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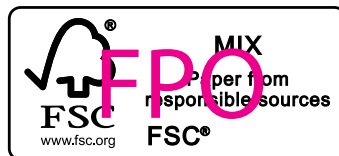
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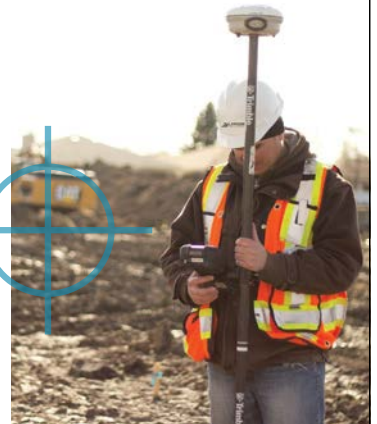
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Andy Nagy, P.Eng.

We Are In The Value Creation Business!

Similar to last year's ACEC Manitoba President's message, it is an honour to serve as your President for 2018-2019 and I wish to thank our Past President Richard Tebinka, our Board, and all our other volunteers for their ongoing commitment to our organization. Without that commitment and the help of those involved, we would not have the strong and well organized association that we have today.

As most of you are aware, we are heading towards a tipping point as a professional organization, and we need to impress upon those who are affected by our works that we are in the value creation business. That means we create more value than the cost to procure our services and in most cases, much more. It requires a great deal of imagination, commitment to our clients, and professionalism on our part to ensure that always remains the case.

So with that being said, some of the initiatives for the upcoming year will include the following:

- We will continue to pursue the possibility of introducing Qualifications Based Selection (QBS) for engineering services with the City of Winnipeg and the Province of Manitoba. This procurement process allows governments to procure high quality engineering services that promote efficient use of taxpayers' dollars and at the same time helps protect the public's interest. It improves project delivery and lowers a project's overall lifecycle cost which should always be the primary driver when procuring professional services on behalf of the taxpayer.

...we create more value than the cost to procure our services and in most cases, much more. It requires a great deal of imagination, commitment to our clients, and professionalism on our part to ensure that always remains the case.



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- We will continue to meet with other associations representing technologists and technicians, architects and professional planners to discuss areas of joint interest. Examples may include changes in regulations that do or do not reflect the best interests of the public and all stakeholders including allied design professionals.
 - We will continue to meet with Engineers Geoscientists Manitoba to discuss areas that affect both associations. For example, we have been successful in having Engineers Geoscientists Manitoba's Director of Government Relations join our Government Affairs Committee. Together we are working towards reducing current 30 year limits of liability down to 10 to 15 years, which is in line with the other Western Provinces.
 - We will continue reaching out to municipal jurisdictions regarding the New West Trade Partnership Agreement and provide input on how this agreement affects procurement of engineering services.
 - And we will continue to provide support to those organizations that wish to work with us in streamlining their professional procurement practices such as the recently completed Manitoba Hydro Framework Agreement.
- Thanks again and I'm looking forward to the upcoming year. 🍁
- Andy Nagy

Meet Your New President Andy Nagy, P.Eng.

A brief and informal Q&A with the current President of ACEC-MB

If you weren't an engineer you would be a...

A college instructor. Most people outside of work automatically assume that I am a phys-ed teacher because of my involvement in sports but I would probably have more fun teaching math or calculus or another technical subject to young adults.

Share a highlight about your 10+ years of experience as a AAA hockey coach.

We were in Denmark with a young group of hockey players. Denmark was very expensive and the parents were running a little low on cash since we were near the end of our trip. The parents found out that they could buy a beer at the hockey arena and at a very reasonable price along with their meal. They essentially overwhelmed the poor older lady working the cafeteria. My wife immediately recognized the situation and asked if she could help. She wound up helping her twice during period intermissions and everybody was very happy.

The parents laughed at my wife's willingness to get involved and solve a huge problem.

When not at work, you can be found doing what?

I am quite curious and enjoy working with computers and other electronic gadgets. A few years ago I built a computer numerical control (CNC) wood router based on plans on the Internet. I have designed and cut out a number of projects on this machine including aluminum parts for a future laser cutter based on an open source hardware design. I am absolutely intrigued by the opportunities available to young people to create things based on the information readily available on the Internet. Hopefully in the next year or so I can finish one more challenging project which is a CNC plasma cutter. That machine would complete my shop and set me up for the next decade or so in terms of hobbies and interests.

Describe your dream project...

My dream project(s) are usually multi-disciplinary projects that require a wide variety of skill sets. I have worked on a number of major transportation facilities including the recently completed Plessis Underpass project and the ongoing Waverley Underpass project. These facilities require a multitude of engineering disciplines and skills that are interesting in their own right, but it is especially satisfying knowing what challenges had to be overcome to deliver these projects.

If you could get one thing accomplished in its entirety during your time as President what would that be?

Getting Qualifications Based Selection (QBS)* on the minds of those people who procure professional engineering services from our member firms and even to some of those folks who work for our member firms. There is a lot of misunderstanding as to what it is and why it is important. ☺

I would probably have fun teaching math or calculus or another technical subject to young adults.

**See page 15 for a feature article on Qualifications Based Selection.*



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Because it's 2018 ♀

By M.R. Friesen, P.Eng.

When Justin Trudeau was elected Prime Minister of Canada in 2015 and introduced his Cabinet, a reporter asked him why it was important to him to have a Cabinet that was gender-balanced. He replied, “Because it’s 2015.” That sound bite got a lot of press in the subsequent days and weeks as news outlets and columnists dissected Trudeau’s Cabinet choices to arrive at 50% female appointees. The issue grabbed so much attention that the phrase, “Because it’s 2015” has been co-opted into a number of other contexts and has become a small part of Canadian pop culture.

The weeks of follow-up analysis essentially probed why Trudeau appointed women to half of Cabinet positions, who these appointees were, and what they brought to their roles. I did not find any analyses that probed or asked why Trudeau gave 50% of Cabinet positions – rather than less – to men.

Imagine if the underlying inference had been reversed: “Prime Minister Trudeau, we recognize that you could easily fill your Cabinet with highly qualified women, so what made you decide to give 50% of the positions to men?”

This question would likely have struck us as odd or even laughable. The reason that the opposite question did not strike us as inappropriate is an indication of how we – women and men alike – are steeped in an environment of patriarchy. I say this as a statement of present reality and not as a pejorative judgement. It is a descriptor Canadian society and most of the world, where in part, society assigns position of power and privilege to men as an entitlement, where men’s opinions are assumed to be credible and valid, and where men are often meritorious by virtue of being a man. The flip side of this is that Others – women, gay men, and in predominantly

Imagine if the underlying inference had been reversed: “Prime Minister Trudeau, we recognize that you could easily fill your Cabinet with highly qualified women, so what made you decide to give 50% of the positions to men?”

Caucasian contexts this includes people of colour – are not *inherently* entitled to power and privilege nor *inherently* entitled to be considered credible; rather, Others have to earn or prove it by some assigned metric.

The reporter’s exchange with Trudeau and the subsequent analysis rode on the assumption that apart from satisfying our general curiosity or party loyalties, Trudeau did not need to justify the merit of the men appointed to Cabinet. We could assume that proper vetting had taken place. However, as a society, we were intensely interested to hear how he had confirmed the merit and eligibility of the women he had appointed and why he had chosen them from among qualified candidates who included men.

When I hear presentations, read articles, and have conversations about female underrepresentation in engineering, it is often about the importance of supporting women’s success via mentorship, networking opportunities, work-life balance, and other undeniably positive things. Yet, we miss an important part of the conversation when we do not acknowledge the soup in which we are swimming or the glasses through which we are conditioned to see the world. These implicit rules of merit and credibility in our larger society manifest themselves in our engineering profession and in our engineering workplace cultures as well.

Several years ago, I attended a meeting of members of a provincial engineering association, in which the leadership of the association was providing an update of its activities and initiatives. One of these initiatives was to provide significant support and visibility to Engineers Canada’s *30 by 30* campaign, which has a goal of raising the percentage of newly licensed engineers who are women to 30% by the year 2030. One member stated that he was all for supporting women who wanted to come into engineering “as long as it doesn’t lower the standard.” He spoke at length, taking multiple passes at his point to ensure we understood his concern that apparently women might break engineering.

I was not actually upset at the individual asking the question. What upset me was that in the numerous responses from the floor, other members took pains to reassure the individual that protecting the public interest was the primary role of the association and of each individual practitioner. Calm assurances were given that female applicants would be duly vetted. No one challenged the premise of the comment itself. Rather, the responses served to legitimize the comment in the first place.

I know that when reading articles or being in conversations about this issue, our tendency is to put ourselves on the right side of history and think about *other* people who should change

One member stated that he was all for supporting women who wanted to come into engineering “as long as it doesn’t lower the standard.” He spoke at length, taking multiple passes at his point to ensure we understood his concern that apparently women might break engineering.

their behaviour. I have had many conversations with colleagues in the profession whom I deeply value and respect – well-intentioned, thoughtful, equity-minded men who assure me that they “don’t see gender.” This is typically in the context of trying to indicate that their organizations are progressive and that they are one of the ‘good guys.’

The statement is often followed by, “I hire for fit.” However, we know from an abundance of research on all scales from national or organizational that we naturally gravitate to and we support people who are just like us. The statement “I hire for fit” often manifests itself as “I can’t help it if I just happen to fit best with people who look like me, act like me, talk like me, think like me, and most flattering of all, aspire to be just like me.”

When I hear someone say “I don’t see gender,” I want to respond with “Actually, we *really need* you to see gender.” In saying “I don’t see gender,” one absolves oneself of the responsibility to act within a system in which one disproportionately benefits. As a white, middle-class woman, if I say, “I don’t see race,” I am implicitly absolving myself of the responsibility to act within a system that is designed in my favour when compared to people of colour and Indigenous Canadians.

So, we *need* to see gender. We *need* to take note of all its subtle and insidious manifestations of unconscious bias. In my mind, this applies *especially* to men who are senior leaders in the profession who have the social capital and the structural capacity in their organizations to make changes with minimal risk to career or reputation.

Supporting women in the engineering profession is often framed as a women’s issue, as women helping women, or as women solving the problem. It is *everyone’s* issue. Women can certainly speak to their experiences and bring

concrete ideas forward that would lend themselves to more equitable workplace cultures. And yes, there is an impact from women simply being present and visible in the profession. Yet, the ability to enact change, to call bad behaviour to

true account, and to change culture lies with everyone, and in particular, with the leadership in the profession.

For more conversation, I welcome you to reach me at Marcia.Friesen@UManitoba.ca 🇨🇦

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How Qualifications Based Selection (QBS) Can Save Our Clients Money

Qualifications Based Selection (QBS) has been a recognized best practice for acquiring creative consulting services, such as engineering, planning and architecture, for decades. This is demonstrated by the mandated use of QBS on US Federal Government projects through the Brooks Act (enacted in 1972), as well as its application on public projects in several jurisdictions in Ontario, Quebec (where it is mandated for provincial public projects), British Columbia and Alberta. The City of Calgary has been utilizing QBS principles for over thirty years, and even the Government of Canada is planning a QBS pilot project in the near future.

By now, most people in our industry, including our clients, are familiar with the concepts and many of the benefits that result from QBS. Given QBS's popularity and recognized benefits, what is keeping many of our clients from capitalizing on QBS? Part of the issue is that, although the long-term benefits are often cited when advocating for QBS, the short-term advantages are often being neglected.

It is often the case that capital projects are broken down into smaller phases such as; studies, preliminary design, detailed design, and construction, for example. It is also common for these phases to be distinct projects, each with a client project manager who has to demonstrate responsible use of taxpayer

dollars on their project. Arguing that QBS will save the client money down the road does little to help this project manager who is trying to control their project budgets today – and considering the whole concept of QBS is to choose the most qualified people for the job, and not necessarily the “cheapest” option, employing QBS methods can be tricky.

Furthermore, capital project budgets and operations and maintenance (O&M) budgets are commonly tracked and distributed separately. It is hard enough to track and quantify the years of O&M savings that may be achieved through innovative design and high-quality deliverables. It is even more challenging to trace the root of the long-term value achieved all the way back to the procurement method used in hiring the design professional.

Therefore, when we advocate for the use of QBS, it is not enough to say that QBS procured projects are more likely to result in long-term benefits, as true as that may be. That argument does not help our clients explain how the money that they have been entrusted to manage is being spent wisely today.

Fortunately, QBS has also been shown to provide tangible benefits through every phase of a project, even before the contract is signed. To identify these additional benefits, it is important to

understand the typical process followed during a QBS procurement.

As the name suggests, QBS focuses on the qualifications, capabilities, and relevant project experience of teams bidding on the work. A QBS procurement will usually start with a request for qualifications (RFQ), where proponents are competitively ranked based on set qualifications and experience criteria related to the anticipated project. Based on the results of the scoring, a preferred firm/consultant/company is selected, and from there discussions on scope, schedule, and project budget take place.

Once a consensus on scope, schedule, and budget is reached, the client and consultant finalize the contract. If an agreement cannot be reached, the client typically reserves the right to move on to the next highest ranked firm. **This discussion step prior to formalizing the contract is one of the key benefits that separate QBS from price-based selection processes.**

One common reason that clients hire design professionals is that they often do not have the unique expertise in-house to perform the required project work. For a price-based selection to be successful, the scope needs to be complete and laid out in detail in the request for proposal (RFP) for prospective companies to bid accurately. Because the scope is

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typically written prior to engaging the specialists with the knowledge and expertise in the subject matter, the unintended consequence can be unclear or incomplete scope statements, or rigid scope definitions that do not account for innovative and new, up-to-date processes and technologies.

When an RFP scope statement is incomplete or ambiguous, the different interpretations made by the company vying for the job often leads to variability in price submittals. The low-price submission may not be the proposal with the correct project understanding. In fact, the less experienced and qualified a firm is to perform the work, the more likely their price is to be inaccurate. This difference in interpretation can lead to confusion, disagreements, and change orders throughout the course of the project.

With QBS, however, because the proponent deemed most qualified is given direct input into developing the scope with the client, there is less ambiguity and miscommunication. This means that the price and schedule becomes more accurate, leading to fewer and smaller change orders.

In addition, because the successful consultant is experienced in the type of work proposed, they are more likely to be knowledgeable in innovations, emerging issues, and opportunities for enhancements that the client may not have thought of, or even have known existed. If needed, the consultant's experience may also allow them to recommend suitable reductions in scope, to help the client maintain their budget while still meeting the project needs.

There is a common belief that QBS procurement costs more because the fee is not developed with competition in mind. However, it is not in the proponent's best interest to try to propose an unfair price. The proponent knows that if they price themselves out during the negotiation period, the client can pass and move on to the next highest ranked firm.


It is interesting to note that the benefits of the more accurate scope definition do not only affect the costs of the engineering portions of the work. The construction phase of a project is also positively impacted when QBS is used to procure the design consultants.

In 2009, the American Public Works Association and the American Council of Engineering Companies commissioned an extensive survey of capital projects to develop a qualitative and quantitative analysis on the impacts of QBS on various project outcomes. The study found, among other benefits, that QBS selection reduced the value of change orders during construction from the industry standard value of about 10% down to 3% of construction total, and schedule growth from 10% to 8.7% (with 60% of projects seeing a reduction to less than 3% schedule growth) ⁽¹⁾.

These results may relate directly back to the fact that the projects were based on a more complete and accurate understanding of the project requirements by both the consultant and the client right from the beginning of the project. This may in turn have led to more reliable construction documents that better meet the needs of the contractor when bidding on their portion of the work.

So even though the long-term benefits of using QBS to procure professional consultants are well-known and often cited, it's important not to lose sight of the day to day benefits that also come from this established procurement method. When a common understanding of project requirements is reached, and appropriate budgets and timelines are set, it's a recipe for project success. The strong working relationships and positive long-term results that have been shown to result from QBS just make good projects even better.

If you or your organization would like to learn more about QBS, or if you would like support, templates and tools to help implement QBS, please contact ACEC Manitoba's Executive Director, Kerri Hiebert at ed@acec-mb.ca, and she would be happy to put you in touch with our QBS team.

⁽¹⁾ PS. Chinowsky, G.A. Kingsley. An Analysis of Issues Pertaining to Qualifications- Based Selection – Final Report, American Council of Engineering Companies and the American Public Works Association, 2009 



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MAKE YOUR MOVE

A Celebration of Women in Engineering

On March 10, 2018, WISE Kid-Netic Energy and the Faculty of Engineering at the University of Manitoba celebrated International Women's Day by hosting Make Your Move – a celebration of women in engineering.

WISE Kid-Netic Energy is a community outreach program specializing in science and engineering content. As the largest outreach program at the University of Manitoba, they reach 25,000-35,000 youth annually through workshops, campus, clubs, and special events – Make Your Move being one of them.

In total there were 60 female students in grade 8 from 16 different schools in Manitoba participating, and 20 professional engineers and engineers-in-training mentoring teams in a competitive engineering design challenge, including three of our very own ACEC-MB TWICE Committee members: Noelle Vialoux (AECOM) leading the ENGAP team, Christine Wren (KGS Group) leading the KGS team, and Irene Davies (AECOM) leading the Manitoba Hydro team.

“This event is a great opportunity for us as engineers to bring our experiences down to the most basic level and share what inspires and motivates our careers with young people. It is also a great way for women in the industry to connect with other female mentors.”

– Irene Davies

The female students who have shown leadership and interest in science related topics were nominated by their school divisions and teachers to take part in the event. The mentors were women industry leaders with

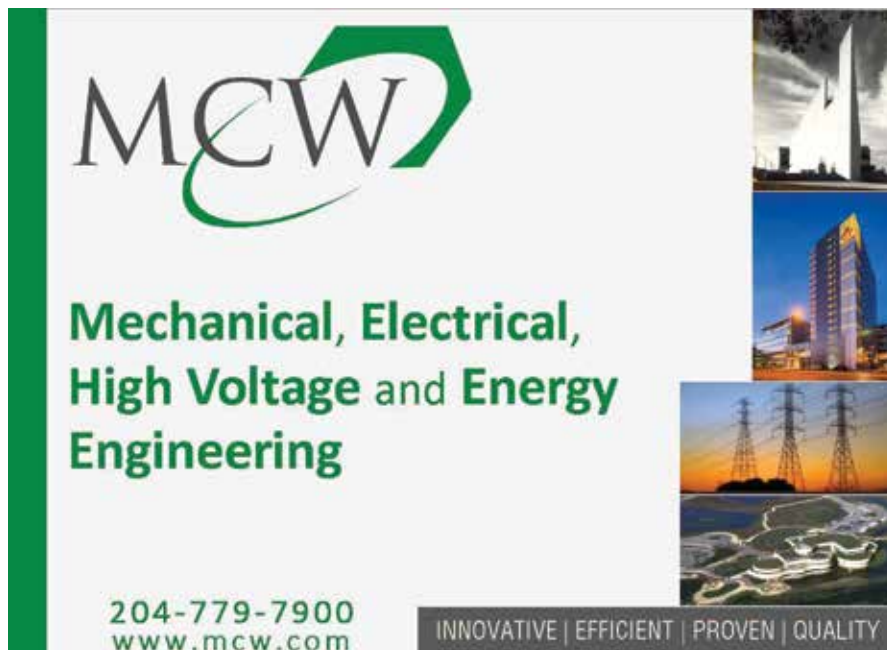
expertise spanning many engineering disciplines. It was also an opportunity to share their knowledge and support the next generation of potential engineers, at a critical time in the students' education and career decision path.

The event was a huge success and featured a race to a communal supply 'buffet,' a time limit, and challenge prizes - an in-house DJ and host MC Nesta Matthews kept the energy high throughout the event.

Make Your Move taught students to learn practical information about the engineering profession and helped them gain exposure to real world engineering problems. This year's challenge was to build a "grabber" that would be used to grip and release objects, measuring at least 30cm in length. Besides being judged on the "grabber" itself (appearance, shape, size) the teams were also marked on how many objects their "grabber" could transfer in a limited amount of time.

Teams were sponsored by leading engineering industry members in Manitoba: Price Industries, Standard Aero, Boeing, New Flyer, MacDon, Magellan, Stantec, Emergent Biosolutions, Hatch, Manitoba Hydro, RTDS, KGS Group, FWS Group, Dillon Consulting, NSERC Chair for Women in Science and Engineering, Engineering Access Program, Red River College, and the University of Manitoba Faculty of Engineering all contributed to the students learning about engineering in the real world.

The quality of the designs that came out of the event and the students' enthusiasm about their participation all point to the fact that the interest, creativity, and ability is there for these girls to succeed, but greater concerted effort in the form of mentorship from those already in the field is needed to support and harness the talents of these emerging minds.



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In a field where less than 20% of newly registered engineers in Manitoba each year are women, events like Make Your Move aim to create some momentum towards a future where a greater diversity of

individuals are valued and can thrive in engineering. ACEC-MB and WISE Kid-Netic Energy are both strong supporters of the 30 by 30 initiative. The goal is to raise the percentage of newly licensed engineers who are women to 30 percent by the year 2030. The ACEC-MB Board has been led by two female Presidents in the past three years and will continue to strive for a diverse Board.

ACEC-MB is proud to be at the forefront of these exciting changes of championing diversity in the engineering industry. We look forward to participating in the Sixth Annual Make Your Move event in 2019! 🇨🇦



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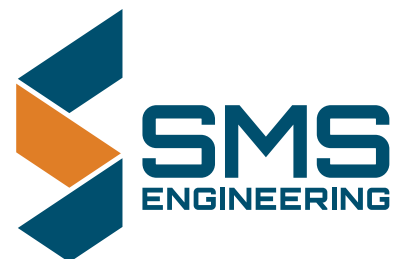
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A Look Back at the Years

1978 (ACEM) – 2018 (ACEC-MB)

THE ASSOCIATION of Consulting Engineers of Manitoba (ACEM) was formed when Larry Greer who was representing Manitoba on the Board of the Association of Consulting Engineers of Canada (ACEC) spearheaded the movement by calling a meeting of local consulting engineers to form a member organization in Manitoba. The members of the first Executive were: Larry Greer, President; Peter Washchyshyn, Vice President; William McKay, Secretary and Directors - William Mitchell, Doug Grimes, George Rempel and Russ Hood. All members went on to serve as President of the Association in future years.

In 1998 the ACEM Board decided to rename the organization as the Consulting Engineers of Manitoba Inc. (CEM) and held a contest to design the CEM logo. Roger Rempel developed a logo with the words Consulting Engineers of Manitoba Inc. tied to a stylized outline of the Province of Manitoba that was chosen and represented CEM up until 2010.

In 2011, the Association aligned with the branding of ACEC Canada and became what we now know today as the Association of Consulting Engineering Companies of Manitoba (ACEC-MB). This branding proudly shows representation of not only consulting

engineers but also the entire firm doing the business of consulting engineering. The ACEC-Canada logo was adopted at this time.

The Association’s mission has been and continues to be to promote the business interests of the Consulting Engineers of Manitoba; and to promote the application of engineering for the benefit of Society. The history of ACEC-MB cannot be told without mentioning the dedication of two long-term committed and exceptional executive directors. Elaine Madison was hired in 1988 and was an integral part of running and growing the Association until her retirement in 2004. Upon her

retirement, Shirley Tillett was then appointed as the executive director and helped guide the Association as it re-focused its entire organizational structure, with a new set of committees, board liaisons and outreach efforts that still continue to this day.

Shirley Tillett passed away in August 2017 and is sadly missed by all who knew her.

In 2018, as we celebrate the history and the evolution of the Association, we thank all those past and current volunteers who have shaped ACEC-MB into what it has grown into today – a vibrant organization supporting our members through advocacy and outreach, all while engaging and connecting our members from young to seasoned professionals. 🌟



**Congratulations ACEC Manitoba
on 40 years leading the industry.**

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ACEC-MB PAST PRESIDENTS

Since the Incorporation of The Association of Consulting Engineers Inc. as our Association was known at the time – in 1978 until present day, it's the dedication of our Board of Directors and the leadership of those willing to take on the Presidency that have made these past 40 years so successful. These men and women have taken on the special responsibility of President of the ACEC-MB Board and led the Board to many exciting events and advocacy projects. Past Presidents in attendance below are:

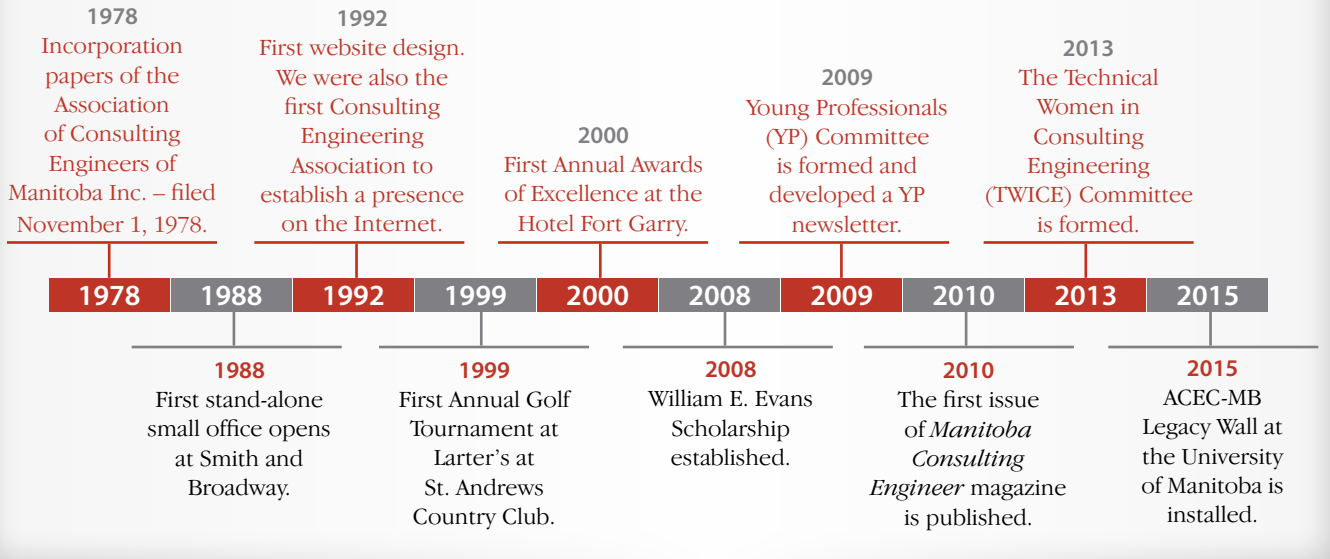
- Peter Washchyshyn** - 1980
- Russ Hood** - 1985
- Alf Poetker** - 1988
- Tim Stratton** - 1990
- Norm Ulyatt** - 1994
- Todd Smith** - 2008
- Harley Pankratz** - 2009
- Ron Typliski** - 2010
- Bruce Wilton** - 2011
- Steve Reaburn** - 2013
- Cameron Dyck** - 2014
- Alana Gauthier** - the first female President of the Association in 2015
- Allyson Desgrosseilliers** - our second female President in 2016
- Richard Tebinka** - 2017
- Andy Nagy** - 2018 🌟



ACEC-MB TIMELINE 1978-2018



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on their 40th anniversary.**



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2018 ANNUAL AWARDS OF EXCELLENCE





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KEYSTONE AWARD WINNER

Project Name: **Peter Sutherland Sr. Generating Station**
 Category: **Energy Resource Development**
 Firm: **KGS Group**
 Client: **Ontario Power Generation**

KGS
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The \$300M Peter Sutherland Sr. Generating Station Project consists of a new 28 MW hydroelectric plant with a powerhouse, 250 m long 4 m dia. penstock, concrete gated intake structure and spillway, 550 m of rockfill cement-bentonite core dams, and a 7 km 115 KV transmission line.

The development is the result of the application of progressive multi-disciplinary engineering and design technologies on a greenfield hydroelectric project. **KGS Group**, the project owners Ontario Power Generation (OPG), Coral Rapids Power (CRP), and Taykwa Tagamou Nation (TTN), along with the design-build contractor Kiewit Aecon New Post Creek, a Partnership (KANPP) assembled a team of engineers of virtually every discipline, along with scientists, biologists, contractors and local community members.

The team was then managed by senior project managers and expert technical advisors from **KGS Group**, OPG, CRP and KANPP.

The team designed the project to overcome many site challenges using innovative measures to address potential reservoir aggradation and turbine damage concerns from naturally high sediment concentration in New Post Creek (with a lowered spillway crest for headpond flushing; a submerged sediment excluding berm; using an intake canal; and modifying unit shaft seal and lubrication designs). Horizontal Francis turbines were selected to minimize powerhouse excavation depths, saving costs and reducing overall dewatering requirements for the 12m deep powerhouse excavation next to the Abitibi River. The application of horizontal Francis units of this size in Ontario was a first in many years and facilitated the development of a cost effective, simple and easy to maintain powerhouse.



The stratigraphy and engineering properties of the site soils were characterized using state-of-the-art geophysical and geotechnical investigation programs, which included seismic refraction surveys and seismic cone penetration testing probes to determine soil stratigraphy and properties including strength, stiffness, permeability, and seismic resistance. The foundation soils at the powerhouse were found to be sensitive to operational dynamic loads due to the absence of a bedrock foundation. Dynamic modeling resulted in a design using in filling of the sheet-pile cofferdam required for construction with engineered fill to increase long-term foundation stiffness and dampen vibrations. Further challenges were encountered during construction requiring the application of unique technologies such as rockfill shear-keys and cement-bentonite slurry-walls to redesign key components within tight timelines and limiting project cost increases.

The site is pristine, vast and beautiful with a rich history, with many heritage



sites of importance to the local people. TTN and CRP along with OPG jointly built the project to harness flows down New Post Creek to generate clean renewable hydroelectric energy while also maintaining natural stream flows to sustain critical fish spawning habitat downstream. The project generated a wealth of local jobs, growth for First Nation businesses, and a sustainable +50 year revenue stream for TTN while providing reconciliation for past environmental and social impacts created by previous power development.

The initial project location was partially within Little Abitibi Provincial Park where

hydro development is prohibited. The team worked extensively with Ontario to remove the lands necessary from the Park and identify compensatory Crown Land upstream of the reservoir. This process was a first in Ontario and its success was crucial to the development of the project. The Park boundaries were revised adjacent to the project limits, with permanent works required to be 100m away from any Park boundary. Spatial constraints and environmental sensitivity dictated construction by limiting access for preliminary investigations and required innovative temporary work designs to construct the spillway close to the Park.

Challenges were encountered during design and construction due to the remote site location, complex geotechnical foundation and the limited site access, which prevented a full characterization of site conditions before project execution. Geotechnical challenges threatened project viability but were resolved with innovation and ingenuity by the team throughout construction, often requiring the development of complex design solutions and urgent design modifications.

A major challenge was the scarcity of bedrock at site, so most project components are built on soft seismically susceptible soils, with high groundwater levels. One challenge was the unanticipated shallow refusal of the sheetpile powerhouse cofferdam situated adjacent to the Abitibi River, and the resulting implementation of a fully-automated dewatering system optimized by the team to address basal heave of the excavation floor. The system was alarmed to provide early warning of a system failure, allowing for evacuation and/or any repairs. Unforeseen soft and wet foundation conditions required modification of the proposed geomembrane lined dams to address constructability issues. An innovative solution was quickly developed that used a zoned rockfill embankment with a single vertical cement-bentonite cut-off wall extending +14m deep within the embankment and foundation, thereby allowing for rapid construction and a slurry trench that could be built in all weather conditions. Unanticipated slope instability due to a sensitive silt seam was

also encountered at the intake channel during construction that had to be addressed with rockfill shear-keys, a slope stabilization method pioneered in Manitoba and now widely used across Canada by KGS Group.

During construction KGS Group provided full-time technical site supervision (around-the-clock during some critical activities) and provided expert input for design decisions to time sensitive construction challenges. KGS Group also audited KANPP's

QA/QC program, costs, assisted with change management, participated in Team Risk Assessment sessions, provided commissioning support and worked to ensure the owners received value for money.

The project was completed safely, on budget, and ahead of schedule in March 2017, and now produces enough clean renewable energy to supply over 28,000 homes and a +50 year revenue stream for CRP/TTN and OPG. 🇨🇦

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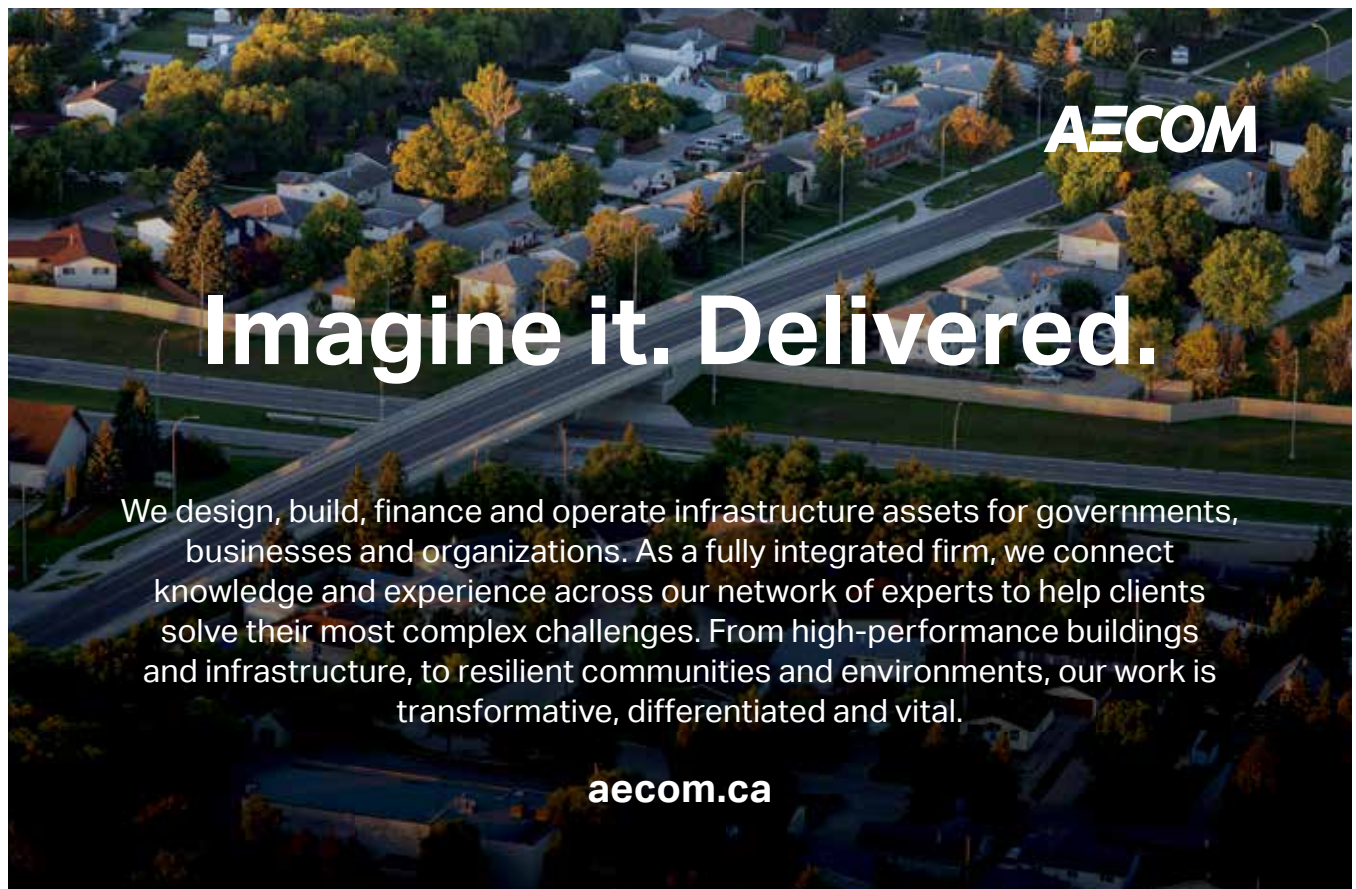
Category: **Transportation**
 Project Name: **Plessis Road Twinning and Grade Separation at CN Redditt Subdivision**
 Firm: **AECOM Canada Ltd.**
 Client: **City of Winnipeg**



AECOM and subconsultant Dillon Consulting provided preliminary design, detailed design, contract administration, resident and non-resident services, and construction close out services for the \$88,000,000 road underpass project for a grade separation between Plessis Road and the CN Redditt Subdivision (main line).

The project involved numerous multidisciplinary design elements including road, drainage, bridge, retaining wall, pumping station, municipal, rail and geotechnical and hydrogeological components.

In addition to an aggressive schedule, the team overcame the challenges provided by a number of stakeholders with complex processes and requirements within a constrained urban setting.

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AWARD OF EXCELLENCE

Category: **Transportation**
 Project Name: **PR 304 to Berens River All-Season Road and Water Crossings**
 Firm: **Dillon Consulting, AECOM Canada Ltd., KGS Group**
 Client: **Manitoba Infrastructure**

The all-season road construction from PR304 to Berens River was a massive undertaking consisting of 23 individual road segments and nine bridges. In January 2011, Dillon Consulting in partnership with AECOM Canada and KGS Group was awarded the contract to provide engineering services for contract administration and construction supervision. This project generated significant economic development opportunities for the Indigenous communities. They also gained a skilled, trained workforce that will provide benefits for years to come. Communities that waited generations for access finally acquired their road. Contractors worked with many challenges and completed the project on time and on budget.



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AWARD OF EXCELLENCE

Category: **Energy Resource Development**
 Project Name: **Keeyask Generating Station Column Extender Project**
 Firm: **Hatch**
 Client: **Manitoba Hydro**



The construction of the Keeyask Generating Station experienced critical path scheduling delays due to lower than planned productivity in placing powerhouse concrete. Hampered with long winters void of meaningful concrete placement, an innovative powerhouse enclosure system was developed. Challenges included partially constructed foundations, procured structural steel and the requirement for early overhead crane operation. Further, changes to already designed concrete, piping, HVAC and electrical works had to be minimized. The resulting 'Column Extender' design led to the ability to cast concrete throughout the winter, regained schedule, as well as savings in excess of \$500 million; something to benefit all Manitobans.





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AWARD OF EXCELLENCE

Category: **Municipal and Water Technology**
 Project Name: **Cockburn Sewer Relief Project**
 Firm: **KGS Group**
 Client: **City of Winnipeg**



KGS Group along with CH2M-Jacobs and the City of Winnipeg designed and commissioned a 2,700 mm diameter trunk sewer that protects the Cockburn West and Southeast Jessie Sewer Districts from basement flooding, and our local river and streams from combined sewage overflows. The project featured Manitoba’s first implementation of large-diameter microtunnelling technology including a Geotechnical Baseline Report, which mitigates risk issues associated with changes in the defined soil conditions.

This unique assignment sets the benchmark for all future tunnelling initiatives both in the City of Winnipeg and throughout the Province of Manitoba.



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AWARD OF EXCELLENCE

Category: **Building Engineering**
 Project Name: **Richardson Centre Heating Plant Replacement**
 Firm: **SMS Engineering**
 Client: **Richardson Centre Limited**



Conversion of a low-efficiency heating plant with steam boilers to a high-efficiency hot water heating plant with condensing boilers.

Developed detailed energy model to assess energy use and carbon reductions, and energy cost savings to establish financial and social viability of plant conversion.

The new system incorporated multiple separate heating distribution systems each using different temperatures enabling optimization of high efficiency condensing boiler technology.

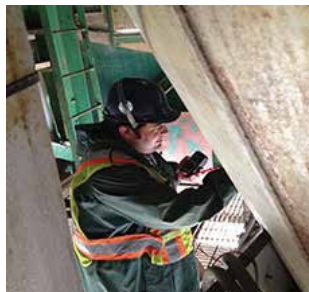
Asbestos abatement of existing heating system elements was incorporated into the project to enhance a safe working environment.

To confirm system operating characteristics, a full commissioning process was conducted.



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AWARD OF EXCELLENCE

Category: **Industrial**
 Project Name: **Koch 101J Compressor Facility Project**
 Firm: **SNC-Lavalin**
 Client: **Koch Fertilizer Canada ULC**



SNC-Lavalin Inc. provided comprehensive engineering services to Koch Fertilizer Canada (Koch) for a feasibility study and design of a new compressed air facility in Brandon.

Large volumes of high-pressure air are required in the ammonia production process. Koch's original process air system installed in 1997 had become a bottleneck to increased ammonia production. Koch retained SNC-Lavalin in 2012 to study and design a higher capacity replacement system. The new facility was completed and brought on line during the summer of 2017. This air compressor is believed to be the largest single unit currently installed in the Province of Manitoba.



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AWARD OF EXCELLENCE

Category: **Environmental**
Project Name: **Canada's First LEED Silver Sewage Treatment Plant**
Firm: **Stantec Consulting Ltd.**
Client: **City of Dryden**



Faced with an aging sewage treatment plant with limited capacity and difficulty meeting effluent regulations, the City of Dryden selected Stantec to design a new LEED sewage treatment plant for future needs. Addressing challenging soil conditions, proximity to the river, and limited site availability, Stantec developed a compact design by integrating administration and process areas on top of the treatment tanks, satisfying the objective for a single LEED facility. This innovative approach achieved 50% energy cost savings, enabled greenhouse gas reductions by 377.5 tons of CO2/year, and lowered water use by 44.8%, resulting in Canada's First LEED Silver STP.



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stantec.com | Dryden Sewage Treatment Plant, Dryden ON - 2018 ACEC-MB Awards, Award of Excellence

AWARD OF EXCELLENCE

Category: **Municipal and Water Technology**
 Project Name: **Pauingassi First Nation Water Treatment Plant Upgrade**
 Firm: **Tetra Tech Canada Inc.**
 Client: **Pauingassi First Nation**

Pauingassi First Nation urgently required a water treatment plant upgrade to lift its long-term Boil Water Advisory and meet the supply needs of its growing population. Tetra Tech was engaged in October 2016 with the challenging mandate to design a treatment system upgrade and ensure delivery of all heavy materials and equipment on the 2017 winter road, less than five months later. With Tetra Tech’s innovative approach to project design and delivery and a supportive client team, this deadline was achieved. Pauingassi’s new water treatment plant was commissioned and achieved compliance with all drinking water quality standards in December 2017.









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AWARD OF MERIT

Category: **Municipal and Water Technology**
 Project Name: **The Challenge to Inspect 362 Outfalls**
 Firm: **AECOM Canada Ltd.**
 Client: **City of Winnipeg**

Outfalls are challenging pipes to assess – often with complex access logistics, standing water due to river levels (exposed, partial submerged or fully submerged) and high debris levels that prohibit conventional visual inspection techniques. As outfalls flow to river courses, geotechnical consideration can govern physical condition as well as normal pipe deterioration mechanisms.

Our unique approach to assess condition involved matching the correct internal inspection equipment to the prevailing pipe situation (CCTV, SONAR, full multi-sensor platforms), overlaying this knowledge with a geotechnical assessment to fully understand failure risk and assess rehabilitation requirements for each outfall.



AWARD OF MERIT

Category: **Transportation**
 Project Name: **Southwest Transitway's Stadium Station at Investors Group Field**
 Firm: **Dillon Consulting**
 Client: **City of Winnipeg**

Micro-simulation tools (VISSIM, VISWALK and Python) were used to assess post-event pedestrian flows, transit operations, and key design parameters for a proposed transit station at Investors Group Field. A virtual model of the stadium was used to test nine separate design concepts, tracing spectator walking paths from stadium seats to stadium gates and, for transit users, to the buses in the station.

The micro-simulation identified the best design parameters to minimize pedestrian crowding and delay, and confirmed that bus operations within the station would work effectively. The preferred station configuration was subsequently incorporated into the functional and detailed design for Stadium Station.



AWARD OF MERIT

Category: **Building Engineering**
 Project Name: **Great West Life Daycare**
 Firm: **KGS Group**
 Client: **Prairie Architects and Great West Life Assurance Company**

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The **100-year-old** historic Milner House at 51 Balmoral was repurposed to become a childcare facility. The facility will accommodate a total of 100 children: 64 preschool aged and 36 infants and toddlers. Two thirds of spots are reserved for the Great West Life employee's, improving the employee's workplace engagement and connectivity. The facility has been designed with highly sustainable principles and is targeted at LEED Gold. Key sustainable features include: open loop geothermal heating and cooling, water use reduction, displacement ventilation, passive chilled beam cooling, LED lighting and low to zero emitting materials, for healthy indoor air quality.



AWARD OF MERIT

Category: **Transportation**
 Project Name: **Rehabilitation Works to the Winnipeg River West Branch Bridge and Keewatin Channel Bridge**
 Firm: **Stantec Consulting Ltd.**
 Client: **City of Kenora**

Stantec

Stantec completed detailed visual bridge inspections of the Winnipeg River West Branch Bridge and Keewatin Channel Bridge in Kenora, Ontario. The inspection of these structures was completed using three different methods: climbing, visual inspection from grade, and visual inspection from a watercraft. We determined and delivered requirements for repair and reinforcement on both structures. Because of our work, each structure has an increased life span, the bridges remained open to vehicles and pedestrians during the tourist season, so economic impacts were reduced and environmental impacts mitigated.



AWARD OF MERIT

Category: **Small Projects**
 Project Name: **Regional Municipality of Wood Buffalo Roof Modifications**
 Firm: **Tetra Tech Canada Inc.**
 Client: **Regional Municipality of Wood Buffalo**



The project involved modifications of an existing pre-engineered building to raise a portion of its roof to provide additional clear height inside the building for offloading of trucks. Existing rigid steel frames were analyzed and then partially demolished and reconstructed using conventional steel design – thereby combining the two systems. The new steel column extensions and roof beams provided the interior clearances required.

The design and construction also included:

- Extensions of the exterior walls and new roofing;
- Installation of a new 8.5m high roll-up door;
- Rerouting of existing mechanical and electrical systems in the building to follow the new roof line;
- Installation of a new roof-top travel-restraint system.






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AWARD OF MERIT

Category: **Infrastructure**
Project Name: **Dead Horse Creek Slope Stabilization**
Firm: **wood.** (operating as Amec Foster Wheeler at the time of the project)
Client: **Enbridge Pipelines Inc.**



wood. designed slope rehabilitation measures for an Enbridge Pipeline crossing near Morden, Manitoba. The crossing contains seven pipelines, which deliver more than 2.5 million barrels of crude oil from Edmonton to Superior, Wisconsin, a critical distribution corridor. The application of stone column technology, considered new to the Canadian oil and gas industry, along with a detailed construction risk management plan, helped preserve pipeline integrity through a collaborative process.

The project was completed ahead of schedule, under budget and without incident, successfully ensuring environmental protection to the adjacent High Consequence Area and meeting all regulatory and public expectations.



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ENGINEERING ACTION AWARD

Established in 2005, the Engineering Action Award recognizes outstanding service and dedication to the association, the Canadian consulting engineering profession and the community through volunteer activities to an engineer who is actively practicing in the industry. Previous recipients include Garry Bolton in 2005, John Woods in 2006, Roger Rempel in 2008, Ken Anderson in 2009, Ralph Kurth in 2010, William (Bill) H. Brant in 2011, Tom Wingrove in 2012, Ron Typliski in 2013, Alana Gauthier in 2014, Grantley King in 2015 and Cameron Dyck in 2016.

Allyson Desgroseillers started her career more than 20 years ago with a degree in Biology from the University of Winnipeg and a Civil Engineering degree from the University of Manitoba. She joined Wood Environment and Infrastructure (then known as AGRA Earth and Environmental, a predecessor company of wood.) as an Environmental Engineer-in-Training.

She has subsequently had a steady rise through the organization and became operations manager of the Winnipeg office in 2007. More recently she was promoted to a Senior Associate and the Manitoba/Saskatchewan Operations Manager. Her current role involves business development, recruiting, financial management and strategic planning, while also staying actively involved in many projects as either, project manager, technical lead or technical reviewer. In addition to her management role, Allyson is currently a lead representative of Amec Foster Wheeler's Canadian Federal Services Sector.

Throughout her career, Allyson has developed experience in a variety of fields including environmental site assessments and baseline studies, environmental site remediation, mine site assessment, mine site rehabilitation and closure, environmental impact assessments and licensing/permitting. Much of her project time recently has been related to orphaned and abandoned mine and exploration site rehabilitation for the Province of Manitoba. She is the project

manager for the rehabilitation of about 30 locations that have included high hazard properties located in remote northern regions of the Province and popular provincial parks. Professionally she was awarded a Client Excellence Award in 2004 and a Safety Excellence Award in 2012.

Allyson joined the ACEC-MB Board in 2012 and progressed to Board President in 2017. She is currently Past President, a member of the Government Affairs Committee, Board Liaison to the TWICE Committee and Nomination Committee Chair. Allyson has shown great commitment and dedication to the mandate of ACEC-MB, serving as Board Liaison to various committees and has been a lead advocate with Government officials and other organizations on the issues important to ACEC-MB Members, notably Qualifications Based Selection.

Allyson's dedication to ACEC-MB was extra notable during the past year as she stepped up immensely to assist with the Executive Director transition following the sudden passing of Shirley Tillet. In addition to her participation on the ACEC-MB and Winnipeg Chamber of Commerce Boards, Allyson has put her engineering, biology, business and leadership skills to good use; volunteering in her neighborhood of Canterbury Park, Transcona by forming the Canterbury Residents Greenspace Development Incorporated, a non-profit organization.

Overall Allyson is an admirable team-player and leader, traits that she has exhibited and continues to exhibit on



the boards and committees that she sits on. She is approachable, a good listener, someone who considers others views or suggestions, a respected leader in consulting engineering and a mentor to fellow employees and young engineers. She has developed a strong reputation within wood. as someone who can be relied on and who can be trusted to work for the overall good of the company and its employees. These attributes make Allyson an outstanding and ideal recipient for the 2018 ACEC Award for Engineering Action.



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RISING STAR AWARD

The Rising Star Award is intended to recognize exceptional achievements in the early years of a persons' career. This award was established in 2008 in recognition of the 30th Anniversary of ACEC-MB. The award is intended to celebrate a young individual who has demonstrated excellence in business practices, outstanding achievements in their applicable fields, leadership in the community and the active participation in the association. The award was first presented to Daniel Zaborniak in 2008, Jason Cousin in 2009, Beth Phillips in 2010, Owen Van Wallegghem in 2011, Jonathan Epp in 2012, Kimberly Yathon in 2013, Kristen Poff in 2014, Jomar Manzano in 2015, Lin Watt in 2016 and Dana Bredin in 2017.

Misty Klassen's career has spanned a decade as an intermediate engineer with progressive engineering expertise for the Mechanical Group of the Buildings

Business Line at WSP's Buffalo Place office. Misty has recently expanded her career by joining Smith + Andersen as Project Manager – Mechanical. Since graduating from the University of Manitoba, Misty has been involved in the design, construction and commissioning of many building projects. Her areas of expertise include assessment and design of HVAC, plumbing, fire suppression, fuel storage and dispensing facilities for institutional, commercial, industrial and residential building projects. Misty has progressed in the mechanical engineering field from playing a supporting and drafting role assisting senior engineers, to being lead engineer-of-record on increasingly complex projects. She is well versed in dealing with clients, contractors and building inspectors. She has taken projects from inception, through assessments and designs, to contract administration and systems commissioning.

Misty also continues to develop her education by taking courses and seminars on geothermal system design, air system design, and ASHRAE codes and standards, as well as various equipment supplier information sessions. With each new challenge, Misty has risen to the occasion and continues to exceed expectations in her engineering work. She is a credit to the profession as well as a remarkable role model for younger engineers and an inspiration to our veteran professionals.

Misty has been involved in professional and technical societies and associations throughout her entire career. She is a member in ASHRAE (American Society of Heating, Refrigerating & Air Conditioning Engineers) and has been an ACEC-MB Committee member with the Energy, Science and Technology Committee and for the past five years a member of the Image Committee progressing to the Image Committee Chair in 2017. Her impact on ACEC-MB has been immense as the lead for coordinating ACEC-MB's annual publication, *Manitoba*



Consulting Engineer through a difficult year of Shirley Tillett's illness. Her hard work and determination kept the publication schedule on track and helped achieve the highest advertising sales surplus in partnership with the publisher Kelman & Associates. Misty has played a strong role in promoting and raising awareness of ACEC-MB with volunteer time devoted to attending many events as volunteer photographer, attending career fairs to represent ACEC-MB, working with the committee on the 640, Table for 1200 and Construction events.

Misty has shown commitment to the betterment of her workplace by volunteering as a team leader for Habitat for Humanity Home Builds, as a member of the Health & Safety Committee for the past five years and the past three as Co-Chair, as well as Co-Chair of the Social Committee. Her volunteerism also extends to the community where she is the Chair of the Board of Directors for her children's daycare. Misty is also a proud supporter of the Winnipeg Jets and Blue Bombers. She is an active and enthusiastic engineer committed to her family, her profession and society.




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LIFETIME ACHIEVEMENT AWARD

As part of the Awards of Excellence Program, ACEC-MB acknowledge the individual achievements of Manitoba's consulting engineers through the Lifetime Achievement Award. This award is presented to a Manitoba engineer in recognition of his or her leadership, achievements and contributions to consulting engineering. Previous recipients include Les Wardrop in 2002, Bill McKay in 2003, William Mitchell in 2004, Russell Hood in 2005, Al Dyregrov in 2006, Alfred Poetker in 2007, Norman Ulyatt in 2008, Peter Washchshyn in 2009, George Rempel in 2011, Garry Bolton in 2012, Tim Stratton in 2013, William H. (Bill) Brant in 2014, Tom Wingrove in 2015, Jerry Cousin in 2016 and David Krahn in 2017.

Doug Stewart joined Wardrop (now Tetra Tech Canada Inc.) as a Junior Design Engineer immediately upon graduating as a Civil Engineer from the University of Manitoba in 1980.

Doug retired from Tetra Tech in 2011 as Vice-President of Technical Services, but continues to engage in interesting and challenging projects. Doug's experience is vast both in the administrative and engineering fields, and includes structural engineering, bridge engineering, building science, material science, water retaining structures and advanced composite materials. Doug has led teams to success on numerous major projects, both nationally and internationally, including the spectacular Provencher Paired Bridges project hallmarking the internationally acclaimed "Esplanade Riel" cable stayed bridge structure over the Red River in the heart of Winnipeg, Manitoba, the St. Andrews Lock and Dam Corrosion Protection System and Structural Steel Repairs and the Building Envelope Investigation at Children's Hospital.

While at Wardrop, Doug's involvement in the establishment of the Tetra Tech CAD Centre at

the University of Manitoba was instrumental in the successful implementation of its infrastructure. The Tetra Tech CAD Centre opened in September 2008 and is a state-of-the-art design lab and first of its kind facility in a Canadian university campus. Doug has been involved in the development of the Composite Innovations Centre located at the University of Manitoba SMART Park, which supports and stimulates economic growth through innovative research, development and industrial application of composite materials technologies. He has also been involved with SIMTRec (formerly ISIS Canada) with the implementation and research into structural health monitoring systems.

Doug has always been a passionate advocate for championing technical excellence and integrity, while honouring commitments to the profession and the public. In the latter part of his career at Wardrop, he developed a Chief Discipline Specialist Network, recognizing that strong technical services were an essential element in winning larger high-profile projects and executing them profitably. He envisioned that by developing a network of technical engineers in different disciplines, innovative technology could be better targeted and developed to optimize systems and improve efficiency, all while providing exciting technical challenges, mentorship, and growth opportunities for technical staff. He advocated training, sharing of technical resources and information through the development of an internal Knowledge Portal available to all staff, and collaborating together to better understand capabilities and experience across the company, while building trust and relationships between technical staff.

Doug has been a member of, and has served in a leadership capacity with a number of professional,



business and community organizations including the Building Envelope Council and the Faculty of Engineering at the University of Manitoba. Doug is a past Board Member of ACEC-MB and has supported the ACEC-MB Awards of Excellence extensively with project submissions and many awards.

The talent Doug has developed, and leaders he has mentored over his entire career, is perhaps his greatest achievement. Doug is a mentor and motivator by nature who not only recruited new talent locally and from other countries, but also played a central role in improving design quality and standardizing project management processes. Doug's passion and dedication to the engineering industry and his commitment to the community are immense. His nomination for Lifetime Achievement was accompanied by ten personal letters from past clients, colleagues and friends showing the personal impact he has made in the lives of others throughout his career. 🌟



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Congratulations to ACEC-MB on 40 Successful Years!

Craig Kelman & Associates is proud to partner with the Association of Consulting Engineering Companies Manitoba to publish their annual magazine, *Manitoba Consulting Engineer*. Since 2010, we have been working closely with the association to create a high-quality publication for its members that reflects their impact on infrastructure and development in Manitoba.





Energy Reception

The Energy Science and Technology (EST) Committee's Energy Reception was held on March 14, 2018 at The Metropolitan Entertainment Centre.

As a part of the committee's mandate to raise the profile of member firms and generate business opportunities within the energy sector, the committee once again in 2018 oversaw planning and implementation of the Energy

Reception. Prior to the annual reception, the committee coordinated a meeting between the ACEC- MB EST Committee, as well as ACEC-MB President Elect Andy Nagy, and four members of the Manitoba Hydro Executive including President and CEO Kelvin Shepherd. The focus of the meeting was discussion of the ongoing strategic priorities for Manitoba Hydro, including organizational transformation and financial sustainability.

As well, discussion of the procurement changes at Manitoba Hydro related to the Engineering Services Procurement Framework and the overall procurement expectations for engineering consulting services. Brief introductory comments from the Manitoba Hydro CEO Kelvin Shepherd provided his perspective on future outlooks and changing focuses within the organization.



ACEC Manitoba and Manitoba Hydro's Request for Qualification Services Framework Agreement Development

Manitoba Hydro issued a Request for Qualifications for Services (RFQS) for engineering services this spring and ACEC Manitoba was requested to provide input to the framework agreement development as follows:

1. Process: Manitoba Hydro's procurement group has been streamlining a number of procurement processes to achieve improved efficiencies/costs. With respect to Master Service Agreements for Engineering Services, a common framework agreement suitable for all Engineering Services is seen as most efficient by Manitoba Hydro. In an effort to develop such an agreement, a draft Framework Agreement was provided to ACEC-Manitoba for feedback in December of last year. The draft agreement was sent by ACEC- Manitoba to member firms and feedback was compiled

and provided to Manitoba Hydro, along with information from ACEC Document 31 (an agreement template created by ACEC Canada). The team compiling the feedback included ACEC-Manitoba's Energy Science and Technology (EST) committee, board member representatives and Derek Johnson of Oldfield Kirby Esau Insurance, who provides insurance to many of our member firms. Draft Framework agreement updates were then reviewed with Hydro by correspondence and meetings held with Hydro between January and April of this year.

2. Key Updates: Manitoba Hydro considered ACEC feedback and a number of changes were incorporated. Key areas included: 1. Limits of Liability 2. Indemnification of Third Party Claims 3. Dispute Resolution 4. Intellectual Property

5. Standard of Care and; 6. Insurance. For insurance, feedback was considered from Derek Johnson of Oldfield Kirby to understand how to update the Framework Agreement wording such that consulting firms can access suitable insurance. It should be noted in the area of Cyber-Security that firms review Hydro's requirements to ensure suitable procedures are in place and if required, ensure suitable insurance coverage is in place.

3. Member Review: ACEC was pleased that Manitoba Hydro consulted with the association and that significant changes were made in the key areas identified above, however each member firm was encouraged, as always, to carefully review and respond to the RFQS requests in accordance with each firm's stakeholders requirements.



20th Annual ACEC-Manitoba Golf Tournament

The ACEC-MB Golf Committee held their 20th annual golf tournament on Wednesday May 16, 2018 at the Pine Ridge Golf and Country Club. Approximately 100 golfers participated on a sunny yet breezy day on the links. We thank our Keystone sponsor – Maple Leaf Drilling Ltd. for their support as well as all of our prize, hole and event sponsors.

Congratulations to the winning team from KGS Group (left to right) - Howard Procyshyn, Lucien Lalonde, Paul Surgeoner and Mark Rosen who came in with a score of 58! David Fuchs, Golf Chair (right) presents the trophy.

Our hole contest winners were:
 Longest Drive – Owen Stagg and John Highmoor; Closest to the Hole – Chaitan Sandhu and Chuck Steele and Straightest Drive – Kyle Wiebe and Rich Sison. Well done all!



ACEC-MB was once again proud to donate \$1500 to The Movement Centre of Manitoba, a non-profit organization that is committed to improving the physical health of children and adults with physical disabilities.

Golf Co-Chair Reynold Cabigting and Committee member Michelle Globush both of Sison Blackburn Consulting Inc. presented a cheque for \$1500 to The Movement Centre of Manitoba's Executive Director, Olivia Doerksen (right).

Mark your calendars for the 21st annual golf tournament that is taking place on May 15, 2019 at Pine Ridge Golf and Country Club.

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Message From the Chair

Greetings from the ACEC-MB Young Professionals Committee (YPC). It is my honour to embark on the second year of my term as Chair of the YPC in 2018-19. The success of the YPC belongs to the dedicated volunteers that form the committee as well as the numerous organizations and companies that support the YPC including ACEC-MB and its member companies. I would like to thank the YPC members for their continued support in my term as Chair. The YPC is currently made up of Tyson Ehnes, (Chair) Ashley Morrissey (Vice-Chair), Kelsey Rutherford, Sohaib Azam, Kate O'Neill, Samantha Symons, Josée Rémillard, Jennifer Pieniuta, and Nathan Boenders.

The mission of the YPC is to enhance the growth and advancement of the consulting engineering industry by supporting the development of young professionals. We aim to achieve this through the organization and hosting of several social, networking, and

educational events including our annual Gala. Through the Gala we have been able to bring together over 100 young professionals annually to discuss the role YPs have in consulting and where their careers can take them.

Raising the profile and awareness of the consulting engineering industry is a key goal for ACEC-MB and the YPC. Our mentorship program which is run with the assistance of the University of Manitoba has become a cornerstone in achieving this goal. The mentorship program is now entering its sixth year and has shown great success. The program pairs mentors in the consulting industry with engineering students to provide insight and education on how the consulting industry works. Many YPs within ACEC-MB have volunteered to be mentors – proving that while they may be young – they have a wealth of knowledge and experience to pass on to future generations early in their career. In addition, engineering students (future

engineers) are provided with valuable insight and exposure to the consulting engineering industry.

Advocacy on behalf of YPs is another key goal of the YPC. As Chair, I am grateful to have the opportunity to sit on the ACEC-MB Board of Directors. As a member of the Board I am able to advocate the position and perspective of YPs on various issues as the Board continues to pursue its mission of promoting the business interests of consulting engineering as well as the application of engineering for the benefit of society.

I look forward to the opportunity to continue to work with the YPC and ACEC-MB. I encourage everyone to visit the ACEC-MB website (www.acec-mb.ca) to learn more about the YPC and ACEC-MB. 🍷

Tyson Ehnes,
Chairperson – ACEC-MB Young Professionals Committee

Events Summary

2017 ACEC Young Professionals Gala

The 9th Annual ACEC-MB Young Professionals Gala was held on Thursday, October 12, 2017. Just over 100 people attended the fantastic event held at the historic Fort Gibraltar.

Tyson Ehnes, the YP Chair, initiated the formal portion of the evening by introducing Grant Koropatnick to bring greetings on behalf of Engineers Geoscientists Manitoba. This was followed by greetings from Andy Nagy of AECOM, Incoming President of ACEC-MB, who brought greetings from the ACEC-MB Board. Dinner and networking then followed.

This year's Young Professionals Gala featured a panel discussion on leadership and collaboration in the workplace. Panelists included: Allyson

Desgroseilliers-ACEC-MB Past President, wood., David Krahn-Dillon Consulting, Dawn Nedohin-Macek -Manitoba Hydro, and Doug McNeil-City of Winnipeg. All attendees had the opportunity to participate in this riveting discussion, and share their thoughts on leadership and collaboration in today's workplace.

Following the event, attendees commented on how much they enjoyed networking, and the panel discussion, and that they were looking forward to next year's event. We look forward to your continued support as we continue

to provide events and activities aimed at developing the careers of the young professionals in our industry.

The ACEC-MB Young Professionals would like to thank everyone who attended the event and extend a special thanks to our volunteer panelists as well to the generous sponsors without whom this event would not be possible.



2017-2018 ACEC-MB Mentorship Program

The YPC continued the ACEC-MB Mentorship Program for its fifth year. The program pairs industry professionals with University of Manitoba engineering students allowing the students to gain insight and understanding of the consulting engineering sector. The goal of the ACEC-MB Mentoring Program is to give students an introduction to the challenging and rewarding career opportunities that exist in consulting engineering.

There were three formal events held as part of the program. The first event provided a venue to introduce students to their mentors. Approximately 50 students and mentors attended the kick-off event.

The second event of the 2017-2018 Mentorship Program was held February 7 at the University of Manitoba. The event was open to both students and professionals, and was attended by over 30 people.

The panel discussed the multi-faceted challenges of managing high pressure and high risk projects. The panel featured four consulting engineers;

- Joel Lambert, P.Eng. (KGS Group)
- Kim Yathon, P.Eng. (Tetra Tech)
- Dan Butterworth, P.Eng. (SNC Lavalin)
- Warren Gendzelevich, P.Eng. (Hatch)

The discussion was moderated by the YPC's own Sohaib Azam (Hatch). The mentorship team would like to thank the panelists who volunteered their time and perspectives, and all the mentors who make the mentorship program possible.

The final event mingled all student and mentor participants in a final networking event. The 2017-2018 program coordinators, Kelsey Rutherford (SNC-Lavalin) and Sohaib Azam (Hatch) thank the Faculty of Engineering, UMES, and the participants from the 2017-2018 ACEC-MB mentorship program and encourage mentors to consider volunteering again in September 2018.

4th Annual ACEC YP Curling Bonspiel

On April 3, the Young Professionals Committee hosted its 4th Annual Funspiel Bingo Curling Night. It was a great night out at the Pembina Curling Club with seven teams competing for the top prize. The competition was filled with fun as well as networking opportunities. The awards ceremony was held upstairs at the venue. A “pub grub” spread of food was supplied to enjoy while the awards were being handed out: nachos, egg rolls, chicken fingers and beverages.

The results of the night were as follows:

- 1st Place – Team 3 from Crosier Kilgour & Partners
- 2nd Place – Team 7 from AECOM
- 3rd Place – Team 6 from Tetra Tech

In the solo competition, Brennan Sperl from Crosier Kilgour & Partners won “Closest to the Button.” Thank you to all teams that came out! You are what made the night fun and we hope to see you all again next year! 🍷

Year in Review

Siobhan Robinson, M.A.Sc., P.Eng., Chair, Young Professionals Network

his year the Young Professionals Network (YPN) has been focused on aligning our efforts with those of the overall association. To allow for improved communication, the Chair of the YPN was invited to attend ACEC board meetings in Vancouver, Winnipeg, and Charlottetown as well as the upcoming meeting in Ottawa. Having a Young Professional (YP) at the board table has allowed our group to shine a light on the successes of YP volunteers across the country and communicate challenges faced by those same volunteers. The Board is considering appointing a YP director to formalize the participation of the YPN Chair moving forward.

This year was another resounding success for YPs across the country. Activities included:

- YP conferences in British Columbia and Alberta
- Workshops and presentations including:
 - People Skills for Project Management Success in Ontario
 - Unconscious Bias Seminar in British Columbia
 - Presentation of Keystone Award winning project from ACEC Manitoba Awards
- Tours including:
 - Nutrien Allan potash mine and Rebellion Brewery in Saskatchewan
 - Maison Symphonique de Montréal in Quebec
- Social events including
 - Curling nights
 - Pub nights
 - YP participation at golf tournaments
 - Speed networking nights
- Community outreach at Science World summer camps in British Columbia
- Mentorship programs in Manitoba and British Columbia

The year will finish at the ACEC National Leadership Conference in Ottawa on October 21-23. On the Sunday there will be a session from 2:30-5:30pm devoted specifically to young professionals in the consulting engineering sector. This session will include a group activity that will challenge YPs to develop their communication skills through practical application and will provide an opportunity to network in an engaging and dynamic setting. The activity will be followed by a roundtable session where provincial and territorial YP reps will present about their region's activities to inform participants about YP activities across the country and provide an open forum for general discussion. All are welcome to attend. 🍷



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Tetra Tech Canada Inc.
WSP Canada

Agriculture

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Associated Engineering
DGH Engineering Ltd.
KGS Group
ProForma Engineering
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Building Science

Accutech Engineering Inc.
AECOM Canada Ltd.
Associated Engineering
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
KGS Group
Morrison Hershfield Limited
Neegan Burnside Ltd.
SMS Engineering Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Chemical Engineering

Hatch Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
WSP Canada

Communications/Telecommunications

Dillon Consulting Limited
KGS Group
Morrison Hershfield Limited
Smith + Andersen
SNC-Lavalin Inc.
WSP Canada

Electrical

Accutech Engineering Inc.
AECOM Canada Ltd.
Associated Engineering
CGM Engineering Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
Hatch Ltd.
Jacobs Engineering
KGS Group
MCW/AGE Consulting Professional Engineers
Neegan Burnside Ltd.
Smith + Andersen
SMS Engineering Ltd.
SNC-Lavalin Inc.

Stantec Consulting Ltd.
Teshmont Consultants LP
Tetra Tech Canada Inc.
Tower Engineering Group
WSP Canada

Energy

Accutech Engineering Inc.
AECOM Canada Ltd.
Associated Engineering
Dillon Consulting Limited
Hatch Ltd.
Jacobs Engineering
KGS Group
MCW/AGE Consulting Professional Engineers
Neegan Burnside Ltd.
ProForma Engineering
SMS Engineering Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Teshmont Consultants
Tetra Tech Canada Inc.
wood.
WSP Canada

Environmental

AECOM Canada Ltd.
Associated Engineering
DGH Engineering Ltd.
Dillon Consulting Limited
ENG-TECH Consulting Limited
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Jacobs Engineering
KGS Group
Neegan Burnside Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
wood.
WSP Canada

Fisheries

AECOM Canada Ltd.
Dillon Consulting Limited
KGS Group
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
wood.
WSP Canada

Forestry

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SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Geotechnical

AECOM Canada Ltd.
Dyregrov Robinson Inc.
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Hatch Ltd.
J.R. Cousin Consultants Ltd.
Jacobs Engineering
KGS Group
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
wood.
WSP Canada

Industrial

Accutech Engineering Inc.
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Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
Hatch Ltd.
Jacobs Engineering
KGS Group
MCW/AGE Consulting Professional Engineers
ProForma Engineering
SMS Engineering
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
Tower Engineering Group Inc.
wood.
WSP Canada

Marina and Coastal

Dillon Consulting Limited
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Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Materials

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Hatch Ltd.
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Stantec Consulting Ltd.
Tetra Tech Canada Inc.
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WSP Canada

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CGM Engineering Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
Hatch Ltd.
KGS Group
MCW/AGE Consulting Professional Engineers
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Tetra Tech Canada Inc.
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SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Other: Airports

SNC Lavalin Inc.
Stantec Consulting Inc.

Other: Asset Management

Stantec Consulting Inc.
WSP Canada

Planning

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Hatch Ltd.
J.R. Cousin Consultants Ltd.
Jacobs Engineering
KGS Group
Neegan Burnside Ltd.
ProForma Engineering

SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Project Management

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Associated Engineering
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ENG-TECH Consulting Limited
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Jacobs Engineering
KGS Group
MCW/AGE Consulting Professional Engineers
Morrison Hershfield Limited
Neegan Burnside Ltd.
ProForma Engineering
Sison Blackburn Consulting Inc.
SMS Engineering Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
Tower Engineering Group Inc.
wood.
WSP Canada

Structural – Buildings

Accutech Engineering Inc.
AECOM Canada Ltd.
Associated Engineering
Boge & Boge (1980) Ltd.
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
Hatch Ltd.
Jacobs Engineering
KGS Group
Neegan Burnside Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
Tower Engineering Group Inc.
WSP Canada

Structural – Other

Accutech Engineering Inc.
AECOM Canada Ltd.
Boge & Boge (1980) Ltd.
Crosier Kilgour & Partners Ltd.
DGH Engineering Ltd.
Dillon Consulting Limited
ENG-TECH Consulting Limited
Hatch Ltd.
Jacobs Engineering
KGS Group
Morrison Hershfield Limited
Neegan Burnside Ltd.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
Tower Engineering Group
WSP Canada

Surveying

AECOM Canada Ltd.
Associated Engineering
Barnes & Duncan
Dillon Consulting Limited
ENG-TECH Consulting Limited
Hatch Ltd.
J.R. Cousin Consultants Ltd.
Jacobs Engineering
KGS Group
Morrison Hershfield Limited
Neegan Burnside Ltd.
Sison Blackburn Consulting Inc.
SNC-Lavalin Inc.
Stantec Consulting Ltd.
Tetra Tech Canada Inc.
WSP Canada

Temporary Works

AECOM Canada Ltd.
Associated Engineering
Boge & Boge (1980) Ltd.
DGH Engineering Ltd.
Hatch Ltd.
Jacobs Engineering
KGS Group
MCW/AGE Consulting Professional Engineers
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Is Your Firm Missing Out on an Old Technology?

Some professionals are slow to adopt screw piles as a deep foundation solution. This may be due to uncertainty regarding the right applications, or questions regarding their ability to support large projects. More firms are turning to screw piles in situations where they are efficient and reliable and provide a competitive advantage. Screw piles may help you win an otherwise costly design build contract.

Although screw piles are not traditional in continental regions, a little-known fact is that screw piles predate most other piling options. Originally offered as an engineered, deep foundation, solution in maritime regions, screw piles were designed by a civil engineer in the 1830's. Many of the structures built in the 1860's on these piles still function to date.

Modern screw piles fit between driven and cast-in-place concrete piles, particularly in Manitoba soils. They can offer impressive axial load capacity in a tight package, but a good design must consider the lateral loading conditions. Screw piles perform best in pure axial load conditions.

Residentially, screw piles are commonly utilized on additions, and light structures and underpinning where they shine due to access and affordability. Screw piles can be installed with much smaller equipment the other piling options, allowing great access. With minimal or no damage to yards, clients get to keep their landscaping intact. Smaller equipment means lower mobilization and overhead charges. Screw piles also are common in underpinning projects where existing cast-in-place piles or traditional footings have underperformed due to heaving or settlement.

If the soil conditions allow, screw piles can be affordable for a new housing projects. However, if the loads are over 130 kN [30 kip]

and the soil is clay for 17m [56'], then a screw pile will not match the affordability of a cast-in-place concrete pile. The screw pile will offer other advantages, such as; excellent resistance to frost jacking or wetting and certifiable capacity. But let's face it, the new home market is largely price driven. For this reason, screw piles are often not considered viable for new housing projects in areas with deep clay.

Many new commercial projects are utilizing screw piles. Commercial projects do value proven capacities and better reliability. Commercial cast-in-place concrete piles require rebar details that are more costly to install than similar residential piles and so price advantage tips in favor of screw piles even in deeper clay soils.

Screw piles can replace and act similar to driven piles if the loads are lower than 260 kN [60 kip]. When considering infill commercial sites, screw piles will not produce vibrations that could damage nearby structures.

Commercial additions or renovations are another area that contractors and building professionals have found screw piles to save their clients' money. Again, improved accessibility and smaller equipment has allowed screw piles to be installed inside or under existing buildings with engineer certified results.

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