPARTMENTS

- | | | | |
|-----------|-------------------|-----------|------------------|
| 4 | Editorial Comment | 23 | Engineer's Desk |
| 5 | SMACNA-BC Update | 24 | Technical Update |
| 6 | SMACNA-BC Events | 25 | Contractors 101 |
| 10 | Industry News | 26 | It's the Law |
| 22 | Feature Focus | 27 | Advertiser Index |

Next issue: Construction Outlook 2018 • HVAC Industrial • Business Sense

MENTORSHIP REVISED

The whole premise of training in the skilled trades is based on a mentorship model. Historically, mentorship and apprenticeship as we know it today were synonymous—specialization of labour led to experts in particular areas, and these masters of a trade passed their knowledge on to the next generation. Often it stayed in the family, but over time as populations and interests changed, mentorship became a larger system of young hopefuls heading straight to the elders for the training and education they wanted, even if it was different from what their families were offering.

If you ask my 86-year-old German immigrant grandmother, she will tell you everything worth learning is passed on this way, at least in Germany (where everything good about being alive is invented and stolen by North Americans, but that is another matter) and in most of Western Europe. In North America the tradition continued, but without ancient history behind it to slow it down and grant it the sense of richness inherent in any long, sometimes painful process. Mentorship became more of a business model than a keep-the-family-business-alive construct, and that process matched the rapid development of North American society into its own distinct and driven culture.

Over time, of course, the mentoring model became the



by / Jessica Kirby, Editor

more complex system we call apprenticeship, that includes standardized curriculum, formal testing, and mobilization, among other essential components. Students learn in a classroom in a much higher student to teacher ratio and on the job in real time, and come out with a fine-tuned skill set and speaking the universal language of their trade. This evolution has occurred more or less in tandem with the development and evolution of culture, but the premise remains the same—the passing on of knowledge between experienced and inexperienced people, both passionate about the learning process.

Mentorship means something different in contemporary times, referring to the relationship between those experienced and new recruits, and the exchange of experiences, feedback, stories, and suggestions. It is an emotional investment in passing on the inside perspective of a trade—the things you simply can't learn in a classroom or outside performing the task at hand. It is a mutually beneficial exchange that affects entire industries in a positive way by disallowing the loss of intangible but essential knowledge one can only accumulate from having stood and worked in the same boots as those who went before.

Perhaps it is time to consider rebuilding the relationship between apprenticeship and mentorship. Create mentorship opportunities right away. Talk constantly about the importance of sharing the knowledge. Tell employers it is insurance for a better work force. Convince the new guy he has an ear to bend and a shoulder to lean on. Lobby industry for the support it deserves. Make everyone feel like they stole the idea from the Germans. Whatever it takes.

Check out Mark Breslin's remarks on page 21 about the reasons mentorship isn't more prevalent, and his advice on making it so. ■

Our New ECCO Rewards™ Program is here!



There has never been a better time than **NOW** to choose **ECCO Supply™** as your source for quality HVAC and related products!

➤ Earn Points on Your Purchases
Redeem your points for premium products from our extensive catalogue!



...OR redeem your ECCO Rewards™ Points for great travel destinations.
It's your choice!

Contact ECCO Supply™ today for more information.



Burnaby 604-420-4323 / 1-800-663-7684
Langley 604-530-9755 / 1-800-881-3226
Victoria 250-361-3395 / 1-866-361-3226
Chilliwack 604-702-4400 / 1-877-413-3226

www.eccosupply.ca

Expert Service Quality Products
Since 1960

0917 ES0E

Are you reading a borrowed copy of *Sheet Metal Journal*? Get your own or read current and archived issues online at www.sheetmetajournal.com

OUR BUSY FALL

ASHRAE-BC / SMACNA-BC Joint Dinner Meeting

Photos by Bruce Sychuk

SMACNA-BC and ASHRAE-BC Members were once again provided the opportunity to network, as close to 100 people took advantage of comparing notes and putting some faces to those emails at Central City Brewers and Distillers in Surrey.

The two associations have had joint meetings before; however, this one seemed to have a more relaxed and social atmosphere. Previous joint meetings were at the Vancouver Aquarium, BC Place stadium, and Science World.

Registration for this meeting was scheduled for 5:50 p.m., so as per other meetings I made sure I was there by 5:00 p.m. to set up and work out the details. Lo and behold, there were already over 20 people there before me enjoying some of the wares produced by the 14-year-old, Central City Brewers and Distillers.

Norm Grusnick, (ECCO Supply / ASHRAE-BC) who organized the event, and I were pondering why members were so amped up to attend this particular meeting. It didn't take us long, once we analyzed the profiles of the members, to render it down to two key components: 65,000-square-foot brewery



by / Bruce Sychuk
Executive Director, SMACNA-BC





and a multitude of huge stainless steel, very shiny, vats full of beer. Beer + Shiny Metal = Good Meeting.

To top things off, throw in some great hors d'oeuvres, a very informative presentation by brewmaster Gary Lohin, and a half-hour walking tour of the facility. The grand finale was the opportunity to sample so many Red Racer original brews.

Thanks to Norm Grusnick and Gavin McCallum for setting this up—let's do it again.

SMACNA-BC donates \$5,000 to Canadian Red Cross Wild Fire Assistance

Unfortunately, as per last year, the province of British Columbia was devastated by a record number of wildfires this summer. Also as per last year, the SMACNA-BC Board of Directors agreed to make a lump sum donation of \$5,000 to the Canadian Red Cross, which was providing relief in areas affected by wildfire.

The donation will help provide immediate relief such as cots, blankets, family reunification, and financial assistance for food, clothing, and personal needs. Beyond meeting immediate needs, the donation may also help re-entry and go towards more long-term recovery, resiliency, and preparedness.

If you wish to contribute, contact the Canadian Red Cross "British Columbia Fires Appeal" <http://www.redcross.ca/donate/appeal/donate-to-the-british-columbia-fires-appeal#6e313c9b-c3bf-4ade-b3e9-3dbd82e09f0e>.

Let us hope that next year does not offer the same opportunity.

SMACNA-BC Golf Tournament

Photos courtesy of BC LeaderBoard

The annual SMACNA-BC Golf Tournament was a fabulous day for the BC sheet metal industry to get together; the weather was dry, and all had a great time. Check out photos from the event at <https://www.dropbox.com/sh/ge7x4mvo8zlyucr/AABBSN9gSpTkhsYW9KFr81Vsa?dl=0>.



SAVE THE DATES!

November 16, 2017

SMACNA-BC Membership Dinner Meeting,
Vancouver Guildford Sheraton Hotel, Surrey, BC
Topic / Guest Speaker: BCYT Construction
Industry Rehab Plan – C.I.R.P. Presentation
(Vicky Waldron)

November 24, 2017

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

December 3-5, 2017

SMACNA National Council of Chapter
Representatives Meeting, Tucson, AZ

April 26-29, 2018

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

Thank you to all the sponsors who helped make this a memorable event and raise funds for a worthy cause—Yo Bro Yo Girl Youth Initiative.

- Aarc-West Mechanical Insulation Inc.
- Air System Supplies
- Alpha Mechanical Ltd.
- All Therm Services Inc.
- Ames Metal Fabricators 82 Ltd.
- Apollo Sheet Metal Ltd.
- Austin Metal Fabricators LP
- Bycar Engineering Ltd.
- Cascade Metal Design Ltd.
- Channel Fabricators Ltd.
- City Sheet Metal Ltd.
- Crossroads C & I
- Crosstown Metal Industries Ltd.
- Davidson Brothers Mechanical Contractors Ltd.
- Division 15 Mechanical
- ECCO Machinery
- ECCO Supply
- EH Price – Vancouver
- Engineered Air
- ETP Energy Technology Products, a div. of IPC, Inc.
- FBM – SPI (Burnaby Insulation)
- Frost Insulation Supplies Inc.
- HSL Automation Ltd.
- Intercon Insurance / Intact
- Investor’s Group
- KD Engineering Co.
- King’s Links by the Sea
- Manson Insulation
- Maxam Metal Products Ltd.
- MCABC
- Metropolitan Air Technology
- National Hydronics Ltd.
- Northview Golf & Country Club
- Northwest Sheet Metal Ltd.
- Pacaire HVAC Supplies Ltd.
- Paramount Sheet Metal Ltd.
- Preston GM
- Progressive Air Products Ltd.
- Reversomatic Manufacturing Ltd.
- Ridge Sheet Metal Co.
- SMACNA-BC
- SMACNA W. Washington Inc.
- Smith Sheet Metal Works Ltd.
- SMWIA Local 280
- Spectrum Sheet Metal Ltd.
- Summit Sheet Metal Ltd.
- Tri-Metal Fabricators
- VAW Systems
- Viaduct Sheet Metal Ltd.
- Wm. P. Somerville 1996 Ltd.



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. | Haakon Industries Canada Ltd. |
| Admiral Roofing Ltd. | Harbourview Sheet Metal Ltd. |
| Agvale Industries Ltd. | Horizon Cladding Ltd. |
| Airtek Pneumatics Ltd. | Horizon Metal Systems Inc. |
| All Valley Metals Ltd. | KD Engineering Co. |
| Alliance Metal Fabricators Ltd. | Keith Plumbing & Heating Co. Ltd. |
| Allied Blower & Sheet Metal Ltd. | M&T Air Conditioning Ltd. |
| Ames Metal Fabricators 82 Ltd. | Northwest Sheet Metal Ltd. |
| Apollo Sheet Metal Ltd. | Pacific Rim Industrial Insulation Ltd. |
| Austin Metal Fabricators L.P. | Paramount Sheet Metal Ltd. |
| Boston Sheet Metal Ltd. | Piedmont Sheet Metal (1997) Ltd. |
| Bry-Mac Mechanical Ltd. | Quest Metal Works Ltd. |
| CC Industries Ltd. | R.H. Jones & Son Mechanical Ltd. |
| Cascade Metal Design Ltd. | Ridge Sheet Metal Co. |
| 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. | Viaduct Sheet Metal Ltd. |
| ECCO Supply | Western Mechanical Services (1977) Ltd. |
| Equity Plumbing & Heating Ltd. | York Sheet Metal Ltd. |

ASSOCIATE MEMBERS

- | | |
|--|----------------------------------|
| Access Metal Products Ltd. | FBM - Burnaby Insulation |
| Air System Supplies | Frost Insulation Supplies Inc. |
| All Therm Services Inc. | Grant Thornton LLP |
| Bailey West Processing Inc. | Intercon Insurance Services Ltd. |
| Brock White Construction Materials | Manson Insulation |
| Control Solutions Ltd. | Maxam Metal Products |
| Crossroads C&I Distributors | Modern Tool (BC) Ltd. |
| DDK Ventilation Products Ltd. | Pacaire HVAC Supplies Ltd. |
| E.H. Price Sales Ltd. | Progressive Air Products Ltd. |
| EMCO (HVAC Division) | Raven Hydronic Supply Ltd. |
| Engineered Air | Samuel, Son & Co., Ltd. |
| Envirotech Air Inc. | Wm. P. Somerville 1996 Ltd. |
| ETP Energy Technology Products Ltd.
(a div. of IPC, Inc.) | |

BC Sheet Metal Association (SMACNA-BC)

Executive Director: Bruce Sychuk
 315-15225 104th Ave. Surrey, BC V3R 6Y8
 Phone: (604) 585-4641
 E-mail: smacnabc@smacna-bc.org



Skill & Raffle Prize Winners

Texas Scramble: Jeff Dupley, ETP; Mel Steffin, ECCO Machinery; Jhune Arce, ECCO Machinery

Men's Low Gross: Alan Rhodes, Ridge Sheet Metal Co.

Ladies Low Gross: Debbie Halvorsen, Viaduct Sheet Metal Ltd.

Men's Low Net: Joe Kalinich, Ridge Sheet Metal Co.

Ladies Low Net: Diana Davidson, guest of Viaduct Sheet Metal Ltd.

KP / Honey Pot Winners: Brock Cornish, Frost Insulation Supplies Inc.; Darryl Gordon, guest of KD Engineering Co; Dan Hawes, Frost Insulation Supplies Inc.; Dan Taillefer, Viaduct Sheet Metal Ltd.

50/50: Debbie Halvorsen, Viaduct Sheet Metal Ltd.

Crossroads C&I – Beat the Pro Raffle: Brad Oben, SMART Local Union No. 280



Through efforts such as 50/50 sales, Beat the Pro (assisted by Linda Jarvis & Brian Featherstone), and personal donations, over \$5,000 was raised on the course. This year, SMACNA-BC is matching any dollars raised at the tournament, bringing the final total to more than \$10,000 for the Yo Bro Yo Girl Youth Initiative. For more information visit the Yo Bro Yo Girl website at <http://ybyg.ca> or contact Joe Calendino, executive director and co-founder, at joe@ybyg.ca.

A very special thank you to SMACNA-BC Life Member, Rick Baty, for once again taking time away from his retirement duties, volunteering to man the 11th Hole—the Intact Insurance \$10,000 Hole in One.

Rick successfully dodged several errant shots and is still around to hopefully do it once again next year. Thank you so much, Rick.

Another very special thank you to our newest sponsor, Preston Chevrolet Buick GMC Cadillac Ltd. Thank you for your support and here is hoping that next year someone is able to ace the hole and take advantage of the \$50,000 toward a vehicle at Preston.

ONTARIO SMACNA LEADING THE CHARGE FOR PROMPT PAY LEGISLATION



Canadian contractors are successfully pushing prompt payment legislation on both the federal and provincial levels, as reputable construction companies endure delinquent payments on public projects.

Thanks to the active engagement of the Ontario Sheet Metal Contractors Association, Ontario has been the first province in Canada to introduce prompt payment legislation (Bill-142, “Prompt Payment and Lien Act” reform) in May 2017, leading the way for similar provincial and federal efforts.



A member of the Prompt Payment Ontario (PPO) coalition, Ontario SMACNA has been leading the charge in lobbying members of the provincial parliament to pass the bill. The first reading of Bill-142 took place in May and now proceeds to committee this autumn. The bill pertains to provincial, municipal, and private sector construction.

“I cannot think of any more important issue than the need for prompt payment legislation in our industry,” said Darryl Stewart, executive director of Ontario SMACNA. “The provincial legislation will have the greater impact as this has bearing on the lion’s share of projects within the province.”



“In the meantime, delinquency in payments to our members continues to extend in time,” he added. “It is not uncommon to hear from a member having hundreds of thousands, if not millions, of dollars in payments delinquent beyond 120 days.”

“I know of members who have completed projects on time, without deficiency, and still have not received final payments beyond a year after completion,” he continued. “The bottom line is our members and other subcontractors are bankrolling the industry and it is killing our businesses. Too many businesses have fallen into bankruptcy as a direct result of payment delinquency.”

On the federal level, a prompt payment bill (S. 224) passed Canada’s Senate in May and awaits a first reading in the House of Commons. Similar prompt-payment bills are pending in other provincial assemblies.



The proposal would require the federal government to make monthly payments to contractors on public projects, which are then required to make monthly payments to their subcontractors.

For more information visit the PPO website: <http://ontariopromptpayment.com>. ■

BC INVESTS IN TRADES TRAINING OPPORTUNITIES THROUGH HIGH SCHOOL APPRENTICESHIP PROGRAMS

Students in grades 10-12 get an opportunity to earn while they learn skilled trades

The Industry Training Authority (ITA) is investing over \$1.2M across the province to fund the ITA Youth Work in Trades Programs. This year, 46 school districts across BC have been approved to receive \$20,000 to \$40,000 each in funding to support youth apprentices in their communities.

Youth Work in Trades is a dual credit program that provides an opportunity for BC students in grades 10, 11, and 12 to begin their apprenticeship journey. The funds support school districts in connecting students with local employers to attain practical experience. Students will earn a paycheque while gaining credit toward their high school diploma and the work-based training portion of their trades apprenticeship. An apprenticeship is a combination of on-the-job and classroom training and typically takes four years to complete.

"Introducing trades programs to young people while they're still in high school gives them a flavor of the exciting possibilities that lie ahead," says Melanie Mark, Minister of Advanced Education, Skills, and Training. "Trades students are the ones who will be building our homes, schools, roads, and hospitals. To ensure labour market demands are met, it is crucial that we equip young people with the right skills for the job opportunities of today and tomorrow."

"Young people play a pivotal role in sustaining BC's future economic boom," says Gary Herman, CEO, ITA. "Access and exposure to trades programs at an early age will help prepare young people for jobs, and an apprenticeship is one of the best ways for our young workforce to gain skills for in-demand jobs."

ITA partners with the Ministry of Education to deliver ITA Youth Trades Programs to provide BC students with the opportunity to discover, explore, train, and work in the trades during their school years. The programs provide students with a cohesive and streamlined path from early learning straight through to apprenticeship, and into the workforce.

Are you wondering about what is happening within the sheet metal industry in Washington state? Well, find out! See **Sheet Metal Journal, Western Washington** online at www.sheetmetaljournal.com

1. Discover the Trades provides hands-on opportunities for students to try-a-trade, learn about trades, and build projects using design thinking as early as grade 5.
2. Explore the Trades gives students a chance to explore different trades in grades 10-12. Students gain practical skills and complete work certifications that trades employers are looking for.
3. Train in Trades is a dual credit program for grades 11-12 that allows students to earn credits towards high school graduation and first level of technical training towards a trades certificate.
4. Work in Trades is a dual credit program for grades 10-12 that allows students to earn credits towards high school graduation and also begin the paid work-based training component of an apprenticeship.

About the Industry Training Authority

The Industry Training Authority (ITA) leads and co-ordinates British Columbia's skilled trades system. ITA works with employers, employees, industry, labour, training providers, and government to fund training, issue credentials, support apprenticeships, set program standards, and increase opportunities in the trades. www.itabc.ca ■

THE CCDA IS PROUD TO ANNOUNCE PROGRESS MADE ON THE HARMONIZATION INITIATIVE

Since the Forum of Labour Market Ministers (FLMM) announced its strategic plan to harmonize 30 Red Seal trades in most jurisdictions by 2020, with an effort to harmonize training for two-thirds of Red Seal apprentices by 2017, the Canadian Council of Directors of Apprenticeship (CCDA) has made great progress.

The CCDA is proud to announce that the goal of harmonizing training for two-thirds of Red Seal apprentices by 2017 was met. Strong momentum and collaboration with industry across the country has resulted in the implementation of nine trades in most jurisdictions in September 2016, as well as in the implementation of nine additional trades in most jurisdictions in September 2017.

Work is also well underway to harmonize the next set of five trades by September 2018.

The CCDA would like to commend the strong collaboration between industry, training stakeholders, and apprenticeship authorities who make the harmonization of apprenticeship training possible. The list of Red Seal trades harmonized, and those that are upcoming, follows:

Phase 1 – Implemented in most jurisdictions in September 2016

- Carpenter
- Metal Fabricator (Fitter)
- Welder
- Ironworker (Generalist)
- Ironworker (Reinforcing)
- Ironworker (Structural/Ornamental)
- Mobile Crane Operator and Mobile Crane Operator (Hydraulic)*
- Tower Crane Operator

Phase 2 – Implemented in most jurisdictions in September 2017

- Heavy Duty Equipment Technician
- Truck and Transport Mechanic
- Agricultural Equipment Technician
- Construction Electrician
- Industrial Electrician
- Industrial Mechanic (Millwright)
- Automotive Service Technician
- Plumber
- Steamfitter/Pipefitter

Phase 3 – Implementation planned for September 2018

- Boilermaker
- Sprinkler Fitter (formerly known as Sprinkler System Installer)
- Concrete Finisher
- Landscape Horticulturist
- Sheet Metal Worker

Phase 4 – Implementation planned for September 2019

- Rig Technician
- Refrigeration and Air Conditioning Mechanic
- Insulator (Heat and Frost)
- Machinist
- Tool and Die Maker

Phase 5 – Implementation planned for September 2020

- Cook
- Powerline Technician
- Motor Vehicle Body Repairer (Metal and Paint)
- Automotive Painter
- Hairstylist

* The CCDA approved industry's request to support only one Red Seal Mobile Crane Operator trade, which incorporates hydraulic telescopic, hydraulically driven lattice boom, and friction driven lattice boom cranes. ■



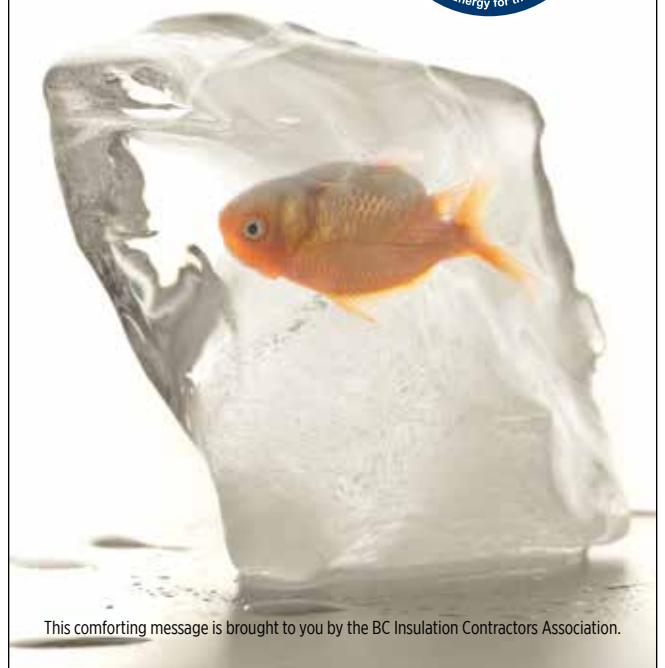
A little off balance?

A QAC would make everything all right.

Only a BCICA member can deliver the **Quality Assurance Certificate** – the very best materials; purpose-trained independent inspectors; Red Seal certified installations.

For new construction or retrofits, ask for the QAC on all your mechanical insulation projects.

Find out more
www.bcica.org
 604.438.6616
brian.bcica@telus.net



This comforting message is brought to you by the BC Insulation Contractors Association.

SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS, 4TH EDITION, READY FOR PUBLIC REVIEW

The fourth edition of SMACNA's flagship "HVAC Duct Construction Standards-Metal & Flexible" is now available for 45-day public review.

Continuing to build on the history of the duct construction standards, this new edition represents the state-of-the-art in sheet metal duct fabrication and installation. Comments must be received by Nov. 9, 2017 at 5 p.m. (EST).

Significant changes from the third edition include:

- Tables for spiral flat oval duct for positive and negative pressure applications
- Options for internal supports for flat oval duct
- Information on spray and aerosolized duct sealants
- Updated liner requirements to include non-fiberglass liner types
- Added information for lined round duct
- Added details for hangers to better illustrate where hangers are required
- Updated requirements for flex duct hanger spacing and hanger width
- Additional information for spiral fittings.

To provide input, visit the Papers and Guidelines section on SMACNA's Technical Resources webpage, www.smacna.org/technical. ■

SUBMIT YOUR NEWS OR PROJECT IDEA

SMJ is on the lookout for interesting HVAC, architectural sheet metal, testing & balancing, or industrial / specialty projects to feature in its 2017-2018 issues. If you have a cool project and 15 minutes of time to spare, you are a sure fire fit for the most meaningful, free-of-charge business investment you'll make all year.

Questions about how else to get involved in *Sheet Metal Journal*? Reach out to jessica.kirby@pointonemedia.com or 250.816.3671 and get the scoop.

PROJECT MANAGER WANTED

Northwest Sheet Metal is looking for an experienced Project Manager. Please email resumes to Bernie@northwestsheetmetal.ca or call 604-542-9536. ■

VANCOUVER'S ECONOMY SET TO COOL CONSIDERABLY OVER THE NEXT TWO YEARS

Victoria's economy also expected to moderate this year and next

Vancouver's real GDP is forecast to grow 3.2 per cent in 2017 and 2.5 per cent in 2018, after expanding nearly 4 per cent annually on average during the previous five years, according to The Conference Board of Canada's Metropolitan Outlook: Autumn 2017. Likewise, Victoria's economy is expected to slow but remain healthy over the next two years.

"The more moderate outlook for Vancouver and Victoria reflects the fallout from a cooler housing market, as well as factors like increased protectionism in the U.S. and a slightly higher dollar that is shaving export potential," said Alan Arcand, associate director, Centre for Municipal Studies.

Vancouver's real GDP growth is forecast to ease from 4.1 per cent in 2016 to 3.2 per cent in 2017, with an even more modest 2.5 per cent advance expected for 2018.

Victoria's economy is on track to expand by 2.4 per cent in 2017 and by 2.2 per cent in 2018, down from a 2.8 per cent gain in 2016.

Calgary and Edmonton are forecast to be the fastest growing census metropolitan areas (CMAs) in Canada this year, with real GDP forecast to grow by 4.6 per cent and 3.9 per cent respectively.

Vancouver

Vancouver's economic slowdown will be broad-based, affecting all sectors. Construction output is on track to post modest increases of 1.5 per cent this year and 1.9 per cent next year, down from a 5.5 per cent expansion in 2016. Rising interest rates, the relative absence of foreign purchasers, and a slowing economy will all slightly temper Vancouver's housing demand. Total starts are on track to fall from a record 27,900 units in 2016 to just under 25,400 units this year, with both single-family and multiple starts easing.

Despite the cancellation of procurement for the Massey Tunnel replacement bridge project, solid non-residential investment activity will help offset easing housing starts and

keep total construction output growth in positive territory this year and next.

Meanwhile, manufacturing output is projected to climb by 2.4 per cent this year, down from a 5.4 per cent gain last year. The struggling provincial forestry sector in B.C. – hit by U.S. tariffs, forest fires, and the mountain pine beetle – might be unable to adequately supply wood product firms in Vancouver.

Vancouver's services sector is also poised to slow down this year and next. The cooler housing market is trimming output growth in finance, insurance, and real estate. On a positive note, wholesale and retail trade output is on track to jump 5.9 per cent this year, but slower job and income gains, coupled with rising interest rates, are expected to limit growth to 2.5 per cent next year.

Moderating economic growth will be accompanied by slowing job gains. Following a record 61,000 new jobs in 2016, employment creation is set to slow to about 33,200 this year and 21,500 in 2018. Still, this will be sufficient to cut Vancouver's unemployment rate to 5.1 per cent – a nine-year low – in 2017.


Victoria

Victoria's economy is expected to moderate but remain healthy over the near term, expanding by 2.4 per cent in 2017 and

2.2 per cent in 2018, down from a 2.8 per cent gain in 2016. In particular, construction output growth is set to decelerate in line with falling housing starts, which are expected to decrease from 2,900 units last year to 2,700 units this year and to 2,400 units next year. But thanks to the provincial government's strong fiscal position, the near-term outlook for Victoria's key public sector remains positive. At the same time, several private services industries are enjoying strong gains this year, though slower growth is in the cards for 2018. For example, output growth in wholesale and retail trade and in transportation and warehousing is expected to exceed 5 per cent this year, before slowing to 3.3 per cent and 2.0 per cent, respectively, in 2018.

Despite the more moderate expansion, Victoria's economy is on track to add 7,100 jobs in 2017, the biggest one-year gain since 2008. However, this pace of hiring is unsustainable and next year the economy is expected to create just 400 net new jobs. The combination of rising employment and an aging workforce implies that an already tight labour market will tighten even further in the coming years; Victoria's unemployment rate is forecast to fall from 5.2 per cent in 2016 to 4.4 per cent in 2018.

Follow The Conference Board of Canada on Twitter. ■



SHARE YOUR STORY

Are you working on an interesting or challenging project?

Tell us about it.

Contact our editor, Jessica Kirby, at 250.816.3671 or email jkirby@pointonemedia.com




Linacoustic® RC
Fiber Glass Duct Liner with Reinforced Coating System

Proven to be #1 overall in shop productivity and jobsite approval.*

* A competitive product comparison study conducted and overseen by FMI, a management consulting firm to the construction industry, rated Linacoustic RC #1 overall by contractors who participated in the study.

CONTACT CROSSROADS C&I - 800 663 6595



GREENGUARD® certification is not intended for residential environments. Instead, the certification is intended only for buildings meeting ASHRAE 62.1-2007 commercial building ventilation rates. This certification is proof that the product meets the GREENGUARD Environmental Institute's indoor air quality standards and product emission standards for VOCs.



crossroadsci.com



Showcasing the Region's **BEST APPRENTICES**

By Jessica Kirby • Photos courtesy of SMWTC

The Sheet Metal Workers' Training Center is holding its Annual Apprentice Contest November 18 at the training centre in Surrey.

As the largest sheet metal competition in North America, the SMWTC contest consistently brings out the region's best apprentices in four levels, corresponding to students' year of apprenticeship.

Jud Martell, training co-ordinator for the SMWTC, said the contest is open to apprentices in Local 280 and can accommodate up to ten participants in each level.

“Last year, apprentices of the SMWIA Local 280 and SMACNA-BC contractors gathered at the training centre to compete in the SMWTC’s Annual Apprentice Contest,” he said. “Apprentices competing for 13 different contractors in four levels of shop (project and welding), theory, and drafting over eight hours made for a remarkable day in sheet metal.”

Shop component projects in last year's contest ranged from assembly of a simple run of duct for ten competitors in Level





“All four portions of the contest count equally and make for some close races as differing individual strengths are encountered throughout the contest.”

1, to turning a copper bucket in Level 4. By no comparison, the shop portions of the contest drew the most spectators.

“All four portions of the contest count equally and make for some close races as differing individual strengths are encountered throughout the contest,” said Martell.

The theory portions were done through an online test with Larry Lawrence of the International Training Institute (iTi) here to continue developing this portion for regional contests.

Daryl Garrison and Dan M. of the iTi were also on hand to proctor and hand out the prizes from over 20 sponsors totalling over \$7,000.

“Noteworthy prizes from Steetz (a tool package worth \$800) and Crosstown (a pair of hockey tickets in the \$500 range) made the lottery style draw for participants a highlight ending to a successful day,” said Martell, sending big thanks to SMWTC staff and sponsors for a successful event in 2016.

Apprentices in Local 280 are encouraged to register for this year's contest by the November 10 deadline. As in previous years, up to ten participants in each of four levels are eligible to compete, and contestants will be challenged by shop, theory, and drafting components that correspond to their year of apprenticeship.

Last year's level 3 winner went on to compete in the BC Skills Competition, and the Level four winner went on to the Canadian contest, said Martell.

Visit the Sheet Metal Workers' Training Centre online at www.smwtc.ca/ or call (604) 882-7680 for information or to register. ■

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.



**TRAINING
CENTRE
SOCIETY**

**MEETING THE LABOUR
NEEDS OF OUR INDUSTRY
BY DELIVERING QUALIFIED
PROFESSIONAL SHEET
METAL 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.

**For more information Tel 604.882.7680
Fax 778.298.0656 or Email registrar@smwtcs.ca
Check us out on the web at www.smwtc.ca
19077 - 95A Ave. Surrey, BC CANADA V4N 4P3**





University of Washington Embraces Multi-Trade Racks

By / Brian Hickory
Photos courtesy of MacDonald-Miller

A review of the final MEP model for the new lab space under construction at the University of Washington will show over 270,000 lb of duct and 50,000 linear feet of pipe packed into two interstitial spaces. Looking at the overhead plan view in the model, it looks like a tangled spaghetti mess, but in reality it's a fine-tuned machine that took tremendous effort by the project team to co-ordinate.

This is where the multi-trade rack (MTR) concept provided a major benefit for facility maintenance and overall project schedule. The success of MacDonald-Miller's multi-trade racks on past projects paved the way for its experienced project team to play a lead role in designing, modelling, fabricating, and installing the MTRs.

MTRs are essentially structural steel support hangers that allow components that would usually be installed by a number of trades to be pre-fabricated in a controlled environment for higher productivity and quality control. Multiple building systems are designed and fabricated in a single location where they are factory tested, loaded into MTRs, and sent to the site for installation. Configurations are modelled for space efficiency and logistics, and nearly eliminate waste generated during field installation.

MacDonald-Miller installed 58 multi-trade racks at the University of Washington, each approximately 6 feet wide by 14 feet in length. The racks accommodated sheet metal, plumbing, fitting, and electrical trades—the sheet metal trades were attached to the top of the trade rack, the plumbing and fitting trades were on one side of the house, and all electrical trades were on the other side of the rack.

The prime objective was to create for the building maintenance team easy access to the system's valves, VAVs, and electrical and control panels throughout the building. In addition, fabricating the MTRs in MacDonald Miller's shop while the structure of the building was being erected created an opportunity to shorten the construction schedule. The MTRs were installed as the precast slabs were being set in place and eliminated hours of work in the field among multiple trades.

The multi-trade rack fabrication and installation timeline was just four months of an overall two-and-a-half-year construction timeline.

In many ways, MTRs act as the spine for the mechanical systems of the building as all the MEP trades branch off of them to different spaces in the building. This creates a

- Multi-Trade Racks



Fabricating the MTRs in-shop while the structure of the building was being erected created an opportunity to shorten the construction schedule.



Webduct

Be More Productive.



Log in

Let's get started! Log in to manage your materials, equipment, and personnel.



Built for Mobile

Connect with any device you want, anytime you want. It's that simple.



Fully Customizable

Do it your way. We provide the platform; you customize it the way it works best for you.



Modular

Choose and pay for modules you need right now and add others when you need them.

HVAC / Duct



Production & Delivery



Tool Tracking



Shop & Field Timecard

See it for yourself. Visit www.webduct.com to schedule an online demo today.

challenge when design changes occur because one small change can affect multiple trades on every single rack. It took a significant team effort amongst all MEP contractors during BIM co-ordination and field installation to execute this successfully.

BIM co-ordination began during the design phase so the MTRs could be custom designed with the structure. A unique design feature of the racks was they had to be adjustable to accommodate the slope of the slab they hung from.

Another challenge was competing with an extremely congested interstitial space—the racks had to be designed for maintenance to have proper head clearance and ability to access to all valves, equipment, filters, and electrical panels without a ladder. The design team came up with an inverted u-shaped rack that allowed maintenance to walk inside the rack with easy access to all MEP trades on both sides and overhead.

“Making the multi-trade racks come together for this project has been a team effort from the beginning and seeing our team execute the plan at such a high level is amazing,” said Rylan MacCay, shop and detailing manager for MacDonald-Miller. “The capability we have to detail and install down to 1/8” accuracy enabled us to take thousands of man-hours off a very congested jobsite and install our work at our shop,



in conditions that are the safest and most productive for our employees and the other trades we work with.”

Without a doubt, the challenges MacDonald-Miller overcame on this project could not have been met without the experience and dedication from the wide range of professionals in the shop and field. With Skanska, MEP trades, and UW-CPD leading the way, the University of Washington will soon have a state-of-the-art-facility that will further advances in science and medicine and create a more centralized, efficient, and flexible facility to address current and future research needs. ■



**CASCADIA
METALS**

www.cmetals.com

Cascadia Metals offers a wide variety of metal products in both coil and flat sheet, specializing in pre-painted, galvalume, galvanized, galvalnealed, aluminized, cold rolled, and hot rolled steel.

SPECIALISTS IN COATED & UNCOATED SHEET METAL

We also offer aluminum, stainless steel, copper, weathering steel, and more. With our top-of-the-line slitting and cut-to-length capabilities, **Cascadia Metals** can meet the most rigorous quality and service requirements quickly, accurately, and consistently with each and every order.



The Art of Ventilation at **EMILY CARR**

Owner: Emily Carr University of Art + Design
Architect: Diamond Schmitt & Chernoff Thompson
Mechanical Contractor: Pitt Meadows Plumbing & Heating
General Contractor: Ellis Don
Sheet Metal Contractor: Northwest Sheet Metal

By / Jessica Kirby

Photos: Opener courtesy of Emily Carr University of Art + Design.

Opposite page courtesy of Northwest Sheet Metal.

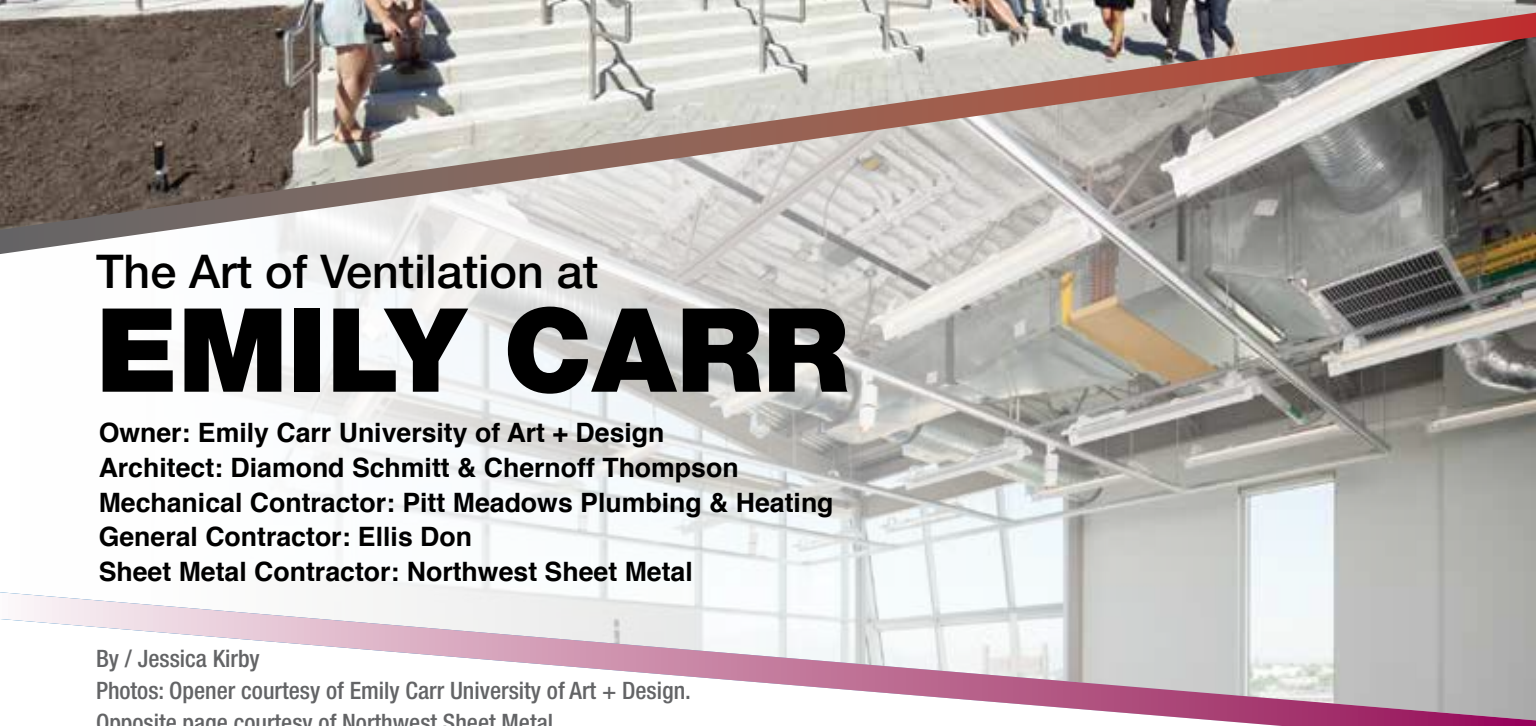
Construction of a new \$122.65-million campus

for Emily Carr University of Art + Design wrapped up this fall, providing the university with a world-class space to accommodate student demand and grow its programming. The Great Northern Way Campus is a contemporary and spacious new facility that includes a number of striking architectural features including extensive use of glass, LEED Gold certification, and construction consistent with BC's Wood First Act.

Surry-based custom sheet metal contractor and SMACNA-BC member Northwest Sheet Metal completed all the ventilation requirements on the project. The scope including pre-fabricated mechanical rooms that were built in Pitt

Meadows Plumbing & Heating's shop and medium velocity VAV systems that delivered air to chilled beams. The work included several dust collection systems – half were placed on the third floor – and miscellaneous exhaust systems handling fumes, welding, paint, and smoke. “The entire project was done in BIM modelling software REVIT 3D and pre-inserted to ensure the ceiling had a cleaner look,” said company owner, Bernie Antchak.

Antchak said the most unique feature of the project from his company's scope of work was the amount of specialty exhaust systems.





“There are over 120 exhaust systems, so the roof is quite congested,” he said. “Secondly, the pre-fabricated mechanical rooms were unique as they came out with all mechanical, electrical, controls, and insulation, and were tested, run, and commissioned at factory. This was a huge help in helping gain some ground with the schedule.”

In fact, the schedule and drawing progress proved to be the largest challenge on the project. “The site was progressing so quickly that the mechanical consultants were having trouble keeping up due to the owner changes, room layout on the fly, and other matters,” said Antchak.

The project broke ground with 50 per cent drawings and Ellis Don raced on from there, which made real-time BIM a handy tool and complemented the layout while in the form stage.

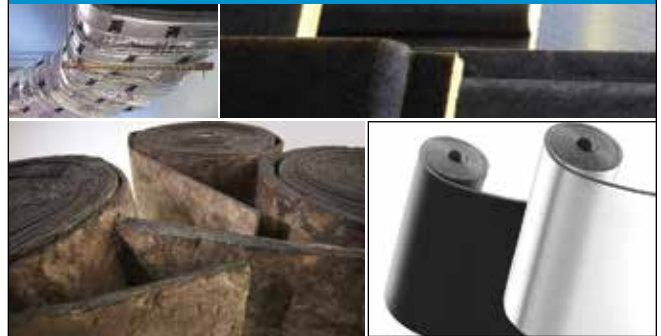
“The mechanical team was getting live updates while onsite through their iPads, which proved to be very useful but there were definite times of old school tactics as well,” said Antchak.

The Great Northern Way Campus carried a capital cost budget of up to \$122.65 million, including a provincial investment of up to \$101.65 million, with \$21 million to be raised through the university’s capital campaign. The Emily Carr Students’ Union (ECSU) invested \$315,000 in the new campus as well. ■



FROST

INSULATION SUPPLIES INC.



**We are proud to announce
that FROST is now an
authorized distributor of the
full line of Armacell products.**

 **armacell**[®]

MANSON
INSULATION

IK
INSULATION
GROUP **K-FLEX**

3M

CertainTeed
SAINT-GOBAIN

Celebrating over 12 years as a BC
owned and operated distributor.

We Have You Covered™

19131 21st Avenue, Surrey, BC V3S 3M3
Phone: 604.535.7272 | Fax: 604.535.7279
Toll-free: 866.913.7678

www.frostinsulation.com | info@frostinsulation.com

NEW CUSTOMERS OF FastEST ESTIMATING SOFTWARE REALIZE A SMOOTH TRANSITION

By Mike Postiglione
FastEST, Inc. Director of Marketing

FastEST, Inc. has created one of the fastest-growing mechanical estimating software suites on the market today. The company is well-versed in the process a new customer experiences implementing estimating programs into its bidding regimen. Whether it's FastEST's FastPIPE®, FastDUCT®, or FastWRAP™ program, or some combination of those, the transition to fully implementing the software is markedly smooth and seamless.

Generally, contractors who have recently purchased or leased an estimating system from FastEST fall into one of two categories. There are those shifting from the “paper and ruler” by-hand takeoff method, and those switching over from a computer spreadsheet-based or alternative estimating software program.

For those converting from the classic hard copy plan takeoff method, a few benefits are immediate. Since a user is able to directly import digital plans into FastEST programs for on-screen takeoff, there's an automatic time and cost savings, related to no longer needing to run to the printer and spend

money on a paper set of plans, all for the opportunity to bid on a project. Frequently, this cost savings alone is equal to or even greater than the cost to lease one estimating system.

For those contractors switching from a competing estimating software, the easy-to-learn design, coupled with FastEST's unmatched customer support makes the transition a simple and easily manageable process. And for those changing from an in-house spreadsheet method of estimating, many times FastEST can export that program's takeoff data into a new customer's existing spreadsheet, if desired.

FastEST programs are “out-of-the-box” ready, regardless of a contractor's trade focus. There are ready-to-use, though easily customizable, templates for plumbing, mechanical, and other piping contractors in FastPIPE®, and templates in FastDUCT® for customers who purchase their ductwork and those who build it instead. And there are no add-on fees for certain database packages. All of our programs come standard with a full material and labour database, that includes all major materials, items, and scopes for both piping and ductwork contracting.

One of the most important steps of the transition to FastEST software is calibration to match a new customer's previous methods. Fine-tuning material pricing is simple, and can be accomplished either with a pre-loaded multiplier structure, or by locking in net pricing via the programs' easily navigable database. On the labour side, FastEST labour can be analyzed as compared to an old method estimate, and then factored down with one of up to four customizable labour factors (One example of this labour factor scenario might be a contractor who has one factor for standard new commercial projects, another for retrofits and existing work, a third for a specific client they work with frequently, and perhaps a fourth for change order work.) And, as mentioned before, each program in the FastEST collection is customizable, and can be tailored to an individual contractor's situation.

If you're interested in evolving from your current estimating strategy, let FastEST show you how stress-free that process can be. Visit our website at <https://fastest-inc.com/smj>, or give us a call at 800.828.7108. Contact us today to find out more about our award-winning estimating software, and to schedule a free online demonstration. ■

Estimate Better Today

FASTDUCT FASTPIPE FASTWRAP

Easy-to-use and accurate mechanical estimating software that can help improve both the speed and efficiency of your estimating process, and your company's bottom line

- Easy to Learn and Use
- Fast, Accurate On-Screen Takeoffs
- Reliable Customer Support
- Affordable Purchase or Lease Options
- Allpriser Pricing Integration Available

fastest-inc.com/smj 800.828.7108

Visit our website or call to find out more or to schedule a free online demonstration.

DIFFUSER SOUND

Making the Best Selection for Your Occupant Space

The acoustical environment created by an HVAC system may or may not be a critical issue for the tenant or building owner, but understanding the sound data published by manufacturers is necessary to make an appropriate diffuser selection. Since diffusers are the system components in closest proximity to the occupants, they must be selected properly to produce suitable room sound levels.

The first thing to understand is the meaning of the NC numbers manufacturers publish. NC stands for noise criteria. This is a single number that assigns an overall room sound level based on relative loudness and the speech interference level of a given sound spectrum. NC charts plot sound frequency (Hz) versus sound pressure level (dB). Sound pressure is the sound level measured in a space after some amount of sound power has been absorbed by the environment.

Here are some sound levels for common applications as found in the ASHRAE Handbook of HVAC Applications:

- NC45 Gymnasiums
- NC40 Open Plan Offices/Lobby Areas
- NC35 Operating Rooms/ Courtrooms
- NC30 Hotel Rooms/Conference Rooms/Meeting Rooms
- NC25 Music Rooms/Places of Worship
- NC20 Concert and Recital Halls

NC15 is generally accepted to be total silence or the threshold of hearing for healthy adults. You might wonder why some manufacturers publish data less than NC15. The purpose of doing so is to allow multiple products that may be individually inaudible to be added together to predict a combined sound level.

NC30 is typically the lowest sound level that can be achieved in most buildings without going to special lengths to soundproof the structure. NC30 is fairly easy to achieve in a suburban or rural setting, but much more difficult in urban or industrial environments. Spaces requiring sound levels less than NC30 include broadcast and recording studios as well as concert and opera halls.

Although it's been said that a noisy diffuser is a good diffuser because you can hear it working, that's not true. There are many issues that can cause diffuser noise to be audible including inlet condition, neck mounted dampers, and undersized or



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

misapplied devices. Diffusers tend to make their highest sound levels in octave bands 4(500Hz), 5(1000Hz), and 6(2000Hz). These are known as the speech interference bands because they are the same frequencies we use when speaking. A noisy diffuser would therefore create a poor speaking environment and should be avoided.

The best way to avoid noisy diffusers is to select them for sound levels at least 10 NC points lower than that desired for the room sound level. This allows the diffusers to disappear into the background without contributing to the room sound level. As a general rule, diffusers should not be selected for sound levels greater than NC25 for any occupied spaces other than industrial applications. ■

Our sheet metal equipment is
built **TOUGH** and **STRONG!**

Satisfy all your **BENDING, ROLLING** and **CRIMPING**
CRAVINGS for sheet metal at affordable prices.

FOOT SHEAR
TK 1652
\$3773



Stands are optional

MANUAL SLIP ROLL
TK 2236
\$1148



ROLL FORMER
TK 24 GA PITTSBURGH
\$3753 with Power
Flanger as shown

TK 24 GA PITTSBURGH
\$3348 no Power Flanger



Available at most HVAC Wholesalers and Equipment Dealers across Canada

Tel: **519.679.1415**
TF: **1.888.927.6247**
Fax: **519.642.4344**



See ALL our equipment at
www.theHVACWarehouse.com

Call for GREAT leasing rates and options!

Are you working on an interesting or challenging project? Tell us about it. Contact our editor, Jessica Kirby, at 250.816.3671 or email jkirby@pointonemedia.com

INTRODUCING SMACNA'S NEW DOWNSPOUT AND GUTTER SIZING CALCULATOR

One of the most frequently asked architectural questions SMACNA receives is on sizing gutters and downspouts. In response, SMACNA's Technical Resources Department has created a free Downspout and Gutter Sizing Calculator.

The Downspout and Gutter Sizing Calculator is located on the Tools, CAD, and Apps page of the SMACNA website.

Now architects, engineers, designers, and contractors can easily and accurately size downspouts and gutters according to the specifications in SMACNA's "Architectural Sheet Metal Manual," 7th edition, 2012.

Includes Rain Intensity Wizard

The calculator includes a Rain Intensity Wizard enabling one to select the nearest city and the information taken from the tables in the "Architectural Sheet Metal Manual." The rain intensity according to Table 1-2 (Rainfall Data and Drainage Factors) uses a 5-minute duration for a 10-year or 100-year storm, thereby providing a worst-case scenario for the downspout and gutter design.

Since the rain intensity data is constantly being updated by the National Oceanic and Atmospheric

Administration (NOAA), this calculator also allows the user to manually enter the rainfall intensity. This feature allows one to use calculations according to the local authority with jurisdiction in that area. For the most up-to-date Rain Intensity Data, visit NOAA's website and use "Precipitation Intensity" as the data type.

Design Area Wizard

SMACNA's new Downspout and Gutter Sizing Calculator enables the user to manually enter the Design Area of the roof or use the Design Area Wizard for the calculation. This 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).

The gutter and downspout size requirement depends upon the number of sections and length of the gutter sections as well as the number of downspouts. Adding additional sections of gutter reduces the length of each section and will reduce the gutter size. Also, the gutter width in relation to height may also be adjusted. Plus, adding more downspouts will change the downspout volume, resulting in smaller gutters/downspouts.

Visit www.smacna.org for more information. ■

SMACNA'S "ROUND INDUSTRIAL DUCT CONSTRUCTION STANDARDS," THIRD EDITION, NOW AVAILABLE

SMACNA's revised "Round Industrial Duct Construction Standards," third edition, 2013, an American National Standard, ANSI/SMACNA 005-2013, is now available.

The standard expands the scope of the second edition, updating the duct materials to include aluminized steel, temperature correction factors for round industrial, and minimum decimal thickness for aluminum duct selection tables. Several chapters offer a standardized, engineering basis for design and construction of industrial duct of Class 1 to Class 5 air.

A spiral duct chapter for Class 1 and Class 2 air covers design pressures ranging from 30-inch wg negative to 50-inch wg positive, plus carbon and galvanized steel tables. The 660-page book includes expanded tables for stainless steel and aluminum, expanded tables for duct sizes up to 96 inches in diameter, plus Class 5 systems handling corrosives and spiral lock-seam pipe.

The "Round Industrial Duct Construction Standards," third edition, 660 pages, 2013, is available in both book and PDF formats. Annual subscriptions may also be purchased. Order online at the SMACNA Bookstore. ■



PARAMOUNT SHEET METAL LTD.

**QUALITY • DEPENDABLE
CRAFTMANSHIP**

**New and Retro Fit Construction
Serving the Commercial
Sheet Metal Industry for 36 Years!**

2532 Davies Avenue, Port Coquitlam
British Columbia V3C 2J9
Phone: 604-942-1611 Fax: 604-942-1453
craig@paramountsheetmetal.ca

ON LEADERSHIP: BUILDING A MENTORING CULTURE

If you're like me, you didn't get to where you are in life without someone mentoring you. Had it not been for the strong guidance and personal involvement of at least a half-dozen very good leaders, I would have failed miserably in the many challenges I have faced professionally.

But what is mentoring, really? Is it a "do-gooder" thing that we do only when we have time, or an essential leadership development component for every business? Try this fact: according to a *Wall Street Journal* survey, over 70 per cent of Fortune 500 firms have a formal mentoring program. So mentoring is obviously a money-making enterprise, as well.

At the individual level, mentoring begins by someone taking a personal interest—someone who really understands and is willing to extend themselves above and beyond a basic business relationship. It involves offering a real connection of trust, communication, and mutual benefit to another person who's just starting out. But while mentoring is intensely personal, contractor firms and unions also play an important role. They need to promote and address mentoring in a strategic manner, transforming it from an informal, "old school" tradition into a planned, thoughtful process of connecting young people with older talent inside their various organizations.

But mentoring – this incredibly powerful and positive force – now seems at risk of extinction within our industry. I was unaware of the decline until quite recently, but the proof seems overwhelming. I have had the privilege of speaking to many gatherings of contractors and supervisors over the past few years. The audiences vary, but almost always there are a good number of gray-haired contractors, foremen, and journeymen. I have asked those audiences the same question over and over: "How many of you have had someone mentor you for success?" Without exception, almost 95 per cent of the older, more experienced guys raise their hands. But when I ask a follow-up question – "How many of you now are taking a personal interest in mentoring someone in your company or industry?" – only about a third of them indicate that they are actively involved in mentoring someone.

With the talent development needs of our industry today, owners and managers of companies need to send a strong, simple message to their veteran employees: This industry cannot survive the death of mentoring.

I asked the guys who weren't mentoring to explain why. Here are some of the most common responses:

- "The kids today aren't worth being mentored – they are spoiled or entitled."
- "It's not worth the time – I don't get rewarded or recognized for it."



by / Mark Breslin
Breslin Strategies, Inc.
www.breslin.biz

- "I don't have the personal time to do it, we're moving too fast."
- "I just don't think about it that much."

On the other hand, when I ask the young guys why they think they can't find mentoring opportunities, they say the following:

- "They [the older guys] don't want to teach us because we could be a threat to their jobs."
- "They think mentoring is yelling at us or toughening us up instead of showing us how to succeed in the work and the industry."

Continued on page 27



Business Manager & F.S.T.	James Paquette
Assistant Business Manager	Dan Burroughs
Business Representative	Richard Mangelsdorf
Business Representative	Ken Elworthy

6188 Kingsway, Burnaby, BC V5J 1H5
Phone 604-430-3388 or 1-800-242-8645
Fax: 604-431-1864
Email: agents@smw280.org

HOW NOT TO USE A CLAIM OF BUILDERS' LIEN

A builders' lien can be a powerful tool for contractors to protect themselves from being unpaid for their work. However, a lien is used improperly if it attempts to extract additional payments that are not actually owed to the contractor. In the case of *Atlas Painting & Restorations Ltd. v. 501 Robson Residential Partnership*, a painting contractor narrowly avoided being penalized by the court for filing what turned out to be a significantly inflated lien claim.

The Facts

In or around October 2013, 501 Robson Residential Partnership (the "Owner") entered into a contract (the "Contract") with Atlas Painting & Restorations Ltd. (the "Contractor") to paint portions of a residential-commercial tower in downtown Vancouver. The fixed contract price agreed to by the Owner and the Contractor was \$1,522,000.00.

In November 2015, differences arose between the parties, and the Owner put the Contractor on Default under the Contract. By late December 2015, the Owner had terminated the Contract. On the same day, the Contractor filed a lien claim for approximately \$1,215,000.00, despite the fact that much of the fixed contract price had already been paid by the Owner.

After the lien was filed, the parties began to negotiate the proper amount of cash security to be posted by the Owner in order to secure removal of the lien from title. The Contractor initially offered to remove its lien if the Owner posted cash security of \$800,000, despite acknowledging its "direct losses" were only \$354,000.00 at that time.

In February 2016, the parties agreed to have the lien discharged by the Owner paying security of \$638,000.00. By October 2016, the Contractor had agreed that, at most, the amount of its lien was only \$452,000.00. However, the Owner still considered this amount to be excessive, and a court hearing took place to determine the appropriate amount of cash security for the Contractor's lien claim.

At this hearing, the court considered the following issues:

1. Whether the Contractor's claim of lien was so inflated as to amount to an abuse of the process, such that the Contractor should be penalized under the Builders Lien Act.
2. Whether the amount of security paid by the Owner to have the lien discharged should be further reduced.

The Decision

The court expressed concern with the Contractor's lien claim. Specifically, the court looked at the fact that the Contractor



by / Andrew Delmonico and Jeremia S. Chow

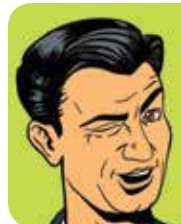
had prior experience using builders' liens, and would likely have known that an inflated lien claim can be used improperly to improve a contractor's bargaining position. The Court criticized the Contractor for being "irresponsible" in overstating its initial lien claim by so much, reasoning that it "should have known better than to file the lien for \$1,215,000.00". Ultimately, the court found the Contractor had "rescued itself" from a finding of abuse of process only because it had voluntarily offered to reduce the amount of its lien claim prior to the court hearing.

Even though the Contractor narrowly avoided being fined for abusing the lien process in this case, the court did significantly reduce the amount of security for its lien claim to only \$100,000.00.

Lessons Learned

1. Registering a lien claim can be a very important step in protecting your right to be paid. However, care should be taken to ensure that the lien claim only reflects the legitimate value for the material and labour you have supplied to the construction project. Deliberately inflating the amount of your lien claim as a tactic to improve your bargaining position may result in significant fines later on.
2. If you have registered a claim of lien that turns out to be inflated, be prepared to reasonably reduce the amount of your claim to only the amount owing. Failing to do so could later be found to be an abuse of the lien process. ■

This article was written by Andrew D. Delmonico, and Jeremia S. Chow, a summer 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).



Don't stay in the dark. Get noticed by advertising in *Sheet Metal Journal*. Call Christina 877.755.2762 or email sales@pointonemedia.com

CONTRACTOR ADVICE

Continued from page 25

“No one has offered, and I wouldn’t know how to find or ask someone”

We must ensure that the next generation coming up is not only as good as the previous one (ours), but even better. Why? To bolster the union construction brand and ensure our industry remains competitive well into the future, for one thing. If we don’t, then the craftworker ranks will begin to dwindle. And fewer people paying into the system will spell disaster for the stability of the pensions that veteran foremen and journeymen are counting on to get them through retirement. Mentoring is a no-compromise strategic necessity. Despite all of the excellent training, relevant curriculums, and strong contractor-union leadership we offer, no one factor has more upside potential for influencing performance than mentoring.

I would like to suggest seven leadership strategies for promoting and strengthening the art of mentoring:

1. Every contractor should go to each of their supervisors and ask them who they are mentoring. Everyone should be actively developing at least one younger person. This has to become part of their job expectation – not just for the guys who “get it.”
2. Discuss with that foreman the purpose of mentoring and determine if they clearly understand the benefits and the best methodologies.
3. Union leaders must reinforce the importance of mentoring at their next union meeting and at least one time per year in the future.

4. Every union leader should tie the message of mentoring to the long-term benefits (as in, who is going to pay for that old guy’s pension) in order to break down any old-school thinking about not teaching the new guys out of fear or insecurity.
5. Apprentice schools should teach new guys the importance of mentoring and encourage them to do it for each other as they rise through the trades together.
6. Finally, everyone who is reading this must step up to the plate. Find one more person to mentor personally. If all the readers of *SMJ* heeded that call, we could add nearly 3,000 new mentoring relationships with that one simple step.

The gift of mentoring keeps on giving – I’m the perfect example. And I’m all in. I personally am mentoring five young guys right now. I am a pretty busy person, but I have been doing this for the past ten years. I meet with them monthly. I hear about life, work, marriages, dreams, problems, and more. Mostly, I listen. When I do speak, I know it really matters. I see them changing their lives right in front of me. My payoff is the realization that I have done the right thing for the right reason and for the right people. And if in the process I can help our industry succeed, then that is even a greater incentive. This is a quiet kind of leadership that is available to all of us.

As you go on with your business today, ask yourself what valuable life lessons you have learned. There are people out there right now who need to hear those lessons and listen to your guidance. They’re waiting. Don’t let the great tradition of mentoring die. ■

advertiser index	advertiser	page	phone	website
	BCICA	11	604.438.6616	www.bcica.org
	Cascadia Metals	19	604.946.3890	www.cmetals.com
	Crossroads C&I Distributors / Fabricators	13	800.663.6595	www.crossroadsci.com
	ECCO Supply	4	604.530.9755	www.eccosupply.ca
	FastEST Inc.	22	800.828.7108	www.fastest-inc.com
	Frost Insulation Supplies, Inc.	21	604.535.7272	www.frostinsulation.com
	HVAC Warehouse	23	888.927.6247	www.thehvacwarehouse.com
	Paramount Sheet Metal	24	604.942.1611	e: craig@paramountsheetmetal.ca
	Sheet Metal Workers Int'l Local 280	15, 25	604.430.3388	www.smw280.org
	Sheet Metal Workers Training Centre Society	15	604.882.7680	www.smwtc.ca
	SMACNA-BC	IFC, 7, 15	604.585.4641	www.smacna-bc.org
	Webduct	18	855.932.3828	www.webduct.com
	Cover Sponsors	OBC		



ALL THERM SERVICES INC.

LEADERSHIP THROUGH ENERGY CONSERVATION



**AIR SYSTEM
SUPPLIES**



apollo sheet metal ltd.



**CASCADIA
METALS LTD.**



FAST EST, INC.
MECHANICAL ESTIMATING SOFTWARE

FROST
INSULATION SUPPLIES INC.

NORTHWEST
SHEET METAL LTD.



**TRAINING
CENTRE
SOCIETY**

