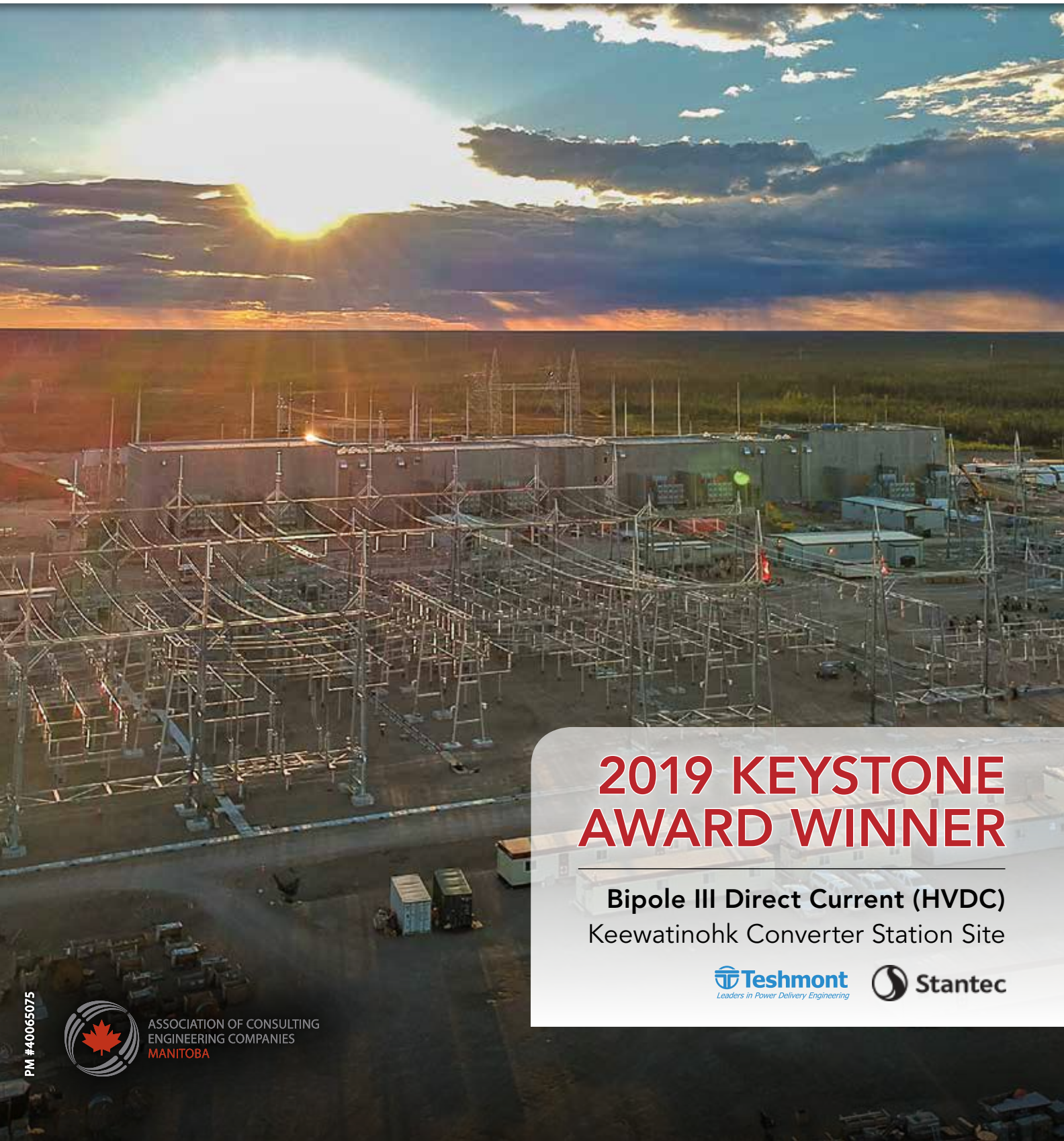


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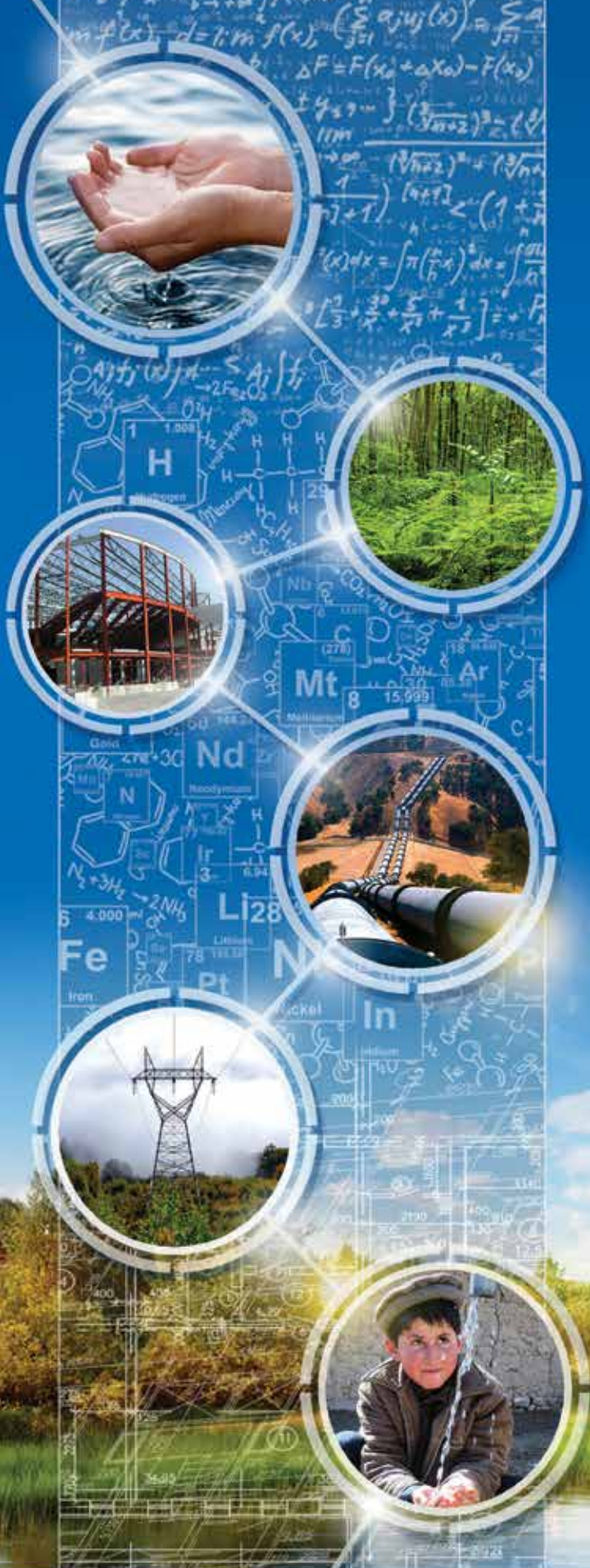


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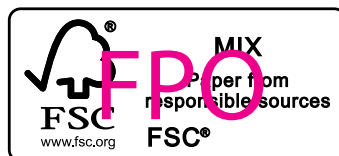
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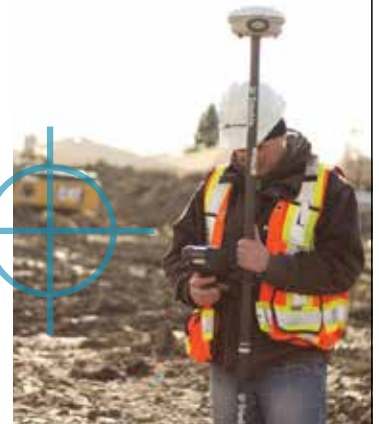


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Brad Cook, P.Eng.

Current consulting environment providing challenges

I am honored to serve as ACEC-MB's President for the 2019-2020 term. My sincere thanks go to Past President Andy Nagy, the Board of Directors, and in particular our Executive Director Kerri Hiebert for the outstanding work and dedication she consistently provides to our association. I would also like to acknowledge the efforts of our committees, 14 in total, and all the volunteers who serve on them. Countless hours are spent by these great volunteers, with the support of their employers, to advance and strengthen our organization and profile in the community.

For those who don't know me, I joined the Board in 2016 and have served on the Transportation, Government Affairs, and Award Committees. I have found my involvement with ACEC-MB to be a very rewarding experience and encourage the staff of all our member firms to get involved by joining one of our committees. By doing so, you will better understand and be aware of the many initiatives being undertaken by ACEC-MB. The goal is to increase our association and our member firms' profile, and make operating and working in Manitoba a positive experience, offering opportunities for growth and advancement.

This past year we celebrated the 40th anniversary of our association. This milestone was only possible due to the determination and hard work of the member companies and volunteers who believed in our overall mission to promote the business interests of consulting engineers in Manitoba, and to promote the application of engineering for the benefit of society. We owe a debt of thanks to all of the people who worked so hard over the years to help create the strong association we have today.

Although our industry has had many successes over the past 40 years, the current consulting environment is challenging to say the least. Many of our clients are putting a greater emphasis on cutting costs at all stages of their projects. This includes pressure to reduce consulting fees while maintaining or increasing the scope of work required. While some clients recognize that retaining the most qualified consultants improves project results, there is an increasing trend toward the commoditization of professional services where all services are assumed to be equal and cost is the only factor under consideration.

ACEC's position is that professional services are not a commodity. Most projects involve complex problems that require the services of subject area experts to ensure optimal designs are developed to make best use of limited resources. The emphasis on reducing professional service costs curtails our industry's ability to provide senior, experienced staff to develop the most effective solutions to ensure our clients are getting the best value for their money.

To combat this trend, we need to do a better job educating our clients on the benefits of retaining consultants based on their qualifications rather than on price. Typically engineering services constitute only a small percentage of overall project cost, however, selecting the most qualified consultant can have a significant impact on reducing total costs – capital, operations, and maintenance costs – and improving the ultimate success of a project. For this reason, one of my primary initiatives for the upcoming year will be to continue promoting the use of Qualifications-Based Selection (QBS) as a procurement method. This and some of my other initiatives are as follows:

- Continue to pursue the possibility of introducing QBS as a procurement tool for engineering services with the City of Winnipeg and the Province.
- Maintain our ties with Engineers Geoscientists Manitoba to assist with issues of joint interest such as limits of liability, trade agreement issues, and government relations.
- Maintain our ties with related industry organizations such as EGM, MAA, CTTAM, and MPPI.
- Continue meeting with industry groups such as the Winnipeg Construction Association and the Manitoba Heavy Construction Association to discuss areas of joint interest.
- Increase public awareness and appreciation for the important role that consulting engineers play in the application of leading edge technology for the betterment of society and our world around us.
- Improve government relations through face-to-face meetings with various provincial government Ministers to discuss issues facing our membership. This task includes investigating the benefits of securing a Government Relations Director to work on behalf of ACEC-MB.
- Continue association activities that directly benefit our members such as industry mixers, social events, mentoring opportunities, training opportunities, networking and recognition through the annual Awards of Excellence.

Thanks again and I look forward to working with ACEC-MB's great group of leaders and volunteers over the year ahead. 🍷

S. Brad Cook, P.Eng., President

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Kerri Hiebert

Your commitment and dedication make my work a pleasure

As I come near to completing my second year as the Executive Director for ACEC-MB, I've had time to reflect on the first year of playing catch up after the sudden loss of our beloved Shirley Tillett and this second year of really getting my teeth into the day-to-day operations of the Association.

Although I had been a part of ACEC-MB for the last 13 years as the Board Meeting Recorder and Event Coordinator it took some time to learn the extent of the work done by the Board, Committees and Members to establish ACEC-MB as the highly regarded voice of consulting engineering in Manitoba and in Canada along with ACEC-Canada.

In researching the history of ACEC-MB for the 40th Anniversary of the Association in 2018 it was easy to see that volunteer commitment has been the driving force of the success of ACEC-MB in the past and continues to this day. It's easy for someone who considers herself

Members all have such a passion for the extra "work" they do, be it meeting with government officials, mentoring students, planning networking events and many other activities.

not a multi-tasker but an efficiency tasker to run the administration and event planning behind the scenes; but without the dedication of so many ACEC-MB Members where would we be? I have watched especially over this past year a Board that has taken on the torch of those before and have pursued advocacy for our members as they donate countless and often thankless hours of personal time working for the good of all our members.

The Board of Directors, Committee Chairs, Co-Chairs and Committee

Members all have such a passion for the extra "work" they do; be it meeting with government officials, mentoring students, planning networking events and many other activities is incredible. I am proud and happy to be the background support for all the work these dedicated individuals are doing. I commend you for your commitment and it is my pleasure to work for you. 🍷

Sincerely,
Kerri Hiebert
ACEC-MB Executive Director

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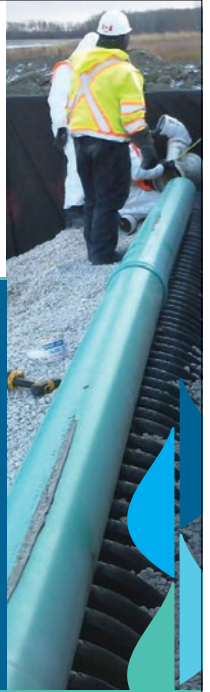
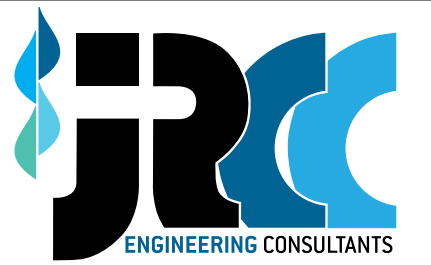
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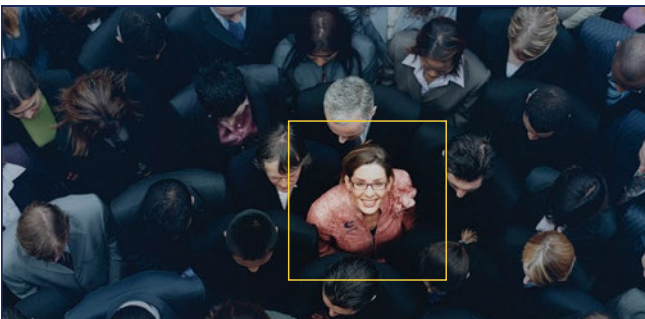


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Procurement Facts:

Qualifications-Based Selection (QBS)



ACEC-MB recommends that public agencies making investments in capital projects should adopt Qualifications-Based Selection (QBS) as the preferred method for procuring engineering and architectural services in order to achieve the best returns on their investments.

QBS is the recognized *Best Practice* for Procurement of Engineering Services

QBS is recommended in the “*Selecting a Professional Consultant*” best practice developed by the **National Guide to Sustainable Municipal Infrastructure** (InfraGuide). This guide was developed by the public sector for the public sector.

https://data.fcm.ca/documents/reports/InfraGuide/Selecting_a_Professional_Consultant_EN.pdf

Capital works represent a significant investment of tax dollars. Upfront procurement decisions have a significant impact on the success of projects and their return on investment. Selecting the right engineering firm not only impacts the quality of the design

and construction phase, but also operations and maintenance of infrastructure assets over their entire design life.

Choose the *right team, for the right project, at the right price*

QBS encourages the selection of the most qualified team who will work with the owner to jointly develop the required scope of services and the appropriate schedule and fees. QBS is similar to hiring people – identify the candidate who will provide the most value to the organization and help the organization achieve its objectives, and then negotiate terms of employment. If the owner and the preferred team cannot come to terms on scope and fees (e.g. project budget), the client is free to proceed to the next-preferred team.

Public Benefit

☑ **Better value to taxpayers**

QBS encourages innovation and provides better value to taxpayers and ratepayers on capital investments. It provides accountability by ensuring that fees will directly correspond to the level of service and the value of deliverables to be provided. QBS also results in more realistic and predictable budgets and schedules for capital expenditures.

☑ **Significant life-cycle savings**

QBS maximizes the value of the engineer's contribution to a project while reducing the project's life cycle costs to the owner/client. Engineering typically accounts for only about 2% of the life cycle cost of a project, but dramatically impacts the cost and quality of the remaining 98%. A recent American Public Works Association study shows that using QBS for engineering services reduces construction cost overruns from an average of 10% to less than 3% – equivalent to a savings of up to \$700K on a \$10M capital project. (These savings are often greater than the original design fees!)

☑ **Better results: Quality, Innovation and Safety**

QBS emphasizes **quality**, fosters **innovation**, and generates real **savings** in construction, operations and maintenance, saving taxpayer dollars while optimizing **public safety and welfare**.

☑ **A transparent and competitive process**

QBS is a competitive process – the **cost of engineering services is a factor** in the procurement, but it is finalized after the most suitable firm for the project has been selected.

The lowest price does not equal the best value.

If delivery of capital works is based on the lowest possible fee, there are potential long-term consequences to both the economy (higher costs to taxpayers) and public safety. Selecting the lowest fee creates pressure to expend the least amount of resources necessary to meet the bare minimum requirements of the project – losing an opportunity to optimize the design, reduce lifecycle costs and enhance safety. It also discourages innovation and effectively penalizes proponents that anticipate potential complexities or who wish to propose value-added solutions all to save taxpayers money. The results of this will be felt in the years to come.

Who supports QBS?

National Guide to Sustainable Municipal Infrastructure InfraGuide is a collaboration of the Federation of Canadian Municipalities; the National Research Council; and Infrastructure Canada.

Progressive Canadian Municipalities

Some Canadian municipalities such as Calgary, Coquitlam, Kelowna and London use QBS for selecting engineering firms for public works projects.



Federal and Provincial Agencies in Canada

Both Public Services and Procurement Canada and Alberta Transportation are currently using QBS on a number of projects as pilot studies to demonstrate the benefits of QBS.

Federal and State Agencies in the USA

Since 1972, US federal law has required the use of QBS for procurement of professional engineering and architectural services on projects that receive federal funding. Similar laws have since been adopted in 44 US states.

The Canadian Standards Association

The Canadian Standards Association, under its Infrastructure Solutions Program, has developed training tools for the implementation of QBS and will be available for all levels of government shortly.

Standing Committee on Government Operations

In 2009, a report of the House of Commons Standing Committee on Government Operations recommended that QBS should be investigated and considered for Federal Government procurement of professional services.

Leading Industry and Professional Associations

- Engineers Canada
- Royal Architectural Institute of Canada
- International Federation of Consulting Engineers (FIDIC)
- American Public Works Association

About the Association of Consulting Engineering Companies – Manitoba

ACEC-Manitoba is the voice of consulting engineering in the province. ACEC-Manitoba represents 30 companies that provide engineering and other professional services to both public and private sector clients in Manitoba and across Canada. 🌐

Indigenizing the Engineering Curriculum

Some of the Scenery Along the Way

M.R. Friesen, P.Eng.

As we embark on more authentic Indigenous inclusion in our undergraduate Engineering programs at the University of Manitoba, I am one of several people at the forefront of our efforts. I approached it with an engineering training, looking for a specification of the issue for which we could develop a solution. This piece is a reflection on how I've needed to take more than a few steps back into reflection before I can think about moving into action.

What are we trying to achieve?

We are working to embed Indigenous Knowledge, perspectives, and design principles in our undergraduate engineering curriculum in a genuine way. In part, we are doing this through a broader focus on sustainable design, envisioned as technological development, social inclusion, and environmental sustainability, all enacted under ethical governance.

One of the things made sustainable design a tidy priority its applicability across all engineering disciplines: climate change mitigation & adaptation, agriculture and food security, transportation and resilient cities, communication & connectivity, and water resources & waste management. Sustainable design also neatly encompassed the priorities of northern Indigenous communities: energy

independence, food security, and infrastructure development.

This curriculum focus is happening in a context of strong private- and public-sector momentum for reconciliation, including the University's strategic priorities aligned with the Truth and Reconciliation Commission of Canada's Calls to Action. Manitoba and Saskatchewan are the provinces with the highest proportion of Indigenous



“Indigenous peoples have been systematically undermined and disadvantaged, with an apparent colonial settler goal to erase them from sight, culture, consciousness. Land has been a central tool in creating this disadvantage.”

Canadians (17% in Manitoba), and in Manitoba, 51% of Indigenous people are under the age of 25. The historical margins are the present and future mainstream.

There's a distinct connection to engineering as well. Indigenous peoples have been systematically undermined and disadvantaged, with an apparent colonial settler goal to erase them from sight, culture, consciousness. Land has been a central tool in creating this disadvantage. Since the initial contact, an array of social, political, and legal interactions of non-Indigenous leaders toward Indigenous peoples have been used to determine and control land use, appropriation, and resource development. Whether it is mining, forestry, hydroelectric power generation, fishing, or developing economies (e.g. gaming),

non-Indigenous Canadians have felt a sense of entitlement to control development by Indigenous Canadians on their own lands, while concurrently asserting their own privileges to the same land for these purposes. These interactions resulted in the economic disadvantage of Indigenous Canadians and critically, have violated the foundational relationship of people to land in the Indigenous worldview. The interactions have been violent, traumatic, and deeply unfair. The engineering profession has played a historical role, both by commission and by omission. As such, it also has a future role to play.

In a previous article, I laid out some initial ideas on how we planned to integrate Indigenous Knowledge, perspectives, and design principles in the undergraduate engineering curriculum. We had framed an

approach: *How is Indigenous knowledge relevant to engineering design? How is engineering design relevant to Indigenous peoples?* We identified three common core courses that could be first sites of curriculum redevelopment. We had an initial list of topics, ranging from history, lexicon, treaties and their relationship to land development to design principles, project funding, social license, and duty to consult. Indeed, we *have* started a number of curriculum projects in the past year with the enthusiasm of a number of faculty members, including a design-build course with the Shoal Lake 40 First Nation, a year-long faculty workshop series *Seeing through an Indigenous Framework*, the appointment of an Elder-in-Residence, and a repository of teaching resources.

Yet, I considered all that stuff to be preliminary until I could find what I thought were the substantive ways to do this. In engineering style, I knew what I didn't know, but I figured that like learning the *Wood Design Manual* or the *Handbook of Steel Construction*, I should be able to learn it through codified knowledge that I just didn't have yet. I kept looking for lists, modules, case studies, lesson plans, bullet points, chapters, or a book. I was thinking of this as a diversity that was out there to be uncovered, and from there, a how-to on how to integrate it.

We invited guests to speak to engineering faculty members, but I still didn't get the instruction manual I was hoping for, although they were very friendly people who were generous in sharing their time and relationship with us. Some stressed

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traditional knowledge – sharing it with non-Indigenous communities and embedding it into our cultural thinking. Others stressed that while Indigenous design comes out of the traditional, it must be contemporary, engaging with (not for) Indigenous communities who are also coming into their own manifestations of modernity driven by youth.

Last fall, Kevin Chief, VP of the Business Council of Manitoba, spoke to the Faculty of Engineering and said something important: *Belonging* is the beginning of anything worthwhile. Perhaps belonging is more important than Indigenous “content” in the engineering curriculum, or at the very minimum, it has to come first. A sense of belonging engenders trust, trust engenders attachment and loyalty to an organization or group, and attachment engenders real engagement and contribution. The same chain can be deconstructed: If a person or group is not engaged in your organization, perhaps they don’t feel attached, because they don’t find the environment trustworthy enough to develop a sense of belonging.

This chain is important because it forces us consider the physical and organizational environment as powerful as any person in it. Even if all students, employees, professors, and organizational leaders are 100% equity-minded and knowledgeable, the outcomes will be poor if the environment itself has policies, procedures, and practices that are inherently discriminatory and that render certain people invisible when good people are just following the rules.

In the engineering profession, we’ve probably been guilty of asking people (Indigenous Canadians, women, etc.) what to do before demonstrating to them that they belong and that their voices will be taken seriously. Even worse, we often asked equity-seeking groups to do the heavy lifting of equity work. It is an unfair workload, because the equity-seeking groups often compromise their sense of security and safety in doing this work, and by definition lack the structural power to make things right.

At this point, I started to feel something familiar: the realization that sometimes the initial work is to deconstruct before we can reconstruct. So I started to deconstruct myself. I asked myself why I was taking a lead on this, out of all the people who potentially could or should? A practical answer was that it fit into the Faculty’s priorities, the Dean nudged it my way, it seemed interesting, and I believed in its importance. From my

14 years working in the Internationally-Educated Engineers Qualification program (IEEQ), I knew that there’s a certain power in being an ‘outsider.’

Also, I brought a personal history that I considered relevant because, notably, I thought it left me un-implicated. I was born in Paraguay in a Mennonite community (an ethnic German group with origins in 16th century Europe). Mennonites arrived in Paraguay in the 1920s-30s, some from Canada, some

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“I considered the Canadian story to have come before me, and I considered this a benefit in that it kept me ‘neutral’ and ‘objective,’ important engineering values. It turns out my Canadian history isn’t quite as detached as I thought.”

from Russia & Ukraine. They pioneered ‘unbroken land’ in the Chaco region – ‘unbroken’ that is, except for the Indigenous peoples living there: Guarani, Ayoreo, Lengua, Chulipi, and others.

The Mennonites proved what Europeans call industrious, and they presently dominate national agricultural production in dairy, beef, and field crops like cotton and peanuts, with the wealth to show for it.

While Mennonite were figuring out how to develop the area, my maternal grandfather worked hard at social justice from the 1940s-80s in the very primitive, pioneering contexts. He was the colony governor in the 1950s-70s, establishing the colony’s first secondary school, followed by teachers’, nurses’, and

agricultural training. In the 1970s-80s he worked in outreach and social development to Indigenous Paraguayans with whom the government of Paraguay had made no arrangements when the Mennonites were offered land to purchase in the 1920s. His work focussed on healthcare, education, and agricultural development.

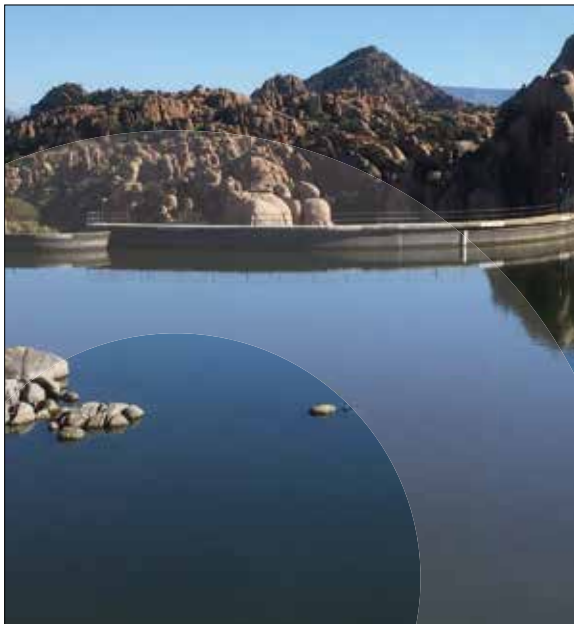
But I also remember being taught to ignore Indigenous people, like the women and children who would quietly sit at the end of my grandparents’ driveway, letting their presence be their calling card. My grandma would send me out with a plastic bag of leftover food, reminding me to not let our hands touch for hygienic reasons.

Yet, my grandfather’s work was influential. His funeral was attended by

over 2000 people, many of whom were Indigenous. The family asked Isaak, my grandparents’ long-time Indigenous garden helper, to be a pallbearer. The morning of the funeral, Isaak was at the house hours in advance, sitting quietly at the edge of the yard. His generosity to engage in reconciliation through participation in the funeral was not lost on me.

So, my point is I thought I had a suitable background for the work at the University of Manitoba, Faculty of Engineering, in 2019. I was born in Paraguay with its Mennonite-Indigenous history. I’m an immigrant to Canada of the mid-1970s holding the “proper” sensitivities to cultural diversity. I took agricultural engineering as prep for social justice work, probably overseas, I thought at the time.

Yet, this personal history also allowed me to mentally set myself apart from Indigenous – Settler history in Manitoba and Canada. I considered the Canadian story to have come *before* me, and I considered this a benefit in that it kept me ‘neutral’ and ‘objective,’ important engineering values. I didn’t even think that my community – the Mennonites – were particularly involved in the disease-bringing, in the bad treaties, in the residential schools.



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It turns out my Canadian history isn't quite as detached as I thought. Fifty years before Mennonites went to Paraguay from Canada, Ukraine, and Russia in the 1920s-30s, some came to Canada from Ukraine and Russia in the 1870s. In 1870, tsarist Russia overturned privileges originally granted to Mennonite settlers when they had been recruited from Prussia. In the same year, Canada purchased Rupert's Land and began seeking groups to help colonize the territory.

In the 1870s, the government of Canada was interested in signing agreements with numerous groups. In fact, in 1871, Treaty 1 was signed between Canada and the Anishinabek and Swampy Cree of southern Manitoba, appropriating land from Indigenous peoples in return for reserved land and, ostensibly, opening a basis for assimilation into Canadian society.

Two years later, in 1873, the 'Privilegium' was signed between the government of Canada and Russian Mennonites offering cultural privileges and tracts of land for agricultural settlement, named the East Reserve and the West Reserve around Steinbach and Winkler, respectively. The 500,000 acres settled by Mennonite newcomers in the 1870s constituted some of the most productive agricultural land

in southern Manitoba, firmly located within Treaty 1. When 7000 Russian Mennonites arrived, they were the largest single newcomer group to enter Manitoba in the 1870-1880 period. More followed.

Suddenly, I was not feeling quite as innocent. My history was definitely implicated. Where do I go next? Quite by coincidence, I thought I found absolution in the book *A Fair Country: Telling Truths About Canada*, by John Ralston Saul. He claims that a more complete understanding of the idea of Canada needs to go back *even* further to the 1650s. In Saul's words,

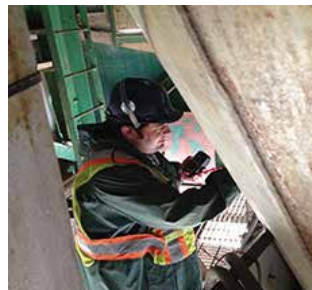
Even with some goodwill at work over the last half-century, we have continued to see ourselves and the other in a deeply misguided manner. Yet we constantly demonstrate our desire to escape our weaknesses and our misunderstandings. The out is tied to finding language that accurately expresses this desire. After all, what is our language striving for today? Diversity. Inclusion. Complexity. We are gradually returning to the attitudes that predate the racially-based, European-driven divisions of the late 19th century. At the same time, we miss the deep historic roots of

diversity, inclusion and complexity in Canada by merely attributing them to our current society and to recent immigration patterns, and to a new and open society. In this way, we fail to understand that they represent the undercurrent of Canadian civilization. Yes, there are new positive factors at work. But the collective unconscious carries centuries of experience with complexity and diversity and inclusion (p. 20).

As per Saul, the "idea of Canada" was created at the earliest Indigenous-Settler contact and persists today even if we fail to acknowledge its roots. He calls it our inherent Indigenous worldview and our strategies for how to be a country: diversity, inclusion, complexity. He sees it in a Canada obsessed with "egalitarianism, our desire to maintain a balance between individuals and groups, our non-monolithic idea of society, a delight in complexity, our tendency to try to run society as an ongoing negotiation, our preference for consensus, all toward balancing minimal impairment and mutual advantage." He points out current manifestations of this Indigenous worldview in federalism, a single-tier healthcare system, in public education, and in equalization payments.

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“We are much closer to the start of our road to Indigenous inclusion in the engineering curriculum than to any end.”

So, did this offer me a way forward and absolution from my own history? Is this what Indigenous scholar

Jake Chakasim meant when he said “A Canadian identity for Indigenous people, and an Indigenous identity

for Canada?” There are voices that say, ‘not so fast.’ The idea that I, a white woman, can claim an Indigenous worldview on a personal level has been strongly rejected by many Indigenous Canadians. When Kevin Chief described the multi-stakeholder dialogue that preceded the development of the tagline *We Are All Treaty People*, he said a lot of the opposition came from Indigenous Canadians who claimed insensitive appropriation. You can’t just gloss over hundreds of years of inequality by simply claiming an Indigenous worldview now. So, I felt like I was still going in circles in my objectives of bringing Indigenous Knowledge and perspective into the engineering curriculum.

What I was finally able to hear people telling us is that *relationships* is how we “do” Indigenous Knowledge, by exploring one’s own identity, being vulnerable, desiring restitution, and being open to insights. It includes simple things: normalizing the presence of Indigenous people, art, concepts, and culture in our environments. Some manifestations are more complex. For example, recent Supreme Court decisions have now given serious weight to oral culture and oral evidence in judgements focussed on Indigenous questions. Our professions and universities come out of the cultural universe that favours codified written knowledge over the oral, and subscribing to defined, often exclusionary ideas of truth. Margaret Kovach, a Cree woman and professor at University of Saskatchewan, asks us to be mindful of what the university – and in this case, the engineering profession – is good at: counting things, deciding which things matter and what knowledge is valid.

So we are much closer to the start of our road to Indigenous inclusion in the engineering curriculum at University of Manitoba than to any end. In using story here – my own and the voices of others – I attempted to start examining my own identity and vulnerability as we continue this conversation. Perhaps you have opportunities in your work and life to do the same. I can be found at Marcia.Friesen@UManitoba.ca.

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Infrastructure is an investment in our social, economic, and environmental quality of life. Collectively, our infrastructure is what connects and enhances our communities, enables commerce and trade, and protects our environment. With competing demands for investment, priority should be given to core infrastructure that grows the economy, creates jobs, and expands the tax base. Growing the economy will be essential in making further investments in community and social infrastructure viable and sustainable in the future.

Infrastructure projects don't exist in isolation of one another and infrastructure is only as effective as the weakest link. Therefore, to receive the best ROI, a coordinated and strategic approach should be taken towards infrastructure planning and investment. A successful infrastructure strategy has clear priorities, concrete objectives, and specific performance measures that also consider municipal, provincial, and territorial priorities.

Therefore, in cases where municipalities have robust and well-considered asset management plans, funding can be allocated based on their investment program rather than on a project-by-project basis. This approach would allow multiple strategically-related projects to be efficiently approved under a single application. It would also serve as an incentive for municipalities to develop and adopt asset management plans to guide strategic investment decisions.

With respect to nation-building economic infrastructure, a network of pre-established, pre-approved rights-of-way across Canada for

infrastructure assets such as roads, rail, pipelines, electrical transmission, and communications would make it more economical to connect communities and resources to markets across Canada. A national corridor would also enable commerce and trade, address social and environmental concerns while allowing economic growth in remote, northern and First Nation communities.

You may be asking yourself, what exactly is a national corridor? It is not a new idea as it was originally proposed during Canada's centennial by Lt.-Gen. Richard Rohmer, long before "pipeline politics." ACEC has been promoting the concept of a corridor for many years. The concept is a network of rights-of-way across northern Canada for multiple types of infrastructure assets, such as telecommunication and forestry projects, roads, rail – and, of course, pipelines. It would connect all regions of Canada and provide market access for Canadian products, allow movement of goods and services while addressing social and environmental concerns.

Imagine how much easier it would be to support some of the remote

northern communities, once we have pre-established corridors. Imagine the cultural and societal impact. The value is immeasurable.

A nationwide corridor would facilitate the planning, development and implementation of both public and private infrastructure and natural resource projects by bringing all levels of government and relevant stakeholders to the table to identify and acquire lands and secure the required approvals. This integrated planning approach would eliminate the need for multiple reviews of major projects and more importantly allow governments to better consult First Nations and local stakeholders on the correct path for a right-of-way where projects could then be built. Another key benefit of a national corridor is how it would require a significantly smaller geographical and environmental footprint than the current fragmented approach to the development of projects.

Canada's federal, provincial and territorial governments have all recognized that a lack of



infrastructure is a limiting factor in the continued development of Canada's resource sector. This is especially true in the north. A national corridor would make it easier and more economically viable to connect northern and remote communities to vital economic and quality of life enhancing infrastructure (such as power, communications, road and rail) that most Canadians take for granted. What's more, corridors also protect infrastructure from advancing urban development and offer a long-term solution to many of the land use challenges associated with developing major facilities. The goal is to align

the interests of the federal government with those of the provinces and the First Nations in order to bring benefits and opportunities to all Canadians.

A national corridor is more than politics, it's about connecting communities and having the largest positive impact on economic growth. It's about long-term investment in the economic, social and environmental quality of life of all Canadians. If we wish to see Canada grow to its fullest potential, if we wish to leave a lasting legacy from this era, a discussion on national corridors to accommodate nation-building infrastructure must happen today, not tomorrow.

This bold nation-building project has been under consideration for over 50 years but needs leadership to make it happen. ACEC-Canada is prepared to work with the federal government and its stakeholders to make this vision a reality. Visit www.investininfrastructure.ca to learn more. 🇨🇦

Sincerely,
John D. Gamble, CET, PEng.
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Project Name: **Bipole III Direct Current (HVDC) – Keewatinohk Converter Station Site**
Project Client: **Manitoba Hydro**
Category: **Energy Resource Development**
Submitted by: **Teshmont Consultants LP & Stantec Consulting Ltd.**

Manitoba Hydro needed to remove a common point of failure in its transmission network in order to ensure reliable access to renewable, clean energy. To achieve this, Manitoba Hydro undertook the massive task of designing and constructing the Bipole III High-Voltage, Direct Current (HVDC) Project. During construction, Bipole III was one of the largest and most technologically complex energy projects on the continent. Requiring special expertise for this one-of-a-kind project, Manitoba Hydro assigned the role of Owner’s Engineer to Teshmont and its sub consultant Stantec, henceforth referred to as “the Team.”

Over the span of eight years, the Team supported Manitoba Hydro through a wide range of engineering services on this important energy project that ensures reliable energy access for the citizens of Manitoba for generations to come.

The Team provided engineering service to Manitoba Hydro related to five distinct project phases, namely: Preliminary Engineering; Specification Development; Bid Evaluation; Design and Manufacturing; and Construction and Commissioning. The project’s Keewatinohk and Riel Converter Stations successfully came on line in July of 2018.

The breadth and complexity of this project necessitated the Team overcoming many challenging, day-to-day obstacles over the course of 250,000-plus hours of service. Through a collaborative approach, ingenuity, and continuity of service throughout the lifespan of the project, the Team has helped Manitoba Hydro reach their project goals and, ultimately, ensure renewable energy access for Manitobans.



PRELIMINARY ENGINEERING

From the time Manitoba’s second bipole went into service in 1985, Manitoba Hydro began planning for Bipole III. Although the initial bipoles had the capacity to serve Manitobans well into the future, there was a critical weakness to the system. Both existing bipoles travelled along essentially the same route and terminated in one converter station, Dorsey, in southern Manitoba. Together, Bipole I and Bipole II transmitted over 70% of the Province’s power to Winnipeg and surrounding regions.

Manitoba Hydro was keenly aware that a serious weather event at any time and at any point along the 900kms of transmission line, or a significant failure in the station itself, could have a devastating impact on Manitoba’s citizens and industries in the capital region and surrounding areas, especially in months of extreme temperature ranges, either cold or hot.

Recovery in such scenarios could have taken anywhere from three to five years, due to the unique nature of some of the equipment. Secondary power would need to be sourced through the purchase of coal and gas-fired power from neighbouring transmission systems, inducing significant economic and environmental costs.

While Manitoba Hydro was aware of the critical necessity of introducing a third bipole to the system, it was also aware of the high costs and extreme complexity of such a project. Adding another bipole to the system would cost billions of dollars, require coordination across multiple disciplines, and involve extensive studies to properly integrate with existing controls and systems.

In early 2010, 25 years after the second bipole had gone into service, the conditions to proceed aligned and Manitoba Hydro formed a plan to execute the project. The company turned to the team of Teshmont, for its



global HVDC expertise, and Stantec, for its multidisciplinary capacity and northern Manitoba engineering experience. Together, Teshmont and Stantec formed the Team that would provide continuous Owner's Engineer services to Manitoba Hydro and see the project through to completion.

In addition to working with Manitoba Hydro to compile the technical requirements and preferences that would form the building blocks for all future technical work, the Team took on early design work to address the technical challenges of the project.

Early design work included: site selection; access study to move twenty 250-ton (12000mm x 3950mm x 4950mm L/W/H) converter transformers; site drainage; risk management; and project implementation plan, to name a few examples.

One of the unique challenges some of this design work needed to consider was Manitoba's northern climate.

SPECIFICATION DEVELOPMENT

The second phase of the project built upon the success and stakeholder buy-in of the first phase, and was used to translate the technical details into technical specifications.

Specifications were created for the HVDC converter stations, the 230 kV switchyard at the northern site, and the synchronous compensator facility.

Each of the specifications combined the work of multiple disciplines, and each presented unique challenges of its own. For example, for the synchronous condensers, the specification needed to encourage competitive bids, yet nowhere in the world was any company currently building the large synchronous condenser machines to the specifications Manitoba Hydro required.

While the primary challenge in putting together the synchronous condenser specification was accommodating a specific set of technical requirements, in contrast one of the challenges in putting together the converter station specification was how to incorporate the vast quantity of requirements into a comprehensive, biddable package.

BID EVALUATION

The three primary contracts – converter stations, northern switchyard, and synchronous condensers – were tendered with a staggered roll out. The timing was based on expected duration of each project to reach its in-service date and included the added benefit of allowing the Team to apply knowledge gained from each tender to subsequent tenders.

Due to the complexity of the project and the number of contracts, there was an interdependent technical reliance between the contracts. By staggering the tenders, the Team was able to reduce some of that interdependency and standardize the technical approaches. This gave Manitoba Hydro the benefit of executing multiple contracts optimized to reduce overall cost, while still receiving a unified technical solution in the end. The Team's technical oversight during this and subsequent phases was essential in providing a seamless and high-performing end product.

Once again, the size and complexity of the project presented the next challenge: how to fairly evaluate the different bids and inevitable non-conformances across a wide range of disciplines and stakeholder interests. This was especially true for the converter stations, which constituted the largest portion of the work.

With the process defined, the Team took a lead role in responding to bidder inquiries. Hundreds of questions and clarifications were submitted that needed to be reviewed. Often, answers could be provided quickly due to the initial documentation done in the first phase. In some instances, the Team needed to quickly review technical alternatives and advise Manitoba Hydro on their acceptability. The Team worked closely with Manitoba Hydro, in some instances having several meetings per day to discuss issues and develop resolutions and responses. The goal was to help bidders understand the nuances of the project and have adequate information on the existing conditions and required finished products to provide bids conforming to the requirements of the tender documents.

Once tenders closed, the evaluation work began. For each tender, the Team provided a report identifying the evaluation criterion, strengths, and weaknesses of the bids with respect to conformance to the technical requirements, a comprehensive list of negotiation items for each vendor, and a recommendation on which bid to proceed with.

As noted, there were non-conformance items within each bid that needed to be addressed so that Manitoba Hydro requirements could be met. Once the preferred bidder was selected, the Team had a limited period of time to complete negotiations on non-conformance items and proposed alternatives, and, ultimately, come up with a conformed technical specification. For the preferred HVDC proponent alone, over one hundred technical items were identified, needing further discussion and negotiation at the outset.

DESIGN AND MANUFACTURING

The design review was the most hectic time of the project and required the greatest work force to support it. As the equipment contractors developed their designs, the team was responsible for review of the submissions. The sheer volume and turnaround time presented a challenge.

In addition to the design review process, the Team provided quality assurance services during Factory Acceptance Testing (FAT), and related international inspection work. Specialized high-voltage testing for the thyristor valves was witnessed in Germany, testing of filter bank capacitors in Brazil, application-specific tests for the purpose-built converter transformers in Germany, standardized transformer testing in Italy and Mexico, testing of high voltage measuring devices in Romania, and inspection of miscellaneous equipment in Canada and the United States.

One of the more complex systems tested was the HVDC protection and control equipment, the brain and nervous system for the converter stations, which needed to interface with both the switchyards and Manitoba Hydro's existing system. The complexity of this system meant that over 600 tests needed to be performed and verified while connected to state-of-the-art, real-time digital simulators.

CONSTRUCTION AND COMMISSIONING

As the project entered its final phase, the Team provided construction and commissioning support at the sites, as well as engineering services

to bridge gaps and coordinate the design interfaces. New personnel were brought on to provide site reviews of the work to confirm conformance to the approved design documents. The design development team remained involved but shifted to review of engineering change notices brought on by conflicts, varied site conditions, or improved construction methods.

The Team dispatched personnel to site for oversight related to piling, foundation work, building erection, building mechanical and electrical system review, underground works, and steel structure review. These personnel recoded daily logs of the ongoing work, noting issues that required resolution. Some members took more senior roles at site, assisting with administration of contracts. Up to a dozen members of the team were embedded within the Manitoba Hydro KCS site construction team at any one time.

As a specific example of the technical interdependence of the contracts and the innovative solutions that the Team provided to assist the construction work, the proximity of work on site sometimes raised concerns of potential damage and claims between contractors.

The Team provided additional technical solutions as issues arose. For example, a portion of the project required large, concrete oil-containment basins to minimize the environmental impact of oil leaks or spills.

As design details were finalized, the gaps and interfaces between contracts needed to be coordinated. The Team coordinated multiple interface packages, which required communication between the two parties responsible for each

side of the interface (often with both sides still in the midst of finalizing details), and close coordination with the construction team as shifting site conditions needed to be confirmed. The interfaces included integrating fire alarm systems, coordinating deluge piping, high voltage cables, protection and control interfaces on site, and integrating controls into Manitoba Hydro's existing network. One of the more unique interfaces was a control system that would dynamically react to requests from the HVDC control centre to control the reactive power being supplied by the synchronous condensers.

As construction drew to a close, the Team's involvement switched to providing commissioning expertise to Manitoba Hydro. The Team's participation in preparing, witnessing, and reviewing commissioning test results was intense and diverse, covering the critical HVDC valves, converter transformers, specialized HVDC valve cooling systems, control and protection systems, fibre-optic communications, transformers, building envelopes, building roof construction and flood leak testing, synchronous condenser cooling systems, building HVAC systems, building electrical, fire and security systems, and underground systems connecting the facilities to existing site civil infrastructure.

CONCLUSION

Over the course of eight years, the Teshmont and Stantec team provided key engineering services to Manitoba Hydro on an hour-to-hour and day-to-day basis that resulted in the successful design and installation of Canada's highest-rated HVDC link. To achieve this required extensive coordination across multiple disciplines and geographic locations, unique expertise and local knowledge, dedication, and quick thinking. **As a result, Manitobans now rely upon and continuously benefit from a robust and redundant HVDC system that brings and will continue to bring clean, reliable power to current and future generations of Manitobans for decades to come.** 🌟



AWARD OF EXCELLENCE – ENERGY RESOURCE DEVELOPMENTProject Name: **Bipole III HVDC Project**Firm: **Teshmont Consultants LP and Stantec Consulting Ltd.**Client: **Manitoba Hydro**

Answering the need for reliable access to renewable, clean energy, Manitoba Hydro undertook the massive task of designing and constructing the Bipole III High Voltage Direct Current (HVDC) Project. Manitoba Hydro engaged Teshmont and sub consultant Stantec to assure the technical quality of design and construction of two new converter stations and supporting infrastructure. Completed July 4, 2018, Bipole III adds 2,000 megawatts of hydroelectric power capacity to the Manitoba energy grid and mitigates the possibility of a common weather event causing catastrophic energy outages, assuring Manitobans have economical and environmentally friendly power sources for decades to come.

**AWARD OF EXCELLENCE – ENERGY RESOURCE DEVELOPMENT**Project Name: **Bipole III Converter Buildings**Firm: **MCW/AGE Power Consultants**Client: **Mortensen**

The Manitoba Bipole III project is a cornerstone of the Manitoba Hydro Transmission system connecting remote hydro generation resources to load centers in the south. The Converter buildings at either end of the HVDC transmission line – built by the Siemens/Mortensen Consortium, and designed by MCW Consultants – are the heart of the system.

The project is being submitted for consideration under Energy Resource Development.

The engineering challenges included extremely complex design, scheduling issues, and technical coordination between three concurrent design efforts.

The project was successfully completed on time and budget, and met all client requirements.



AWARD OF EXCELLENCE – ENVIRONMENTAL

Project Name: **Pushing the Envelop: Large Diameter Reinforced CIPP Combined Sewer Rehabilitation**
Firm: **AECOM Canada Ltd.**
Client: **City of Winnipeg**



Like many cities, Winnipeg uses a combined sewer system to collect both wastewater and rainwater runoff. To promote cost efficiency in the rehabilitation of two large egg combined sewers, AECOM evaluated and tendered five alternative technologies of which reinforced Cured-in-Place-Pipe (CIPP) was selected. Working within an active recycling facility, adjacent to active rail tracks and significant flow bypass requirements were challenges overcome by AECOM and contractor Insituform.

The use of CIPP resulted in the installation of the largest CIPP liners ever installed in Winnipeg and some of the largest non-circular and reinforced CIPP liners installed in North America.



AWARD OF EXCELLENCE – INDUSTRIAL

Project Name: **HyLife Pork Processing Plant**
Firm: **KGS Group**
Client: **HyLife Foods LP**



HyLife constructed a new 98,500 square foot pork processing plant adjacent to their existing facility in Neepawa, Manitoba. The cornerstone of a \$125 million investment, the plant features all new cut floor, packaging area, storage coolers, palletizing/shipping, and utility spaces to address future capacity and reduce operational costs. KGS provided conceptual design and value engineering services to support project funding, detailed design of the facility to global meat industry standards, design of building utility service upgrades, integration of state-of-the-art equipment, procurement management, and construction engineering support. Production commenced in April 2018.



AWARD OF EXCELLENCE – MUNICIPAL AND WATER TECHNOLOGYProject Name: **Watermain Breakage Reduction Study**Firm: **AECOM Canada Ltd.**Client: **City of Toronto, Toronto Water****AECOM**

Watermain breaks disrupt water service and block roadways. The mitigative trenching and street repavement are often costly to utilities. To better understand failure risk and watermain renewal requirements within the City of Toronto, AECOM developed probabilistic, deterministic models that anticipate watermain breaks and determine the appropriate economical treatment process. By predicting the failure rate, the models recommend one of three optional treatment processes: cathodic protection, structural lining or replacement. The models were then enhanced for use as a capital expenditure forecasting tool to achieve reductions in failure by a target deadline.

**AWARD OF EXCELLENCE – SMALL PROJECTS**Project Name: **Souris River Hydrodynamic Modeling Study**Firm: **Hatch Ltd.**Client: **Manitoba Infrastructure****HATCH**

Hatch Ltd. completed a flood modeling study for Manitoba Infrastructure of the Souris River in Manitoba. The study reach consisted of a 273 km long reach of the Souris River, a 5 km long reach of Plum Creek, 33 bridge crossings, and 7 hydraulic structures. The calibrated numerical hydraulic model developed from this project can be used to simulate flood events to map floodplain areas and design permanent and temporary flood protection measures. The model can also be used during ongoing flood events in conjunction with hydrologic forecasts to estimate the peak flood levels and time of peak flooding.



AWARD OF EXCELLENCE – TRANSPORTATION

Project Name: **Owner’s Engineering Services for the Design Build of Intersection Upgrades at PTH 59/101 and PTH 59/PR 202**
Firm: **WSP Canada Inc.**
Client: **Manitoba Infrastructure**



The original PTH 59N/PTH 101 interchange was designed in the mid-1990’s. In 1996, a detour consisting of two signal-controlled intersections was constructed to allow for future construction of the interchange. As traffic volumes increased, operational and safety issues arose, and in 2014 Manitoba Infrastructure initiated design build construction of the full interchange along with an active transportation crossing of PTH 101 and upgrades to the intersection of PTH 59/PR 202. WSP completed the functional design, prepared procurement documents, and provided oversight during construction. Shovels were in the ground in May 2015 and the interchange opened to traffic on October 31, 2018.



AWARD OF EXCELLENCE – TRANSPORTATION

Project Name: **Design and Construction of the Assiniboine River and CPR Bridge Structures on PTH 1A in Brandon, Manitoba**
Firm: **Tetra Tech Canada Inc.**
Client: **Manitoba Infrastructure**



PTH 1A is a vital link across the Assiniboine River and Canadian Pacific Railway main lines in Brandon, Manitoba and provides access for approximately 18,000 vehicles daily. Manitoba Infrastructure determined that major rehabilitation of deck and substructure elements were necessary following flood events in 2011 and 2014. Tetra Tech provided engineering services for the preliminary design and recommended twin replacement structures as the prudent alternative. Tetra Tech was awarded the detailed design assignment and implemented an innovative project delivery strategy to provide efficient, constructable design solutions, while managing project risks within an accelerated design schedule.



Photo courtesy of PCL Constructors Canada

AWARD OF MERIT – BUILDING ENGINEERING

Project Name: **Pan Am Pool Main Tank Ceiling, Acoustical, Lighting and Audio Systems Upgrade**

Firm: **Stantec Consulting Ltd.**

Client: **City of Winnipeg**



The Pan Am Pool project transformed an outdated public space with poor aesthetics, inadequate illumination, bad acoustics, and non-functioning audio into a rejuvenated, attractive, and inspiring modern venue with improved functionality, safety, and efficiency. Old asbestos-containing ceiling was abated. Stantec greatly improved space acoustics with new ceiling and partial wall treatments and provided a new audio system throughout the building. New indirect lighting with a unique retraction system improves safety of athletes and spectators, is maintenance-friendly, and energy efficient. Stantec hopes that the work will help attract more young talent into water sports and produce more Manitoba-trained world-class athletes.

**AWARD OF MERIT – BUILDING ENGINEERING**

Project Name: **University of Manitoba Bannatyne Campus Electrical Re-Servicing**

Firm: **SMS Engineering Ltd.**

Client: **University of Manitoba (Physical Plant)**



Between 2013 and 2016, a complete power re-servicing was implemented at the University of Manitoba Bannatyne Campus. Ten utility services were consolidated into a single 12.47 kV service with a redundant underground radial distribution network around the campus. Extensive electrical distribution upgrades were conducted within the buildings to replace aging electrical equipment and provide a central power monitoring system. SMS Engineering Ltd. was the prime consultant and provided electrical and mechanical consulting services. The new electrical distribution system provides reliable power supply to the campus and is the result of careful planning between the University, design team, electrical contractor and Manitoba Hydro.



AWARD OF MERIT – ENVIRONMENTAL

Project Name: **Wastewater Treatment Facility Upgrade and Expansion**

Firm: **JR Cousin Consultants Ltd.**

Client: **RM of Rockwood and Stony Mountain Institute**



The RM of Rockwood and Stony Mountain Institute (SMI) had been operating facultative lagoons adjacent to each other, both of which were hydraulically overloaded and leaking. JR Cousin Consultants Ltd. designed an aerated lagoon treatment system that services both the RM of Rockwood and the SMI federal penitentiary. This regional facility operates as a hybrid system, utilizing continuous discharge in summer and storage in winter, while providing enhanced nutrient reduction and disinfection. Challenges overcome during design and construction included poor soil conditions and federal security requirements. The RM and SMI now have a safe, cost-effective and reliable long-term solution to their wastewater treatment.



AWARD OF MERIT – INFRASTRUCTURE

Project Name: **Controlling Risk to Critical Infrastructure During Construction: Seine Riverbank Stabilization at the Branch 1 Aqueduct, Winnipeg, Manitoba**

Firm: **KGS Group and Morrison Hershfield**

Client: **City of Winnipeg**



MORRISON HERSHFIELD

The 100-year old Branch 1 Aqueduct is a critical component of Winnipeg's water supply system. Recent slope movements at the Seine River crossing threatened the integrity of the Aqueduct. KGS Group applied rigorous engineering design, a ground-breaking instrumentation program, and prescriptive construction methodology to manage risk to provide long-term protection for this important infrastructure.

This approach required more intensive engineering but reduced the construction timeline by one year and resulted in significant cost savings. Riverbank stabilization and revegetation works were successfully completed in 2018 leaving the site in better condition for the community to enjoy for years to come.



AWARD OF MERIT – INFRASTRUCTUREProject Name: **The Rosser Water Reservoir and Distribution System**Firm: **Stantec Consulting Ltd.**Client: **The Manitoba Water Services Board & The Cartier Regional Water Cooperative**

The Rosser Water Reservoir and Distribution System project provided the crucial infrastructure to service CentrePort Canada in building a water supply system that would meet the inland port's needs for 10 years of future development. Stantec designed an infrastructure network comprised of a treated water supply line, reservoir, pumphouse and watermains integrating the Cartier Regional Water Co-op (CRWC) with CentrePort Canada's network, as well as providing supplemental water demand for neighbouring communities in the region. The infrastructure assets included provisions for trihalomethane removal; and the pumphouse was connected to CRWC's Headingley Water Treatment Plant Supervisory Control and Data Acquisition system via wireless communication.

**AWARD OF MERIT – SMALL PROJECTS**Project Name: **Wasagamack First Nation School Servicing Water and Wastewater Material Procurement**Firm: **Stantec Consulting Ltd.**Client: **Wasagamack First Nation**

Indigenous Services Canada (ISC) announced July 11, 2016 that a new school would be constructed in Wasagamack First Nation. As the project progressed, it was identified that water and wastewater infrastructure needed to be extended from the community to the school, but time was running out. Stantec was retained to execute a Material Supply Contract. Stantec dedicated five engineers to progress the preliminary design drawings, develop a bill of materials, develop a tender document, and administer the Contract. Work began in January and was completed in April, 2018. This prevented competition for local resources during construction phases and maximized benefit to the First Nation.



AWARD OF MERIT – SMALL PROJECTS

Project Name: **City of Dauphin Corrosion Control Study**

Firm: **AECOM Canada Ltd.**

Client: **Manitoba Water Services Board**



When voluntary sampling found higher-than-permitted lead and copper levels in the City of Dauphin’s drinking water, the City requested a prompt solution. Elevated exposure from tap water can cause health effects and put the public at risk. A challenge to control, lead is often introduced to drinking water in the service lines after treatment occurs. To help the City manage the contaminants found within the drinking water, AECOM evaluated possible treatment options, corrosion reactions and infrastructure improvements. The strategies developed are instrumental to utilities meeting more stringent lead limits proposed by Health Canada and provide safer, more reliable water.



AWARD OF MERIT – TRANSPORTATION

Project Name: **Preliminary Design for the Arlington Street Bridge Replacement over the CPR Yards**

Firm: **Stantec Consulting Ltd.**

Client: **City of Winnipeg**



The City of Winnipeg retained Stantec Consulting Ltd. to complete the Preliminary Design for a New Arlington Street Bridge over the CP Rail Yards in the North End of Winnipeg. Stantec assembled a very skilled team and undertook a substantial public and stakeholder engagement program with the tagline “Better Bridge for Arlington.” The engagement resulted in many project goals from various stakeholders and the community. The construction methodology was developed and accepted by CP Rail.



RISING STAR AWARD

The **Rising Star Award** is intended to recognize exceptional achievements in the early years of a person's career. This award was established in 2008 in recognition of the 30th anniversary of the Association of Consulting Engineering Companies of Manitoba. 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 Walleghem in 2011, Jonathan Epp in 2012, Kimberly Yathon in 2013, Kristen Poff in 2014, Jomar Manzano in 2015, Lin Watt in 2016, Dana Bredin in 2017 and Misty Klassen in 2018.

2019 RISING STAR AWARD RECIPIENT

TYSON EHNES, P. ENG.

Tyson Ehnes has been working in the consulting engineering industry since January 2010 and has developed from a new graduate into a strong technical specialist and a future leader in the consulting industry. Tyson is presently working towards obtaining a Project Management Professional designation.

Tyson is the current Chair of the ACEC-MB Young Professional Committee (YPC) (2017–2019) and represents the YP Committee as a voting director on the ACEC-MB Board as well as the Manitoba representative for the ACEC National Young Professionals Network (YPN). He was the YPC Vice-Chair (2016) and YPC Events Coordinator (2013–2017). The YP Committee's purpose is to enhance the growth and advancement of the consulting engineering industry by supporting the development of Young Professionals; and Tyson has worked consistently to ensure his peers have access to seminars, educational tours and networking events. Tyson is also a member of the Professional Development Committee since 2014, working to present informative and educational sessions for all ACEC-MB members.

Tyson has been a member of the Canadian Water Resources Association (CWRA) since 2010 and was a contributing member of the Conference Planning Committee for the 68th Annual CWRA National Conference held in Winnipeg and is now involved in planning the 73rd Annual CWRA National Conference that will be held in 2020.

His professional achievements have been consistently raising the bar, leading to him being recognized as a source of technical excellence, both locally and throughout AECOM's western offices. Through a variety of high profile, successful projects, Tyson has been and continues to be an integral member of the AECOM Water Business Line. Tyson is often called upon for project work that demands urgent response and the best solutions on short notice. His project experience ranges from culvert and channel design and construction to large watershed scale hydrodynamic 1D and 2D modelling, virgin road development, dam rehabilitation and reclamation, mine water management and water balancing.

Tyson continues to support and work with his peers and promote consulting engineering in many other volunteer efforts including: contributing to the AECOM Water Resources Academy, Science Rendez-Vous community outreach event, Professional Engineering and Geoscientist Week Spaghetti Bridge Competition, Rotary Career Symposium and the Manitoba Schools Science Symposium. Outside of Engineering Tyson is an avid golfer and volunteers with the Lorette Golf Club as well as a member and volunteer of the Lorette Curling Club.

Tyson Ehnes is an outstanding young engineer who has been consistently growing as a professional while demonstrating technical excellence and contributing to the advancement of the consulting engineering industry, he is truly deserving of the Rising Star Award and one to watch!



"Tyson is often called upon for project work that demands urgent response and the best solutions on short notice."

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, Cameron Dyck in 2016 and Allyson Desgroseilliers in 2018.

2019 ENGINEERING ACTION AWARD RECIPIENT RICHARD TEBINKA, P. ENG.

Richard Tebinka is currently the Manager, Manitoba Transportation for WSP Canada and has over 35 years of engineering consulting experience. He specializes in transportation planning and engineering and is an accomplished project manager. Richard has led many significant and high-profile transportation projects for both the City of Winnipeg and the Province of Manitoba over the past three decades. He has also appeared at numerous community meetings to solicit public input, at public hearings to present findings related to transportation studies, and provided expert witness testimony before the MB Public Utility Board, MB Land Value Appraisal Commission, Winnipeg Expropriation Board and ON Municipal Board.

Richard's commitment to the engineering profession throughout his career has included; participating in Transportation Association of Canada (TAC) conferences since 1982, sitting on three TAC standing committees since 1988 as well as reviewing submissions for the annual TAC Scholarship. He has also served on the Executive of the Manitoba Section of the Canadian Institute of Transportation Engineers (CITE) for 10 years, volunteered on a variety of Engineers Geoscientists Manitoba committees and is currently a member of the Engineering Changes Lives Committee. Richard is also an active member of the Canadian Parking Association Manitoba

Chapter; he is President for the Great Northern Parking Association, and on the Board of Directors of the Urban Development Institute.

In the course of his career, Richard has authored over 50 technical papers, presentations and articles for organizations such as the Institute of Transportation Engineers, Transportation Association of Canada, International Road Federation, World Parking Symposium, Canadian Institute of Transportation Engineers, Canadian Institute of Planners, Canadian Transportation Research Forum, Canadian Society of Civil Engineering, Canadian Parking Association and Building SK Green.

Richard has contributed substantially to ACEC-MB over the last decade. He has served as a Board Director for 7 years, was President in 2017–2018 and is currently serving as Past President. He is a long-time member of the very active Transportation Committee and has served as Chair of that committee in the past.

In addition to his professional service, Richard has been involved in 1st Sun Valley Scouting for the last 16 years in a variety of roles.

Richard Tebinka is an experienced engineer dedicated to the continuous improvement of the industry. He serves as a mentor to younger engineers, especially those in the transportation field. His commitment to the consulting engineering industry over three decades and goals to continue moving the industry forward proves he is very deserving of the Engineering Action Award.



“Richard Tebinka is an experienced engineer dedicated to the continuous improvement of the industry.”

LIFETIME ACHIEVEMENT AWARD

As part of the Awards of Excellence Program, the Association of Consulting Engineering Companies of Manitoba 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, David Krahn in 2017 and Doug Stewart in 2018.

2019 LIFETIME ACHIEVEMENT RECIPIENT

BRUCE WILTON, P. ENG.

Bruce Wilton has 47 years of engineering experience, including the last 23 years within the consulting industry. He is a member of WSP Canada where he took the lead in the development of the firm's local expertise in the delivery of alternative delivery projects. Bruce led the way in developing a process for the use of design-build as a procurement model for the province. In addition to assisting WSP and the province in developing design-build expertise, Bruce has presented on the design-build experience to a number of associations including, most recently, to the University of Manitoba ITE Student Chapter in February 2019.

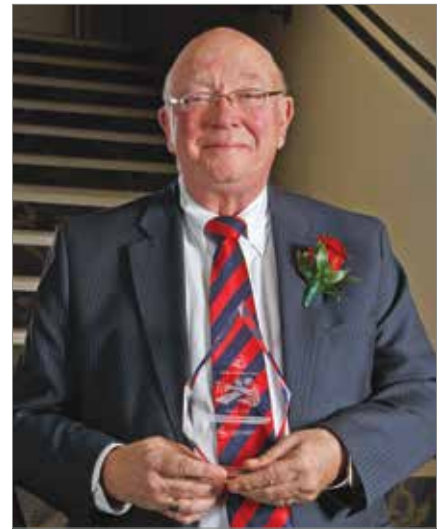
He assisted the City of Winnipeg in developing P3 business cases and value for money analysis for five possible projects for consideration using a P3 delivery model. The city subsequently proceeded with two of those projects using the P3 Model, namely the Disraeli Freeway Project and the Chief Peguis Trail Project.

Bruce was tasked with leading the Owner's Engineer's Team for Manitoba Infrastructure's first design-build project, CentrePort Canada Way. He assisted the province in developing the procurement documents and then served as the head of the construction oversight team, managing a multi-disciplinary team of consultants. After that project, Bruce then led the process to refine and update the documents for the Province's second

design-build, the PTH 59N/PTH 101 Interchange Project. Bruce once again served as the head of the Owner's Engineer's Team, managing a multi-disciplinary team of consultants.

Bruce has been involved with ACEC-MB since 2005 when he first joined the Energy, Science and Technology Committee. He followed that up with being elected to the Board in 2007, serving as Vice President 2010–2011, President 2011–2012 and as Past President in 2012–2013. During that time, he was involved in several board initiatives, including improving the public image of the consulting engineering profession, streamlining board activities, conducting a review of the ACEC-MB committee structure and providing input to the Province on the New West Partnership Trade Agreement.

Bruce has many other interests outside of this profession, including being active in his Church where he is currently on the church's council and has served as Chairman of the Board for another church in Winnipeg. He has served on the board of the Salvation Army's Golden West Personal Care Home for six years, the last two as Chairman of the Board. Bruce is a long-time member of the Kiwanis Club of Winnipeg and has served on the executive, including a stint as president. He is actively involved in all aspects of fundraising. He has been recognized as Kiwanian of the Year on several occasions and is the recipient of



the Mel Osborne Fellowship presented to those "who have contributed to the growth and work of Kiwanis."

Bruce is a long-time member of the River City Sound Barbershop Chorus and has sung bass in several quartets over the years. As the current president, he is heavily involved in all aspects of the organization, including managing the chapter executive, the member recruitment program (Learn to Sing), fundraising, chairing of the Spring and Christmas Shows, coordination of competition events and coordination of performances. His work has resulted in a number of awards over the years, including the BOTY award (Barbershopper of the Year), as well as awards for his quartets.

ACEC-MB is proud to award Bruce Wilton the Lifetime Achievement Award. 🏆

2018 Judith Weiszmann Women in Engineering Champion Award

Alana Gauthier, P.Eng.

The Judith Weiszmann Women in Engineering Champion Award recognizes a woman who through engineering and career achievements has demonstrated the qualities that enabled Judith Weiszmann to be an outstanding engineer, role model, and influencer of the profession for the advancement and support of women in engineering.

Previously published by Engineers Geoscientists Manitoba in The Keystone Professional, Winter 2018 Issue

Alana Gauthier, P.Eng., is a Senior Project Manager with WSP Canada (WSP) at their Winnipeg office. She graduated from Queen's University in Chemical Engineering in 1989. She worked as a Process Engineer at Inco (now Vale) in Thompson, Manitoba, for over a decade.

Alana was instrumental in the formation of the Thompson Chapter of Engineers Geoscientists Manitoba in 1993. She served as Chair in 1995 and was an active member of the chapter until 2002, while in Thompson. She actively promoted engineering as a career for youth by giving presentations in middle schools.

In 2007, Alana joined WSP and had the amazing opportunity to create her own position. She developed an industrial client base and became Project Manager for the \$460 million Lalor Mine Project near Snow Lake, Manitoba. Alana was identified by the Hudbay Project Manager at a Women in Mining presentation as being a key person to the success of the project.

Alana has worked as a multi-disciplinary project manager and project engineer on numerous industrial sites. Alana has mentored female engineering colleagues at WSP and feels that mentoring unleashes the full potential of individuals in an organization. She recently moved to the First Nations/ Northern Infrastructure Group and is thriving with the new challenge of senior reviewing design, tendering, and contract administration.

Alana was a board member of the Canadian Engineering Memorial Foundation (CEMF) from 2008 to 2010. She served on several bilingual



judging committees to determine the award of engineering scholarships to young female engineering students. The chosen candidate gave presentations in high schools showing how to become an engineer.

In 2012, Alana was chosen by the Provincial Minister to speak at the Manitoba Legislative Building on 'Women's Role as Mentors.' In 2014, the Association of Consulting Engineering Companies Manitoba (ACEC-MB), presented Alana with the Engineering Action Award, which recognizes outstanding service and dedication to the association, engineering profession, and the community. Alana served on the ACEC-MB board from 2012 to 2018 and became the first female president of ACEC-MB in May 2015.

Alana recognized that women often leave engineering due to a lack of mentorship, support, and networking opportunities and so she promoted and convinced the ACEC-MB Board to support the establishment of the Technical Women in Consulting Engineering (TWICE) Committee and its programs in 2013. TWICE is the first organization of its kind in Canada looking at the retention of women in consulting engineering. Its mission is to provide strategic advice on matters related to increasing diversity in the consulting engineering industry, specifically increasing the retention of women in member organizations. In 2015, ACEC-MB's TWICE Committee won the ACEC National Engineering Award for their initiatives to support women in consulting engineering. 🌟

21st Annual ACEC-MB Golf Tournament

The 21st Annual ACEC-MB Golf Tournament took place on Wednesday, May 16, 2019 at Pine Ridge Golf Course. Although it wasn't the best weather for a day on the links, 106 golfers still enjoyed a round of golf followed by a delicious dinner and some great draw prizes.

Tournament Winners were a team from Stantec Consulting. Congratulations to Gregory Page, Jerry Comeau, Scott Bezak and Chris Watson.



The contest winners were:

- Longest Drive, Sponsored by Lawson Consulting & Surveying – Kyle Heroux
- Longest Drive, Sponsored by SBC Inc. – Luis Shorting

- Closest to the Hole, Sponsored by Lewis Instruments – Chris Watson
- Closest to the Hole, Sponsored by Titan Environmental Containment Ltd. – Rich Sison
- Straightest Drive, Sponsored by Dillon Consulting – Sean Charles
- Straightest Drive, Sponsored by Cansel Survey Equipment – Derek Johnson

We would like to acknowledge our fantastic sponsors:

- Keystone – Maple Leaf Drilling
- Dinner – Paddock Drilling
- Cart – Tri-Core Projects Manitoba Ltd.
- Beverage – ENG-TECH Consulting Ltd.
- Lunch – Stantec Consulting
- Sign – Laufman Reprographics

And our Hole Sponsors: Birchwood Lexus, Borland Construction, CCPPA, Canadrone, Concrete Manitoba, Crosier Kilgour & Partners Ltd., CTTAM, Enterprise Rent-a-Car and Commercial Truck, Flocor, Hatch Ltd., KGS Group, Lakeside Controls, Nelson River Construction, PCL, Tower

Engineering Group, Winnipeg Brew Werks, wood., and WSP

ACEC-MB thanks all of the golfers who participated in our fundraising effort by purchasing Mulligan Cards and playing in the putting Contest. ACEC-MB was happy to donate \$1500 to KidSport Winnipeg. KidSport™ is national charity administered by Sport Manitoba that helps to remove barriers and assist less fortunate children participate in sport – so all kids can play. ACEC-MB Golf Chair David Fuchs (left) and Co-Chair Reynold Cabigting (right) present the cheque to Samantha Renooy of KidSport Winnipeg.



Energy Reception

The Energy Science and Technology Committee's Energy Reception was held on March 13, 2019 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 2019 oversaw planning and implementation of the Energy Reception. The purpose of the reception is to build a strong relationship between ACEC member firms and Manitoba Hydro. Prior to the annual reception, the committee coordinated a meeting between the ACEC-MB EST Committee, as well as ACEC-MB President Andy Nagy, and four members of the Manitoba Hydro Executive including new President and CEO Jay Grewal. The discussion provided an excellent opportunity to meet the new Manitoba Hydro President and understand her background and priorities for the



future. The meeting is held annually to maintain and enhance interaction with Manitoba Hydro, and provides a venue for open discussion for feedback on consulting engineering services. The meeting included a discussion of Manitoba Hydro's development of a 20 year strategic plan which will guide future decision making, as well as organizational priorities and financial sustainability. A revised procurement process was implemented

in 2018 at Manitoba Hydro related to the Engineering Services Procurement Framework, and feedback from ACEC-MB member firms and Manitoba Hydro was shared and discussed, including the potential for forecasting of engineering services procurement. The Energy Reception followed the meeting, and was very well attended, with an increase in attendance over the last few years by Manitoba Hydro and ACEC-MB members.

640 Event Recap



On the evening of Wednesday, March 27, 2019, ACEC-MB held its 5th annual 640 event at the King’s Head Pub celebrating National Engineering Month. Over 50 people gathered over appetizers and beer to listen to seven speakers give captivating presentations on a wide variety of topics.

The 640 event had a very distinctive presentation style, turning the generally dull PowerPoint presentations into something very enjoyable and thought-provoking. Each presenter had 20 slides which cycled at 20 seconds each but had no control over their slides. Our presenters had to be on their toes, making sure their presentation kept up with their slides. They were up to this difficult challenge and each gave a succinct and informative presentation that afterwards, kept everyone discussing all the fascinating topics.

Our lucky group of presenters all had unique backgrounds in engineering, which led to a diverse set of subjects. Lindsay Melvin, a Department Manager at Manitoba Hydro and a past president of Engineers Geoscientists Manitoba (EGM), spoke on lessons learned from Sheryl Sandberg’s book *Lean In*. Irene Davies, an EIT at AECOM and the Chair of ACEC-MB Twice Committee presented on the topic of the importance of mentorship for young women. Dr. Nazim Cicek, Professor in the Department of Biosystems Engineering at the U of M discussed the transition of fossil fuel burning vehicles to electric/battery powered vehicles, their benefits and drawbacks, and how this will lead to a cleaner future. Dr. Philip Ferguson, a Professor of Aerospace Engineering at the U of M, examined implementation of technology and its evolution from academic publications to commercialization.

Aaditya Raman, Sector Leader for Stantec’s Water Group, presented on decision making techniques and how it relates to delivering projects successfully in consulting engineering industry. Jeff O’Driscoll, Infrastructure Division Manager for Associated Engineering, cleverly articulated his observations as a consulting engineer including how computer and mobile technology has changed and affected his career. Finally, Lisa Stepnuk and Nusraat Massod, Director of Diversity of Outreach at EGM and Director of WISE Kid-Netic Energy respectively, uniquely produced a dual presentation on the topic of how the lack of diversity in science and engineering fields led to biases in research and technology, and how this is being improved and changed.

This year’s 640 was a tremendous success, with another 640 event to come March 2020. 🍷

ACEC Attends Table for 1200

ACEC-MB attended this year's Table for 1200 event displaying their most noticed centerpiece to date! The Arlington Bridge, actually a smaller replica model, spanned the length of the table. Built in 1912, over 600 meters long, consisting of 5 Pratt trusses and 3 Camelback trusses, spanning over 60 CP rail tracks, the Arlington Bridge is an iconic landmark in Winnipeg. The Arlington Bridge is nearing the end of its usable life and is due for a replacement. Stantec Consulting Ltd., an ACEC-MB member firm, was retained by the City of Winnipeg to complete the Functional Design and Preliminary Design of the Arlington Street Bridge over the CP rail yards and in the process fabricated the model of the existing Arlington Bridge. Jeremy Desrosiers who works at Stantec and is also a member of ACEC-MB's Image Committee believed the model would be an excellent centerpiece at this year's event and he was right! Decorated with ACEC-MB logos and a few toy cars, the centerpiece looked great, withstood strong winds and caught the attention of numerous passers-by!

The annual pop-up dinner party organized by Storefront Manitoba brought 1200 Winnipeggers furnished in white on the evening of May 25, 2019 to dine in the shadows of the historic Exchange District buildings along the entire length of Albert Street and part of Letinsky Place, from Notre Dame Avenue to just North of Amsterdam Tea Room. Table Captain Misty Klassen, Chair of ACEC-MB's Image Committee, and her guest were joined by ACEC-MB Board Past President Andy Nagy, ACEC-MB Board Director Kevin Beechinor, ACEC-MB Image Committee Past Chair Dana Bredin, and guests. 🍷

The Arlington Bridge, actually a smaller replica model, spanned the length of the table.



Construction Manager	General Contractor	Design-Builder
 <p>The Richardson Innovation Centre</p>		
  <p>Great West Life - 60 Osborne</p> <p>Gilman Recreation Centre Redevelopment & Expansion</p>		
<p>BUILDING MANITOBA FOR OVER 107 YEARS</p> <p>Bockstael Manitoba's Builder</p> <p>To learn more about us, visit our website bockstael.com</p>		

Year in Review

The YPN was created to further strengthen communication and the sharing of best practices between Young Professional (YP) Groups from ACEC Member Organizations across Canada. The network's function is:

To bring together representatives from provincial and territorial member organization YP Groups, to facilitate communication and info-sharing between provinces; to provide guidance and recommendations to ACEC regarding issues affecting YPs; and to assist ACEC in the development of the annual YP business program at the ACEC national leadership conference.

The committee is made up of one representative (or co-representatives) from each provincial and territorial

A big thank you to all of the YPs who engage with ACEC across the country. We are the future of our industry and together we are strong.

member organization's YP Group, two Canadian representatives from the Federation for Consulting Engineers (FIDIC) Young Professionals Forum (YPF), the current ACEC YPN Chair, the ACEC YPN Past-Chair (if applicable), and a representative from ACEC-Canada. The group is functioning well and is actively engaged with supporting the development of YP groups across the country.

This year, the Young Professionals Network (YPN) has been focused on engaging members and sustainably improving service delivery across the country. The Chair of the YPN, Siobhan Robinson, became an official member of the Board in October 2018, the group approved an updated Terms of Reference formalizing a two year Chair term moving forward, and bylaw amendments have been prepared for adoption at the 2019 AGM in October that will create a new YP Director position. These governance changes will help the group stay connected to the Board, aligned with the strategic priorities of the association and in a better position to achieve sustainable service delivery in all regions across the country.

A core function of the YPN is to report to the Board on YP activities. This year, YPs across the country collectively organized and delivered almost 100 events and programs including more than:

- 35 professional development activities including conferences, seminars, and technical tours;
- 35 social/networking events including inter-association mixers, curling nights, and brewery tours; and
- 20 student and public engagement

activities including mentorship programs, habitat for humanity builds, and volunteering and science-focused summer camps.

The year will finish at ACEC-Canada's national leadership conference in Ottawa October 26–29. On the Saturday/Sunday ACEC is offering a Young Professionals Forum devoted specifically to Young Professionals in the consulting engineering sector. The program has been designed to encourage YPs to actively engage in planning their career. Sessions are focused on supporting individuals clarify their personal career goals and develop an understanding of how they can take ownership of reaching them in the context of their firm and the profession. Participants will benefit from sessions dedicated to personal leadership, professional communication, strategic thinking and an awareness of ACEC's strategic direction. Firm leaders will benefit from their YPs gaining knowledge and skills development that encourage leadership within their firm to contribute to the firm's strategy and the consulting engineering profession. An outline of the program can be found on the ACEC website: https://www.acec.ca/events_awards/conference/2019/ypprogram.html. We encourage you to review the program and consider attending.

A big thank you to all of the YPs who engage with ACEC across the country. We are the future of our industry and together we are strong. 🇨🇦

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



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Message From the Chair

As incoming Chair of the Young Professionals Committee (YPC), I'm excited to introduce myself and provide an update on our committee. All credit for the success of the YPC goes to the fantastic volunteers who make up our committee, and I would like to thank each of them for their dedication. Our current members include Samantha Whettell, Chair (AECOM), Tyson Ehnes, Past Chair (AECOM), Ashley Morrissey (WSP), Kelsey Rutherford (SNC-Lavalin), Josée Rémillard (Crosier Kilgour), Jennifer Pieniuta (Tetra Tech), Nathan Boenders (Stantec), Sofia Faraz (Tetra Tech), and Manafi Roein (DGH Engineering). Special thanks goes out to Kerri Hiebert, Executive Director of ACEC-MB, who keeps us all on track.

For those who don't know me, my name is Samantha Whettell (née Symons) and I'm certainly a young professional through and through. This means I'm full of energy (sometimes) and try hard to do my best (most times), but don't really know what I'm doing (all of the time). I first joined the YPC because I wanted to connect with people in a similar role to me – people who understood both the nuances of consulting and how it feels trying to figure everything out early in your career. I've since met some amazing people through the YPC and have developed a community and network of people that I can count on to help me navigate my career in consulting.

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 that through the organization of different social, networking, and educational events. I believe that supporting young professionals is essential for ACEC-MB and consulting firms in general – young professionals are the future leaders of these firms and this industry. Consulting can be demanding, and it can be a rude

awakening as you enter the workforce. By creating a support network early on, we help encourage young professionals to grow and remain in consulting. Young professionals typically don't get approval to attend top international conferences, business development seminars, or client networking events. While the YPC doesn't aim to replace these, it provides young professionals with events dedicated to them.

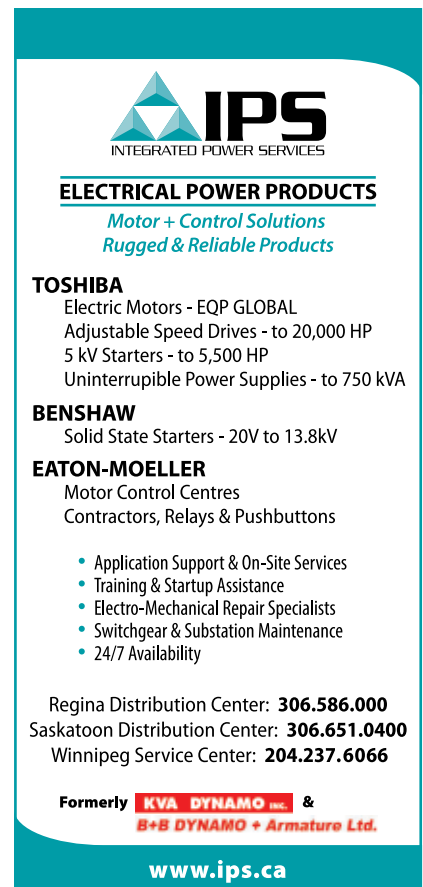
awakening as you enter the workforce. By creating a support network early on, we help encourage young professionals to grow and remain in consulting.

Young professionals typically don't get approval to attend top international conferences, business development seminars, or client networking events. While the YPC doesn't aim to replace these, it provides young professionals with events dedicated to them. Our annual Young Professionals Gala is a great example of this. Through the gala, we are able to bring almost 100 young professionals and executives from multiple firms together for networking and thoughtful discussion. We are also able to host various networking events or lunch and learns that cater to young professionals. Additionally, our Mentorship Program helps bring awareness of our industry to engineering students, the future young professionals in consulting.

I look forward to embarking on this journey as the YPC Chair. This role gives me a seat on the ACEC-MB Board of Directors and allows me to give a voice to the young professionals in our industry. I hope to represent my peers well and lead the YPC to continued success. For my first year as Chair, a top goal of mine is to increase our outreach to the young professionals working at our member firms. From those working at the largest firm, to those at the smallest, my hope is that all young professionals will know they have a

community waiting for them in the YPC. I encourage everyone to visit the ACEC-MB website (www.acec-mb.ca) to learn more about the YPC or contact me directly at yp@acec-mb.ca.

Samantha Whettell (née Symons), EIT
ACEC-MB Young Professionals
Committee Chair



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Events Summary

2018 ACEC-MB

Young Professionals Gala

On October 30th, the YPC hosted the 10th Annual Young Professionals Gala. This year's Gala was held at the Alloway Reception Centre at FortWhyte Alive. The venue offered a beautiful backdrop to the evenings proceedings.

This year's Young Professionals Gala featured a presentation by Alexis Kanu of the Lake Winnipeg Foundation regarding their citizen science initiative focused on tracking phosphorus loading to Lake Winnipeg. The Lake Winnipeg Foundation coordinates the Lake Winnipeg Community-Based Monitoring Network (LWCBMN), a growing network of citizens, scientists, and conservation professionals taking action for healthy waters. The LWCBMN is tackling the root causes of algae blooms by identifying phosphorus hotspots across the landscape, creating opportunities to target funding and action to achieve the greatest impact for Lake Winnipeg.

Over the past three years, the LWCBMN has expanded from 12 sites to 100, from 200 samples to 1500. This incredible growth is a testament to the dedication of citizen scientists and conservation groups who are leading the charge for healthy waters. The presentation and discussion during the question period was very informative. It was great to see the Gala attendees engaged with the topic and discussion.

The event was once again a success with nearly 100 young professionals, managers, and industry representatives in attendance. As this was our 10th



Gala, this year also marked a special milestone for the YPC. Thanks to everyone who came out and made it a great night.

2018-2019 ACEC-MB Mentorship Program

The YPC organized the sixth ACEC-MB Mentorship Program, kicking off in the fall of 2018. This program pairs University of Manitoba Engineering students with Industry professionals, giving students an opportunity to better understand the consulting engineering industry. The goal of our mentorship program is to give students an introduction to the challenging and rewarding career opportunities that exist in consulting engineering. It is a great opportunity for engineers to give back, gain volunteer (or continuing development) hours, and have an impact on a future engineer's career.

The YPC organized three formal events for the program. The kickoff event was held on Thursday, November 15, 2018 at the University of Manitoba. Approximately 40 students and mentors attended, and were introduced to their matches and the program.

The second event was a panel discussion held on February 6, 2019 at the University of Manitoba. The panel discussed the challenges, opportunities and strategies that are present in consulting projects, specifically multi-disciplinary projects. The discussion was moderated by the YPC's own Nathan Boenders (Stantec). The panel featured four people from consulting firms:

- Steven Sadler, PEng (AECOM)
- Doug Braun, PEng (Stantec)
- Scott Corden, PEng (KGS Group Consulting Engineers)
- Shawna Kjartanson, M.Sc., P.Biol., EP (AECOM)



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The wrap up event was held on May 1, 2019 at the University of Manitoba. The event featured informal networking between professionals and students. All attendees enjoyed good food, good conversation, and excellent networking. The YPC would like to thank all of the mentors, students, panelists, and organizers that volunteered their time and experience to help make the 2018–2019 ACEC-MB Mentorship Program a success. We look forward to offering this mentorship program again in the coming 2019–2020 school year.

ACEC-MB YP Breakfast Seminar

On June 19, 2018, the YPC held a breakfast seminar presentation of the 2018 Keystone Award winning project: Peter Sutherland Sr. Generating Station. Named after a respected elder of the Taykwa Tagamou Nation community, the new 28 Megawatt Peter Sutherland Sr. Generating Station is remotely located along the Abitibi River in northeastern Ontario. The \$300M 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.

KGS Group, Ontario Power Generation (OPG), Coral Rapids Power (CRP), and Taykwa Tagamou Nation (TTN), along with the design-build contractor Kiewit Aecon New Post Creek (KANPP), assembled a team of engineers of virtually every discipline, scientists, biologists, contractors and local community members to complete this green energy project safely, on budget, and ahead of schedule.

ACEC-MB YP Lunch and Learn

On March 6, 2019, the YPC held a lunch and learn in conjunction with Young Construction Leaders of Manitoba (YCLM) at Clay Oven Shaw Park. International Economist Glen Hodgson presented on the economic outlook of 2019, the many risks on the horizon, and what all of this means for you and your business. Glen has 36 years of experience in global and Canadian

The YPC would like to thank all of the mentors, students, panelists, and organizers that volunteered their time and experience to help make the 2018-2019 ACEC-MB Mentorship Program a success.

macro-economics, international trade analysis and finance, fiscal and tax policy, and other “big picture” topics.

Glen discussed a range of topics, including:

- the anticipated growth in the global, U.S. and Canadian economies;
- the implications of the Trump Administration’s approach to trade,

in particular the heightened global disruption, spooked financial markets, and added level of economic risk;

- the trade talks between the U.S. and China;
- and longer-term structural forces that are quietly influencing our world, like demographics. 🌐



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YP MEMBER SPOTLIGHT

Tyson Ehnes, P.Eng.

Tyson Ehnes has worked in the consulting industry since January 2010. Over the last few years, he has taken an active leadership role through involvement in the ACEC-MB YPC, including his role as the YPC Chair (2017–2019), Member of the Board of Directors (2017–2019), ACEC National Young Professionals Network Manitoba Rep (2018–2019), YPC Vice-Chair (2016), and the YPC Events Co-ordinator (2013–2017).

He has been involved in the organization of multiple networking events that bring together the young professionals community, including:

- Breakfast seminars;

- Educational tours of local engineering infrastructure;
- YP mixers;
- Annual YP curling funspiels; and
- Annual YP galas.

In addition, Tyson has been a member of the ACECMB Professional Development Committee since 2014, and has been a Co-Chair of the committee since 2015.

While involved in the Professional Development Committee, he has participated in the organization of many PD events, including:

- Professional Services Agreements;
- Becoming a More Effective Team Leader;
- Intro to Risk & Liability;
- Quality Project Delivery;

- Difficult Conversations; and
- Trade Agreements.

Tyson is a very deserving recipient of the Rising Star Award presented at the 2019 ACEC-MB Awards of Excellence Gala, given his continued commitment to the consulting industry and his ongoing support of his peers. He has been instrumental in the success of both the ACEC-MB YPC and Professional Development Committee, as well as numerous other professional and volunteer endeavors. The YPC congratulates Tyson on his success to date and we look forward to seeing what he achieves throughout the rest of his career. Congrats Tyson! 🎉

Advertisement for CH2M Jacobs merger. The background is a blue-tinted image of a modern building's glass facade. The text reads: "Hello, future" in large white font. Below it, "Today your vision meets its full potential, as CH2M joins Jacobs." in smaller white font. Further down, "Everything is possible." in bold white font. The address "1301 Kenaston Blvd. Winnipeg, MB R1A 3Z7 Canada" is listed. At the bottom, it says "Find out more at www.jacobs.com or follow us @jacobsconnects" with social media icons for Facebook, Twitter, and LinkedIn. The logos for "JACOBS" and "ch2m" are at the bottom.

Advertisement for Forest Stewardship Council (FSC) paper. The background is green with a white illustration of a sustainable community including houses, trees, and a wind turbine. The text reads: "Our concern for the environment is more than just talk" in large white font. Below it, "This publication is printed on Forest Stewardship Council® (FSC®) certified paper with vegetable oil-based inks. Please do your part for the environment by reusing and recycling." in smaller white font.



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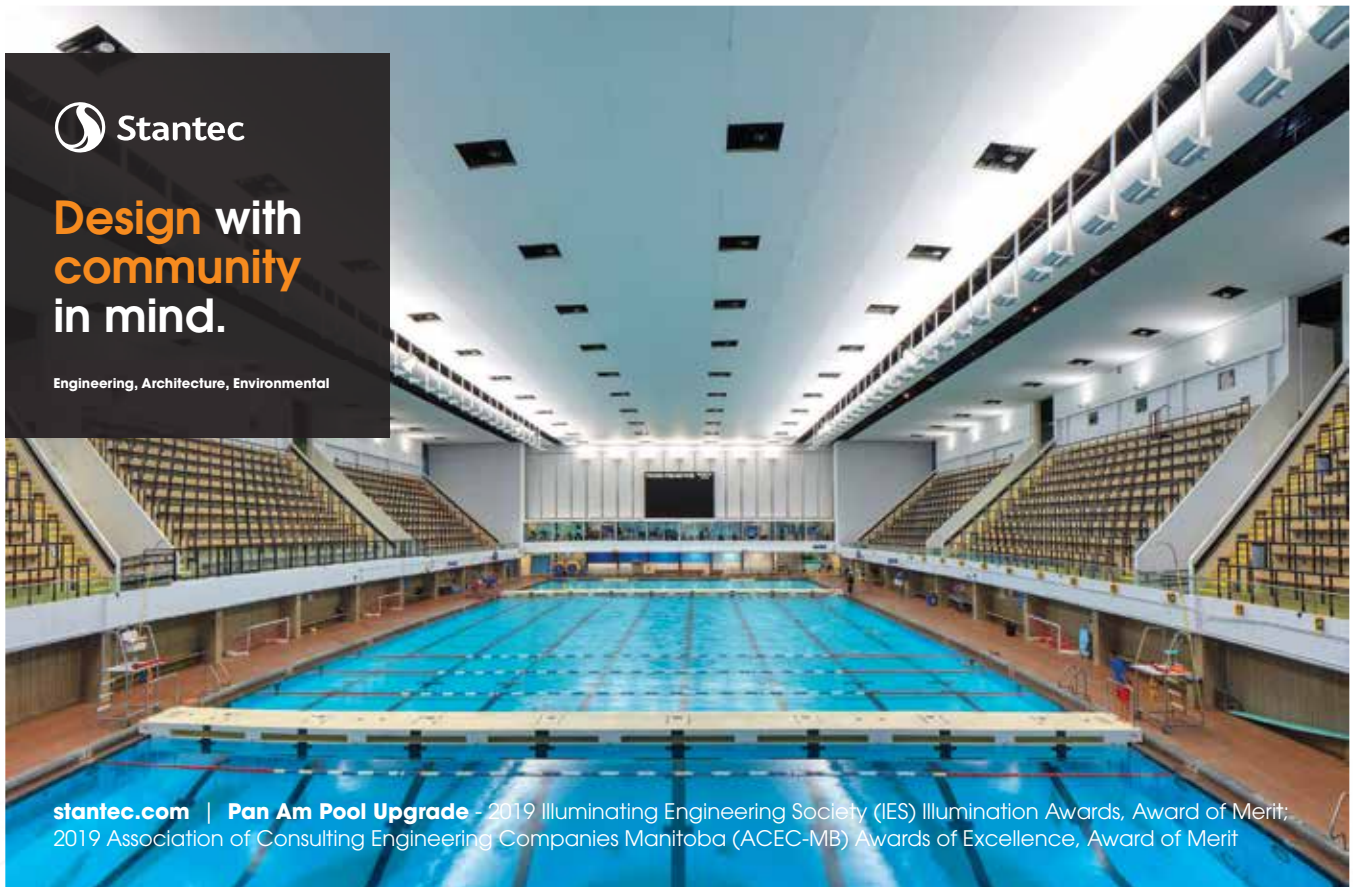
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Is Your Firm Missing Out on an Old Technology?

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.

If you would like to build simpler and faster with less mess, we would be honored to discuss your project with you, call Dale Plett at 204-793-0653 extension 3.



www.screwpiling.ca



No Soil Assumptions

$$Q_{ULS} = Kt * 10,000\text{lbs/ft}$$



$$Q_{SLs} = 35,000\text{lbs}$$

Only Field Verified Results

Invented in the 1830's, re-popularized in the 1960's. Helical screw piles benefit from a simple empirical formula that allows properly trained installers to predict individual pile performance reliably and safely, and compare results against your specifications. This remains true for all soil types, including clay. In fact, the US Army Corps of Engineers relies heavily on helical screw piles in areas of expansive clay soils. To discover more about the strengths and limitations of screw piles, give us a call.

Dale Plett
Director of Customer Consultation

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