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THE ROADRUNNER

FALL 2026



The Tale of CentrePort's Twin Caissons

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EXCELLENT VEHICLE UNDERCOATING
SUPERIOR LUBRICANT • LONG-TERM PENETRANT
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ORIGINAL



Aerosol (AS): # 1450 - 145 g, # 3300 - 333 g
Bulk (NAS): # 3700 - 3.78 L Can
 # 4300 - 18.9 L Pail, # 4500 - 208 L Drum
 # 5207 - Brush Top Can - 237 ml

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BLACK



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Bulk (NAS): # 6400 - 3.78 L Can
 # 6500 - 18.9 L Pail, # 6600 - 208 L Drum

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AUTO • TRUCK • FARM • HOME • MARINE • FORESTRY • MINING • INDUSTRIAL • RVs
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TERMINATES BOTH NATURAL & INDUSTRIAL ATMOSPHERIC CORROSION

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FLUID FILM "NAS" VEHICLE UNDERCOATING EQUIPMENT

Recommended Sprayers: # 80125 - 1 L **Pressurized Spray Gun**, # 18925 - **18.9 L Pail/Lid Pump Sprayer**, # 20950 - 208 L Drum Pump Fogger, # 45660 - Drum Lid for # 4500 & # 6600 Drums, # 43125 (ORIGINAL) - Pressurized Spray Gun Kit, # 65125 (BLACK) - Pressurized Spray Gun Kit

Heavy Duty Industrial Vehicle Undercoating use Fluid Film "AR" 208 L Drum (# AR208) with High Pressure Fogger Pump (# 20950).

FLUID FILM UNDERCOATING INSTRUCTIONS: Apply by brush, roller, dipping or pressurized sprayer. Recommended compressor output 140 - 150 psi MAX. Water blast vehicle's undercarriage to clean off excess dirt & let the heavy water drip off for 5 minutes. Apply FLUID FILM right over the damp metal. Apply to the panels and doors as normal. If dripping occurs then you are over-applying the product. If previously undercoated, please check for product compatibility.

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Vehicle Undercoating Spray Equipment & Accessories Designed For Use With Fluid Film BULK "NAS" ONLY

ORIGINAL # 3700 (3.78 L), 4300 (18.9 L) & 4500 (208 L)
BLACK # 6400 (3.78 L), 6500 (18.9 L) & 6600 (208 L)

80125
1 L Pressurized Sprayer Kit

- 1 L (30 oz) Pot
- 1 Air regulator
- 1 - 45° hook wand, swivel handle & 18" flex hose
- 1 - 90° hook flex wand
- 1 - 360° flex wand
- 1 round & flat spray nozzle
- Rated at 125 PSI Max.
- Use # 43650 Pump to fill sprayer

(600)



1 air regulator, working pressure 80-90 psi

18925
18.9 L Pail Pump Sprayer with Lid

Recommended Compressor Output 140-150 psi

- 25' Twin Hose
- 2 Air regulators
- 1 - 45° hook wand, swivel handle & 18" flex hose
- 1 - 90° hook flex wand
- 1 - 360° flex wand
- 1 - 33" rigid wand 180°
- 1 round & 1 flat spray nozzle
- 1 Quick Coupler

Drum Pump Conversion:

- 23" Extention Pipe # 23208
- 25 ft Twin Hose # 20025
- Drum Lid # 45660



(1999)

20950 (Use with Fluid Film NAS or AR)
208 L Drum, High Pressure Fogger

- 50' Twin Ultra Flex High Pressure Hose
- 2 Air regulators
- 2 High Pressure Filters
- 1 Suction Filter
- 1 - 45° hook wand, swivel handle & 18" flex hose
- 1 - 90° hook flex wand
- 1 - 360° flex wand
- 1 - 38" rigid wand 180°
- 1 round & 1 flat spray nozzle
- 1 Quick Coupler
- If drum lid required order # 45660.

(3600)

Recommended Compressor Output 140-150 psi



Accessories



45660
Lid for # 4500 & # 6600 Drums

- Use with pump # 20950 & 20850. (449)



43650
Pail Hand Pump

- Fluid Film Pail Pump (6 oz)

Use with:

- # 4300 & # 6500 (18.9L)
- Use to transfer Fluid Film into # 80125 Sprayer (190)

Also Available: 25' Twin Low Pressure Hose # 20025 (for # 18925 LP), 50' Twin Low Pressure Hose # 20050 (for # 18925 LP)
50209 - 50' Twin High Pressure Hose (for # 20950 HP),
23208 - 23" Extension Suction Pipe (for # 18925), # 90049 (Drum Hand Pump), # L015-149 - 72" Wand (for # 20950 or # 18925)

ORIGINAL

 # 43125 - Pressurized Sprayer Kit

Contains: • # 80125 - Pressurized Sprayer
• # 4300 - 18.9 L Pail (ORIGINAL), 1 Red Lid
• Fluid Film "NAS" Pail Pump



(1100)

NEW

NLS PRODUCTS
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www.nlsproducts.ca
mail@nlsproducts.ca
705-738-2321

Specification Subject To Change Without Notice

BLACK/NOIR

 # 65125 - Pressurized Sprayer Kit.

Contains: • # 80125 - Pressurized Sprayer
• # 6500 - 18.9 L Pail (BLACK), 1 Black Lid
• Fluid Film "NAS" Pail Pump



(1140)

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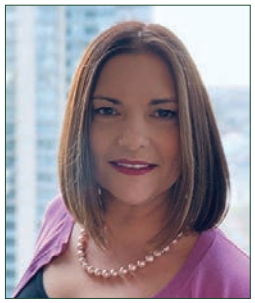
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On the cover: Manitoba's CentrePort South Regional Water and Wastewater Servicing Phase 1A has Winnipeg companies digging deep to deliver project success. Photo courtesy of J-Con Construction.



A Message from the Public Works Association of British Columbia

Across British Columbia, summer is often referred to as construction season – and for good reason.

The dry weather provides our best opportunity to advance paving programs, utility renewals, active transportation projects, and other infrastructure investments. At the same time, communities are hosting festivals, sporting events, concerts, farmers markets, and tourism activities that bring people together and support local economies.

During this time, our public works teams are often tasked with balancing these competing demands while delivering critical infrastructure improvements and maintaining safe and efficient mobility for residents and visitors. This is a complex undertaking that requires careful coordination, communication, and adaptability.

For many of our members, this is the busiest time of the year. Crews are completing critical projects while managing increasing expectations around service delivery, traffic flow, and public communication. Behind every successful paving project, road closure, detour, or event is a team of public works professionals working diligently to keep communities functioning safely and efficiently.

Summer also brings increased pressure from climate-related challenges. Wildfire activity across British Columbia continues to remind us that emergency preparedness is no longer just a seasonal consideration – it has become a year-round responsibility. Even when a fire occurs, wildfire smoke from hundreds of kilometres away can affect worker safety, project schedules, and day-to-day operations. Protecting outdoor workers while maintaining essential services requires careful monitoring, thoughtful planning, and a commitment to adapting as conditions change.

Water management remains another important focus for many communities. As temperatures rise and precipitation becomes less predictable, local governments are once again implementing water conservation measures and restrictions. Public works departments are often on the front lines of both managing these resources and helping residents understand the importance of conservation. These challenges reinforce the need to continue investing in resilient infrastructure and long-term planning that supports sustainable communities.

Complicating summer operations are a number of events and activities taking place across the province, where public works teams play an essential role in ensuring safe and reliable transportation networks, effective traffic management, clean public spaces, and dependable utility services. Much of this work happens behind the scenes, but its success is evident when communities can gather, celebrate, and move safely.

The common thread through all of these activities is resilience. Public works professionals continue to adapt to changing conditions while delivering the services that residents rely on. Whether responding to wildfire smoke, implementing water conservation measures, managing construction projects, or supporting community events, our members demonstrate professionalism, innovation, and dedication every day.

On behalf of the Public Works Association of British Columbia (PWABC) Board of Directors, thank you for your leadership, commitment, and service to your communities. The work of public works is often unseen, but its impact is felt everywhere. Summer may be our busiest season, but it is also when the value of our profession is on full display.

Wishing everyone a safe, productive, and successful summer.

Taryn Scollard
President
Public Works Association of British Columbia

PWABC Public Works Association of British Columbia

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You can learn more about the Public Works Association of British Columbia on their website: https://pwabc.ca/



A Message from the Canadian Public Works Association, Alberta Chapter

From all the social media posts I have seen, I know that National Public Works Week went well for so many of our communities, not only in Alberta but across North America. Great job everyone.

It is my pleasure to connect with all of you as we enter this transitional season. The hard work of our members has been noticed and is truly inspiring, and I am grateful for the commitment each of you brings to our chapter and to public works across Alberta.

It's hard to believe how quickly the months have passed and, as we are more than halfway through the year, I am proud of how our chapter has grown and adapted to new challenges. Our members continuously demonstrate resilience and ingenuity, finding new ways to support their communities and advance the field of public works. Through continued engagement, professional development, and collaboration, we have strengthened our network and have built lasting connections.

From all the social media posts I have seen, I know that National Public Works Week went well for so many of our communities, not only in Alberta but across North America. Excellent job everyone.

Speaking of networking, I am thrilled to share that the APWA Alberta Chapter will be hosting the Equipment Roadeo again after several years away. We have a new venue and new date and time, so save the date for September 3-4, 2026, at The Olds College Training Facility in Olds, Alberta. A huge thank you goes out to the new Equipment Roadeo committee for securing this venue.

Also, a big 'thank you' goes out to the City of Leduc for hosting an Idea Group meeting on June 16, 2026. If you or your municipality would like to host a future Idea Group meeting, please let us know. Additionally, we are seeking members for the Idea Group Committee – your involvement could make a huge difference.

Do you have something you'd like to share with the broader public works community? A training idea, a job posting, or other resources? We would love to help get the word out by featuring it on our website, https://alberta.apwa.org/. Collaboration and resource-sharing strengthen us all.

Looking ahead, the APWA Alberta Chapter will be participating in the Alberta Equipment Expo, which is scheduled to take place in Edmonton, April 22-23, 2027. We look forward to another successful expo and seeing everyone there.

As I conclude this message, I want to acknowledge the challenges many of us faced this summer; high stream flow advisories; flood watches, and even isolated flooding in many areas of the province clearly showed how public works is always the first ones in, last ones out to help our communities.

Thank you for all that you do. Stay safe, and do not forget to check our website at https://alberta.apwa.org/ for additional updates and resources.

Peter McDowell
President
American Public Works Association, Alberta Chapter

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You can learn more about the American Public Works Association, Alberta Chapter on their website: https://alberta.apwa.org.

Did you know that the Alberta Chapter was first founded in 1979 to enhance the services of the APWA to the Alberta public works community and to improve the quality of public works products and services to Canadian citizens.



A Message from the Saskatchewan Public Works Association

As summer closes, I want to recognize another busy and rewarding season for our public works professionals across Saskatchewan. Through it all, everyone has continued to provide the essential services that have kept our communities safe, reliable, and moving forward.

I would like to start by discussing training and professional development.

Held on May 27-28, 2026, the Saskatchewan Public Works Association's (SPWA) *Own Your Work Zone* training session included two courses held in North Battleford. These sessions helped public works professionals strengthen their knowledge of work zone safety, public awareness, worker protection, signage, traffic control, and safe planning. These sessions remind us that learning continues throughout our careers. As regulations, equipment, expectations, and infrastructure pressures change, every course, workshop, conference, and discussion helps build knowledge and gives members a chance to share practical experience from their own communities.

Another valuable opportunity took place on June 17, 2026, when the newly formed Sub-Arctic Group hosted a webinar on summer patching. The webinar connected public works professionals from Alberta, Saskatchewan, and Alaska to discuss road maintenance. These conversations allowed us to learn from jurisdictions facing similar challenges, including winter maintenance, infrastructure renewal, and changing public expectations.

SPWA continues to work on the Public Works Supervisor (PWS) course, in partnership with the Manitoba and Alberta Chapters. This remains an important priority for supporting current and future public works leaders, and the course will provide practical tools, shared knowledge, and leadership support for those in supervisory roles.

We also had a great opportunity to connect through the SPWA Golf Tournament on August 14, 2026, at The Legends Golf Course in Warman. More than a round of golf, the event gave members, sponsors, industry partners, and colleagues a relaxed setting to reconnect, exchange ideas, and strengthen the public works network across Saskatchewan.

From August 30 to September 2, 2026, SPWA Board members Dale Petrun and Neeraj Saroj will be attending the American Public Works Association (APWA) PWX Conference in Houston, Texas. They will represent SPWA by bringing forward our concerns, ideas, and issues to the APWA National Board, while also gathering new insights to support SPWA's own planning efforts.

On October 6 (Regina) and October 7 (Saskatoon), 2026, SPWA will be hosting the APWA Winter Maintenance Certificate course. This is a great course to help public works staff prepare for winter operations.

Looking ahead, we are now working on the 2027 SPWA Annual Conference and PWville being held from February 23-25, 2027. This will be an exciting opportunity to showcase Saskatchewan public works and welcome colleagues from across the broader public works community. We are excited to see how much this event has grown over the past four years.

The event is also a time to think about individuals who deserve recognition. If you know someone whose contributions should be celebrated, please consider submitting a nomination for an SPWA Award at the SPWA website, https://saskatchewan.apwa.org/. Members can also contact Kristine at our office, or any SPWA Board member for details. Applications are also upcoming for the *Tony Marceca Memorial Scholarship*, which is available to children of active SPWA members pursuing post-secondary education.

We would also love to hear what other communities are doing and highlight those stories in future editions of *The Roadrunner*. Sharing local successes and lessons learned helps strengthen our public works network across Saskatchewan.

Thank you for your continued support of SPWA and for the important work you do in your communities every day. I hope everyone had a safe and successful summer, and I look forward to seeing you all at future SPWA training opportunities, events, and gatherings.

Stewart Schafer
President
Saskatchewan Public Works Association

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The Saskatchewan Chapter strives to promote professionalism in the public works field and provide a network through which members can share and receive useful information.



A Message from the Canadian Public Works Association, Manitoba Chapter

I will start by saying that it is my honour to be serving as President of the Canadian Public Works Association (CPWA) Manitoba Chapter, and I am sincerely grateful for the confidence that our members and Board of Directors have placed in me. I look forward to working alongside each of you as we continue to strengthen our Chapter and advance public works throughout Manitoba – and beyond.

As the oldest Canadian CPWA chapter, we have a remarkable legacy to build upon. My goal is to honour this legacy while continuing to position Manitoba as a leader within the Canadian and North American public works community.

Before looking ahead, I would first like to extend my sincere thanks to Darren Wanless for his outstanding leadership over the past two years. Darren has devoted countless volunteer hours to strengthening our Chapter through education, partnerships, governance, sponsorship development, and member engagement. He has left us in a stronger position than when he began, and those of us stepping into leadership roles benefit from the solid foundation he has built.

Many of you know that, while I previously served as General Manager of Operations and Infrastructure for the City of Kenora, Ontario, I remain incredibly proud to call the CPWA Manitoba Chapter my professional home. Some may wonder whether serving as President while working in another province presents a challenge, but my experience has shown exactly the opposite.

One of the greatest lessons I have learned throughout my career is that jurisdictional boundaries rarely define the realities of public works. The many challenges we face as public works are remarkably similar regardless of whether we work in Manitoba, Ontario, or anywhere else in Canada. Good ideas do not stop at lines on the map, and neither should our willingness to learn from one another.

Throughout my presidency, I hope we continue strengthening our partnerships with the American Public Works Association (APWA) and expanding our relationships with public works professionals across Canada and around the world. If we can help connect municipalities, organizations, and professionals who share challenges, our Chapter will play a vital role in advancing public works far beyond our provincial borders.

Collaboration in action

In early July this year, the City of Kenora experienced a significant storm that brought intense rainfall, damaging winds, hail, widespread flooding, fallen trees, and extensive impacts to municipal infrastructure. I want to recognize the incredible dedication of the City of Kenora Operations Department during that response. Everyone worked tirelessly to restore access, respond to emergencies, protect critical infrastructure, and to help our community begin recovering. Watching our teams come together with professionalism, resilience, and an unwavering commitment to public service helped to remind me why I am so proud to be part of this profession, and the response demonstrated what public works is truly about: neighbours helping neighbours in times of need.

The road ahead

As I begin my journey as President of the CPWA Manitoba Chapter, my commitment is simple. I will work to ensure that every initiative we undertake delivers meaningful value to our members. Whether through education, networking, advocacy, leadership development, or collaboration, our focus must always remain on supporting the professionals who make our communities stronger every day.

I am excited about what lies ahead, and I look forward to working alongside our Board of Directors, volunteers, committee members, sponsors, industry partners, and members as we continue building upon the proud legacy of our chapter. Thank you again for the opportunity to serve as your President. I am honoured to represent this outstanding organization, and I look forward to everything we will accomplish together.

Keenan Boles
President-Elect
Canadian Public Works Association, Manitoba Chapter

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WEBSITE
https://manitoba.apwa.org/

Did you know that Manitoba is the longest serving of the Canadian Chapters and has been providing a forum for practitioners since 1955? We actively support our membership, the public, and policy makers to collaborate and maintain healthy communities throughout the province.





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A Message from the Alberta Municipal Supervisors Association

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Visit www.amsapw.ca to learn more about AMSA's more than 40-year history of advocacy, sharing best practices, and training.

Many municipalities across Alberta have faced significant pressures over the past few months. Extreme weather events, wildfires, increasing demands on aging infrastructure, budget constraints, and workforce transitions have each tested our communities in new ways. At the same time, residents continue to expect reliable service delivery, safe transportation networks, clean drinking water, effective stormwater management, and well-maintained public spaces.

As communities continue to grow, age, and evolve, public works departments are increasingly being called upon to do more with limited resources. This reality highlights the importance of strategic planning, asset management, and long-term infrastructure investment.

Technology is also transforming the way we work. From advanced asset management systems and GIS (Geographic Information Systems) mapping to fleet optimization tools and real-time operational monitoring, public works professionals are leveraging modern technologies to improve efficiency, enhance service delivery, and support informed decision-making.

Equally important is investing in people. Across the province, many municipalities are navigating workforce transitions as experienced employees retire, and a new generation enters the profession. This is why knowledge transfer, mentorship, and leadership development have never been more important. By creating opportunities for learning and professional growth, we can ensure the next generation of public works leaders is equipped to meet the challenges ahead.

This commitment to professional excellence is one of the reasons I am proud to be a member of the Alberta Municipal Supervisors Association (AMSA). For more than 40 years, AMSA has supported public works professionals through advocacy, education, networking, and professional development opportunities. Our mission is to help members strengthen their skills, enhance service delivery within their municipalities, and advance their careers in public works leadership.

Taking place November 3-5, 2026, at the Edmonton Convention Centre, this year's Fall Conference will focus on leadership development and equipping members with the skills needed to take the next step in their careers. Convention attendees will benefit from technical presentations, industry updates, and legal discussions on emerging issues that impact municipal operations and public works professionals.

Public works has always been a profession built on service. It requires problem solvers, innovators, leaders, and team players who understand that the work they do today shapes the communities of tomorrow. The challenges ahead are real, but so are the opportunities. By investing in infrastructure, embracing innovation, supporting workforce development, and working together as a profession, we can continue to build stronger, safer, and more resilient communities across Alberta.

Travis Wierenga
AMSA President



From Risk to Response:

Managing Severe Allergies at Work

By the Canadian Centre for Occupational Health and Safety (CCOHS)

Sahil works as a traffic signal technician and worries about his allergy to bee stings when working outdoors. Likewise, Nina, an office administrator, feels anxious about eating in the shared lunchroom because of her nut allergy. If exposed to these allergens, both workers could have severe reactions, known as anaphylaxis.

Anaphylaxis is a safety issue at work when there is a risk of exposure to allergens. Many allergic reactions are localized and mild such as affecting only the skin. However, anaphylaxis is a life-threatening allergic reaction that can develop quickly. It can affect many different body organs and systems, such as the airways or the heart. Even those with a history of mild or no reactions can suddenly experience anaphylaxis.

According to Food Allergy Canada, anaphylactic reactions due to food allergies impact more than three million people in Canada alone – a number that doesn't include those who have other allergies, including to chemicals or venom from insects.

Anaphylaxis can occur within seconds or minutes of an exposure and can cause a sudden drop in blood pressure, swelling of the throat, difficulty breathing, and rapid heartbeat. Other symptoms can include itching or swelling of the lips, tongue, palate, or eyelids; itchy, watery eyes; hives and itching, flushing, or swelling of the skin; stomach cramps, nausea, vomiting, diarrhea; and weakness, faintness, and loss of consciousness.

Have an allergy? Here's what you can do

If you have an allergy like Sahil and Nina do, let your manager know. Share details about the causes and nature of the allergic reaction and any emergency steps you might need, like using an epinephrine injector to slow or stop an anaphylactic reaction This information should be provided to you by your healthcare provider. Always keep your injector nearby and tell your manager and coworkers where to find it in case of an emergency.

Remember to store your injector away from light and extreme temperatures and replace it immediately when it expires. Wearing a medical alert bracelet or necklace that indicates your allergens can also be helpful during an emergency.

Getting involved in workplace health and safety or social committees can further promote allergy awareness. When planning events, like the next staff potluck, suggest designating allergen-free eating areas so everyone can participate.

The role of management

Try to avoid using allergens in the workplace or reduce workers' exposure as much as possible. For Sahil, this may include scheduling work away from a known beehive, especially if it's likely to be disturbed.

Other measures can include introducing a buddy system, so Sahil is not alone during an emergency. Also, make sure nearby co-workers know the symptoms of an anaphylactic reaction and how to get help. This may include locating injectors and calling first aid personnel or first responders.

Get permission in advance from workers with allergies to provide first aid in an emergency. If using the injector, workers should be trained on how to administer epinephrine correctly.

It's important to identify and address hazards associated with allergen exposure in the workplace. Also consider hazards during a severe reaction like fainting while working on a ladder and falling.

There are many things you can do to control allergens. Replace products containing allergens such as chemical sensitizers with safer alternatives. Proper ventilation and high-efficiency particulate air (HEPA) filters can help remove some airborne allergens. Store allergenic materials separately and reinforce proper hand washing, cleaning and disinfecting, and safe food handling. Appropriate personal protective equipment and clothing are also important.

Responding to an emergency

Having an anaphylaxis action plan in place, along with drills and regular training, can help everyone feel prepared for an allergy-related emergency. The response plan should clearly outline the roles and steps to take for swift action to quickly administer the epinephrine.

Having an anaphylaxis action plan in place, along with drills and regular training, can help everyone feel prepared for an allergy-related emergency.

Follow the manufacturer's instructions for safe use of the drug, which is usually injected into the thigh. Monitor the worker's condition while waiting for emergency assistance. If the worker's breathing or heart stops, trained first-aid personnel should provide cardiopulmonary resuscitation (CPR).

Have the worker lie down, loosen tight clothing, and cover them with a blanket. Do not give them anything to drink. Watch for vomiting or bleeding and turn them on their side to prevent choking.

Make note of when the shot was administered and put the used injector back into its original packaging to give to emergency responders. Handle the injector carefully to avoid the risk of injury or infection.

By sharing concerns about their allergies and being clear about their needs, Sahil and Nina were able to get the support they needed to feel safe and secure at work. In response, policies and action plans were put into place to help prevent exposure to allergens and manage reactions, giving everyone in the workplace peace of mind.

The Canadian Centre for Occupational Health and Safety (CCOHS) promotes the total well-being – physical, psychosocial, and mental health – of workers in Canada by providing information, advice, education, and management systems and solutions that support the prevention of injury and illness. Visit www.ccohs.ca for more safety tips.





When Workers are Hurt, the Impact Goes Beyond Injury

By Alexandra Skinner, WorkSafeBC

In municipal public works, injuries often result from routine field conditions, including slips and falls on uneven or outdoor surfaces, strains from lifting and handling materials, repetitive tasks, and exposure to traffic, heavy equipment, and changing weather. Workers may also encounter higher-risk hazards such as toxic gases, confined spaces, working near water, and working at heights. Additional concerns include working alone, interacting with the public, and dealing with aggressive behaviour.

When an incident occurs, the most serious impact is on the worker – an injury can affect their health, their ability to work, and their daily life. But these incidents also have broader effects. They can disrupt service delivery, delay projects, increase overtime and training costs, lead to administrative penalties from WorkSafeBC, and ultimately affect the insurance premiums that municipalities pay to WorkSafeBC.

The upside of strong safety practices

"Public works environments are complex, with workers performing a wide range of tasks across different locations and conditions," says Michael Paine, Manager Prevention Programs and Services at WorkSafeBC. "When employers focus on identifying risks early and supporting workers effectively after an injury, it benefits both workers and the organization."

WorkSafeBC insurance premiums are influenced by several factors, but two important ones are the following:

- The base rates for municipal public works are set using claim costs across all local government and related operations in British Columbia. This means fewer and less severe injuries across the entire sector can lower the base rate for all municipalities.
- An individual municipality's premium is influenced by its own claims history over time. If claim costs remain consistently lower than similar municipalities, a municipality may earn a discount; if higher, it may pay a premium. Rates reflect trends over multiple years, not a single incident, meaning consistent prevention and return-to-work practices drive long-term savings.

Strong safety performance can lead to meaningful savings. For example, in British Columbia, a municipality with $100 million in payroll and average performance would pay $3,710,000 at a base rate of $3.71, but could pay:

- As little as $1,855,000 with strong safety performance and low claim costs; or
- As much as $7,420,000 with frequent or severe claims.

In short, preventing injuries protects workers and helps municipalities maintain essential services. Over time, it can also help control costs across the sector and stabilize individual premiums.

Prevent injuries and support safe return to work

The most effective way to control injury-related costs is to prevent injuries

in the first place and support workers in returning safely when one occurs.

Employers can meet their prevention responsibilities through practical, consistent actions, including:

- Maintaining safe walking and working surfaces, including managing weather-related hazards.
- Implementing a job task rotation plan to minimize ergonomic risks to workers.
- Ensuring proper traffic control and visibility for roadside work.
- Providing regular training and clear safe-work procedures (e.g., confined space entry and exit).
- Implementing policies and supports for working alone, such as check-ins and monitors.
- Ensuring workers are trained in the proper use of respirators.
- Encouraging workers to report hazards and concerns early.
- Holding regular safety meetings and working with Joint Health and Safety Committees to identify and address risks.

Collaborative and supportive return-to-work practices also matter. Helping injured workers come back to suitable or modified duties supports recovery, maintains income and job security, and can reduce claim duration and costs. For municipalities that rely on experienced crews to deliver essential services, this can make a meaningful difference to operations and workforce stability.

Tools and resources to support municipalities

WorkSafeBC offers practical tools to help employers identify risks and strengthen their programs, including the *Employer Safety Planning Toolkit* and guidance on developing effective health and safety programs.

Employers can also access industry data to better understand injury trends, identify high-risk activities, and see how prevention and return-to-work efforts influence outcomes over time.

In addition, the BC Municipal Safety Association provides sector-specific training, resources, and advisory services tailored to public works and municipal operations.

The bottom line

Creating a safer workplace is more than compliance. It's about protecting the people who keep communities running – from roads and utilities to parks and public spaces.

It also supports a healthier, more engaged workforce. When workers feel safe and supported, it can improve morale, reduce turnover, and contribute to stronger team performance.

It's also a sound financial decision. Fewer injuries mean lower claim costs. Lower claim costs help stabilize insurance premiums. And stable premiums allow municipalities to reinvest resources into infrastructure, services, and the communities they serve.

Alexandra Skinner is the Manager, Government and Media Relations at WorkSafeBC.



Local Government Utility Services on First Nations Lands*



By Sonia Sahota & Aidan Andrews, Civic Legal LLP

Imagine, if you will: a First Nation is looking to provide services to the residents of its land base; a nearby local government just so happens to provide those services – in fact, it's pretty much the only provider around – to its residents on the other side of the boundary. It's not unthinkable that provision of the local government's services to the First Nation could be arranged. Indeed, it's a common occurrence. What follows are some points to consider when this sort of arrangement is contemplated or in the works.

What's so special about this issue?

The reason provision of local government utility services on First Nations lands is an issue at all stems from the division of powers under the *Constitution Act, 1867*.[1] Sections 91 and 92 of the Act establish the exclusive authority of Parliament and the provincial legislatures, respectively, to legislate in various areas. Under s. 91(24), it falls to Parliament exclusively to make laws in respect of "Indians, and Lands reserved for the Indians.[2]" Of course, this does not mean that only federal laws apply to Indigenous people. Provincial laws of general application – that is, laws that do not specifically affect "Indians" as a discrete Constitutional subject matter – do apply to Indigenous people.

On the other hand, provincial laws and bylaws purporting to regulate First Nations lands and their use have no effect. A municipal zoning bylaw, for instance, does not apply to First Nations land.[3] Hence, if a local government intends to provide a service on First Nations land, it will need to do so cognizant that it lacks independent authority to supply or regulate that service on that land.

"Common carrier" considerations

Local governments can tend toward the view that, "if it's out of my jurisdiction, I don't have to provide it." However, the picture is more complex. Canada's courts have established that local governments that are the primary provider of essential services may be bound by certain common law duties of a "common carrier". What this means is that, where a local government provides a service for a fee without discrimination between users, it may not just decide to treat any willing user differently – even though there might appear to be good reason for doing so. As a result, local governments will still be required to provide services to land owned by the federal government in exchange for reasonable payment, notwithstanding that the federal government is not a taxpayer.[4]

The circumstances are similar where a service is being provided to a First Nation. Whether the positive obligation to provide services arises in the first place will depend on the relationship between the two entities, but once those services have been provided, a local government may have a duty to continue providing those services, at least so long as the First Nation's ability to provide those services itself remains limited. In the case of *Tsawwassen Indian Band v. Delta*,[5] the BC Court of Appeal held that fire protection services provided to relatively populous First Nations with the power to raise revenue through taxation could be terminated on reasonable

notice. Again, depending on the exact circumstances, the period for reasonable notice may be lengthy, a year or more, such as where alternative services cannot be established or procured on shorter notice.

Regulating by contract

As noted earlier, a local government generally lacks regulatory authority over First Nations lands. As a result, if a local government wishes to regulate how services are used once received, it will need to do so through contract. This can be done in various ways. For instance, the services contract might state all of the regulations that will apply to the service – these regulations may differ from those applicable in the local government's boundaries under bylaw. While this allows the local government to enforce the regulations through contractual remedies (e.g., damages for breach), it has the downside that, if any regulatory changes are required, the contract will need to be amended.

In some cases, it might be sufficient for a services contract to bind a First Nation to comply with a local government's regulatory bylaw or policies. However, in many instances, regulations will target individual users (e.g., each household supplied with water), for whose actions the First Nation will not typically be responsible. Local governments will struggle to enforce their regulations against individual users on First Nations lands, as they will not be parties to the contract. The better solution in these cases may be to require the First Nation, by contract, to adopt, maintain, and enforce its own regulatory instrument that parallels that of the local government. The local government can then outsource enforcement of its regulations to the First Nation, allow for regulatory changes without the need to amend the contract, and retain the availability of contractual enforcement remedies against the First Nation.[6]

Conclusion

Special considerations will apply where a local government intends to provide utility services on First Nations lands, due in large part to lack of local government regulatory jurisdiction, but thoughtful contracting can address many resulting difficulties. When in doubt, seek legal advice!

This article is intended for the general information of organizations in British Columbia. If your organization has specific issues or concerns relating to the matters discussed in this article, please consult a legal advisor.

Sonia Sahota is a Senior Solicitor and founding partner at Civic Legal LLP, a British Columbia law firm with expertise in municipal law, land development, construction, procurement, and complicated contract matters. Aidan Andrews is an associate lawyer with Civic Legal and has a general municipal practice. Visit www.civiclegal.ca for contact and additional information.

References:

* First Nations lands or land bases described in this article refer to reserves under the *Indian Act*, R.S.C. 1985, c. I-5, as well as non-reserve lands held under self-government agreements or treaties.

1. 30 & 31 Vict., c. 3.
2. The Supreme Court of Canada has established that the term "Indians" includes First Nations people – whether they have status under the *Indian Act*, R.S.C. 1985, c. I-5 or not – as well as Métis and Inuit people: see *Reference as to whether "Indians" includes in s.* 91 (24) *of the B.N.A. Act includes Eskimo in habitants of the Province of Quebec*, 1939 CanLII 22 (SCC), [1939] S.C.R. 104; *Daniels v. Canada (Indian Affairs and Northern Development)*, 2016 SCC 12.
3. See, e.g., *Corporation of Surrey et al. v. Peace Arch Enterprises Limited and Surfside Recreations Limited*, 1970 CanLII 1870 (BCCA).
4. See *Minister of Justice for Canada v. City of Levis*, 1918 CanLII 402 (UK JCPC).
5. 1997 CanLII 1097 (BCCA).
6. Note that regulatory compliance may be an important factor when it comes to termination of services – and what constitutes reasonable notice for the same.



Upcoming **Events**

APWA Alberta Chapter Equipment Roadeo and Tradeshow
September 3-4, 2026
Olds, Alberta

2026 CPWA Manitoba Golf Tournament
September 17, 2026
St. Boniface Golf Course
Winnipeg, Manitoba

SPWA Fall Workshop
October 2026
Regina, Saskatchewan

8th Annual PWABC & BCMSA Joint Conference
October 5-7, 2026
Penticton, British Columbia

APWA Winter Maintenance Certificate Courses – Saskatchewan
October 6, 2026
Regina, Saskatchewan

October 7, 2026
Saskatoon, Saskatchewan

APWA Winter Maintenance Certificate Programs, Supervisor and Operator – Manitoba
October 20, 2026
Thompson, Manitoba

October 22, 2026
Russell, Manitoba

2026 APWA Winter Maintenance Certificate Courses – British Columbia
November 2, 2026
Victoria, British Columbia

AMSA Fall Conference
November 3-5, 2026
Edmtonton, Alberta

2027 SPWA Annual Conference and PWville
February 23-25, 2027
Saskatoon, Saskatchewan

2027 North American Snow Conference
April 18-21, 2027
Des Moines, Iowa

Association of Manitoba Municipalities Spring Convention
April 20-22, 2027
Brandon, Manitoba

Alberta Equipment Expo
April 22-23, 2027
Edmonton, Alberta

National Administrative Professionals Day
April 28, 2027

National Public Works Week
May 16-22, 2027

PWX 2027
August 22-25, 2027
Phoenix, Arizona

SPWA Fall Workshop - October 2026

Paving Over Problems: Tools to Handle Conflict on the Job
Regina, Saskatchewan
Time and dates will be announced at https://saskatchewan.apwa.org/ when available.

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Balancing Winter Service Realities and Public Expectations in Maple Ridge

By Kirk McLeod, Manager of Sewers, Drainage, Fleet and Operations, City of Maple Ridge

Winter maintenance is one of the most visible services a city can provide, and residents often judge it from a single location: the road in front of their home, the sidewalk to a school, the route to a bus stop, or a cul-de-sac awaiting a plow. However, a community's winter service must be delivered across an entire network, with limited staff, equipment, and time, and within a defined hierarchy of priorities.

So, as the City of Maple Ridge, British Columbia, prepares to adopt a new Snow and Ice Control policy, one of our central challenges has been balancing public expectations with operational realities and municipal liability.

The new policy is built around a simple idea, that winter success is not bare pavement everywhere, but rather 'Good Winter Condition' – roads that remain navigable when driven safely, with crews focusing first on the routes most critical to safety, transit, and access.

"A winter maintenance policy is where operational reality meets public expectation – and those two things are not always the same," says Maple Ridge Manager of Roads, Frank Gratzer.

Winters are not created equal

Winter in southwest British Columbia differs significantly from cities like Edmonton or Regina, where prolonged cold seasons shape infrastructure, equipment planning, and public expectations. In cities like Maple Ridge, winter events are shorter and more episodic, and feature wet snow, slush, freeze-thaw cycles, and rapidly changing temperatures. Snow may also melt quickly in one neighbourhood and linger in another.

This context shaped a service approach built around priority, resources, and function. In Maple Ridge, the City begins with the roads most critical to safety and mobility, then expands to other key routes, with local roads addressed later as conditions and resources allow. However, resident expectations are often immediate, with many residents expecting bare asphalt within hours of a storm – even on local residential roads.

Our new policy reflects that difference in perspective. It does not promise uniform or simultaneous service across the city. Instead, it allows city managers to determine appropriate snow control measures based on conditions, weather forecasting, operational procedures, and available resources. Snow control may include anti-icing, plowing, removal, and de-icing, all at the manager's discretion. Snow removal itself is explicitly discretionary due to resource capacity.

The policy describes what winter service is intended to achieve while recognizing what it cannot. A functioning winter roadway is not the same as a bare summer roadway. As Gratzer notes, "In Maple Ridge, winter service is delivered system-wide, but it is often judged one street, one sidewalk, and one driveway at a time."

Keeping Maple Ridge on the move

One of the biggest shifts in winter maintenance has been the growing importance of pedestrian facilities, and sidewalks, walkways, stairs, ramps, and curb ramps are now seen as essential parts of the transportation network. In Maple Ridge, this is also where we see our winter claim pressure as residents tend to regard the pedestrian network as a continuous system, regardless of who happens to be responsible for each part.

This shift also aligns with broader accessibility conversations. The *Accessible Canada*



Act has increased awareness that barriers to movement are not only design issues but operational ones. Snow and ice can block sidewalks, curb ramps, crosswalk approaches, bus stop connections, and other routes relied on by seniors, persons with disabilities, transit users, and families without vehicles.

In short, winter service is no longer viewed only through the lens of vehicle movement, but through how well the broader network remains usable for all residents.

Providing insight

Winter maintenance depends not only on plowing and treatment, but also on communication and helping residents understand both their obligations and available supports.

With this in mind, Maple Ridge's snow removal website – www.mapleridge.ca/resident-services/roads-transportation/snow-removal – supports greater understanding by providing clear information on responsibilities and bylaws, as well as by connecting residents with community assistance such as Snow Angels Canada and local churches.

Forecasting and condition monitoring have also become more visible parts of Maple Ridge's winter operations, with road weather information system (RWIS) stations providing localized weather and roadway data that support earlier and more informed decisions on anti-icing, de-icing, plowing, and crew deployment. This aligns with our new Snow and Ice Control policy, which places responsibility on the manager to monitor forecasts, use prediction tools and temperature thresholds, and determine appropriate measures as conditions change. The policy also allows flexible scheduling of operations staff to respond to icy roadways at any time.

These tools improve how quickly priority decisions can be made and how efficiently resources can be directed. Just as importantly, they support faster and more reliable public communication that has become an integral part of winter response.

"Communication before, during, and after a storm has become part of the winter response – not separate from it," says Gratzer.

A Policy shaped by local conditions

Maple Ridge's new Snow and Ice Control policy reflects the local conditions that shaped it: short, disruptive winter events, high road expectations, growing pedestrian and accessibility needs, and public understanding increasingly influenced by real-time communication. It also clarifies responsibilities, confirms where discretion remains, and recognizes that winter service must be prioritized rather than uniform.

Ultimately, developing a winter maintenance policy that protects both the City and residents requires balancing mobility, liability, accessibility, communication, and public trust.

Kirk McLeod is the Manager of Sewers, Drainage, and Fleet and previous Roads Manager for the City of Maple Ridge. With 28 years of experience in civil and municipal operations., he brings practical leadership to infrastructure, utility, transportation, and fleet services, supporting safe, reliable public works through collaborative, community-focused service.







Busting the Dust in Saskatchewan

By Rod Benroth, Foreman for the Rural Municipality of Edenwold

Across Saskatchewan, dust from traffic on gravel roads is one of the most common complaints from residents, especially those living within 150 metres from the road. This is an issue that affects many small towns, villages, hamlets, and rural municipalities.

For many years, the Rural Municipality of Edenwold shared its dust-control costs with residents and landowners along affected roads. In 2023, the municipality changed the cost share from 50/50 to 80/20, which led to significant complaints from residents living along grid roads and provincially designated over-dimension routes.

The following year, Edenwold reviewed traffic counts from the previous 3 to 5 years and found that some high-traffic roads carried up to 400 vehicles-per-day (VPD). Afterwards, the municipality purchased five traffic counters and deployed additional units on high-volume roads to improve accuracy. Updated counts came in 5 to 15 per cent higher than previously recorded.

In 2024, Edenwold revised its *Dust Control Policy* to classify roads as high, medium, or low volume. For over-dimension routes, residents now pay 20 per cent, the municipality pays 50 per cent, and the province covers the remaining 30 per cent. High-volume roads (defined as 300 VPD or more) were set at a 50/50 cost share. Medium-volume roads (more than 200 VPD, but less than 300) were set at 65/35. Low-volume roads (more than 100 VPD, but less than 200) were set at 75/25. Roads with fewer than 100 VPD received no cost sharing with the municipality. The policy also includes a map to help identify eligible roads.

The policy has now been in place for three years, and applications have dropped from nearly 100 to approximately 70. If a landowner requests dust control but disagrees with the assigned cost share, the Public Works Department conducts a seven-day traffic count to confirm whether the yard site falls within the low, medium, or high-volume category.

Controlling the dust

Over the last 20 years, Edenwold has used magnesium chloride for dust control – first from a supplier in Saskatoon and, later, from a supplier in Manitoba. The contractor delivered the product and then worked with the RM Foreman to apply the product on gravel roads throughout the Edenwold region. After the application deadline, the municipality inspected each site to confirm there was enough gravel, then sent graders to shape the road and restore a proper crown for drainage – a critical step before applying magnesium chloride.

Scheduling could sometimes be difficult when several municipalities in the area needed service at the same time, and delays were typically about two weeks.

For landowners on a grid road carrying 400 VPD – or more – that delay was unacceptable.

Changing tactics

At the 2024 Saskatchewan Association of Rural Municipalities (SARM) convention, some councillors saw alternative dust-control suppliers and decided to test other methods that might suppress dust without using magnesium chloride.

Three test sites were selected: two on Grid 624 (a mile north and another about one mile east of Pilot Butte) and one on Grid 624 (approximately three miles south of Emerald Park near TC Energy Station 17). At the first two sites, we added two inches of ground asphalt shingles to the existing gravel surface, bladed the material, added water, and compacted it using two wobbly rubber-tire packers. At the third site, we applied used canola/vegetable oil collected from restaurants. A summary of the test sites follows.

Site #1 Grid 624 (467 VPD): Posted speed limit 80 km/hour

The asphalt shingles performed well, but after one or two months of dry weather, some of the material moved to the shoulder, and at higher speeds some material was thrown into the ditch. The section held up well in 2025 if it was bladed every six to eight weeks, watered, and packed.

In 2026, Council decided to add another 2.5 kilometres of shingles to the existing 700-metre stretch off the pavement. After discussions with the supplier, they recommended blending the shingles with gravel to a depth of at least 2-3 inches, then watering and compacting the surface.

Site #2 Township Road 180 (257 VPD): Posted speed limit 40 km/hour

This site received an initial two-inch application of asphalt shingles in summer 2024 and has since performed extremely well. We bladed the road in the spring of 2025 and 2026 and, later this summer, we plan to add another 10 tonnes of material and mix it with the existing gravel.

Site #3 Grid 624 (223 VPD): Posted speed limit 80 km/hour

This site received recycled canola/vegetable oil collected from restaurants in the region. The supplier recommended an application rate of two litres/m^2 in the first year, followed by one litre/m^2 in each of the next two years.

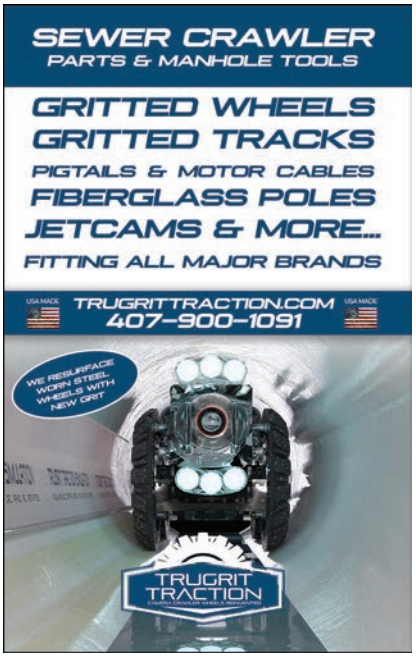
The road was originally a double chip-seal road with about four inches of gravel below it. The chip seal was roto-mixed using a mulcher, watered, and recompacted with wobbly rubber-wheeled packers. The used oil performed well but it took time to set and penetrate the surface. Traffic was permitted back on the road within ten minutes, but vehicles picked up the oil immediately and small potholes developed in the centre of the road within a month. Ideally, traffic should be kept off the surface for at least 30 minutes after application before switching to the other side of the roadway.

Conclusions

In summary, there are several alternatives worth investigating. These test sites taught us invaluable lessons about how to extend the life of the materials and how best to maintain them on gravel roads.

In 2026 so far, we have completed 65 sites, with magnesium chloride used on most of them. While it may not be the best environmental option, it remains the most cost-effective at about \$0.84/m^2, compared with \$1.67/m^2 for recycled asphalt shingles and \$1.77/m^2 for used canola/vegetable oil. ◗

Rod Benroth is the Foreman in the Public Works Department for the Rural Municipality of Edenwold # 158, located 20 minutes east of Regina, Saskatchewan. He has more than 30 years of experience in the municipal and transportation sectors while working for consultants, municipalities and general contractors.







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95555 (3.78 L / 1 gal. Pump incl.)	***95590*** (Dually Reverse Chuck Installation Tool)	***95599*** (Pneumatic Pump for ***95579*** Tote)

- Permanently seals punctures
- Will often seal small sidewall punctures in Off Road Tires
- Seals 6 mm (1/4") punctures in lighter ply tires
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- Easy clean out for recapping & patching
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- Works with TPMS sensors
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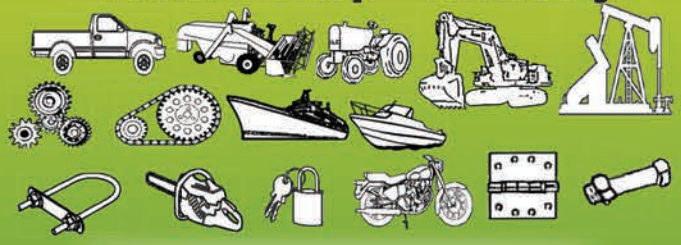
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MADE IN CANADA



A Tale of CentrePort's Twin Caissons

ABOVE: The CentrePort South Regional Water and Wastewater Servicing Phase 1A project delivers the core wastewater and water-servicing backbone needed to support early development in CentrePort South. Photos courtesy of J-Con Construction.

By Darren Wanless, Wanless Geo-Point Solutions

Located in Winnipeg and Rosser, Manitoba, CentrePort's strategic location at the junction of multiple transportation corridors links global trade markets – including a consumer population of 100 million people living within a 24-hour drive. Our goal was to deliver a new wastewater lift station to support continued growth. The project is officially named CentrePort South Regional Water and Wastewater Servicing Phase 1A, but I like to refer to it as "the Twins." First, a bit of history. When I first met Justin Jones in 2008, he was working for the former Nelson River Construction Company. Justin made quite the impression on me. He was involved in setting up machine control and wanted to automate everything; he couldn't understand why everyone wasn't doing the same.

Fast-forward to today. Justin is the owner of J-Con Construction, a young but formidable branch on the heavy construction tree. He started his company with a loader and is now tackling the Twins – one of the most challenging projects his company, or mine, have ever taken on. Whenever I get a call from Justin to perform survey services for him, I know it will be interesting, and I am never disappointed.

When asked what the project means to him, Justin said, "This project has been an ideal opportunity to demonstrate our capabilities and produce our best work, which is guided by the valuable experience we've gained from working on other complex and significant local infrastructure projects over the years."

The scope of the Twins

The task was to sink two 16-metre (53-foot) rib and board shafts that extended through a fractured upper strata layer that produced significant groundwater flows. This was effectively managed by J-Con's dewatering and cementitious grouting; dewatering was near-continuously maintained for more than a year.

Wanless Geo-Point Solutions was hired to maintain checks as the ribs were added to each previous bottom ring and, in the beginning, we used a method of plumb bobs in oil and a laser scanner. Once the required depth was achieved, our method of plumb bob and total station surveying was used for checks and layout. This old-school method proved to be the simplest and most reliable way to quickly repeat, especially during the winter months.

Once the ribs and lower section were in place and stable, we could then place control points where they were accessible and, once at the required depth, additional horizontal digging took place. A section of the bedrock was removed to connect the shafts for piping between the wet well and dry well, and a 2.4-metre diameter, 17-metre conventionally-supported rock tunnel was precisely driven to intercept an existing 1,200-millimetre sewer stub to the south, and a 2-metre stub to the north.

In addition, the design also called for complex, High-Density Polyethylene (HDPE)-lined engineered formwork requirements for the 3.6-metre diameter, which was located in the cast-in-place concrete wet well structural scope.

Keep in mind the two shafts had a separation of only 0.65-metres between the two top rings and at the bottom connection. Both shafts were dug simultaneously by a mini-ex lowered by an excavator with a boom jib, which was later supplemented by

a custom hydraulic winch to reach the lower depths. Each successive ring was lowered in three separate pieces, assembled, and hung from the previous ring using rods, while wood cribbing was secured between the rings and subsequently grouted in place. The wet well required cast-in-place construction, while the dry well was much more challenging. It required installing a 3.6-metre diameter, 18-metre high, fiberglass reinforced plastic (FRP) dry well structure that required an engineered, two-crane lift plan. Delivered to the site horizontally, the FRP needed to be carefully aligned vertically before being turned to the correct orientation and descending into the lower concrete curb waiting at the east Twin.

And yes, they put the right end in on the first try.

At just a single acre in size, the site is not overly large, so it was very busy at times. Other construction activities were being completed elsewhere on the site during the shaft sinking, including raising the entire site grade by 1.5-metres and installing a land drainage system (LDS) and drainage works.

Other aspects of the project included adding limestone shear keys and gabion walls at the perimeter of the site; rock-socketed, drilled concrete piles; helical steel piles for the lift station; 60-metres of force main sewer; and a connection to a previously installed 450-millimetre PVC force main. A cast-in-place valve chamber for the force main was also installed.

Project challenges

From a surveyor's point of view, our biggest challenges were the tight back sites and turning angles in the shafts. The cold weather was also a hurdle and, in the winter months, the freezing water droplets would begin to form on our total station and plumb line, which was tedious.

The visits to the crews in the bottom was quite enjoyable for most, although not for those with issues going deep underground. As the shaft got to the lower levels, we had one employee ask to not be sent down. For those who braved the bottom, however, they had a chance to see fossils embedded in limestone bedrock, and more than a few rock samples made their way into people's pockets making for unique, as well as historic, souvenirs.

The lower sections of steel ribs and cribbing were sacrificed with the backfill, although the top three metres were removed to reduce any future conflicts at the surface.

As of today, and at this point in the project, more than 120 project technical submittals – such as shop drawings and RFIs – were provided by J-Con to the owner's engineer, KGS Group, including numerous contractor-engineered submissions.

This project reminded me of the younger version of Justin I first met years ago: always looking to innovate, to try something new, and to stand out by taking on the most difficult projects. ◗

Darren Wanless is the owner of Wanless Geo-Point Solutions, which provides surveying and geomatics services across western Canada. Wanless is the Past President of the Canadian Public Works Association (CPWA) Manitoba chapter and has been a CPWA member since 1997.





Preparing for Emergencies:

Critical Spares for Primary Watermains

By Negar Hossein Zavieh, MSc. Management (Candidate), University of Saskatchewan, Amanda Munshaw, P.Eng., Engineering Manager, City of Saskatoon, and Hamed Samarghandi, PhD, Professor of Management Science, Edwards School of Business, University of Saskatchewan

The City of Saskatoon operates a network of underground pipes that deliver clean potable water to its residents. Large-diameter primary trunks play a key role in moving water to local distribution mains that service individual residences and commercial properties.

During the summer of 2021, the City experienced three overlapping primary water main breaks which caused a low-pressure situation in the southeast area of the city. The delay in obtaining the necessary replacement parts further prolonged the low-pressure event. Although the pressure reduction was not severe enough to require reporting to the Water Security Agency, it did prompt an investigation into how the event occurred and what could be done to prevent it in the future.

It was found that the City of Saskatoon lacked a supply chain strategy for large-diameter parts, which are not routinely stocked by industry because manufacturers and distributors only produce them on demand to minimize inventory risk and carrying costs. This lean supply chain creates a risk of parts not being available when the City needs them.

The City began exploring ways to reduce the risk of not having critical parts during emergencies, turning to its Research Junction partnership with the University of Saskatchewan for support. A University of Saskatchewan (USask) researcher analyzed Saskatoon's primary water main network focussing on two key areas: identifying high-risk pipes and high-risk parts that should be purchased and stored in a critical safety stock.

Identifying high-risk pipes

The first step in the analysis was to identify which pipe failures would have the greatest impact

on the water system, as not all pipes in a primary network carry the same level of risk. Some sections of the pipe can be isolated and repaired with minimal impact on the surrounding system, while others serve large parts of the city and can significantly affect water pressure if they fail.

Infrastructure risk depends on both likelihood and consequence of failure when evaluating system vulnerability. A pipe only represents a high risk when both the likelihood of failure and the potential consequences are significant.

To better understand the consequences associated with different parts of the system, the study examined how the water network would respond if sections of the primary mains were isolated for emergency repair. Hydraulic modeling was used to simulate these conditions during high-demand periods, typically in summer when water use is at its peak. These simulations helped identify which areas of the network would experience pressure reductions if a specific segment of the pipe was taken out of service.

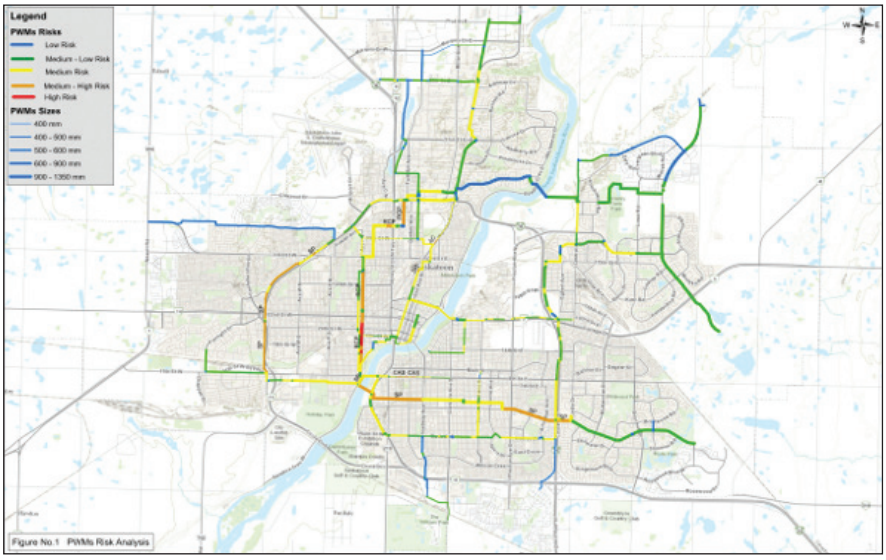
Rather than evaluating individual pipes in isolation, the analysis grouped the pipes into operational isolation segments. By modeling the system response when each segment was taken offline, the City was able to better understand the potential system-wide impacts of a failure.

Once both the likelihood of failure and the consequence of failure were assessed, a risk score was calculated for each individual pipe. These risk scores were then grouped into five categories, ranging from low to high, to provide a clearer understanding of how risk is distributed across the network.

To support the interpretation and communication of the results, the categorized risk levels were visualized on a map. The pipes were color-coded according to their assigned risk category, allowing staff to quickly identify areas of higher risk within the system. This type of visualization helps translate technical analysis into a practical format for planning, communication, and emergency response.

Identifying critical spare components

Once the higher-risk pipe segments were identified, the next step was to determine which repair components would be the most important to keep in stock. Large diameter watermain repairs require specialized parts that suppliers rarely stock, which result in long lead times before they are delivered.



A mapping representation of the risks of primary water mains in the City of Saskatoon.

To better understand these supply challenges, the research evaluated several factors such as manufacturing and delivery lead times, available suppliers, cost, shelf life, and long-term storage requirements. The outcome of this process was a prioritized list of critical spare parts to support emergency repairs.

From analysis to action

The outcome of this work provides the City with a practical framework for managing supply risks associated with large diameter water infrastructure. Rather than trying to stock all possible repair components, municipalities can focus on a targeted group of critical parts that are essential for repairs and difficult to obtain quickly.

Large diameter water main failures are relatively rare events but can have significant impacts on a city and its community, making quick access to key repair components essential for faster restoration of normal water service. Proactive planning and stocking critical parts can help municipalities strengthen the resilience of their water systems and be better prepared when emergency repairs are required.





Edmonton has developed a new digital tool in the battle against its seasonal pothole problems: the Repair Dashboard. Photo courtesy of the City of Edmonton.

A Smarter Way to Fight Potholes in Edmonton

By Paul Adair, Staff Writer

Whether it's in Regina, Kelowna, or Edmonton, municipalities across western Canada all seem to battle the same seasonal, teeth-rattling foe: potholes.

As it is with many municipalities throughout the Prairies, pothole formation is a significant challenge for the City of Edmonton due to frequent freeze-thaw cycles. These cycles allow water to seep into pavement cracks, expand as it freezes, and create voids that collapse under traffic. In 2024, the City of Edmonton filled 537,265 potholes, representing a major investment in time and resources for its public works department.

However, by combining historical data with predictive artificial intelligence (AI), Edmonton is now optimizing its resources, eliminating operational redundancies, and addressing road defects quickly before they escalate. Even better, leveraging data-driven innovation is improving the safety and reliability of its roads for residents.

As part of this, the City's new internal Repair Dashboard marks a significant shift from reactive patching to a more sophisticated and proactive maintenance model.

Filling holes with data

Over the past six years, the Data Science and Research team for the City of Edmonton has deployed more than 75 applied AI projects across the city, ranging from crime prediction to fraud prevention. However, the Repair Dashboard has marked a first for the team as it featured a Computer Science intern leading the project from inception to deployment, under the guidance of the team's senior data scientists.

The initial plan was to outfit public works vehicles with sensors to automatically gather more pothole data as they drove through the city. However, because Edmonton already conducts twice-yearly aerial flyovers that capture high-resolution images of the entire city, the thinking shifted. Instead of installing new hardware to collect fresh data, why not tap into the aerial imagery already on hand to spot potholes, map them accurately, and prioritize repairs far more efficiently?

"With aerial photos, however, it's difficult to distinguish a pothole from something like a black plastic bag on the road, and we couldn't always tell whether a defect had already been repaired," says Data Science and Research team lead, Kris Andreychuk. "We ran a series of quick iterations in Repair to test different approaches and eventually landed on the method we use today. It's the simplest of the options we explored, but without question, it's proven to be the most effective and impactful."

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Bridge Building Made Easier with Acrow

By Paul Adair, Staff Writer

With its broad portfolio of modular steel bridging solutions for permanent, temporary, and emergency applications, Acrow has been a leader in Canadian bridge infrastructure since the 1960s. Over that time, the company has supported more than a thousand projects coast to coast across Canada. Its versatile structures have been used for vehicular, pedestrian and rail applications, as well as specialized systems that support utilities or protect covered bridges during rehabilitation.

"We're seeing increasing interest in modular bridge solutions because owners and contractors are looking for faster construction timelines, lower lifecycle costs, and resilient infrastructure that can perform reliably in demanding environments," says Acrow Business Development Manager – Western Canada, April Woffindin. "That aligns very well with Acrow's experience and capabilities, and our advantage lies in our deep engineering expertise to do this quickly, safely, and efficiently in support of the customers and communities we serve."



After the existing bridge over the Morris River was closed in 2025, MTI turned to its Acrow modular bridge inventory for a solution. Photo courtesy of Acrow.

An adaptable solution

Ideal for rapid river crossings, Bailey Bridges were one of the most important pieces of military engineering used in the Second World War and were critical in replacing destroyed bridges and supporting heavy armour deployment.

But modern modular steel bridge technology has advanced significantly from these early modular bridge systems.

Over the last 75 years, Acrow has been at the forefront of this evolution, and the company has developed one of the most sophisticated suites of modular bridging systems available today. Thanks to improvements in engineering, high-strength steel, and precision manufacturing, these bridges today are lighter, stronger, and available in longer clear spans.

What sets Acrow's proprietary bridge system apart from traditional construction methods, however, is a combination of speed, durability, and versatility, as well as an ability to address multiple vehicular needs and load requirements. Because Acrow's components are pre-engineered and modular, they can be rapidly configured to meet project-specific needs and installed far more quickly than conventional bridge solutions. These components can also be disassembled, relocated, or reused to offer long-term value for agencies responsible for maintaining transportation networks.

"Our pre-engineered bridges can be installed quickly with minimal site disruption and are an excellent option for Canada's challenging conditions, including remote locations, short construction seasons, and harsh climates," says Woffindin. "The combination of rapid installation, proven performance, and adaptability is what makes Acrow's modular steel bridging such a strong solution for Canadian infrastructure projects."

Beyond rapid deployment, these temporary detour structures also enhance safety for motorists and workers, shorten overall construction timelines, and reduce disruption for the traveling public. Faster project delivery can also deliver significant environmental benefits by limiting congestion, delays, and prolonged on-site construction activity.

No bridge too far

Rather than relying on a single standard design, Acrow leverages the versatility of

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its modular systems to develop customized solutions for a wide range of applications, tailoring each configuration to the project's unique technical and operational needs.

A recent project near Brunkild, Manitoba, tested Acrow's adaptability after the existing bridge over the Morris River was closed in September 2025 due to geotechnical instability. Manitoba Transportation and Infrastructure (MTI) needed a safer and more sustainable detour, rather than divert heavy highway traffic onto local residential roads.

"For the PTH 3 project near Brunkild, MTI needed a solution that could be deployed quickly while still supporting a well-traveled provincial route," Woffindin said. "The modular nature of the 700XS® allowed MTI to configure a bridge specifically for the site's needs and made it possible to customize the structure to provide the strength and durability needed to safely carry ongoing highway traffic."

MTI's significant inventory of Acrow components helped accelerate the project's timeline. With crane assistance, the bridge was launched and opened to traffic in November 2025 – restoring a safe route for motorists and reducing impacts on local roads and the surrounding community only weeks after the original bridge's closure.

The Brunkild project also emphasized the value of having modular bridge assets readily available. Maintaining inventory enables owners to respond quickly in emergencies and supports planned infrastructure work where maintaining access is essential and alternate routes may be limited.

"Because our systems are pre-engineered and modular, bridges can be mobilized and installed far more quickly than would be possible with traditional construction methods," says Woffindin. "In many cases, our bridges can be operational in a matter of days or weeks, rather than the months or years often required for traditional bridge construction methods."

Maintaining modular bridge inventories also strengthens municipal resilience planning. Readily available components allow owners to respond quickly to emergencies while supporting planned projects that require continuous access. However, modular steel bridges are not limited to temporary or emergency use and can also serve as long-term infrastructure assets with service lives of 75 years or more.

"In addition to supporting emergency response efforts, they are also highly effective as detour structures during planned construction projects or can be installed as permanent bridges, allowing owners to benefit from their investment – long after the initial emergency or disruption has passed," says Woffindin.

To learn more about Acrow's permanent and temporary bridging solutions, visit www.acrow.com or call April Woffindin at (780) 964-1723, to learn more about product information, project case studies, and examples of how modular steel bridging is helping communities worldwide address critical infrastructure needs. ◗

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Repair's prescience is built upon a mountain of data that helps inspectors and city crews predict where potholes are most likely to emerge, which promotes a more proactive investigative and repair model. With this information, Repair can instantly determine whether a report was new or a duplicate and, while it sounds simple, this eliminates approximately 20 per cent of an inspectors' workload by cutting the time they used to spend cross-checking reports by hand.

"In 2024, the dashboard identified 1,559 duplicate notifications out of 7,544 total reports," says Matthew Mohr, General Supervisor, Mobility Infrastructure Maintenance with the City of Edmonton. "Eliminating these duplicates saved significant inspection time and allowed those resources to be redirected to actual repairs."

Of course, the Repair dashboard is unable to predict where every pothole is – or will be. But with the tool, the City is now better positioned to anticipate where potholes might form, long before requests are made to Edmonton's 311 service. In many cases, the initial road issue might be tiny or barely noticeable, but the quick identification and repair of those early-stage defects before they grow, can prevent them from turning into the kind of potholes that result in real damage to vehicles.

"An ounce of prevention is worth a pound of reaction, and it just makes good sense all around if we can be more proactive and get to these things quicker," says Andreychuk. "From a science perspective, the model is extremely accurate, and we hear from our operational teams who tell us, 'You pointed us exactly in the direction where we needed to go.' So, we know the system works and we know that it's making a difference."

A positive response

The Repair dashboard has been well-received by staff because it streamlines what was once a labour-intensive, manual cross-referencing process and replaces it with a clear, user-friendly experience.

"We aim to build tools that become truly indispensable – giving you the same feeling you get when you realize you've left your smartphone at home and know you can't get through the day without it," says Andreychuk. "We also like to build our tools very intentionally with the end user in mind. Repair isn't a new process – it's simply a better tool that replaces spreadsheets and paper maps with a single, easy-to-use application to get a clear picture of the week ahead."

While effective, Repair is not meant to replace human insight or community input, and the dashboard works best when paired with the on-the-ground awareness that only residents can provide. As such, resident reporting remains a vital component of Edmonton's dual-maintenance strategy.

"While predictive AI allows us to be proactive, the information provided by Edmontonians phoning 311, the 311 app, and the 311 web portal ensures that our crews can respond to immediate safety concerns," says Mohr. "We continue to strongly encourage residents to report any issues they see, as these real-time data points help refine our predictive models and operational accuracy."

Looking ahead, the City of Edmonton envisions significant opportunities to continue advancing how the dashboard is used to improve services, with future expansions building upon the success seen in the road maintenance program. ◗



RC Mowers' solutions slash labour needs, improve safety, and turn landscape maintenance into a driver of profitability and progress. Photo courtesy of RC Mowers.

Smart Work:

Autonomous Mowers Make the Cut

By Paul Adair, Staff Writer

Founded in 2018 with a mission to make dangerous and labour-intensive mowing work safer and more efficient, Wisconsin's RC Mowers started out designing remote-controlled robotic mowers for steep slopes and hazardous environments where traditional equipment and mowers struggle to reach. The company has since evolved into a leader of autonomous mowing systems, and its product line now includes both remote controlled products and – increasingly – autonomous mowers that operate with minimal human intervention.

"As a company, we are focused heavily on public works, transportation departments, property managers, commercial operations, military bases, airfields, and airports – really anywhere that safety, productivity, and reliability are critical," says RC Mowers' Autonomous Operations Director, Colin Busse.

How the automation works

RC Mowers' autonomous products are very different from the Roomba-style residential autonomous mowers that people might be familiar with. These systems rely on a buried ground wire and a fixed charging station that – once installed – 'live' on a single patch of grass, mowing the same area, day in and day out.

"Our autonomous mower is built for real commercial work," says Busse. "We call it an integrated autonomous mower and it's a large zero-turn machine that's designed to operate as part of a landscape crew or a traditional mowing operation. It can move from job to job, just like any other piece of professional equipment."

The autonomous mower performs best in large, open, and repeatable environments, such as ballparks, airfields, and wide park spaces. These areas can still have obstacles (outfield fences, soccer goals, or other fixed structures) because the mower is designed to recognize and work around them. The autonomous mower uses a combination of GPS positioning and onboard sensors, and the operator defines the autonomous boundaries by driving the perimeter of the area to be mowed. Once that is completed, the operator steps off the machine, engages the automation, and the mower automatically cuts the entire interior of the defined zone.

Then, once that zone is defined, it is saved in the mower's 'memory' forever. When the crew returns to the site, even months later, the operator simply powers on the mower, drives it anywhere inside the mapped boundary, and the automation takes over.

"The system also has built-in safeguards, obstacle detection, and remote monitoring," says Busse. "The operator always maintains oversight, but functionally, it's an independent robot that only needs minimal manual interaction. And this is where the real value comes in."

The benefits of autonomy

The biggest gains municipalities are experiencing with RC Mowers' remote controlled and autonomous technology fall into three main areas: labour efficiency, time savings, and reduced risk and exposure to hazards.

With traditional mowers, public works crews might have one person mowing, another doing string trimming, and another dragging or lining ball fields. With an autonomous mower handling the bulk of the mowing, the operator is freed up to take on those other tasks, which effectively multiplies the productivity of each crew member.

Time savings is the second major advantage, and crews can cover significantly more acreage in less time – especially when several autonomous mowers are deployed at once. In many operations, a single operator can run up to three autonomous zero-turn mowers simultaneously.

"The number one challenge we see is typically around consistent, quality labour," says Busse. "But imagine one operator overseeing three machines mowing a large park while they handle other work on-site; the time savings add up quickly."

The third benefit is related to safety and reduced exposure to risk. Whether it is rolled ankles, sprains, or slips, accidents tend to happen when workers are trimming steep embankments or navigating uneven terrain. But with autonomous and remote-controlled mowers, crews no longer need to put people in those hazardous areas because the machine can handle these kinds of environments safely, with the operator out of harms' way.

RC Mowers canoes into the Canadian market

In February 2026, RC Mowers was awarded a cooperative purchasing contract through Canoe Procurement Group of Canada. This significantly expanding the company's access to the Canadian public sector market by providing municipalities, public agencies, and nonprofit organizations with a faster way to purchase RC Mowers' autonomous and remote-operated mowing solutions.

"Canadian municipalities are under real pressure to do more with fewer people and tighter budgets, while also keeping crews safe," says RC Mowers CEO Michael Brandt. "Through Canoe, we're bringing proven robotic mowing solutions to communities nationwide to help solve those challenges in a smarter way."

With Canoe, municipalities and public agencies can buy RC Mowers' equipment with confidence, knowing that all due-diligence requirements have already been vetted. This makes it easier for public works departments across Canada to acquire remote-controlled and autonomous mowing technology faster and easier than ever before.

To learn more and get a real feel for what the technology can do for you, visit www.RCMowersUSA.com and explore the company's full lineup of autonomous mowing solutions. You can also see the machines in action on RC Mowers' YouTube channel, and you can follow the company on Instagram and LinkedIn for updates, demos, and customer stories.

"I wanted to take 'butts out of seats' that were mowing seven hours, five days a week, and move those dollars to lighting or other necessary items."

– Ken D., Sugar Land Regional Airport

"These machines have been life-changing for our people."

– Robert L., Facilities Maintenance Supervisor, City of Vallejo, CA

"The AMR is not a technology that is going to replace jobs. It supplements our gaps. We still have the need for skilled labour, and the AMRs can mow so our team members have the time and ability to do the detail work they're good at."

– Greg D., Environmental Management Inc.

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