

# ALBERTA INNOVATORS

THE MAGAZINE OF CONSULTING ENGINEERS OF ALBERTA

2022  
SHOWCASE  
AWARD  
WINNERS

SPRING 2022

## LEVEL UP!

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OUR PROVINCE  
DESPITE THE COVID  
CHALLENGE**



**NOT  
WORKING  
9 TO 5**

WHY THE  
WORKING DAY  
WILL NEVER  
BE THE  
SAME AGAIN



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BUDGETS  
AND BIG  
DEMANDS**

ASSET MANAGEMENT,  
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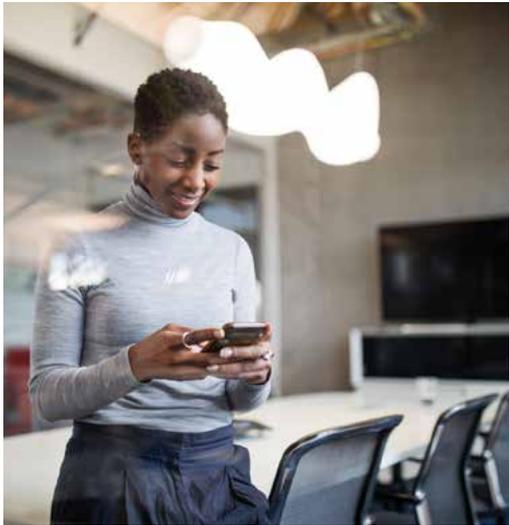
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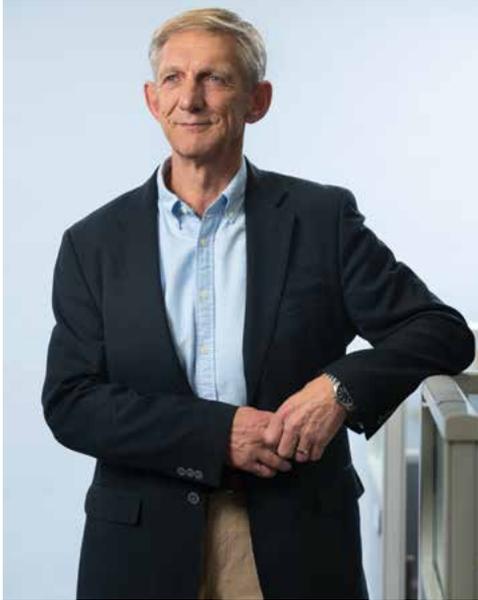
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THE HONOURABLE JASON KENNEY,  
PREMIER OF ALBERTA

## MESSAGE FROM THE PREMIER OF ALBERTA

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**ON BEHALF OF** the Government of Alberta, it is my pleasure to send greetings to readers of the 2022 *Alberta Innovators* magazine.

While the past few years have been tough on our economy, Alberta's Recovery Plan is taking bold action to create jobs that get people back to work, build infrastructure and diversify our economy.

With exciting new projects on the horizon, our province needs the creativity and expertise of consulting engineers to turn plans into reality. Whether you're building structures, creating better computer chips, or using technology to reduce emissions, you are doing more than a job, you're adding more than a billion dollars to our economy, and effecting positive change in our communities.

I'm grateful to the Consulting Engineers of Alberta and its member firms for providing our province with the advancements that will help us create a brighter future.

Thanks to all the contributors to this edition of *Alberta Innovators*, and best wishes in 2022.

A handwritten signature in black ink, appearing to read 'Jason Kenney'.

JASON KENNEY,  
PREMIER OF ALBERTA



## GETTING BACK TO THE GOLDILOCKS ZONE

**WANT TO OFFER** heartfelt congratulations to all the firms and individuals who received nominations and awards at the 25th CEA Showcase Awards Gala. The work we do and the people in our industry are truly inspiring.

I am writing about finding opportunities through change. But first, I need to acknowledge the big spiky elephant in the room that caused so much upheaval in the first place. COVID-19 has cast a long shadow on this planet; I offer my sympathy to all those affected by illness and loss. I know that many are impacted through career interruptions, disruption in essential services and a lack of human contact for far too long.

Like many of you, I strive to find some balance in my life. I crave social contact, but also time alone. Somehow, I achieved a life that balanced these desires fairly well. Pre-pandemic, I was in my social contact Goldilocks zone, not too much, not too little. It was just right. Then, COVID happened and life in general was turned upside down. Meetings with colleagues, friends and family were reduced to observing each other in little boxes on a computer screen. My children's many activities were cancelled as were interactions with other parents. Gyms and clubs were shuttered. This was not a natural balance for me or anyone else.

But there were some positives. I had a remarkably easy transition from the real world into a virtual one. My employer is wonderfully supportive, and my team came together quickly to overcome challenges. CEA stepped up immediately and advocated for our industry. The association also provided opportunities to network through volunteering with the board and committee work. I think we underestimate the value that an organization like CEA brings to members. During COVID, I was struck by just how effective CEA is in a time of crisis. CEA stayed plugged in with clients, government and other stakeholders. These groups wanted to know how our industry was coping and if we were ready to accept new work.

It was a huge advantage for them to get information from one source. By uniting with the contractors and architects, we brought even more value as a sounding board for decision makers.

The changes to our lives won't all be reversed as we leave COVID in the rear-view mirror. There are advantages to working at home, at least part time. We don't always need to commute to the office to get things done. Some meetings really are better on a virtual platform. New ways of doing business have helped us become more diverse, equitable and inclusive. We have hired valued staff members that would not have joined our organizations without the flexibility we have adopted.

**"DURING COVID, I WAS STRUCK BY JUST HOW EFFECTIVE CEA IS IN A TIME OF CRISIS. CEA STAYED PLUGGED IN WITH CLIENTS, GOVERNMENT AND OTHER STAKEHOLDERS."**

CEA is ready to play a prominent role in a world that embraces both in-person and virtual interactions. Our staff, committees, advocacy teams and the board of directors not only excelled during the pandemic, but they also laid the groundwork for a stronger future. There has never been a better time to increase your firm's involvement or your own personal contribution. CEA will lead the way in providing in-person events to gather with our clients and colleagues. Our strong committees, our YP group and our advocacy team all need member support to remain effective. I encourage you to explore ways to get your firm more involved in at least one of the many initiatives that CEA spearheads. On a personal level, I know that my participation will not only strengthen the firm I represent, but it will also help me get back to that Goldilocks zone. **AI**



RYAN GIDLUCK, P. ENG, PMP  
CEA PRESIDENT



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## SHIFTING OUR PERSPECTIVES

**W**ELCOME BACK TO CEA's Gala Awards. Due to the pandemic, it has been two years since we've held our signature event. It is a pleasure for us to return and host this showcase of our industry's ingenuity on a wide variety of projects. Congratulations to all the winning firms and individuals in this year's Awards program!

I encourage you to review this issue of *Alberta Innovators*, which highlights the award-winning projects and some interesting life stories from individuals within our industry. Over the past two years, all of us have changed our perspectives on everything from how projects are delivered, to redefining what a "workplace" might be – in the home, on a project site or in the office. Our perspectives on health, safety, relationships and communication have been shaped by the recent events around us. We touch on many of these topics in this edition of our magazine.

Although consulting engineers use the principles of science and technology in delivery of services, we know that to be successful in this business requires a much broader range of skills and knowledge than ever before. Keeping pace with shifting societal goals and client expectations influence how we operate within our communities. Continual development of more cost-effective business and project management processes are vital to remain competitive in the marketplace. Ongoing training and professional development of staff are core requirements for business sustainability. Probably, most important of all, consulting engineering is and always will be a relationship business.

Relationships have the power to bring out the best or the worst in each of us. The projects highlighted in this year's awards program came about and were delivered because of strong relationships. At various points in the project delivery process common ground had to be reached on a multitude of differing opinions. Collaboration and effective communication were paramount – within project teams, with project partners and with stakeholders. Mutual

respect and trust were required between owners, consultants, contractors and other stakeholders to achieve positive project outcomes. Layered on all of this has been the continuous adjustment to a "new normal" brought on by pandemic issues which impacted how project partners interacted and delivered services to reach common objectives.

Similarly, within CEA, relationships are the foundation of our organization. The pandemic forced us to shift our perspective on how to interact in new ways with our member companies and deliver services to the industry. We have continued to advocate with the provincial government to change procurement practices and project delivery methods that often limit innovation. We strive to create procurement and contractual models with client groups which are based on more collaborative engineer/owner relationships and are less transactional in nature. Qualifications Based Selection and Integrated Project Delivery are two areas of focus that you will read about within this issue of *Alberta Innovators*. A strong focus on improving business conditions for the membership has taken place in relation to CEA's input toward upcoming Prompt Payment legislation in this province and ensuring our industry is included within that legislation. In all areas of activity, the pandemic has driven us to collaborate more closely with a number of allied associations, especially those in the construction industry. Our forged alliances have found common purpose in response to both pandemic and advocacy issues.

In closing, I invite you to pause and reflect on how much has changed in our lives over the past couple of years and how resilient and adaptive our industry has been through this time. The consulting engineering industry in Alberta has always thrived on challenges. It is a time to celebrate our achievements and acknowledge the individuals and organizations that have continued to add value to our communities and our province through their work. Thank you to all the member firms that submitted projects in this year's program, to the judges who devoted their time to selecting the winners and to our sponsors for your steadfast support. **AI**



**KEN KOZAKEWICH, MBA, P.ENG.**  
CHIEF EXECUTIVE OFFICER  
AND REGISTRAR

**WE ARE THE NATIONAL VOICE** of consulting engineering. With the support of our member organizations like Consulting Engineers of Alberta (CEA), we advocate for a business environment that recognizes and rewards the expertise and contributions consulting engineering firms make to society.

Here are a few examples of our efforts over the past year on behalf of our industry:

**TIMELY INFRASTRUCTURE INVESTMENTS**

One of ACEC-Canada’s main advocacy efforts over the past year has focused on promoting timelier infrastructure investment. Despite the federal government’s \$126 billion program commitments, investment activity has been extremely slow to roll out. To address this challenge, we partnered with other industry associations to form the *Build for Recovery* coalition. Our efforts led to multiple meetings with Senior Policy advisors at Infrastructure Canada as well as a meeting with former Minister of Infrastructure Catherine McKenna.

The positive impact of infrastructure investments to a strong and competitive economy is a message that ACEC-Canada also promoted in its submission to the *National Infrastructure Assessment Consultation*. Announced in March, this was the first ever such consultation in Canada. Our submission focused on the three major points:

- the creation of a permanent, independent, and arms-length agency to house and support the assessment
- the mandate and scope of such an agency, and
- the need for broad stakeholder engagement.

We were pleased that many of the recommendations in the government’s response paper aligned with our submission, an indication our feedback was heard in this initial consultation process. We will now focus on ensuring the assessment is a top priority with the new Minister of Infrastructure.

**FEDERAL ELECTION**

During the federal election, another major advocacy activity, we launched Infrastructure: Prosperity by Design grass-roots campaign to promote a strong integrated economic and environmental vision for Canada’s recovery. Creating awareness about our priorities through

direct member engagement with candidates ensured that our industry’s impact on communities was heard at a local and party level. This proactive election engagement now provides a strong foundation for our advocacy in the next Parliament.

**PROMOTING QUALIFICATIONS BASED SELECTION (QBS)**

We also continue to actively promote the use of QBS to private and public-sector clients as the procurement method of choice for consulting services.

ACEC-Canada and its stakeholder partners successfully convinced Public Services and Procurement Canada to use QBS in a pilot program. To date, PSPC has procured five projects using QBS. We hope that this will lead to the expanded use of QBS by the federal government. In partnership with Consulting Engineers of Alberta, we are also financing a national study by the University of Alberta that will capture important data that we strongly believe will quantify the benefits of QBS and thus encourage more jurisdictions to follow suit.

**RESOURCES FOR THE FUTURE**

There are great opportunities for our industry to demonstrate its innovation and foresight, both necessary to support a strong and environmentally sustainable economy. Canada is in a unique position to provide the necessary resources and expertise essential to the world’s infrastructure and energy needs – both today and tomorrow. Our industry continues to be instrumental to responsible resource development and the ability to get those resources to market safely and reliably. But we must also explore and identify opportunities to process raw resources here in Canada.

**LOOKING AHEAD**

We invite you to play an active part in charting our direction forward – both here in Alberta and nationally by sharing with us how ACEC-Canada and CEA can work together to best benefit your firms. Reach out to us directly or through your ACEC-Canada Board representatives. **AI**



**DAVID MURRAY, P.ENG.**  
CHAIR OF THE BOARD OF DIRECTORS

**JOHN GAMBLE, CET, P.ENG.**  
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# THE HYBRID OF THE FUTURE

BY STEVEN SANDOR  
PHOTOGRAPHY COLIN WAY

THE FIVE-DAY-A-WEEK OFFICE IS DEAD. WHAT IS THE NEW NORMAL?

**O**ne day, we'll see our last-ever COVID-19 pandemic update on the news. The virus will either be cured or contained. And, for Alberta's engineering firms, working life will get back to how it used to be back in 2019, right? No. The workplace has forever been changed by COVID, and we're not going back to Monday-Friday, nine-to-five days. So, the question for human-resources departments is this: How do engineering firms retain their unique workplace cultures when the workplace environment itself has been irrevocably changed? "It's never going to go back to what it was. Too many things have changed," says Susanne Pawliuk, director of human resources for Tetra Tech Canada in Edmonton. "The office is likely never going back to being a place where you need to be from eight to five, five days per week" says Kelly Yuzdepski, executive vice president, Western Canada, for CIMA+ and past president of CEA. "It will become a place to meet, to collaborate and to mentor."

CHRIS LENZIN, CALGARY  
STUDIO CHAIR, DIALOG



## "THE HYBRID IS THE NEW OFFICE," SAYS HELDER AFONSO,

vice president and general manager for Associated Engineering's Alberta North office based in Edmonton. "It will take a year or two for us to stabilize what the hybrid model will mean for our company, and to establish a culture post-COVID."

"Hybrid is where work is going to go," says Chris Lenzin, the Calgary studio chair for DIALOG. "But, how do you create a sense of belonging for everyone?"

What does that mean – a hybrid model? Four experts have weighed in – and, if there is any consensus amongst them, it is that there are no easy ways to predict what the office will look like in the future.

### CHRIS LENZIN, CALGARY STUDIO CHAIR, DIALOG

At first glance, the timing seems odd. Why would anyone be renovating their offices during a COVID work-from-home mandate?

But that's what's happening at DIALOG's Calgary studio. Offices are being reconfigured to be more welcoming, and meeting rooms are designed to host meetings that have mixes of online and in-person attendees.

DIALOG is a multi-discipline firm that sells itself to clients as a place of cross-collaboration, a one-stop shop that takes on urban design, architecture, engineering, planning and landscape work. The need for employees to be able to pin up drawings for others to see, the ability to bounce ideas off of each other, it's vital. Then, COVID edicts forced everyone to work from home – and the workplace culture was permanently changed.

In fact, even before COVID, Lenzin and his team knew the workplace was not going to remain a five-days-a-week sort of place. They had already begun working with Google Meet, Zoom and Miro, an online whiteboard tool.

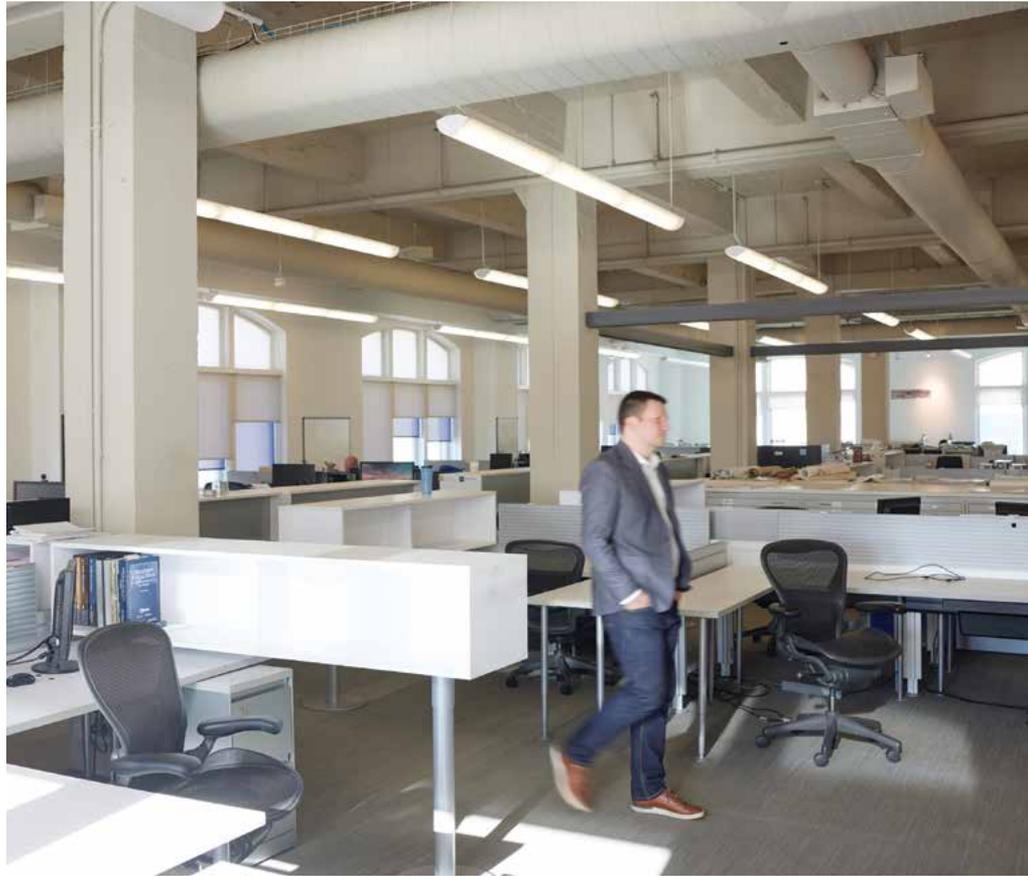
When they had to work from home, the staff was already used to what was in the remote-working toolbox.

"We're really proud of DIALOGers, that, at the drop of a hat, were able to work remotely and produce high-quality work," says Lenzin.

It's easy to schedule meetings and viewings of drawings via Zoom. But, what was at risk is the spontaneity that comes with working shoulder-to-shoulder.

"One of the biggest challenges that comes with working online is the feeling that everything has to be scheduled," says Lenzin.

So, staff found their own ways to connect – from an online book club to weekly coffee chats to virtual town halls.



But, knowing that the office will never play as big a role as it once did, how do we make it a welcoming space for the staff who, when we get to a new normal, will only come in once or twice a week?

Lenzin says DIALOG's interior design team worked on a plan to reconfigure the studio in consultation with staff. For workers who come in only a couple of times a week, there will be different, flexible workstations they can choose from, depending upon their needs of the day. How to make the office feel, well, homey? How to create more collaborative spaces? They consulted with a wide variety of clients, to see how they were addressing the challenge of the new, post-COVID office.

"It is an absolute challenge," says Lenzin. "We feel that we have a lot of the concepts, the thing is to be able to fire-test them."

One of those changes is a new style of meeting room, which has more screens and ability for remote viewers to see what's going on. So, if an in-person attendee spreads a blueprint across the table, out-of-office viewers will be able to clearly see what the people in the room are seeing. There will be plenty of chances for face time, as it's vitally important to read body language and facial expressions.

"We have to restructure the office meeting," says Lenzin. "How do we do it so everyone is visible? How do you use technology to deliberately include all the voices in the meeting – those online and in the room?"

### HELDER AFONSO, VICE PRESIDENT AND GENERAL MANAGER, ASSOCIATED ENGINEERING'S (AE) ALBERTA NORTH OFFICE, EDMONTON

Before the pandemic, AE was looking at creating more flexible office schedules – not requiring staff to be in the offices five days a week. AE was looking at models where staff could split time between the office and home. Then, COVID lockdowns began and the company was forced to accelerate its plan.

"The last 18 months turned out to be an 18-month pilot program, and it has proved it's capable of working for all of us," says Afonso.

Afonso says about 80 per cent of the staff at 22 AE offices across Canada started working from home. When COVID is finally controlled or, knock on wood, cured, he envisions that staff might work three days from home, and come into the office twice in an average work week.

Afonso says the company has always preached the "breaking down of silos" to ensure a collaborative workplace. The idea is to unite clients with the best expertise it has to offer, no matter where that client is located.

"And, working from home forced our employees to think about that," says Afonso. "We're not able to be next to our colleagues in person, but we're virtually next to a thousand or more colleagues."

But there are drawbacks. Colleagues can't always pick up on body language or mannerisms of co-workers in online meetings. When co-workers meet in person, they go off and have coffee together or engage in sidebar chats during the breaks. When people meet via Zoom, there's the danger that they simply go dark during the break times or right after the meeting ends. Afonso admits that, with creative people, the sidebar coffee chats are sometimes more valuable than the meetings themselves.

And it's tough for new staff, who have come into the company knowing only the work-from-home environment.

"Over the last few months, we've hired people who are associated with our business end – but they've never seen their colleagues in person."

### **SUSANNE PAWLIUK, DIRECTOR OF HUMAN RESOURCES, TETRA TECH CANADA, EDMONTON**

Tetra Tech is a California-headquartered global company that prides itself on its green initiatives, use of technology and sustainable solutions. When COVID forced staff to work from home at its offices around the world, the company saw it as a springboard to practice what it preaches. It has announced that it will be downsizing its real estate footprint globally. It wants its workers to commute less, which leads to burning less carbon. This is a company with more than 21,000 employees around the world – so if it can reduce the drive times for 60 to 70 per cent of them, it's more than a cultural change, it's a major environmental initiative.

One of those offices is in the Alberta capital. In 2010, Tetra Tech acquired Edmonton-based EBA Engineering Consultants Ltd. Pawliuk, who started in the Edmonton office before the acquisition, looks into the crystal ball and isn't quite sure what the future holds.

"I wish we had a blueprint for this. Engineers love their blueprints, after all. But there is no blueprint for what we're going through."

The company motto is "Leading with Science," and Tetra Tech promotes outside-of-the-box thinking. As the majority of Tetra Tech's workers are knowledge based, they can work from home. But there are people who work in modelling who don't have the bandwidth or the computer power available at home to do the job. Some, of course, have to go out on site. Some need to be in the lab.

"How do we create collaborative connections?" Pawliuk asks.

Staff found different, distant ways to connect. Social hours. Lunch-and-learns. Co-workers shared pictures of their families.

## **WORKING FROM HOME**

**When it comes to the mental health of workers, there are things we do in the office that we might not do at home. Whether in an open-concept space, a cubicle or in their own offices, workers often get up and go for coffee, go for lunch or, take a few minutes just to allow themselves to be distracted.**

**According to a paper from the University of Calgary, workers are healthier, happier and more productive**

**if they zone out for five minutes after each hour of solid work.**

**"For every hour of work, take five minutes for micro-breaks," reads the paper from the U of C. "Consistent micro-breaks are even more imperative when working from home. Spontaneous breaks, such as co-workers stopping by our desk, walks to meetings, retrieving copies and going for coffee, no longer exist...**

**Socialization has decreased, daily physical activities have diminished and stress levels have increased; therefore we need to be even more vigilant about physical and mental micro-breaks."**

**How to break from the laptop at home? Workers should spend some time brainstorming with pads and pens, rather than always using Google office tools. Take calls on the phone, if Zoom isn't imperative.**

"In some ways, it allowed us to get to know each other maybe a little bit better than we would have in the office, say at the annual Christmas party."

But, knowing that the full-time office is never coming back, is there a long-term solution? Pawliuk admits that "when looking for advice, nothing matches the experience of a senior engineer." That means it's important for the staff to have time when they all go into the office for that ability for off-the-cuff meetings and opportunities for mentorship.

So, one idea being floated is the no-meeting Friday: No one takes appointments on Fridays, if he, she or they can help it. Those days will be used for office time, to meet and brainstorm. Junior staffers can get mentorship from senior staff. It's a time to tackle problems and promote professional development.

### **KELLY YUZDEPSKI, EXECUTIVE VICE PRESIDENT, WESTERN CANADA, FOR CIMA+, PAST PRESIDENT OF CEA**

As it stands, about 90 per cent of CIMA+'s workers are currently working from home rather than from over 30 fixed offices across Canada.

When your core value is "team spirit," it's a challenge.

"You spend more time with your co-workers than at home with your spouses and families," says Yuzdepski. "So, you need to be drawn to the office and have some fun. It can't be all business, all the time."

Gone are the social events, the pot-luck lunches and the coffee breaks. As provinces eased restrictions over the summer, CIMA+ had planned in-person events, but then those were postponed

as some restrictions and work-from-home orders were reintroduced.

When COVID forced the majority of the staff to work from home, the company responded with a program that employees could access to make themselves more comfortable – and productive. It allows employees to buy items like better home office chairs or monitors, and then bill some of that back to the company.

With so many people working from home, Yuzdepski says the next logical step was for management to talk about office space. For CIMA+, as it is for many other firms, rent or real estate costs are the second-biggest expense after salaries. With many people teleworking, and that is indeed the way of the future, is there a way for the company to divest itself of some of its offices?

But, also in that consideration is online fatigue, and the need for workers to connect.

"People are Zoomed out," says Yuzdepski. "And nothing compares to reviewing a project in person and having the ability to exchange."

Yuzdepski says the office will still exist "but we're still learning what it will look like." But, this is for sure: The old office won't work. In a lot of ways, employees will need to be lured back to the office, even if it's for only a couple of days a week. What will work? Unassigned desks that welcome workers to "plug and play?" Open environments? Warmer designs?

"What do we need to do to make the office environment better, in order to attract people back to the office?" asks Yuzdepski.

Maybe it won't be just DIALOG that will be taking on COVID-inspired office renovations. AI

# TEAMWORK, FROM THE GROUND UP

HOW IPD COLLABORATORS CAN OFFER INNOVATIVE PLANS, AND SAVE CLIENTS MONEY

BY CAROLINE BARLOTT ILLUSTRATION RACHEL BEYER

**WHEN ASKED WHAT** they wanted their new school to look like, elementary students at Mill Creek School had big ideas. One hoped sharks could swim through it. Others pined for outdoor elements, natural light and lots of colour.

In January of 2019 when the kids first walked through the new building, they saw all those elements – minus the sharks, of course.

“I heard a lot of: Wooooow!” says Terri Gosine, director of Integrated Infrastructure Services for Edmonton Public School Board (EPSB). “They couldn’t even express it well because this was such a different building from a 1960s school that they were used to.”

It was incredibly rewarding for not only Gosine, but the rest of the construction team who lined the halls, to see the reactions.

The school was the first Integrated Project Delivery (IPD) project completed by Edmonton Public Schools. Gosine says they haven’t looked back since; all EPSB schools since have used the same construction model.

In traditional construction projects, the lead designer consults with the owner to make key decisions. The builder then offers its perspective. There’s rarely interaction with community members.

But in IPD, there is collaboration

from the very beginning with all the players – from the contractors to the site supervisors, owners, engineers and architects – sitting together in the “big room” even before any designs are drawn up. At various points, they “co-locate,” working side-by-side and collaborating on all important details.

A few years prior to Mill Creek’s construction, EPSB had built 11 schools in one year. While Gosine was happy overall with the projects, she knew the process could be even better.

“I think the economy at the time was a race to the bottom. Who has the cheapest possible price? And it’s really hard to have a genuine conversation about what we want the school to be about when the person sitting across the table bid so low that they have to find a way to make up for it,” says Gosine.

IPD provided a completely different culture; by really understanding the goals of EPSB from the beginning, the team added value in unique ways. Mill Creek School has an interactive centre where kids can change colours, lights and shapes on panels. Aura Robinson, who was project manager for Mill Creek School, says the team thought ahead and saved leftovers like acrylic sheets from the site to make the panels and deliver them for little cost. Parts of the school





were created with the curriculum in mind so students can see how things work – the waterlines are visible and brightly coloured, showing how they travel from the boiler room to the sink, for example. They even spoke with maintenance to understand what would make the school last and be easier to maintain.

Deon H.J. Wilner, IPD practitioner with ISL Engineering and Land Services, explains that the players share not only ideas but risk and profit. “With IPD, you’re saying: ‘This is what we truly believe it will cost to do this work and here is our profit expectation.’ So, the money is pooled and, if the team messes up, no matter who it is, the pool is at risk,” says Wilner.

So, if there are issues, all parties step up and offers solutions to problems rather than retreating to their corners.

Wilner worked on a project for Drayton Valley that is a prime example. The town needed a new raw water pump station but it had just over \$4 million in funding to complete it. From experience, the team believed initially it would cost \$5 million. “We said the only hope in hell is to go for IPD. We looked each other in the eye, put our profit risk here and signed the line for \$4.2 million,” says Wilner.

The team realized the problem was not necessarily a need for a new raw water pump station, but the real need was to raw water up the hill to the water treatment plant. It delivered the project for \$3.7 million. It’s an extreme situation – most projects will not have their final cost be that far under their budget – but it shows how everyone worked together to come up with creative solutions.

Jen Hancock, vice president of Collaborative Construction for Chandos Construction, has seen what creative collaboration can achieve. At one of the Red Deer school IPD



projects, the owner needed to build a maintenance shed. So, the team strategized to build the shed early on in the project and use it as a construction trailer. The money they would have used to rent construction trailers was put back into the project. “The team partnered with the school district and worked with one of their high-school programs that had students who needed to do a work term. Some of those students helped to build the shed and got great construction experience while working on a meaningful project for their school district,” says Hancock. The project came in under budget, too.

Those opportunities to learn extend to the whole construction team, says Hancock. “On one of our IPD projects, we actually had one business owner say that the people who work on IPD jobs almost gain a lifetime of experience in one project just because of how much they pick up from all the people and disciplines around them.”

Robinson is now an IPD practice lead for ISL Engineering and says that the first IPD project with EPSB changed everything. “I’m excited to come to work every day. I used to have many sleepless nights trying to figure

out a win-win scenario for everyone. IPD encourages it. It isn’t sleepless now, they are sleepful nights,” she says.

Derek Ciezki, partner with SMP Engineering and past president of the CEA, has worked on numerous IPD projects including multiple schools for EPSB and a renovation to the Edmonton Expo Centre. He says IPD creates a collaborative and trusted environment with its big-room meetings and ice breakers where a facilitator manages the flow of ideas and keeps people accountable. It’s a level of trust that isn’t often found in traditional construction delivery models.

The amount of time and commitment from all players—but specifically the owners and contractors—is incredibly high during the validation phase where meetings take place at least once per week for the first few months. But, Ciezki says, it’s worth it.

“The catchphrase is: You go slow, to go fast. If you go slow during the first phase of the project, you can really get through the efficiency during the tail end of construction and mitigate risk for all stakeholders,” says Ciezki.

The heavy lifting comes at the beginning and in the end, everyone is on board so that change orders are fairly rare. Mistakes may still occasionally happen, of course, but when they do the team can often more easily come up with collaborative solutions.

Hancock says anyone thinking about IPD should know it doesn’t work for all projects; and even when it is ideal, it takes a lot of work from everyone including owners who need to be heavily involved in the project. “It’s not all kittens and rainbows. It’s like if you run a marathon; it’s so difficult but the feeling of finishing and how proud you are, is worth it.” AI



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For over 40 years the Consulting Engineers of Alberta (CEA) has been the business voice of consulting engineers across Alberta. Our organization represents approximately 9,000 staff employed by over 70 engineering companies.

We serve the interests of our members through advocacy, collaboration with stakeholders and industry events focused on professional development and relationship building.

Our input and expertise help to shape public policy and programs, ensuring the engineering sector can support Alberta's economy and long-term recovery.

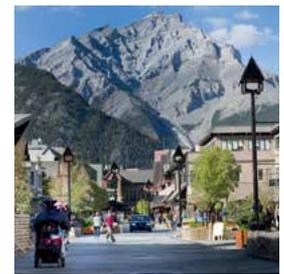
## Challenges for Public Sector Leaders

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Investments in schools, hospitals, libraries, transit, roads, and essential utilities offer solid dividends. They create jobs, improve our quality of life, and make our community more attractive to the public and investors.

## Infrastructure Spending Challenges

- Consulting engineers are a significant stakeholder in the public infrastructure discussion; being at that decision-making table is critical for Alberta's economic recovery.
- We support both traditional as well as alternative funding and project delivery models to provide cost effective solutions to budgetary and scheduling challenges.
- We are aligned with other professional and construction industry associations to support greater transparency in the planning and procurement of public infrastructure.
- As government budgets tighten up in the wake of the pandemic, investments in asset management at the provincial and municipal levels will become more critical.
- Consulting engineers can help all levels of government prioritize the needs and value of infrastructure investments to achieve the greatest return for our economy, jobs, and economic competitiveness.



# THE RIGHT INVESTMENT AT THE RIGHT TIME

HOW PROPER ASSET MANAGEMENT CAN HELP MUNICIPALITIES BOTH BIG AND SMALL

BY BREANNA MROCZEK ILLUSTRATION SCOTT CARMICHAEL

**W**HEN A COMMUNITY INITIATES A NEW INFRASTRUCTURE PROJECT, the costs don't end with construction. Operating, maintenance and replacement expenses, in addition to environmental costs, can add up over several decades.

Shrinking budgets, potential provincial and federal regulations, and an international interest in sustainability are all reasons municipalities must develop alternatives to costly and time-consuming asset replacements. Engineers are poised to help municipalities get the most out of their infrastructure investments with meaningful asset-management strategies.

"Asset management is many different things," says Rob Radovanovic, chair of the Asset Management Technical Services Group at McElhanney Ltd. — a consulting engineering firm involved in projects ranging from infrastructure asset planning for small communities to coordinating federal-level highway projects. "It is a process that binds people, data, software and systems together into a recommendation engine that lets communities make intelligent investment decisions about their infrastructure that will support future community members. Its holistic nature brings a lot of different technical specialists together."



“Asset management is critical to making informed decisions on infrastructure investment,” says John Gamble, president and CEO of the Association of Consulting Engineering Companies Canada. The association is comprised of 12 provincial and territorial associations – including Consulting Engineers of Alberta.

“It allows taxpayers to receive a better return on infrastructure investments, and it ensures that we are investing in the right infrastructure at the right time to improve our quality of life socially, economically and environmentally.”

From a guidelines and regulations perspective, asset management is a relatively new field in Canada that has yet to be widely adopted. The City of Lethbridge was an early adopter, and has had an asset-management program in place for nearly two decades.

“Our asset management program was started in 2005 by an engineer who recognized the importance of these processes,” says Blair Richter, asset manager for the City of Lethbridge. “I have heard a lot of stories about organizations that make decisions about critical infrastructure without any data. We want to use all the data that we can to make decisions about, and have valid reasons for, spending money on things. Knowing what the lifetime costs of a project are helping us effectively communicate with the public and with city council.”

Once the City collects data, it enlists the help of engineers to apply it to real-world scenarios using many variables. “We provide systems and processes to capture information, and the engineers are the ones who actually have to make sense of it and make decisions based on the best approach,” Richter says. “For example, for our overlay program for our roads, we will collect all the conditions of the data, and

**“WE PROVIDE SYSTEMS AND PROCESSES TO CAPTURE INFORMATION, AND THE ENGINEERS ARE THE ONES WHO ACTUALLY HAVE TO MAKE SENSE OF IT AND MAKE DECISIONS BASED ON THE BEST APPROACH.”**

– BLAIR RICHTER, ASSET MANAGER FOR THE CITY OF LETHBRIDGE

then they have to use that data based on things like the types of roads, the material of roads, and traffic volumes to make a plan on how to best treat those roads.”

According to the Canadian Infrastructure Report Card that was released in 2019, 71 per cent of small communities (under 5,000 people) do not have documented asset management plans, nor do 44 per cent of medium-sized communities (5,000-30,000 people). Due to the quantity of infrastructure in smaller municipalities, there is an urgent need for all communities to begin to adapt asset-management strategies.

“Municipalities predominantly manage the majority of publicly-owned Canadian infrastructure, but they don’t often have the tools to be able to manage them in an optimal fashion, particularly in the smaller communities,” Radovanovic says.

One of the ways smaller municipalities can find support and guidance is through the federal Municipal Asset Management Program. “The federal government has allocated \$110 million [over eight years] to help increase the number of communities with documented asset-management practices,” Radovanovic says. “The program is dedicated to improving capacity for municipalities to implement asset-

management programs and adopting best practices.”

Recognizing the need for a trained workforce in this growing field, the University of Calgary – where Radovanovic serves as an adjunct professor in the Schulich School of Engineering – recently started offering graduate courses in asset management. “The courses are open to professionals as well as students, and we’re really encouraging as much industrial participation in the course as possible,” Radovanovic says.

Still, Gamble says that more support for municipal asset management is needed. “An important role of infrastructure is connecting communities, and a lot of assets transcend convenient political and geographic boundaries,” Gamble says. “There’s a need to set a long-term vision and to recognize the value of a consistent national approach.”

Currently, the association is supporting the federal government in the creation of a national infrastructure assessment in order to have a holistic, consistent approach across Canada. The assessment will ideally inform public policy to support infrastructure investment, facilitate information-sharing among municipalities, and assist with best practices. **AI**

## IMPLEMENTING ASSET MANAGEMENT STRATEGIES

British Columbia’s approach to a provincial asset management strategy is an example of how to successfully support municipalities that want to implement their own asset management strategies.

“In B.C., the conversation on advancing asset management came from the provincial level,” says Sara Anderson, a senior engineer with Urban Systems. “They realized that they could not

afford to fund every request to replace or repair failing infrastructure. Yet they also realized that the municipality didn’t really know what kind of asset they were operating and often didn’t know how to maintain them.”

To ensure that they were investing in sustainable infrastructure going forward, the provincial government offered planning grants to initiate

asset-management processes, no matter the sizes of the municipalities or projects. The province also provides financial support for asset-management training and education for staff, administration and councils. In subsequent requests for infrastructure funding, the province assesses the request based on whether the proposed project has an asset management component. More than 10 years into this asset management-

focused strategy, most municipalities in B.C. are now engaged in some sort of asset-management planning, implementation, assessment or reassessment.

“B.C. has been absolutely fantastic to work with on asset management,” Anderson says. “Now they’re seeing the results of their efforts because every single municipality is investing in asset management.”

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# IMPACTS OF USING QUALIFICATIONS BASED SELECTION

UNIVERSITY OF ALBERTA STUDY EXPLORES WHAT IT COULD MEAN FOR THE PROVINCE

ILLUSTRATION KYLE HACK

**P**UBLIC SECTOR ORGANIZATIONS often outsource engineering and architectural services, and the procurement of these services usually includes price as a significant measure of a proposal's value.

But, instead of focusing on price, another school of thought is used in some parts of the world – that emphasis should be placed on finding the most qualified candidate for a project.

Qualifications Based Selection (QBS), more commonly used in the private sector as well as the public sector in the United States, looks at qualifications of the proponents as they relate to project-specific factors, including skills and knowledge when determining the preferred candidate. Price is negotiated only once a consulting team has been selected and the scope and schedule are clearly defined. The thinking is that by selecting a team based on who is most qualified can lead to the most innovative, sustainable designs and can even reduce the long-term lifecycle costs of the project.

While it may be easy to observe a correlation between qualifications and project outcomes and studies have shown the benefits in other parts of North America, the science in this area remains largely unexplored in our province. That is why the University of Alberta conducted research to gain more information on the performance of QBS in public organizations in Alberta. The study was launched in 2019 and was completed at the end of 2021.

Simaan AbouRizk, one of the investigators of the research project at the University of Alberta, sees the initial stages of an engineering project as being the most important.

“A QBS approach for evaluating a potential architecture or engineering team that will take on work is, I think, quite significant from an industry perspective. A lot of what happens to a project is mainly dependent on what you do up front. The influence of the early decisions in the project lifecycle are incredibly significant in terms of impacting the outcome of the project,” says AbouRizk.

Data from the study indicated that most public organizations surveyed are not using QBS. Results also indicated that, on average, QBS projects performed better than projects where other selection methods – where price is a factor – were used. Use of QBS in engineering procurement resulted in positive outcomes in costs and schedules for both design and construction phases. Due to COVID-19, the response rate to the survey was somewhat lower than expected. Additionally, during the data acquisition stage, it became apparent that information on the life-cycle costs of projects was not readily available in many public sector entities.

CEA Chief Executive Officer Ken Kozakewich explains that the organization wants to be able to provide the public sector with research based on Alberta data, which will make the QBS process easier.

“Consulting engineering costs typically represent only about two per cent of the overall life cycle costs on a project. Our industry remains committed to work more collaboratively with owners in planning and design services to reduce costs related to construction, operations and maintenance. Lowest price procurement at the front end of a project negatively impacts project outcomes,” Kozakewich says. CEA advocates

using QBS, especially on those projects where the scope of services may not be easily defined due to the complexity of the project or potential impacts on scope or schedule may occur due to multiple stakeholders. Kozakewich adds, “focusing on price in procurement tends to create transactional relationships between owners and consulting engineers rather than a collaborative approach focused on scope definition for the best constructability and long-term benefits for the owner.”

AbouRizk explains that it's difficult without scientifically proven research for public organizations to take “a leap of faith” and choose QBS – which could potentially result in a higher initial cost to potentially save money down the road.

“Everyone that is in the public sector needs to justify that they are using taxpayers' money in an appropriate manner, in the most transparent and best way possible, it's not that they don't want that (QBS),” he says.

From interviews and surveys conducted, the researchers have discovered some of the barriers in implementing QBS. One of the biggest hurdles? Public-project owners have concerns about subjectivity.

To minimize subjectivity, the research team developed a decision-support tool. This support tool and recommended weighting on qualifications allows project owners to go through a checklist process when evaluating proposals.

The ultimate hope of the research is that public sector owners give QBS a chance. Dr. Ahmed Hammad, a co-investigator on the research project says “We think QBS will allow the consulting firms to really provide the best they have ... to focus on the quality of the work. This will be a big gain for society.” AI

# CONQUERING THE MOUNTAIN

How connecting with his father made **SIMON ARMSTRONG-BAYLISS** a better parent and engineer

BY **CORY SCHACHTEL** PHOTOGRAPHY **AIDEN JAMES**

**SIMON ARMSTRONG-BAYLISS** grew up on the Gold Coast, one of the most picturesque beach communities you could imagine, in Australia. He surfed, like any good Australian, and spent plenty of time breathing salt-water air and feeling sand between his toes. But he always felt a higher, colder calling.

“I’ve always been interested in mountain and cold-weather culture,” he says. “I grew up doing the traditional Australian things, but every year I would go down to the Australian Alps and go snowboarding. To me, the beach is serene, very calming, but the mountains are dramatic and I always come away feeling like I can do something awesome.”

His mother thinks spending the first few years of his life in Alps-adjacent Canberra marked him, in a way, to prefer mountain life. But, looking back, he believes part of the pull was to forge a deeper connection with his late father. “He was a bit of an adventurer. While attending the University of Queensland, he joined the mountaineering club, and they would do all these trips in New Zealand and the Southern Alps. I grew up hearing all these stories of him and his friends just doing stupid stuff and barely getting out alive.”

Growing up, his father always had a *New Scientist* magazine on the table, and Armstrong-Bayliss was mathematically inclined. But it wasn’t until his time at the University of Queensland – which coincided with a Brisbane infrastructure boom, including a major traffic tunnel under the centre of the city – that he realized how much he appreciated engineering’s practical purpose.

“I just love the scale of these things. I love their permanence and their significance, and the way projects of this scale can sit in the land and shape the communities and economies around them. I realized through university that engineers really do shape the places we live. And much of what engineers do is not appreciated, or goes unseen, by communities. The classic example is the clean water you drink every day – we’ve got an engineer to thank for that, we just don’t think about it.”

In the year after Armstrong-Bayliss got his civil engineering degree, his father passed away from brain cancer. He had always wanted to see the Himalayas. Two years after his father passed, Armstrong-Bayliss and his wife (also a mountain life lover) went backpacking to Nepal. “In hindsight, I think I was really trying to understand my father better because I was in my early 20s when he passed away, so I hadn’t had much of an adult relationship with him.”

His father had also always wanted to see the Rocky Mountains, and Armstrong-Bayliss and his wife weren’t ready to settle down just

yet. So they ventured north and ended up seeing more of Canada than many Canadians do. But the mountains kept calling, and shortly after returning to Calgary, Armstrong-Bayliss got a job with McElhanney, which right away put him deep in the mountains, and profession, he loves.

“I had a second interview on a Monday, and then the Monday after that I was on site in a field office in Banff.” He worked on avalanche shelters to house high-voltage power infrastructure to light up the tunnels in Rogers Pass, one of the most spectacular mountain passes – and densely packed avalanche corridors – in the world.

It was an intense challenge, but Armstrong-Bayliss considers himself lucky to have been placed there by McElhanney, because it pushed him out of his comfort zone and taught him what he’s capable of as a person and engineer. “We don’t have a ‘construction season’ where I was in Australia, because you can build almost any day of the year. And in engineering, there’s always a way out of tough situations. But in Rogers Pass, you’ve got no other option but to get it right the first time.”

But it’s that challenge, and the effects of overcoming it, that Armstrong-Bayliss remembers most. “I’ve always been primarily motivated by doing valuable work and making a difference. And in infrastructure, the kind of difference you make can be there for 100 years. It’s not fleeting.”

Looking back again, that time now feels like a culmination of his father’s adventurous spirit. “My dad had these ambitions of tackling these massive mountains. I wasn’t mountaineering in Rogers Pass, but I had certainly been carrying his ambitions on my shoulders for a while.”

Today, years after conquering the mountain monster, Armstrong-Bayliss relates to his father in a new, more joyous way. “I took a lot of guidance from dad in my career, but because he passed away relatively early, I also missed out on a lot. And that’s made me want to front load my experience with my daughter in her life, because you never know what’s going to happen in the long term. And ultimately, through that process, I decided I want to be someone who left things better than when I arrived – through my work, and in my daughter’s life.” **AI**



**CIVIL ENGINEER SIMON  
ARMSTRONG-BAYLISS**





ALANA GETTY SOMERS,  
GENERAL MANAGER  
OF TRANSPORTATION  
IN CALGARY FOR ISL  
ENGINEERING

# GETTING CALGARY MOVING

From transit to roads, **ALANA GETTY SOMERS** has a passion for civil engineering

BY **KATRINA TURCHIN** PHOTOGRAPHY **AIDEN JAMES**



**ALANA GETTY SOMERS** has a knack for learning, and her drive has taken her from Saskatchewan to Minnesota to Alberta, where she currently works on some of this province's largest transportation projects.

"I like trying new things and learning different components," says Somers, general manager of transportation in Calgary for ISL Engineering. "One of the most complex projects I'm currently working

on is an LRT-focused project, which I've not done much of in my career before now. I'm learning new lingo, new acronyms and new design challenges. I love working with diverse technical teams."

Somers is the project manager for the 17th Avenue SE Stampede Crossing (17SX) project to create an at-grade LRT station which will enable the extension of 17th Avenue into Stampede Park. Calgary Municipal Land Corporation, in partnership with Calgary Transit, is working with ISL Engineering and key partners WSP and GEC Architecture on the project, and Somers is leading the multi-disciplinary team of technical experts for civil, station and LRT systems design and construction.

**"I PREFER THE CONCEPT OF 'WORK-LIFE INTEGRATION' INSTEAD, AND THAT YOU MUST BE OFF BALANCE TO LEARN AND GROW, TO MAKE INTENTIONAL DECISIONS AND TO PRIORITIZE WHERE YOU PUT ENERGY ON A DAILY BASIS."**

- ALANA GETTY SOMERS

Seeing a project go from the design stage to the building stage is what Somers loves most about civil engineering. She's always had an interest in architectural plans and it only seemed natural that her high school aptitude test suggested she pursue engineering.

Somers studied at the University of Saskatchewan, where she specialized in civil engineering before crossing the border to work for the State of Minnesota's, Department of Transportation. She's worked on major transportation projects for that state's government, like the St. Croix River Crossing, I-494 Corridor Predesign and managed a portfolio of projects worth over \$1 billion US. The work was rewarding, but, after six years Somers was ready to move closer to family.

"Age demographics played a really big role, and they told us that it would in our first or second year of engineering,"

says Somers. "I feel there's been a lot of opportunities because that intermediate level experience gap existed in our industry as soon as I started working, right out of school. As quickly as I was able to keep up, learn, train and demonstrate my skills – there were doors opening left and right all the time because there was a need for people."

Somers moved back to Canada and found herself drawn to Calgary where she worked for CH2M HILL (now Jacobs) and AECOM before making the move to ISL Engineering. During her time at AECOM, Somers worked in collaboration with ISL Engineering on Calgary's \$78 million diverging-diamond interchange (DDI) project at Macleod Trail and 162 Avenue South – the first of its kind in Canada. The interchange aims to create better flow for drivers and it's Somers's job to think outside of the box to make transportation more efficient.

"It was exciting to be a part of the M162 project team and help make some of the design decisions leading to Canada's first DDI, and then following it through to construction to some degree and seeing it get built," says Somers, who has been with ISL for six years.

Somers also credits her approach to her work-life balance as an important aspect to her career success. "I prefer the concept of 'work-life integration' instead, and that you must be off balance to learn and grow, to make intentional decisions and to prioritize where you put energy on a daily basis. My life as a consulting engineering leader and working parent is constantly changing, and I make deliberate choices of how I spend my time."

One of Somers's most recent accomplishments is her appointment to ISL's Board of Directors in September 2020.

"I was excited about the opportunity, but as the only woman I sometimes struggle being the only one – my whole career has been like that because there's not a lot of females in engineering overall. There's maybe even less in consulting and fewer again in management roles," says Somers. "I am not on the board because I am a woman, I'm there because I have leadership, communication and technical skills." AI

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# 2022

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# THE SHAPING OF AN ENGINEER

## PAUL RUFFELL'S RELUCTANT JOURNEY

**EVEN THOUGH IT'S BEEN** almost four years since he retired, Paul Ruffell still speaks about his work as a consulting engineer with the bright-eyed enthusiasm of a first-year undergrad.

"If you really, really like being an engineer, consulting engineering is the best place to be," Ruffell says over Zoom, calling from the Vancouver Island property that he has called home since 2018. "Honestly, sometimes I would have done projects for free, they were so interesting."

Ruffell's passion for the profession isn't just infectious, it's also been incredibly hard-won. And that's why he's the 2022 recipient of the Lieutenant Governor's Award for Distinguished Achievement. Although it would be hard to tell by speaking to him now, he certainly wouldn't describe himself as a "born" engineer. In fact, his retelling of his first exposures to the field that would later become his life's work paint the picture of a somewhat reluctant recruit.

"I didn't have a lot of choices when I left to go to university," Ruffell says. Raised in the village of Hythe in the New Forest, England, Ruffell's earliest career aspirations were to join his father in the shipping industry synonymous with England's southeast coast. A surprise acceptance to the University of Portsmouth initially put those plans on hold, but, following a freshman year that ended with a motorbiking injury and a full slate of incomplete exams, he set sail to work as an oilfield worker during Europe's 1970s boom.

"For a year, I worked for a seismic navigation company where I was the lowest guy on the totem pole ... if there was a crappy job to do, I was the one that did it because I didn't have a degree.

"I would sit in my bunk and say, What's going on here? What am I going to do with my life to move up this ladder? The only thing I could think of was going back to school and getting a degree."

Ruffell returned to university with a newfound drive and completed a degree

in engineering geology and geotechnics. His previous experience working outdoors helped him secure a position with Dutch construction company Volker-Stevin, performing site investigations in the Middle East, North Africa, Malaysia and Indonesia. He took another foray into the unknown in the summer of 1981, joining a team of offshore engineers from Edmonton's EBA Engineering working in the Canadian Arctic. Riding a wave of investment in northern oil exploration, the team from

**"[I WANT TO] THANK  
MY MENTORS AND  
HOPEFULLY ENCOURAGE  
OTHER PEOPLE TO  
[BECOME A CONSULTING  
ENGINEER AND MENTOR]  
BECAUSE IT'S A  
NOBLE PROFESSION."**

— PAUL RUFFELL

EBA tackled projects like extracting soil samples from beneath the frigid waters of the Beaufort Sea and building an artificial island to assist with drilling efforts. Ruffell eventually left EBA in 1990 after the Arctic group transitioned to onshore mining projects, but not before a whirlwind decade that reintroduced him to lessons about teamwork he had first learned playing rugby as a schoolboy.

"The thing that I learned from rugby — and I carried it through to my management style — was that it takes a team to win. [Looking at] that group of guys, they were all brilliant at different things. If you can meld that together, you have the best team ever."

Ruffell spent the next four years working with Laidlaw Waste Systems, learning waste management and exploring the intersection of engineering and the environment. But it wasn't long before he would return to EBA — first as the firm's COO in 1994, before rising up the ranks to president and CEO. That move would also prove to be his last, with Ruffell leading EBA through a 20-year-stretch that saw the company quadruple in size and partner with global consulting and engineering services firm, Tetra Tech.

He served a one-year term as president of the Consulting Engineers of Alberta starting in 2002. He also served two three-year terms as a director, beginning in 2000 and 2013, respectively. These positions allowed him to encounter a new side of the industry he knew so well.

"[CEA] is the one place where all of the consulting engineering companies actually work together for a goal and it's a remarkable place. We all compete like crazy for work, but inside CEA, we actually collaborate. Going from competition to collaboration is really hard, but CEA makes that happen and it makes the business so much better."

Now retired, Ruffell spends his days catching up with his wife and indulging in his love for the outdoors in Vancouver Island's much more forgiving climate ("When you're retired, you've got nothing but time," he laughs. "You sure don't want to be sat behind a window watching it being -30 degrees celsius outside.") But, when he looks back on his career as a consulting engineer, Ruffell sees an industry that is remarkable not just for how it shapes structures and landforms, but people too.

"[I want to] thank my mentors and hopefully encourage other people to [become a consulting engineer and mentor] because it's a noble profession. You take raw clay and you mould it into this thing, and it takes time and patience and sometimes perspiration, but the remarkable thing is that person is immensely enriched by what you do." AI

— TOM NDEKEZI

2022  
SHOWCASE  
- AWARDS -

HAROLD L.  
MORRISON AWARD  
RISING YOUNG  
PROFESSIONAL  
NOMINEES

**CEA 2022 SHOWCASE**  
YOUNG PROFESSIONAL NOMINEE JUDGES

**KEN PILIP**, P. Eng. CEA Past President, CEA's Past CEO & Registrar  
**ART WASHUTA**, P. Eng. CEA Past President  
**BEN NOVAK**, P. Eng. CEA Past President

**Jacobs**



**Mike Hunter**, P.Eng.  
Process Mechanical Lead  
Jacobs

**MIKE HUNTER**

Mike recognized the need to preserve natural waterways while growing up around the beautiful lakes and rivers in Alberta and British Columbia. He decided to study civil engineering with a focus on water resources and environmental studies at the University of Calgary. In 2013, Mike graduated and became a member of Water Environment Federation (WEF) and Western Canada Water (WCW).

With nine years in the industry, Mike has experience managing multi-disciplinary engineering teams focusing on feasibility studies, technology assessments, detailed design, commissioning, construction management, and piloting new technologies. Working with The City of Calgary on wastewater treatment technology new to North America, Mike determined a need for further research. This led to his return to university to take a Master of Science degree in Civil Engineering with an Environmental Interdisciplinary Specialization.



**Tia Hill**, P.Eng.  
Project Engineer  
Associated Engineering Alberta Ltd.

**TIA HILL**

The ambition to become an engineer started when Tia learned about the lack of clean drinking water and sanitation in parts of the world, even Canada. Tia graduated with distinction in 2015 and joined Associated in 2016. She is one of the youngest project managers with the company, having gained experience in municipal infrastructure, asset management, water distribution and treatment systems, watershed management, stormwater management and wastewater collection and treatment.

Tia is currently managing a multi-disciplinary groundwater investigation project. She has collaborated with First Nations clients on multiple projects.

Tia's involvement with young professional groups reaches far beyond Associated. At an industry level, she has held significant positions for the Association of Consulting Engineering Companies of British Columbia (ACEC-BC), Consulting Engineers of Alberta (CEA), and ACEC-Canada. She also has a strong commitment to mentoring and retaining aspiring female engineers.



**Leandra Shade**, P.Eng.  
Project Manager/Project Engineer  
WSP

**LEANDRA SHADE**

Leandra completed her Bachelor of Science in Electrical Engineering Degree in 2015 and began her career with WSP the same year. During her six years, she has gained skills with electrical systems design, construction administration, and commissioning for commercial, residential, educational, health-care, and recreational facilities.

Leandra has been incredibly active in Girl Guides since she was young, which has given her practical experience and fostered a strong sense of community in academia and now the industry. She has even connected her worlds by organizing Women in Engineering events with Girl Guides of Canada. This strong foundation of skills and values has contributed to her career at WSP. She is now a project manager/project engineer, and her leadership skills are expanding to include mentoring junior staff who are new to the industry.

**WINNER** →  
**HAROLD L. MORRISON AWARD**  
**TIA HILL**



**ENTUITIVE**



**Justin Fried, P.Eng.**  
Senior Engineer  
Entuitive Corporation

**JUSTIN FRIED**

Since early in his career, Justin has been leading projects that helped him understand how the building consulting industry functions, specifically the role of the structural engineering consultant. Justin takes pride in delivering projects which are both architecturally functional as well as structurally practical and constructible. He is involved with continuing to build and grow technical excellence at Entuitive. As such, he is involved with developing knowledge for structural steel design, cold-formed steel design, wood design and developing standards for the Alberta region.

He brings an innovative mindset to projects and excel at streamlining design processes. His goal is to free up more time for engineers at any level to focus on solving more complex problems. Also, by integrating computational design workflow processes into Entuitive's standard project delivery method, he has not only created efficiencies but reduced the risk of error.



**David McBean, B.Sc., P.Geo.**  
Project Geophysicist  
Tetra Tech Canada Inc.

**DAVID MCBEAN**

After completing a Bachelor of Science in Astrophysics, David joined Tetra Tech and continued to study, earning a Bachelor of Science in Geophysics. David is best known for his perseverance, developed from years of field work dealing with specialized and sometimes temperamental equipment, often in harsh field conditions.

Throughout his career, his diligence, technical expertise, and community mindset have resonated through much of what he does, and who he is. He has demonstrated leadership, excellence and advocacy for the profession through his community and CEA service, as someone who is truly committed to the promotion of the consulting industry in the young professional sphere. Through his active participation and volunteerism, David has reached a network of students and other young professionals who he has, no doubt, inspired to further explore a career in engineering consulting.



**George Dal Bello, P.Eng., PMP**  
Project Manager, Infrastructure  
WSP

**GEORGE DAL BELLO**

George joined WSP in 2012 after graduating from the University of Alberta with a Bachelor of Science in Civil Engineering. He is an active volunteer within WSP and external, including CEA's Municipal Liaison committee and the Urban Land Institute's Young Leader Group in Alberta. He excels in complex, multi-disciplinary design-build, and Public Private Partnership (P3) projects. Since 2019, George has co-led the Project Management Professional training program for WSP Canada. This initiative has seen over 60 employees receive their PMPs, and elevated WSP's capabilities nationally.

Concurrent to his work on design-build projects, George has also led teams working in private development to pioneer new land development areas in Edmonton's northeast Horse Hills growthnode. Working with multiple private developers, George has been pivotal in the preliminary and detailed design of this emerging neighbourhood.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
—  
BUILDING ENGINEERING  
COMMERCIAL  
—  
PROJECT  
MANAGEMENT



## PETER LOUGHEED HOSPITAL PANDEMIC RESPONSE UNIT

### AWARD OF EXCELLENCE

Building Engineering – Commercial

### AWARD OF EXCELLENCE

Project Management

**FIRM:** STANTEC CONSULTING LTD.

**CLIENT/OWNER:** ALBERTA HEALTH SERVICES

**LOCATION:** CALGARY, ALBERTA

**OTHER KEY PLAYERS:**  
SPRUNG STRUCTURES, CANA CONSTRUCTION

In March 2020, Calgary accounted for 63% of Alberta's confirmed cases of COVID-19. Stantec Consulting Ltd., along with Alberta Health Services, Sprung Structures, and CANA Construction worked together to build a temporary treatment facility to accommodate the predicted pandemic peak in May 2020. Communication and coordination between all disciplines, physicians, and nurses was critical. The facility was designed and entirely constructed in under three weeks, providing an additional 70 treatment spaces for patients in Calgary.

### JUDGES' COMMENTS

This project stood up to the challenge of tight timelines, extreme demands and a high-risk situation.

### JUDGES' COMMENTS

This project's project managers fast-tracked multiple technical, regulatory, and stakeholder needs through all stages of planning, design, and construction – during a time of high-stress – in order to deliver critical infrastructure needs to the community.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
-  
STUDIES, SOFTWARE  
AND SPECIAL  
SERVICES

# DRINKING WATER INFRASTRUCTURE RISK AND VULNERABILITY ASSESSMENT

## AWARD OF EXCELLENCE

Studies, Software and Special Services

**FIRM:** ASSOCIATED ENGINEERING

**CLIENT/OWNER:** ALBERTA INNOVATES  
AND ALBERTA ENVIRONMENT AND PARKS

**LOCATION:** ALBERTA

**OTHER KEY PLAYERS:** UNIVERSITY OF  
ALBERTA – WATERSHED SCIENCE  
AND MODELLING LABORATORY

Recognizing the impact of climate and extreme weather on the supply of safe drinking water, Alberta Innovates with Alberta Environment and Parks partnered to study the climate change risks of extreme streamflow events at 48 municipal drinking water facilities across Alberta. Associated Engineering provided a high-level assessment of the water infrastructure, considering historic vulnerability and increased risks of future extreme streamflow events due to climate change. This study helps municipalities understand the risks of the changing climate to their drinking water infrastructure, identify facility and knowledge gaps, and make informed decisions and plans to ensure safe drinking water for Albertans.



### JUDGES' COMMENTS

An extremely important project that benefits society and leads the way on climate change innovations focused on real world problems that impact people everyday.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
-  
BUILDING ENGINEERING -  
INSTITUTIONAL



## MACKIMMIE TOWER REDEVELOPMENT

### AWARD OF EXCELLENCE

Building Engineering – Institutional

**FIRM:** DIALOG

**CLIENT/OWNER:** UNIVERSITY OF CALGARY

**LOCATION:** CALGARY, ALBERTA

**SUB CONSULTANTS:** ENTUITIVE CORPORATION,  
SMP ENGINEERING

Mackimmie Tower houses classrooms, offices, and support spaces at the University of Calgary. The building underwent a large-scale redevelopment that utilized the existing building structure with the addition of two new floors, new double façade, new interior programming, and new mechanical and electrical services.

The main design objectives were to provide exceptional environmental quality and user experience while sustainably managing energy consumption and carbon emissions. The design leverages the double façade to provide daylighting control, natural ventilation, and passive heating and cooling.

### JUDGES' COMMENTS

The difficulty of redeveloping the existing tower and at the same time improving its functionality, aesthetics, and sustainability make this project truly impressive.

Renovating this existing building to net zero in such an aesthetic way while improving the occupant experience is leading edge towards how we should be delivering high performance buildings in Alberta.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
-  
SUSTAINABLE  
DESIGN

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
BUILDING  
ENGINEERING  
INSTITUTIONAL

# EDMONTON CONVENTION CENTRE ATRIUM RENOVATION

**AWARD OF EXCELLENCE**  
Sustainable Design

**AWARD OF MERIT**  
Building Engineering – Institutional

**FIRM:** DIALOG

**CLIENT/OWNER:** CITY OF EDMONTON

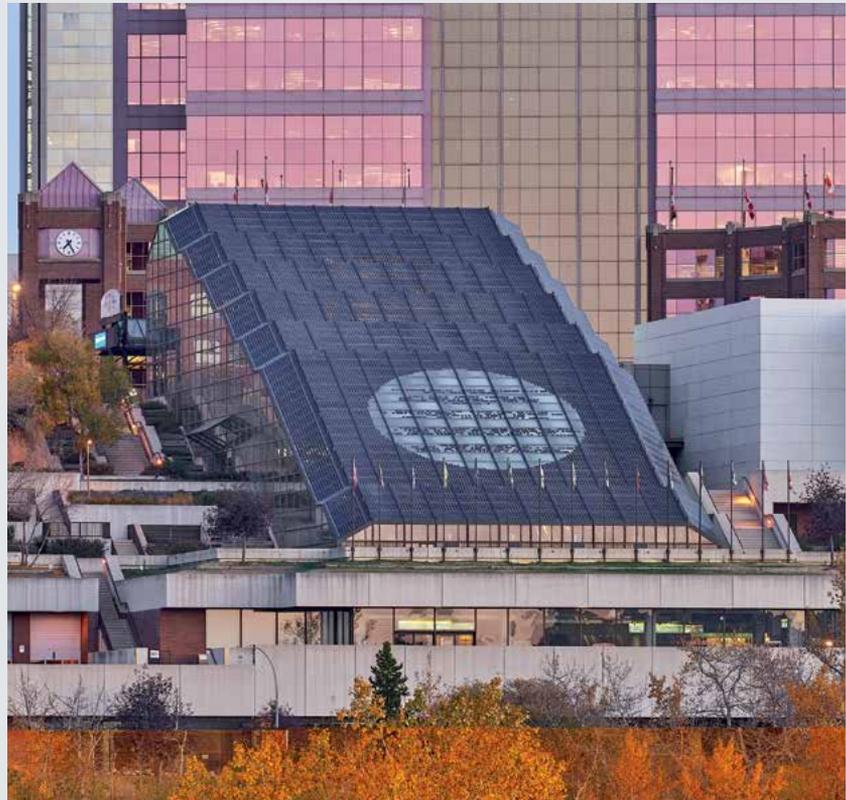
**LOCATION:** EDMONTON, ALBERTA

**SUB CONSULTANTS:** HOWELL-MAYHEW  
ENGINEERING INC, MORRISON HERSHFIELD LIMITED

**CONTRACTORS:** BIRD CONSTRUCTION CO

The revitalization of the Edmonton Convention Centre's multi-level atrium along the slope of Edmonton's River Valley was an opportunity to do more than just replace 35-year-old glazing. DIALOG's architectural, electrical, mechanical and structural engineering teams worked with Howell-Mayhew Engineering and Morrison Hershfield to modernize numerous systems in the atrium.

The renovations include a higher performance building envelope, modernized lighting and mechanical systems, structural upgrades, and Canada's largest building-integrated solar photovoltaic system with an embedded Morse code poem to enjoy. It allows the Centre to showcase their ambitious sustainability goals while achieving them.



### JUDGES' COMMENTS

Shows amazing innovation and sets a visible example in the downtown core of what can be in terms of sustainability.

### JUDGES' COMMENTS

Incredibly visible opportunity to showcase the field of engineering and how it can be valuable in the view of climate impacts and public value.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE

COMMUNITY  
DEVELOPMENT

WATER  
RESOURCES



## GLENMORE DAM INFRASTRUCTURE IMPROVEMENT: DAM REHABILITATION AND BRIDGE DECK REPLACEMENT

### AWARD OF EXCELLENCE

Community Development

### AWARD OF EXCELLENCE

Water Resources

**FIRM:** KLOHN CRIPPEN BERGER LTD.

**CLIENT/OWNER:** CITY OF CALGARY

**LOCATION:** CALGARY, ALBERTA

**SUB CONSULTANTS:** GEC ARCHITECTURE,  
SMP ENGINEERING, RJC ENGINEERS

**CONTRACTORS:** FLATIRON CONSTRUCTORS  
CANADA LIMITED, COAST DEMOLITION,  
DAKOTA RECLAMATORS LTD., RS FOUNDATION  
SYSTEMS, CUSTOM ELECTRIC LTD.,  
LINITA DESIGN & MANUFACTURING, AAA STEEL LTD.

Klohn Crippen Berger (KCB) was retained by the City of Calgary to rehabilitate the Glenmore Dam and replace the bridge deck as part of the Glenmore Dam Infrastructure Improvement Program. The project added extra storage capacity to the City's drinking water supply and reduced the flood risk downstream. KCB retrofitted a 100-year-old concrete structure with an innovative approach that minimized demolition and added computer-controlled steel gates to the dam. The project enhances public recreation with an improved bridge deck that forms part of the 27-km trail system around the Glenmore Reservoir and Elbow River.

### JUDGES' COMMENTS

Overcoming the absence of record drawings is very challenging. The engineers' use of modelling is state of the art in tackling this obstacle.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE

TRANSPORTATION  
INFRASTRUCTURE – ROADS,  
INTERCHANGES, AIRPORTS,  
MASS TRANSIT

# TRANS-CANADA HIGHWAY AVALANCHE MITIGATION

## AWARD OF EXCELLENCE

Transportation Infrastructure – Roads,  
interchanges, airports, mass transit

**FIRM:** MCELHANNEY LTD.

**CLIENT/OWNER:** PARKS CANADA AGENCY

**LOCATION:** GLACIER NATIONAL PARK,  
BRITISH COLUMBIA

**SUB CONSULTANTS:**  
DYNAMIC AVALANCHE CONSULTING LTD.

Glacier National Park is home to a unique 43.8 km transportation corridor which contains the Trans-Canada Highway, the Canadian Pacific Railway, and a densely concentrated cluster of 135 high-frequency avalanche paths. For Parks Canada Agency, McElhanney partnered with Dynamic Avalanche Consulting Ltd. to improve the safety and reliability of this critical corridor by implementing industry leading avalanche mitigation solutions. These solutions, integrated with the incredibly complex existing avalanche control program, reduce the avalanche risk to roadway users and help keep Canadians moving safely year round.



## JUDGES' COMMENTS

The improvements implemented for both monitoring and mitigating avalanches along the Trans-Canada Highway were impressive, given the remoteness of the area, and the way in which technologies were implemented. This improvement contributes greatly to public safety and our economy by minimizing disruptions along this freight route.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
-  
COMMUNITY OUTREACH  
AND IN-HOUSE  
INITIATIVES



## GOLDER TECHNICAL EXCELLENCE AND INNOVATION PROGRAM

### AWARD OF EXCELLENCE

Community Outreach  
and In-House Initiatives

**FIRM:** GOLDER ASSOCIATES LTD.

**CLIENT/OWNER:** GOLDER ASSOCIATES LTD.

**LOCATION:** GLOBAL PROGRAM WITH SUBSTANTIAL  
ALBERTA (EDMONTON/CALGARY) CONTENT

Golder's Technical Excellence and Innovation Program is a natural expression of our collegial culture. Golder's Technical Communities bring together professionals within a common technical discipline, or who provide the same specialized service, to share knowledge, best practices, and technical resources. The Technical Communities create diverse mentoring and learning opportunities for staff at all levels. Golder's Innovation Program supports innovation in all its forms, from technological breakthroughs to incremental improvement of services we are already providing and converts bright ideas into goods or services to create value that satisfies the needs and expectations of our clients.

### JUDGES' COMMENTS

Golder's technical and innovation program has already produced tangible results and clients that are reaping the benefits of the program. By connecting people and ideas, supported with the program structure and corporate support has created something quite impactful.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE

TRANSPORTATION  
INFRASTRUCTURE –  
TRANSPORTATION  
STRUCTURES

# CROWCHILD TRAIL BRIDGE OVER BOW RIVER

## AWARD OF EXCELLENCE

Transportation Infrastructure  
– Transportation Structures

**FIRM:** ASSOCIATED ENGINEERING

**CLIENT/OWNER:** CITY OF CALGARY

**LOCATION:** CALGARY, ALBERTA

**SUB CONSULTANTS:** THURBER ENGINEERING LTD.

**CONTRACTORS:** GRAHAM CONSTRUCTION

**OTHER KEY PLAYERS:** ISL ENGINEERING  
AND LAND SERVICES LTD.

Associated Engineering's innovative design for rehabilitating and widening Calgary's Crowchild Trail Bow River Bridge Interchange improves functionality and safety, and extends the service life of the 50 year old, severely deteriorated structure.

Associated's team conceived a cost effective, sustainable solution involving reusing the existing structure, thus avoiding extensive demolition, limiting waste, and protecting the river. The team's complex traffic staging plan mitigated interruption to commuters, pedestrians, CP Rail, and businesses during construction. Associated's design for bridge widening and realigning access ramps eliminates congestion on this interchange, reducing emissions, and improving the quality of life for more than 100,000 commuters every day.



## JUDGES' COMMENTS

Wow, talk about complex problems overcome by innovative engineering. This project had plenty of opportunities to fail, but the resourcefulness of the engineers was extraordinary. The increase in capacity of the bridge, delivered without need to do in-stream work, and while keeping traffic open throughout construction, was quite impressive. The overall benefit of a safer and wider bridge was delivered impressively.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE  
-  
ENVIRONMENTAL



## ASTOTIN CREEK RESILIENCY STUDY

### AWARD OF EXCELLENCE

Environmental

**FIRM:** WSP

**CLIENT/OWNER:** STRATHCONA COUNTY

**LOCATION:** STRATHCONA COUNTY, ALBERTA

**SUB CONSULTANTS:** UNIVERSITY OF ALBERTA,  
INNOTECH

Multiple severe floods in Astotin Creek over the past decade triggered the need for an interdisciplinary study to develop a Watershed Resiliency Action Plan. WSP's study balanced environment, engagement, and engineering to create a healthy watershed. The analysis incorporated vegetation, soils, wildlife, fish and aquatic habitat, surface and groundwater studies, climate analysis, innovative eDNA and modeling techniques plus extensive public engagement. This robust assessment will lead to a holistic resiliency action plan with a focus on nature-based solutions. The goal is a community supported plan which enables both residents and Mother Nature to thrive. Study partners: University of Alberta and InnoTech

### JUDGES' COMMENTS

The Astotin watershed study creates practical tangible recommendations for managing the watershed, that were founded on community support and feedback.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
EXCELLENCE

SMALL FIRM  
BIG IMPACT

## PUSHING THE LINE: GROAT ROAD STORM TRUNK REHABILITATION PHASE 2

### AWARD OF EXCELLENCE

Small Firm – Big Impact

**FIRM:** SMA CONSULTING LTD.

**CLIENT/OWNER:** EPCOR

**LOCATION:** EDMONTON, ALBERTA

**SUB CONSULTANTS:** ASSOCIATED ENGINEERING,  
SMA CONSULTING LTD., STANTEC CONSULTING LTD.

**CONTRACTORS:** SHANGHAI CONSTRUCTION  
GROUP CANADA CORPORATION

**OTHER KEY PLAYERS:**  
THURBER ENGINEERING LTD.

EPCOR's Groat Road Storm Trunk Rehabilitation (Phase 2) project is one of the largest sliplining projects in Western Canada. 3.9 km of 2-metre trunk was rehabilitated under live flow conditions with minimal disruption to two of Edmonton's busiest arterial roads. The project pushed the limits of sliplining technology and faced the wettest summer in forty years, collapsed sections, huge voids, and COVID-19. The team's creative and collaborative approach, depth of technical experience, advanced techniques, and agile responses ultimately resulted in successful completion—under budget.



### JUDGES' COMMENTS

It is hard to believe this project was done by a small firm. The risks were very high and the degree of difficulty dealing with a 60 year old trunk were significant. Below ground projects are like a box of chocolate, never know what one will get! Any slip of the project would have had major impacts on the environment and public – not to mention a nightmare for the City of Edmonton. An impressive feat and accomplishment.

2022  
SHOWCASE  
- AWARDS -



AWARD OF  
MERIT  
—  
SMALL FIRM –  
BIG IMPACT  
—  
WATER  
RESOURCES

## DRIFTPILE CREE NATION WASTEWATER TREATMENT FACILITY

### AWARD OF MERIT

Small Firm – Big Impact

### AWARD OF MERIT

Water Resources

**FIRM:** M2 ENGINEERING

**CLIENT/OWNER:** DRIFTPILE CREE NATION

**LOCATION:** DRIFTPILE, ALBERTA

**SUB CONSULTANTS:** THURBER ENGINEERING LTD., PALS GEOMATICS CORP., NORTHWEST HYDRAULIC CONSULTANTS LTD., HUTCHINSON ENVIRONMENTAL SCIENCES LTD., RIDDELL KURCZABA ARCHITECTURE ENGINEERING INTERIOR DESIGN LTD., PTARMIGAN ENGINEERING LTD., J. DAVIS ENGINEERING LTD., WAVE ENGINEERING CONSULTANTS INC.

**CONTRACTORS:** ALBERCO CONSTRUCTION LTD.

Driftpile Cree Nation is a proud community on the south shore of Lesser Slave Lake. This project involved the design and construction of a new hybrid-lagoon to replace their old wastewater lagoon, which had failed within its first year of operation. The new system is an aerated lagoon with partial mechanical features and biological treatment for nitrification. The new facility provides effluent quality exceeding regulatory requirements.

M2 Engineering led the project through planning, design, and construction. Our sub consultant team included: Thurber Engineering, Pals Geomatics, Northwest Hydraulic Consultants, Hutchinson Environmental Sciences, Riddell Kurczaba Architecture, Ptarmigan Engineering, J. Davis Engineering and Wave Engineering.

#### JUDGES' COMMENTS

Building on a failed design and turning it into success; even securing the full support of the community despite the challenges and the length of time it took. An impressive project, by a smart and persevering team.

#### JUDGES' COMMENTS

Great environmental and community value!

2022  
SHOWCASE  
- AWARDS -



AWARD OF  
MERIT  
—  
COMMUNITY OUTREACH  
AND IN-HOUSE  
INITIATIVES

## INCLUSION AND DIVERSITY

### AWARD OF MERIT

Community Outreach and In-House Initiatives

**FIRM:** STANTEC CONSULTING LTD.

**CLIENT/OWNER:** STANTEC CONSULTING LTD.

**LOCATION:** CALGARY, ALBERTA

At Stantec, we believe that inviting, embracing, and celebrating differences creates opportunity and inspires our best work. That's why our Inclusion and Diversity (I&D) program provides a range of opportunities, resources, and events for our employees to celebrate and encourage discussions around this topic. Over the last decade, we have formed Employee Resource Groups and I&D Council Committees to support and encourage I&D efforts; provided training to our employees to overcome unconscious biases; partnered with organizations that work with Black, Indigenous, People of Colour and LGBTQ2S+ communities; implemented a diversity supplier program; and provided scholarships to underrepresented groups.

#### JUDGES' COMMENTS

Stantec's Inclusion & Diversity Program ensures they are tapping into and getting the most out of the talent in all areas of their corporation. Data analysis and attention to detail for the submission put them over the top on this win.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
PROJECT  
MANAGEMENT  
-  
TRANSPORTATION  
INFRASTRUCTURE

## CROWCHILD TRAIL SHORT-TERM IMPROVEMENTS

### AWARD OF MERIT

Project Management

### AWARD OF MERIT

Transportation Infrastructure –  
Roads, interchanges, airports,  
mass transit



**FIRM:** JOINT SUBMISSION: ASSOCIATED ENGINEERING AND ISL ENGINEERING AND LAND SERVICES LTD.

**CLIENT/OWNER:** CITY OF CALGARY

**LOCATION:** CALGARY, ALBERTA

**SUB CONSULTANTS:** ADP ENGINEERING LTD.,  
BISON HISTORICAL SERVICES LTD.,  
CANADIAN HIGHWAYS INSTITUTE LTD.,  
PATCHING ASSOCIATES ACOUSTICAL ENGINEERING LTD.,  
THURBER ENGINEERING LTD.

**CONTRACTORS:** GRAHAM INFRASTRUCTRE LP

**OTHER KEY PLAYERS:** WSP

ISL was engaged to develop a new vision for the future of Crowchild Trail using an award-winning planning and engagement process. Associated Engineering (AE) was separately engaged to lead rehabilitation of three area bridges and confirmed feasibility of adding new lanes over the Bow River. With the bridge widening anchoring a suite of short-term recommendations, this \$87 million project was approved in 2017. ISL, AE and other partners worked collaboratively to integrate their designs into a single construction contract, delivering the highly complex work over three years with no daytime lane closures, and fulfilling Calgarians' expectations to "fix the bridge!"

#### JUDGES' COMMENTS

The Crowchild Trail project demonstrated excellence in a number of areas, with the team's key successes achieved in the public engagement and in completing the work without traffic disruptions. Both of these are significant accomplishments for a project of this size, and with so many motorists and residents who become beneficiaries of the end result.

#### JUDGES' COMMENTS

How many challenges can be thrown into one project? This one is a record. The engineering was complex and made more so with all the public communications aspects and the politically sensitive nature of the work. Superb management of a difficult project. The innovation required to meet the needs of the road users and residents, now and into the future, makes this project outstanding.

2022  
SHOWCASE  
- AWARDS -

AWARD OF MERIT  
-  
ENVIRONMENTAL



## 2020 ICE JAM FLOOD WASTEWATER & STORMWATER SYSTEMS RECOVERY

### AWARD OF MERIT

Environmental

**FIRM:** STANTEC CONSULTING LTD.

**CLIENT/OWNER:** REGIONAL MUNICIPALITY  
OF WOOD BUFFALO

**LOCATION:** FORT MCMURRAY, ALBERTA

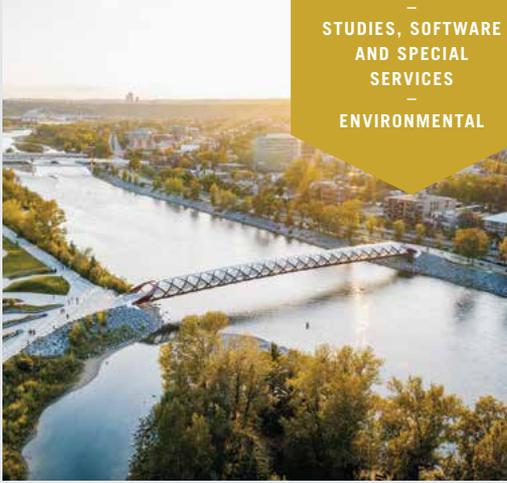
In any emergency, quick effective action is critical. During April 2020, Stantec's rapid response to the 2020 Ice Jam Flood helped mitigate severe damage to the wastewater and stormwater systems. Deployment of dewatering pumps, emergency access roads, and outfall inspections limited the disruption to RMWB infrastructure. As the waters receded, focus shifted to recovery and 24-hour sewer inspection and cleaning efforts to remove accumulated debris in the sanitary and storm sewers. The Municipality was grateful for our efforts, commenting: "...Stantec personnel were essential to restoring water and wastewater infrastructure during the hardest times our community has faced in generations."

#### JUDGES' COMMENTS

Working under difficult conditions to make sense of the many unknown factors, dealing with a rapidly evolving situation put this project to the test. Using sound engineering principles and innovative solutions, this team was able to mitigate the effects of the flood and aid in a rapid first phase of recovery.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
—  
STUDIES, SOFTWARE  
AND SPECIAL  
SERVICES  
—  
ENVIRONMENTAL



## DEVELOPMENT OF CLIMATE CHANGE DATA FOR HYDROLOGIC AND HYDRAULIC ANALYSES IN THE CITY OF CALGARY

### AWARD OF MERIT

Studies, Software and Special Services

### AWARD OF MERIT

Environmental

**FIRM:** GHD LIMITED

**CLIENT/OWNER:** CITY OF CALGARY / CALGARY AIRPORT AUTHORITY

**LOCATION:** CALGARY, ALBERTA

The City of Calgary and its community partners are committed to increasing the resiliency of our community to the effects of climate change. A key input in this process is robust climate project data for use in infrastructure design, operational planning and community decision making. This project, jointly funded by the City and the Calgary Airport Authority, is an important step in the City's approach to climate change adaptation. The purpose was to develop "future climate" data to determine the impacts of climate change, identify design and cost implications, and eventually build infrastructure that is more climate resilient.

### JUDGES' COMMENTS

Providing quantitative analyses for municipalities will help in supporting informed decision making when deciding on approaches to protect long term resiliency.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
—  
BUILDING ENGINEERING  
COMMERCIAL



## PLATFORM INNOVATION CENTRE & PARKADE

### AWARD OF MERIT

Building Engineering – Commercial

**FIRM:** ENTUITIVE CORPORATION

**CLIENT/OWNER:** CALGARY MUNICIPAL LAND CORPORATION ON BEHALF OF CALGARY PARKING AUTHORITY

**LOCATION:** CALGARY, ALBERTA

**SUB CONSULTANTS:** KASIAN ARCHITECTURE, 5468796 ARCHITECTURE INC, SUPERMÉTAL, COLLIERS PROJECT LEADERS

**CONTRACTORS:** ELLISDON, SMITH + ANDERSEN

**OTHER KEY PLAYERS:** CALGARY MUNICIPAL LAND CORPORATION, CALGARY PARKING AUTHORITY, PLATFORM CALGARY

The Platform Innovation Centre & Parkade in Calgary, Alberta, Canada is no ordinary parkade. Built to be future-proofed, it can adapt to fit multiple uses, ensuring it has a long life. Overcoming technical and construction challenges that included building a bridge structure over top of an active LRT line and next to a CP Rail line, the project is truly a feat of engineering. Structural engineers, Entuitive worked alongside CMLC, Colliers Project Leaders, Calgary Parking Authority, Platform, Kasian, 5468796, EllisDon, Supermétal, and Smith + Andersen to bring this project to life.

### JUDGES' COMMENTS

It was wonderful to read about how Entuitive considered the optimization of resources and adaptability to future uses with every element that was under consideration. This project sets a high standard for buildings of the future.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
SUSTAINABLE  
DESIGN



## BLATCHFORD DISTRICT ENERGY SYSTEM - PHASE 1

**AWARD OF MERIT**  
Sustainable Design

**FIRM:** ASSOCIATED ENGINEERING

**CLIENT/OWNER:** CITY OF EDMONTON

**LOCATION:** EDMONTON, ALBERTA

**SUB CONSULTANTS:** PINCHIN LTD.,  
START ARCHITECTURE INC.

**CONTRACTORS:** CHANDOS CONSTRUCTION LTD.,  
PARK PAVING LTD.

With the closure of its municipal airfield, the City of Edmonton developed this downtown area as an innovative, environmentally friendly community. Associated Engineering collaborated with the City to design the Blatchford Neighbourhood's District Energy Sharing System. The project features a geexchange field, utilizing earth's energy for heating, cooling, and domestic hot water, and Canada's largest application of an ambient-temperature, energy distribution system. The buildings employ heat pumps to share unused energy, reducing greenhouse gas emissions. Blatchford residents can take pride in living in Alberta's most forward thinking, sustainable community, providing a model for community-based climate change mitigation across Canada.

### JUDGES' COMMENTS

Stepping into the future. This design puts together so many energy concepts and technologies to culminate towards a smart energy community by really implementing three pillars: conservation, efficiency and renewables. In fact, the carbon-neutral vision for the community harmoniously enabled by Engineering and Geoscience makes this project an example to emulate from. The overall concept will be copied and will only grow and improve from here.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
SUSTAINABLE  
DESIGN



## CALGARY INTERNATIONAL AIRPORT EAST DEICING APRON

**AWARD OF MERIT**  
Sustainable Design

**FIRM:** STANTEC CONSULTING LTD.

**CLIENT/OWNER:** CALGARY AIRPORT AUTHORITY

**LOCATION:** CALGARY, ALBERTA

**CONTRACTORS:** PCL CONSTRUCTION INC.,  
CARBON CURE

**OTHER KEY PLAYERS:** TETRA TECH CANADA INC.

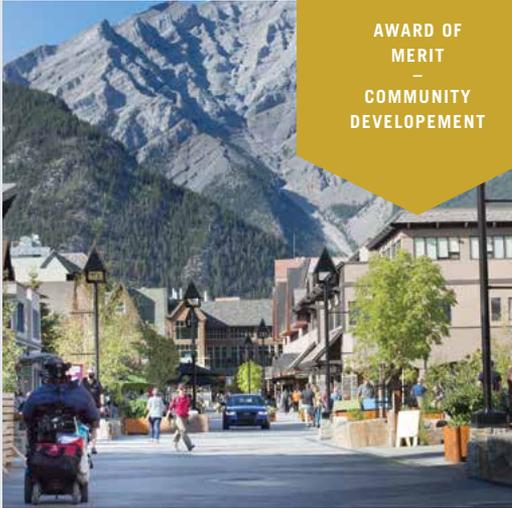
In the fall of 2018, WestJet and Air Canada indicated to the Calgary Airport Authority (YYC) an immediate need of a centralized deicing facility. Stantec worked with YYC for the deicing apron design, including a diversion structure to divert deicing glycol runoff for treatment. The project achieved the goals of reducing at-gate times, improving passenger experience, and reinforcing YYC's environmental stewardship. The completion of the East Deicing Apron means that the airport is self-sufficient in recycling spent glycol, where it can be re-used on aircraft deicing, and removes the chemical treatment burden on the City of Calgary's wastewater treatment plants.

### JUDGES' COMMENTS

Great sustainable design that considered key factors for current but future use: rain and storm precipitation, smart and tailored waste water and groundwater treatment, innovative maximization of deicing fluids, future fleet assessment and requirements, smart expansion planning, well thought repairs and maintenance cadence, etc. An impressive and creative design and project realization.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
COMMUNITY  
DEVELOPMENT



## BEAR STREET RECONSTRUCTION: PRIORITIZING PEDESTRIANS IN BANFF

**AWARD OF MERIT**  
Community Development

**FIRM:** WSP

**CLIENT/OWNER:** TOWN OF BANFF

**LOCATION:** BANFF, ALBERTA

**SUB CONSULTANTS:** THE TULA PROJECT/  
GROUND CUBED, LEVEL PLAYING FIELD,  
LANDSCAPE IRRIGATION SOLUTIONS,  
TAYLOR GEOTECHNICAL ENGINEERING

**CONTRACTORS:** BREMNER ENGINEERING  
AND CONSTRUCTION LIMITED

The Bear Street Reconstruction project created a pedestrian-priority street in the heart of the Town of Banff. Running parallel to Banff Avenue, Bear Street is home to a mix of visitor and local-oriented services alike. The \$9.5 million reconstruction transformed the street into a pedestrian-friendly space where people can partake in the local amenities, or relax and take in the mountains.

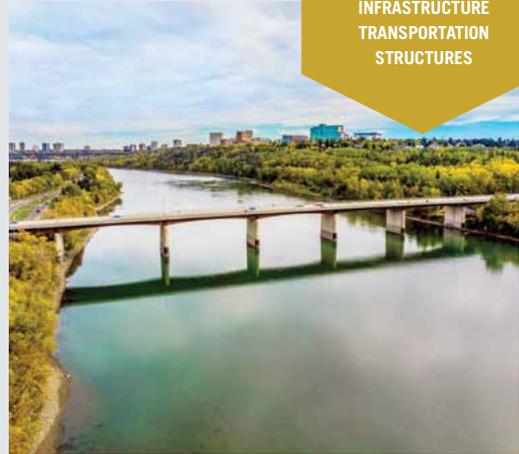
The overarching design concept of Bear Street prioritizes a people-centric shared space, encourages active modes of transportation and increases pedestrian amenity space while still enabling vehicle access, while maintaining the very distinct cultural character of this unique community.

### JUDGES' COMMENTS

Revisoning the future urban space.

2022  
SHOWCASE  
- AWARDS -

AWARD OF  
MERIT  
-  
TRANSPORTATION  
INFRASTRUCTURE  
TRANSPORTATION  
STRUCTURES



## GROAT ROAD BRIDGE REHABILITATION

**AWARD OF MERIT**  
Transportation Infrastructure –  
Transportation Structures

**FIRM:** DIALOG

**CLIENT/OWNER:** CITY OF EDMONTON

**LOCATION:** EDMONTON, ALBERTA

**SUB CONTRACTORS:** AL-TERRA ENGINEERING LTD.,  
THURBER ENGINEERING LTD.,  
SPENCER ENVIRONMENTAL MANAGEMENT SERVICES LTD,  
JDE CONSTRUCTION MANAGEMENT LTD.,  
EDA PLANNING + URBAN DESIGN INC.

**CONTRACTORS:** GRAHAM CONSTRUCTION  
& ENGINEERING INC.

The Groat Road Bridge spans the North Saskatchewan River and is located in the heart of Edmonton. The bridge rehabilitation replaces the existing haunched concrete girder bridge built in 1955 with a new haunched steel girder bridge. The new bridge carries four lanes of traffic with a widened sidewalk across the river. The rehabilitation reuses the existing concrete piers and abutments, along with several design modifications, and meets the provisions of the Canadian Highway Bridge Design Code. The demolition of the existing bridge began in May 2018 with the new structure being opened to traffic in October 2020.

### JUDGES' COMMENTS

Highly technical project, front and centre in the view of the public throughout. Extremely well executed.

2022  
SHOWCASE  
- AWARDS -  
JUDGES

**Adam Laughlin**, P.Eng.  
*Deputy City Manager,  
Integrated Infrastructure  
Services, City of Edmonton*

**Andre Corbould**, P.Eng.  
*City Manager,  
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**Bill Hinsley**  
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*Assistant Deputy Minister,  
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# A CENTURY OF BUILDING EDMONTON, TOGETHER

As PCL Edmonton Buildings and Civil celebrates 100 years, PCL and its partners reflect on a momentous century of community building



**WHEN PCL CONSTRUCTION** established its Edmonton office in 1922, Alberta was less than 20 years old and PCL was still known as Poole Construction. The fledgling province was humming with pioneer entrepreneurialism and the buzz of burgeoning industry, but the landmarks that would come to define Alberta hadn't been built yet. Across the next century, however, PCL's Edmonton Buildings and Civil District would complete some of Alberta's most iconic projects, create enduring partnerships with its essential institutions, and help transform Edmonton — as well as northern Alberta, the Northwest Territories and Nunavut — into the world-class region it is today.

PCL was established in 1906 as Martin and Poole Construction, and 16 years later, founder Ernest Poole sent his employee Claude Alston to Edmonton to open an office in the Tegler Building. By 1923, Poole Construction had

completed its first project in the city, the original Edmonton Public Library, and in 1932, Edmonton became the official headquarters. The rest is history — not just PCL's, but Edmonton's and Alberta's, too.

"We've grown with the times, just like Edmonton," says Jason Portas, vice president and district manager, Edmonton Buildings and Civil. "But we've become progressively larger within Edmonton's construction cycles and continue to have a growing impact." This became evident as Edmonton Buildings and Civil worked on foundational projects for the city: the Students' Union Building and Rutherford Library for the University of Alberta, the Rosedale Water Treatment Plant, the Provincial Government Administration Building and an extension of the Hotel Macdonald were all completed by 1950. Beyond city limits, PCL built some of the first radio communications north of the 60<sup>th</sup> parallel, and in 1952 completed the Cold Lake Canadian Forces Base.

PCL soon had a reputation as a vital partner in many markets: from post-secondary institutions (University of Alberta, NAIT, Grant MacEwan) or malls (West Edmonton Mall, City Centre Mall,

Southgate Centre) to hospitals, highways and more. "The district developed experience, knowledge and partnerships that transcended individuals," Portas adds. "Edmonton became essential for PCL, setting the stage for a high-water mark of excellence and expansion to other markets."

The success of these projects was underpinned by a deep commitment to partnerships. Take the global design firm Stantec, a longtime partner of PCLs, which collaborated on projects such as Stantec Tower, the skyscraper that defines downtown's ICE District. Stantec's Scott Argent, vice president regional leader for Alberta, says, "PCL's difference is the strength of its bench, in all aspects of their team. The level of construction and business acumen that it brings to the table is immediately clear. PCL brings the best version of itself to the best of its ability."

Stantec represents the kind of partnerships that PCL Edmonton Buildings and Civil prides itself on, a roster that also includes organizations such as the University of Alberta, EPCOR, the Royal Alexandra Hospital, or Oxford Properties Group —





- 1 Edmonton Public Library job shack
- 2 Stollery Children's Hospital Pediatric Intensive Care Unit expansion
- 3 Stantec Tower construction

House says PCL has been instrumental in constructing or renovating almost every space in the hospital, and PCL team members have been generous donors to the Stollery, whether through sponsoring events or volunteering time. For example, the board of the Stollery Children's Hospital Foundation has always included a member from PCL.

But House says that the connective tissue between the foundation and PCL Edmonton Buildings and Civil is deeper than the name Stollery — it's about community impact. "We take pride in our projects," says Mike Wieninger, COO of PCL's Canadian Operations. "But we also ask ourselves, 'What do they mean to our community?' We've partnered with many organizations — from the Red Cross and Habitat for Humanity to our 50-plus-year partnership with United Way — but beyond financial contributions, we help out in the community itself. Whether it's our projects or charitable endeavours, it's incredibly rewarding to know that our families, friends and community will benefit."

That community impact is the legacy of PCL's 100 years in Edmonton, and it will guide the district through the next century, too. "PCL has grown up with Alberta," House adds. "Seeing how it's turned out in the first hundred years makes me excited about the next hundred years. PCL Edmonton Buildings and Civil isn't just 'Canadian class' or 'North American class' — it's world class." ♦

**“We take pride in our projects. But we also ask ourselves, ‘What do they mean to our community?’”**

— MIKE WIENINGER  
COO, Canadian Operations, PCL

a relationship spanning almost 60 years. These partnerships extend into construction and business associations, such as the Business Council of Alberta and the Edmonton Chamber of Commerce, and to post-secondary education, where PCL sponsors awards and scholarships.

Yet one partnership has always stood out. In 1949, Bob Stollery joined Poole as the field engineer on the Aberhart Memorial Hospital and became president of PCL 20 years later. A visionary figure in PCL's history, Stollery was integral to the company's legacy of employee ownership and community giving. Motivated by their experiences with pediatric health care, Bob and his wife Shirley championed a foundation for children's health, which ultimately became the Stollery Children's Hospital Foundation.

"The Stollerys created this foundation to help kids get the best chance at living their best lives," says Mike House, president and CEO of the Stollery Children's Hospital Foundation. "You can point to Bob and Shirley for our values. They felt that no matter how wealthy or poor, every kid should get care, so we wanted to make the hospital as inclusive as possible. They also wanted to create a foundation that helped people understand the importance of giving back to others. You see that all over Edmonton. PCL gives in lots of ways, not just to the Stollery Children's Hospital."



**100 YEARS  
EDMONTON**  
1922 - 2022

Visit [PCL.com/EdmontonBuildingsCentennial](https://www.pcl.com/EdmontonBuildingsCentennial) to learn more about PCL Edmonton Buildings and Civil projects and partnerships.



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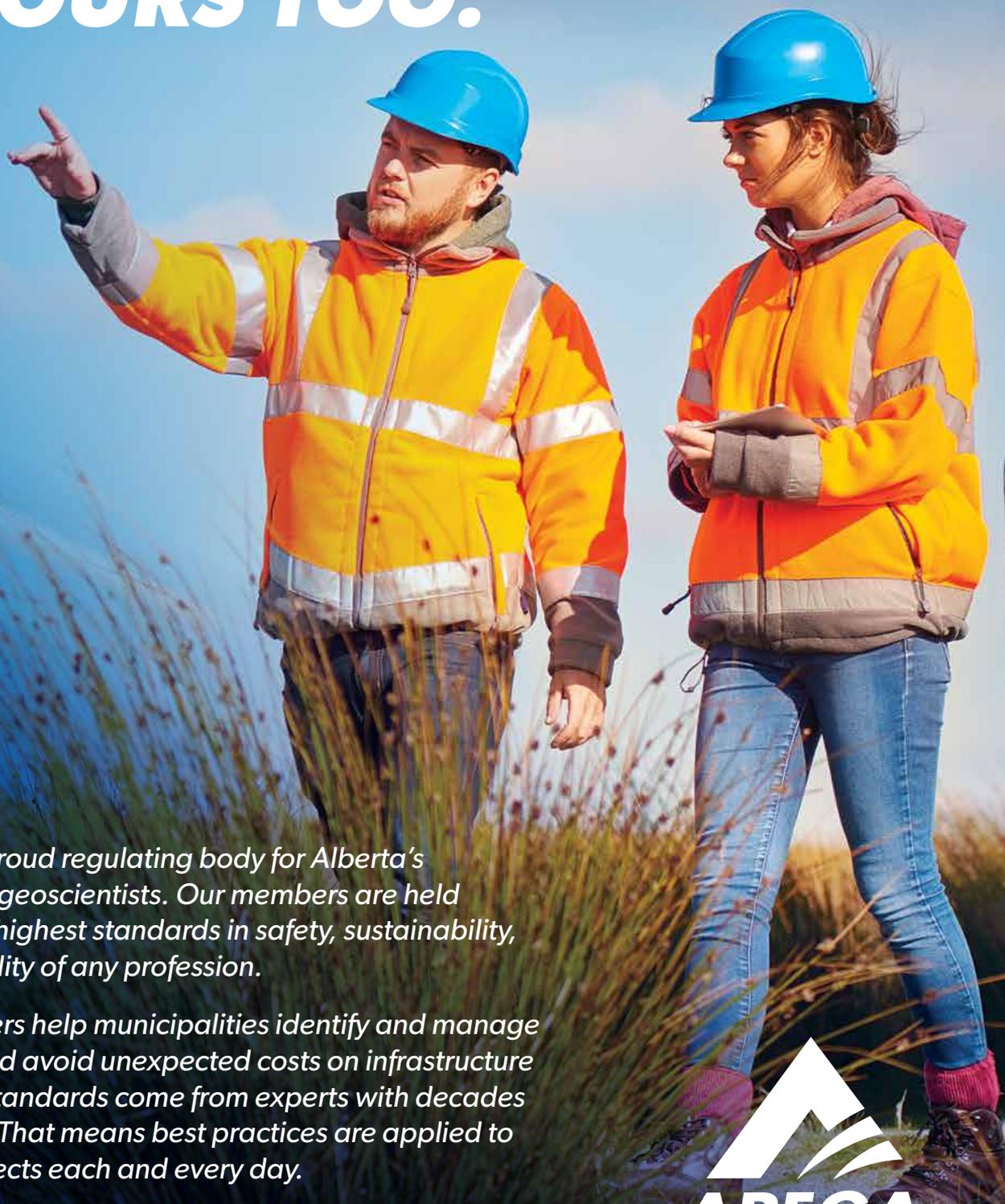
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