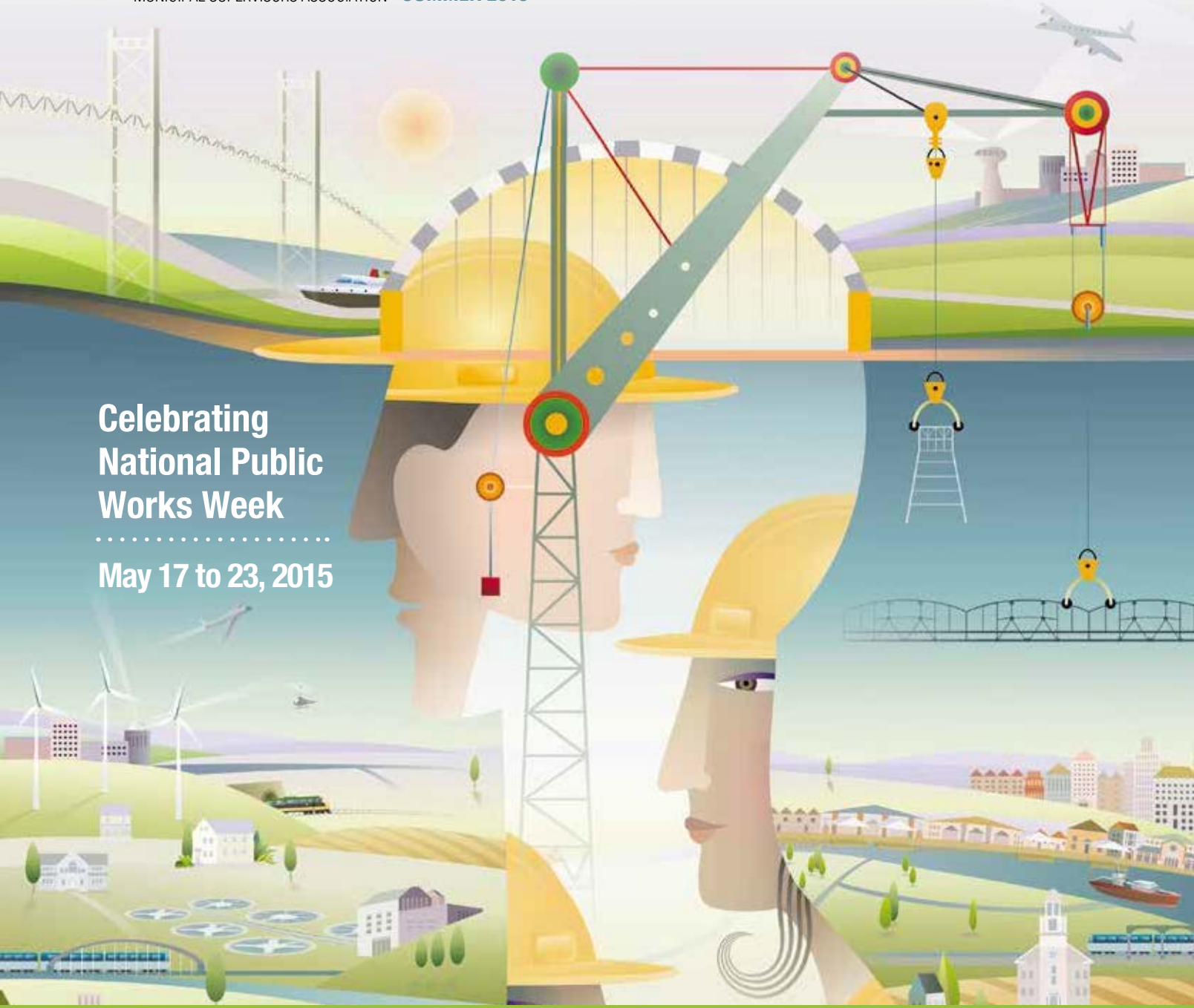




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On the cover: There would be no community without the quality of life that public works provides. There would be no community to police and protect; no public to lead or represent. Public works allows the world as we know it to exist. The 2015 National Public Works Week (NPWW) theme, *Community Begins Here*, speaks to the essential nature of Public Works services in support of everyday quality of life. The NPWW poster featured on this issue's cover was created by Christiane Beaugard, an award-winning illustrator and designer.



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A Message from the Public Works Association of British Columbia

Summer is upon us and the association has been busy working on delivering diverse training and leadership development courses, as well as preparations for the upcoming annual conference. This is also the busy construction season for many capital projects related to municipal infrastructure.

As we enjoy the summer season with family and friends, this would be a great time to mark on your calendar the upcoming PWABC Annual Technical Conference and Trade Show. This year's conference theme is, "Public Works on the Job 24/7." You can learn more about the conference on page 16.

The 2015 PWABC Annual Technical Conference and Trade Show will be held in Penticton, BC from September 20 to 23. The events will take place at the Penticton Trade & Conference Centre, which includes operator training, technical presentations, trade show and other conference-related sessions. Our executive director and her team are working on the details to ensure it will be another successful event.

The PWABC Annual Awards are presented at the conference to individuals and municipalities. The awards are divided into six categories. In recognition of their dedication to the public works profession, awards are presented to individuals and municipalities for Dedicated Service, Manager of the Year, Professional Dedicated Service, Project of the Year, Public Works Week Community Celebration and Innovations.

We all have a connection to an individual or project that deserves the recognition. Our PWABC Awards Committee is looking forward to your nominations for each award. For detailed information, please refer to our website at www.pwabc.ca/awards/pwabc-annual-awards or go to page 24 of this magazine.

Another Public Works Week celebration is in our midst. The theme for this year was *Community Begins Here*. Community celebrations will take place May 17 to 23 across British Columbia to raise the awareness of the public works profession. In support and recognition of this annual event, public works week proclamations have been, and will continue to be, received from various communities and the province.

This important event that allows us, as public works professionals, to showcase and educate the public on the importance we have in contributing to their daily lives. Public works professionals are the first to arrive and the last to leave in many situations that affect our communities. Please submit your nominations to the PWABC Awards Committee for this year's Community Celebration Award.

We continue to deliver quality programs, courses and workshops. If you have any suggestions on expanding our delivery of subjects related to the public works profession, please feel free to contact myself, our executive director or any board member. We will include your suggestions for review at our next board meeting in November.

I would like to take this opportunity to personally thank you for being a continuing or new member of the Public Works Association of British Columbia. I am grateful and proud to be part of this great association. I truly believe we will continue to grow and move forward by building lasting relationships with organizations and communities to promote our respected profession.

Enjoy a safe and healthy summer season with family and friends. I hope to meet and share stories with you at our annual conference in Penticton, BC.

Deryk Lee

President
Public Works Association of BC



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A Message from the Alberta Public Works Association

Well, we made it. Give yourselves all a pat on the back; we survived yet another Alberta winter. On to green grass, warm weather, pot-holes and paving projects. Not necessarily in that order. Our executive and board of directors have had a good start to the beginning of this year planning events for our membership.

Jeannette Austin and I participated in a meeting in Saskatoon, SK, along with the Chapters from British Columbia, Saskatchewan and Manitoba. We discussed items like Equipment Roadeo, Idea Groups and conferences. I will be attending Congress in Phoenix, AZ this August, which is always a good time to rekindle friendships and make new ones, as well as learn new trends in public works.

Our Public Works Supervisor Program (PWS) has a new review committee chairman and our thanks to Gary Webster for heading this up for us. We are looking to

once again offer the PWS fast track courses and will be making some changes to the program, which you will see in 2016.

We hope you are celebrating National Public Works week May 17 to 23, 2015 and consider applying for the National Award that is available for this celebration.

Also, mark your calendars for the Annual Equipment Roadeo September 10 to 11, 2015 and the Partners in Excellence Conference and Trade Show October 5 to 7, 2015. Both of these events promise to be a great experience for seasoned and new attendees.

Thank you, Jeannette, all executive members, and board of directors for your commitment to APWA, and thank you employers, for allowing these individuals to serve in this capacity. Let's have a safe and enjoyable summer.

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A Message from the Saskatchewan Public Works Association

We have just come off the extremely successful 56th Annual SPWA Conference & Trade Show, titled, *Public Works, connecting...it all together*, which was held February 24 to 26, 2015 at the Saskatoon Inn. The trade show was completely sold out and delegate attendance was up over 35 per cent from last year. Thank you all for your support.

There was plenty to see, do and learn at this year's conference, including a 0.6 CEU session, 12 technical sessions, trade show, awards night and paralympian/motivational speaker Amy Alsop. We were also very fortunate to have our APWA Region IX Director, Jill Marilley, on hand to speak with delegates and suppliers alike.

At the conference, our board welcomed the addition of two new directors—Kim Looyenga, from the Town of Moosomin, and Megan Thoreson, from the City of Saskatoon. They will assist the chapter on their initial two-year term.

Looking ahead further this year and into next, it brings a busy year of training, education and networking events that include the following:

- The National Public Works Week CEU Workshop is being hosted at the Regina Seven Oaks Best Western on May 21, 2015. The Potable Water Design, Operation and Maintenance Workshop provides a 0.6 CEU for maintaining your water and wastewater operator certification. That evening, only blocks away at the Press Box Sports Bar, we are holding the Young Professionals & Industry, Networking Steak Night. We are bringing together both new and experienced professionals for a night of interaction, a great meal and a few drinks.
- The SPWA Equipment Expo & Golf Tournament is to be hosted in Moose Jaw, Sask. on July 24, 2015. This event will have multiple equipment suppliers together in one venue to show their heavy equipment and public works wares. Municipal personnel can sit inside, walk around and view the equipment to get a hands-on feel. The afternoon allows participants to compete in a round of golf with suppliers and fellow public works professionals at the Hillcrest Golf Club, followed by a meal and beverages.
- The fall Operator's CEU Workshop is scheduled for October 2, 2015, at the Saskatoon Inn. The workshop will again offer a 0.6 CEU to assist in maintaining your water and wastewater operator certification. In the evening, you can network and have a great time at the SPWA Casino Night.
- We are also already planning the 2016 (57th) Annual SPWA Conference & Trade Show to take place at the Delta Regina, February 23 to 25, 2016. The theme of the conference is "Public Works - The Other Essential Service." (The discounted rate members receive at our yearly events pays for the annual cost of membership with SPWA).

As you can see, the SPWA is endeavouring to bring our members and others in the public works profession greater value in educational and networking opportunities. We will also continue to promote professionalism in the public works field, advocate the essential role that public works plays in the quality of life and promote it as a career choice for the working force of the future.

Please visit our chapter website at <http://saskatchewan.cpwa.net>, or contact the chapter administrator, for more information and details about our upcoming SPWA events.

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A Message from the Canadian Public Works Association, Manitoba Chapter

In my previous message, I discussed how public works officials dealt with the unprecedented number of frozen water services Winnipeg experienced during the winter of 2013-2014—close to 2,500 in total.

Thankfully, this past winter, we did not experience a repeat of the 2014 polar vortex and its resulting frigid temperatures, which led to such severe weather conditions. While we again experienced some frozen water services this winter, our ability to respond quickly and remedy the situation was greatly improved by the lessons learned the previous winter. This year, the vast majority of frozen services were cleared within 24 hours, compared to the many weeks this task took last year.

However, while we, in Western Canada, have been spared from a severe winter this year, our public works colleagues in the Maritime provinces and southern Ontario have not been so fortunate. They have dealt with record amounts of snowfall accumulations never experienced in living history.

Our eastern public works colleagues were called upon time and time again to take the necessary measures ensuring the everyday life and needs of their fellow citizens could return to normalcy in a quick period of time. So once again, this experience points to the importance of public works officials and their staff, and highlights how critical their responsibilities are. The contributions and outstanding efforts of public works professionals cannot be understated.

Here in Manitoba our organization is preparing educational opportunities for our members and those interested in public works. We are planning two one-day conferences to be presented during the fall this year. One will be a snow conference, presented in conjunction with the Manitoba Department of Infrastructure and Transportation Operator Training course, and held in rural Manitoba. We are also planning a one-day course dealing with traffic management in critical incident events. The dates and locations of these seminars will be advertised on our website and through our member roster once confirmed.

The Manitoba Chapter also held its Lunch and Learn event on April 21, which discussed the extension of the City of Winnipeg Southwest Bus Rapid Transit Project. This public works project, at an estimated cost of \$600 million, is the largest capital investment ever undertaken by the City of Winnipeg. The presentations informed attendees about the planning process, technical issues and the project delivery model, which was delivered in a PPP model. The information was provided by the Dillon Consulting team, the City of Winnipeg engineer advocate for this project.

Additionally, we are planning a number of social events for our members in the coming months. The highlight will be our annual CPWA Golf Tournament to be held on May 28 at the Brydges Golf Course in Starbuck, MB. As well as providing a wonderful opportunity for networking with colleagues, this annual tournament is an excellent fundraising opportunity for the scholarships the Manitoba Chapter provides for civil engineering students at Red River College and at the University of Manitoba. A social evening in early fall for members and spouses is in the planning stages.

In closing, I extend my appreciation and thanks to my fellow board members of the Manitoba Chapter for their efforts in promoting the importance of public works in the well-being and enhancement of our Canadian standard of living.

Kas Zurek

President
Manitoba Chapter, CPWA

Did You Know?

Manitoba is the longest serving of the Canadian chapters of the American Public Works Association, and has been providing a forum for practitioners since 1955. The chapter actively supports its membership, the public and policy makers to collaborate and maintain healthy communities throughout the province.

Learn more about the Manitoba Chapter, CPWA, at manitoba.cpwa.net.



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A Message from the Alberta Municipal Supervisors Association

Winter of 2015 is now a distant memory, but it is notable in that it was not a significant year for snow removal. Provincially, we were certainly spared the volumes of snow experienced in the east.

Road ban season kicked off early this year, with municipalities placing road bans in early March on certain surfaced roads in order to protect infrastructure and manage road use. Weight restrictions are applied due to seasonal conditions, such as the spring thaw, and to help preserve the life span of paved structures.

Our busiest time of year is now upon us and with the province's allocation of extra grant dollars to the Municipal Sustainability Initiative for Alberta municipalities, our summer construction season may get even busier with the influx of new dollars for capital projects.

The province of Alberta also recently announced the Small Communities Fund (SCF) grant application availability, as part of Infrastructure Canada's New Building Canada Fund. The SCF is intended to assist communities with populations under 100,000 to complete infrastructure projects that contribute to economic growth, a cleaner environment and stronger communities. Under the SCF, Alberta will be allocated \$94 million by the federal government and the province will match the federal contribution giving municipalities a total of \$188 million over 10 years.

Although the economy in the province is predicted to slow down with the dip in oil prices, municipalities may be able to take advantage of leaner times, and possibly even benefit from better pricing on infrastructure and construction projects. The drop in the Canadian dollar does, however,

mean the cost of equipment sourced from the United States is, on average, 20 per cent higher now.

With the *Municipal Government Act* tabled in Bill 20, many municipalities across the province are reviewing the amendments to determine what the changes will mean to their usual business.

I encourage you to regularly check AMSA's website at www.amsapw.ca for information about AMSA, as well as to keep up-to-date on news that impacts AMSA members and their municipalities.

AMSA's next convention and annual general meeting takes place in Edmonton on November 17 to 19, 2015. Important to mention is that AMSA's bylaws were amended in 2014 and we are now allowing small urban (fewer than 10,000) municipal members to join AMSA's growing group of public works leaders.

I would like to thank the past and present AMSA executive members for their support in developing engaging and informative convention agendas and also for helping secure sponsorship dollars to ensure that annual membership fees have remained reasonable. Very few associations are able to offer two free conventions annually for their members and your efforts are appreciated.

As an AMSA member, if you are interested in joining AMSA's executive, elections are held in the fall. I certainly encourage you to consider becoming an executive member. My time serving on the executive has been extremely rewarding.

Although I know your summer will be a busy one, I do hope you take the time to enjoy the season.

Marshall Morton
AMSA President
Director, Public Works
Clearwater County

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Monday, September 21

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8:45 a.m.: Welcome
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10 a.m.: Coffee & Trade Show
11 a.m.: Plenary Presentation
12 to 2 p.m.: Lunch & Trade Show Equipment
Rodeo
2 to 3 p.m.: Two Concurrent Sessions
3 to 4 p.m.: Bear Pit Session
4 to 6 p.m.: Trade Show & Equipment Rodeo
7:30 p.m.: MSA Hosted Event

Tuesday, September 22

8:00 a.m.: Breakfast & Bear Pit Session
8:45 a.m.: Keynote Speaker
9:45 a.m.: Two Concurrent Sessions
10:30 a.m.: Coffee

Tuesday, September 22 continued

11:00 a.m.: Technical Paper
11:45 a.m.: Lunch
1:30 p.m.: Technical Paper
2:15 p.m.: Technical Paper
3:00 p.m.: Coffee
3:30 p.m.: Technical Paper
6:00 p.m.: Cocktail Reception
7:00 p.m.: Banquet
8:00 p.m.: Awards
9:00 p.m.: Entertainment

Wednesday, September 23

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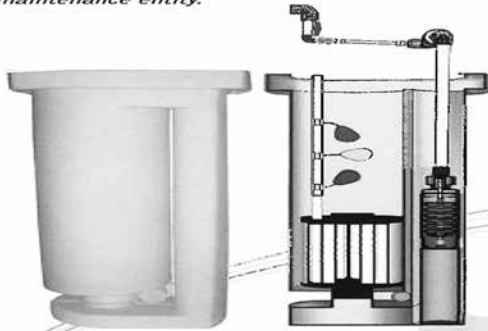
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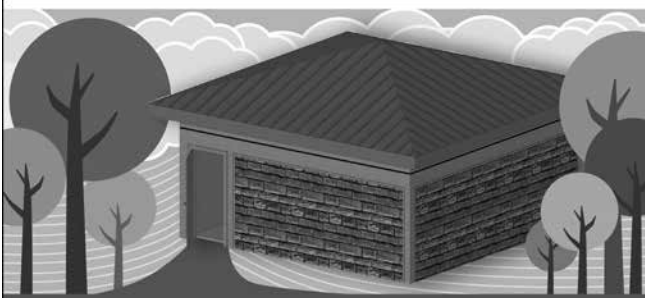


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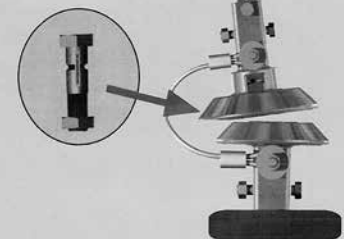
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APWA Emerging Leaders Academy: For Canadians, Too!

By Joline McFarlane

Have you been a public works professional for 10 years or less? Are you looking for specific public works leadership training? If you answered yes to both questions, then the American Public Works Association's (APWA) Emerging Leaders Academy (ELA) might be for you.

Each year, the APWA chooses 16 applicants from across North America to participate in the year-long program developing of public works-specific leadership skills.

I started working for the City of Airdrie, AB as a public works asset management specialist in 2008 right after university. After five years, I started thinking about the next step in my career and how to gain experience without having to change jobs.

I quickly realized not a lot of training has been developed with public works in mind. I went to my go-to source for public works content, the APWA national website, and came across the Emerging Leader's page. I contacted APWA for more information, specifically if it was open to Canadians. It is!

I submitted my application in late July 2013. In early September 2013, I received the exciting news that I had been chosen. There had been a few Canadians in the program previously. In 2013, there were two of us! My fellow Canadian was Elisabeth Weiss, technical training and compliance specialist at the Region of Peel, ON.

Soon after being accepted, the entire class embarked on a trip to Kansas City for a four day retreat. During the days we would discuss various topics, have guest speakers and even received media coaching in front of a camera. Most importantly, we would begin work on our year-long project that would be presented at Congress in Chicago and would mark the culmination of a year's worth of work as well as the completion of the program. Sixteen strangers arrived in Kansas City and left as friends; we became the ELA Class VI.

Throughout the year, our class took part in monthly group conference calls, homework assignments and worked on our final project.



Joline McFarlane (centre) receives the Recognition Award from APWA President Ed Gottko (left) and ELA program co-ordinator Susan Hann (right), for completing Emerging Leaders Academy.

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That it sounds like a lot of work, but as ELA Program Coordinator Susan Hann would say, “You get out of it what you put in to it.”

Our project was the development of APWA student chapters in post-secondary institutions. We created a toolkit for students with information about starting an APWA affiliated chapter at a technical, university, college or vocational school. The goal is to “educate the leaders of tomorrow, inspire them to get involved and transform the future.” Our final report, Congress presentation, and the toolkit can be found on the APWA website.

As the APWA Emerging Leaders Class of 2013, we were acknowledged at the APWA Awards Night Ceremony at the Chicago Congress. Each new leader received a Recognition Award from APWA President Ed Gottko and Susan Hann. I experienced a sense of great accomplishment standing on stage with my classmates.

At Chicago Congress, I took part in a Women of Public Works panel discussion session, in which five women discussed their lives and careers in the public works profession.

When I think back on the year that I spent in the ELA, I think of the friends I made and the knowledge I gained. I continue to work for the City of Airdrie and am an active APWA member. ELA is not the end, it is the beginning.

Taking part in ELA encourages participants to think beyond their current situation; it challenges you to think about where you want to go.

More about the program and specific dates can be found on the ELA webpage at www.apwa.net.

Joline McFarlane is the public works asset management specialist for the City of Airdrie, AB. If you have any questions about ELA, please contact her by email at joline.mcfarlane@airdrie.ca or by calling 403-948-8800, ext. 6226.

The Extent of a Surety's Obligation Under a Performance Bond: An AXA to Grind

By Paul Stocco and Eleni Loutas

Despite the wording set out in a performance bond, the extent of a surety's obligations to an owner/obligee, in the event of a default by the principal, is unclear. There are two perspectives. Each is represented by a decision of an appellate court.

The Ontario Court of Appeal held, in the *Whitby Landmark Development Inc. v. Mollenhauer Construction Limited (Whitby)* case, that a performance bond surety is responsible for the principal's obligations and liabilities under the bonded contract, not just those related to the costs of completing the physical construction.

In contrast, the Saskatchewan Court of Appeal, in the *Lac La Ronge Indian Band v. Dallas Contracting Ltd. (Lac La Ronge)* case, held that the scope of a surety's obligations under a performance bond is limited to completion of the physical work solely.

Recently, the Alberta Court of Queen's Bench, in the *MGN Constructors Inc. v. AXA Pacific Insurance Co. (MGN)* case, joined the debate.

In *MGN*, the City of Edmonton entered a development agreement with Proland (developer), who in turn contracted with MGN Constructors (general contractor) for road construction work. MGN Constructors subcontracted some of the work to Sprague Rosser. Sprague Rosser was required to provide a performance bond, which was issued by AXA and named both MGN Constructors and Proland as obligees.

Sprague Rosser's failure to perform the work caused the City of Edmonton to hold Proland in default of the agreement. This set off a chain reaction. MGN Constructors terminated Sprague Rosser's subcontract, then made a claim on the AXA performance

bond, seeking damages for completion of the deficient and incomplete work and for all other damages MGN Constructors suffered.

AXA applied to dismiss MGN's claim on a number of grounds. However, AXA's summary dismissal application was unsuccessful. AXA appealed the matter and made a number of arguments.

In rejecting AXA's argument that the termination of the subcontract effectively prevented AXA from implementing remedies, the court noted that MGN Constructors' contract had been terminated further up the contract chain.



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The court noted that if the termination of the subcontract was caused by Sprague Rosser's failure to complete the work properly, then AXA could not take advantage of the default of its own principal and claim that the performance bond would not respond.

AXA argued there had been material changes to the subcontract, which gave rise to prejudice.

Further, the court held that none of AXA's arguments gave rise to prejudice

and there was no evidence to show AXA had been prejudiced. The court noted that increases to the price or extensions to contract schedule were not material changes that exposed AXA to greater risks. Each change would have to be assessed on its own and prejudice had to be proved.

AXA also argued that MGN Constructors failed to comply with its obligations under the subcontract. The court rejected this argument as the evidence was inconclusive.

Lastly, AXA argued that MGN Constructors' claims represented more than just "sticks and bricks" and were not covered by the performance bond. The court examined the competing case law regarding the extent of a surety's obligations, as represented by the *Whitby* and *Lac La Ronge* cases.

The court held that it was not necessary to decide the appeal on the basis of the competing case law. If it were necessary for the case to be decided on the basis of either the *Whitby* or *Lac La Ronge* cases, the court stated that it preferred the approach of the *Whitby* case.

The court reasoned that AXA could not fulfill its obligations, unless AXA was responsible for all of the contractual obligations and not just the completion of the physical work. The court also stated that if AXA had wanted to exclude certain obligations under the subcontract, it could have said so in the express terms.

The court noted that the surety industry had done nothing to clarify the unclear wording in the standard performance bond. The court suggested the industry could create two types of bonds with different pricing: one for only bricks and mortar and another to cover all other contractual obligations.

The decision in *AXA* will fuel further discussion about the extent of a surety's obligations under a performance, and hopefully, it will give rise to changes in the wording of performance bonds generally.

In the meantime, in Ontario, sureties are exposed for all contractual liabilities, including physical completion of the work and liquidated damages for delay. By contrast, in Saskatchewan, sureties are only liable for the completion of the work.

Until the Supreme Court of Canada renders a decision, the uncertainty regarding the extent of a surety's obligation under a performance bond will remain. ▀

Paul Stocco is a partner with the Alberta based law firm Brownlee LLP and his practice focuses on construction litigation and construction procurement. He has also assisted clients in drafting construction procurement documents, including tendering and RFP documents, construction contracts, consulting contracts and P3 agreements.

Eleni Loutas is a student with Brownlee LLP.



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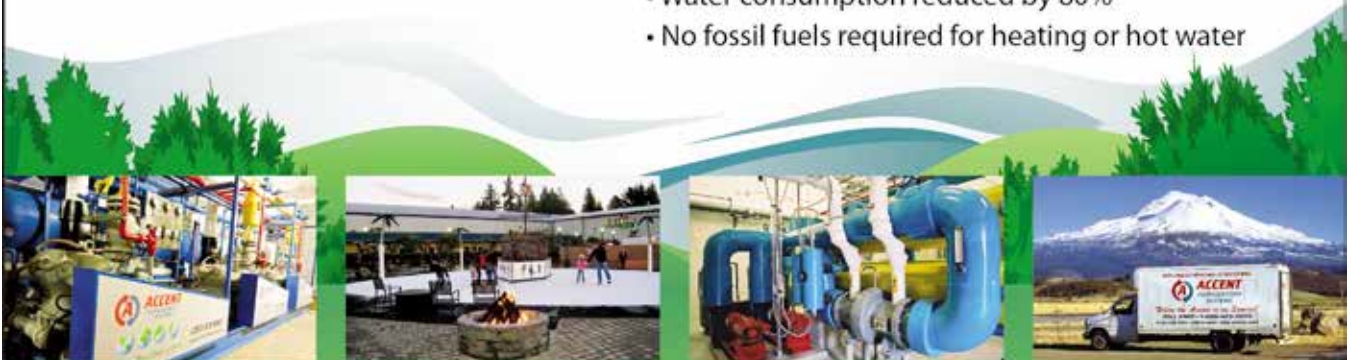
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PWABC Events 2015

Annual Technical Conference & Trade Show

September 20 to 22, 2015
Penticton, BC



Jill Marilley, Jeannette Austin and Kealy Dedman at Women in Public Works & Technology.

Thank You to Women in Public Works & Technology Participants

Thank you to all who participated in our Women in Public Works & Technology event. It was great to partner with the Women in Technology group for this event. Our day started with a session led by Paragon Strategic's Tracey Lorenson on how to be assertive without the attitude.

We then heard from our special guests, including CPWA President Kealy Dedman. She gave a great presentation; her statement "Act like you belong because you do!" really resonated with all of us. Sarah Campden, the Women in Technology chair for ASTTBC, also shared her story.

In addition, the day included Jill Marilley, the region IX director for APWA National, dealt with gender differences in communication and delegation skills. Pam Jefcoat & Sonia Sahota from Valkyrie Law shared how municipal law affects all of us.

What a great event and we look forward to next year!



The District of Peachland, BC's representatives holding the Project of the Year award.



The District of Squamish, BC's community celebration during Public Works Week 2014.

The Spotlight is Available for 2015

We hope more of you will consider projects and people for the 2015 awards, to be presented at our annual awards banquet September 22, 2015.

We strive for excellence in public works, which translates to high resident satisfaction levels. Part of this is building and maintaining infrastructure that increases the desirability of living within the boundaries of our municipality and that this infrastructure stands the test of time. For some, this means they weave into the fabric of the community (i.e. a road system in good repair or a water/sewer system that residents do not have to worry about). For others, they are a visible symbol of why they live where they do (i.e. parks, pathways, public facilities, inspiring art).

There are few accomplishments in our work endeavours that exceed the satisfaction of a job well done; that does not happen by chance. Projects today get extremely complex—there are many players participating in these projects and every year the expectation of our budgets is to do more with less!

Keep in mind, excellence is a journey, not a destination. All projects have challenges and nobody is successful without some bruises along the way.

Awards are well-deserved recognition for the efforts and attitudes we put into our jobs. Plan now to have a 2015 banner, and if you have someone or something award-worthy, give it a run for the award spotlight.

Local chapter awards include: Project of the Year Award; Manager of the Year Award; Dedicated Service Award; and Professional Manager of the Year Award. More information can be found on the PWABC website.

Great prizes are available for inventive and creative ways of getting the job done. As municipalities are often asked to do more with less, staff have actively developed and invented creative and better ways to get the job done. Submit them for the Innovation Award and we will recognize them with great prizes. We look forward to receiving submissions by August 15.



AMSA 2015 Fall Convention

AMSA 2015 Fall Conventions

The Alberta Municipal Supervisors Association is a group of public works leaders from across the province, representing more than 70 rural and small urban municipalities. Members' goals are to improve service to our respective municipalities and citizens. Join AMSA for their upcoming 2015 fall conventions, taking place in Edmonton on November 17 to 19.

AMSA provides a forum for the exchange and development of innovative ideas as well as opportunities for professional development. AMSA's mandate includes:

- Helping members form a stronger bond with the municipalities they represent and the public, by informing and reminding members of their responsibilities and commitment to carry out the policies and procedures of the councils they serve.
- Educating members through seminars, sharing of best practices and engaging related industries and other associations for training opportunities.
- Working with other governing bodies and regulators, as well as supporting the goals of the Alberta Association of Municipal Districts and Counties (AAMDC).

Be sure to check out AMSA's job board at www.amsapw.ca for career postings from across Alberta.

Upcoming Industry Event

American Public Works Association Congress & Exposition

August 30 to September 2, 2015
Phoenix, AZ



APWA Events 2015

EDUCATION SESSIONS

Introduction to Construction Inspection
June 3 to 5, 2015

Construction Management
December 9 to 11, 2015

CONFERENCE & ROADEO

2015 Equipment Roadeo
September 10 to 11, 2015

Partners in Excellence Conference & Trade Show
October 5 to 7, 2015

Darwin K. Durnie named APWA Top Ten Leader



Darwin K. Durnie.

Darwin K. Durnie of Sylvan Lake, Alberta has been named by the American Public Works Association (APWA) as a Top Ten Leader for 2015.

Durnie works at Stantec Consulting in Red Deer, AB and has a wide range of experiences with public works as a municipal employee and private sector consultant. He is the past-president of the Canadian Public Works Association and will be receiving his 30-year membership pin from the Association of Science and Engineering Technology Professionals of Alberta (ASET) at a ceremony in Banff, AB.

He holds the designation as a registered engineering technologist and was inducted as an inaugural member of the Donald C. Stone Leadership Institute and granted the post-nominal Public Works Leadership Fellows (PWLf). Only 200 members who are PWLF are granted this designation.

Durnie was also awarded the Queen Elizabeth Diamond Jubilee Medal in recognition of his volunteer and community efforts.

Since 1960, the American Public Works Association has selected from the entire profession, not just its membership, 10 individuals whose career achievement, body of work and contributions to the public works industry warrant APWA bestowing them their highest honour, the prestigious Top Ten Leader of the Year Award.

Through the presentation of the Top Ten Award, it is hoped that the profile of the profession is raised and others are inspired to excel throughout their careers.

Many billions of dollars of investment are under the care of these public works personnel. Through the annual celebration of National Public Works Week, we celebrate their efforts and the ongoing support of the public. This year's theme is *Community Begins Here*, exemplifying and showcasing the fundamental role of the public infrastructure in our North American Society.

Of the 560 people bestowed the Top Ten Leader Award, 33 have been Canadian and only a handful have been from the private sector. Durnie is the third Alberta winner following Edmonton's George Hodge in 1979 and Bob Welin from Calgary in 1985.



Congratulations to the SPWA Award Winners



Ken Dobchuk Memorial Scholarship
(SK Opportunity and Innovation Award)
SPWA
Maria Erlinda Pajarito

Mike Bohn Memorial Scholarship
(SK Opportunity and Innovation Award)
SPWA
Salina Akter

Tony Marceca Memorial Scholarship
SPWA
Aiden Barker



Award of Merit
SPWA
Dean Reigert, PW Supervisor, NV of Buffalo Narrows

Meritorious Service Award
SPWA
Flocor Inc.

Contractor of the Year
SPWA
Xylem

Harry S. Swearingen Award
APWA
Andrew Stevenson

Professional Manager of the Year Award – Administrative Management
APWA
Gerald Gilmore, Director of Works & Utilities, City of Melfort

Gerry Wheeler Memorial Award
SPWA
Dale Petrun, PW Supervisor, City of Saskatoon

Public Works Person of the Year
SPWA
Colin Carriere, Operations Foreman of Roadways, City of North Battleford



SPWA President Andrew Stevenson giving George Jakeman his plaque as past president.

SPWA 2015 Equipment Expo & Golf Tournament

July 24, 2015, Moose Jaw, SK
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The Pen is Mightier:

The Significance of Termination Provisions

By Jenelle R. Butler

Terminations often create legal minefields for employers, many of which can be avoided by using effective contracts and enforcing them when necessary. The ability for both employers and employees to bring the employment relationship to an end is critical to the health of the economy and to ensuring a dynamic workforce.

In the context of non-unionized employment, the courts have recognized an employer's right to terminate any of its employees at any time and for any reason whatsoever, subject to specific legislative or contractual provisions to the contrary. In Alberta, the *Employment Standards Code*, RSA 2000, c E-9 (*Code*), provides the parameters within which terminations may be carried out by employers and employees, setting out the minimum entitlements for notice and severance which non-unionized employees are afforded in the province.

Like many other pieces of legislation, the *Code* is mandatory legislation, entitling workers falling under its protection to a set of minimum standards. Much like legislation protecting the minimum rights of residential tenants, or ensuring basic human rights, the *Code* does not allow parties to "contract out" of its protection.

Many employers are surprised to learn that simply complying with the minimum standards set out in the *Code* may not fully satisfy their obligation to provide an employee with notice or pay in lieu. While the *Code* sets out an employee's *minimum* entitlements upon termination, the courts have taken a much more liberal approach to terminations and, in particular, an employee's severance entitlement upon their termination.

Courts have clearly and unanimously held that without an express agreement at the time employment is offered, the courts will assess an employee's notice or severance entitlement pursuant to the common law, which has little relationship to the *Code*.



For example, an employee that has worked for more than four years but less than six years is entitled to four weeks' notice or pay in lieu of notice under the *Code*. However, a court may award something in the range of four to six months as the reasonable notice period for a person employed for that same duration. Whether or not the court awards simply the minimum notice provided under the *Code*, or alternatively, a much greater amount of notice, depends entirely on proper drafting and execution of your employment contract.

In order to properly rely on Section 56 of the *Code*, it is necessary to reference it specifically in the letter of hire and also to include the specific notice periods within, or appended to, the letter of hire. In the event that you have not structured your letter of hire or employment contract adequately, then Section 56 will not protect you from your obligation to provide employees with the notice period to which they are entitled under the common law.

In the event that Section 56 does not apply, the courts will require that an employer

give its employees "reasonable" notice of the termination. If reasonable notice is not given, the employees are entitled to commence a claim against the employer for damages.

The amount of damages awarded to an employee will be based upon the court's assessment of reasonable notice, which requires the court to consider factors unique to the particular employee, including the employee's age, position, number of years of service to the employer, salary and availability of similar employment. Generally speaking, the amount of notice that must be provided is usually greater for older, higher-paid, more senior and long-serving employees.

As such, the value of a properly worded and enforceable employment agreement or letter of hire is apparent. By using a properly structured letter of hire or employment agreement, you will have limited your notice obligations to the minimums of the *Code*, and in doing so, you will have also avoided having to provide the employee with the generally much more substantial common law entitlement.

The foregoing is illustrated by a recent case from the British Columbia Court of Appeal, *Miller v. Convergys CMG Canada Limited Partnership (Miller)*. The employee in *Miller* was employed with the employer for roughly seven years. Following a promotion to the manager of client services position, the employee executed a new employment contract that contained a severance provision. This severance provision provided that upon termination of the employee's employment on a without cause basis, the employer would pay to the employee severance in lieu of notice in accordance with the British Columbia Employment Standards minimums.

At the time of the without-cause conclusion of the employee's employment, the employer provided him with seven weeks' severance, in accordance with the employee's employment contract and as provided by the Employment Standards minimums.

The employee subsequently challenged the amount of severance that he was provided with, alleging that the employment contract was unenforceable, and accordingly, did not govern his entitlement to severance pay. The employee asserted that he was entitled to severance pay pursuant to the much more generous common law.

The Court of Appeal ruled that the employment contract was binding on the employee, and as a result, the employer was only required to pay the employee a modest seven weeks' severance pursuant to the termination provisions in the contract and the Employment Standards minimums, as opposed to a hefty 12 months' common law severance, which could have been awarded had the severance provision not been validly incorporated into the employee's employment contract.

In conclusion, employers can *significantly* limit their exposure regarding notice obligations in without cause termination by incorporating valid and enforceable severance clauses into their employment contracts. We recommend incorporating the following key elements into your hiring practices:

1. Ensure your written offer of employment contains a clear and unequivocal termination clause, including a formula for calculating working notice or severance.
2. Ensure your termination formula meets or exceeds the minimum requirements of the *Code*, and that it continues to do so as the employee accumulates years of service.

3. If your termination formula is equal to Section 56 of the *Code*, attach a copy of the legislation to the written offer. Alternatively, if the employee is to be bound by a severance formula in your termination policy, attach a copy of the policy.
4. Ensure your written offer contains a clear provision advising the employee of his or her right to independent legal advice.
5. Provide the employee with a copy of the written offer in advance of the

commencement of his or her employment and have the employee sign and return the offer letter prior to starting work. ▶

Jenelle R. Butler is an associate at Brownlee LLP. She acts as counsel for employers across Alberta at all levels of court, the Alberta Human Rights Commission, the Canadian Human Rights Commission and the Alberta Labour Relations Board. Her two primary practice areas are labour and employment law and education law.



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Workplace Health & Wellness: Managing Fatigue

By Jennyfer Harms & Krystal McDowell

Are you excessively tired and drowsy at work? Does this fatigued physical and/or mental state negatively affect your ability to perform work safely and effectively?

Everyone is impacted by fatigue, but when it becomes a chronic and prolonged state, it is concerning. Acute states of fatigue typically result from a sleepless night or short durations of heavy physical or mental work. Acute fatigue can usually be corrected with rest and relaxation.

Chronic fatigue, however, leaves an individual consistently feeling exhausted throughout the work day for longer than six months. Unlike acute fatigue, symptoms are not relieved with a good night's rest.

Signs and symptoms of fatigue include, but are not limited to:

- Reduced decision-making ability;
- Reduced communication skills;
- Reduced productivity and/or performance;
- Reduced ability to handle stressful situations;

- Reduced reaction time;
- An inability to stay alert or awake while on the job;
- Increased sick time and absenteeism;
- Increased forgetfulness; and
- Obvious errors in judgement.

Research shows lack of sleep has a similar affect as if the worker had alcohol in their system. Employers would not allow workers to operate heavy machinery under the influence, yet it is accepted if the worker has shown signs of being fatigued.

Work-related causes of fatigue can be long shifts, not enough time for recovery between shifts, long commuting times and/or strenuous jobs that require long-term mental or physical exertion.

This does not necessarily mean the employer needs to implement nap time into the work day, but it does mean workers and employers need to educate themselves on how to identify and correct this state of fatigue for the safety of themselves and the workers around them. If you or an

employee may be chronically fatigued, schedule an appointment with a doctor to rule out medical contributors such as anemia.

Preventative measures can include beginning a regular exercise routine, cutting caffeine intake in the evenings, adopting healthy eating habits, avoiding bright screens one hour before bed, making your room as dark as possible and going to bed and waking up the same time every day (even on weekends), to establish and solidify a healthy routine.

For more information on fatigue management, safety training or other municipal safety resources, visit www.amhsa.net.

Jennyfer Harms is a PIR/COR analyst with a background in ergonomics and injury prevention. Krystal McDowell is AMHSA's lead communications coordinator. The Alberta Municipal Health and Safety Association (AMHSA) is a non-profit association that provides services and training to Alberta municipalities.



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Infrastructure Investment & the Economy

By Chris Lorenc, B.A., LL.B.

Society should think of infrastructure in terms of investment rather than spending. Infrastructure is an investment in short- and long-term economic and social well-being.

Wise investment helped build Canada and enable our high quality of life. The Canadian Pacific mainline, Shoal Lake Aqueduct, Trans Canada Highway, St. Lawrence Seaway System and Asia-Pacific Gateway and Corridor Initiative are examples of strategies that benefited or will benefit our country.

The right decisions will increase private sector investment and provide opportunities for prosperity. Failure to act will increase our future needs and increase “infrastructure investment deficit.” The deficit was recently estimated by the Federation of Canadian Municipalities at \$238 billion and is growing exponentially; fifteen years ago, that deficit was around \$123 billion.

Infrastructure, trade & economic policy

Infrastructure investments must be linked with a national trade infrastructure asset

strategy, including free trade agreements. We must also direct attention to breaking down internal trade barriers between provinces.

Look at the impact of falling oil prices, lost revenues on provincial and federal budgets, lost investment opportunities, the announcement thousands of lay-offs and billions of project investment dollars being deferred or cancelled. These are real economic impacts. Forget we cannot control global prices; think what Canada might have looked like without infrastructure investments in our oil industry.

The context

The west has undergone tremendous change over the past 25 years and plays an important role in the Canadian economy. Western Canada’s real gross domestic product (GDP) amounts to 35 per cent of Canada’s GDP.

Trade has been vital to our growth and is vital moving forward. We need better access to growing global markets, like China and India. Demand for western Canadian exports

by emerging economies presents tremendous opportunities for continued growth and prosperity.

Merchandise exports to Asia grew by 62 per cent between 2006 and 2012. The rise of the global middle-class is projected to grow from today’s 1.8 billion people to five billion by 2030—an unprecedented growth in global history.

We have benefited from the federal government’s progress in breaking global trade barriers and from agreements, which are expanding Canada’s access to markets.

We must also break trade barriers that impede the movement of goods and people between provinces. The Canadian Chamber of Commerce estimates these barriers cost an estimated \$14 billion annually and called on federal and provincial governments to create an open market it calls “long overdue.”

Progress has occurred, with the renewed Building Canada Fund and the federal government’s commitment to its 2013 budget principles and objectives.



The 10-year, \$53 billion New Building Canada Plan (NBCP) represents the most significant infrastructure investment in Canada to date. The NBCP finances projects that promote economic growth, job creation and productivity, but the majority of funds are earmarked for municipal investment.

Just \$3.85 billion (seven per cent) of the National Infrastructure Component is allocated to large strategic infrastructure projects of national significance. Many groups are calling

for a large-scale national infrastructure strategy to address Canada's needs.

In Manitoba, economic prosperity will benefit from the five-year \$5.5 billion plan to invest in Manitoba's highways and core infrastructure. A recent Conference Board of Canada report found for every \$1 invested in infrastructure, the return to the economy is \$1.16; for every \$1 billion invested, 16,700 jobs were supported for one year.

Over the past two years, the Canada West Foundation published two reports that have made vital contributions to our understanding of the link between infrastructure investment and economic prosperity.

The first report, released in January 2013, was *At the Intersection: The Case for Sustained and Strategic Public Infrastructure Investment*. It examines the link between infrastructure and economic growth. The report says sustained and predictable public and private sector investment in infrastructure fuels economic growth, generating revenues necessary to fund social programs. It notes that low, long-term interest rates have created market conditions ideal for increased infrastructure investment.

The second report, released in November 2014, was *Building on Advantage: Improving Canada's Trade Infrastructure*. It examines the role of trade infrastructure to compete in rapidly evolving global markets and offers strategic steps to harness trade-related investment to benefit national economic growth and quality of life.

The report shares examples of businesses unable to seize opportunities due to shipping delays or capacity caused by poor trade infrastructure. Bottlenecks at the Detroit-Windsor border are estimated to cost the Canadian economy \$17.8 billion per year in lost trade.

According to the survey-based World Economic Forum's Competitiveness Index, Canada has fallen into steady decline. In 2010, Canada ranked ninth for quality of overall infrastructure. By 2012, it dropped to 15th but remained ahead of the U.S. In 2014, Canada dropped behind the U.S., to 19th.

The report shows Canada's large strategic infrastructure needs are unaddressed. It articulates the imperative to develop and strengthen trade infrastructure that links us to emerging and potentially lucrative global markets and opportunities.

Infrastructure investment principals

Municipal leaders have inherited an infrastructure deficit requiring commitment and creativity to resolve. We urge governments to adopt a four-point Infrastructure Investment Strategy:

1. Adopt the Manitoba Heavy Construction Association's suggested six organizing principles to underpin steps;

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2. Implement the 2011 Infrastructure Funding Council (IFC) report recommendations in areas within municipal government competence;
3. Build upon the dedicated regional and residential streets reserve accounts strategy to address the nation's infrastructure investment deficit; and
4. Lead a campaign to push premiers to negotiate a fair, balanced and responsibly shared new fiscal deal.


We need not only a new deal for municipalities; we need a new Canadian trade strategy to harness economic growth and well-being, enabling sustained and strategic investment in infrastructure. We need to do more to keep pace with international competitors. Canada must be known among the best in the world for the speed, cost and reliability of its trade-related infrastructure.

Strategic and adequate investment in trade infrastructure will provide the competitive edge our businesses need.

No infrastructure? No economy. No economy? No revenues. No revenues? No quality of life program funding capacity. We must act now. ▶

Chris Lorenc, B.A., LL.B., is the president Manitoba Heavy Construction Association (MHCA) & Western Canada Roadbuilders & Heavy Construction Association (WCR&HCA).

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Modified Surface Aggregate Stabilization with Calcium Chloride: A Test Project for Lethbridge County Haul Roads

By Russell Pinchak

Using calcium chloride as a dust suppressant has been used in North America for years. Recently, it has been used in stabilizing surface aggregates as a low-cost alternative to conventional pavements on low-volume local roads. The benefits of calcium chloride stabilization include improved ride quality, reduced sedimentation from runoff, reduced dust, reduced aggregate resource depletion, reduced maintenance costs and improved safety.

Recent cuts in funding and policies that prevent assessing agricultural taxes to their true value have Lethbridge County struggling to fund the improvement and maintenance of core infrastructure.

The county has the highest concentration of livestock in the country. Heavy truck traffic is generated as a result, including moving cattle in and out of feedlots, removing and disposing of manure and delivering feed and supplies. The county also has a high percentage of irrigated cropland.

In 2013, the county established a 170.6-kilometre haul road network to concentrate heavy truck traffic onto specified routes, providing a ban-free, all-weather roadway that interconnected with the provincial highway system. In 2014, Lethbridge County retained



WSP Canada to prepare a business case report that analyzed the costs of upgrading the haul route network to a ban-free, all-weather standard.

Five ban-free structures were reviewed based on lifecycle costs for a 30-year analysis period in Net Present Value (NPV). Lifecycle costs considered initial capital costs and maintenance over service life. The same analysis and review was completed for three gravel surface alternatives.

From the lifecycle costs analysis, the most economical ban-free structures for the haul routes would be a conventional asphalt concrete pavement (ACP)/granular base course (GBC) structure. The same lifecycle analysis was completed for the current surfacing gravel maintenance program, an increased graveling program and a calcium chloride stabilized surfacing gravel alternative.

Based on the results, the most economical solution was the current maintenance program.



Dry calcium application.

However, it is insufficient and does not provide an adequate surface for the haul route network. The increased gravel maintenance program had a lower capital investment but near identical 30-year lifecycle cost to the calcium chloride stabilized alternative.

Calcium chloride stabilization provides benefits that far outweigh the additional capital cost over the increased gravel maintenance program; the calcium chloride stabilized surfacing gravel was recommended. Improving the county's roadway infrastructure will improve road use and provide opportunity for increased economic growth and sustainability.

The county elected to proceed with a calcium-stabilized gravel test project, using a modified surfacing aggregate with higher

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plasticity and clay content than the standard Alberta Transportation specification. The addition of clay assists with the retention of the calcium chloride and binding the aggregate.

Lethbridge County retained Steve Monlux, a chloride stabilization specialist from LVR Consultant LLC, to work with WSP Canada and the county to develop a detailed plan for the test project. Twenty-four test sections consisting of six treatment types were repeated four times along Range Road 20-3 between Highway 519 and Highway 25 within Lethbridge County. The six treatment types included:

1. Liquid calcium, distributor, blade laid, one-inch treatment, four-inch gravel;
2. Liquid calcium, liquid injected, Mill Razor, two-inch treatment, four-inch gravel;
3. Dry calcium, 1.5 per cent pure chloride, distributor, Mill Razor, two-inch treatment, four-inch gravel;
4. Dry calcium, 1.0 per cent pure chloride, distributor, Mill Razor, two-inch treatment, four-inch gravel;
5. Dry calcium, 1.5 per cent pure chloride, distributor, Mill Razor, three-inch treatment, four-inch gravel; and
6. Untreated control section, four-inch gravel.

Pre-construction testing was completed for the project, including the Moisture Density Relation test using liquid calcium to determine the optimum calcium/moisture contents for compaction and the California Bearing Ratio test to determine the load-bearing capacity of the stabilized aggregate. Existing sub-grade strength tests were completed before and after calcium application and will be conducted this summer to determine how the surface stabilization is affecting the sub-grade strength of the roadway.

Construction was completed from July 28 to August 4, 2014. Lethbridge County retained Oxford Inc. to supply and distribute the dry calcium chloride for the project with RM Equipment supplying an innovative piece of machinery, the Mill Razor, to mix the calcium into the surfacing aggregate at a specified depth and moisture content.

The Mill Razor is an accessory implement composed of a rotary grinding drum with carbide tip cutting bits that attaches to a motor grader blade. It has a liquid injection system that can be hooked up to a water truck and used to distribute liquid

calcium brine solution or water to condition the surfacing aggregate prior to compaction.

The project is in the monitoring stage. A final report will be completed at the end of 2015. To date, the calcium chloride stabilization test sections have shown significant improvement over the standard program, with improved surface quality and lower maintenance requirements. Many heavy truck hauls have occurred over test sections, with minimal damage to the surface.

Calcium chloride stabilization using a modified surfacing aggregate specification seems to have significant benefits over standard roadway graveling procedures. The aggregate stabilization appears to be a low-cost alternative to conventional pavements for Lethbridge County haul routes and may be fully implemented by the county, pending final results. ▶

Russell Pinchak is the area manager of WSP Canada.



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Flygt Jet Aeration Solution Lowers Costs & Improves Safety

By Jason Nelson and Don Ball

In 1990, the town of Biggar, SK, located 93 kilometres west of Saskatoon, was having problems with its jet aeration system. The town upgraded its wastewater treatment plant by adding a second aeration basin, known as an oxidation ditch, measuring 56 metres long.

The oxidation ditch is a settling basin where wastewater is mixed with biologically activated sludge to create particles that will settle and can be easily removed. This is a crucial step in the wastewater treatment process because it removes the majority of pollutants.

In 2001, the degradation of the aeration system became very noticeable to plant operators. The plant began experiencing



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high maintenance and energy costs when trying to maintain the appropriate oxygen levels in the oxidation ditch.

Sludge also began to build up on the bottom of the oxidation ditch and constant monitoring was required for increased foaming and spray issues. Additionally, when servicing the aerators, maintenance crews had to walk on catwalks where they were exposed to liquid waste, which caused safety concerns.

The town decided to investigate alternative wastewater treatment solutions to improve safety, lower energy costs and reduce time spent on maintenance.

Better oxygen levels and improved mixing

Xylem was asked by Catterall & Wright Engineering, the engineering firm commissioned to design the upgrades at the Biggar plant, to supply an aeration system designed to meet the required oxygen levels and provide sufficient mixing to keep the sludge from building up on the bottom of the oxidation ditch. Ease of installation and maintenance were placed as high priorities for all plant upgrades.

Xylem proposed a Flygt jet aerator system. The Flygt JA317 jet aerator, comprised of a Flygt submersible N-pump, air suction pipe and three ejectors, not only could supply the needed oxygen level, but also required little maintenance.

To eliminate safety issues, the submersible pump is designed to rest on the bottom of the tank to significantly reduce spray, surface foaming, vibration, and noise levels. As the pump propels water through the ejectors, a Venturi vacuum effect is created by pulling air down through the air suction pipe then mixing with the water passing through the pump. This process provides oxygenation and mixing simultaneously.

Quick installation and less maintenance required

Once the oxidation ditch was shut down and cleaned, two jet aerators were anchored to the bottom of the ditch. The installation of the aeration system and controls was quick and efficient—from the time the system was installed to being operational took only two weeks.

Since the installation in 2010, the Flygt jet aerators have continuously provided the required mixing and oxygenation, while also reducing maintenance and safety concerns.

“I am very pleased with the reduction in foaming and the low maintenance this aeration system has shown,” says town foreman Richard Olson, who pushed to improve the Biggar plant’s aeration system. “It frees up operators at the plant to devote more time to other jobs.”

The Town of Biggar has since ordered another pair of Flygt jet aerators from Xylem for their second oxidation ditch.

Read more about Flygt jet aerators at www.xylem.com.

Jason Nelson is the previous Director of Marketing for Xylem Canada, based in Montreal. Don Ball is the long-serving sales representative for Xylem in Saskatoon, SK.

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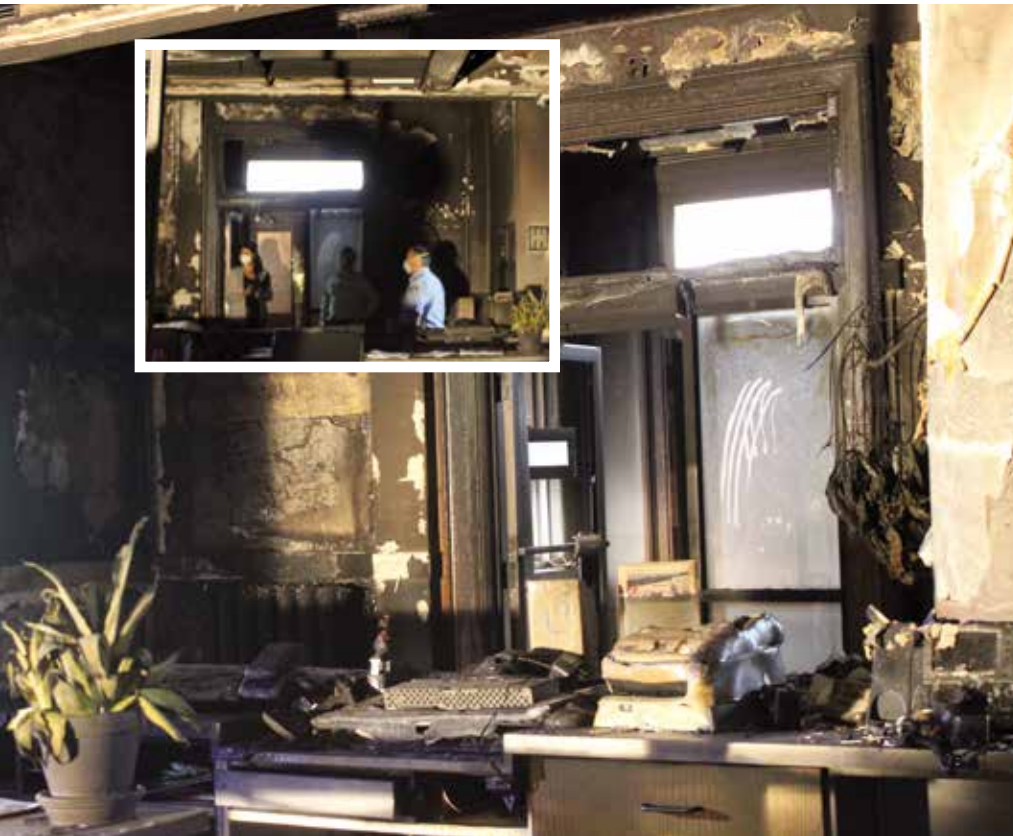
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From Plan to Practice: Managing the Fire at City Hall

By Sarah Winton



While many local governments have business continuity plans in case of fires, floods or other major events, fortunately, few have to put them into action. When a lone arsonist tried to burn down city hall in 2013, the City of Grand Forks, BC put theirs to the test.

On September 19 at around 5:30 a.m., Grand Forks Emergency Response was called to a fire at city hall. The first floor of this historic 102-year-old building was engulfed in flames. Fortunately, no one was injured and quick action meant minimal water damage, helping to protect the city's archives located in the building's basement. RCMP arrested a man on scene who later pleaded guilty to arson damaging property.

At the time, CAO Doug Allin and then Mayor Brian Taylor were in Vancouver, BC at the annual Union of BC Municipalities convention, preparing for another day of meetings. The fire chief was also out of town at the time.

"It was a huge shock to all of us in the community, as well as those of us who work at city hall," recalls Allin. Being out of town was definitely a challenge as it meant managing the situation remotely.

"It really brought home the message around the importance of not only having a strong emergency response plan in place, but the need to have a crisis communication plan to match," says Allin. "Communications turned out to be a critical component to maintaining a focus on service recovery and restoration of this historic building" he says.

"Once the site safety was confirmed, the next call was to our communication consultant, Jan Enns," continues Allin. "She set up a conference call with local RCMP staff to confirm the details of the incident and who would be the spokesperson for specific aspects to ensure we each provided the most accurate and timely information. We didn't want to have to waste time correcting rumours and misinformation. This was also a critical step in ensuring that there was no ongoing threat to public health and safety."

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In this case, the RCMP would be the first to release details regarding the fire. While the mayor is the official spokesperson for the city, local reporters, including Global Okanagan TV out of Kelowna, needed to talk to someone on site.

“Fortunately, our deputy fire chief had extensive media training and was able to answer the call while we made our way back on the first available flight,” says Allin. “Jan was able to brief him to ensure our message of restoration and recovery was consistent.”

Upon arriving back in Grand Forks, Allin and the mayor contacted council and staff for an emergency meeting. “It was a shock to our staff and we knew we needed to provide them with as much information as possible as they are ambassadors in our community. Friends, families and neighbours would be looking to them for answers. We also wanted to ensure their own physical health and well-being, and answer the questions that were important to them, reducing their anxiety.”

For the next few weeks, council and staff worked to put those business continuity plans in place. This included everything from re-routing phone lines to setting up temporary “city hall” locations to ensure clear and consistent lines of communication with the media, staff and council. The city’s archives were moved to a new location for safe keeping.

With communications as a guiding principle, a special meeting of council was held on September 23, attended by more than 50 residents wanting to learn more about the fire and plans to move forward. Another public event was planned for September 27 on the steps of city hall. More than 75 residents stopped by to take a sneak peek at the aftermath before restoration started. Photos of the event were also sent to the local media and Global Okanagan to maintain those open lines of communications.

These open lines of communications continued beyond the media. In keeping with best practice, the city also went to great efforts to ensure other key contacts, such as the regional district and neighbouring governments, were notified. Other community events include putting a set of the artistic design drawings and finishing on display at the local library for feedback.

“We wanted to ensure that the heritage quality, so treasured by our long-term community members, would also be functional,” says Allin.

“Our staff and council were given the opportunity to have input on the design that would best meet their needs.”

Given the age of the building, restoration plans took longer than initially expected. Remediation for asbestos was just one of the many surprises this historic brick building had in store. Renovation costs were completely covered by insurance.

“What has been extremely rewarding throughout the process is the payoff from our

commitment to being proactive with our communications,” says Allin.

“By informing and engaging our community from the outset, we have spent less time than expected responding to questions and concerns and correcting the rumours and misinformation.” ▶

Sarah Winton is the deputy corporate officer/communications for the City of Grand Forks, BC. She can be reached at www.grandforks.ca, 250-442-8266 and winton@grandforks.ca.

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What to do with the North Kildonan Feedermain

By Kas Zurek, P.Eng. & Jason S. Lueke, Ph.D., P.Eng.

Today, engineers and utilities have many options for pipeline infrastructure design and construction. However, for aging infrastructure—especially those in urban areas and sensitive environments—deciding to rehabilitate or replace a pipeline can be challenging, given the many options and issues associated with each.

The best option is often decided by many complex factors, not just the lowest price. These decisions were faced by the City of Winnipeg when they discovered a leak in the North Kildonan Feedermain.

Background

The North Kildonan Feedermain has been a significant component to the City of Winnipeg’s potable water distribution network since it was constructed in 1972. The feedermain is a 600-millimetre-diameter steel pipe crossing the Red River, connecting the northeast and northwest sections of the city’s water distribution network.

In fall 2012, the City of Winnipeg Water Services Division discovered a leak in the pipe at the approximate midpoint of the river crossing. Repairs to the pipe were undertaken in February 2013 and again several weeks later but were considered only an interim solution, as the city examined alternatives to rehabilitate or replace it.



The North Kildonan Feedermain in Winnipeg, MB.

Later that year, the city engaged Associated Engineering to develop potential alternatives to address the problem and undertake a decision-support process to determine the most suitable alternative to advance to design and construction.

Options and competing considerations

Solutions were developed to rehabilitate or replace the feedermain, including installing a bridge-mounted crossing on the existing Kildonan Settler’s Bridge; constructing a pedestrian bridge to carry the watermain across the river; rehabilitating existing pipe using cured-in-place pipe methods; slip lining the existing line with a smaller diameter HDPE pipe; installing a new pipe across the river by open-trench construction methods; installing a weighted pipe across the river; installing a new feedermain by horizontal directional drilling; and installing a new feedermain in a tunnelled crossing.

Decision-support tool identifies solution

To find the most suitable solution and document the decision-making process for the city, Associated Engineering used a decision-support system based on the Analytical Hierarchy Process, which assesses the suitability of each alternative for meeting project goals and objectives using evaluation criteria set by the project team.

The criteria included constructability, maintenance and operations, social impacts, sustainability, infrastructure security, project schedule, regulations and environmental impact. As a group, the city, Associated Engineering and select stakeholders determined the relative weightings and importance of these criteria.

To assess the most suitable alternative, each option was scored by the evaluation criteria. For each criterion, a score was determined by multiplying the previously developed criteria weight by a rating determined by comparing the various alternatives. Workshop participants decided on the ratings. The product of the rating and criteria score for each alternative was summed to obtain a total weighted criteria score. The option with the highest weighted criteria score would be the best option based on evaluation criteria developed by the workshop participants.

Finally, to determine the best valued alternative, the team took each alternative’s total weighted criteria score and divided it by its estimated cost.

The resultant number is the value ratio for that particular alternative. The alternative with

Alternative	Total Weighted Criteria Score	Estimated Cost (2013 millions)	Value Ratio (Criteria/Cost)
Horizontal Directional Drilling	866	\$3.2	271
Cured-in-Place Pipe Relining	400	\$3.1	129
Weighted HDPE Pipe	510	\$4.2	121
Micro-tunnel Crossing	814	\$6.7	121
Open Trench	441	\$5.0	88
Utility Tunnel	714	\$9.0	79
Bridge Mounted Crossing	598	\$7.8	77
Pedestrian Bridge	556	\$19.6	28

the highest value ratio is the one perceived to have the highest cost-benefit ratio. The table on page 38 summarizes the total weighted criteria score and value ratio for each alternative.

The cured-in-place pipe alternative was not considered viable or feasible based on the geometry of the existing pipe; therefore, this alternative was eliminated.

The weighted pipe alternative would be challenging, from a regulator's perspective, to obtain approval. This alternative would not receive approval unless all options were proven unfeasible. Then, further protection methods and leak detection monitoring would need to be established and accepted. The installation would not significantly increase the level of infrastructure security compared to the existing feedermain.

It was recommended that the North Kildonan Feedermain be replaced using horizontal directional drilling. There were serious concerns associated with its current position and alignment within the river, considering infrastructure security, resiliency and longevity.

Rehabilitation of the feedermain was not feasible. Even if it were possible, it would result in a section of the distribution system relying, in part, on the structural integrity of the existing pipe currently suspended in the river.

Based on this analysis and with the support of the Analytical Hierarchy Process, the city proceeded with the detailed design of a horizontally drilled crossing of the Red River. Detailed design was undertaken in fall 2013, with construction of the crossing anticipated in 2015. ▶

Kas Zurek, P.Eng., is the design and construction engineer with the City of Winnipeg, MB.

Jason S. Lueke, Ph.D., P.Eng., works with Associated Engineering in Edmonton, AB.

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Machinery Hygiene: Reducing Weed Spread

By Clearwater County Agricultural & Land Care Services



For agriculture producers, there are few sights more rewarding than fields dotted with fresh green hay bales, a critical source of forage that feeds livestock during the cold winter months. However, the field could be overtaken with weeds if agriculture producers are not careful. One of the most common ways that weeds are introduced into fields is via mobile machinery that has travelled through an infested area. The easiest

way to prevent weed spread is to thoroughly clean equipment prior to leaving a site.

Weeds are the most costly and significant threats to agriculture and environmental biodiversity. They negatively affect the quality and quantity of agriculture and horticulture and threaten our natural ecosystems.

Avoiding weed spread is one of the most cost effective ways to prevent further weed problems. Making an extra effort to clean off equipment prior to leaving the field pays real dividends over the long-term.

It is not just farm equipment that is at fault—cars, trucks, motorbikes, ATVs, earth-moving equipment and even boats are common carriers of invasive species. Contaminated soil and plant material can easily lodge in a variety of locations on vehicles and equipment. Making a visual inspection should become a standard practice especially after leaving an infested site.

Some effective cleaning options include washing, air pressure, vacuuming and physical removal. It is not always possible to wash equipment on site but even a portable pressurized spray tank can be used to clear

hard to reach areas, especially when equipment is dry.

Machinery should be cleaned from the top down and include the undercarriage, springs, axles and tires. Whenever possible, detergents should be used to remove grease, dirt and mud. Footwear should also be cleaned along with socks and clothing. Using the same site for cleaning will allow for monitoring of volunteer weed growth which can be easily controlled.

Contaminated material should be disposed of in a manner that ensures all removed weeds and seeds will not grow or continue to spread. Establishing management practices that reduce the spread of invasive species is the responsibility of every machinery operator. In essence it local environment and agriculture that suffers as a consequence of poor machinery hygiene. ▸

Agricultural Services administers programs that strengthen relationships in the rural areas and urban communities, including the bi-annual Farm Family Award and the annual Rural Beautification recognition.

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Tendering in Alberta

As a municipality in Alberta, Clearwater County is subject to the New West Partnership Trade Agreement (NWPTA), which governs trade in British Columbia, Alberta and Saskatchewan.

The NWPTA regulates government bodies and their procurement of goods, services and construction. NWPTA applies to goods greater than \$10,000, services greater than \$75,000 or construction greater than \$100,000—which then require a public tendering process take place.

Should NWPTA apply, Clearwater County typically uses the Alberta Purchasing Connection (APC) website to publicly request tenders for goods, services or construction projects. Some requests for tender are also advertised in local newspapers.

Hydrovaccing Saves Municipalities Time & Money

By Kevin Skauge

A hydrovac truck derives its name from hydro, for the pressurized water used to break up soil, and vac, for the high vacuum used to remove the resulting slurry. Hydrovacs eliminate the risk of hand-digging, and the hydrovac can dig over 10 times faster around any buried line including cables, pipelines, fibre-optic or energized electrical lines.

The hydrovac is an all-inclusive unit that uses water to agitate and liquefy the soil covering the service. Liquid slurry is extracted by a powerful vacuum system, leaving a clean hole to access underground lines or services. With on-board water being heated, even frozen ground or heavy clay soils are easily excavated.

Hydrovac exposure of line and cable is considered an industry safe practice for daylighting. In the petroleum industry in Western Canada, hydrovacs are recognized and accepted as a best practice for exposing of buried facilities. In many Canadian jurisdictions, Occupational Health and Safety have issued bulletins deeming hydrovacs a non-mechanical excavating method and safe alternative to hand-digging.

Over the past two decades, hydrovacs have become the accepted, preferred solution for producers, pipeline companies, municipalities and contractors for safely and cost-effectively working around or near buried utilities or facilities.

Hand-digging poses several risks and incidents, as noted by the Common Ground Alliance and the annual DIRT report, where hand tools cause 18 per cent of known damages.

Hydrovacs range from smaller single-axle units to larger tri-drives that can handle substantial volumes and lower project costs. Bigger trucks with bigger blowers can provide more capacity to the customer and excavate up to 50 feet deep, removing debris up to 1,000 feet horizontally; it can sink a shoring system nine feet deep and the site is restored in four hours.

The need for hydrovac services is widespread. Beyond oilfields, it is used for

mining, utilities, transportation and construction. In a municipal or public works environment, hydrovacs offer:

- Curb stop repairs: water service post and water service valve box repairs;
- Test holes: verifying utility location for design or pre-construction with an average dig time of 15 minutes;
- Water meter pits;
- Valve box cleanouts;
- Water treatment plant filter media removal and sand debris removal;
- Cable and pipe installation, and trenching three-inch wide to 20-foot deep holes;
- Culvert cleanouts: small diameter and box culverts;
- Street lighting pole holes and bases;
- Leaking sewer and water lines;
- Manhole cleanouts;
- Catch basin cleanouts; and
- Shoring: sinking shoring boxes/cages with the hydrovac minimizes future restoration costs.

Using hydrovac is the safe, efficient method of high efficiency digging. By using hydrovaccing companies, municipalities



A gas anode service pit.

have many options for a variety of projects that can be performed in multiple locations and situations. ▸

Kevin Skauge is the regional manager for Saskatchewan/Manitoba operations of Badger Daylighting.

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