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Send change of address to: ACEC-MB

P.O. Box 21036, Winnipeg, MB R3R 3R2 Publication Mails Agreement #40065075.

Return undeliverable Canadian addresses to: lauren@kelman.ca

Publication management, design and production by:



3rd Floor – 2020 Portage Avenue Winnipeg, MB R3J 0K4 Phone: 866-985-9780 • Fax: 866-985-9799 E-mail: info@kelman.ca • Web: www.kelman.ca

Managing Editor: **Scott Kelman** Design/Layout: **Tracy Toutant** Advertising Manager: **Jeff Kutny** Advertising Co-ordinator: **Stefanie Hagidiakow**



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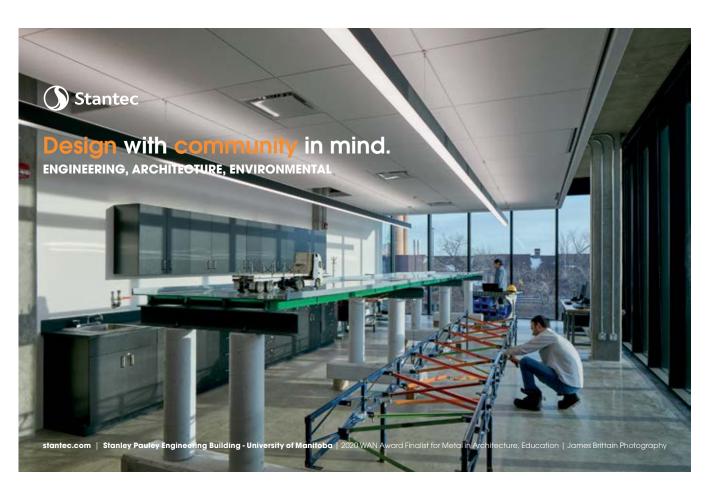
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from the **PRESIDENT**



S. Brad Cook, P.Eng. President ACEC-MB

2020 a busy year in spite of COVID-19

am honored to continue serving as ACEC-MB's President for a second year during the 2020-2021 term.

As I write, we are nine months into selfquarantines and partial shut-downs due to the COVID-19 pandemic. For many in our industry, we continue to thrive, while other businesses are not so lucky. However, we have all transitioned in one way or another to a new normal. A great percentage of us are working from home and some of us have had to learn how to manage our jobs plus learn to be a teacher for our children or a caregiver to our aging family members. The shift in life has been a major adjustment and while this pandemic has taught me a bit more tolerance and compassion, let's face it social distancing sucks. We have all transitioned in one way or another into a new normal. A great percentage of us have transitioned to working from home, some of us have had to learn how to manage our jobs plus learn how to be a teacher for our children or a caregiver to our aging family members. Those jam packed calendars are...blank. The overall shift in life has been a major adjustment.

The global pandemic created an unprecedented business disruption that required Consulting leaders to manage immediate and ongoing changes impacting clients, staff and projects. With most staff working remotely it has been difficult for many firms to coordinate project teams, workload and deliverables and it looks like this will continue until vaccines become generally available. However, I am a firm believer that as companies we will emerge stronger with a new knowledge of how to be productive while working

in the chaos we call home. The challenge will be how do we hire, train, encourage and motivate our staff and continue to feel we are part of a team. How do we re-invent the social aspects of the company? Without the daily banter, Work is just work!

During this difficult year my sincere thanks go to the ACEC-MB Board of Directors and our Executive Director Kerri Hiebert who continues to provide outstanding service for our association. In particular, the people who generously volunteer their time serving on committees have allowed ACEC-MB to continue working to make our association more relevant by addressing issues important to Manitoba's consulting engineering companies, and taking action to improve the business environment in Manitoba.

Despite the disruptions caused by COVID-19, this has been a busy year for ACEC-MB and the Manitoba Consulting Engineering industry. Although we were not able to hold many in-person events, Board and committee meetings continued to be held virtually as did meetings with various industry groups. As described in the committee reports, ACEC-MB has 11 committees consisting of over 100 hardworking volunteers.

Some highlights of the committees' activities include:

- · Although the 2020 Awards of Excellence Gala was canceled, there were 17 projects submitted from 11 different firms. Judging took place in March and awards of excellence and merit winners were selected. We hope to hold an Awards of Excellence Gala in April 2021 where the awards will be presented.
- The Government Relations Committee participated in the City of Winnipeg's Road Construction Working Group who recommended the City consider increasing their use of Master Service Agreements and that they utilize Qualifications Based Selection (QBS) for complex infrastructure projects. The Committee was also very active in meeting with the Province during Phase I of their procurement modernization process. Phase II is now underway and the Committee continues to meet with Procurement staff to provide feedback and information on best practices (including QBS).
- The Image Committee held a Career Fair at Red River College and continued their support

Although we were not able to hold many in-person events, Board and committee meetings continued to be held virtually as did meetings with various industry groups.

from the **PRESIDENT**

- and sponsorship of the U of M Engineering Department and EGM.
- The Technical Women in Consulting Engineering (TWICE) committee remained very active and prior to the COVID shutdowns hosted a Billiards Networking Night at the Manitoba Club, a Professional Development Seminar on Inclusive Design and held their 7th Annual Industry Reception.
- The Transportation Committee
 met several times with the City of
 Winnipeg and the Manitoba Heavy
 Construction Association to discuss
 changes to the City's materials
 specifications. They also met with
 Manitoba Infrastructure to discuss the
 development of Quality Specifications
 for provincial projects and helped
 facilitate a seminar on this topic for
 Consultants and Contractors.
- Prior to the shutdowns the Energy, Science and Technology committee hosted their annual Energy Reception. They also met with Manitoba Hydro to discuss business development opportunities and to provide feedback on Hydro's procurement process.

 The Young Professional Committee continued the U of M Faculty of Engineering mentorship program with a total of 30 student-mentor pairs participating. In October 2019 they hosted the 11th Annual Young Professionals Networking Event.

ACEC-MB also has several industry related committees including Building & Institutional, First Nations, and the Water and Environment Committee. These committees don't normally organize events, however, the committee members perform a great service on our mutual behalf, working directly with client groups to make Manitoba a better place to be an engineering consultant.

Going forward ACEC-MB's priorities include:

- Continue to promote the use of 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 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 society.
- Continue association activities that directly benefit our members such as social events, mentoring opportunities, training opportunities 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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from the **EXECUTIVE DIRECTOR**



Kerri Hiebert

Adaptation and sacrifice keys to 2020



and of course everyone in Canada and around the world. I can still recall how positive I was back in March 2020 when I was still confident and obviously naïve that the biggest event of the ACEC-MB year - the 21st Annual Awards of Excellence in Consulting Engineering scheduled for April 14, 2020 would be going ahead as planned and on that date.

Adapting to the need to postpone the event allowed for some changes that you will see in this publication. This year all of the projects submitted for the 2020 Awards of Excellence in Consulting Engineering have been showcased. In the past, the awards would have been presented by publication date and only the awards recipients showcased. However, this year all projects entered have the opportunity to be showcased in print and they are all deserving of a read through. All the work that our member firms do is extremely important and this publication will be a source for everyone to learn about the great work our consulting engineering firms are accomplishing.

The Board of Directors and Committees all adapted very quickly to embrace virtual meetings to ensure we could continue to represent our 1600 plus members. Every committee came up with new ways to serve our membership. Extra committee meetings were held to determine how to work around missing the in person networking events that many committees work so hard to organize. New committee mandates were

This publication will be a source for everyone to learn about the great work our consulting engineering firms are accomplishing.

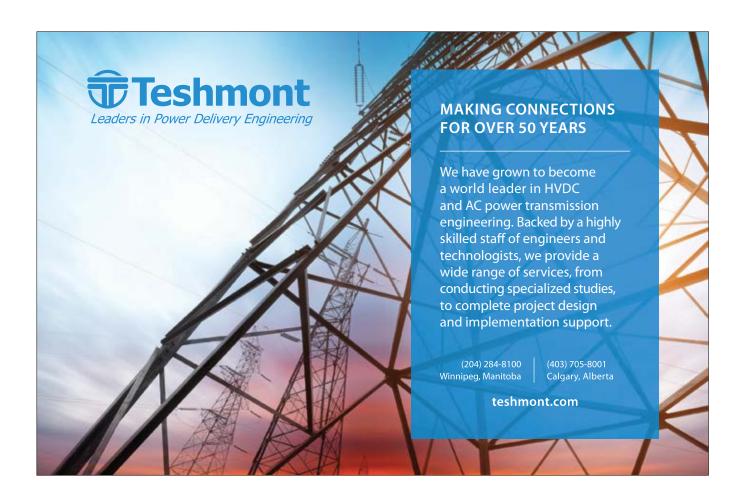
discussed and pursued. There were extra strategic planning meetings, member engagement meetings and many virtual meeting hours spent making sure that Committee work continued as we move forward with events and issues important to our Membership.

I want to remind all of our Member Firms that ACEC-MB and ACEC-Canada are here to support the business of Consulting Engineering. ACEC is the

only national association that represents and advocates for the unique interest of Canadian consulting engineering companies. Each and every employee of an ACEC-MB Member Firm is our member! I look forward to seeing you all in the near future. 9

Sincerely, Kerri Hiebert ACEC-MB Executive Director





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2020 AWARDS OF EXCELLENCE



































2020 AWARDS OF EXCELLENCE P R O J E C T S



BUILDING ENGINEERING

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Project Name: Kugaaruk K-12 School
Firm: Accutech Engineering Inc
Client: Kudlik Construction Ltd.



A ccutech Engineering Inc. partnered with Kudlik Construction Ltd. to form a Design-Build Team for the completion of the 4,623m2 Arviligruaq Illiniarvik School in Kugaaruk, Nunavut.

The original K-12 School in Kugaaruk was destroyed by arson on March 01, 2017, leaving the entire community without a school. In order to have students back in class as quickly as possible Accutech and Kudlik utilized an iterative and fast-tracked model to deliver the completed building to the Client by August 2019.



















Project Name: City of Winnipeg Material Recovery Facility

Firm: Tetra Tech Canada Inc.

Client: City of Winnipeg Materials Recovery Facility



n 2018, Canada Fibers Ltd. won a 10-year Design-Build Operate Maintain contract with the City of Winnipeg for a new Material Recovery Facility (MRF) to receive, sort and sell all curbside recycling. In a little over a year, an empty 7.8 acre plot of land was transformed into a fully operable MRF by its required opening of October 1, 2019.

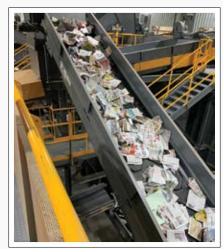
Efficient coordination and collaboration of multiple engineering and architectural disciplines was the key to the successful completion of the broad scope involved in designing, constructing and commissioning the new MRF within the strict schedule and on a fixed budget.

















ENERGY RESOURCE DEVELOPMENT

Project Name: Caribou Falls Block Dam 2 Reconstruction

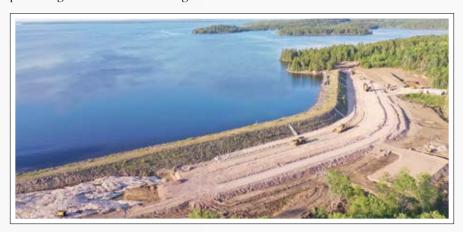
Firm: KGS Group

Client: Ontario Power Generation

KGS

Block Dam 2 is one of four dams that contain the Caribou Falls Generating Station reservoir in northwestern Ontario. After 60 year of operation, the dam sustained unexpected slope movements. Ontario Power Generation retained KGS Group to carry out design and construction supervision to reconstruct the dam.

The team applied advanced investigation techniques, innovative materials and sound engineering judgement to design and construct a new cement-bentonite core rockfill dam. The design integrated constructability, risk mitigation and schedule saving strategies at the planning level. The project was completed within the budget and schedule requirements, restored the dam and generation capacity, while preserving the natural surroundings.











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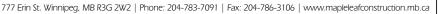


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Project Name: Mayo A Hydroelectric Station Unit 2 Overhaul

Firm: KGS Group

Client: Yukon Energy Corporation



// ital for producing reliable, clean energy for the Yukon, the Mayo A Hydroelectric Station 2 turbine needed an overhaul to extend its reliable life for five years, until a planned major equipment replacement.

Components that would normally be replaced with a routine overhaul were evaluated, and custom, economical repairs were designed and implemented. Ingenuity and a team with extensive experience in turbine overhauls were essential to optimize solutions while minimizing cost. The combined effort of KGS, E&S Mechanical, Yukon Energy and local machine shops was critical in overcoming short timelines and non-standard modifications for this atypical overhaul.













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ENVIRONMENTAL

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Project Name: Construction of the Largest Solid Wall

HDPE Outfall in North America

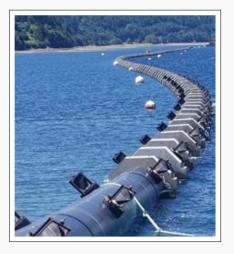
Firm: **AECOM Canada Ltd.**Client: **Capital Regional District**



The last major coastal community in North America to discharge raw sewage directly into the ocean, the Capital Regional District's new 1.92 kilometer long marine outfall will protect the environment by transporting treated effluent from the McLoughlin Point Waste Water Treatment Plant into the marine environment.

AECOM's inshore solution consisted of a 120 metre, "wet-exit" microtunnelling

AECOM's inshore solution consisted of a 120 metre, "wet-exit" microtunnelling drive and the offshore section was comprised of concrete weight ballasted HDPE pipe, installed by "float and sink" methods, in 62 metre-deep waters. Considered high-risk, the outfall pipes near the high-traffic Victoria Harbour were upgraded ahead of the mandated December 31, 2020 deadline. This is the largest solid wall high-density polyethylene outfall in North America.







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Project Name: Site Remediation of a Former Metal Smelter, Winnipeg

Firm: Dillon Consulting Limited

Client: Thompson Dorfman Sweatman LLP

nique remediation and risk management strategy was used for the Brownfields redevelopment of a former smelter and battery recycling facility, North West Smelting and Refining. Metal-impacted soil was found at hazardous levels across the site. A remedial options analysis was completed; the recommended remedial option included designing an engineered granular cap to cover hazardous material where metal-impacts and debris already existed, and excavating and placing metal-impacted soils from the rest of the site. Approximately 8,500 m3 of impacted soil was relocated at the site.

The objectives of the remediation plan were achieved and Manitoba Sustainable Development cleared the contaminated site designation.











Project Name: Bipole III Transmission Project - Mammals Monitoring Program

Firm: Wood Environment & Infrastructure Solutions

Client: Manitoba Hydro

lood developed and implemented a long-term woodland caribou monitoring program for the Bipole III Transmission Project to evaluate predicted effects, assess effectiveness of mitigation measures, and confirm compliance with approval

This project represents the first commercial application in Canada using noninvasive genetic sampling and capture-recapture estimation (NGS-CR) methods to assess population abundance and trend for 4 populations of the threatened woodland caribou. Use of NGS-CR was cost-effective, facilitated population assessment in relation to project effects, and yielded population performance metrics useful for provincial and federal recovery planning for this species-at-risk.

conditions and regulatory requirements during construction and initial operation.













MUNICIPAL AND WATER TECHNOLOGY

Project Name: Surface Water Treatment of Zebra Mussels AECOM Canada Ltd

Client: Bloodvein First Nation

he spread of zebra mussels in Lake Winnipeg presents a significant risk to water supplies, as mussel proliferation may clog piping and damage pumping equipment. AECOM's design focuses on raw water intake retrofits, and incorporates the use of musselresistant copper-alloys for intake screens and pipe sections to prevent settlement and clogging. A chemical diffusion system within the intake line itself provides for the delivery of sodium hypochlorite to manage settlement of zebra mussels. Design development incorporated input from both federal and provincial authorities to become the first approved zebra mussel control application for a municipal water supply in Manitoba.







Project Name: Redditt Water Distribution System Replacement

Firm: ENG-TECH Consulting Limited Client: Local Services Board of Redditt

he Local Services Board of Redditt, Ontario requested ENG-TECH Consulting Limited to design and manage replacing their failing, 1900's water distribution system. Unique aspects included a gravity water system that required no booster pumps and a 200 metre direction drill beneath Black River. Extensive insulation and self-draining connections were designed for winter shut-off. Connecting Redditt's sections across Black River and the CN Railway line was achieved by designing and installing a low-maintenance, gravity HDPE pipeline system. Exceptional relations with the 50 residents were developed to co-ordinate the project and reconnections. This was achieved within budget, on schedule, with minimal service disruption







Project Name: LUD of Landmark Water Treatment Plan

Firm: Tetra Tech Canada Inc.

Client: Manitoba Water Services Board/RM of Taché



he Local Urban District (LUD) of Landmark required a new water treatment plant to allow for the development moratorium in the LUD of Landmark to be lifted and meet the supply needs of its growing population.

Tetra Tech was engaged in April 2017 with the challenging mandate to design a treatment system while minimizing the process wastewater projection. With Tetra Tech's innovative approach to project design and delivery and a supportive client team, this goal was achieved. The Landmark Water Treatment Plan was commissioned and achieved compliance with all drinking water quality standards in January 2020.







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TRANSPORTATION

Project Name: Waverley Underpass Firm: Dillon Consulting Limited

Client: City of Winnipeg



illon and AECOM were retained for detailed design and contract administration of the \$155M Waverley Underpass at the CN Mainline.

The multidisciplinary project was centered around a composite steel and cast in place concrete bridge structure, as well as a pump station and outfall, over 3 kilometres of large diameter land drainage sewer, multiple kilometres of roadways and active transportation paths, and a raised railway line, all topped off with public art and landscaping. The project was constructed over a four-year period with an inventive rail and road detour, maintaining almost uninterrupted public and CN access.









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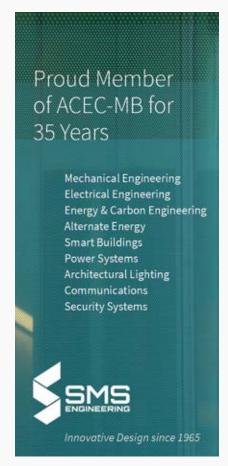
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Project Name: Osborne to Downtown Walk/Bike Bridge and Construction Study

Firm: WSP

Client: City of Winnipeg

pgraded pedestrian and cycling facilities are needed to achieve Winnipeg's goals for a transportation system that supports active, accessible and healthy lifestyle options. One option is a new pedestrian and cycling bridge over the Assiniboine River to connect the McFadyen and Fort Rouge Parks.

This study focused on the design of a new bridge along with several cycling connections and park upgrades. Innovative engineering solutions were required to balance public feedback with aesthetics and cost-effective designs. The project successfully delivered the Preliminary Design of landmark bridge alternatives along with enhanced park areas and new cycling facilities in Osborne Village.











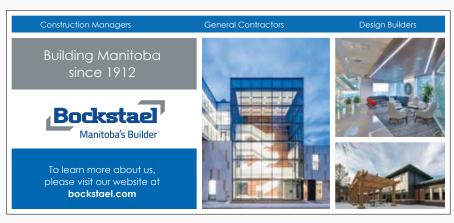




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SMALL PROJECTS

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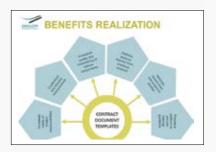
Project Name: Development of Design Build Agreement Templates

Firm: Dillon Consulting Limited

Client: City of Winnipeg - Legal Services

ublic-Private-Partnerships (P3) and Design Builds (DB) are becoming increasingly prevalent in Winnipeg over the last decades. At the heart of these alternative delivery models is the principle that risks associated with the delivery of infrastructure should be transferred to the party that is best able to manage them - achieved through an effective contract.

The City of Winnipeg retained Dillon Consulting to collaborate in developing contract templates, codifying Dillon's explicit knowledge from recent P3 and DB projects and translating tacit knowledge into guidance text to provide future engineering authors a roadmap to achieve desired risk transfer and technical objectives, thereby benefiting taxpayers with the highest value for money.







Project Name: Incorporating EarthZyme into Road Design

Firm: ENG-TECH Consulting Limited Client: Cypher Environmental Ltd.



ransport Canada states approximately 77.7% (67,300 kilometers) of Manitoba's two-lane equivalent public roads are unpaved. ENG-TECH Consulting Limited was retained by Cypher Environmental Ltd. to study and develop a design standard and investigate cost-effectiveness of EarthZyme Stabilization Product incorporation versus conventional Municipal Grid Road Reconstruction and maintenance.

Conventional methods utilize significant quantities of A and C base materials which requires annual processing. Road authorities would be very interested in costeffective solutions that reduce depletion of quarry resources and reduce construction, maintenance and traffic carbon emissions. ENG-TECH found the EarthZyme constructed road significantly lowered cost, lowered maintenance and improved performance.











Project Name: Zebra Mussel Study

Firm: ENG-TECH Consulting Limited

Client: Pembina Valley Water Cooperative Inc.



bra mussels were introduced into the Lake Winnipeg watershed in approximately 2015. Zebra mussels are an invasive species having significant impacts on the ecosystem and infrastructure.

Both Pembina Valley Water Co-op's (PVWC) Morris and Letellier water treatment plants experience zebra mussels clogging the screens and intake pipes. ENG-TECH Consulting Limited researched long term, cost-effective solutions to help eradicate zebra mussels, repel them or identify mechanical systems to clean the plant intake screens. An implementation strategy recommends continuous chlorine injection at the river intake, installing Z-alloy repellant intake screens and eradicating mussels in the retention pond using copper-sulphate. PVWC intends implementation in 2020.









Project Name: Windigo Island Water Treatment Facility Interim Upgrade

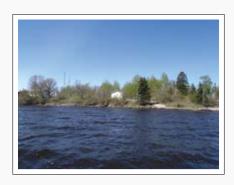
Firm: JR Cousin Consultants Ltd. Client: Animakee Wa Zhing 37

he remote First Nation community of Windigo Island had been on a long-term Boil Water Advisory for several years. Working with Animakee Wa Zhing 37, JR Cousin Consultants Ltd. implemented an interim solution to lift the Boil Water Advisory while funding was secured for a new treatment plant.

JRCC and Delco Water designed a system for upgrading the existing water treatment plant with minimal costs on an accelerated timeline. Thanks to the first North American installation of a Pentair HFW1000 chlorine-resistant hollow-fibre nanofiltration membrane, Windigo Island residents now have safe drinking water as the Boil Water Advisory was lifted in February 2019.











SMALL PROJECTS Sponsored by CTTAM

Project Name: Fort Garry Campus Riverbank Management Study:

Looking Beyond the Built – Integrating Forest Health and Green Infrastructure into Traditional Risk Mitigation

GROUP

and Asset Management

Firm: KGS Group

Client: University of Manitoba

With nearly 4 km of shoreline, the University of Manitoba (UM) Fort Garry Campus is inherently linked to the Red River. The UM has adopted policies to become a leader in ecological, social and economic sustainability to promote a healthier, more active campus while reducing environmental impact.

Aligning with the UM's sustainability principles, KGS Group provided the UM with a 15-year, phased riverbank management strategy that favours restoration of the riparian corridor with naturalized solutions. Integrating geotechnical and bioengineering concepts, the riverbank management plan is a comprehensive tool to help the UM manage risk, promote riverbank health and preserve critical infrastructure.









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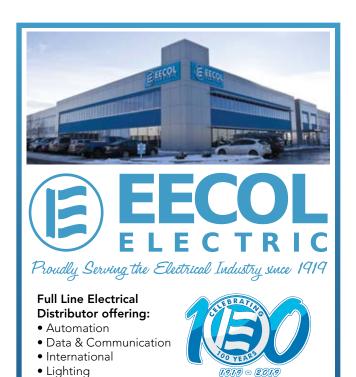
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Irene Davies, EIT



rene Davies has been working in the **Environment Group** at AECOM since she graduated from Biosystems Engineering at the University of Manitoba in 2015. She works on a variety of impact assessment and permitting projects in Manitoba, Alberta, and

Ontario. Irene has focused on mining projects in Manitoba and building connections with Indigenous communities through the use of traditional knowledge in environmental assessment. She has presented on the "Use of Traditional Knowledge in Environmental Assessment" at the Central Canada Mineral Exploration Convention and the Prospectors & Developers Association of Canada Mineral and Mining Convention.

Irene has been an extremely active promotor for mentorship of young women in engineering. She has mentored through the WISE (Women in Science and Engineering) Make Your Move Events and presented on the "Importance of Mentorship

for Young Women" at the ACEC-MB 640 Event, MCWESTT and was scheduled to also present at the Women in Mining Speaker Series. Irene continues to mentor summer students and junior staff at AECOM.

Irene has been an active participant in engineering associations/organizations and engineering related events. She was a member of the Manitoba Community for Women in Engineering, Science, Trades and Technology (MCWESTT) Conference Organizing Committee and also presented at the conference. She has also been a volunteer with WISE Kid-Netic Energy, an outreach program from the University of Manitoba dedicated to increasing youth participation in STEM (Science, Technology, Engineering and Math) fields.

Irene continues to be a very active member of the ACEC-MB Technical Women in Engineering (TWICE) Committee. She was Chair of the committee from 2017 – 2019 where she oversaw planning of various events and initiatives aimed at increasing diversity and retention of women in the consulting engineering industry.

Irene is a young woman working in Consulting Engineering and has already shown great leadership skills and achievements. She is truly a rising star, using her passion for her work to show other young women what can be achieved. 9

rgratulations to our 2020 INDIVIDUAL **AWARD WINNERS**



2020 ENGINEERING ACTION AWARD



Todd Smith, P. ENG.



Todd Smith is the Manitoba/Saskatchewan Metro Lead, guiding all areas of AECOM's engineering consulting business – Transportation, Environmental, Water and Buildings + Places business lines throughout the prairies. With 36 years of consulting engineering experience, he maintains

an active role in projects as senior manager and project director on some of the prairies' most significant projects. In this role, Todd leads the overall growth strategies of the business, develops new areas of practice, and is responsible for business development and client liaison, advising on major projects and key alternative delivery pursuits.

Prior to this role, he managed a diverse team of 250 transportation professionals in Western Canada spanning transportation sub-disciplines of highway/bridge, rail, marine, aviation, transportation planning and construction oversight. This role included resource and cost/budgeting planning and implementation, business development/client liaison, proposal preparation, technical reviews/inputs on major projects and general operations oversight. Todd's technical experience includes a wide range of multidisciplinary transportation projects from initial planning, concept development, functional and detailed design, procurement, contract administration including overall project management and public engagement programs.

Todd's commitment to the engineering profession includes being an active member of the Institute of Transportation Engineers since the 1980s where he served on the Executive of the Manitoba Section of CITE from 1995 to 2005, participating in Transportation Association of Canada (TAC) committees and conferences since the earlier 1990s and a member of the Engineers Geoscientists Manitoba, 2030 Coalition/30 by 30 initiative representing AECOM. Through AECOM, Todd

remains an active member of the Winnipeg Chambers of Commerce including a former member of the Winnipeg Chambers Transportation Committee, the Manitoba Chambers of Commerce, the Urban Development Institute and former member of the City of Winnipeg Public Works Departments specification review committee.

Todd has contributed substantially to ACEC-MB and ACEC Canada. Starting in the late 1980s, Todd joined the ACEC-MB Transportation Committee and has served continuously since. Nominated as a director to the ACEC-MB Board in 2005, Todd served as association President in 2008/2009 and Past-President in 2009/2010. Todd recently joined the Government Relations Committee and has sat on the ACEC-MB Trade Agreements subcommittee since 2016.

Todd was nominated as the ACEC-MB representative to serve as a Director on the ACEC Canada Board where he represented ACEC-MB from 2012-2019. In 2016, his role as director expanded to Vice-Chairman, followed by Chairman and Past Chairman. Todd was the first Manitoban to serve as Chairman of the ACEC Canada Board since 2003/2004. Todd also represented ACEC on the Engineers Canada "30 by 30" Committee and the Board's nomination committee, where Todd was instrumental in initiating board member diversity accomplishing the initial goal of 30% female directors.

Todd spends his spare time with his partner of 20 years, Beverly Riel, his three adult children and their partners and over the past two years with the first grandchildren. In addition to time with family, he enjoys summers golfing and time at the cabin while the winters include playing recreational hockey, time at the gym, attending many Winnipeg Jet games, both home and away, as well as traveling to exotic vacation locations.

Todd is dedicated to furthering a successful and sustainable consulting engineering industry across Manitoba and Canada including the active promotion of Qualifications Based Selection (QBS). An advocate for diversity and inclusion – both within AECOM and the larger engineering community – his commitment to the consulting engineering industry over the past 30 plus years shows his worthiness of the ACEC-MB Engineering Action Award. §

"An advocate for diversity and inclusion – both within AECOM and the larger engineering community – his commitment to the consulting engineering industry over the past 30 plus years shows his worthiness of the ACEC-MB Engineering Action Award."

2020 LIFETIME ACHIEVEMENT AWARD



Eric-Lorne Blais B.Sc., M.A.



ric Blais is a Manager, Project Manager, Hydrologist and Senior Technical specialist with over 40 years of experience including: hydrologic and hydraulic modelling, remediation studies, flood forecasting, design of erosion and sedimentation control measures and

environmental impact assessment.. He has degrees from: Fluvial Geomorphology, University of Manitoba, M.A, 1979 and University of Winnipeg, B.Sc. Physical Geography, 1976. Eric is presently a Principal Scientist at Wood Environmental & Infrastructure Solutions. His professional career starting in 1980 has encompassed: University of Manitoba Engineering Department, Associate Researcher; Water Resources Branch, Flow Forecasting Assistant and Manitoba Natural Resources Hydrologist; Hydrologic Research Associates, Owner/ Consultant; UMA Engineering, Senior Hydrology Specialist; AECOM District Water Resources Manager and Regional Market Sector Manager and Golder Associated Ltd, Senior Water Resources Specialist.

Eric's experience includes providing detailed hydrologic analysis of major water management projects for use in the environmental impact assessment process. Eric was recently part of a Canadian Water Resources Association expert panel reviewing Flood Mapping Guidelines for Canada at the request of Natural Resources Canada and is one of the reviewers of the publication, Guidelines on Extreme Flood Analysis produced by Alberta Transportation. He was also the technical expert on

the Lake Manitoba Regulation Review Advisory Committee, a committee set up by the Province of Manitoba in an attempt to reach consensus on the management of Lake Manitoba with consideration of the flood impact on downstream residents.

Eric has commonly been responsible for overseeing submissions to regulatory bodies on the water resource aspects of projects that he has managed. This includes satisfying requirements of the Fisheries Act, Navigable waterways Protection Act, the Manitoba Environment Act and providing input to Canadian Environmental Assessment Agency on projects requiring Canadian Environmental Protection Act approval.

Eric was a member of the ACEC-MB Water and Environment Committee from 2015-2019. He was the Project manager for the following ACEC-MB Awards of Excellence in Consulting Engineering: Award of Excellence in 2012 for the Lake St. Martin Emergency Flood Relief Channel Final Design & Construction Management, AECOM Canada; Award of Excellence in 2012 for the-Analysis of Options of Emergency Reduction of Lake Manitoba and Lake St. Martin, AECOM Canada Ltd. and KGS Group and an Award of Merit in 2009 for the Fisher River Watershed Hydrodynamic Model and Economic Analysis Study, AECOM Canada.

Eric has also committed his time and expertise to authoring and publishing many articles and technical supplements. He has acted as President of the Manitoba Branch, Canadian Water Resources Association (CWRA), in 2000 - 2003, and 2005-2017, as well is presently a CWRA Nation Board Director, and acted as CWRA National Secretary 2015-2006 and was the National President of the Canadian Society for the Hydrological Science 2006-2007. Eric has presented at over 25 conferences across Canada and organized the first workshop in Manitoba on climate change in 1991! 9

"Eric's experience includes providing detailed hydrologic analysis of major water management projects for use in the environmental impact assessment process. He was recently part of a Canadian Water Resources Association expert panel reviewing Flood Mapping Guidelines for Canada at the request of Natural Resources Canada."

















Never Let a Crisis Go to Waste

Marcia Friesen, P.Eng., Associate Dean (Design Education), Price Faculty of Engineering, University of Manitoba

n mid-March 2020 in Manitoba and most of Canada, things changed very quickly in our personal and professional lives when the COVID-19 pandemic hit here. At the University of Manitoba, in less than 10 days we went from being asked to make a back-up plan for online teaching in case it became necessary, to fully closing the campus, and numerous transitional directives in between.

In the Price Faculty of Engineering, we cancelled classes for two days - a Monday and a Tuesday - to allow professors, instructors, lab technologists, and teaching assistants a bit of extra time to redevelop the final three weeks of the term plus the final exams into an online/remote format. Our IT staff worked overtime to get people set up to work from home with access to as many network resources as possible. Our administrative staff carried out end-of-term grade processing and student progression remotely. We thought about how we could still recognize and celebrate end-of-term and graduation achievements among students. The University strategized on how to acknowledge the disruption of the pandemic and the impact on students' well-being through more flexible grading options and mental health supports. We had only weeks' notice to move all summer session offerings online. Everyone stepped up - immediately putting their attention not to whether, but to how they would adapt their responsibilities to the pandemic realities.

Without question, our 1850 undergraduate and 500 graduate engineering students rose to the challenge. All faceto-face activities were cancelled, including classes, labs, extracurricular design teams and student clubs. This meant that many programs' and courses' final design project presentations had to take a different form. In the class I co-taught last term, we asked our digital systems design students to record their group presentation on video and send them to us. By the due date, all groups had submitted high-quality work in a variety of creative formats and software platforms, and no-one complained that it had been a hardship. All of our extracurricular design teams' competition seasons were cancelled, and students immediately turned to strategizing for next year. Our summer course offerings – also all online – were at full enrollment even with increased capacity added as students looked for meaningful things to do over the summer. Many students with summer jobs started working remotely, yet to meet in person with colleagues and supervisors. In this, I was so heartened when students shared ideas as to what they'd like to accomplish despite a closed campus if only we were able to

provide some minimal support, like permission to take a piece of equipment home. The future is in good hands.

That doesn't minimize the challenges for post-secondary institutions, though. The pandemic highlighted how wide-reaching and interconnected many of the academic teaching and research functions are, and how each decision required follow-on consideration of new "what happens to xyz if we do this?" scenarios. A new section of the website started to keep track of the final decisions for staff and students to reference.

Research is a key mandate of the University and its faculty. The University of Manitoba is the largest research engine in Manitoba, holding over 90% of all research dollars in the province and transforming them into discovery and innovation. In March 2020, all research was directed to pause. In engineering where much of the research also involves industry partners like this readership, an unplanned and abrupt pause of a few months can mean the loss of momentum and prior work that may take a few years to regain.

Engineering is an applied field, and as we plan for a fall term that will be delivered fully online/remotely, we are committed to offering all of our engineering degree programs in order not to impede our students' progression. We used the summer to strategize and prepare for how this will look for labs in particular. In some cases, students will only need access to a software license. In other cases, we will prepare hardware kits for them to sign out and take home. In other cases, we'll video-record labs for them to watch interactively. Each course has its unique challenges and opportunities. We've ramped up our training and support for how to teach online/remotely – both from a perspective of creating a meaningful learning environment and from the perspective of fully utilizing technology options.

Many equity issues are highlighted by the pandemic. When the campus closed, many out-of-Province and out-of-country students returned home, whether by choice or directive. Many will not be back in Winnipeg in the fall as they plan where to spend the term if it is fully online, taking into account their finances, personal support network, and for some, student visas. Yet, we expect very high enrollment and need to accommodate students in other time zones – some who are 12 or more hours offset – with a quality learning experience. At any time, we have students using accessibility services, and we need to find a way to meet their accommodation needs in an online/remote environment. Some of our students live in situations with little privacy conducive to learning, share computers, have unreliable internet, and other factors that

















impact their ability to learn. We need to consider this as well.

We have a graduating class that was planning to move into the career workforce this spring and summer, and for some, that can still happen. Understandably, many organizations across the private and public sector have altered their hiring plans, cancelling co-op and summer jobs and delaying new hires for perfectly understandable reasons. We've strategized how we can continue to support these students and new grads as they land into a job market that changed within a matter of weeks.

areas of the world, high mobility of people globally, and the interconnectedness of economic infrastructure across the world. At the same time, it may also be the best time to live through a pandemic. All present medical research is being reviewed and new research accelerated toward therapeutics and vaccines. The internet facilitates rapid coordination across social and economic activities. There are strong calls to consider this an issue for the global community and ensure that resources and benefits are shared, no matter where they originated.

We've ramped up our training and support for how to teach online/remotely - both from a perspective of creating a meaningful learning environment and from the perspective of fully utilizing technology options.

As we moved past the immediate day-to-day mitigation of pandemic impacts on our teaching & learning and started thinking more about one to two years out, it is clear that we are also presented with an opportunity to think about whether and how the pandemic changes how we think about the role of engineering in our society. What does COVID-19 exacerbate or spotlight, and to what does it add urgency? COVID-19 has certainly highlighted the importance of science education, resilient healthcare systems, and medical research. It has also highlighted the critical nature of agricultural and manufacturing supply chains and internet stability, to name just a few. "Pivoting" became an even more common term, pointing to principles of resilience, adaptation, and mitigation as we focus on supporting essential services in all forms. Strong, ethical government and the population's level of trust in government has shown itself to be a factor in how regions fare in the pandemic. The data we are generating and collecting will feed research insight for years if not decades, and I look forward to what we will learn.

While pandemics are not new in history, there is a sense that this one has a disproportionate potential to disrupt and damage our physical, social, and economic well-being because of factors unique to this period of history: the highest ever global population, high population densities in many

The students in the Price Faculty of Engineering share this vision. They are eager participants in our ongoing work to continuously reform education to ensure that they will graduate to practice engineering with up-to-date technical knowledge, well-honed professional skills, and considered ethical stances. They are also calling on us to reform engineering, that is, to express a culture of technological stewardship, defined as "behaviour that ensures technology is used to make the world a better place for all - more equitable, inclusive, just, and sustainable.1" Students come into our programs with these values. They look to our community of engineering education and engineering practice to equip them with the skills and knowledge to use engineering as a medium to express these values in tangible ways. Through my involvement on the ACEC-Canada board, I know that the consulting engineering services sector shares this priority. Among the exhausting and overwhelming work of day to day crisis management, the pandemic also gives us a potential opportunity to redirect ourselves in new directions, or in a football analogy, a brief opening to run the ball down the field. Let's be observant and willing to follow these opportunities when we see them.

I welcome your feedback anytime at Marcia.Friesen@ UManitoba.ca.9

¹ https://www.engineeringchangelab.ca



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We appreciate the hard work and dedication from the 1,900+ construction professionals we employ coast-to-coast.

Thank you to our clients and partners for putting their trust in us and helping us build Canada over the past 100 years.

We celebrate with our employees, clients, and partners for their role in our success.





BIRD Construction Celebrates 100 Years in the Business

Bird Construction is a leading builder in Canada. Since 1920, Bird has been providing construction services to a long and reputable list of new and repeat clients in the commercial, institutional, retail, multi-tenant residential, industrial, water and wastewater, energy, mining, renewables, nuclear and civil sectors.

The company is celebrating its 100th anniversary in a big way. On September 25, 2020, Bird Construction announced it has officially acquired Stuart Olson: another publicly traded construction company with offices located across Canada.

This acquisition may place Bird Construction as a 'Top 5 Contractor' in the country and raises its number of employees (originally approximately 2,000) to over 5,000 and anticipated annual revenue to \$3 billion in the future.

This is one of the many reasons why Bird is a leader in the field - with an edge that is recognized by the team, its clients and communities.

The Foundation of Bird Construction

Their Vision:

Be a premier Canadian contractor driven by passion and dedication.

Their Mission:

Build on a tradition of trust through dedication, collaboration, customer satisfaction and value creation.

Their Values:

Safety – Safety is a moral obligation. Our goal is zero harm.

People – Bird invests in its employees as partners in the success of the company. Together we will grow and create opportunities within a respectful, diverse and healthy workplace.

Teamwork – We believe that the best results are achieved through the collaboration of our staff, customers, partners, communities, subcontractors and suppliers.

Professionalism – We conduct ourselves in a manner of which we are proud, as individuals and representatives of our company, community and industry.

Integrity - We are honest, truthful and fair. We conduct ourselves with integrity.

Stewardship - We are committed to balancing the sustainability of the company, communities and the environment.



1920-2020

The Beginning of Bird Construction

In 1920, Hubert J. Bird and partners officially launched Bird and Woodall, a construction company in Moose Jaw, SK. Then in 1926, the company evolved into Bird, Woodall and Simpson. In 1930, Hubert bought out his partners and the company officially became Bird Construction. By the mid-1940s, Bird was the largest home builder in Canada with many memorable and symbolic projects behind its name. This includes Wildwood Park in Fort Garry, a unique park-like development – where all the homes face a park in the front and the roads are at the back – that is still

recognized for its originality and sought after by home buyers. The company went public in 1948 and with each project and acquisition over the years, Bird Construction grew at a rapid pace – locally and nationally.

From Challenge to Opportunity

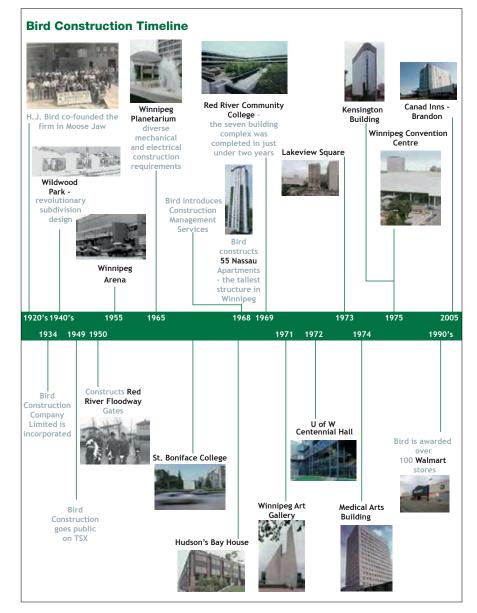
In the late 1980s, interest rates were raised and many construction companies were forced to close their doors. There were plans in place to sell and shut down Bird Construction; however, a group of stakeholders banded together and raised enough funds needed to own majority – preventing the company from being sold. This challenge, turned opportunity,

provided the stakeholders a chance to rebuild Bird Construction.

Bird Construction moved its head office from Moose Jaw, SK, to Winnipeg, then Mississauga, ON, where they're still located today. The company has offices across Canada and the recent acquisition of Stuart Olson will enhance their national presence even further.

100 Years in the Business

Bird's commitment to service delivery, planning and cost-efficient construction strategies has created many loyal and long-lasting partnerships. Looking back at the company's 100-year history, Travis Paul, Vice President and District







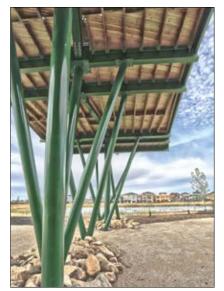
19 Ronn Road



24-7 Intouch - Plaza at Polo Winnipeg East



Best Western Premier





Bonavista Public Reserve

Manager of Bird's Winnipeg district, believes a big part of the company's success came from the relationships the company built with its clients. "Our program is about creating value for clients and establishing partnerships that last for years," said Travis.

Bird Construction's 'people first' philosophy is in the foundation of the company. From their corporate culture to their community involvement and Indigenous Relations, building and maintaining relationships are the heart of Bird Construction.

Community Outreach

When it comes to community involvement, Bird and its employees contribute to over 60 causes and academic scholarship programs annually. The team believes that teamwork extends beyond the office and they take pride in supporting charitable causes, including CancerCare Manitoba, Main Street Project and Winnipeg Harvest.

Indigenous Relations

To support their Indigenous partners, Bird Construction's Indigenous Business Relations Manager Jeff Provost fosters relationships, oversees policies and procedures, and ensures transparency throughout the entire scope of the project.

"We strive to be a positive contributor by respecting and promoting the rights of Indigenous peoples across Canada. We work in their communities in many provinces; we want to be seen as a partner, not just a builder who hires a few community members," said Travis.

As part of Bird Construction's vision and values, every Bird employee must complete Indigenous Cultural Awareness training. The training was created in partnership with NVision Insight Group, Inc. with the goal to become more informed and aware of Indigenous culture and traditions.

For each and every project, Bird works with local employment staff to





Congratulations to Bird Construction on an outstanding accomplishment of 100 years of excellence!

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Assiniboine Park Conservatory Canada Diversity Gardens







Dakota Fieldhouse



Fresh Hemp Foods Addition



Merit Functional Foods





Newport Centre Renovation



North End Water Pollution Control Centre





Oasis Church



Pauingassi First Nation Water Treatment Plant

recruit qualified individuals from the community and strives to maximize the use of local resources (equipment rentals, food services, construction materials and accommodations) that are owned/operated by the community.

Safety First

Bird recognizes that safety is everyone's responsibility, every minute of every day on the job. The company's safety culture is built on transparency - where everyone understands, accepts and shares in the responsibility of safety and 'walking the walk' (not just talking the talk).

"This has definitely been brought to life with COVID: what we do out in the field and with our project teams is our business. Our business isn't just working in an office – you have to go out there and build – and our teams



Red Sucker Lake First Nation Recreational Centre

understand that and have implemented all our new safety protocols that are in place because of COVID. There's a very strong culture here and safety is everyone's responsibility – we take that very seriously," said Travis.

Travis explained that safety comes with a culture of learning and that Bird Construction has embraced this in all its operational tasks. "We value our quality control program and that's based on learning and development. If something has gone wrong, you correct it, make sure it's 100% and learn from it with the entire organization. We want to continuously improve - if you're standing still, you're falling behind."

Bird Construction is CORTM Certified with the Construction Safety Association of Manitoba (CSAM) and is a strong supporter of the Winnipeg Construction Association.



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1920-2020



Republic Architecture



ScotiaBank Tenant Fit-up – True North Square



U of M – Stanely Pauley Engineering Building



U of M - SmartPark Innovation Centre



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Looking Ahead

With the acquisition of Stuart Olson, Bird Construction has a lot of work ahead of them – turning two successful companies into one great company – and many opportunities for growth and expansion, too.

"Now that we're a larger company, there are many things for us to get involved with and a chance to build our team," said Travis.

With consideration to COVID-19, any large gatherings/celebrations planned for Bird's 100th anniversary have been put on hold; however, the team at Bird Construction is stronger than ever, working together to ensure that people are safe, communities are supported, and clients are served.

To learn more about Bird Construction, its recent acquisition and their listed service offerings across Canada, visit www.bird.ca \odot



Congratulations

BIRD CONSTRUCTION

on 100 years of success!



38129 Hwy 1 W, Portage la Prairie, MB

Phone 204 857 9990 | Email portage@cobaltltd.ca

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CONGRATULATIONS BIRD CONSTRUCTION ON 100 YEARS!

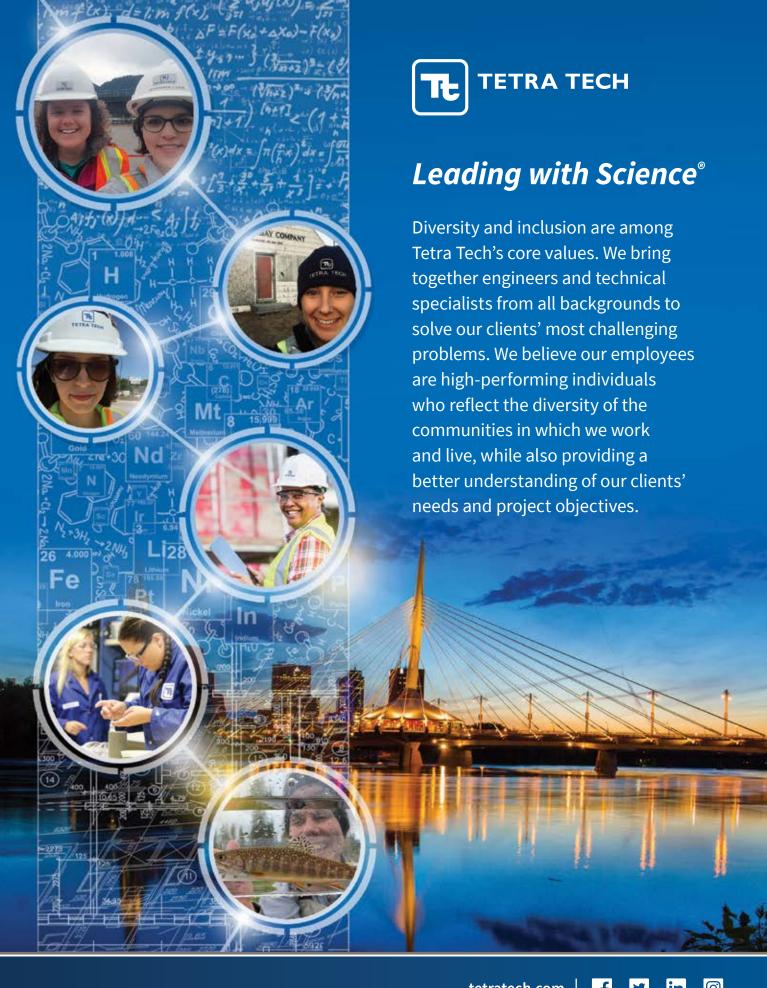
















Considering a Career in Engineering?

Meet Kimberley Yathon, Manager of Projects at Tetra Tech

Tetra Tech is a leading engineering and consulting firm, based in California, that is paving the way, worldwide – Leading With Science and creating opportunities for diversity and inclusion in the workplace. To recognize Tetra Tech's workplace culture of high-performing individuals, who reflect the diversity of the communities where they work and live, the Association of Consulting Engineering Companies Manitoba had the opportunity to connect with Kimberly Yathon, B.Sc. CE, Manager of Projects at Tetra Tech and discuss engineering – as a career and an industry – in further detail.

Describe the landscape of engineering and what a career in the field looks like in our world today.

The landscape of engineering is exciting. There are many opportunities to develop better systems and technologies in more traditional sectors. Focus areas have changed even from when I started my career 16 years ago. I work in infrastructure and it is a sector that will always require engineering services. It's exciting to address client needs and challenges by adopting technically complete, meaningful solutions. Clients are more willing to look at new technologies and approaches for managing their assets long term. This opens the door to new possibilities when we are not necessarily constrained by traditional approaches or decisions.

What makes engineering a great/successful/rewarding career path?

For me, I like that the challenges are new with every project, and change from year to year. Engineering is definitely never boring. And as I gain more experience and develop my own career, there are new opportunities to take advantage of. There are technical challenges, organizational challenges, and financial challenges that really push you to think outside the box. Developing innovative solutions that are meaningful to the client, whether technically, functionally, or financially can be quite rewarding. At the end of the day, contributing to projects that are changing the face of our city or environment in a positive day is exciting. The challenge becomes being able to balance my own career with my own personal and family priorities.

How does Tetra Tech value Diversity & Inclusion in the workplace?

Tetra Tech has recently started a company-wide Diversity & Inclusion policy and program. A council has been developed to represent the needs of our global company. One of our intermediate female engineers is sitting on the Council to represent interests from our Canadian operations. While the program is still relatively new, it is encouraging to know that Tetra Tech considers diversity

and inclusion one of its core values. As a female engineer, it is important to me that the company support a diverse workforce, irrespective of gender, age, race, ethnicity, culture, or religious or political beliefs, language, education, socioeconomic background, family status, sexual orientation, genetic, and/or disability. I want to be a contributor based on my qualifications and merits, and not be discriminated against for things beyond my own control. This is also important to me as I raise my family, to develop awareness and hopefully create a better future workforce.

Describe Tetra Tech's Professional Women's Network and Leadership Academy and how both programs serve the workplace.

Tetra Tech's Professional Women's Network developed soon after I had completed my Leadership Academy participation in 2017. The women participants wanted to find a better way to connect together with other professional women across Tetra Tech. The program initially began with monthly calls with various speakers sharing technical and personal experiences, but has migrated significantly and has been embraced by many members. The network still has monthly calls through our Teams site, which can be access by everyone. There are monthly opportunities for networking through round robin video-conferences to connect with different female professionals. There is typically a monthly topic, and is a great way to connect with women across the world. More recently the network began a mentoring program, a book club, and a general page to serve as a support system for working moms. I have very much appreciated this network, and it has given me an opportunity to meet many inspiring women at various stages of their careers, and giving some helpful insight for challenges I am facing in my own career.

I was honoured to have participated in Tetra Tech's Leadership Academy in 2017. For me, it was a invaluable experience to participate in the company's professional development program. It was an intensive and challenging program for me, pushing me to push myself out of my comfort zone and to grow and expand upon my own leadership skills. I gained a lot of insight

"Be open and willing to try new things, even if it might be trying something that you might think you're not interested in, or feel like you are not qualified to do."

and understanding about Tetra Tech's core practices, their strategic and growth planning initiatives, their financial, risk, and contract practices, in a personal way by the leaders of our organization. But more importantly, it gave me a better understanding of Tetra Tech's culture, its people, and how we are all interconnected together, and how I fit into a large company. The program gave me the opportunity to make meaningful relationships with other future leaders across our company and to find ways to better network with other offices across the company.

What would you recommend to individuals, who interested in pursuing a career in engineering, to get started, network with other professionals and get involved (with education, volunteering/practicum work, etc.)?

I would recommend that someone starting a career in engineering to be open and willing to try new things, even if it might be trying something that you might think you're not interested in, or feel like you are not qualified to do. When I look on my own career, where I am today is very different than what I had ever envisioned for myself. Be a sponge, learn from anyone and everyone that you can; everyone within your sphere can help you in the process of shaping and growing. I have learned so much from administrative staff and technologists that I would never have learned on my own – everyone offers experience and perspective. Your education will only take you so far and once you get into the workforce you only begin to get a taste of how much you don't know and need to learn. Connect with other professionals – whether this be by volunteering, becoming involved in committees or organizations in the engineering or construction community, or investing your own personal time in your career. Your career is what you choose to make of it, and the investment that you make at the onset of your career can really impact the success and satisfaction that you experience as your career develops.

Share a story of how your work shapes the world?

My job involves the design and construction of bridges. I have had the opportunity to be involved on many bridge rehabilitation and replacement projects in the City of Winnipeg and across Western Canada. For me, it is rewarding to have been involved in projects that create a structure with improved functionality, safety, and efficiency. I have been involved on a few large P3 projects that have literally changed and shaped the face of the City of Winnipeg. I am proud to have been a contributor to these successful projects.

Why is it important for women to enter the field of engineering?

It is important for women to be involved in engineering because women are as capable as men. They offer different experiences, perspectives, and insight than what a man may offer. They can contribute to innovative and technically complete solutions to any project, and can be successful in leading projects and people. I believe that there is strength in diversity, in contribution from all people, irrespective of background, experience level, technical expertise, or gender. When these walls come down and individuals are respected for their input and insight, I have seen some really creative and exiting things happen. I hope that this continues to happen with women increasing in the engineering community.

What would you like to say to those who are considering a career in engineering?

If science, engineering, and technology is something that you are interested or passionate about, consider a career in engineering. It may be intimidating, and you may find yourself under represented, but you can do it! There are many exciting and rewarding opportunities, and you don't have to have everything figured out before you get there. If you are willing to learn and grow, the opportunities and job satisfaction are there for you.



TETRA TECH



Consulting Engineers Fee Guidelines

Consulting Engineers offer professional engineering services and expertise to both public and private sector organizations. Consulting Engineers also act as independent agents and advocates for their clients, and are responsible for finding innovative solutions to technical problems and provide strategic advice to business and management.

Engineering is a regulated profession in Canada, and Engineers working in both the public and private sectors require a licence to practice. Professional Engineers are held to a high standard of conduct and expertise, and are required to regard the public interest as paramount. In Canada, these licenced professionals offer a wide array of services and expertise in areas not only related to engineering and science, but also in economic sectors such as energy, resource development, environmental protection, and manufacturing. Firms that specialize in consulting engineering are responsible for planning, designing and construction services for much of our public infrastructure through a variety of project implementation approaches.

Engineers in consulting companies come from virtually every discipline and specialty, and they usually work in teams within their firms. Their roles may range from purely scientific or technical, to coordinating or managerial, or any combination-depending on the type and size of the client's project. In many cases, consulting engineers will be responsible for coordinating the efforts and activities of team members: other disciplines and professions that work in the field include natural scientists, technologists, planners, surveyors, architects, ecologists, geoscientists, archaeologists, economists, construction specialists, property negotiators, and a range of other specialties-whatever is needed to deliver the project services most effectively. Others Engineers may specialize entirely in their own sphere of expertise.

Professional engineering fees should be based on the value of services received by the Client and not simply the Consulting Engineer's cost of providing services. ACEC-MB annually reviews and recommends professional fees that are appropriate compensation for the professional work required to meet the necessary standards of engineering care and quality, and to sustain the profession through skills training and research and development. To that end, ACEC-MB is providing the following information on Professional and Technical services for 2020 - 2021.

Remuneration for engineering services may be based on one or more of the following methods. The application of the particular method will vary with the standing and specialized knowledge of the Consulting Engineer, as well as the nature and extent of the work.

Time Basis: In this arrangement, every hour charged by a Consulting Engineer's staff working on the project is billed at agreed hourly rates. Current suggested hourly rates are shown by classification.

Percentage of Construction Basis: The cost of providing engineering services is dependent upon the size of the project and the complexity of the assignment.

Fixed Fee or Lump Sum Basis: A Fixed Fee or Lump Sum Contract is suitable if the scope and schedule of the project are sufficiently defined to allow the Consulting Engineer to estimate the engineering costs. This type of contract is frequently developed from Time Basis projections or specific services requirements for particular tasks.

Professional Services		Technical Services	
Category	Rate (\$CDN/hour)	Category	Rate (\$CDN/hour)
E1	\$130	T1	\$100
E2	\$150	T2	\$115
E3	\$180	Т3	\$135
E4	\$205	T4	\$145
E5	\$235	T5	\$160
E6	\$265	Т6	\$180
E7	\$300+	T7	\$200+



Consulting Engineers Fee Guidelines

Classification Guide

This classification guide describes classifications of responsibility, experience and training. With some interpolation, engineering/technical positions within most consulting firms

can be categorized to align with these classifications. The following categories will assist with determining the hourly fee appropriate for a given staff member.

Pro	Professional Services Category Authorized Responsibilities		
E1	Engineer in Training	University graduate from an accredited engineering program.	
E2	Assistant Project Engineer	Engineering or geoscience assignments of limited scope and complexity. Work supervised in detail. May give guidance to members-in-training, technicians, technologists, contractor employees, etc.	
E3	Project Engineer	Independently puts out responsible and varied engineering or geoscience assignments. Work not generally supervised in detail. May give guidance to 1 or 2 other engineers or geoscientists but supervision of other engineers or geoscientists is not usually a continuing responsibility.	
E4	Supervisory Engineer	First level of direct and sustained supervision over engineers or geoscientists.	
	Specialist Engineer	First level of full specialization in complex engineering applications (research, design, product application, sales, etc.)	
E5	Management Engineer	Has authority over supervisory engineers, geoscientists, or a large group containing both professionals and non-professionals.	
	Advanced Specialist Engineer	In addition to specialization, generally exercise authority over a group of highly qualified professionals engaged in complex engineering applications.	
E6	Senior Project Management Engineer	Has authority over several related professional groups in different fields, each under a management engineer or geoscientist.	
E7	Senior Specialist Engineer	Recognized authority in a field of major importance and generally exercise authority over a group of highly qualified professionals engaged in complex engineering applications.	

Technical Services Category		Authorized Responsibilities	
T1	Technician	Under close supervision, carries out straight-forward duties such as preparing simple or repetitive drawings, maintaining drawing files and assisting with field surveys. Little independent judgment required. Performs according to standardized procedures.	
T2	Junior Technician/Technologist	Under close supervision supports engineering personnel in field, design, and/or ACAD drafting. Performs clearly defined, straightforward computational work using standard accepted formulate and manuals.	
Т3	Intermediate Technician/Technologist	Under direct supervision, supports engineering personnel in field, design, drawing production and/or construction specifications and quality control. Performs variety of defined assignments with some independent judgment required. May provide technical advice to less experienced technicians/ technologists in same area of specialty.	

Т4	Senior Technician/Technologist	Under minimal supervision carries out design tasks and/or complex ACAD assignments and/or performs field quality control functions. Analyzes, provides recommendations and makes decisions with regard to technical problems encountered. May provide technical advice or supervise the daily activity of all lower level technical staff with regard to processes and procedures. Verifies accuracy and adequacy of their work.
T5	Specialist Technician/Technologist	Supervises directly or indirectly the work of junior personnel while at the same time undertaking project related functions on a continual basis. May function as "Lead CAD" on projects in support of the Project Manager. Prepares production and progress reports as required. Assists the Project Manager in determining personnel and man-hour requirements. Reviews and verifies accuracy of work carried out by others.
Т6	Supervisor/Manager Technician/Technologist	Independently manages design functions on projects. Supervises the activities of other staff in execution of projects. Assists in recruitment and management of personnel as required. May assume role of Project Manager on projects. Technologists may take technical responsibility for projects within the limits of the approved scope of practice. Assists with marketing and client services on a regular basis.
Т7	Group Manager or Discipline Lead Technician/ Technologist	Independently represents the company with clients on an ongoing basis. Manages and supervises staff on a continual basis. Manages major projects. Responsible for identifying and pursuing market opportunities in area of specialization. Technologists may take technical responsibility for projects within the limits of the approved scope of practice. Responsible for assisting in recruitment, career reviews and salary reviews for staff under their direct supervision. Typical role is that of Group Manager or Discipline Lead.

Qualification Based Selection (QBS) is the recognized Best Practice for Procurement of Engineering Services. ACEC-MB recommends that public agencies making investments in capital projects should adopt (QBS) as the preferred method for procuring engineering services to achieve the best returns on their investments. 9

"ACEC-MB annually reviews and recommends professional fees that are appropriate compensation for the professional work required to meet the necessary standards of engineering care and quality, and to sustain the profession through skills training and research and development."

Government Relations' Update on Policy Development: **The Limitation of Actions Act**

Reprinted with permission, from Engineers Geoscientists Manitoba's The Keystone Professional, Summer 2020 issue

The Limitation of Actions Act refers to a law, which sets a period that a person can wait before filing a lawsuit. The limitation periods in Canada vary by province and by type of claim. Many Canadian jurisdictions have updated their limitation periods in recent years and an increased uniformity across jurisdictions in Canada was achieved. Manitoba currently has a basic limitation period ranging from two to 10 years. Comparatively, most Canadian jurisdictions have a nearly universal basic limitation period of two years. Manitoba also has an ultimate limitation of 30 years, which is the longest limitation period in Canada, while other jurisdictions' general limitation periods are 10 to 15 years.

In April 2017, results of the Association's membership survey showed that The Limitation of Actions Act legislation was among one of the top issues practitioners wanted to see the Association lobby the government to assist the public and the engineering and geoscience industries. In September 2017, the Limitation of Actions Task Group was formed by members of industry, under the guidance of the Association's Government Relations Department and the Government Relations Advisory Committee (GRAC), to address concerns raised by members and the public regarding The Limitation of Actions Act. The task group, in consultation with the Association's legal team, submitted a briefing to the Manitoba Minister of Justice in the spring of 2018. The briefing *Proposal to Amend the Limitation of Actions Act* suggested to replace current limitations in order to be more consistent with neighbouring provinces, and suggested a twoyear basic limitation period and 10- or 15-year ultimate limitation period, respectively, for Manitoba.

The proposal argues that by signing the New West Partnership Trade Agreement (NWTPA) and the implementation of the Canadian Free Trade Agreement, the Manitoba government had committed to reducing barriers to the free movement of workers, goods, services, and investment; to reducing red tape; and to improving regulatory efficiency, to better align regulations across provinces.

Current Basic and Ultimate Limitation Periods in Manitoba and Neighbouring Selected Provinces

Province	Year of Reform	Basic Limitation Period (Years)	Ultimate Limitation Period (Years)
British Columbia	2013	2	15
Alberta	1999	2	10
Ontario	2002	2	15
Saskatchewan	2005	2	15
Manitoba	1931	2/6/10	30
New Brunswick	2012	2	15
Nova Scotia	2014	2	15

TABLE NOTES: As to all provinces: subject to different definitions, exclusions, and special considerations, such as when the clock starts on the limitation period; these are based on generic and general interpretations. In Manitoba, the basic limitation period will depend upon the basis of the cause of action. Speaking generally, the basic limitation period for claims arising out of a tort, such as negligence, are two years after the cause of action arises, and claims arising out of a contract are six years after the cause of action arises. The limitation period relating to a claim under the mortgage and claims relating to ownership of land is 10 years after the cause of action arises. However, there are numerous sub-categories of specific types of claims and applicable basic limitation periods.

The briefing included reasons for amending *The Limitation of Actions Act* in Manitoba. To summarize, the briefing stated that:

- A shorter limitation period is in the public's interest, as it could serve to encourage business owners and operators to take more responsibility for their facilities, products, or systems As such, if they knew that their resources end within a finite period, they might be more inclined to examine or audit the facilities, products, or systems periodically to conform compliance with the design standards.
- A shorter limitation is also beneficial when balancing the rights
 of the plaintiff and the claimant
 The general perception is that claimants should not be allowed
 to "sit on their rights" for an inordinate length of time before
 bringing a lawsuit, and that the defendants should not be
 subjected to the threat of possible legal action indefinitely.
- The quality of evidence deteriorates with the passage of time
 Witnesses' memories fade, documents are no longer available,
 and many claims do not proceed to court after 10 years
 because the evidence has deteriorated to the point that it is not
 possible to generate a complete and reliable record to support
 a fair judicial decision.
- In 2010, the Manitoba Law Reform Commission comprehensively reviewed the current Act providing 38 recommendations for changes to the Act
- Shorter limitation periods may result in reducing the liability cost to companies, sole practitioners, and retired professionals
- Businesses currently have to cover a longer period of exposure to potential liability, which increases their cost of doing business in Manitoba
- Consistency is expected to be achieved for jurisdictions within Canada

In November 2019, in the reading of the Speech from the Throne, it was stated that the government will put forward the amendments to *The Limitation of Actions Act* to bring Manitoba in line with the rest of the country. In the ministerial mandate letter issued in March 2020 by Premier Brian Pallister to the Honourable Cliff Cullen, Minister of Justice and Attorney General, the premier outlined the minister's responsibilities for the upcoming legislative session. Of interest to our Association is the province's commitment to modernize the legislation relating to the limitation of actions.

The success of the initiative depends on the effective communication with government, productive stakeholder engagement, and the support from our Association. Encouraged by the commitment of the provincial government to reform the legislation, seven professional and regulatory organizations, including our Association, jointly submitted a letter to Minister Cullen this March, which proposed a meeting to discuss the plan to amend the legislation and identified how they can assist in the process. We are convinced better solutions to this issue can be achieved through continued communication and mutual determination between government, stakeholders, and the general public. §

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Tower Engineering	16	204-925-1150	www.towereng.ca
Victor Insurance Managers Inc.	32	800-267-6684	https://www.victorinsurance.ca/
Winnipeg Construction Association	49	204-775-8664	www.winnipegconstruction.ca
Workers Compensation Board of Manitoba	5	855-954-4321	www.wcb.mb.ca
WSP Canada	30	204-943-3178	www.wsp.com



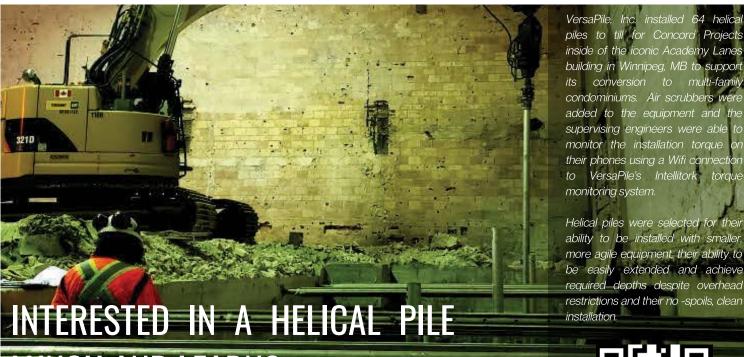
LOCAL AND REPUTABLE HELICAL PILE CONTRACTORS



The helical piles were installed in the winter months. Without curing, heating or hoarding, the build could start sooner.



More and more residential, commercial, industrial, utility, institutional and agricultural projects are being supported on helical piles installed by VersaPile, Inc. Helical piles are serving as a budget friendly alternative to precast and timber piles. If the soils are problematic for cast-in-place, helical piles can be installed to till. If the desired soils layer is deeper than predicted, helical piles are easily lengthened. VersaPile, Inc. is equipped to install helical piles to more than 600 kN | 135 kips ULS, satisfying the design criteria for a wide range of possible projects. VersaPile's equipment is nimble and can access nearly any project site while also having the weight and downforce required for helical piles to penetrate soft-till.



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Helical piles have a rich engineering history and are used in a variety of situations from difficult soil conditions, projects with low accessibility, or sensitive sites to typical construction sites.

Realizing the goal of a quality helical pile foundation is not just a matter of good design but also an experienced and knowledgeable helical pile install team.

Serving thousands of customers across Manitoba and NW Ontario, VersaPile, Inc. offers locally engineered pile solutions for nearly any building project 5kN to 600kN (1,000lbs to 135,000 lbs capacity).



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