



PROJECTS | PARTNERSHIPS | PEOPLE

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Western Canada



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Canada's largest, most diverse  
utility infrastructure provider



### LIGHT RAIL TRANSIT:

How Aecon is helping to move  
Canada's urban traffic













## Our Ambition:

To be the #1 Canadian  
Infrastructure Company

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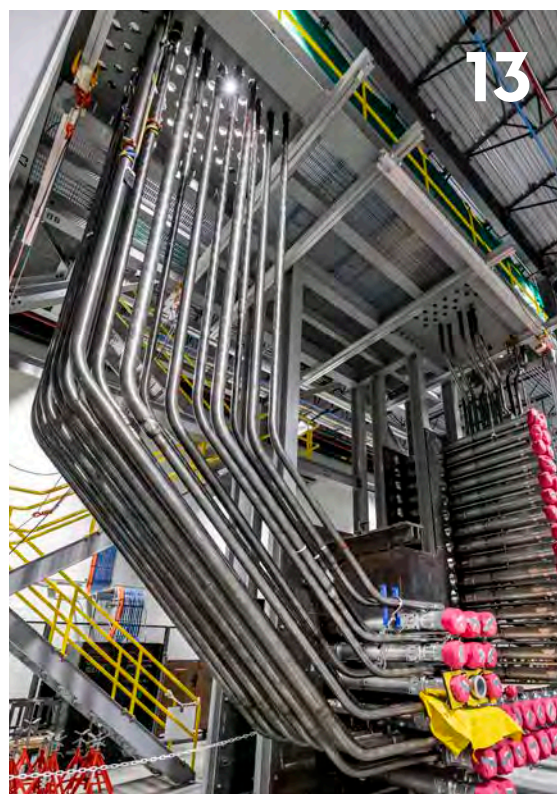
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Aecon currently has in place  
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# Together, We Are Stronger

Aecon has always been a diverse and resilient company. We've weathered many bends in the road as a Canadian infrastructure leader and 2020 was no exception. Like so many organizations, we encountered unprecedented challenges with the onset of COVID-19, but Aecon leaned in and recognized what can be achieved when we work together, even against the backdrop of a global pandemic.



## Together:

We learned how agile we can be, pivoting quickly so we could continue to operate as an essential service across multiple operating sectors and jurisdictions amidst a rapidly changing operating environment

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We continued to support our clients while focusing efforts on the safety of our frontline workers

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We won new projects and reached important project milestones, despite schedule changes due to COVID-19

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We supported one another and our communities, recognizing that we're all in this together



**When I look through these pages and see the results of all we accomplished in 2020 despite the challenges, I feel immense pride. Aecon's projects, partnerships and people moved forward in a year that halted for so many. And while our company was certainly impacted by COVID-19, Aecon's operating conditions have stabilized, our underlying business performance remains strong, and we've maintained near record backlog levels.**

In this issue you'll learn more about the impressive progress we have made across the company on major projects like Toronto's F.G. Gardiner Expressway and the binational Gordie Howe International Bridge, which connects Canada (Windsor) and the U.S. (Detroit). At Aecon, we often focus on the "shovels in the ground" side of construction, but the Gordie Howe article provides an excellent look into the expertise of Aecon's Concessions group in helping to secure one of the largest private financings of a Public-Private Partnership (P3) project in Canada. Our Concessions group also celebrated the delivery and grand opening of the new state-of-the-art passenger terminal building at Bermuda's L.F. Wade International Airport at the end of 2020 – a remarkable feat considering the challenges COVID-19 placed on construction, international travel, and airport operations.

Across our company, Aecon's industry expertise and brand reputation are paving the way toward new growth opportunities. This issue shines a spotlight on a few of these market sectors, including Urban Transportation Systems and Nuclear, as well as our Utilities group. Through organic growth and strategic acquisitions, Aecon Utilities has become the largest, most diverse utility infrastructure provider in Canada today. In addition to expanding its service capabilities, our Utilities business has strategically moved beyond its traditional Ontario base to realize new revenue-generating opportunities, much like what's happened in our road and bridge building business over the last decade. The evolution of our Civil West business is also highlighted in this issue, including three significant 2020 project awards in British Columbia: Pattullo Bridge Replacement Project, Highway 91/17 and Deltaport Way Upgrade Project, and Kicking Horse Canyon Project.

Recognizing that projects don't get built by themselves, you'll meet some of the people behind our work and important initiatives in this issue. Aecon was once again named a Best Employer in Canada in 2020 and we couldn't be more "AeconProud." We're committed to supporting our people and encouraging greater diversity and inclusion across the company in 2021 and beyond.

Last year also marked the publication of Aecon's inaugural Sustainability Report – *Building the Infrastructure of a Better Tomorrow* – highlighting the progress, initiatives and commitments of our Environmental, Social and Governance processes and strategies. In 2021, we will continue to focus on embedding sustainability in our operations and our relationships with clients, communities, investors and stakeholders.

Fostering mutually beneficial partnerships and embracing the communities in which we work are hallmarks of our Aecon brand. The work we're doing on Vancouver Island's Comox Valley Water Treatment Plant project perfectly embodies this. If there's one thing 2020 taught us, it's that we're all in this together.

Looking to the year ahead, I'm pleased to report that Aecon's financial position, liquidity and capital resources remain very strong. Of course, COVID-19 is still with us and we are subject to its unknown impacts. In addition to remaining agile, we must continue to be diligent in our commitment to the stringent safety measures we have put in place across all sites and locations.

Thank you again to all our people – especially our frontline construction workers – for your continued commitment to keeping Aecon moving forward and delivering for our clients during these challenging times. Together, we are stronger.

**Jean-Louis Servranckx**  
President & CEO



# Safety Forward



**The health and safety of our people, partners, and clients, as well as the communities in which we operate, is always our top priority at Aecon. And COVID-19 put us to the test this year.**

Continuing to operate as an essential service amidst a global pandemic has challenged us to find new ways to safely carry out our work while adhering to strict COVID-19 protocols. With the introduction of a second wave of COVID-19 in recent months, we have only amplified our diligence, compliance, and reinforcement of these protocols on all work locations coast to coast.

COVID-19 occupied a significant amount of our time in 2020 and will continue to do so for the foreseeable future. But we've also invested resources in evolving our EHS Forward safety program to meet Aecon's demanding and changing work environments and to support our organizational growth. In recent years, our projects have become far more complex, and with that comes increased critical-risk activities required to carry out the work safely. Our new EHS Forward safety program focuses on ensuring our frontline people are fully

prepared for their work, from training to planning to execution. In turn, we're counting on every worker to be fully engaged and an active participant in this process. The right mindset goes a long way toward performing the work safely. Every Aecon employee has the licence and obligation to stop work activities if there is ever any doubt as to how to perform a task safely. From leadership to frontline workers, we all need to encourage and embrace this culture.

In preparation for the year ahead, we've introduced a Safety RESET for Success to drive home the criticality of the work we must do to continue strengthening safety performance at Aecon. Our first focus of this multi-phased approach is all about identifying and controlling risk in the workplace. We're drilling down in a task-by-task review of all activities to ensure no gap exists in any of our safety procedures.

For Aecon to ensure everyone gets home safely at the end of every day, we must all be committed to this process, our COVID-19 protocols, the EHS Forward safety program and our number one core value in 2021. I'm counting on it.





**For Aecon to ensure everyone gets home safely at the end of every day, we must all be committed to this process, our COVID-19 protocols, the EHS Forward safety program, and our number one core value in 2021.”**

**- Mark Scherer, Chief Safety Officer**





# COMOX

## WATER TREATMENT PROJECT

COMOX VALLEY, VANCOUVER ISLAND, BRITISH COLUMBIA

**Innovative design, community engagement and respect for the land are hallmarks of Vancouver Island's much-anticipated new water treatment plant.**

**"We have a great team here at the Comox site. It's been a really good project experience, with open lines of communication with the K'ómoks First Nation. Lots of mutual understanding and respect."**

– Jamie Abernethy, Project Director, Aecon Water Infrastructure



## SCOPE OF WORK

### Completed

- ☐ Design
- ☐ Raw water pipeline from the pump station to the water treatment plant

### In Progress

- ☐ Underground raw water pump station
- ☐ Construction of water treatment plant, including filtration and disinfection
- ☐ Deep-water intake
- ☐ Treated water pipeline from the plant to the Comox Valley Regional District (CVRD) water distribution system

### Aecon business units supporting Aecon Water Infrastructure on this project:

- Aecon Construction Solutions Inc.
- Industrial West/Industrial East
- Civil West/Civil East
- Utilities
- Foundations
- AGI Rentals

In the fall of 2019, Aecon's Water Infrastructure group kicked off a \$112 million design-build (DB) contract to build a new water treatment system on Vancouver Island for client Comox Valley Regional District.

The project has been years in the making. It's critical to the region and its residents, who are anticipating a new treatment system that meets current health standards, eliminates turbidity-related boil water notices and delivers safe, high-quality drinking water for decades to come. The new advanced system will draw water directly from nearby Comox Lake.

Aecon's winning proposal focused on innovative design, industry best practice standards and cost-effectiveness. A key feature of the design is an underground pump station at Comox Lake, which eliminates concerns about noise and aesthetic impacts to the natural setting.

### Project Progress

Now more than a year into construction, Aecon's project team has completed many of the major supporting elements of the new water treatment system (see Scope of Work) and is fully immersed in the construction of the water treatment plant. Most of the concrete milestones have already been achieved in support of building out the four main steps of the water treatment process: coagulation, flocculation, filtration and disinfection. All electrical and mechanical works for the treatment plant are also well underway. The water treatment plant is scheduled for completion in spring 2021, with commissioning to follow. The grand opening is slated for summer 2021.

- ☒ Meets current health standards
- ☒ Eliminates turbidity-related boil water notices
- ☒ Delivers safe, high-quality drinking water for decades to come



Photos provided by the Comox Valley Regional District.

Recognizing that water is a shared interest of the K'ómoks First Nation and Comox Valley Regional District, both groups signed a Mutual Benefit Agreement in 2018, laying an important foundation for this project.

In the agreement, K'ómoks First Nation provided its support of the project as well as the Region's water licence application, both of

which were instrumental in gaining the required provincial and federal greenlight to move forward with the new water treatment plant.

Both groups were active participants a year later at the construction kick-off event on the site of the new water pump station on Comox Lake. Among the featured highlights was a K'ómoks First Nation ceremonial dance and remarks by Chief Nicole Rempel.





**This project is all about being local and being respectful of the K'ómoks First Nation Peoples and their traditional lands. I think that's why there is such a sense of community and focus on this project being a success."**

**- Pam Stapleton, Site Administrator**

In communities across the country, Aecon relies on local engagement and partnerships to help build a winning project team and ensure a great project experience. The Comox WTP is no exception. Project Director Jamie Abernethy embraced both the local and Indigenous workforce in building his team, with almost all workers being Vancouver Island residents and the vast majority of them local to Comox Valley. The project's apprenticeship program has engaged more than 15 apprentices from local communities.

Aecon also procures through local supplier networks and has tendered work to K'ómoks First Nation affiliated subcontractors.





At the start of the project, Jamie Abernethy arranged to have all team members participate in Aecon's Indigenous Awareness Training Program, which was then supplemented by a specific Indigenous Awareness Module focused on the Coast Salish Peoples, which includes the K'ómoks and the Pentlatch Peoples of the K'ómoks First Nation.



Aecon Project Director Jamie Abernethy has been named a "Top 40 under 40" Canadian construction professional by On-Site Magazine and SitePartners.

## The entire Comox WTP team has also continued to step up in a big way to support the local community:

- In addition to donating funds and food to the Comox Valley Food Bank, the team has planted saplings and other native plant species in the region as part of Comox's Project Watershed.
- When a fire tragically took the home of a team member's neighbour, the Comox WTP team all stepped up and raised funds for the family to help cover immediate necessities. Hazelwood, one of Aecon's subcontractors, also contributed funds, clothing and sports equipment.
- The team joined up with other local community members to be "Broom Busters." Broom is an invasive toxic species which overtakes the natural island vegetation. The only way to eradicate the species is to carefully cut it back when it is in bloom. It is tough and time-consuming work.
- When the United Riders of Cumberland – local mountain-bike enthusiasts – came calling for help to carry out much-needed trail maintenance, the Aecon team spent a long day building trails, digging out the vegetation and top layers of deadfall, and restoring the region's beautiful hard-packed trails.

**DISCLAIMER:** These photos were taken prior to or in the early stages of COVID-19 and may not reflect the stringent health and safety protocols currently in place on all active Aecon site locations.





SPOTLIGHT ON:

## Nuclear Projects

# Aecon continues to deliver diverse, industry-leading expertise to Ontario's key nuclear clients.

### SCOPE OF WORK

The Aecon/SNC-Lavalin joint venture team is eight years into a multi-year project scope that calls for the refurbishment of all four CANDU nuclear reactors at Darlington to replace critical components using the tools and methods the team developed and tested during the project's definition phase (2012–2016).

Execution of the project began following the definition phase in October 2016. The \$2.75 billion contract calls for each of the four reactors to be taken out of service sequentially for approximately three years to allow for the replacement of fuel channels, feeder pipes, calandria tubes and end fittings. The first reactor to be disconnected from Ontario's electricity grid was Unit 2. After successfully defuelling the reactor and "islanding" it from the operating plant, the team – by now operating under the unified CanAtom name – set to work dismantling it and then taking on the very complex task of refurbishing and reassembling the reactor.

**\$2.75B**  
Contract Value

**2026**  
Scheduled Completion

**The Darlington Nuclear Generating Station east of Toronto is one of the top-performing nuclear stations in the world. It's produced 20 per cent of Ontario's electricity since the early 1990s and is currently undergoing a major refurbishment program – the Retube and Feeder Replacement Project – which promises to extend its operations to 2055. Leading the way on the execution phase of this critical project is Aecon and our 50/50 joint venture partner, SNC-Lavalin Nuclear Inc.**



# DARLINGTON NUCLEAR GENERATING STATION: RETUBE AND FEEDER REPLACEMENT PROJECT

CLARINGTON, ONTARIO



## Project Progress

Aecon and the CanAtom team celebrated a huge refurbishment milestone in March 2020 with the completion of Unit 2. After critical fission testing and several weeks of heat-up and low-pressure testing, the reactor was gradually and fully reconnected to Ontario's power grid on June 4, 2020.

Ontario Power Generation (OPG) President and CEO Ken Hartwick called it "an historical moment" for Ontario, thanking the refurbishment team and all project partners, trades and vendors who worked more than 24 million hours to safely return Unit 2 to the grid. Looking ahead, he praised the team's expertise and continued commitment toward completing the next stages of the refurbishment safely, with quality, on budget, and by the end of 2026, as planned. Special mention was also given to the fact this milestone was achieved amidst "a time of unprecedented

circumstances," a reference to COVID-19 and the challenges inherent in balancing the strict protocols of a pandemic with the project schedule.

COVID-19 considerations did lead to OPG postponing the start of Unit 3 – the next reactor to be refurbished (see COVID-19 Impact) – but the CanAtom team was ready to go the first week of September 2020, when work commenced on defuelling Unit 3, which by then had been safely disconnected from the power grid. The defuelling process involved the remote-controlled removal of 6,240 fuel bundles from the reactor over a 90-day period. And while the work to be completed on Unit 3 will be similar to Unit 2, more than 4,000 lessons learned have been collected and will be incorporated as part of the project's focus on continuous learning.

The project remains on track for scheduled completion in 2026.

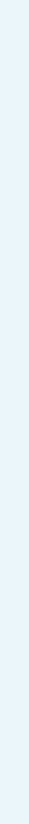
## COVID-19 Impact

On April 2, 2020, OPG announced it would postpone the start of Unit 3 of Darlington's Retube and Feeder Replacement Project until the fall. Although it was originally scheduled to get under way in spring 2020, OPG made the decision to accommodate public health guidelines on site due to COVID-19 and to help provide essential electricity for the province at a time when it was needed most. From the project team's perspective, the delayed Unit 3 start would help to accommodate COVID-19-related challenges such as technical constraints on equipment, co-ordination with other facility outages, financial impacts, supply chain, access to skilled tradespeople and regulatory approvals.

The CanAtom team worked closely with Darlington's project partners and vendors to develop an effective plan to move forward amidst the schedule change and challenges posed by COVID-19. As ever, the priority focus was on the health and safety of the team.

Plans were subject to a rigorous challenge process until a final decision was reached to safely move forward with prerequisite work, including the Single Fuel Channel Replacement (SFCR), under new strict COVID-19 protocols.

The COVID-19 postponement is not expected to delay the project's scheduled completion of all four CANDU reactors by 2026.





## BRUCE POWER: MAJOR COMPONENTS REPLACEMENT PROGRAM

KINCARDINE, ONTARIO



### Steam Generator Replacement

In December 2017, Aecon and joint venture partners United E&C Inc. and Framatome signed a \$130 million, multi-year contract with Bruce Power to replace steam generators in Unit 6 at the Bruce Power generating station. The fully integrated joint venture partnership – known as the Steam Generator Replacement Team (SGRT) – was formed to remove the eight original steam generators and install replacement steam generators, with related plant modifications. The SGRT has completed the engineering work for Unit 6 steam generator replacements and work is well under way. This is the initial phase of Bruce Power's Major Component Replacement (MCR) Program, with the Unit 6 steam generator replacement scheduled for completion in 2022.

**\$130M**

Contract Value

**2022**

Scheduled  
Completion

In late 2020, the team received the new steam generators and, in parallel, has begun to remove the insulation above the reactor to prepare for the eventual opening of the roof and removal of the existing generators.

In addition to the contract for Unit 6, the SGRT has signed a long-term Preferred Supplier Agreement for steam generator replacements at the plant's remaining five units as part of the MCR Program. This agreement, with provisions for a long-term partnership through 2033, gives Bruce Power the benefit of experience and relationships from previous projects and allows SGRT to establish a long-term presence in the Bruce Power community.



### Fuel Channel and Feeder Replacement

The Fuel Channel and Feeder Replacement Project is the centrepiece of Bruce's MCR Program, which calls for the replacement of six of the plant's eight nuclear reactors. Shoreline Power Group, an Aecon/SNC-Lavalin/United E&C Inc. joint venture team, will lead the replacement of the main components of the plant's Unit 6 nuclear reactor. Shoreline was awarded the \$475 million contract in May 2018 with a scope that includes the removal and replacement of 480 calandria tubes, 480 pressure tubes and 960 feeder tubes. This is the type of nuclear work that Aecon has specialized in for the better part of a decade.

In October 2020, Shoreline onboarded approximately 900 new employees over a nine-week span to support the initial phase of work. Removal of the feeder tubes is now under way.

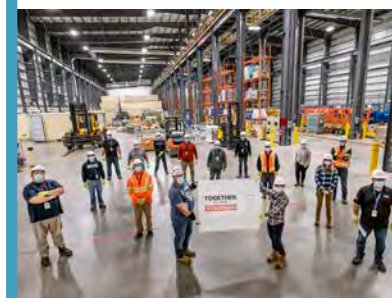
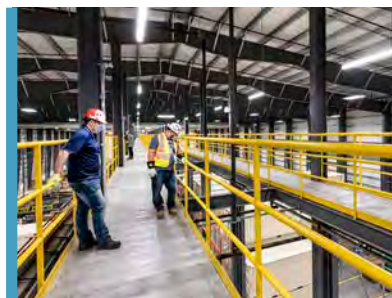
As with the Unit 6 Steam Generator Replacement Project, the Shoreline project consortium has also signed a Preferred Supplier Agreement with Bruce Power. The agreement outlines the opportunity for the project consortium to be awarded similar contracts for the remaining five units that are scheduled to be refurbished over the next 13 years under the MCR Program.

**\$475M**

Contract Value

**2022**

Scheduled  
Completion







**Bruce Power is Canada's only private-sector nuclear generator and produces 30 per cent of Ontario's electricity at its two generating stations – Bruce A and Bruce B – located on the shores of Lake Huron. Like OPG's Darlington station, Bruce is also refurbishing its nuclear units to secure safe operations for years to come.**





Both the Darlington and Bruce Power generating stations play key roles in supplying clean, reliable and affordable energy to Ontario, and we're proud of the role we play in helping to ensure these plants continue to operate safely for years to come. Our work on the major refurbishment projects illustrates Aecon's specialized capabilities as an industry leader in nuclear work."

- Thomas Clochard, Senior Vice President and Executive Lead, Aecon Nuclear





Bruce Power  
Generating Station

## Aecon-Wachs: Expanding Our Nuclear Footprint in the U.S.

In Canada, Aecon's Nuclear group is recognized as a nuclear industry leader after more than four decades of related fabrication and refurbishment work. In 2018, our footprint extended south of the border with the acquisition of the Wachs group of companies based in Jackson, South Carolina, now known as Aecon-Wachs.

Aecon is no stranger to U.S. nuclear work. In 2012, we earned the coveted "N-Stamp" from the American Society of Mechanical Engineers (ASME), an internationally recognized U.S. industry standard in quality assurance for the construction, inspection, and maintenance of nuclear facilities. The accreditation was an important milestone for Aecon that opened potential new markets outside of Canada. Aecon's Nuclear group did indeed deliver work in the U.S.,

including ASME III nuclear modules to Westinghouse Nuclear in 2016.

The acquisition of Wachs in 2018 allowed us to further broaden Aecon's service offering in the U.S. while also bringing specialized field engineering capabilities to our nuclear portfolio. The Wachs brand is well established in the U.S. The company has served the industrial and nuclear power generation market for almost three decades.

Aecon-Wachs complements our core competencies in field services, including specialized welding, machining, equipment rentals, and staff augmentation, and has the capability to perform design engineering, custom modular fabrication and field installation. From their 125,000-square-foot, state-of-the-art custom fabrication facility in Aiken, South Carolina, the team can provide a self-perform model

or a construction management approach. They also train and qualify welders.

Since 2019, Aecon-Wachs has been involved in several Aecon Nuclear projects. Most notably, members of the CanAtom (Aecon/SNC-Lavalin) joint venture team and Aecon-Wachs partnered together to successfully complete the Darlington Lower Feeder Installation Project for the Darlington Nuclear Refurbishment Project. Their successful collaboration led to a coveted Aecon Achievement Award for Outstanding Team. The project involved the successful installation of 960 feeder pipes on Darlington's Unit 2 reactor, which is considered one of the most challenging parts of the refurbishment. Their overall performance set a world-class benchmark for project execution excellence.



# TORONTO'S URBAN

## F.G. GARDINER EXPRESSWAY REHABILITATION PROJECT: SECTION 1

TORONTO, ONTARIO

### SCOPE OF WORK

Aecon's Section 1 contract involves full structure replacement of the expressway between Cherry Street and Jarvis Street (approximately 1.1 kilometres in length) using an innovative technique called accelerated bridge construction to reduce the project's overall construction time by as much as 40 per cent compared to traditional methods.

The contract also calls for:

- Rehabilitation of the westbound off-ramp deck leading to Yonge Street
- Superstructure replacement of the westbound off-ramp deck at Sherbourne Street
- Superstructure replacement of the eastbound on-ramp deck at Jarvis Street
- Installation of new street lighting
- Installation of a Road Emergency Services Communication Unit (RESCU) system





# LANDMARK EXPRESSWAY

**Aecon tackles Toronto's aging expressway with an innovative technique that reduces construction impact in the country's busiest urban core.**

On July 12, 2018, Aecon Group Inc. was awarded a \$248 million contract by the City of Toronto to rehabilitate the first segment of Toronto's aging Gardiner Expressway. Preparations began immediately and construction was well under way by the summer of 2019. The project is scheduled for completion in 2021.



## MILESTONES

**2019**

**July 17 – September 23**

The westbound York-Bay-Yonge off-ramps close for repairs.

**October 14**

The project team successfully transitions the expressway's deck from eight lanes to four lanes between Cherry Street and Jarvis Street, enabling crews to prepare the deck's north half for rehabilitation.

**November 8**

The first panel is removed from the expressway deck.

**2020**

**April 18**

The project team successfully opens the east portion of the Gardiner deck to traffic, including the westbound Lower Sherbourne/Lower Jarvis Streets off-ramp, after seven months of significant rehabilitation on the north half of the expressway. At exactly one minute past midnight, crews closed the Don Valley Parkway (DVP) and Gardiner Expressway lanes for 24 hours in order to shift the work zone and begin construction on the west end.

**2020**

**May 18**

The Jarvis on-ramp on the deck's southern half closes for rehabilitation.

**July 27**

The entire north half of the Gardiner is reopened to traffic, completing Stage 1 work. Crews transition the traffic work zone to the expressway's eastbound lanes on the deck's southern half.

**September 10**

After months of 24/7 operations, the fabrication team produces its final precast girder panel.

**November 16**

The last prefabricated panel is installed on the southern half of the expressway deck, signalling the end of both north and south major deck rehabilitation.

Aecon's project team is on track to reopen the Gardiner to traffic at the end of February 2021, with total project completion scheduled for the summer of 2021.





# Aecon

## PROJECT INNOVATIONS

### 1 Precast On-site Fabrication

For more than a year, travellers along the east end of the Gardiner Expressway – where the road merges north to the Don Valley Parkway – would be hard pressed not to have seen the four massive white Aecon fabrication tents that served as a beacon of prefabrication activity happening in the shadows of the busy commuter corridor.

Approximately 400 precast girder panels were fabricated here in Aecon's yard located below and adjacent to the elevated expressway. For 15 months, day and night, the team prepared panels for the Gardiner's bridge deck as part of an innovative technique known as accelerated bridge construction. Sections were built in a climate-controlled facility and then transferred into place on the expressway once the existing sections had been removed. In addition to reducing overall construction time and the quality control benefits, the technique reduced the need for jackhammering and other loud, disruptive noises in this high-density residential neighbourhood. It was the first time accelerated bridge construction was used in Toronto, and at this scale.



### The Five-Stage Prefabrication Process

1

**New steel girders arrive in the yard where they are received**

2

**Girders are scanned and surveyed for tolerances**

3

**Girders are formed and reinforced with steel**

4

**Concrete is poured and steam cured**

5

**Forms are stripped and the girders are stored in the yard, ready for installation**



## 2 Integrated Digital Design (IDD)

With the Aecon project team producing panels off-site and transporting them to the expressway deck for installation, measurements had to be precise – as in millimetres – on every one of the 400 panels fabricated. Both the client and bridge replacement technique demanded extremely tight engineering parameters, with limited tolerance for panels not meeting exact specifications.

Enter Ben Feltham, Director, Integrated Digital Design (IDD) – recently named a “Top 40 under 40” Canadian construction professional by *On-Site Magazine* and *SitePartners*.

“Thanks to Ben and the team, we were able to utilize the IDD software application from start to finish on this project,” notes Stephen Cleary, Project Director. “We improved our planning and execution tools and were able to deliver all the bridge sections within very tight tolerances to meet quality criteria.”

Ben’s team played an important role at various stages of the project. Upon delivery of steel from Québec, Aecon’s survey and IDD teams scanned the steel to ensure the camber, length and steel geometry were all as designed. Each piece of steel was unique in its

design location. Putting the bridge deck together was like constructing a huge jigsaw puzzle.

Once the steel girders met tolerances, they went off for formwork, concrete pouring and accelerated steam-curing to meet schedule and, eventually, form removal. Once this step was complete, the IDD team stepped in again to ensure Aecon was within five to 10 millimetres of the design specifications, accounting for settlement once installed and under load. Anything exceeding tolerance was evaluated and a mitigation plan was developed.

IDD and survey teams were also relied on for ensuring the panels were in alignment once installed on the deck. Non-conformance reports from the client were minimal and what was issued was resolved through IDD-generated visualized models of the entire deck, demonstrating the required adjustments within the design tolerances and to the performance criteria. As a result, none of the panels required any rework – a tremendous credit to Aecon’s IDD technology and the project team’s execution on such a complex construction project.

## 3 Heavy Haul Transportation

Aecon carries out a lot of precast work that involves heavy lifting of girders using cranes, but seldom are we required to haul these massive panels through the largest city in Canada on one of the busiest urban thoroughfares in the nation. Taking on the Gardiner project meant Aecon had to get into the business of heavy haul transportation, co-ordination and logistics.

Moving precast panels – that weigh on average 100 metric tonnes and can measure 40 metres in length – to their destination, along a busy urban route, is no easy task. It requires an enormous degree of planning and calculation. As the project team fast realized, it also required a lengthy permitting process, an extremely detailed safety and traffic management plan, and daily co-ordination with the police and the City of Toronto’s transportation department to manage road closures. Aerial maps and photography were also utilized to ensure extremely tight turning radii could be managed under the Gardiner Expressway and on clogged city streets.



**I’m very proud of the entire Aecon team that we assembled to deliver this complex project. Every single person on the team has stepped up and has done a wonderful job, despite the significant project challenges we’ve faced, whether they were commercial, technical or scheduling. After a slow start due to some design delays, the team developed and executed an accelerated schedule which has put us on track to successfully complete this project.”**

- Stephen Cleary, Project Director



SPOTLIGHT ON:

# DIVERSITY &



**DISCLAIMER:** This photo was taken prior to COVID-19 and does not reflect the stringent health and safety protocols currently in place on all active Aecon site locations.



# INCLUSION

AT AECON



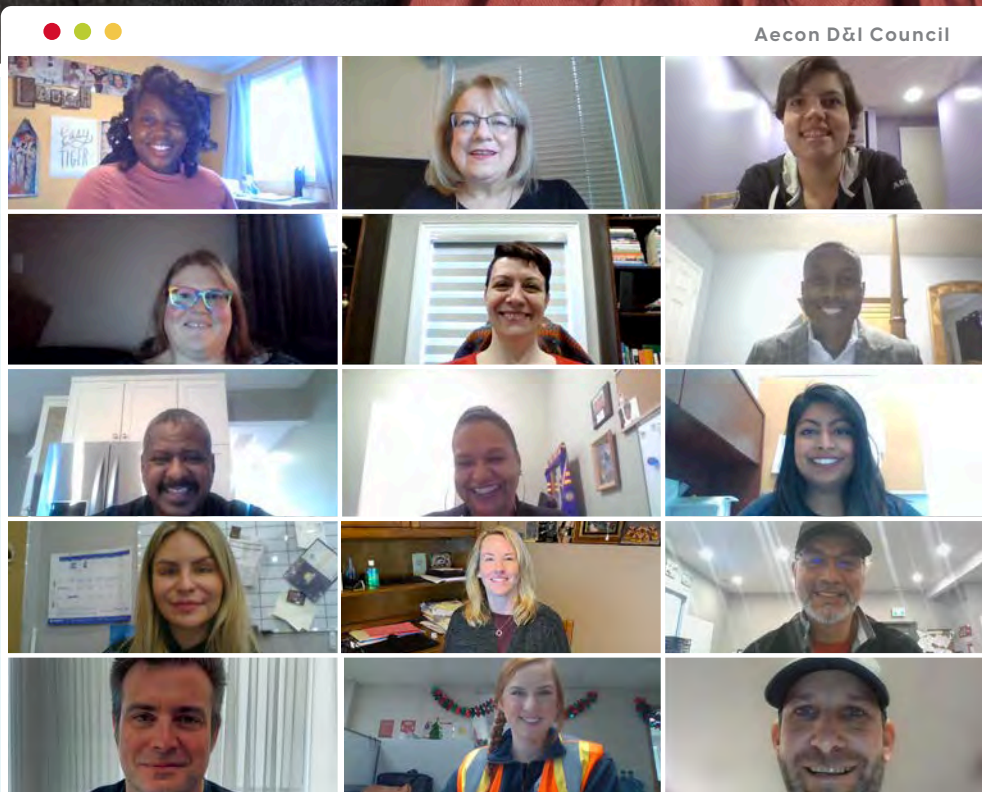
**Aecon's rich history and industry success is a credit to our people. And as a Best Employer in Canada, supporting our people continues to be a priority focus across the organization.**





The goal of an Employee Resource Group (ERG) is to focus on a specific marginalized segment of the population and develop opportunities to create a more inclusive environment for that group within the organization."

- Patience Adamu, Manager of Employee Experience



John Kirby, Construction Director with Aecon's Civil East group and Co-Chair of the Abilities at Aecon ERG, says prior to the introduction of these focused groups, addressing specific diversity and inclusion topics was challenging for the Council. "We're now seeing real progress because members can personally identify with these groups or know someone who does. Because of that, they're mobilized and enthusiastic about making a difference and improving Aecon."

And make a difference they have. In just a short time, each ERG has made considerable strides promoting D&I and ensuring under-represented groups within the organization feel heard, valued and accepted.





**"Awareness about diversity and inclusion is important - but what's more important is the ability to inspire people to change. And that means shifting any unconscious bias or behaviour when we're recruiting talent, promoting leaders or empowering our colleagues."**

**- Gordana Terkalas,**  
Senior Vice President,  
Human Resources

**In 2020, we introduced a comprehensive Diversity & Inclusion (D&I) Strategy to shine a light on the importance of a diverse and inclusive workplace. The Strategy's primary focus areas were informed through two main sources: Aecon's inaugural Diversity Census and Kincentric's Best Employers Survey. Both provided key data on the diverse makeup of our workforce.**

"Awareness about diversity and inclusion is important," says Gordana Terkalas, Aecon's Senior Vice President of Human Resources. "But what's more important is the ability to inspire people to change. And that means shifting any unconscious bias or behaviour when we're recruiting talent, promoting leaders or empowering our colleagues."

Patience Adamu is Aecon's Manager of Employee Experience, a role she took on in 2019 following four years as a Community Benefits Specialist, first on our Eglinton Crosstown LRT joint venture project and later on our Finch West LRT project. In her current role, Patience is responsible for evolving D&I at Aecon and helping employees understand the critical role they play in creating a truly inclusive workplace.

Patience largely credits the experiences gained on those two joint venture urban transportation projects – where she supported neighbourhood communities and small businesses impacted by construction

schedules – with sharpening her expertise in communications and relationship building. Both are vital to developing and evolving a dynamic D&I culture.

## **D&I Council**

Before Patience joined Aecon's corporate Human Resources team, she was already an active member of Aecon's D&I Council. Established in 2016, the Council consists of 15 members that actively foster a welcoming environment by identifying and eliminating potential barriers in the workplace. One way in which the Council is able to achieve this is through the work conducted by its five Employee Resource Groups (ERGs): Abilities at Aecon, Indigenous at Aecon, People of Colour at Aecon, Pride at Aecon and Women at Aecon.

Introduced by Patience in 2020 and described by her as Aecon's "army on the ground representing change," these ERGs allow for a more streamlined and centralized approach to enacting positive change for under-represented groups. Any Aecon employee can join an ERG regardless of whether they are a member of the D&I Council.

"ERGs are commonly found in organizations with a D&I strategy in place," explains Patience. "The goal of an ERG is to focus on a specific marginalized segment of the population and develop opportunities to create a more inclusive environment for that group within the organization."

- + **Abilities at Aecon** is actively researching and connecting with organizations that serve people with disabilities in order to recruit more diverse talent to Aecon.
- + **Indigenous at Aecon** is educating employees about Canada's history of residential schools and their intergenerational impact on Indigenous Peoples. In September 2020, the ERG recognized Orange Shirt Day and the impact of residential school systems by delivering hundreds of orange shirts to employees.

- + **People of Colour at Aecon** is supporting Aecon leaders to better understand the negative bias that exists against marginalized groups. In November 2020, the ERG launched unconscious bias training for Aecon's Senior Management Team.
- + **Pride at Aecon** is celebrating LGBTQ+ employees and allies. In June 2020, the ERG delivered hundreds of Pride-themed flags and hardhat stickers for frontline workers to don on project sites in recognition of Pride Month.

- + **Women at Aecon** is empowering female employees by focusing on the experience of women in the workplace, especially during the COVID-19 pandemic.

In addition to the work done by the ERGs, the Champions for Women in Leadership Program was launched in October 2020. The sponsorship program offers women at Aecon access to Aecon Executive Committee members to help foster important career-building relationships and strengthen leadership skills.



Diversity and inclusion training is a key focus area for the D&I Council. Online training modules are accessible to all employees through Aecon University, including:

• **Indigenous Awareness**

To gain a greater understanding of the significance of the Indigenous Peoples' contributions to Canada and foster mutually beneficial engagement with Indigenous communities.

• **Diversity & Inclusion 101**

To provide a detailed overview of how employees can foster a more diverse, inclusive and equitable workplace at Aecon.

In addition to these online training modules, virtual instructor-led courses can be booked with the D&I team, including:

- Practicing Inclusive Leadership
- Gender in the Workplace
- Diversity of Thought
- Differently Abled



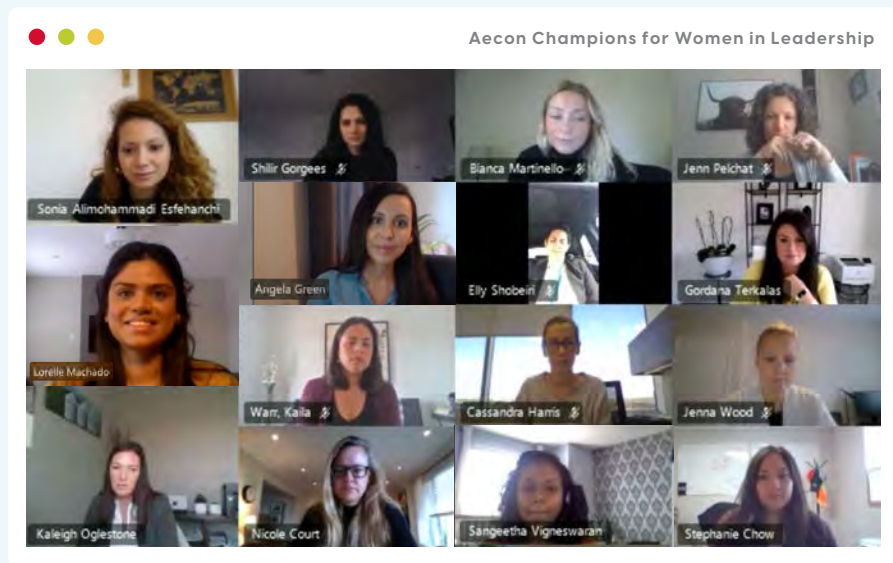
Many of the women who have joined our AWIT program have had little construction experience.

Some of our graduates have even shared that the program gave them courage to pursue a career in construction. To see them complete the training and join our Aecon team is extremely rewarding. It gives me confidence that we are on a positive journey towards making meaningful change in our industry."

- Jenna Wood, Senior Director, Human Resources







## D&I in Our Communities

**Aecon's D&I approach extends beyond internal initiatives. Creating a sustainable future for the under-represented communities in which we live and work, and educating other construction-based organizations about diversity and inclusion best practices, remains top of mind.**

### May 2020

Aecon partnered with the Toronto Community Benefits Network (TCBN) to support under-represented construction workers – including women, minorities and immigrants – who were laid off due to the COVID-19 pandemic. Aecon provided virtual training courses and financial support to workers enrolled in TCBN's pre-apprenticeship construction training program, NexGen Builders.

### July 2020 to October 2020

Patience discussed D&I best practices with various construction-based organizations in Canada: TCBN's The Black Experience in Canadian Construction panel discussion; a town hall and webinar hosted by the Organization of Canadian Nuclear Industries addressing Indigenous Recruitment, Employment and Retention and Anti-Black Racism and Hiring Practices.

### August 2020

The Aecon Women in Trades (AWIT) program welcomed its third cohort of graduates. The program was introduced by Jenna Wood, Senior Director of Human Resources, in 2019 and provides women with valuable, hands-on training and mentorship within Aecon's Utilities business.

### September 2020

Aecon committed \$75,000 to Indspire's Building Brighter Futures: Bursaries, Scholarships and Awards program. The program provides financial assistance to Indigenous students pursuing post-secondary education and ultimately aims to create long-term benefits for Indigenous families and communities across Canada by investing in education and employment.

As Aecon evolves its internal and external D&I initiatives, Patience says the organization will continue to take a hands-on approach to educating employees, clients and partners about the importance of diversity and inclusion in the workplace and in our communities. "We've made good progress," she says. "But getting us to where we want to be will take time and work. This is just the beginning and the future looks bright."

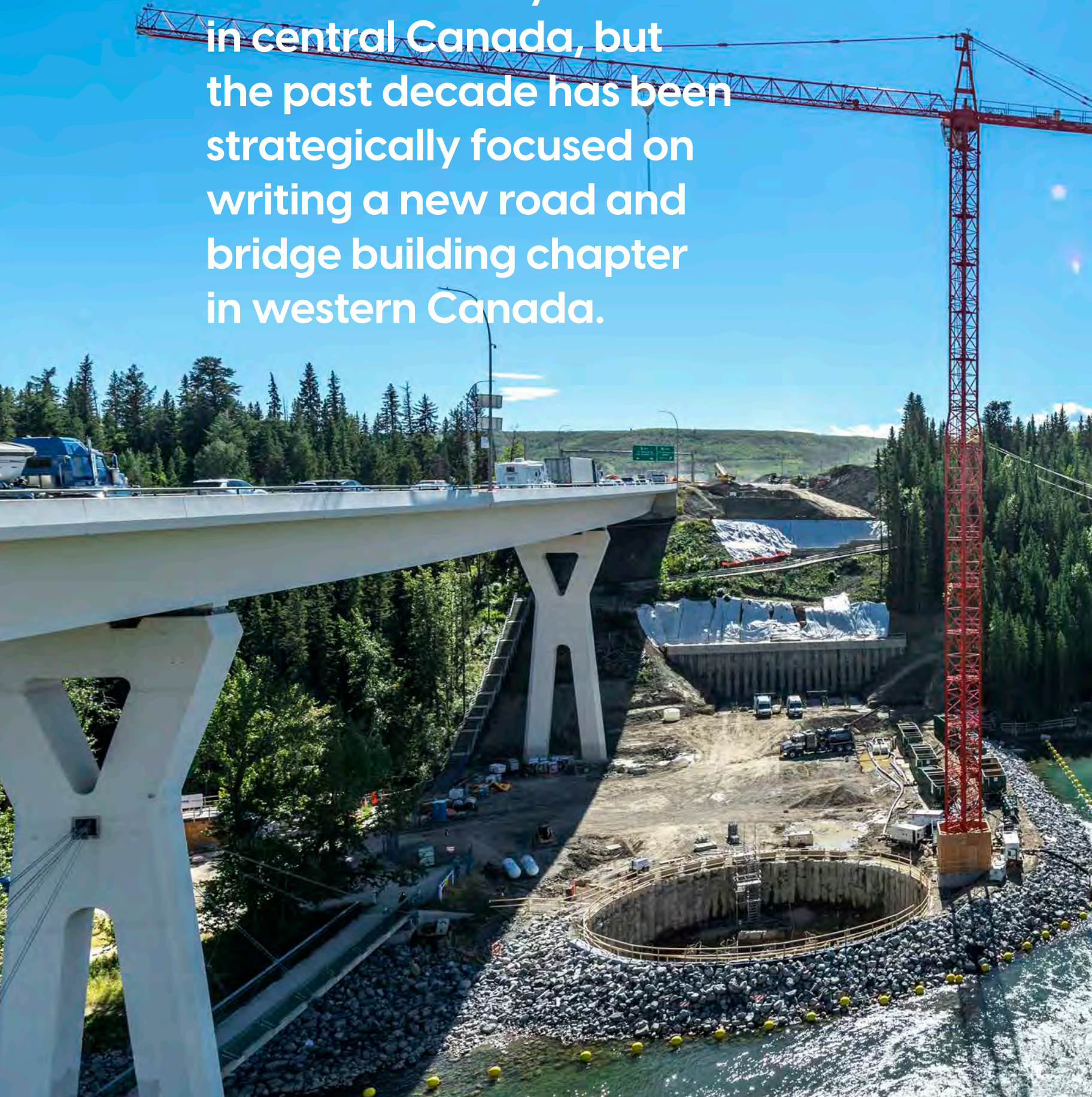
**DISCLAIMER:** These photos were taken prior to or in the early stages of COVID-19 and may not reflect the stringent health and safety protocols currently in place on all active Aecon site locations.



SPOTLIGHT ON:

## Roads & Bridges – Western Canada

The genesis of Aecon's reputation as a pre-eminent roadbuilder may be rooted in central Canada, but the past decade has been strategically focused on writing a new road and bridge building chapter in western Canada.





## ALBERTA

Aecon's western imprint on the road and bridge business begins with the acquisition of an Alberta-based paving contractor in 2009. From there, it slowly and steadily builds through the successful bidding and execution of road and bridge work across the province. Jobs include sections of the Stoney Trail Ring Road (Calgary), Northeast Anthony Henday Ring Road (Edmonton) and realignment and upgrades to the Trans-Canada Highway (Lake Louise), as well as significant highway and municipal paving contracts throughout Alberta and Saskatchewan.

It's been a decade of solid growth, with Aecon evolving from highway projects in southern Alberta and municipal roadworks in Medicine Hat to geographical expansion of highway projects throughout Alberta and into Saskatchewan. These projects are led by Larry McGregor (Vice President and General Manager, Civil West Transportation – Highways) out of Aecon's Medicine Hat facilities.

More recently, Aecon has expanded into the municipal road market in the city of Calgary. These projects are led by Aaron Vimy (Vice President, Civil West – Calgary) out of Aecon's facilities in southeast Calgary. The addition in 2019 of a new fixed asphalt plant in Calgary has helped the team secure several new projects in the city. From a provincial perspective, Aecon is now equipped with two fixed and three portable asphalt plants in Alberta and the ability to crush and produce its own aggregates for asphalt and road base materials. When added to the complementary capabilities of our other business offerings – foundations work, tunnelling, utilities, and more – Aecon has become far more vertically integrated in Alberta and Saskatchewan to better serve our western clients.

Aecon is currently a joint venture partner on two significant bridge projects in Alberta: Peace River Bridge Twinning Project in northern Alberta and Bow River Bridge Twinning Project in Calgary.

## BOW RIVER BRIDGE TWINNING

### CALGARY, ALBERTA

In 2019, Alberta Transportation awarded an \$89 million bid-build (BB) contract for the twinning of the Bow River Bridge to a 50/50 joint venture between Flatiron and Aecon, where Aecon is the lead partner. This project will provide a key link over the Bow River as part of the West Calgary Ring Road. Construction is slated for completion in late 2022.

### SCOPE OF WORK

- **A 470-metre long, five lane, cast-in-place segmental balanced cantilever bridge over the Bow River**
- **2.5 kilometres of shoulder widening and collector road construction along Stoney Trail**
- **A 50-metre, single lane, collector road bridge over Scenic Acres Link Drive**
- **A dry pond and associated drainage improvements**

The construction of the main bridge involves a relatively rare construction method that calls for casting superstructure segments in a balanced sequence over a central pier, with each segment being supported by a traveller formwork system that is launched out after each segment is cured and post-tensioned. Closure segments are then poured between each of the four piers and at the abutments for a complete roadway. Four tower cranes, installed on concrete foundations by the Aecon Foundations team, are being used to carry out the work.

**\$89M**  
Contract Value

**Late 2022**  
Scheduled Completion



**\$148M**  
Contract Value

**Fall 2020**  
Substantial Completion

## PEACE RIVER BRIDGE TWINNING

PEACE RIVER, ALBERTA

In 2018, Alberta Transportation awarded a \$148 million contract to the Flatiron-Aecon Joint Venture (FAJV) to construct a second Peace River Bridge structure and carry out the twinning of Highway 2, including 1.6 kilometres through the town of Peace River. By twinning the bridge, the community would be able to address emergency access requirements, ease congestion, and provide improved access to key resource industries in northern Alberta. The town sits approximately 500 kilometres northwest of Edmonton in a major agriculture and oil and gas producing region. The existing Peace River Bridge had become a high-traffic roadway, supporting more than 17,000 vehicles per day. The town's hospital is located on one side of the bridge, with schools and fire and police services on the other. The nearest alternate route to cross the river involved a 70-kilometre detour. For all these reasons, it was critical that the existing bridge remain open throughout construction of the new bridge.

Despite some extreme site challenges – including managing COVID-19 – the joint venture team successfully reached their project completion goals. “I am proud to say that we were able to keep all our people healthy and safe, with the project remaining on time and on budget,” notes Project Manager Shane McCarthy (who has since moved on to the Pattullo Bridge Replacement Project in British Columbia). “The collaboration with Alberta Transportation and our relationship with our JV partner really helped pave the way for a successful project. And the dedication of our entire team allowed us to overcome each challenge, from which we gained valuable experience that we can take to future projects.”



Working in northern climates comes with its challenges. The Peace River Bridge Twinning Project was no exception. The river flows high and fast where the bridge was being constructed, and the construction of a temporary berm to allow completion of key elements of the project served to further narrow the width of the river. This caused water levels to rise and the river to flow even faster. Although the river typically flows at an average rate of about 2,000 cubic metres

per second, the project team was challenged with flows of about 13,000 cubic metres per second during construction of the bridge. At one point, the river rose four metres in a 48-hour period. All this required careful management. A committee was formed with representation from Alberta Transportation, the Town of Peace River, Alberta Environment, BC Hydro, and Northwest Hydraulics (river hydraulic experts). The committee met daily to monitor the progress of the

ice front and water elevations, while the joint venture team was responsible for assessing the site's temporary berm for stability and erosion, as well as the sheet piles and cofferdams. Mitigation strategies were developed throughout the duration of the project to manage water levels and risks. At one point, one of the cofferdams had to be intentionally flooded and was removed using specialized divers. Temperatures outside were -50 °C.





## PROJECT HIGHLIGHTS

### SCOPE OF WORK

- Construction of a new bridge structure using girder launching techniques
- Twinning of 1.6 kilometres of Highway 2 through Peace River
- Highway 2 interchange improvements at 98 Street and Highway 684 (Shaftesbury)
- 98 Street upgrades with new traffic circles
- A new pedestrian walkway underneath the new bridge

### Embankment Construction

The project required over one million cubic metres of embankment construction. Much of the required embankment fill was not available on site and had to be transported in through town from a “borrow” pit about 4.5 kilometres east of town. Through collaboration with the owner, the joint venture team was able to present a value engineering proposal that translated into cost savings and reduced 10,000 truck movements through the town.

### River Piers

In-river piers were constructed by installing an earthen access berm 16 metres high, utilizing 110,000 cubic metres of impermeable high plastic clay and blast rock. A staggering 35,000 metric tonnes of blast rock required for the project had to be sourced from Caroline, Alberta, and transported by truck to Peace River. Each round trip took 12 hours. All drilled shaft construction was performed by Aecon Foundations.

### Cofferdams

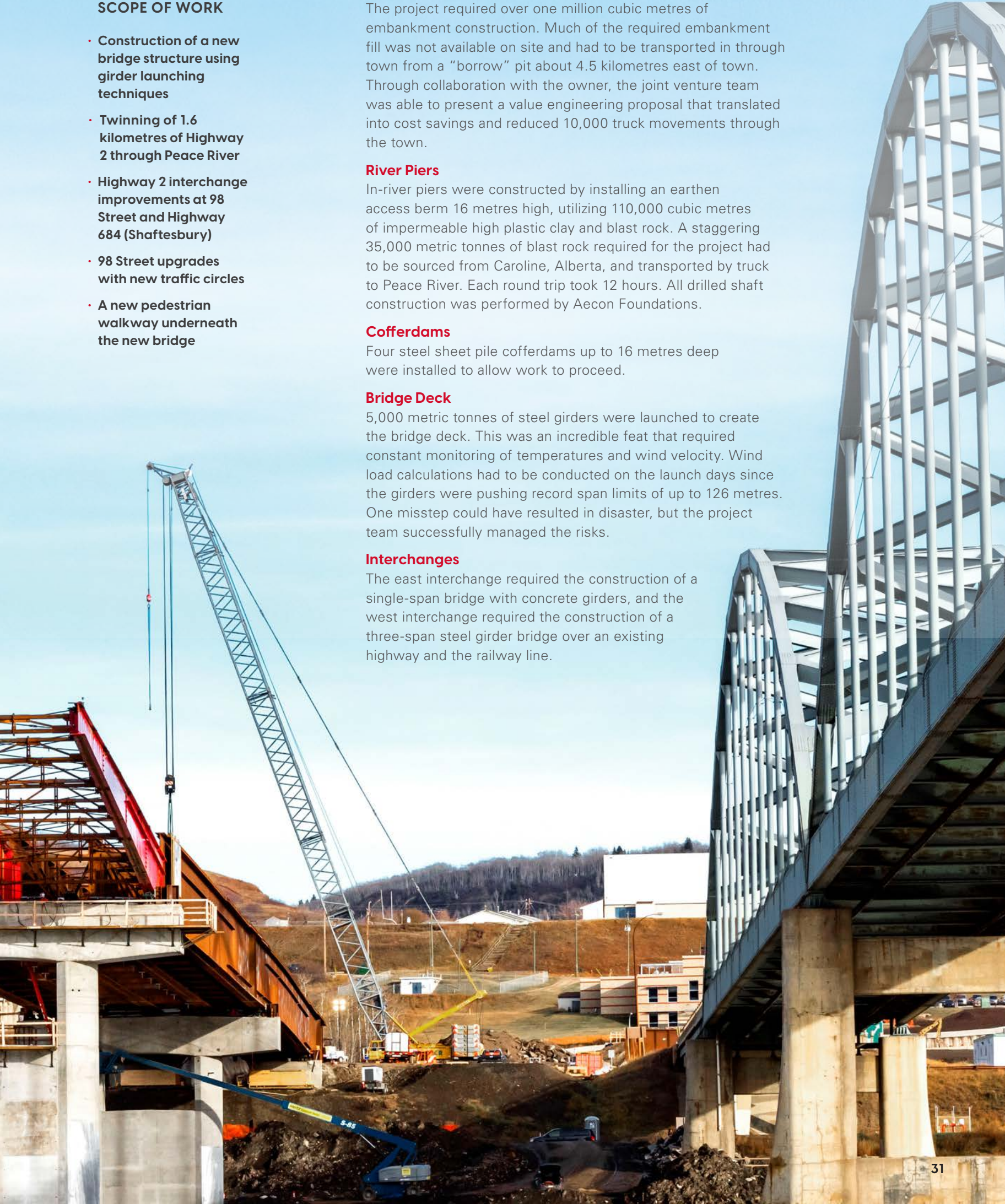
Four steel sheet pile cofferdams up to 16 metres deep were installed to allow work to proceed.

### Bridge Deck

5,000 metric tonnes of steel girders were launched to create the bridge deck. This was an incredible feat that required constant monitoring of temperatures and wind velocity. Wind load calculations had to be conducted on the launch days since the girders were pushing record span limits of up to 126 metres. One misstep could have resulted in disaster, but the project team successfully managed the risks.

### Interchanges

The east interchange required the construction of a single-span bridge with concrete girders, and the west interchange required the construction of a three-span steel girder bridge over an existing highway and the railway line.





## BRITISH COLUMBIA

**Aecon's road and bridge business expanded into British Columbia in 2020 in a big way. Three new project awards capped off the efforts of all who have been committed to building our business in western Canada.**

### Highway 91/17 and Deltaport Way Upgrade Project Delta, British Columbia

A major contract and part of the wider Highway 91/17 and Deltaport Way upgrades. Aecon is a consortium partner on the project with Ledcor and BEL Contracting.

### Pattullo Bridge Replacement Project New Westminster and Surrey, British Columbia

Perhaps Aecon's largest and most significant undertaking in 2020, this new signature cable-stayed bridge over the Fraser River is a key connection between the cities of Surrey and New Westminster and is being undertaken by Aecon in a joint venture partnership with Acciona.

### Kicking Horse Canyon Project - Phase 4 Golden, British Columbia

This final stage of roadbuilding construction will modernize 4.8 kilometres of highway in a challenging mountain pass near the Alberta border. Aecon is part of a consortium with Parsons and Emil Anderson Construction.

Aecon is also targeting strategic growth in the U.S. Pacific Northwest market. With an office in Lynnwood, Washington, Aecon is poised to secure new work in the state of Washington. Since Washington State Department of Transportation (DOT) utilizes alternate financing procurement as one of its delivery models, Aecon is optimistic that our expertise and track record in this area will help us get shortlisted on these infrastructure projects. That, and the proximity of our Major Projects headquarters in Vancouver – led by Blair Brandon (Senior Vice President, Civil West – Major Projects) – makes the Pacific Northwest a significant opportunity market for Aecon.

### HIGHWAY 91/17 AND DELTAPORT WAY UPGRADE PROJECT DELTA, BRITISH COLUMBIA

#### Burns Bog

The work by Aecon and its joint venture partners on the Highway 91/17 and Deltaport Way Upgrade Project is being carried out with the greatest consideration for its natural surroundings, given the project's proximity to Burns Bog, an iconic landmark in Delta, British Columbia. At 3,000 hectares, Burns Bog is the largest undeveloped urban landmass in North America and covers large sections of the Fraser River delta between the south arm of the Fraser River and Boundary Bay. The bog is characterized as a wetland, making it a desirable home for plants and animals who are accustomed to living in or near water. Approximately 14 plant communities, 175 bird species and nearly 60 animal species, including mammals, amphibians, reptiles and invertebrates, currently live in the ecosystem.







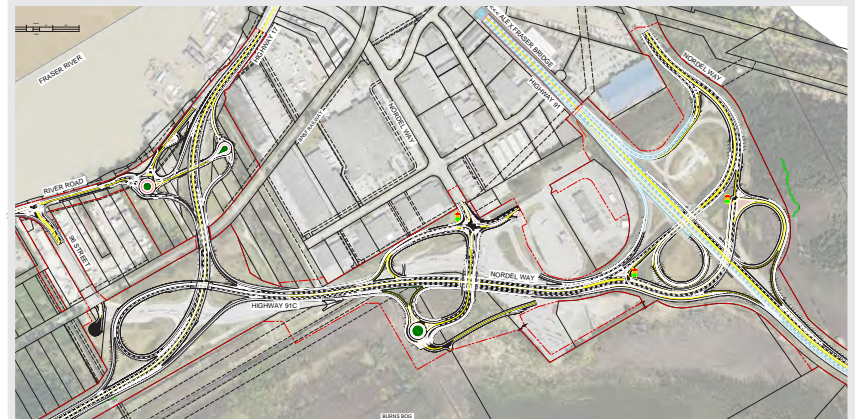
**\$185M**  
Contract Value

**2023**  
Scheduled  
Completion

## HIGHWAY 91/17 AND DELTAPORT WAY UPGRADE PROJECT

DELTA, BRITISH COLUMBIA

**In December 2019, the Province of British Columbia awarded a contract to Pacific Gateway Constructors, a consortium comprised of Leducor (40 per cent), Aecon (35 per cent) and BEL Contracting (25 per cent), for the Highway 91/17 and Deltaport Way Upgrade Project in the community of Delta, south of Vancouver.**



The project involves upgrading an existing interchange and constructing three new interchanges in a critical transportation corridor in Metro Vancouver. Upon completion in 2023, it is expected the project will improve travel safety, reliability and efficiency for commercial vehicles and the public.

### Project Update

Construction-related activities for the Highway 91/17 and Deltaport Way Upgrade Project began in spring 2020. Activities include geotechnical investigations, site clearing, excavation, and underground utilities relocation. Other activities include ground improvements, such as fill placement, embankment construction and the installation of stone columns and piles in the project area.

By late summer 2020, site clearing had commenced and initial detours were established. The preloading of soil followed with the placement of 600,000 cubic metres of pre-load and embankment work.

Bridge girder and stringer fabrication began last fall and utility relocations are under way. Wildlife protection and archaeological investigation is ongoing.

### Constructability

The project team's goal is to carry out safe and efficient construction activities while accommodating a high volume of people and goods moving through the area. The strategy calls for the

construction of most new alignments – roads, ramps, and bridges – to take place outside of active traffic lanes, thus minimizing traffic interruptions. Once the new alignments are built, the team detours traffic onto the new alignments and then modifies the existing highway footprint as required by the design of the overall project. All temporary tie-ins, roads, and ramps are then removed once no longer needed.

### Traffic Management

Where feasible, construction activities take place during the day; however, to ensure the safety of the travelling public, some work is required to take place at night when traffic volumes are lower. The project team has developed a detailed traffic management plan to safely and effectively minimize the impact of its activities on both commercial and commuter traffic.

### Connecting to Nature

Recognizing the job site's proximity to Burns Bog (see Burns Bog) and the Delta Nature Reserve, the project team prioritized an important boardwalk realignment to secure continued access for area residents to these beloved community landmarks.

The team subcontracted Give Back Contracting Limited and Kwikwetlem First Nation Enterprise to rebuild and raise approximately 170 metres of the western outer boardwalk loop. The realigned boardwalk also offers four

new viewing platforms for visitors to get a closer look at the historic Burns Bog. From a project perspective, the completed work made room for the new vehicle ramp that connects Highway 91 and the Nordel Way Interchange (see Scope of Work).

### SCOPE OF WORK

#### Highway 91/Nordel Way Interchange

- Upgrade ramps to/from Delta, BC
- Improve acceleration and deceleration lanes
- Additional through-lanes for Nordel Way traffic crossing over Highway 91

#### Highway 91C/Weigh Scale and Highway 91C/Highway 17 Interchanges

- Improve the flow of traffic by replacing signalized intersections with new interchanges
- Improve access to/from the Nordel Way commercial vehicle inspection station and truck parking area

#### Highway 17/River Road Interchange

- Improve the connection to/from River Road
- Replacement of existing signalized intersection to eliminate the need for an at-grade rail crossing to access the highway





## PATTULLO BRIDGE REPLACEMENT PROJECT

NEW WESTMINSTER AND SURREY, BRITISH COLUMBIA

**In February 2020, the Province of British Columbia/ Transportation Investment Corporation (TI Corp) awarded a \$968 million design-build (DB) and partial financing contract to Fraser Crossing Partners (FCP) to replace the existing Pattullo Bridge with a new, modern bridge. FCP is the management arm that interfaces with the province, while the Fraser Crossing Constructors General Partnership (FCCGP) is the design-build (DB) joint venture entity. FCCGP is a 50/50 joint venture between Aecon and Acciona.**

The existing Pattullo Bridge was built in 1937 and serves as a critical transportation link over the Fraser River between the communities of New Westminster and Surrey. Given its age, however, it no longer meets modern design standards and is at risk in the event of a moderate earthquake or ship collision. The current piers are at risk of being undermined by river scour and many bridge components have surpassed their expected lifespan.

The new four-lane bridge (with provisions for potential future expansion to six lanes) will be designed to today's earthquake standards and carry some substantial new features:

- A safer crossing for all bridge users with modern, wider lanes, separated by a centre median barrier
- Dedicated walking and cycling paths, separated from traffic by a barrier on both sides of the bridge
- Better connections to, from and near the bridge

The existing bridge will remain in use until the new bridge is open to traffic in late 2023. Once the new bridge opens, the existing bridge will be removed. That work is scheduled for completion in 2025.

Following project award, the joint venture team initiated the early stages of design, mobilization, archaeological investigation, permitting, and underground utility locating. Preliminary construction works stabilized the existing embankment in preparation of test piling and installation of the static load frame. In early 2021, main bridge substructure works will begin.







**\$968M**  
Contract Value

**2025**  
Scheduled  
Completion

### Design

The new bridge design includes a cable-stayed bridge with a single tower measuring 170 metres tall. It will feature two in-river piers, which is four less than the current bridge. The new design reduces in-river construction activity, which means fewer impacts on aquatic habitat and easier river navigation. The new design also accommodates the city of New Westminster's future waterfront greenway and includes habitat development and site restoration in Surrey.

### Environmental Considerations

The Fraser River is British Columbia's longest flowing river. It begins in the Rocky Mountains and flows for 1,375 kilometres into the Strait of Georgia at the city of Vancouver. It's also the 11th longest river in Canada and discharges 20 million tons of sediment into the ocean annually.

The project is required to meet a number of requirements related to in-river construction activities. These are set out in the Environmental Assessment Certificate, Vancouver Fraser Port Authority Project and Environmental Review Permit, and Transport Canada and Fisheries and Oceans Canada permits, among others.

Considerations for instream works include:

- Fish and fish habitat
- Fisheries
- Indigenous use
- Marine users
- River hydraulics



The Pattullo Bridge Replacement Project is being delivered under the Province of British Columbia's Community Benefits Agreement (CBA). B.C. Infrastructure Benefits (BCIB) is responsible for implementing the CBA for the project and will be the employer for workers on the project. The CBA prioritizes hiring of locals, Indigenous Peoples, women, people with disabilities and other under-represented groups, and enables a culturally competent and respectful worksite. This is in direct alignment with Aecon's goals for diversity on all our projects. The project will grow and mobilize a safe, diverse and skilled workforce and increase opportunities for apprenticeships.





## KICKING HORSE CANYON PROJECT – PHASE 4

KICKING HORSE PASS – GOLDEN, BRITISH COLUMBIA

**\$441M**

Contract Value

**2024**

Scheduled Completion

**In the fall of 2020, the Province of British Columbia awarded a design-build (DB) contract to the Aecon-led Kicking Horse Canyon Constructors consortium, consisting of Aecon, Parsons, and Emil Anderson Construction.**

The project represents the final – and most challenging – leg of the four-phase Kicking Horse Canyon Project, which was launched in 2003 to improve safety and mobility over 26 kilometres of narrow, winding two-lane Trans-Canada Highway near the Alberta border. The road is subject to rockslides, debris torrents and avalanches, with a collision rate more than three times the provincial average.





“

**This is one of the most difficult and challenging sections of the Trans-Canada Highway, but we have Aecon team members – like Blair Brandon (Senior Vice President, Civil West – Major Projects) – with an extensive history of working in the canyon. And since this is such an iconic project, there has been significant interest from those working in the industry to be a part of it.”**

- **Michael Derksen**, Senior Vice President and Executive Lead, Civil West

"This is one of the most difficult and challenging sections of the Trans-Canada Highway," notes Michael Derksen (Senior Vice President and Executive Lead, Civil West) of the Kicking Horse Canyon Project. "But we have Aecon team

Given the difficult terrain and seasonal parameters on the project, the team spent the end of 2020 focused on detailed project planning, preparation and logistics, with work officially set to begin in spring 2021.



**SPOTLIGHT ON:**

## **Roads & Bridges – Ontario**

**Our bedrock  
roadbuilding  
business in  
central Canada  
continues to  
pave the way.**

Road and bridge works have long been a staple for Aecon. We've been building major roadways since our predecessor days in Ontario, with landmark projects like the province's Highway 401, Toronto's Gardiner Expressway and the Highway 407 Express Toll Route (ETR) – the first Public-Private Partnership (P3) project in Canada and first electronic toll highway in North America.

In the years since, Aecon has continued to build out roads and bridges in every corner of the province. And it's a testament to our legacy and expertise that we're still on the road decades later, when those landmark projects are in need of major rehabilitation or urban-induced expansion.

**\$640M**  
Contract Value

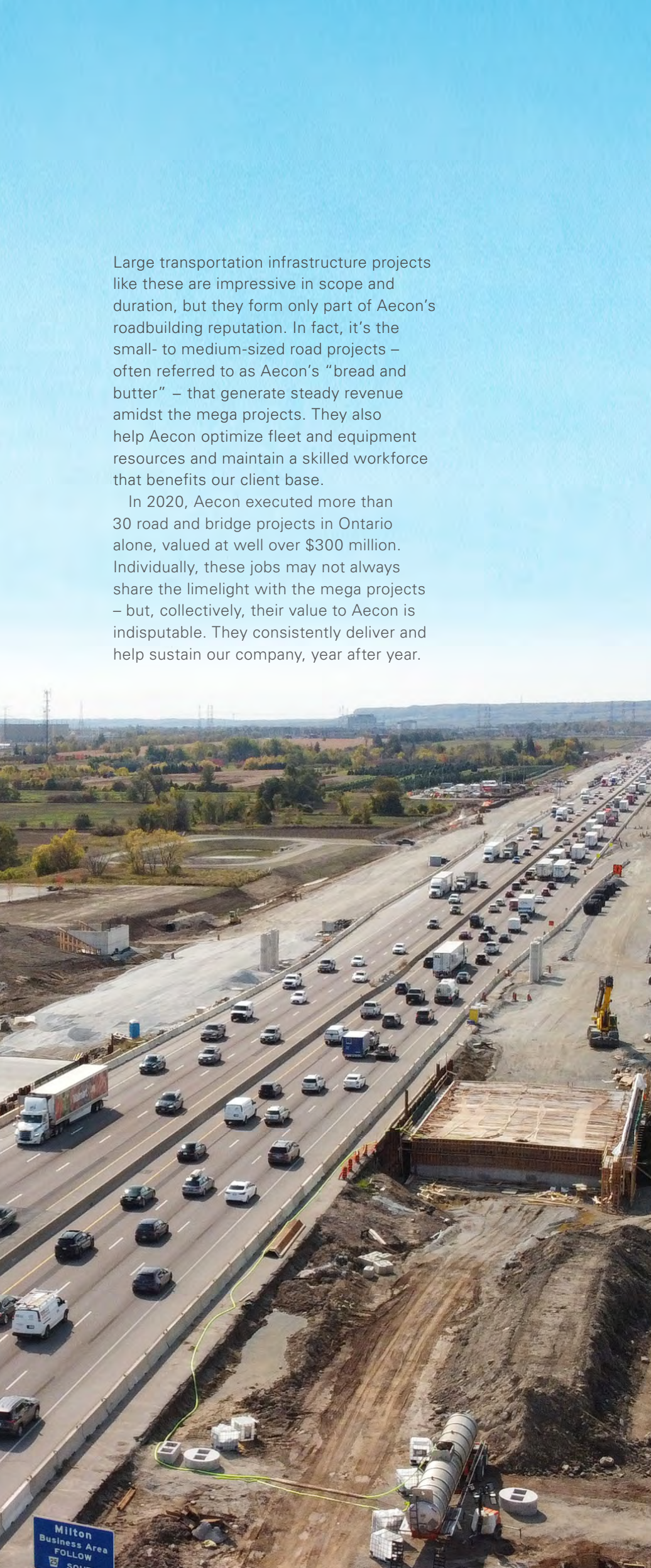
**2022**  
Scheduled Completion

**HIGHWAY 401 EXPANSION PROJECT  
MISSISSAUGA TO MILTON**

  
**West Corridor**  
Constructors







Large transportation infrastructure projects like these are impressive in scope and duration, but they form only part of Aecon's roadbuilding reputation. In fact, it's the small- to medium-sized road projects – often referred to as Aecon's "bread and butter" – that generate steady revenue amidst the mega projects. They also help Aecon optimize fleet and equipment resources and maintain a skilled workforce that benefits our client base.

In 2020, Aecon executed more than 30 road and bridge projects in Ontario alone, valued at well over \$300 million. Individually, these jobs may not always share the limelight with the mega projects – but, collectively, their value to Aecon is indisputable. They consistently deliver and help sustain our company, year after year.

## HIGHWAY 401 EXPANSION PROJECT

MISSISSAUGA TO MILTON, ONTARIO

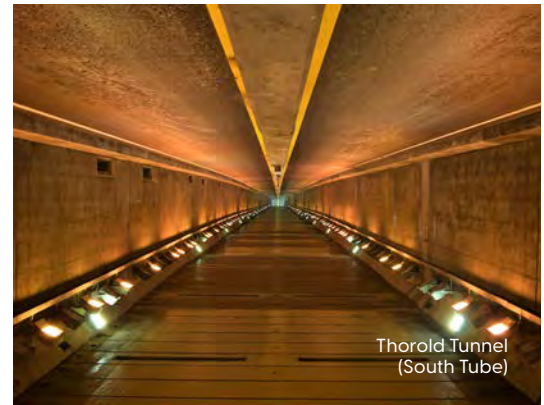
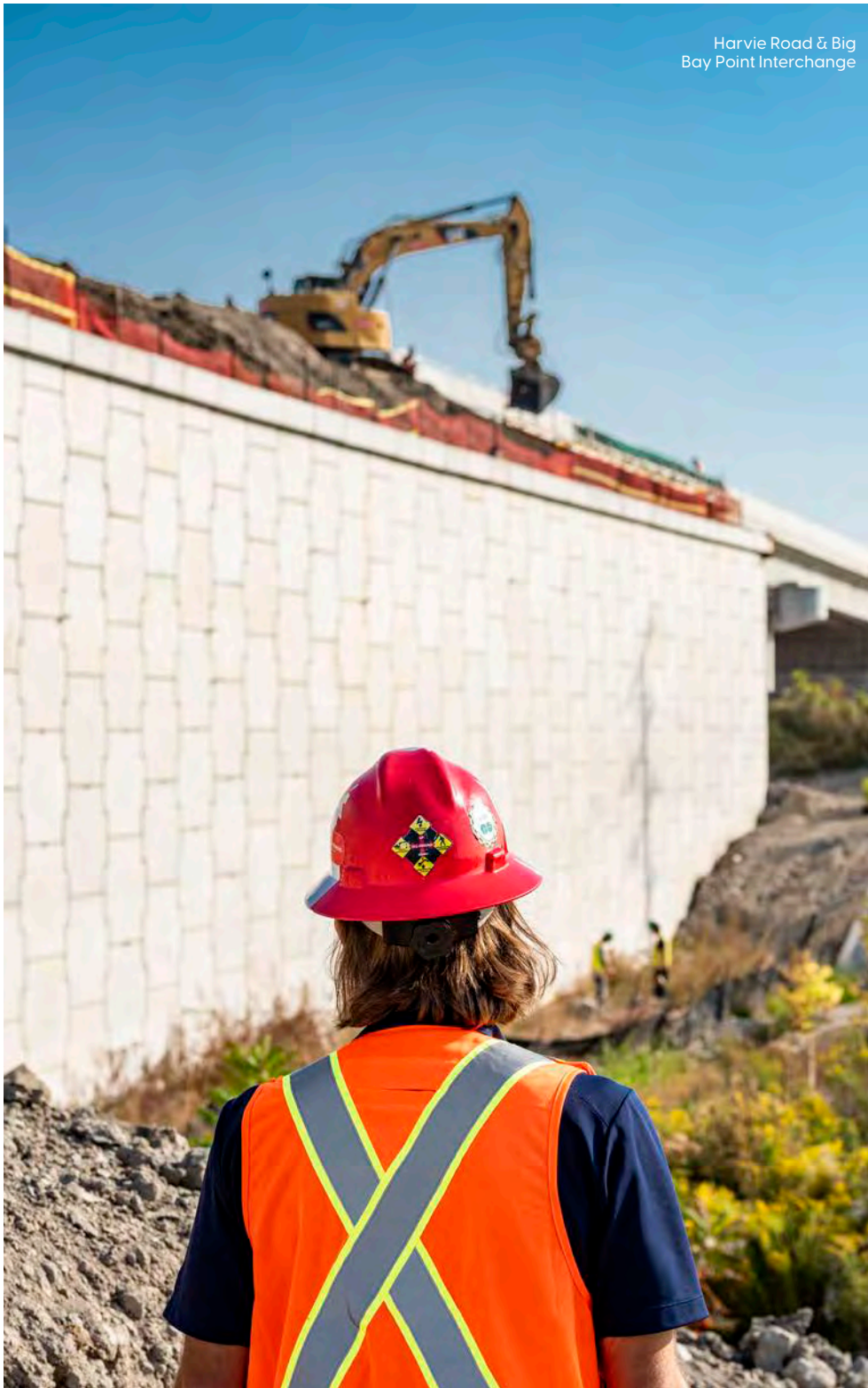
Over the years, Aecon has worked on building or rehabilitating several segments of southern Ontario's Highway 401, which stretches from Windsor in the west to the Québec border in the east. By far the largest recent project is the GTA's Highway 401 Expansion Project – Mississauga to Milton. By all accounts, it's a mega project.

Aecon's Civil East group is well underway on this \$640 million design-build-finance (DBF) project being carried out by West Corridor Constructors, a joint venture between Aecon, Parsons, and Amico. The project started in late 2019 and is scheduled for completion in 2022. This complex 18-kilometre reconstruction and widening of Highway 401 west of Toronto calls for:

- **12 lane core-collector system:** from the Credit River to Winston Churchill Boulevard
- **10 lanes:** Winston Churchill Boulevard to Highway 407 ETR/Highway 401 interchange
- **12 lane core-collector system:** from Highway 407 ETR/Highway 401 interchange to east of the James Snow Parkway
- **10 lanes:** James Snow Parkway to west of Regional Road 25 median HOV lanes
- **Support facilities and features:** drainage, lighting, signage, ATMS, and carpool lot

**In 2020, West Corridor Constructors focused on building the expanded lanes, including earthworks, drainage, grading, electrical/ITS, barriers and base asphalt. The team also placed emphasis on the replacement/widening of the existing structures with significant progress on nine bridges. Looking ahead, the team will be completing more structures work in 2021, as well as the new lanes to facilitate the traffic flip to Stage Two, which involves reconstructing the existing 401 lanes and constructing new HOV lanes.**





## Recent Roadwork

Aecon's Civil East/Transportation East group carried out a substantial list of medium sized Ontario roads, bridges and interchanges for municipal and provincial clients in 2020:

- + Bay of Quinte Skyway Bridge Rehabilitation (Hwy 49) | \$63M
- + Eel's Creek Bridge Construction (Hwy 28) | \$19M
- + Thorold Tunnel Construction (Hwy 58) | \$16M
- + Harvie Road & Big Bay Point Interchange (Barrie) | \$46M
- + Major MacKenzie Drive Reconstruction and Widening (North Toronto) | \$36M
- + Highway 11 Improvements (Matheson) | \$18M
- + Highway 11 Improvements (Gravenhurst) | \$14M
- + Highway 17 Improvements (Massey) | \$19M



**35+ years**  
Construction Experience

**72 m**  
Depth Capacity

**600-3,100 mm**  
Diameter Drill Shafts

# AECON FOUNDATIONS

The ability to directly manage geotechnical risk on projects is a valuable – and often critical – element to a project's overall success. It starts at the front end of project development through the generation of accurate, reliable and risk-informed cost estimates, and by offering exclusive value engineering alternatives to develop bid-winning strategies.

The Foundations team has built a solid reputation in the Canadian construction market and is now being sought out by third-party companies for their specialty, skills and equipment.

And for good reason.

The Aecon Foundations heavy and specialty equipment fleet is one of the newest and largest in Canada, featuring state-of-the-art, purpose-built pile driving rigs equipped with advanced monitoring, planning and reporting systems, and pile drilling machines equipped with down-hole monitoring instrumentation for pile verticality accuracy.

**Based out of Calgary, Alberta, Aecon Foundations is a specialty group that takes its 35 years of industry experience on the road, supporting all Aecon businesses and clients nationally. The team has an impressive pedigree and has become an industry leader in foundations work. In the last few years, they've:**

- Drilled more than 2,400 piles on the K+S Potash Plant in Saskatchewan
- Worked on major LRT projects like Montréal's REM and Toronto's Eglinton and Finch West
- Carried out drilling work on bridges across the company, including work on Alberta's Bow River Bridge Twinning and Peace River Bridge Twinning projects
- Continued to perform large-scale pile installations for industrial complexes
- Taken on several specialty projects, such as deep geotechnical test shafts and large diameter slope stabilization pile walls





# A ONCE-IN-A-GENERATION PROJECT

Easing traffic at Canada's busiest commercial land border crossing

Gordie Howe International Bridge from the Canadian side in Windsor, Ontario, looking towards Detroit, Michigan.

## Border Crossing Facts & Figures



**Canada and the U.S. are among the world's largest trading partners.**



**6,000 commuters cross daily.**



**Canada buys more goods and services from the U.S. than any other country in the world. The two countries exchange approximately \$1.4 million in goods and services every minute.**



**The Windsor-Detroit border crossing is the busiest commercial land border between Canada and the U.S., handling 25 per cent of all surface trade between the two countries.**



**\$5.7B**  
Contract Value

**74 months**  
Construction Period

**30 years**  
Operation Period

**2,500**  
Jobs Forecast



## THE GORDIE HOWE INTERNATIONAL BRIDGE PROJECT

**Much like the CN Tower project was for our company in the 1970s, the Gordie Howe International Bridge project is considered a "once-in-a-generation" project for Aecon due to its scope and, in this case, bilateral partnership structure. Once built, the Windsor-Detroit land crossing, connecting Canada and the U.S. over the Detroit River, will be the longest cable-stayed bridge in North America by main span, and one of the largest bridges in the world.**

Aecon holds a 20 per cent interest in the Bridging North America General Partnership (BNA) consortium, also comprised of ACS Infrastructure

Canada Inc. and Fluor Canada Ltd.

Valued at \$5.7 billion (nominal value), the Public-Private Partnership (P3) design, build, finance, operate and maintain (DBFOM) contract includes both a design-build (DB) phase and a 30-year operate-maintain-rehabilitate (OMR) phase.

The Gordie Howe International Bridge will be the first new major trade link between Canada and the U.S. in four decades. In addition to enhancing crossing capacity to meet increased long-term international trade and travel demand, the new bridge and Ports of Entry (POE) will be a catalyst for economic stimulus on both sides of the border.

**2.5 km**  
cable-stayed  
bridge

**1 Port of**  
Entry (POE)  
on each side

**6 lanes**

**2 approach**  
bridges

### SCOPE OF WORK

- 1 A 2.5-kilometre (853-metre main span) cable-stayed bridge with six lanes (three Canada-bound and three U.S.-bound) and two approach bridges
- 2 A 130-acre Canadian Port of Entry (POE)  
The largest Canadian port along the Canada-U.S. border – with toll collection facilities for both U.S. and Canada-bound traffic
- 3 A 148-acre U.S. Port of Entry (POE)  
Both ports of entry will include outbound inspection facilities, commercial exit control booths and parking
- 4 Completion of the Michigan Interstate-75 (I-75) interchange in Detroit
- 5 Full lifecycle maintenance and rehabilitation of the project assets, including the cable-stayed bridge and Ports of Entry (POE), security systems, drainage, traffic signs and signals, and landscaping work





Several large-scale murals can be seen on the Canadian and American bridge sites' tower crane climbing systems. The murals were commissioned by local artists Paul White, Teresa Altman and Daisy White of the Walpole Island First Nation, Naomi Peters of the Caldwell First Nation and Roberto Villalobos of Southwest Detroit as part of the project's Community Benefits Plan and commitment to creating opportunity for local community members.

## Project Development and Financing

### Aecon Concessions

Long before the Bridging North America (BNA) consortium was awarded the Gordie Howe International Bridge project, Aecon Concessions and its operational counterpart, Aecon Civil East, embarked on a long, complex development process. As is typical for a project of this size and complexity, they first thoroughly analyzed the local and international construction markets to determine the most suitable consortium members to partner with on this project, given its unique requirements. Our Concessions team managed and rigorously negotiated the underlying key terms for bidding and execution amongst the chosen partners. In this role, it's critical to reach consensus at the onset regarding such foundational concepts as cultural values and policy development to ensure that Aecon's long-term interests and positions are protected, maintained and improved over the life of the project.

Once team decisions and the underlying negotiated "rules of the game" were determined, a detailed bidding process to collaboratively decide on the winning design got under way, taking into account long-term lifecycle implications, as well as the winning maintenance procedures and cycles, all coupled with an aggressive financing and investment structure.

Throughout the bidding process, Aecon Concessions and its project partners led the overall proposal development activities, timelines and deliverables, internally with its two main counterparts (the Design-Build Joint Venture and the Operations and Maintenance Joint Venture) and externally with the Windsor-Detroit Bridge Authority (WDBA), the authority charged to procure and deliver the project. Championing the overall project agreement negotiations vis-à-vis the WDBA, as well as the drop-down

subcontracts with the Design-Build Joint Venture and the Operations and Maintenance Joint Venture, Aecon overcame some unique development challenges to allow for a successful bid and closing. Government budget and affordability was one of the challenges and required innovative bidding mechanics, discussions and scope alternatives to allow the WDBA and the consortium to eventually create an agreed equilibrium of cost effectiveness.

P3 project costs during construction are approximately \$3.8 billion, while phase two operating, maintenance and rehabilitation costs are \$1.9 billion. The Gordie Howe International Bridge project represents \$3.3 billion in public capital investment by the Government of Canada and \$575 million in private financing by the Bridging North America General Partnership.



2019

## Gold Award



**The Gordie Howe International Bridge project was recognized with the Gold Award for Project Financing at the 2019 National Awards for Innovation and Excellence in Public-Private Partnerships, presented by the Canadian Council for Public-Private Partnerships.**



**This is a landmark project for Aecon and its partners – not only in terms of the complexity around its financing structure, but also in terms of the economic and shared impacts of what we’re building. It’s a literal reflection of how Aecon connects communities – in this case, countries – and plays a significant role in helping to generate mutually beneficial outcomes, from local business generation to economic sustainability.”**

**- Steve Nackan, Executive Vice President and President, Aecon Concessions**



The Gordie Howe International Bridge is a landmark P3 project for both Canada and the U.S. Its binational scope and structure set it apart from other P3 transactions in almost every way. In addition to involving one of the largest recent private financings of a P3 in Canada, the project represents one of the most complex and unique financial security packages to lenders. It is the first Canadian P3 to use a non-traditional foreign exchange risk framework to balance fluctuating currency prices, setting a precedent for future cross-border transactions.

### Two Nations Connected

The creative solutions required for the treatment of the foreign exchange risk, the complex tax structure, the need for flexibility to adapt to international trade agreement negotiations, and the risk allocation tailored to the needs of each country are unique in the industry.

Given the size of the project, the number of stakeholders involved and the multiple cross-border issues, significant collaboration was required to bring this project to market. From a binational perspective, considerations included:

- Ensuring adherence to different country codes, regulations and standards
- Managing a workforce and stakeholders on both sides of the border
- Coordinating project financing in two currencies
- Navigating the complex tax structures of two countries

### Design Facts & Figures



**Bridge tower shape to reflect the curvature of a hockey stick in a slapshot**



**6 traffic lanes**  
(3 U.S.-bound/3 Canada-bound)



**1 multi-use path**



**Canadian Port of Entry (POE):**  
**24 inspection booths & 16 toll booths**

**U.S. Port of Entry (POE):**  
**36 inspection booths**





## SUSTAINABILITY: A GUIDING PRINCIPLE

**BNA is placing significant emphasis on green building construction processes, materials, systems, and technology. This approach is expected to improve building performance by significantly reducing energy consumption, increasing facility flexibility, and improving user comfort and satisfaction.**

The Canadian and U.S. Port of Entry (POE) facilities are designed to meet LEED (Leadership in Energy and Environmental Design) v4 Silver rating. LEED is the most widely used green building rating system in the world.

### Going Green

Along with LEED building construction, the project will deploy:

- LED lighting in all buildings and exteriors, resulting in a 30 per cent energy cost savings
- Port of Entry (POE) facilities that maximize natural light to reduce energy consumption
- Trees and shrubs to enhance aesthetics and create a green buffer
- A vegetated “green roof” on select buildings
- Drought-resistant Carolinian forest native vegetation to limit irrigation and save water

- Low-flush toilets to significantly reduce water consumption
- Water management systems to reduce water consumption by 25 per cent

### Maintaining Biodiversity

Every possible initiative has been undertaken on the project to ensure and maintain biodiversity during and after construction, and to protect wildlife and species at risk (SARs). Some of these initiatives include:

- Installation of a peregrine falcon box on the bridge to facilitate nesting
- 4.5 kilometres of exclusion fence to protect SAR snakes
- Three new snake hibernacula (winter quarters for hibernation)
- Two naturalized stormwater management ponds with native prairie and aquatic plants
- 2,600 SAR plants and seeds collected from 12 different prairie plant species
- Bridge lighting designed to minimize light spill and effect on migratory birds

### Bike & Hike

The community lanes on the bridge will promote ecotourism, encourage active transportation and help reduce carbon footprint. The project’s Community Benefits Plan will invest in and build cycling trails on both sides of the border. The trails will connect to the bridge’s Canadian and American Ports of Entry (POE).



## INNOVATION

### Bridge Construction

Any time you incorporate exceptional architectural design into a project, there are bound to be construction hurdles that require innovation to tackle. The same can be said for focused sustainability and environmental considerations.

A great example of this is the actual bridge construction. On this project, the bridge foundations and piles are being installed on the riverbank, not in the water. This eliminates the need for in-water works, which diminishes contamination risk, avoids disruption to river traffic, and ultimately produces a signature bridge design.

### Site Drainage

The Port of Entry (POE) on both sides of the border also posed challenges for the project team when it came to draining the site in preparation for building and other construction activities.

The Canadian Port of Entry (POE) will feature buildings, canopies, roadways, parking lots, and bridge ramps. Under natural conditions, it could take 10 to 20 years for the underlying soils to consolidate into enough of a solid base to support construction and the planned structures. But the installation of 133,000 wick drains, along with 1.3 million metric tons (92,800 truckloads) of engineered fill and surcharge material on top them, will allow construction to start in as little as six months.

## ENVIRONMENTAL CONSIDERATIONS

The Canadian Port of Entry (POE) is located directly beside Black Oak Heritage Park, one of the most endangered habitats in Canada. It's also one of five natural areas that make up the Ojibway Prairie Complex. Along with rare, old-growth trees – some 150 to 200 years old – the park is home to tallgrass prairie, rare native Canadian plants, butterflies, and nesting birds. It's a fragile setting and one of hundreds of environmental protection considerations the BNA project team must mitigate and monitor over all phases of construction.

The project underwent four years of intensive environmental studies prior to procurement and required approvals from the Canadian and U.S. governments, as well as provincial and state jurisdictions, before it could proceed.



**Wick drains are manmade vertical drainage paths. These wick drains are installed in a grid pattern 1.5 metres apart and to a depth of 20 metres. A specialized piece of equipment called a "stitcher" is used to install the drains by hydraulically pushing the wick drains into the ground.**

Wicking Drains –  
Canadian Port of Entry (POE)

### Ports of Entry (POE)

With final wick drain installations completed or nearing completion at both the Canadian and U.S. Port of Entry (POE) sites, progress continues on earthworks and site preparation to advance ground settlement prior to building construction. Following the ground stabilization period, crews will begin excavation and placement of concrete foundations and slabs, followed by structural steel building frames.

### Bridge

As 2020 came to an end, essential test shaft work for the bridge footings had been completed and construction of the tower foundations for the main bridge were under way on both the Canadian and U.S. bridge sites, with the initial concrete pours completed. Two massive tower cranes have been installed at both the Canadian and U.S. sites to aid in the construction of the two 220-metre towers.

The foundation for each tower is composed of a total of 18 36-metre drilled production shafts, with 12 for the main tower footing and six for the back span. Each tower footing requires a total of more than 1,910 cubic metres of concrete, 440 tonnes of rebar, and 1,600 metres of post tensioning cables that connect the footings from end to end. Work continues on:

- Construction of both the north and south tower footings
- Installation of the external and internal climbing system for both tower legs
- Commencement of the tower construction on both legs
- Construction of the footings of the side span and anchor piers
- Expansion of the tower crane to the next stage (73.5 metres high)

### Michigan Interchange

The new Michigan Interstate-75 (I-75) will complete a streamlined transportation route that runs from the I-75 in Detroit across the Gordie Howe International Bridge to the Rt. Hon. Herb Gray Parkway in Windsor, which connects to Ontario's Highway 401. The interchange will consist of primary connecting ramps to and from the U.S. Port of Entry (POE) and local road improvements to connect to the interstate system.

By the end of 2020, the demolition of five pedestrian bridges and three road bridges over I-75 was complete. Work over the next several months will focus on the reconstruction of the three new road bridges over I-75. Anticipated completion of the new bridges is expected in spring 2021.



SPOTLIGHT ON:

## Light Rail Transit (LRT)

# How Aecon is helping to move Canada's urban traffic

In December 2011, Metrolinx awarded AirLINX Transit Partners, a joint venture between Aecon and Dufferin Construction, a multi-million-dollar contract to design, build and finance (DBF) a three-kilometre spur line and build a station at Toronto's Pearson International Airport - Terminal 1.

Aecon successfully completed construction of the elevated spur line, which provided the last stretch of rail

line needed to facilitate a 25-kilometre express public rail service from downtown Toronto's Union Station to Pearson Airport.

The UP Express utilizes an automated people mover (APM) – an unmanned, cable-driven train that moves people along the elevated guideway, making brief stops at the airport's Terminal 1 and Terminal 3 hubs.







**For more than five decades, Aecon has been a progressive partner in the construction of several Canadian rapid transit solutions. We were pioneers in the construction of Toronto's first subway system – as well as its ongoing expansion – and Vancouver's Sky Train and Edmonton's Light Rail Transit systems.**

In more recent years, traffic density has become a real hot-button issue in many regional and provincial jurisdictions, and there's been a renewed focus on bus rapid transit (BRT) and light rail transit (LRT). Both are considered to be environmentally responsible public transportation solutions that can help ease the clogged arteries of our busy urban centres and connect us to commuter communities.

Investment in BRT and LRT transportation infrastructure has followed. In the last decade, the sheer size and scope of these projects has prompted regional, provincial and federal governments to turn to alternate financing solutions like Public-Private Partnerships (P3s) to fund their development. No longer are contracts just "build" contracts. They now cover the gamut from "design-build (DB)" to "design-build-finance (DBF)" to "design-build-finance-operate-maintain (DBFOM)."

As a pioneer in P3s, Aecon has been well-positioned at the front end of this transition. In addition to continuing to build our expertise as leaders in public transportation infrastructure, we've built in-house financial and legal acumen to lead these increasingly complex and structured contracts. We've also entered into strategic partnerships and formal joint ventures to manage financial risk and take on multiple transit projects at the same time.

Aecon's joint venture agreements and partnerships have resulted in the successful delivery of notable public transportation projects like Toronto's Union Station Train Shed.

Currently, Aecon is building the largest infrastructure project in our history with the Eglinton Crosstown LRT, and we're in the early stages of delivering two other significant LRT projects: Toronto's Finch West LRT and Montréal's Réseau express métropolitain (REM) light metro.

With the sharp increase in project complexity, the need for Aecon to deliver comprehensive end-to-end rapid transit solutions has led to an operational restructuring within Aecon. In 2019, Aecon established a dedicated Urban Transportation Systems (UTS) sector and hired an experienced international executive in rapid transit systems to direct the new team. Under the leadership of Senior Vice President Manuel Rivaya, the UTS group has now taken on the delivery of all current LRT construction projects at Aecon, as well as the pursuit of a significant number of new LRT projects valued at more than \$35 billion.

The increased market demand for comprehensive, vertically integrated rapid transit systems has also led us to evolve Aecon's service offering to include the delivery of total "rail systems integration." To support this evolution, our UTS group entered into a Memorandum of Understanding with Spain-based SENER Ingenieria in July 2020 to jointly develop rail systems integration capabilities in Canada and continue to grow our expertise and project delivery opportunities in this sector.

SENER is a global engineering leader with extensive knowledge and experience in the international rail sector. Under the new alliance, SENER will bring to Aecon its international track record in rail systems design and integration to complement our already established reputation here in Canada under our Urban Transportation Systems (UTS) sector, formed in 2019.

In the marketplace, the new alliance will strengthen our rail value proposition during a period of substantial growth opportunities across Canada. Aecon is currently engaged in more than \$35 billion of major new project pursuits, including Metrolinx Regional Express Rail (RER), Eglinton Crosstown West Extension LRT, Ontario Line Subway and Calgary Green Line LRT. Members of the new alliance have already begun to collaborate on the Ontario Line Subway bid (rolling stock, systems operations and maintenance) and will be pursuing future system rail integration and subsystem delivery opportunities.



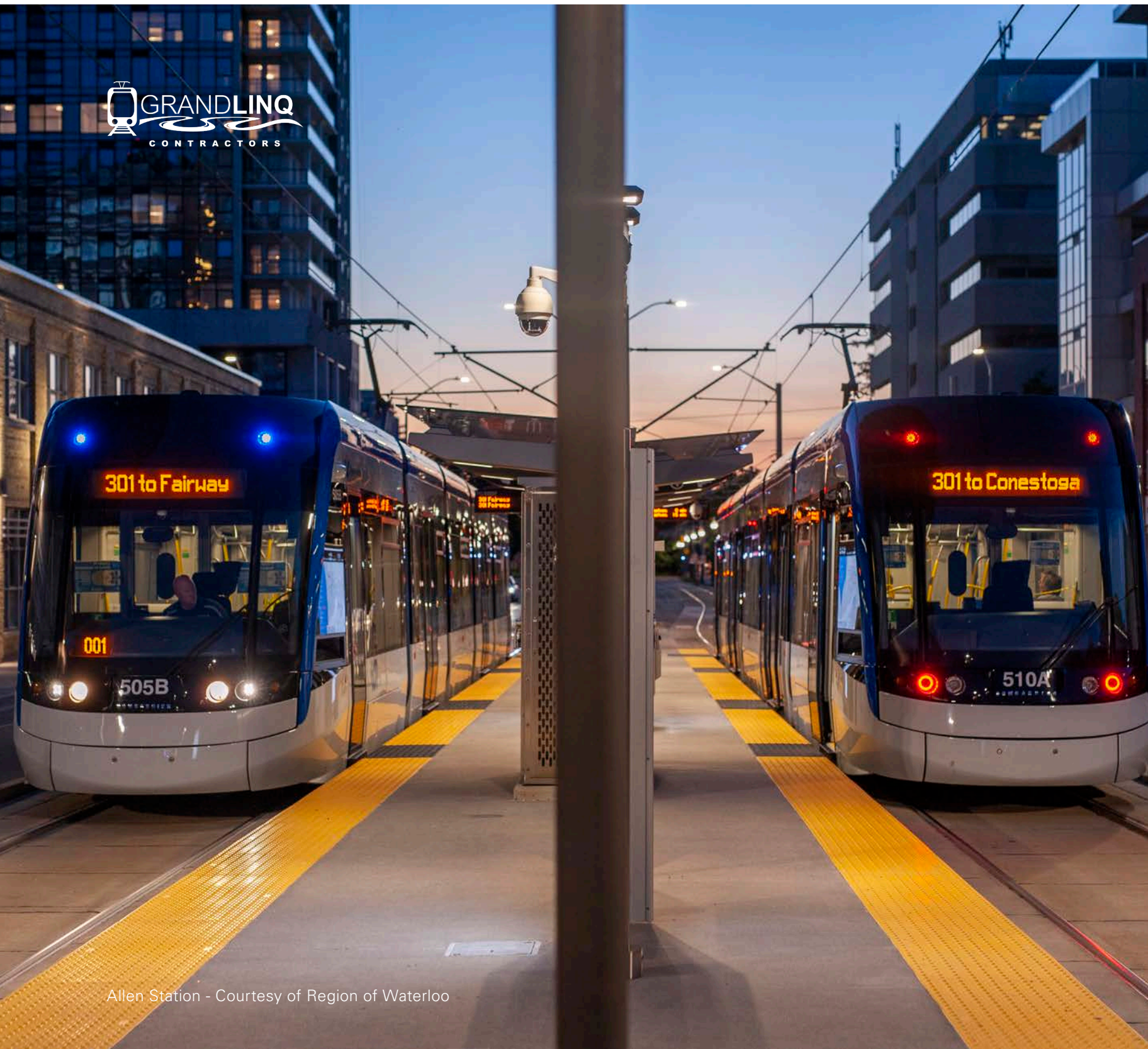
Awarded in 2009  
**Union Station  
Train Shed  
Revitalization**  
**\$196M**

Awarded in 2010  
**Spadina Subway  
& Sheppard  
West Station**  
**\$279M**

Awarded in 2011  
**Union Pearson Express**  
**\$129M**

Awarded in 2013  
**Eglinton Crosstown  
Tunnel**  
**\$177M**

RECENT RAIL PROJECTS



Allen Station - Courtesy of Region of Waterloo

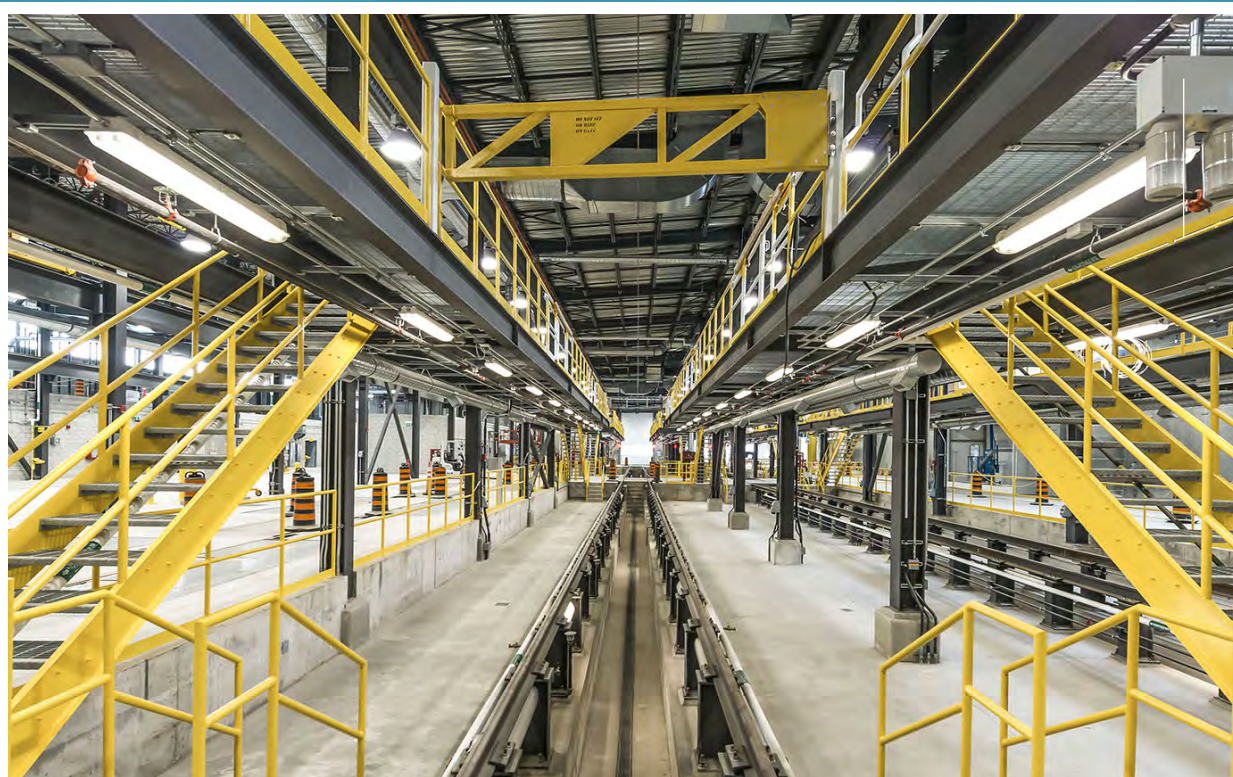


Awarded in 2014  
**Waterloo LRT**  
**\$583M**

Awarded in 2015  
**Eglinton  
Crosstown LRT**  
**\$5.3B**

Awarded in 2018  
**Finch West LRT**  
**\$2.5B**

Awarded in 2018  
**Réseau express  
métropolitain (REM)  
Montréal light metro**  
**\$6.5B**



**\$583M**  
Contract Value

**19 km**  
of track

**2019**  
Completed

## **WATERLOO ION STAGE 1 LRT**

KITCHENER/WATERLOO, ONTARIO

**As a member of the GrandLinq consortium, Aecon helped Ontario's Waterloo Region link its growing network of urban communities with the construction of a new LRT public transportation system.**

The Region of Waterloo awarded the design, build, finance, operation and maintenance (DBFOM) of the new \$583 million LRT system to the GrandLinq consortium, consisting of Aecon, Keolis, Kiewit, Meridiam and Plenary Group. The design-build (DB) portion of the project was, in turn, subcontracted to GrandLinq Contractors, a joint venture comprised of Aecon (51 per cent) and Kiewit (49 per cent). The scope of work for the joint venture team called for the construction of a 19-kilometre dual-track system; 19 LRT stations; two rest stations; the Operations, Maintenance and Storage Facility (OMSF); the Light Rail Vehicle Car Wash Facility; and the Wayside Maintenance Facility.

In December 2020, Aecon Concessions and the project's GrandLinq partners received the Gold Award for Service Delivery at the National Awards for Innovation and Excellence in Public-Private Partnerships. The awards are distributed annually by the Canadian Council for Public-Private Partnerships.

The awards committee noted that "after 12 months of service, the consortium continues to improve system performance and is beating contractual targets for monthly operating performance. The project is also helping to limit urban sprawl and protect farmland by intensifying development in urban areas."



**\$6.5B**

Project Budget

**2024**

Estimated Completion



## RÉSEAU EXPRESS MÉTROPOLITAIN (REM) MONTREAL LIGHT METRO

MONTREAL, QUEBEC

Réseau express métropolitain (REM), Montréal's new light metro, is considered to be a transformative project for the city's commuters. It is the largest public transit project undertaken in Québec in the last 50 years. The project's engineering, procurement and construction is being carried out by NuvLR General Partnership, a consortium comprised of Groupe Aecon Québec Ltée, Dragados Canada Inc., EBC Inc., Pomerleau Inc. and SNC-Lavalin Grands Projets Inc. Aecon holds a 24 per cent share in the partnership.

REM is a fully automated, electric light metro network that includes 67 kilometres of double tracks, 3 kilometres of tunnels, 26 new accessible stations, and park-and-ride facilities with associated bus terminals.

By integrating into existing public transit networks in Montréal, REM will create a connected transit system linking downtown Montréal, the South Shore, West Island, North Shore and Montréal-Trudeau International Airport. The first trains are expected to be in operation in 2022, with additional network branches gradually introduced in 2022 to 2024.

**67 km**  
Double Tracks

**3 km**  
Tunnels

**26**  
New Accessible  
Stations

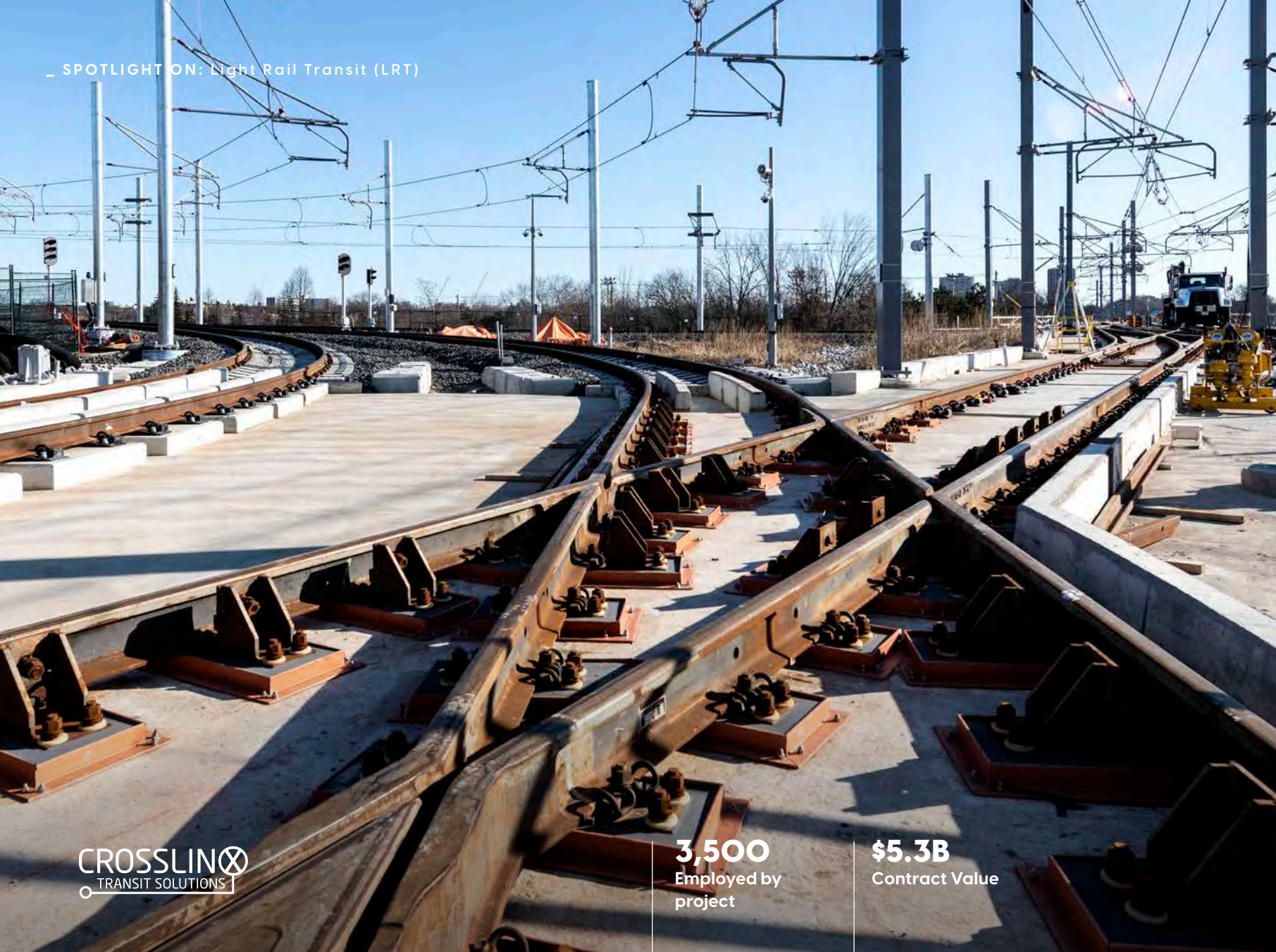




For an LRT or other transit and rail projects to succeed, you really need to understand the system's requirements. If you don't, you can run into all kinds of issues, like having to retrofit the equipment, construction delays due to poor design or inadequate planning for delivering revenue service. Our UTS group at Aecon understands this. We bring together different systems and subsystems to function as one entity in support of the end purpose, which is a common set of performance requirements and targets. This, in combination with our capacity to build the infrastructure and facilities that host these systems, allows us to better meet our clients' expectations with respect to the quality and safety of the service that they're looking to provide to their customers."

- Manuel Rivaya, Senior Vice President,  
Aecon Urban Transportation Systems





**CROSSLINX**  
TRANSIT SOLUTIONS

**3,500**  
Employed by  
project

**\$5.3B**  
Contract Value



**600,000**  
Cubic Metres  
of Excavation

**15**  
Underground  
Stations

**10**  
Street Level  
Stops



## EGLINTON CROSTOWN LRT

TORONTO, ONTARIO

Metrolinx and Infrastructure Ontario awarded the Crosslinx Transit Solutions (CTS) consortium to Aecon, ACS Infrastructure, EllisDon, and SNC-Lavalin in July 2015. The consortium is responsible for the design, build, finance, maintenance and lifecycle activities of the new Eglinton Crosstown LRT for a 30-year maintenance term, under a Public-Private Partnership (P3) model.

The Eglinton Crosstown LRT line runs along Eglinton Avenue in Toronto's midtown. This 19-kilometre corridor includes a 10-kilometre underground portion and features 25 stations and stops. It also includes Canada's largest Maintenance and Storage Facility and Light Rail Vehicle Car Wash Facility.



# FINCH WEST LRT

TORONTO, ONTARIO

**\$2.5B**

Contract Value

**2023**

Scheduled Completion



**With 18 new stops and stations along an 11-kilometre route in northwest Toronto, the Finch West LRT will be a fully integrated rail system connecting to five different regional transit services across the Greater Toronto Area (GTA).**

Aecon is a member of Mosaic Transit Group (Mosaic), the consortium named by Metrolinx and Infrastructure Ontario to build the LRT line. Other partners include ACS Infrastructure Canada Inc. and CRH Canada Group Inc. Construction team members include Aecon, Dragados Canada Inc. and Dufferin Construction Company.

Aecon holds a 33.3 per cent interest in equity and construction and a 50 per cent interest in the 30-year maintenance agreement for the Finch West LRT project.

Mosaic's scope includes the design and construction of 16 surface stops, one below street-level stop, and one

**85%**

GTA Workforce

**11 km**

Rail Network



underground station to be connected to the new Finch West Subway Station, as well as a Maintenance and Storage Facility for the LRT vehicle fleet.

The team is also completing track work, signalling, communications, and other required infrastructure, as well as rehabilitating the Highway 400 bridge at Finch Avenue West. In addition, Mosaic is responsible for the ongoing maintenance and rehabilitation of the LRT system and any associated infrastructure over the next 30 years, with client Metrolinx as owner and the Toronto Transit Commission (TTC) as operator. A total of 18 Light Rail Vehicles will be manufactured in Brampton, Ontario, and delivered by Alstom.



# SITE C GENERAL AND SP



## ADDITIONAL SCOPE AWARDED

Despite a temporary work stoppage by BC Hydro due to COVID-19 precautions, 2020 was a busy year for AFDE. The team was awarded additional work to construct the Moberly River debris structure and the Peace River debris boom, both critical components to support the temporary river diversion.

The Moberly River debris structure involved the installation of 40 piles driven eight metres down into the rock below.

The piles, with assistance of a boom, will prevent logs and other large debris from entering the Peace River diversion tunnels during the filling of the reservoir. Work on this scope wrapped up in April 2020.

The Peace River debris boom work started in February 2020, with the boom being successfully pulled across the Peace River in late June. The remaining earthworks scope and wrap-up concluded in mid-July.



# GENERATING STATION AND SPILLWAYS (GSS)

Work continues on the Site C Generating Station and Spillways (GSS) civil works project in northeastern British Columbia through our AFDE Partnership, of which Aecon is the managing partner (30 per cent share). AFDE's scope of work is part of the overall construction of BC Hydro's Site C hydroelectric dam and generating station on the Peace River. When complete, the project will provide 1,100 megawatts of capacity and about 5,100 gigawatt hours of energy each year to the province's integrated electricity system – enough energy to power the equivalent of about 450,000 homes per year in British Columbia.

## Project Update

With a priority focus on safety, BC Hydro modified work activities on the Site C project near Fort St. John in March 2020 in response to the COVID-19 pandemic. The schedule was limited to essential work and critical milestones to reduce the number of workers staying at the worker accommodation lodge and travelling to and from the site location. Once work ramped back up in June 2020, with strict COVID-19 protocols in place, AFDE hit the ground running.

Scope of work on this project includes the delivery of civil works associated with the new powerhouse, penstocks, spillways and power intakes, plus ancillary construction work. This includes the placement of 700,000 cubic metres of mass and reinforced concrete, 34,000 tonnes of rebar and more than 11,000 tonnes of steel.

By late fall, the project team had made great progress:

### Concrete Works:

- > 235,000 cubic metres of concrete placed

### Powerhouse:

- First stage concrete placement completed in Units 1 through 5
- Structural steel erected in Units 1 through 4
- Building envelope over Units 1 and 2 completed
- Work in powerhouse main service bay and Units 1 through 3 turned over to turbine contractor

### Intakes:

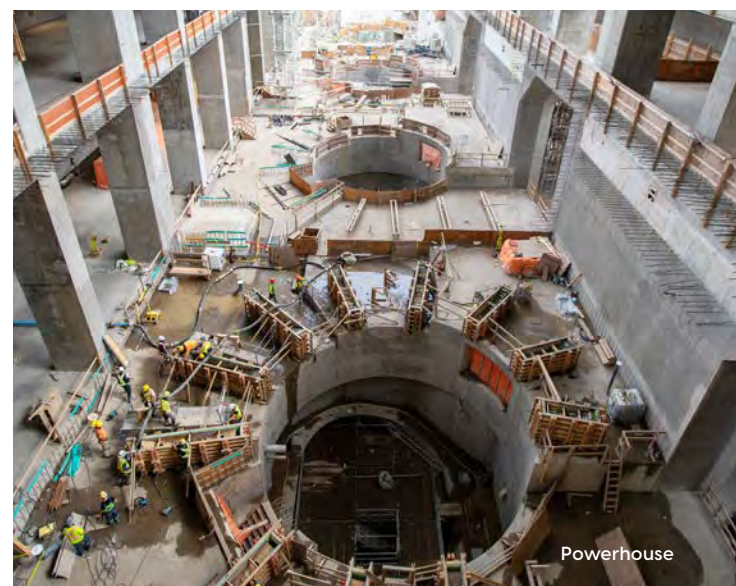
- First stage concrete completed in Unit 1

### Penstocks:

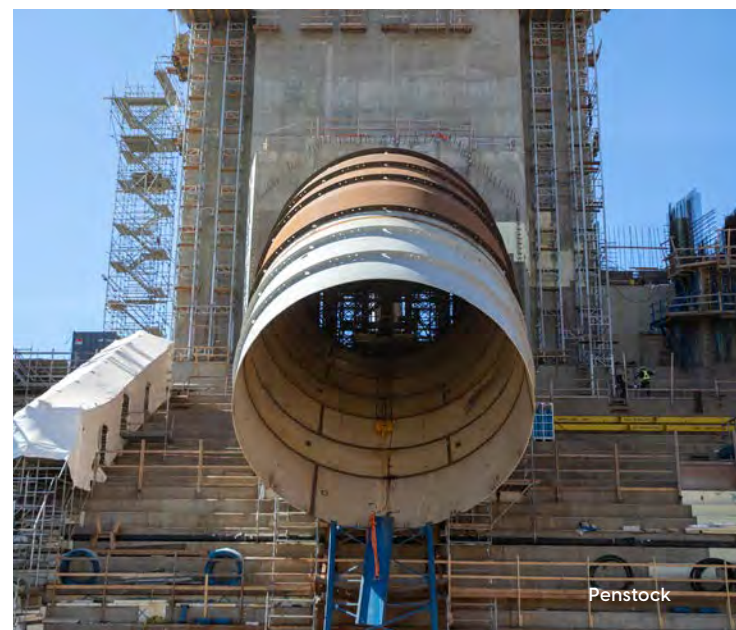
- Unit 1 steel penstock fully assembled

### Stilling Basin:

- Four out of 10 weirs completed
- Work at headworks area underway



Powerhouse



Penstock




**SPOTLIGHT ON:**

# SUSTAINABILITY

**Building the Infrastructure  
of a Better Tomorrow**







**For years, Aecon has been a contributor to environmental sustainability through our project work. More recently, and in keeping with the broader lens by which sustainability is viewed today, we're redefining our role and expanding our commitment to building a sustainable future.**

"Sustainability is about getting our work done in a way that is balanced with the needs of future generations," explains Yonni Fushman, Aecon's Executive Vice President, Chief Legal and Sustainability Officer & Secretary. "This means minimizing our environmental impact, fostering a diverse and inclusive workplace, being a positive contributor to the communities in which we operate, and establishing a proper governance structure that ensures ethical behaviour and accountability."



**Sustainability is about getting our work done in a way that is balanced with the needs of future generations."**

- Yonni Fushman, Aecon's Executive Vice President, Chief Legal and Sustainability Officer & Secretary



## The Five Sustainable Development Goals (SDGs) Aecon is focused on:

### 1 Gender Equality

We're investing in the hiring, development and retention of women in our workforce by inspiring and empowering female employees in their career development.

### 2 Affordable and Clean Energy

We're accelerating the world's transition to sustainable energy systems by participating in the construction of renewable energy projects.

### 3 Industry, Innovation and Infrastructure

We're designing and building innovative infrastructure projects for communities with a high demand for local, regional and international transportation.

### 4 Sustainable Cities and Communities

We're modernizing our cities and connecting communities by building sustainable transit systems.

### 5 Peace, Justice and Strong Institutions

We're eradicating corruption and bribery in our industry and upholding the highest ethical and business standards.



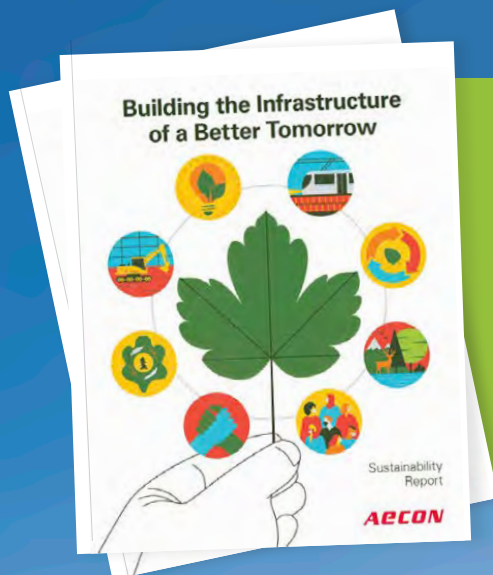
## How Aecon Is Helping Reduce Greenhouse Gas (GHG) Emissions

- + Constructing energy storage solutions
- + Deploying carbon capture technology
- + Delivering resilient infrastructure
- + Implementing vehicle telematic devices and fuel reduction initiatives

## How Employees Can Help Aecon Build a Sustainable Future

"Employees are a driving force for sustainability," says Prabh Banga, Aecon's Director of Sustainability. "When we share the sustainability initiatives being implemented within our immediate projects and teams, we're actually helping to generate solutions for larger environmental and social challenges, and also inspiring other business units to adopt similar practices." Employees are encouraged to connect with Prabh ([pbanga@aecon.com](mailto:pbanga@aecon.com)) to share stories on how our projects, business operations and support services are contributing to a sustainable future.





In August 2020, Aecon released its first comprehensive Sustainability Report – *Building the Infrastructure of a Better Tomorrow*. The inaugural report outlines Aecon’s 2019 sustainability achievements and details our commitment to building a sustainable future through five key areas of focus:

- ✦ Our People
- ✦ Our Projects
- ✦ Our Environment
- ✦ Our Communities
- ✦ Our Governance and Ethics



**“Integrating sustainability in our business will enable us to drive operational efficiencies,” says Prabh Banga, Aecon’s Director of Sustainability (pictured above). “We’ll be better equipped to deliver solutions for our clients, manage risk and support our employees and communities.”**

Prabh will play an instrumental role in the development of Aecon’s sustainability strategy and annual Sustainability Report. She says each edition will provide further insight into how we’re adapting our business objectives to build a more sustainable future.

The 2020 Sustainability Report will be released in spring 2021 with information on the innovative solutions Aecon has adopted to reduce its environmental impact, updated greenhouse gas (GHG) emissions inventory, a comprehensive overview of Aecon’s partnerships with Indigenous communities and details on how we’re working with partners and stakeholders to build better, together.

You can read Aecon’s 2019 Sustainability Report in full at [aecon.com/sustainability](https://www.aecon.com/sustainability).



**“Sustainability is about more than what we build – it’s about how we build it. We’re proud to deliver our projects with an unwavering commitment to safety, human rights, diversity and inclusion, social responsibility, environmental stewardship and strong corporate governance to ensure that we operate ethically and transparently.”**

- Jean-Louis Servranckx, Aecon President and CEO



A close-up photograph of a welder wearing an orange protective suit and a welding mask. The welder is holding a welding torch and working on a metal structure, with bright sparks flying from the point of contact. The background is blurred, showing green foliage.

\_ SPOTLIGHT ON:

## Utilities

**Aecon's Utilities business has grown exponentially over the last decade to become the largest and most diverse utility infrastructure installation and maintenance provider in the country.**





## National Market Presence

From humble beginnings as a predecessor company in the 1950s, Aecon Utilities today accounts for nearly a quarter of Aecon's overall annual revenue and continues to expand its geographic and market reach, year over year. Through a combination of organic growth and strategic acquisition, the business has moved beyond its southern-Ontario base into the national marketplace and significantly broadened capability offerings beyond traditional gas distribution and pipe installation. Today's Utilities group offers clients construction expertise in power distribution networks, fibre optic networks, water distribution and sewer collection systems, telecommunications infrastructure, and green energy solutions like district energy and geothermal systems.







**“ Revenues generated from our utility works are significant and foundational to Aecon. This is annual recurring revenue since most of it is generated from long-term strategic partnerships and preferred supplier and service agreements with clients like Bell and Enbridge Gas. Best of all, many of these contracts have been renewed numerous times. I think that says everything about the level of trust our clients have with Aecon.”**

- Eric MacDonald, Senior Vice President, Aecon Utilities



### The Service Evolution

In the early 2000s, many Canadian utility service providers in gas, telecommunications and electrical distribution began to look toward alternate third-party service providers to fulfill their utility infrastructure installation needs. They were looking to build reliable partnerships that provided them with a consistent and affordable skilled workforce. Aecon Utilities stepped in to provide that skilled workforce and built meaningful client relationships with Canadian leaders like Bell (Canada) and Enbridge Gas. We began expanding our civil construction works beyond building manholes and duct structures to include the placement of telecommunications cables and splicing connections associated with both legacy copper and new fibre optic networks. Today, we have further broadened our capabilities in telecom to include design, inside structured cable, and in-home network installation supporting our exclusive Canadian

partners, Bell and Telus. We're also actively involved in the largest expansion of modern telecommunications networks through our fibre-to-the-home (FTTH) installation services.

On the electrical systems side of the business, it's much the same good-news expansion story in recent years. Aecon has grown significantly to provide services for electrical distribution networks, medium and high voltage networks, transmission lines and transmission stations, lighting and signalling networks. Today, we also specialize in highway high mast lighting, electrical toll systems, and airport lighting and signalling systems.

When it comes to utility specialty services, Aecon is particularly focused on pursuing emerging opportunities in green energy system installation, such as district heating and cooling networks and, most recently, geothermal systems.





## The Geographic Evolution

The emergence of Aecon Utilities as a leading utility infrastructure provider on a national scale has been facilitated through some key strategic acquisitions over the last two years:

### SEI Telecom (2019)

In addition to staff and skilled technicians, this April 2019 acquisition added approximately \$25 million in annual recurring revenue and access to eastern Ontario, Québec and Atlantic Canada markets. The purchase also included SEI Telecom's 50 per cent share in Sky-Tec Fibre, based in New Brunswick and serving Atlantic Canada.

### Powerland (2020)

Aecon purchased assets of this well-established Winnipeg-based telecommunications provider in July 2020 to bring us broader geographic reach in the sector and to support the growth and evolution of our Aecon Technical Solutions Inc. (ATSI) business.

Over the last 14 years, ATSI has evolved into an industry-leading telecommunications provider for in-home network solutions, infrastructure installations, repair and construction services for Bell Canada and TELUS. The Powerland acquisition allowed for Aecon to support these two key clients nationally, and specifically supports Aecon's 2019 Bell contract to provide the fibre-to-the-home (FTTH) initiative in Manitoba.

Collectively, the SEI Telecom and Powerland acquisitions strategically position Aecon as a leading provider of end-to-end telecommunications infrastructure services across Canada. There are significant growth opportunities and investments currently under way in this sector and more are forecasted, specifically with the rollout and expansion of wireless-to-the-home (WTTH) and 5G technologies.

### Voltage Power (2020)

Aecon gained an important foothold in western Canada in February 2020 through the acquisition of Winnipeg-based Voltage Power, a medium- to high-voltage power transmission provider with distribution capabilities in the region. Voltage Power will add approximately \$60 million in annual revenue and aligns well with Aecon's core values, culture and commitment to Indigenous engagement.







## AECON UTILITIES TRAINING AND INNOVATION CENTRE

HOLLAND LANDING, ONTARIO

Aecon Utilities led the development of a new Training and Innovation Centre for the company in 2019. It's located about 50 kilometres north of Toronto and offers classroom and remote-based training to employees across Canada. The facility is equipped with two large, state-of-the-art classrooms and a practical, hands-on training site, thanks to the conversion that's taken place at this former Utilities yard. The facility is also a hub of innovation, where new

processes, tools and technologies can be tested and showcased to Aecon and our clients.

Aecon has supplemented this centre with six other remote training facilities across the company, each equipped with TVs, tablets, cameras, and high-speed broadcast facilities to accommodate distant learning. Plans are underway to keep growing these locations, and the courses they offer, to ensure continuous learning and to keep stimulating innovative thinking across Aecon.





Adrienne Clarke, Project Manager, and Dave Beatty, Lead Trainer and Program Developer (both pictured above), were instrumental in the vision and development of Aecon Utilities' Training and Innovation Centre in Holland Landing, Ontario, which launched in 2019. Dave Moore (not pictured) served as Senior Executive Sponsor.

### Indigenous Partnerships

Aecon Utilities has been a leader in Indigenous engagement at Aecon. The Utilities group was the first to explore an innovative business model with Six Nations of the Grand River in Ontario. The resulting A6N JV has become a successful joint venture partnership between Aecon (49 per cent ownership) and Six Nations of the Grand River Development

Corporation (51 per cent ownership) that performs utility-related work in the province, specifically within the Haldimand Tract, an area of historical significance to the people of Six Nations. This model is being used as a template nationally on other Aecon projects where there is opportunity to engage Canada's Indigenous businesses and people.





SPOTLIGHT ON:

# Dereck Oikawa

Vice President | Telecommunications

Buoyed by strategic acquisitions and organic expansion in recent years, Dereck Oikawa is eager to optimize Aecon Utilities' new value proposition in the telecommunications market as a premier national service provider.

"We need to stay agile and relevant in the ever-changing telecom market. The combination of our extended service offerings and high-performing team means that Aecon has truly become an industry-leading, end-to-end service supplier for both wireline and wireless networks in Canada. And that's exciting."

Dereck says COVID-19 has shone a light on the digital divide that exists in this country. People have been required to work from home but not everyone has high-speed access, a clear disadvantage.

**"It's creating new challenges for our telecom clients who are focused on closing the disparity. Some people are realizing that they can work from anywhere and are leaving the cities where high-speed access is widely available for more affordable, non-urban housing in areas that aren't as well served. Improving high-speed access, and a move to 5G, can mean more work for Aecon."**





**We need to stay agile and relevant in the ever-changing telecom market. The combination of our extended service offerings and high-performing team means that Aecon has truly become an industry-leading, end-to-end service supplier for both wireline and wireless networks in Canada. And that's exciting."**

**- Dereck Oikawa, Vice President, Telecommunications**



Dereck has been with Aecon since 2015. He joined us after 14 years at Bell, where he worked his way through management roles and across multiple portfolios, including switch, adjunct provisioning, transport and finance. He also held senior roles in outside plant, new technology development, contract and construction management, and fibre-to-the-home delivery.

"I wasn't entirely new to Aecon when I joined," he notes. "I had exposure to Aecon through my work at Bell and was excited to join a high-performing team that had a defined culture and great people."

Over the past five years, Dereck has served as the Director, Telecom Engineering and General Manager, Aecon Utility Engineering, and was accountable for locate and splicing services through the former QX business units. Next came Director, Telecommunications, where he added telecommunications construction to his portfolio. When Dereck was promoted to Vice President, Telecommunications in 2019, he added Aecon Technical Services Inc. (ATSI) to his resume.

Dereck also represents Aecon at the Utilities Construction Association as Co-Chair of the Labour Committee and member of the Long-Range Planning Committee.



SPOTLIGHT ON:

# Pipelines & Facilities

## Building Canada's Critical Mainline Pipeline Infrastructure

**In 2012, Aecon joined with Robert B. Somerville to create a 50/50 joint venture group – SA Energy Group – to pursue natural gas and oil mainline pipeline construction projects.**

Fast forward eight years and the successful joint venture partnership has since delivered more than 1,500 kilometres of mainline pipeline for Canada's leading pipeline operators. The group has accrued a substantial fleet of specialized equipment and two pipeline construction spreads.

A spread, also known as a section, is a moving production line consisting of all the activities required to build a section of mainline pipeline. A typical spread consists of approximately 400 to 1,000 workers with a range of skill sets.







**SA Energy has delivered more than 1,500 kilometres of mainline pipeline for Canada's leading pipeline operators.**

Pipelines often cross the traditional lands of First Nations communities in Canada. Indigenous consultation and engagement are critical to successfully delivering these projects in a manner that is respectful of both First Nations and the land. SA Energy has a comprehensive Indigenous Engagement Program that's focused on fostering and growing employment opportunities for Indigenous communities with each pipeline project undertaken:

- + Enbridge Line 3 – Phase 1  
**18% Indigenous employment**
- + Enbridge Line 3 – Phase 2  
**20% Indigenous employment**
- + Coastal GasLink Pipeline  
**Indigenous employment**

#### RECENT PIPELINE PROJECTS DELIVERED BY SA ENERGY:

ENBRIDGE	<b>Line 3 Phase 1</b> <b>261 km   36" Pipe</b> Saskatchewan, 2017
	<b>Line 3 Phase 2</b> <b>189 km   36" Pipe</b> Manitoba, 2018
	<b>Line 10 Replacement</b> <b>35 km   20" Pipe</b> Ontario, 2017-18
TC ENERGY	<b>Kettle River Lateral Loop</b> <b>20 km   24" Pipe</b> Northern Alberta, 2017
	<b>Cutbank River Lateral Loop</b> <b>32 km   24" Pipe</b> Northern Alberta, 2015-16
	<b>Simonette Lateral Loop</b> <b>22 km   24" Pipe</b> Northern Alberta, 2015-16
SPECTRA ENERGY/ ENBRIDGE	<b>Jackfish Lake Expansion</b> <b>36 km   36" Pipe</b> Northeastern British Columbia, 2016-17
INTER PIPELINE	<b>Cold Lake &amp; Polaris Pipeline Expansion</b> <b>549 km   16/24/30/36/42" Pipe</b> Northern Alberta, 2012-15



## COASTAL GASLINK

BRITISH COLUMBIA

**When it's completed, the Coastal GasLink will play a vital role in delivering natural gas to Kitimat, British Columbia, while supporting Canada's liquefied natural gas (LNG) industry.**

In its entirety, the 48-inch-diameter pipeline stretches for 670 kilometres across the province, from Dawson Creek near the Alberta border to the LNG Canada facility near Kitimat. LNG Canada will then prepare the product for export to global markets by converting the gas to a liquefied state known as "LNG." The pipeline is designed to move 2.1 billion cubic feet per day (bcf/d) of natural gas with the potential for delivery of up to approximately five (5) bcf/d.







**Spread 3**  
104 km | 48" Pipe



**Spread 4**  
93 km | 48" Pipe



## SA Energy – Spreads 3 & 4

**In October 2018, SA Energy Group, Aecon’s 50/50 joint venture with Robert B. Somerville Co. Ltd., was awarded a multi-million-dollar contract for the construction of Spreads 3 and 4, or Sections 3 and 4, of the Coastal GasLink project in British Columbia.**

The award demonstrated SA Energy Group’s reputation as a major pipeline construction partner as well as Aecon’s proven capabilities delivering a diverse range of projects via our Industrial sector.

SA Energy Group has successfully executed previous projects for client TC Energy before, which has positioned the team for its critical role on the Coastal GasLink project.

“We’re really proud of the strong relationships we’ve developed with the local workforces and unions in recent years, and the success we’ve had working with Indigenous groups,” says Tyler Madigan,

Vice President and Managing Director, SA Energy. “Those relationships and our proven track record of performance have really contributed toward making us a partner of choice for executing pipeline construction in Canada.”

The contracted project involves the construction of two spreads of 48-inch-diameter Coastal GasLink pipeline northeast of Prince George, British Columbia. The project is underpinned by LNG Canada, a joint venture company comprised of Shell, PETRONAS, PetroChina, Mitsubishi Corporation and KOGAS.

Once completed, the pipeline will deliver natural gas to the Kitimat Liquefied Natural Gas (LNG) facility to provide LNG to international markets.

Mainline pipeline construction began in July 2020.

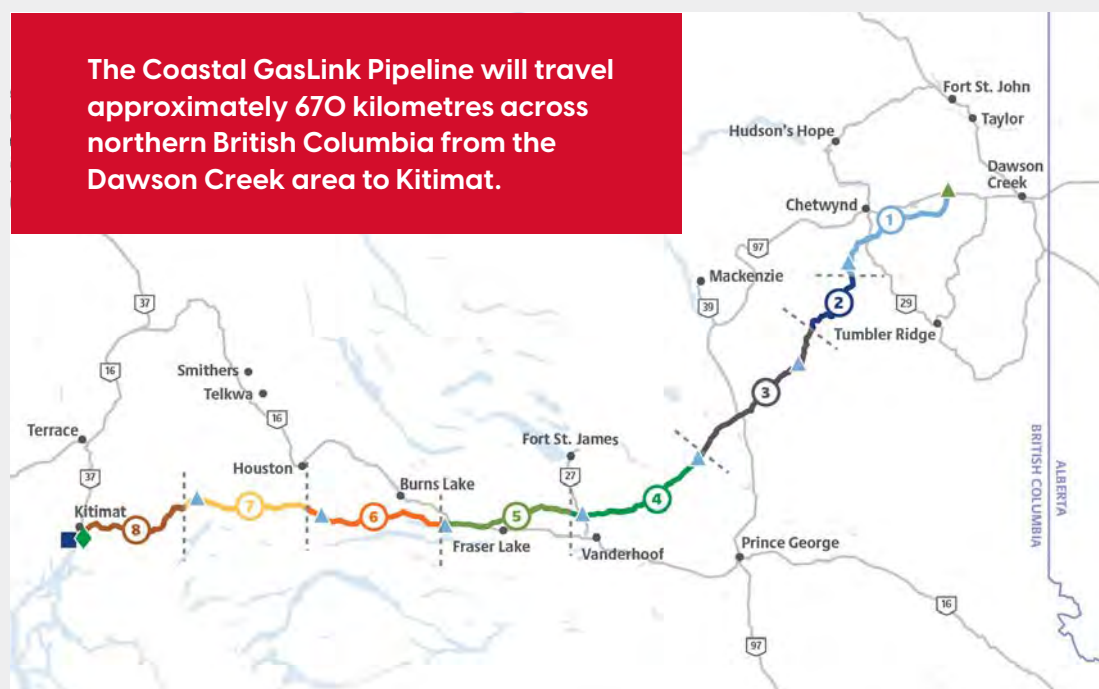
## Meeting Global Demand for Cleaner Energy

Natural gas is one of the world’s cleanest and safest energy sources. It’s used for multiple purposes, from heating our homes and operating household appliances to producing crop fertilizer, fabrics, plastics and other everyday products.

The Douglas Channel near Kitimat provides easy access to export LNG to Asian markets, where coal-fired electricity is commonly used. This provides a unique opportunity for the province to help replace higher carbon-emitting fuels (such as coal) with cleaner sources of B.C. energy, thereby assisting in the reduction of global greenhouse gas emissions.

The approved Coastal GasLink route was determined by considering Indigenous, landowner and stakeholder input; the environment; archaeological and cultural values; land use compatibility; safety; constructability; and economics.

**The Coastal GasLink Pipeline will travel approximately 670 kilometres across northern British Columbia from the Dawson Creek area to Kitimat.**





# INDIGENOUS & LOCAL ENGAGEMENT







**Indigenous and local trainees and students are provided skills and education for industry employment.**

Like Aecon, the SA Energy project team values the culture, lands and traditions of Indigenous groups across the country and, in particular, along their contracted stretch of the Coastal GasLink project. The team continues to work closely with Indigenous communities throughout the project life cycle to promote engagement, protect Indigenous heritage and way of life, and optimize economic benefits to local Indigenous communities, as per the broader Coastal GasLink commitment. Agreements have been signed by all 20 elected First Nations governments along the pipeline's 670-kilometre route, including:

- Stelat'en First Nation
- Saik'uz First Nation
- McLeod Lake Indian Band
- Saulteau First Nations
- Kitselas First Nation
- West Moberly First Nations
- Lheidli T'enneh First Nation
- Nadleh Whut'en First Nation
- Burns Lake Indian Band (Ts'il Kaz Koh First Nation)
- Blueberry River First Nations
- Halfway River First Nation
- Doig River First Nation
- Wet'suwet'en First Nation
- Cheslatta Carrier Nation
- Yekooche First Nation
- Nee Tahi Buhn Indian Band
- Skin Tyee First Nation
- Witset First Nation
- Nak'azdli Whut'en First Nation
- Haisla Nation



**The project has also invested in training programs – such as the Pathway to Pipeline Readiness Program, the Education Legacy Program and the Pathways to Prosperity Program – to support Indigenous and local trainees and students.**

Since the project was first announced back in June 2012, Coastal GasLink has had more than 15,000 interactions and engagements with Indigenous groups. These engagements provided opportunities to listen to First Nations views and incorporate their feedback. This collaborative approach resulted in many changes to the project, including investigating alternate routes.

Respect for and care of sensitive landscapes and culturally and historically significant areas along the route are critical to the project. These areas have been identified and SA Energy is respecting and protecting them so that the project can be constructed and operated in a safe and environmentally responsible way.

The project is delivering long-term benefits to Indigenous and local communities through employment and skills training. This was supported by SA Energy Group's Pathways to Prosperity Program, which was launched with the goal of providing local Indigenous youth construction training and on-site job experience. After project construction and completion, Coastal GasLink will remain engaged with communities to ensure the lines of communication stay open.



# FACILITIES



**“What excites me most is working with a client whose values so closely align with our own. We have a relationship that has been built on trust and candour. This has allowed our construction teams to continue to work through challenging times and find innovative ways to stay competitive and productive. This is truly an extraordinary project, and we are thrilled to have been awarded both facilities.”**

**- Andrew Geden, Vice President and General Manager, Industrial West**

While the Aecon/Somerville SA Energy joint venture team continues to carry out pipeline work on the Coastal GasLink project, Aecon, in a separate contract, was selected to be prime contractor on the construction of two new facilities that will anchor the pipeline: Wilde Lake Compressor and Metering Facility at the pipeline’s eastern end near Chetwynd, British Columbia, and the Kitimat Meter Facility at its western end.

In selecting Aecon as the contractor for these two facilities in March 2020, TC Energy/Coastal GasLink continued its focus on partnering with highly qualified companies that meet their core principles for safety, environmental stewardship, and local and Indigenous engagement.

The Aecon project teams working on both stations have completed multiple facility projects with client TC Energy in the past and are contributing valuable lessons learned to the success of these new facilities.

Another critical component is the participation of Indigenous communities. Aecon’s Indigenous Engagement Strategy is based on a foundation of trust and complements Coastal GasLink’s community and project agreements. Aecon has worked together with Indigenous economic development leads and local communities to identify qualified candidates and to determine the training required to create meaningful employment for Indigenous workers on the two facilities. In addition, subcontracting to qualified local and Indigenous businesses is maximizing the economic benefit to the region. Aecon is dedicated to creating a legacy of strategy and respect for all communities, people and the environment while delivering long-term lasting benefits to future generations.





## What Is a Compressor Station?

As natural gas flows along a pipeline, it slows due to friction with the pipe, resulting in a drop in pressure. To keep the gas flowing at a required rate, it is re-pressurized at locations along the pipeline. This is done by mechanically compressing the gas at sites connected to the pipeline, known as compressor stations.

## What Is a Meter Station?

A meter station measures the amount of natural gas that enters or exits the pipeline. Meter stations also ensure that the natural gas in the line meets required specifications. These stations are used at all locations where natural gas enters the pipeline (receipt meter station) or leaves the pipeline (delivery or sales meter station).

Source: [coastalgaslink.com](http://coastalgaslink.com)

## WILDE LAKE COMPRESSOR AND METERING FACILITY

Located at the eastern end of the Coastal GasLink near Dawson Creek, British Columbia, the Wilde Lake Metering Facility compresses and measures the gas entering the pipeline at the beginning of its 670-kilometre route.

The facility consists of 3-30 MW gas turbine compressor units in addition to several metering facilities.

### SCOPE OF WORK

- Site preparation, grading, fencing, piling, surface water management/dewatering
- Piling and concrete works
- Site offices/marshalling yard/security/medical services/lighting
- Foundations for buildings and skids
- Structural steel erection
- Auxiliary building integration
- Pipe and steel fabrication
- All electrical and mechanical instrumentation
- Piping systems welding, painting, heat tracing, insulating, cladding, cathodic protection
- Hydrostatic testing

Construction on the project began in July 2020. By fall 2020, Project Manager Tyler Hunt reported approximately 300,000 cubic metres of cut and fill material had been moved in preparation for final site grading. All piling, cutting and capping of piles has been completed, as has most of the concrete works. Pipe fabrication in Aecon's Sherwood Park Fabrication Facility continues.

"Engagement of Indigenous and local vendors remains a top priority for the team," says Tyler. "We continue to engage with Indigenous communities to increase opportunities for Indigenous Peoples and businesses."

## KITIMAT METER FACILITY

At the western end of the Coastal GasLink, the Kitimat Meter Facility, once complete, will measure the natural gas before it flows into LNG Canada's export terminal.

By the end of 2020, construction on the new facility had reached 90 per cent of completion. All civil works and the facility's hydrotest are expected to be completed in 2021.

### SCOPE OF WORK

- Site preparation, grading, fencing, piling, surface water management/dewatering
- Piling and concrete works
- Site offices/marshalling yard/security/medical services/lighting
- Foundations for buildings and skids
- Coating of all structural steel
- Installation of all skids onto pile foundations, platforms, stairs, handrails
- Integration of all electrical and mechanical instrumentation in buildings
- Instrumentation and control systems installation and commissioning
- Pipe and steel fabrication
- Supply, installation and testing of NP2 pipe, flanges and fittings
- Piping systems welding, painting, heat tracing, insulating, cladding, cathodic protection
- Hydrostatic testing



SPOTLIGHT ON:

# BUILDING MUTUALLY

# BENEFICIAL PARTNERSHIPS

## with Indigenous Groups

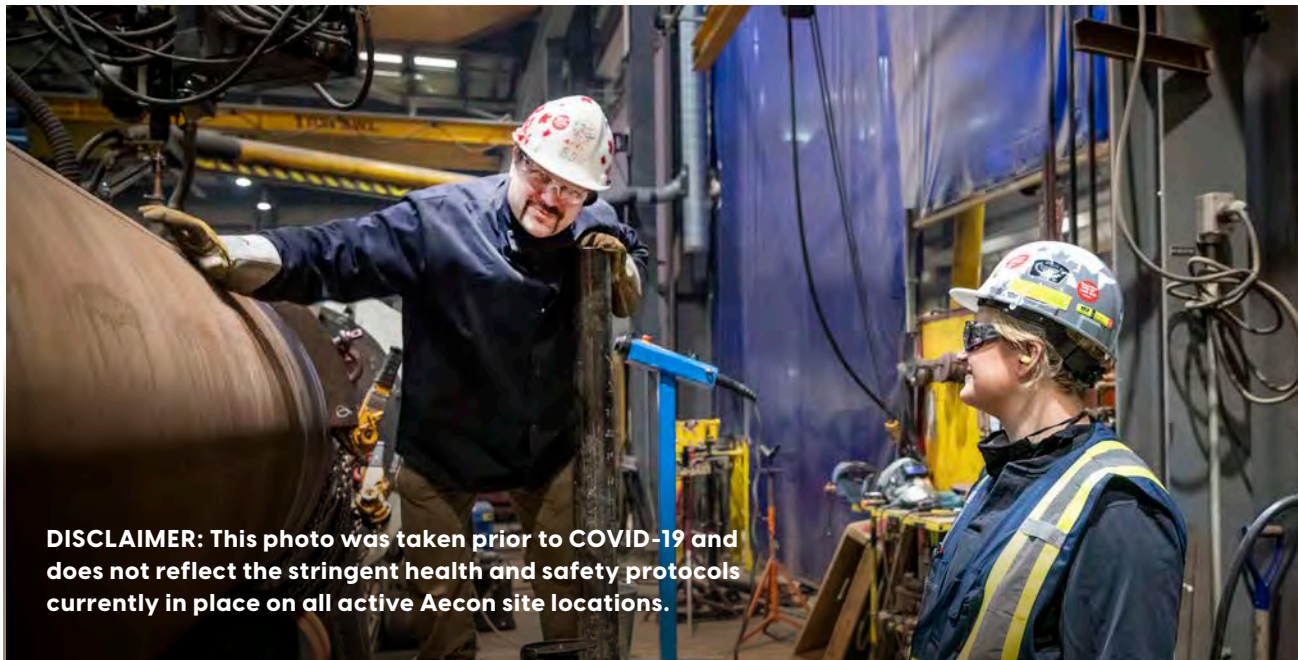


Enoch Cree First Nation is a progressive and proud First Nation community, located in the Treaty 6 territory of Central Alberta, that is actively seeking to preserve and promote their culture, language, history, and spirituality while advancing the economical, educational, health and social well-being of their people. Mutual prosperity is a fundamental tenet of Treaty 6 and is an essential principle of

Enoch Cree First Nation's economic endeavours. Partnerships are rooted in Cree culture and built upon a mutual respect. The Cree name for Enoch is Maskêkosihk (pronounced Muss-Kay-Go-Sik) and translates as "people of the land of medicine."

Treaty 6 is the sixth of 11 numbered treaties that were signed by the Canadian Crown and various First Nations between 1871 and 1877.





**DISCLAIMER:** This photo was taken prior to COVID-19 and does not reflect the stringent health and safety protocols currently in place on all active Aecon site locations.

**Over the years, Aecon has built thriving partnerships with Indigenous groups across the country to pursue new development opportunities that are mutually beneficial and carried out in an ethically and environmentally responsible manner.**

Our most recent partnership – signed in April 2019 – is a three-year, multiple-use agreement between Aecon (49 per cent) and Alberta’s Enoch Cree First Nation (Enoch Construction LP – 51 per cent) focused on pipe fabrication. In the time since the agreement was first signed, the Enoch-Aecon Joint Venture team has successfully completed four pipe fabrication projects for a major Alberta energy company. The work is being completed in Aecon’s 7,700-square-metre Sherwood Park Fabrication Facility, just outside of Edmonton. One contract is still active and a sixth began in 2020.

In addition to providing Indigenous workers with an opportunity to engage in skilled trades, such as pipefitting and welding, the Enoch-Aecon Joint Venture offers Alberta’s industrial heartland an Indigenous-led solution for industrial construction.

“Aecon has always been committed to collaborating and partnering with Indigenous Peoples,” notes Aecon’s Director of Indigenous Relations, John Bonin. “This is our third joint venture to follow this kind of mutually beneficial business model. In Ontario, we’ve had great success over the past five years with our Six Nations [of the Grand River Development Corporation] partners in utilities-related project work.”

Michelle Wilsdon leads the Enoch Cree First Nation’s business development strategy as an elected member of Council.

“Mamawihkamatowin (working together) is one of Enoch Cree Nation’s core values,” she says. “We are pleased to deepen our relationship with Aecon, work together for mutual prosperity and advance Enoch’s position as an active participant in Alberta’s energy sector.”

**3-Year**  
multiple-use  
agreement



**49% Aecon**

**51% Alberta's  
Enoch Cree First Nation  
(Enoch Construction LP)**

**Kimmy Der, Manager, Indigenous Relations at Aecon, has been instrumental in fostering our working relationship with Enoch Cree First Nation since 2017, culminating in the signing of our formal joint venture in April 2019.**





# Stacey Jensen Rose

**Fabrication Manager | Sherwood Park Fabrication Facility**

**Stacey Jensen Rose leads contracted pipe fabrication work for the Enoch-Aecon joint venture team out of Aecon's western fabrication facility in Sherwood Park, just outside of Edmonton, Alberta.**

She's been running the operations in the fabrication shop for the last five years and is a big believer in organization, diversification, and teamwork to keep the team on track in this high-demand environment. And her diligence has paid off.

"We're a far more efficient, multi-faceted team these days," she says of her strategic efforts. In addition to always being super organized and well-informed, Stacey has relied heavily on her instincts of knowing how to best match people to their strengths. She has spent considerable time observing team members who were previously dedicated to one role on the shop floor and encouraging them to broaden their skill sets by training for other positions in the fabrication process. The result has meant greater agility in shop operations during downturns – fewer people capable of fulfilling more roles – and a fully engaged team during upturns who all share a universal respect and understanding of the project life cycle. "Even though we're way more efficient and operate better as a team now, it wasn't always easy," Stacey notes. "Not everyone is naturally open to learning new things."

"It was a challenging time for me," she recalls of coming directly off maternity leave and stepping into a demanding role. "I was juggling a lot and had to learn a ton in a really short period of time. But I was totally committed to taking it on."

"Stacey really is organized, confident and a fantastic leader and role model," says Scott Waters, Vice President, Fabrication & Strategic Business Development for Aecon's Industrial operations. "Her vision for Sherwood Park as 'the number one fabrication facility' is infectious, and it's helped her team really develop a strong culture of continuous improvement."

Stacey is currently on another maternity leave, but she's confident in the work she's done to set up the Sherwood fabrication facility for continued success in her absence.

## SIX STAGES OF PIPE FABRICATION

**1** Receive raw pipe, fittings and other components at Sherwood Park Fabrication Facility and specifications and scope of work or "isometrics" from the client

**2** Draft work instructions/ travel sheet (cutsheets) from isometrics provided to be manufactured or fabricated

**3** Configure and weld and/or bolt up and/ or thread material together in designated pattern as per cutsheet





The Sherwood Park fabrication team currently consists of 49 direct shop personnel supported by direct and indirect project management roles, including document controllers, drafting, material co-ordinators, project co-ordinators, project managers, EHS personnel, quality control (QC) leads and administrators.



**I try to create operational redundancies so that nothing suffers. That's why I've made sure our team is familiar with every role in here. That's why we work better as a team – because there's a greater appreciation for what goes into each project, from beginning to end. And that's why we all celebrate when a job is completed as scheduled – because we all worked together to make it happen."**

**- Stacey Jensen Rose, Fabrication Manager, Sherwood Park Fabrication Facility**

**4**

Perform non-destructive examination (NDE) on welds completed to expectations and code/specifications

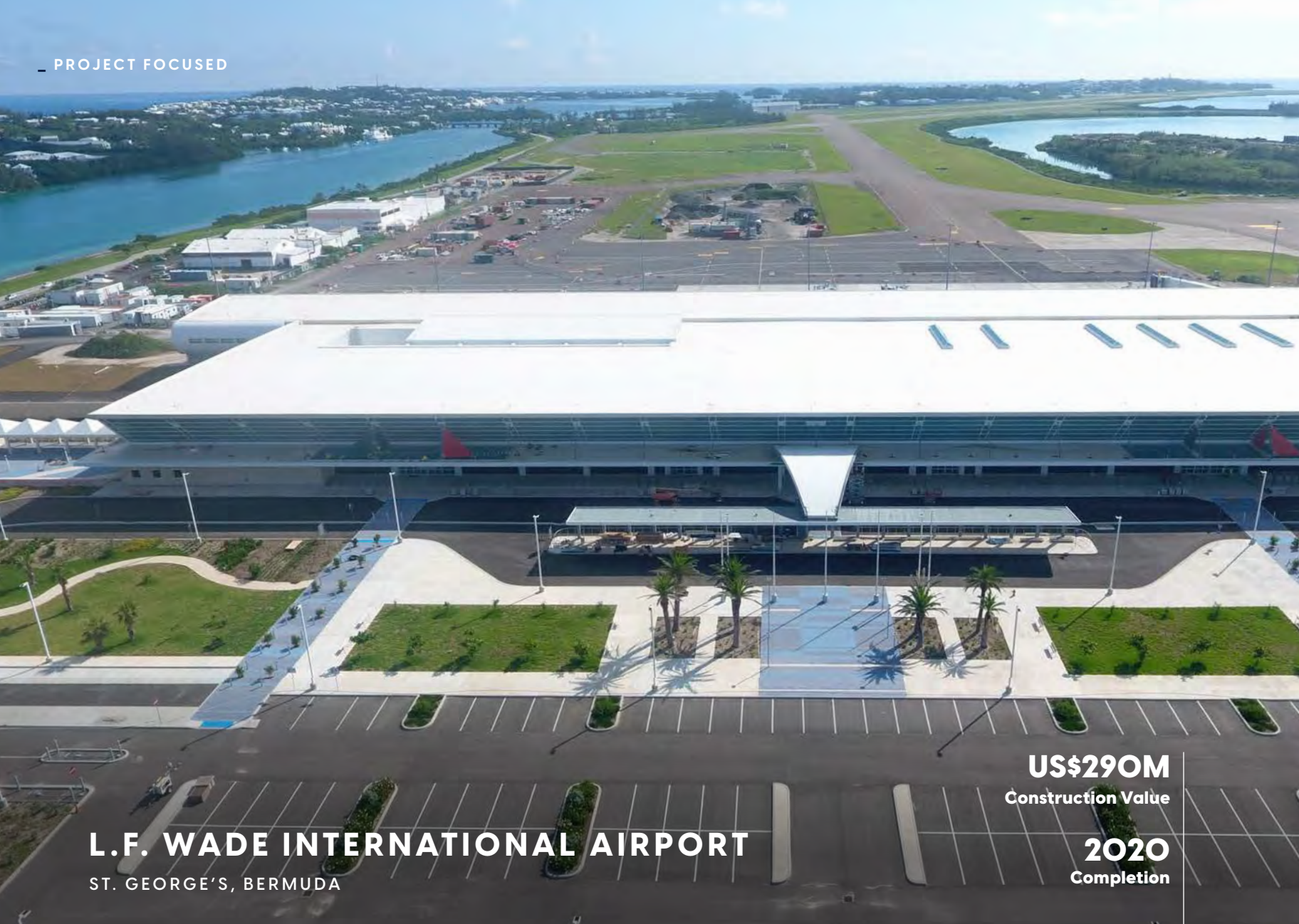
**5**

Perform post fabrication activities: pressure testing on manufactured parts to ensure integrity of the welds and assemblies, post weld heat treating (remove stress), and painting/coating

**6**

Inspect, load and ship to clients





**L.F. WADE INTERNATIONAL AIRPORT**  
ST. GEORGE'S, BERMUDA

**US\$290M**  
Construction Value

**2020**  
Completion

# Aecon Proudly Celebrates Grand Opening of New Bermuda Airport

**The Aecon/Skyport team responsible for delivering Bermuda's new L.F. Wade International Airport weathered multiple challenges, hurricanes, and a global pandemic, but on December 9, 2020, the new world-class terminal officially welcomed its first commercial aircraft and passengers.**

The completion of this landmark project in less than four years is a significant accomplishment for the team, especially amidst the ongoing constraints of COVID-19. Bringing it across the finish line reflected gritty resilience and proven airport development, construction and operations expertise.

Led by Steve Nackan, Executive Vice President and President, Aecon Concessions, the Bermuda project involved a unique government-to-government agreement that saw the Aecon construction team under the leadership of Marty Harris, Senior Vice President and Executive Lead, Civil East, the Canadian Commercial Corporation (CCC), the Government of Bermuda, and Bermuda Skyport (a special-purpose Bermudian company owned by Aecon Concessions) all come together to deliver the new state-of-the-art airport terminal.

"The keys to this project's success were the sincere partnership and collaboration between a broad community of Bermudian and international partners," Steve notes. "From an Aecon perspective, it really was a 'ONE Aecon' effort in many ways. We drew on expertise from a number of our operations people and also benefitted immensely from Aecon internal support service groups, like Human Resources,





**"We're proud to have mobilized nearly \$400 million of private investment on this project and to have helped play a part in the revitalization of Bermuda's economy. Through innovative thinking, we built and proved the model for how small airports can achieve world-class outcomes."**

**- Steve Nackan, Executive Vice President and President, Aecon Concessions**



**885**  
**Bermudian workers**  
**on site over the**  
**project's duration**

**1.6 million**  
**work hours of**  
**gold-standard**  
**construction with**  
**industry-leading**  
**safety record**

**400**  
**Bermudian companies,**  
**vendors, and suppliers**  
**involved in the project**

**182**  
**Canadian companies,**  
**organizations,**  
**subcontractors, and**  
**suppliers involved**  
**in the project**

Information Services, Legal, Finance and Corporate Affairs. We couldn't have done it without their collaboration and expertise."

The implementation of new technology and an increased footprint at the new terminal offer travellers safe and seamless travel in and out of Bermuda amidst COVID-19.

The impressive new 288,000-square-foot facility also provides improved passenger processing, increased passenger capacity, greater resilience to extreme weather conditions, energy efficiencies, advanced security, enhanced specialty retail and food and beverage outlets, and covered passenger jet bridges.

With Bermuda experiencing a damaging tropical storm every few years and the impacts of global warming, it was critical to build resilience and adaptability into the new facility. Guided by coastal modelling, the terminal was built

four metres above sea level with storm surge mitigation measures incorporated into the design. Aesthetically, travellers moving through the new terminal are welcomed by a blend of modern amenities and Bermudian experiences that are reflective of the island's culture and customs.

"We took a genuine, 'whole country' approach on this project that encompassed extensive stakeholder engagement, development of the local workforce, meaningful community investment, and robust sustainability and environmental programs," adds Steve. "The construction project delivered immediate benefits, but long-term investments and operations will also contribute to long-term economic sustainability in Bermuda."





**L.F. WADE INTERNATIONAL AIRPORT**

A blend of modern amenities and Bermudian culture upheld by sustainable and resilient infrastructure, the new L.F. Wade International Airport opened to commercial air travel in December 2020.



