ONE

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WINTER 2015, VOLUME 2, ISSUE 4

IN THIS ISSUE:

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COVER:
UP EXPRESS TERMINAL 1 STATION, TORONTO, ONTARIO

LEFT:
407 EXTENSION, PICKERING, ONTARIO

ABOVE:
ENBRIDGE SOUTH EDMONTON TANK FARM, EDMONTON, ALBERTA

BACK COVER:
GIRDER WORK AT 407 ETR, PICKERING, ONTARIO

This magazine includes certain forward-looking statements that contain information concerning possible or assumed future results or operations of Aecon. These forward-looking statements are based on current operating plans and competitive, financial and economic data but are subject to risks and uncertainties. Although Aecon believes the expectations reflected in these forward-looking statements are reasonable, it can give no assurance the expectations of any forward-looking statements will prove to be correct.

2014 Best Employers in Canada
By Aon Hewitt

AECON'S VISION:
To be the first company people go to for building things that matter.

ONE is a magazine published by Aecon Group Inc. for its employees and clients. For more information about Aecon, visit our website at **aecon.com.**

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LIVING OUR CORE VALUES OF TRUST, EXCELLENCE AND A LEARNING CULTURE

By Teri McKibbon
President and Chief Executive Officer

It's hard not to be impressed with how far Aecon has come in such a short period of time. Not so long ago, Aecon was a company consisting of some 20-plus business units that, for the most part, operated independently of one another.

Then, in 2011, we embarked upon a journey toward a "ONE Aecon" philosophy, bringing together our individual strengths to provide our clients with a unified Aecon solution. This, in collaboration with our Infrastructure, Energy, Mining and Concessions business segments, has our company now working all across Canada, successfully executing mega-projects that carry values in excess of $100 million and, in some cases, more than $1 billion.

As you can imagine, the locations of some of these projects, especially in the Energy and Mining sectors, are in some of the most remote areas of the country. Many are either located on Aboriginal traditional territories or, as can be the case with Infrastructure projects that are linear in nature, they cross through them, sometimes even within semi-urban environments.

For this reason, it is essential that Aecon continues to recognize the impact our projects have on Aboriginal communities, and that we remain sensitive to the Aboriginal environment, people, traditions and culture. From a project perspective, Aecon has long been proactive in engaging Aboriginal communities, facilitating discussions regarding current or potential projects located in and around these communities.

In 2013, Aecon established a dedicated team to formalize and coordinate our Aboriginal Affairs program under the leadership of Bill Clarke, Vice President of Aboriginal Affairs. With the Aecon Corporate Aboriginal Policy as its foundation, the Aboriginal Affairs team has focused on actively implementing an Aecon Aboriginal Engagement Program, which encompasses a 360-degree sustainability strategy designed to support the inclusion, engagement and participation of Aboriginals across Canada.

Aecon has also been working diligently with Aboriginal community leaders to develop an extensive network of partnerships focused on sustainable and mutually beneficial programs. In all cases, we endeavour to be a responsible partner, fostering these relationships on the basis of respect, understanding and trust. To date, we've developed solid connections with Aboriginal groups as far west as the Tsawwassen First Nation in British Columbia to Nova Scotia's Millbrook First Nation in the east and as far north as Kaska First Nation in the Yukon Territory.

Aecon has participated in many success stories over the years in relation to Aboriginal communities, but I'd like to highlight two in particular.

Our Waneta Dam project, which was profiled in an earlier edition of ONE Magazine, is a major contract for Aecon and involves the construction of a new 330 MW hydroelectric generating station adjacent to the existing Waneta Dam near Trail, British Columbia. Over the duration of the project, we've worked extensively and collaboratively with the nearby Ktunaxa Nation, engaging community members in career exploration sessions and ongoing training programs. From a site perspective, Aecon has trained and employed numerous local Ktunaxa Nation members who have collectively logged more than 25,000 man-hours. In this issue of ONE magazine we profile Brandon Alpine, a Ktunaxa Nation member, who was, in fact, trained as a carpenter on the Waneta project.

The second success story is a great example of ingenuity, perseverance, collaboration and just plain listening to – and hearing – the challenges faced by our Aboriginal communities in Canada. We have worked with key training partners over the years such as the Operating Engineers Training Institute of Ontario (OETIO), a world-class training institute offering learning and safety programs for crane and heavy equipment operators, among others, in support of our construction industry. Aecon has successfully sent Aboriginal students from Saskatchewan and Ontario to OETIO for training, with many graduates actively working on Aecon projects close to their home communities.

The challenge in this, however, is that many Aboriginal students and workers with great potential must leave their respective communities and travel, in some cases thousands of miles, to get the training they require. After working closely with several Aboriginal community leaders and listening to the challenges their young people face, it became apparent that we needed a significant paradigm shift in our thinking. Aecon began to focus on how we were going to help bring education and training directly to Aboriginal communities so that community members did not have to uproot and abandon their cultural ties and support systems to pursue the careers they desired.

AECON CONTINUES TO RECOGNIZE THE IMPACT OUR PROJECTS HAVE ON ABORIGINAL COMMUNITIES.

This led our Aboriginal Affairs team to work in partnership with key technology and communications providers to develop the Aecon Remote Training Centre. It's a "classroom in a box" concept that's innovative and modern. The facility consists of a sizable classroom, kitchen, office and coatroom. It is completely modular in construction, transportable by small cargo plane and ready for assembly on site by Aboriginal community members. The classroom is equipped with state-of-the-art technology and features a high-speed satellite connection to OETIO and other educational institutions, such as Confederation College, where students have direct and interactive access to key professional educators.

Our first Aecon Remote Training Centre was opened with much fanfare in Neskantaga, a First Nation community in Northern Ontario, in August of this year. I encourage you to read the project profile on page 50 in this issue of ONE Magazine and go to the YouTube link mentioned in the article.

Going forward, as we continue along on our "ONE Aecon" path, our Aboriginal Engagement Program will play a critical role in the success of our projects. Our clients also greatly benefit from engaging with a contractor that offers an established track record of working with Aboriginal communities for mutual benefit. At Aecon, we undertake these initiatives and continue to invest in our Aboriginal Engagement Program because it makes solid business and economic sense to do so. In the case of the Aecon Remote Training Centre, and the profound impact it will have on local Aboriginal communities for years to come, sometimes we do things just because it's the right thing to do.

Teri McKibbon is the President and Chief Executive Officer of Aecon Group Inc.

ALL ABOARD THE

UP Express

UNION PEARSON EXPRESS TERMINAL 1 (T1) STATION

Tens of thousands of visitors are expected to arrive in Canada's most populated city next summer for the Pan Am and Parapan Games 2015. Providing them quick and easy access in and out of the downtown core will be the brand new Union Pearson Express, a 25-kilometre express rail service connecting the country's two busiest transportation hubs, Union Station and Pearson International Airport. Aecon has played a major role in bringing this much-needed express service to Toronto's GTA. First came the construction of the three-kilometre elevated spur line that connects the line to the airport. Next Aecon has reached substantial completion on the new Union Pearson Express Station at Terminal 1, where logistical ingenuity and precision planning have created a sleek, modern building to welcome visitors and urban commuters alike.

WHEN PEOPLE VISIT THIS STATION, THEY ARE GOING TO SEE A REALLY BEAUTIFUL BUILDING, BUT WHAT THEY WON'T SEE ARE THE LOGISTICAL FEATS THAT WE NEEDED TO OVERCOME TO GET IT BUILT.

– LES WEIDMAN, PROJECT MANAGER, AECON BUILDINGS

It could be called "25 in 25." It would be a fitting moniker to describe the 25 minutes it will take to travel the 25 kilometres of express rail line between Toronto's Union Station and Pearson International Airport once the Union Pearson (UP) Express opens for business in Spring 2015.

As Canada's first airport express train, the UP Express is projected to remove 1.2 million car trips from the GTA's clogged arteries and major thoroughfares in its first year of operation alone. It's a long-awaited antidote for both urban commuters and global tourists.

In July 2010, Metrolinx, the provincial government agency in charge of public transportation in the GTA, announced it would build, own and operate the UP Express. It would utilize an existing rail corridor with a direct route to downtown's Union Station and, for the Pearson end of the express service, introduce a newly constructed three-kilometre spur line that would branch off the corridor and connect to the airport. There, a newly constructed station at Terminal 1 would welcome and process UP Express passengers.

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 the spur line and build the station at Terminal 1 (ONE, Vol. 2, Issue 1). Aecon set to work on the three-kilometre elevated spur line in January 2012 with its sights set on a Fall 2014 completion date. In all, five internal groups came together on the spur line for a comprehensive "ONE Aecon" approach-to-project (ACML, AME, AGI, Miwel and Lockerbie & Hole), while the station work was subcontracted to Aecon's Buildings group.

The project schedule called for Aecon to begin construction staging of the new UP Express Station at Terminal 1 in March 2013. Many months prior to that, however, Project Manager Les Weidman and his site team were already fully ensconced in meticulous pre-planning and logistical detailing. They knew the challenges that lay ahead.

PROJECT FILE

Union Pearson Express Terminal 1 (T1) Station

LOCATION: Toronto, Ontario

AECON DIVISION: Aecon Buildings

CLIENT: Metrolinx

JOINT VENTURE: Aecon Group Inc. and Dufferin Construction (50/50)

TIMING: March 26, 2013–August 2014

TYPE OF CONTRACT: Design-Build-Finance

CONTRACT VALUE: $21 million (station)

SUMMARIZED SCOPE:
// Construct:
– A train station(92 metres x 7.5 metres), approximately 24 metres above ground level
– An emergency stair tower
– Two service floors, suspended from the station's beams
// Install:
– All station finishes
– All Electrical and Mechanical
– A platform-edge protection system

KEY EMPLOYEES:
Les Weidman, T1 Station Project Manager
Brent Kimberley, Superintendent
Guido Gallomazzei, Superintendent
Ralph Perry, Superintendent
Matt Kopczinski, Construction Manager
Fraser Gray, Project Coordinator
Patricia Alderson, Project Coordinator
Brad Smith, Safety Coordinator
George Steele, Safety Coordinator

QUANTITIES:
// Concrete – 1,000 cubic metres
// Reinforcing steel – 178.8 tonnes
// Structural steel – 534.8 tonnes

THE STATION IS BOXED IN AND SITS 24 METRES IN THE AIR, BETWEEN TWO OPERATING TRACKS FOR THE AUTOMATED PEOPLE MOVER. IT TOOK MONTHS OF PRE-PLANNING AND COORDINATION WITH ALL THE GROUPS INVOLVED TO LITERALLY GET THE BUILDING OFF THE GROUND AND INTO PLACE ON SCHEDULE.

– LES WEIDMAN, PROJECT MANAGER, AECON BUILDINGS

NEXT STOP: NEW STATION

To say the new UP Express Station at Terminal 1 is situated in a busy corridor is an understatement. Flanked by the airport terminal, a parking garage, multiple levels of roadway and a pre-existing elevated guideway for the terminal's automated people mover (APM), the new station location definitely required some innovative thinking.

"When people visit this station, they are going to see a really beautiful building, but what they won't see are the logistical feats that we needed to overcome to get it built," notes Weidman. "The station is boxed in and sits 24 metres in the air, between two operating tracks for the APM. It took months of pre-planning and coordination with all the groups involved to literally get the building off the ground and into place on schedule."

A significant consideration in every stage of the project planning was the issue of working within a fully functioning environment.

"You can't expect an airport to close its doors to complete construction," notes Weidman. "We pre-planned stages months in advance with the Greater Toronto Airports Authority (GTAA), tweaking where we had to just to avoid interfering with airport operations."

The first order of business for the Aecon site team was to shut down the APM and then focus on safely completing the building's structure and shell within a six-month construction window.

As its name states, the APM – automated people mover – is an unmanned, cable-driven train used to move people along an elevated guideway, making brief stops at the airport's Terminal 1 and Terminal 3 hubs, as well as a reduced-rate parking facility. The APM's guideway – a pair of tracks that run independently of each other – frames the site where the station now rests, which, at the time, further contributed to the site's constricted construction space. With the APM trains out of commission for the duration of the building's shell construction, buses were brought in to keep people moving throughout the airport. The buses, however, also served as a constant reminder to the site team of Aecon's contractual deadline. Failure to reach construction completion by September 26, 2013, would result in a $50,000 per day penalty for the continued operation of the buses, a fate that was strategically avoided with the introduction of a 24/7 work schedule.

With little time to spare, the Aecon site team set to work on the station's foundation shortly after arriving on site. To hold the weight of the station, two 90-metre-long monolithic support beams were required to span across four pre-existing piers. In order to create such a lengthy beam, three sections were created, with each section featuring two 30-metre concrete support beams running parallel to one another.

Since the support beams in the first section needed to sit 24 metres in the air above parking garage entrance ramps of varying heights, 18 metres of truss frame scaffolding was introduced to avoid the use of public ground space. With each concrete form being the approximate weight of a people-packed city bus, it was imperative the truss scaffolding be capable of supporting

SHAPING THE TERMINAL 1 STATION HAS REALLY BEEN A FULL TEAM EFFORT … WITHOUT THE COMBINED EFFORT AND COOPERATION FROM EVERYONE, THIS PROJECT SIMPLY WOULDN'T HAVE HAPPENED.

– LES WEIDMAN, PROJECT MANAGER, AECON BUILDINGS

A RENDERING OF THE UNION PEARSON TERMINAL 1 (T1) STATION

each of the 16-tonne concrete forms without ground support. Once hoisted into place and torqued together, the entire weight of the formwork was taken off the scaffolding, and the first two of six concrete pours began.

Unlike the first two support beams, the remaining four beams spanned an open area, and a more traditional approach could be used. Ground-built scaffolding was erected to support the hefty formwork for the final four beams, while the first two truss-supported beams cured. Steel-reinforced concrete slabs were then poured on top of the fully cured beams, starting from the south end of the station and making their way north.

"It was definitely a challenge getting these three-metre-thick beams in place within such a confined environment," says Weidman, "but we were up to the task. These support beams needed to be heavy-duty, not just for the station on top but also for the two suspended service levels dropping down underneath. Essentially, that applies two forces to the concrete – one pressing down and the other pulling – that the entire beam needs to withstand in order to provide support without fail."

With only a few months to go before the APM was back in service, the crew began work on the exterior shell and the suspended service levels as soon as the concrete slabs were finished.

The two-floor suspended service area drops below the station to house all of the electrical and mechanical components required to run features such as the train door system and station services. Since the service levels are suspended from the station's foundational concrete, two-metre-deep hangers placed every three metres were embedded into the main concrete beams to secure the structural steel framing. These supports, located at four key sites, could not be welded until all construction loading was in place.

On the upper levels of the station, structural steel, concrete walls, the aluminum and glass curtain wall system, and roofing elements were all installed concurrently to form the building's perimeter. All materials needed to form the exterior were pre-ordered and fabricated off site, with guaranteed dimensions, to save time on the tight schedule. "I lost a few hairs just wondering if these pieces were going to fit because you don't really know until you're putting it in," jokes Weidman. To the team's delight, everything was successfully installed without incident, thus completing the outer shell of the structure in time for the APM to resume service on September 26, 2013.

Protected from the elements, crews were now able to comfortably work on connecting the station to the nearby required electrical and mechanical systems. Weidman notes that every station system is directly tied into existing airport systems, another challenge the site team carefully planned with precision.

"We used all of the shutdowns and scheduled openings to our advantage to perfectly coordinate the timing of the tie-ins. We wanted our crew to walk into the job site and, without question, know exactly what needed to be done that day. Very rarely did we have to reschedule work." Weidman is quick to note that construction within an operating airport facility means unforeseen circumstances every so often, "but we always responded in a timely manner and accommodated any on-the-spot changes."

With the electrical in place, the team focused on finishing touches to bring the station alive. Cellphone antennas and a Wi-Fi system were wired throughout the building to keep passengers connected to the outside world. Two sets of screen monitors were installed; one displays train arrival and departure times, the other sponsored ads and promotional information. Making the station interior really pop are the deeply recessed lighting fixtures placed within a classic wood panel ceiling and the polished-to-a-shine terrazzo floor.

"Despite all the challenges on this project, seeing all of the chosen finishes fully installed is really impressive,"

24 METRES ABOVE GROUND LEVEL

25 KILOMETRE EXPRESS RAIL SERVICE

25 MINUTES TO TRAVEL FROM UNION STATION TO PEARSON INTERNATIONAL AIRPORT

1.2 million

FEWER CAR TRIPS REQUIRED IN THE GTA

THESE FINISHES AREN'T SOMETHING YOU WOULD NORMALLY SEE IN A TRAIN STATION. I THINK PASSENGERS WILL BE THOROUGHLY SURPRISED BY THE BEAUTY, FORM AND FUNCTION OF THE UP EXPRESS STATION WHEN THEY SEE IT.

— LES WEIDMAN, PROJECT MANAGER, AECON BUILDINGS

notes Weidman. "These finishes aren't something you would normally see in a train station. I think passengers will be thoroughly surprised by the beauty, form and function of the UP Express Station when they see it."

ALL ABOARD!

As passengers gear up to step on or off the trains, a complex platform edge door (PED) system provided by General Electric (GE) will ensure their safety every step of the way. The first installation of its kind by GE in Canada, the system prevents train doors from opening before the train operator has a chance to perfectly line up the vehicle with the station doors. Attempting to eyeball the required precision would be impossible. To assist, a light and laser system that works in tandem with antennae located below the train and station doors gives the train operator visual confirmation of his or her position. Approaching the station, the operator will decelerate the train to get within a few inches of the correct position, as indicated by a series of multi-coloured lights. From there, the lasers will provide a pinpoint accurate measurement that guides the operator in properly aligning the train before the safety features allow the doors to open.

The PED system is also slated to be installed at the UP Express downtown hub, Union Station. Before that installation takes place, however, the express line's Terminal 1 Station will serve as a proving ground for the technology. Since the trains were purchased from Japan (Nippon Sharyo) and the PED system from Singapore (ST Electronics), the two operating components will meet for the first time at Terminal 1 in Toronto. With trains lying in wait in Toronto since mid-September, commissioning of the PED system began on October 1, 2014.

"Shaping the Terminal 1 station has really been a full team effort between Aecon, the AirLINX joint venture, Metrolinx and the GTAA," notes Weidman. "Without the combined effort and cooperation from everyone, this project simply wouldn't have happened, purely based on the site's challenges alone."

The Union Pearson Express is expected to be fully operational by Spring 2015.

DID YOU KNOW?

DISTANT EARLY WARNING (DEW) LINE

Built as a pre-emptive measure against the threat of Russian aerial bombing attacks during the Cold War, the Distant Early Warning (DEW) Line stood watch over the Arctic Circle for nearly 40 years. The unforgiving Arctic weather served as backdrop as construction crews braved the elements to construct a defensive line of surveillance radar stations across the northernmost tip of North America that would warn of any incoming security threats. But did you know that Aecon – through one of its predecessor companies – confronted the largely unexplored Arctic territory to collaboratively complete a project deemed as one of the most demanding construction jobs ever undertaken in the North?

FACTS AT A GLANCE

CLIENTS:
Bilateral agreement with both the Canadian and U.S. governments

PRIME CONSTRUCTION CONTRACTOR:
Western Electric Company Inc.

AECON'S INVOLVEMENT:
The Foundation Company of Canada, an Aecon predecessor company

COST:
$27,944,984 ($249,522,942 in today's dollars)

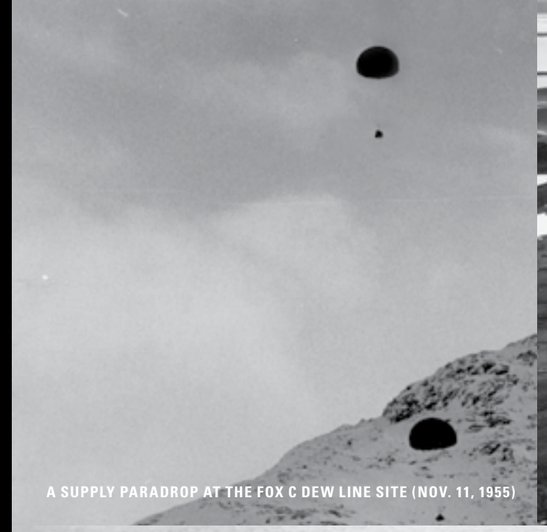
TYPE OF CONTRACT:
Fixed Fee

LOCATION:
Arctic Region of Canada

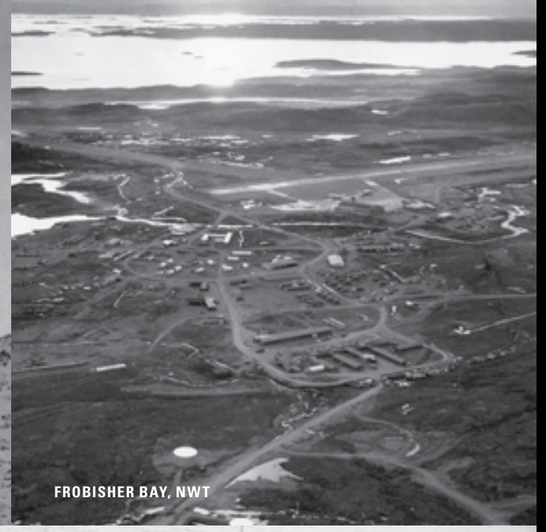
SCOPE:
Construction of 17 surveillance radar stations and a radio relay station

CONSTRUCTION TIME FRAME:
January 1955–March 1957

DEACTIVATION:
1995



A SUPPLY PARADROP AT THE FOX C DEW LINE SITE (NOV. 11, 1955)



FROBISHER BAY, NWT

OFF-LOADING MATERIALS FROM A LANDING SHIP ALONG THE EAST COAST OF BAFFIN ISLAND

THE RUGGED TERRAIN OF NORTHEASTERN CANADA SPEAKS TO THE CHALLENGES INHERENT IN CONSTRUCTING THE DEW LINE.

The Distant Early Warning (DEW) Line was an integrated chain of 63 surveillance radar and communication stations strategically placed across roughly 5,000 kilometres of desolate, snow-covered terrain. From the northwest coast of Alaska to the eastern shore of Baffin Island, Nunavut, the stations collectively scanned the north for possible airborne surprise attacks on North American soil.

While the sheer magnitude and expense of the project led the U.S. government to shoulder the bulk of its accountability, the Canadian government, in the end, remained strategic in its role. Documentation reflects Canada's initial hesitation and inability to financially contribute to the project. This stance was, however, quickly overridden by the prospect of a unilateral American construction project in the Canadian North. Far worse than the proposed economic burden of such a massive project was the threat of the U.S. exercising military control over the region due to a lack of Canadian presence. And so the Canadian government entered into a bilateral agreement with the United States in the early 1950s, with construction getting under way in December 1954.

The federal governments of the partnering countries selected Western Electric Company Inc. as the main contractor for the project. Shortly thereafter in late December, Western Electric contracted The Foundation Company of Canada to build 17 of the 63 stations that would run along the eastern Canadian portion of the DEW Line.

An undertaking of this magnitude necessitated planning on a scale comparable to a major military operation. Thousands of skilled personnel were transported to the Arctic region, housed, fed and supplied with the equipment and materials required to see the project through. Everything from sacks of potatoes down to the smallest nut and bolt had to be delivered to this remote northern location.

A veritable caravan of military and commercial vehicles distributed thousands of pounds of cargo along the entire length of the DEW Line to build permanent settlements for the personnel at each of the 63 sites. Incredibly, approximately 420,000 tonnes of materials were transported to the Arctic from the U.S. and Canada by air, land and water, including enough gravel to build two versions of the Great Pyramid of Giza.

Locating the radar sites was documented as being a formidable undertaking since much of the geography was considered extreme. The Royal Canadian Air Force (RCAF) contributed an invaluable resource by providing 80,000 aerial photographs. In most sectors, these photos were supplemented by on-the-spot surveys, and many sites weren't even surveyed until the arrival of advance construction parties.

In the summer of 1955, a sealift was organized on both the west and east coasts. From Halifax, Nova Scotia, a vast armada of ships slowly made their way

EVERYTHING FROM SACKS OF POTATOES DOWN TO THE SMALLEST NUT AND BOLT HAD TO BE DELIVERED TO THIS REMOTE NORTHERN LOCATION.

northward, preceded by the icebreakers HMCS ***Labrador*** and USS ***Edisto***. The armada manoeuvred its way through the puzzle-like ice fields day and night, partially guided by the midnight sun – a natural phenomenon occurring during the Arctic's summer months.

And while the stark natural beauty of the Arctic was ever present, the journey was fraught with challenges. Since movement in the Arctic is heavily restricted by weather, the armada often encountered dense fog and rough sea conditions created by warmer airflow patterns. Suffice it to say, when the weather failed to cooperate, the team shifted to airlifting wherever possible to reduce risk and increase efficiency and safety.

As with most construction projects, with every new turn came a new set of challenges, and airlifting was no exception. Piloting skills were put to the test as the crews attempted to safely set down on established landing strips. Each landing strip was built by a small construction crew using supplies that were airdropped to the isolated locations. Unfortunately, even this tried-and-true wartime tactic wasn't without its flaws. Sometimes, due to freezing, parachutes would simply fail to open. On two such occasions, bulldozers made an unrehearsed free drop from 250 metres, plunging through a metre-and-a-half thickness of ice into the sea.

Despite Mother Nature's unwillingness to cooperate, crews soldiered on. With stacks of supplies, materials and equipment mounting, construction began to move forward at a rapid pace. At the heart of it all was the supply chain that powered the entire project, located at an air base in the Northwest Territories. The Frobisher Bay Air Base became a focal staging point with on-site storehouses brimming with inventory. The base hosted large numbers of transport aircraft and naval ships on a daily basis as they swooped in to deliver all vital components for this unparalleled project.

81,000 TONNES OF MATERIAL AND EQUIPMENT SHIPPED TO THE ARCTIC BY AIR

96,000 TONNES SHIPPED BY SEA

11,400 TONNES OF FOOD REQUIRED TO PROVIDE 8,000,000 MEALS

64 MILLION LITRES OF DIESEL AND AVIATION GASOLINE CONSUMED

A ROYAL CANADIAN NAVY (RCN) FROGMAN PREPARING DEPTH CHARGES TO CLEAR ICE IN THE WAY OF SUPPLY TRANSPORTS

ON AVERAGE, ONE TONNE OF MAIL PER DAY PASSED THROUGH THE FOUNDATION COMPANY OF CANADA'S MONTREAL OFFICE, WHICH ACTED AS A SUB-POST OFFICE FOR BOTH OFFICIAL AND PERSONAL DEW LINE MAIL. THAT'S COMPARABLE TO AN ENORMOUS MOUND OF MORE THAN 65,000 STANDARD POSTAGE LETTERS.

In an open letter addressed to The Foundation Company penned before his return home in 1957, a contractor by the name of Georges J. DesRosiers credits Foundation for making possible the "near impossible" task of managing the copious amounts of required inventory.

"Some of us came here with past storekeeping experience, [the] majority [of us] with none," he notes in his typed letter. "But for my part, I can say that even with my past experience I have learned more from Foundation's storekeeping procedures than I have from other construction companies. In this country, Foundation has applied a system that could easily work, even with the hard climate, even with all the delay caused by bad weather or inexperienced personnel. To conclude, may I state that I appreciate the words spoken by Mr. Shaw, the Vice President of The Foundation Company of Canada, 'It can be done.'"

For two long years, inventory frantically moved through the project's respective storehouses; contractors battled darkness, blizzards and sub-zero temperatures; concrete was poured in the middle of frigid winters; buildings were constructed; electricity, heat and water were supplied to the sites; and massive steel antenna towers were erected. A full gamut of radar and communications equipment was installed shortly thereafter, followed by comprehensive, time-consuming facility testing. Finally, after more than two-and-a-half years, the everyday hustle and bustle subsided on July 31, 1957, when the DEW Line became fully operable.

As time marched on, portions of the DEW Line were upgraded and, in 1985, replaced by a transitional project called the North Warning System (NWS). In essence, the NWS project upgraded strategic DEW Line stations to keep up with new and emerging threats. With the end of the Cold War and dissolution of the Soviet Union in 1991, however, the DEW Line was deemed obsolete. American flags were lowered along the Canadian portion of the DEW Line, and the U.S. withdrew its personnel, relinquishing to Canada full operational control of the occupied stations.

The cultural impact left behind by the DEW Line is undeniable in its significance to Canadian heritage. Through its advanced technology of the day, the DEW Line figuratively opened the doors on our country's Inuit communities, raising awareness and strengthening connections for the first time, as Canadians learned more about life in the Far North.

The construction and operation of the DEW Line also spurred economic development in the Canadian Arctic and provided momentum for further growth in the areas of research and telecommunications.

Aecon is proud of its connection to The Foundation Company of Canada and to this monumental project that played such a vital role in the history of our country.

CLOSE QUARTERS

ENBRIDGE SOUTH EDMONTON TERMINAL TANK FARM EXPANSION

It's one thing to process crude oil pulled from the earth, but it's quite another to safely store it. Impressed by the level of expertise at its Hardisty Merchant Tank Farm in 2009, Enbridge selected Aecon to help expand its existing facility at the South Edmonton Terminal (SET) Tank Farm in Strathcona County, Alberta. The work is routine for Aecon's Industrial West group, but the soccer-field-sized work area has brought new meaning to the idea of rubbing shoulders with the best in the business.

UNDERSTANDING THE LEVEL OF COORDINATION REQUIRED TO SEE THIS PROJECT THROUGH, AECON INDUSTRIAL WEST (AIW) PROJECT MANAGER BRENT FIELD SAYS KEEPING EVERYONE PRODUCTIVE ON SITE HAS BEEN AN EXERCISE IN CAREFUL CONSIDERATION.

To call the greenfield work area where the South Edmonton Terminal (SET) Tank Farm expansion is taking place a tight fit would be putting it lightly. Safely coordinating the daily actions of all 10 on-site construction companies, each with its own scope and schedule, has required expert planning and execution to keep everyone productive in the limited 60 metre by 100 metre footprint. Where one contractor needs to pile, another may need to lay pipe. Where one needs to erect scaffolding, another may need to excavate. Understanding the level of coordination required to see this project through, Aecon Industrial West (AIW) Project Manager Brent Field says keeping everyone productive on site has been an exercise in careful consideration.

"The work area can become very busy and congested in such a confined space, so safely coordinating everyone's daily actions requires a lot of effort across all fronts," notes Field, stressing the importance of keeping the work flowing. "For example, work cannot safely take place within 30 metres of an active pile driver, which means any contractor within that area needs to be reassigned work to accommodate."

Everything is scheduled during the site's three-week look ahead and daily coordination meetings. A site-wide EHS meeting takes place every day, which gives the safety leads from each company the opportunity to discuss concerns and issues surrounding the project. This meeting works in conjunction with the needs raised during the contractor coordination meeting. To date, the team's combined efforts have created a safe and efficient work environment, keeping all on track with the project schedule.

PROJECT FILE

Enbridge South Edmonton
Terminal Tank Farm Expansion

CLIENT: Enbridge

LOCATION: Edmonton, Alberta

AECON GROUP: Aecon Industrial West

TYPE OF CONTRACT: Cost Reimbursable with Fixed Fee

TIMING: October 2013 – August 2015

CONTRACT VALUE: $60 million

SUMMARIZED SCOPE:
// Building trades
// Installation of booster pumps and prover
// Installation and fabrication of 48-inch-, 40-inch- and 36-inch-diameter bore piping
// Installation of cable tray racks, bridges, pipe racks, pipe supports
// Scaffold support for all on-site trades

AECON EMPLOYEES ON SITE: 100 (at peak)

KEY EMPLOYEES:
Brent Field, Project Manager
Matt Westfall, Assistant Project Manager
Dion Gillam, Safety Lead
Charlene McCleary, Quality Lead
Tom Farrow, General Superintendent
Ray Snow, Structural Superintendent
Shawn Haggerty, Senior Piping General Foreman

QUANTITIES:
// Pipe – 7,280 metres
// 48-inch underground pipe – 1,939 metres
// Structural steel – 886.4 tonnes

WE'VE SAFELY COMPLETED 112,000 MAN-HOURS WITHOUT A SINGLE LOST-TIME INJURY.

–MARC NOEL, TRADE SUPERINTENDENT

BUSINESS AS USUAL

With a $60 million contract and its first engineering work package in hand, AIW began staging the greenfield site for underground pipe work in October 2013. In coordination with the site's civil contractor (Sureway Construction), trenches were excavated for the 2,000 metres of 40-inch-diameter piping required to carry a portion of the Fort McMurray-inbound processed oil to and from the five new on-site six-storey storage tanks.

Pipeline skids – consisting mostly of 48-inch piping – were laid out at grade, then welded, coated internally and externally, and lowered into the trench. The pipe spools used in the construction were fabricated off site by AIW's fabrication shop and delivered to the site. At the same time, work on a large underground valve manifold station was under way, connecting in line with the pipeline. The manifold itself is an intricate pipeline switch used to regulate the oil flow into and out of the storage tanks. To complete the underground work, the trenches were backfilled to set the tank piping in place. The tank pipeline reached completion earlier this year in January (2014) and the manifold by the month of May.

To measure the flow of oil at the facility, AIW had to install six large meters. These meters are built in two large modular sections, each weighing approximately 70 tonnes. To get the job done, AIW enlisted two of its internal groups for fabrication of two modularized skids that could be placed in line with the pipework. The fabrication (fab) shop formed and welded manageable chunks of piping – known as pipe spooling – that were then passed on to the modular (mod) yard. The mod yard then assembled the two skids into their largest transportable size, paying close attention to the intricately designed configurations. When the two skids were completed in June 2014, they were brought in on truck beds and crane-lifted into position.

"Assembling the skids into a modularized structure off site saved us from bringing the equipment and bodies needed to perform the work into an already congested workspace," explains Field. "It also saves us a lot of time when we're able to fabricate and weld the pipes off site." Once the crane placed the skids, he notes, the team was able to bolt the two modules together to form a single metering unit. "We achieved the exact same end product as we would have if everything was assembled on site."

With the AIW fab and mod shops running at full speed, AIW subcontracted WF Welding to fabricate all the structural steel required for piping and pipe rack componentry.

Aecon was also charged with fabricating and piecing together all of the piping associated with the on-site pipe racks. Booster pumps needed to pump the oil to pipeline pump stations elsewhere in the Enbridge terminal and fire protection piping for the tanks themselves also fall under Aecon's umbrella.

In addition to the main trade work of mechanical piping and structural steel erection, Aecon is providing scaffold support to all site contractors. Notes Field, "Even though scaffold is not part of the permanent material, it is one of the more crucial activities performed. Without the scaffold support, many tasks wouldn't be completed safely and productively. In my opinion, scaffolding is a truly underappreciated task."

With the mostly 48-inch pipeline, manifold and metering unit firmly in place, testing the integrity of the build was next on the agenda. By the close of summer 2014, AIW had reached a major milestone as the team launched its first 15-hour hydro test. The pipeline was filled with 3,500 cubic metres of city water – that's 350 truckloads of water supplied by Strathcona County – to create the required pressure. Once the pressure reached 428 pounds per square inch, the pipeline was thoroughly inspected for any cracks and leaks over the course of the test period. Without a single issue, the new piping system successfully passed the test and was given the seal of approval.

"With 40 per cent of our scope complete, we're on schedule for completion by early summer of 2015," reports Field. "We're doing top-quality work for Enbridge, as proven by our better-than-average weld repair rate of 2.3 per cent and, considering the limited workspace, we've safely completed 112,000 man-hours without a single lost-time injury. That's something everyone at the SET job site can be proud of."

MEET:

PEOPLE MATTER

CARLOS TRAVASSOS

FOREMAN
AECON UTILITIES

On the job site since the age of 11, Carlos Travassos knows how to put in a full day's work. He's been getting his hands dirty digging deep into utility work for more years than he can count and yet, even at 62 years old, he can still safely work circles around team members many times his junior.

When you were young, what led you into your construction career?
I was born in Portugal and, after four years of basic schooling, everyone went to work. I was 11 years old when I had my first job. That's how things were in those days. My first job was carrying dirt, and it paid about as much as dirt is worth. Fifty-one years ago, the job paid a few [Portuguese] escudos, which would have been a couple of cents back then – carrying dirt for pennies.

That must have been hard at such a young age.
My father passed away when we were young, and my mother was a homemaker. I have a pretty big family, and everyone did their part to help. My older brothers brought what money they could into the house to support the family and, eventually, I began doing the same. All seven of us – five boys and two girls – worked various jobs to put food on the table.

For how long were you at your first job?
I worked my first job for three years and, when I was 14, I started helping the local bricklayers. At the time, I was too young to actually lay bricks, so I was responsible for mixing the cement for the masters. I did that job for two years, and then most of my family came to Canada.

Why Canada?
One of my sisters encouraged us to come over. She was already married and living in Toronto at the time. There was also little opportunity in Portugal. Not all of us came though. A few of my siblings went to the United States to pursue various careers. A lot of us ended up in construction. One of my brothers used to work for the Banister Foundation Company (BFC) until he retired a few years back.

So you've landed in Canada. What happened next?
I picked up a job with a company repairing basements. I spent a lot of my time digging around houses to access the basement foundation. Then I would go around filling and fixing any cracks that were causing leaks or could be potentially dangerous if left alone. After that job, I came to Cliffside (an Aecon predecessor company) in 1972, where I learned about utility work.

I got hands-on experience working with sewers and water treatment facilities, which is the type of work I've spent most of my life doing. I started out jackhammering and digging up roads for repair work, general labour-type stuff, and then just worked my way through various jobs. I've been a Pipeman, which is laying pipe for storm and sanitation sewers, drains and water mains. Somewhere along the way, I eventually made Foreman with Cliffside, and I've been in that role ever since.

What do you do as a Foreman?
I pretty much do a bit of everything. I look after all of the utility work that happens on site, keep things on schedule and make sure everything is done as safely as possible. There's no greater responsibility than safety. When we dig the ground up, we need to be constantly aware of dangerous situations. The ground could cave in, walls could collapse, gas could build up from a leak, etc. It's up to all of us to be conscious of each other's safety, so I make it a point to keep it at the forefront of everyone's mind.

How do you train co-workers who are still "wet behind the ears"?
Aecon has a lot of safety measures in place to really ensure green workers can learn, work safe and be successful in their roles. I try to teach them that it's sometimes as simple as keeping your eyes and ears open: Pay attention to where you are and what you're doing. Many of the new workers have more education than I do, but they have no hands-on experience. It's up to us, as a team, to instill these safe practices in the people who will be the future of the construction industry.

What are some "lessons learned" that you've gained over your long career?
I learn new things every day. That's the nature of the construction business. It's important to realize there's always something new to learn and to never assume you know it all. One of the most recent things I've been learning about is working with gas. I've never really worked with it until recently. I find it a nice change of pace. Even though a lot of the components are similar, the practices used to fit and piece everything together are different. It's all fascinating to me.

What do you make of your life in the construction industry?
Even though I've been with quite a few companies over the years, I'm really proud to be working for Aecon. Aecon puts safety first, and that meshes really well with how I like to run my sites.

IT'S UP TO US, AS A TEAM, TO INSTILL THESE SAFE PRACTICES IN THE PEOPLE WHO WILL BE THE FUTURE OF THE CONSTRUCTION INDUSTRY.

– CARLOS TRAVASSOS, FOREMAN, AECON UTILITIES

EMPLOYEE FILE

CARLOS TRAVASSOS

POSITION: Foreman, Aecon Utilities

DIVISION: Aecon Utilities

YEARS SERVED: 42

EXPERIENCE:

1972	Cliffside Pipelayers Truck Driver, Pipeman, Foreman
1978	Banister Foundation Company Pipeline Division, Foreman
2011	Aecon Group Inc. Foreman

BORN: 1952

BIRTHPLACE: Portugal

CURRENT HOME: Pickering, Ontario

FAMILY: Ana (spouse), Tammy (daughter), Gary (son)

AECON FAMILY CONNECTIONS: Gary Travassos (son), Victor Travassos Sr. (brother), Victor Travassos Jr. (nephew)

A DEFINING RELATIONSHIP

HIGHWAY 407 INTERCHANGE AND BROCK ROAD REALIGNMENT

Since 1997, Ontario's Highway 407 ETR, the world's first all electronic-toll highway, has been offering motorists an alternative route across the top of the traffic-congested Greater Toronto Area (GTA). Throughout the years, Aecon has been a key player in the highway's formation and its sustained growth. Now the toll route is expanding again, and Aecon has been called upon to fulfill yet another important role in the road's legacy: to successfully link the existing east end of the toll route in Pickering, Ontario, to the brand new Highway 407 East, under construction just down the road.

Beginning at the Freeman Interchange along the Queen Elizabeth Way (QEW) west of Toronto in Burlington, Ontario, the 407 Express Toll Route (407 ETR) travels 108 kilometres eastward along the top corridor of the GTA, the province's most populated urban centre. When the toll highway first opened in 1997, much of its route was still rural. Fast-forward 17 years, and the countryside is still evident in some sections, but there's no denying the city's growth. And along with it, have come increasing congestion and snarled traffic on the very route that was originally designed as a northern bypass.

Aecon has enjoyed a long and successful history with the 407 ETR as one of the original partners in its development, design, construction and operation. From a transportation perspective, successive 407 ETR contracts have continued to highlight Aecon's capabilities in safely delivering complex projects, on schedule, within the framework of strategic partnerships. Aecon's initial 407 ETR contract involved the construction of an original 69-kilometre stretch of multi-lane concrete highway (equating to 560 lane kilometres) with a scope of work that included 125 bridges and 20 interchanges. Aecon also delivered the electronic toll systems, high mast highway lighting and complete highway signage. Over the years, more than 10 other multi-million-dollar contracts have been awarded to Aecon to upgrade, extend and/or widen the 407 ETR.

With an average 400,000 vehicle trips along its east-west corridor every day, the toll route has been clocking numbers for some time that underscore the need to further expand the cross-regional highway. Despite its user-fee framework, the toll route continues to be a draw for harried daily commuters and province-wide drivers looking to avoid Toronto's congested core. And perhaps nowhere is the need to extend more evident than the Pickering section of the highway.For years, the 407 ETR has come to a rather abrupt stop in Pickering, Ontario, as three lanes of

PROJECT FILE

Highway 407 Interchange
and Brock Road Realignment

CLIENTS: 407 ETR Concession Company Ltd. and Ministry of Transportation Ontario

LOCATION: Pickering, Ontario

AECON GROUPS: Aecon Construction and Materials Limited (ACML), Yellowline Asphalt Products Ltd. Subcontracted: Aecon Materials Engineering (AME), AGI Traffic Technology (AGITT)

TYPE OF CONTRACT: Bid-Build

TIMING: April 2013–November 2015 (projected end date)

CONTRACT VALUE: $83.5 million

SUMMARIZED SCOPE:
// 3 kilometres of road
// Interchange connecting Highway 407, Highway 7 and Brock Road
// Highway 7 and Brock Road realignment
// Highway 407 road extension
// 10 bridge structures, including one post-tension bridge
// Rehabilitation of several creeks and tributaries

AECON EMPLOYEES ON SITE: 100 (at peak)

KEY EMPLOYEES:
Shane Fuller, Project Superintendent
Brent McIntosh, Contract Manager
Michael Ferguson, Project Coordinator
Ashley Walker, Project Administrator
Gary Kmith, Senior Superintendent (Grading)
Angelo Cornacchia, Senior Superintendent (Structures)
Giuliano Covassin, Senior Superintendent (Structures)
Everett McIntyre, Senior Advisor

QUANTITIES:
// Earth excavation – 1.2 million cubic metres
// Granular – 600,000 tonnes
// Asphalt – 130,000 tonnes
// Concrete – approximately 17,000 cubic metres

WHEN YOU'RE PERFORMING CONSTRUCTION ON A SCHEDULE-DRIVEN PROJECT WITH 407 ETR, IT'S ALL ABOUT MAINTAINING THE SCHEDULE. USUALLY, WHEN YOU'RE AWARDED THE CONTRACT, YOU MIGHT HAVE A MONTH AND A BIT TO MOBILIZE YOUR CREWS AND EQUIPMENT. BECAUSE OF THE TIGHT ENVIRONMENTAL WINDOWS FOR THIS PROJECT, WE NEEDED TO PACK UP AND HEAD FOR THE DOOR AS QUICKLY AS POSSIBLE.

—BRENT MCINTOSH, ACML CONTRACTS MANAGER

fast-moving highway suddenly converge at a traffic light. From there, motorists have traditionally had two choices to continue their journey eastward: keep moving along the slower, two-laned Highway 7 or detour south along Brock Road, through the town of Pickering and, ultimately, reconnect to Highway 401. It is at this bottlenecked eastern end of the 407 ETR that Aecon Construction and Materials Limited (ACML) has been called into action. Here the Aecon project team is hard at work constructing a three-kilometre interchange that will link the existing 407 ETR to its new extension, Highway 407 East, which has been designed to alleviate congestion and keep this eastern end of the region moving.

Highway 407 East is a multi-phased, multi-lane highway that will begin to offer congestion relief when the first phase, opens in late 2015. Phase 1 will extend the toll route a further 22 kilometres east. Phases 2 and 3 will continue the extension through the communities of Pickering, Ajax, Whitby, Oshawa and Clarington, ultimately reaching Highway 115 at the easternmost edge of Durham Region. From there, motorists will be able to quickly and easily travel north to cottage country or south to Highway 401. The new Highway 407 East will also accommodate the massive population growth that's expected to continue in this region east of Toronto and provide much-needed emergency detour routes for area residents.

TIME IS OF THE ESSENCE

In early 2013, 407 ETR Concession Company Ltd., owners of the 407 ETR following its privatization in 1998, tendered a contract for the construction of the three-kilometre 407 Interchange and realignment of Brock Road. The contract also included the construction of 10 bridge structures and the rehabilitation of several environmentally sensitive areas within the project area limits. After a successful bid, Aecon's ACML was awarded the $83.5 million contract on March 20, 2013. ACML Project Superintendent Shane Fuller and his crew scarcely had a chance to turn around before they were called into action.

"When you're performing construction on a schedule-driven project with 407 ETR, it's all about maintaining the schedule," notes Fuller. "Usually, when you're awarded the contract, you might have a month and a bit to mobilize your crews and equipment. Because of the tight environmental windows for this project, we needed to pack up and head for the door as quickly as possible." With not even a second to lose and less than a month after receiving the contract, ACML hit the ground running in April 2013.

MASSIVE BEAMS ARE SAFELY LOWERED ONTO PIERS

Since much of the project schedule is based around several key annual environmental windows, ACML began clearing and grubbing as much of the work site as possible in preparation for its first milestone date.

"A significant portion of this project requires us to do a lot of in-water work each year between July 1st and September 15th," explains Brent McIntosh, ACML Contracts Manager of the two-and-a-half-year contract. "All of our environmental controls needed to be in place before the beginning of July to properly position ourselves for the summer construction window and to ensure our tight schedule can be maintained. Not maintaining the schedule at any stage would push us back well over a year."

Utilizing heavy equipment in environmentally sensitive areas, such as creeks and tributaries, is forbidden and closely monitored outside of designated construction windows. For this reason, any clearing and grubbing of the ravines and streams had to be done by hand before heavy equipment could be brought in for work within the allotted construction windows.

With traffic already redirected around the site, ACML began using bypass pumps in early July (2013) to divert water from Brougham Creek and its various tributaries around the work area. Once the creek was dry, foundation work for each of the bridge structures began, along with the mandate that the substructures be completed before mid-September. With the piles installed in record time, ACML continued piecing together the substructure and installing support girders, while another crew rehabilitated the creek below.

"All of the rehabilitation designs require us to meticulously reconstruct the creeks to create ideal spawning habitats for the local fish," notes McIntosh. "We worked closely with the contract administrator and the designer's fluvial geomorphologist to ensure key environmental factors, like rock placement, were really expertly reconstructed to maximize the rehabilitation."

A key feature of the creek's rehabilitation has been the construction of two facing armour stone walls. The massive stone structures act as erosion-prevention retaining walls and offer an aesthetically pleasing design that naturally blends into the surroundings. Some 4,000 tonnes of armour stone were required to accomplish the task. Each stone weighed about two-and-a-half to three tonnes and measured the size of a chest freezer. One by one, the stones were meticulously lifted and placed into position by a backhoe.

"It was like putting together a giant puzzle," recalls Project Superintendent Fuller. "Each stone has its own characteristics, different cuts and curves, so there was a lot of trial and error involved as we attempted to fit all the pieces together to form the wall. If one piece didn't link with another, we had to pull it back out and try another."

Once a row was successfully placed, rods were drilled into the back of each stone to begin the tie-back process. A tie-back is a horizontal rod or wire used to reinforce retaining walls for stability and to prevent the wall from moving. With one end of the tie-back secured to the wall structure – in this case, each piece of stone – the other end must be anchored with sufficient resistance. On this job, the horizontal rods protruding from the stones were backfilled with granular material to hold it in place. With a base row installed, Aecon continued linking stones and backfilling. The two walls were successfully installed and reached completion ahead of the mid-September schedule deadline.

"In the two-and-a-half-month window we were given, our team needed to safely erect a bridge on top of a protected area, meticulously rebuild the creek to design specifications, back our equipment out of that area and flood the creek," recounts Fuller. "During the planning stages, there was a lot of concern about whether or not the scope regarding the environmentally sensitive areas was even achievable in such a short timeframe. If we failed to perform the work, we would lose an entire year on our schedule. I can proudly say our team over-delivered by going above and beyond, completing the work safely and to specification faster than anticipated in 2013."

CREATING TENSION

With 2013's in-water work complete, ACML continued grading and piecing together several bridges that were concurrently under construction during the summer. Of the 10 bridges involved in the project scope, the post-tension bridge was to be the largest and most technical, demanding a lot from the project team in order to reach completion during the 2013 winter season. Spanning approximately 210 metres from end to end, the post-tension bridge had been designed to take the traffic on the older, smaller Highway 7 up and over two new 407 ETR bridges, one bridge for travelling east and the other west, which were both under construction directly below the Aecon team's post-tension bridge work site.

Post-tensioning is a method of strengthening concrete with high-strength steel strands or bars, also referred to as tendons. Concrete on its own can withstand heavy, compressive loads but is actually fairly weak when up against tension-based forces. This means concrete will crack when forces act to pull it apart but not when pushing down on it. The tendons that weave through the concrete naturally want to return to their original length but are prevented from doing so by their anchorages. Picture a rubber band being stretched of its slack and becoming tighter. This method allows construction to become possible in situations where it would otherwise be impossible due to either site constraints or architectural requirements.

The tendons were laid out with precision within the concrete forms as construction continued through the winter season into 2014. In order to give support to the unformed bridge components, a false bridge, called a high-load system, was built to suspend the bridge forms as the bridge was being constructed. As the spring thaw came in 2014, concrete pouring began in accordance with installation drawings.

As soon as the concrete cured and reached its designated strength, the false bridges were taken down and reinstalled for the second westbound traffic span. Once the tendons are eventually stressed, they will produce a compressive force that counteracts the tensile force generated by anything travelling across the bridge, such as vehicles or pedestrians. This immense compressive force supplies a significant increase to the concrete's load-carrying capacity.

Bridge completion is currently on schedule and expected to be completed by 2015.

A STAGED PERFORMANCE

With the winter months behind them, ACML began redirecting traffic in early 2014 to close public road access to routes needing upgrades. With so many routes converging on one location along Highway 7 between Brock Road and Sideline 16, connecting an interchange to pre-existing routes and performing new construction within the same area required careful planning and staging to prevent interruption of local traffic.

"Since Highway 7 and Brock Road are well-travelled routes, staging is really important," notes Fuller, adding there have been five key traffic stages required to keep this project on schedule. "Our goal has been to keep traffic moving as smoothly as possible while performing the necessary upgrades and reconfigurations to the existing infrastructure around it. It's a lot like a game of chess, whereby you're planning your next move as soon as you've completed your last one."

In 2013, ACML completed several sections of the realignment in preparation for key traffic staging milestones. All of the earthworks and grading had to be completed well in advance in order to effectively stage the site for future construction. The ability to redirect traffic onto newly built sections of road creates uninhibited access to any old infrastructure requiring upgrade. Redirecting traffic was key as the project's July 2014 environmental window loomed on the horizon, and in-water work again needed to be performed without interruption.

After successfully redirecting traffic onto the newly built lanes and bridge crossing at Brougham Creek, ACML hopped back into Brougham Creek to perform in-water work in a different portion of the tributary vital to the area's sustainability. A tributary is considered a small river or stream that connects into a much larger body of water, like a river or lake. Even though this particular tributary does not maintain a consistent flow of water year-round, it is considered a contributing factor to the balance of the area's natural habitat. It also prevents possible flood damage by acting as a natural drainage system in case of heavy rainfall.

By mid-summer (2014), crews had rerouted the water flow around the work area and demolished the pre-existing bridge at Highway 7, which crossed Brougham Creek. After the demolition, crews meticulously cleaned the creek, carefully removing the fallen debris from the isolated tributary as they built a new bridge above. The scope was again performed beyond environmental standards, and the team finished well before their September 15 deadline.

IT WAS LIKE PUTTING TOGETHER A GIANT PUZZLE. EACH STONE HAS ITS OWN CHARACTERISTICS, DIFFERENT CUTS AND CURVES, SO THERE WAS A LOT OF TRIAL AND ERROR INVOLVED AS WE ATTEMPTED TO FIT ALL THE PIECES TOGETHER TO FORM THE WALL.

–SHANE FULLER, ACML PROJECT SUPERINTENDENT

A TEAM EFFORT – ONE AECON

For Aecon, linking the two 407 routes goes much deeper than kilometres of road.

Aecon's AGI Traffic Technology Inc. (AGITT) has been hard at work tapping into the highway's pre-existing electrical components to accommodate new traffic lights, high mast lighting, tolling and advanced traffic management system (ATMS). AGITT is also extending those components eastward to give contractors working on the 407 East an electrical access point to tie into.

All of these services are required for the new interchange and extending those services for contractors handling the Highway 407 East construction.

Keeping ACML adequately supplied with its core roadbuilding needs is Yellowline Asphalt Products Limited, an Aecon joint venture company with Dufferin Construction. Yellowline has been providing the tar-like binding agent known as asphalt cement (a.k.a. bitumen) to ACML's portable on-site asphalt plant. Since asphalt cement (commonly referred to as AC) is an essential ingredient in the creation of paving asphalt, purchasing the asphalt from Yellowline has ensured a steady flow of material from the plants.

"This is a staged project, so churning out asphalt on a continual basis isn't feasible," explains McIntosh. "Having our own asphalt plant on site gives us a distinct advantage when paving in staggered stages. We have the ability to create asphalt on demand and deliver it directly to where it's needed relatively quickly.

"Not only is it a cost savings, it also improves our production rates by decreasing the amount of downtime involved with the process and time wasted if we were sitting around waiting for these materials from an outside supplier."

To improve the overall quality of the asphalt mix, Aecon Materials Engineering (AME) has been on deck conducting extensive materials testing. Working closely with ACML, AME has been performing compaction testing on the earth, granular and asphalt placed on the entire project, ensuring all work is completed to the specifications outlined in the project's contract documents.

END IN SIGHT

As the team heads into yet another winter, ACML's attentions will shift back to completing the currently built bridge structures and preparing the post-tension bridge for its final stages. With its eye firmly placed on the all too familiar environmental construction window, which now takes them into 2015, the team will stay focused on conducting its last go-round of in-water work and final piece of the post-tension bridge. And, as the project winds down to its fourth quarter 2015 completion date, the last of the paving and electrical work will be completed and the interchange will be close to ready to tie into the east and west highway segments.

By the end of 2015, motorists will get their first chance to explore the new extension when the interchange connecting Highway 7, Brock Road, 407 ETR and 407 East seamlessly opens to traffic.

MEET:

PEOPLE MATTER

BRANDON ALPINE

CARPENTER
FOURTH-YEAR APPRENTICE

Currently a fourth-year Carpenter Apprentice, Brandon Alpine is one of the many talented tradespeople who have helped shape Aecon's massive Waneta Power Plant project in British Columbia. Hungry for experience, he takes on each job with pride. Whether it's building forms for a bridge or supporting a structure with shoring, Brandon knows his work will affect the lives of Canadians around the country for generations to come.

Cranbrook, British Columbia, is a fairly remote area. Before becoming a Carpenter, how did you go about finding work?
It's hard to be picky in such a remote location. You pretty much take work where you can find it. I managed to find work in the Alberta oilfields on a mobile drilling rig. During the spring, when the ground is too soft for heavy equipment, labourers were needed during a six-week shutdown. That's when I went out and bought my first tool pouch, to swing hammer in Alberta.

Did working in Alberta put you on your career path?
In 2009, Alberta had the most opportunity and the wages I was looking for. I wanted to be on site for 10 hours a day and work overtime if I wanted it. The only industry offering that up was the trades. I was making good money in Alberta for a time for someone not having any kind of ticket.

What attracted you to working in this particular trade?
I just like the satisfaction of building things that make a difference in people's lives. It's something I can look at and be proud of. How many people can say they had a hand in building something that will last for decades and potentially affect thousands, if not millions, of people's lives? It's very satisfying.

When work dried up in Alberta, where did your path lead you next?
I went straight into a six-month carpentry foundation course at College of the Rockies in my hometown of Cranbrook. I completed the course and earned some hours toward my eventual apprenticeship. Once that was over, I wasn't really pointed in any particular direction. I did some investigating and eventually ended up at the carpenters union. They told me to send in my first-year union dues and, shortly after, I received an acceptance letter in the mail stating that they would take me on.

How long did it take before you had your first gig?
As soon as I was accepted into the union, I was told during a phone call to pack my bags because I would be getting calls soon. A week or two later, I was working at a coal mill, and shortly thereafter a union business agent visited the site looking to recruit tradesmen for the Waneta Dam project. Since a lot of us were from out of town looking for steady work, he ended up recruiting quite a few of us. I told him my availability and made sure he knew that working away from home wasn't a problem for me. I also was in touch with a representative at the Ktunaxa Nation Council, Marion Eunson, who planted a bug in the ear of Joe Stagliano, an Aecon Project Manager on the Waneta Dam project. I think that really helped seal the deal. So I went home after the coal mill job, kept my bags packed and waited for the phone call. Before I knew it, I was on site at Waneta with Aecon.

What was your scope of work on the Waneta Dam project?
I was installing fly forms that were fabricated on site for the dam's tailrace. They would truck them in and move them into place with a crane. From there, we would piece them together and make sure they were plumb. I also did shoring for suspended slabs and some renovation work. I was on site for about 11 months before moving on to my next job.

I LEARNED SO MUCH ON THE JOB. IT MADE MY SECOND YEAR FLY BY BECAUSE I ALREADY HAD HANDS-ON EXPERIENCE WITH A LOT OF WHAT WE WERE COVERING IN THE CLASSROOM.

–BRANDON ALPINE, CARPENTER, FOURTH-YEAR APPRENTICE

What was it like working for a big construction company like Aecon?
I can tell you one thing: When I left that job, I wasn't so green anymore. I learned so much on the job. It made my second year fly by because I already had hands-on experience with a lot of what we were covering in the classroom, like working with concrete. It's all the things you pick up on the job, too, like the lingo, working safe and the little tricks of the trade, like using wooden wedges to make things as tight as possible, for instance. You also learn how to work away from home for long periods of time.

You were stationed just far enough from home that you couldn't return to the comfort of your own bed each night. How did you handle that?
It was really testing at times, but you learn to hang in there by looking forward to the next time you get to return back to your family. I have a common-law wife with two young ones that I really miss after a day or two. I was lucky when I was at Waneta because I only lived about three hours away and I could go home on the weekends if my work schedule was open enough. During the winter season, it was a bit more difficult to make the journey home, so I couldn't return as often. It wasn't nearly as straightforward as with other jobs, but you make the best of it.

What are your plans moving forward in your career?
Right now, I'm looking to complete my final year of apprenticeship and accumulating the required hours for my Red Seal certification. With it, I'll have completed something that I can really be proud of. It opens a lot of new doors.

What are you currently working on?
It's outside of my local area, but I'm doing some work on the Mica Dam, about eight hours away from home. You take work where you can get it, right? It was a great experience working with Aecon. Hopefully, with a little luck, I can land another job swinging my hammer for Aecon again someday soon!

EMPLOYEE FILE

BRANDON ALPINE

POSITION: Carpenter, Fourth-Year Apprentice

DIVISION: Constructors Canada

TIME WITH AECON: 11 months

BORN: 1982

HOMETOWN: Cranbrook, B.C.

FAMILY: Chantelle (spouse), Benjamin and Brandon (sons)

HOBBIES AND INTERESTS: Camping, hunting, fishing, renovations

Connecting to **OPPORTUNITY**

NESKANTAGA TRAINING CENTRE

Students looking to take their first step toward a bright future typically have multiple options available within a few hours' drive of their local neighbourhoods. In many remote communities, however, where cellphone reception and Internet connectivity are extremely basic, students must leave the strong social bonds of family and community to travel great distances to seek further education. Now, through a unique and innovative Aecon-led partnership, one remote Aboriginal community has been able to open the doors of opportunity for its residents by closing the distance on education.

A first of its kind, the newly named Neskantaga Training Centre (NTC) in the Matawa First Nation community of Neskantaga, Ontario, sits on a raised piece of land overlooking an inspiring view of Attawapiskat Lake. No more than a five-minute walk from any post in this 400-resident community, the remote training centre is a multi-purpose modular facility – similar to a site trailer but twice the size – specifically focused on educating and connecting the people of this remote town to a world of opportunity. It houses a sizable classroom, a fully functional kitchen, washroom, office space and enough technology to bring curriculum from around Canada straight to the doorstep of these Aboriginal students.

"Because it's something completely different than anything they've seen before, the community has been amazed at how high-tech the training centre really is," notes Bill Clarke, Aecon's Vice President of Aboriginal Affairs. "The youth growing up in Neskantaga haven't been exposed to this type of technology, so you can understand how overwhelming it might be to go from using a land-line telephone to having a real-time conversation with someone on a flat-screen television."

Outfitted with state-of-the-art technology, including a 70-inch Smart Board, a 70-inch LED HDTV, high-speed satellite broadband connectivity and individual laptops, students are connected to a world where higher learning is at their fingertips. The training centre directly connects to e-learning tools and programs from a range of educational sources, offering students an extensive curriculum that includes access to secondary and post-secondary institutions, safety training courses, trades and technical certifications.

"Our educational offerings support Aecon's 360° Sustainability Strategy by offering comprehensive training and education, which, in turn, creates meaningful employment opportunities for these young people either within or close to their community," explains Clarke. "The strategy helps to build self-confidence through achievement and skill development and gives youth the ability to successfully make the transition to an institute of higher learning with a much greater success rate. Overall, this training centre is a tool providing an opportunity for a better future, community development and long-term sustainability in remote communities."

> OVERALL, THIS TRAINING CENTRE IS A TOOL PROVIDING AN OPPORTUNITY FOR A BETTER FUTURE, COMMUNITY DEVELOPMENT AND LONG-TERM SUSTAINABILITY IN REMOTE COMMUNITIES.
>
> – BILL CLARKE, VICE PRESIDENT OF ABORIGINAL AFFAIRS, AECON

Most Aboriginal high school graduates who seek the next step in their educational careers leave Neskantaga to attend college, university or trade school in Thunder Bay. Completely out of their element and away from their support system, students tend to have a difficult time adapting to the speed of life outside of their community. With the help of a local facility like the remote training centre, the high rate of failure associated with Aboriginal students pursuing education and trades outside of their home environment is expected to decrease. It can also become a special place in the community where youth wrap themselves up in learning and gain self-confidence as they move forward in life.

"A training centre like this has the potential to be a real game-changer for remote communities," notes Clarke. "From a stewardship perspective, this is something everyone involved can be immensely proud of."

BILL CLARKE, AECON'S VICE PRESIDENT OF ABORIGINAL AFFAIRS, GIVES A SPEECH AT THE GRAND OPENING OF THE NESKANTAGA TRAINING CENTRE IN NESKANTAGA, ONTARIO.

THE AECON 360° STRATEGY

At Aecon, our Aboriginal Strategy supports the inclusion, engagement and participation of Aboriginals across Canada. Aecon has developed an extensive network of partnerships across Canada on the basis of sustainable and mutually beneficial programs. Aecon endeavours to be a responsible partner and to build our relationships on respect, understanding and trust; and in this way, we work cooperatively and collaboratively with Aboriginal communities across Canada.

// Aecon works closely with qualified labour groups and educational institutes that offer diverse education and training opportunities for Aboriginal communities.
// Aecon is dedicated to fair and equitable opportunities for participation in employment associated with Aecon activities and projects.
// Aecon strives to increase capacity within communities by working with local businesses, suppliers and contractors.
// Aecon is guided by its formal Corporate Aboriginal Policy and its Aboriginal Engagement Program.

WATCH THE VIDEO

See this story, **'Bringing Education to Rural Canada With Remote Training Centers,'** on YouTube courtesy of Cisco Canada.

Link: http://youtu.be/ASjo4mFVOdQ

WALL PANEL SECTIONS ARRIVE PREFABRICATED, READY FOR ASSEMBLY.

FROM CONCEPT TO REALITY

Five years ago, Bill Clarke met privately with Phil Fontaine, National Chief of the Assembly of First Nations, to discuss the interface between industry and Aboriginal communities as it pertained to training capacity. Clarke empathetically listened to Fontaine passionately speak of his people. Moved by what he heard, Clarke initiated a brainstorming process he now refers to as a "blue ocean strategy."

"I came away from that meeting knowing there was a role for us here, that we could assist and support these Aboriginal communities while establishing a foundation of trust," notes Clarke. "I figured there had to be a way to reintroduce education directly into remote areas in a robust manner that would keep everyone's attention and prepare students for their future. That's when I had the idea to outfit a construction trailer with all the necessary tools and place it directly within these communities, marketing it as a complete package known as an Aecon Remote Training Centre (ARTC)."

Acting as the catalyst, Clarke began searching his contacts list for potential partners. The first step was to reach out to Cisco Systems to supply all of the training centre's networking equipment. Next, Clarke drummed up excitement at Bell Canada, which provided the broadband connectivity required to connect the training centre to the digital world. Together, with Aecon as constructor, the triumvirate partnership developed a cost-effective budget that could be presented to the provincial government for funding. Kiikenomaga Kikenjigewen Employment and Training (KKETS) – an organization aimed at helping Matawa First Nation members develop their skills through education and training – completed the necessary applications to secure the funding through the Ontario Ministry of Training, Colleges and Universities (MTCU). Once the funding was granted on March 26, 2013, the partnership set the project in motion.

"This project is very close to our hearts," notes Aecon Business Analyst Rachel Pattimore, who works closely with Clarke on a daily basis. "Bill saw an opportunity to do something significant that would impact these remote communities for generations, and he moved forward to make it happen. All of the contributing team members have been thrilled to be a part of this important project that supports the success and dreams of Aboriginal youth."

As pieces began falling into place, Clarke realized that a building of modular construction, packaged flat like an IKEA product, would be much easier to transport in a small plane than would a full-sized, pre-constructed trailer. Aecon reached out to ATCO Structures and Logistics for the creation of a workable design for a modularized facility. After the project design was confirmed in August 2013, the site was selected and approved by Chief Peter Moonias and his council. Working together, the partnership began building the necessary components (i.e., insulated wall panels averaging four feet wide, 10 feet high and 10 inches thick) and packaging them for shipment to Neskantaga via cargo plane.

At the same time, Clarke continued partnering with those who could continue to breathe life into the project, such as the ATCO Group and Galaxy Broadband. Galaxy graciously supplied a robust satellite system and worked closely with Cisco and Bell during construction to produce a one-megabyte upload and download connection, essentially eliminating latency issues notoriously associated with servicing remote locations.

TERI MCKIBBON, PROVINCIAL ABORIGINAL AFFAIRS MINISTER DAVID ZIMMER AND LOCAL 793 AND OETIO MEMBERS JOINED PETER MOONIAS (SEATED RIGHT) AND ATTENDEES VIA SATELLITE FEED FOR THE NTC'S GRAND OPENING CELEBRATION.

> WE'RE REALLY HAPPY WITH THE END PRODUCT. IT WAS SUCH A REWARDING EXPERIENCE TO SEE THE TRAINING CENTRE IN OPERATION A MONTH AFTER WE TURNED IT OVER. I FEEL VERY PRIVILEGED TO HAVE BEEN A PART OF SUCH AN IMPORTANT AECON INITIATIVE PROJECT.
>
> –JUSTIN FRENCH, AECON PROGRAMS DIRECTOR

Confederation College in Thunder Bay and the Operating Engineers Training Institute of Ontario (OETIO) also joined the initiative to supply the educational offerings and curriculum required to make this project a success.

All packed and ready to go, the structural components were flown in from Pickle Lake, Ontario, on October 13, 2013, to Neskantaga. Upon arrival, Aecon began piecing the building together beside the community's picturesque lake. Simultaneously, all of the networking, electronics and services were brought in, assembled on site and hooked up to the training centre.

From start to finish, the Neskantaga Training Centre was fully operational in less than four weeks. All told, the completed ARTC has 1,056 square feet of space – measuring 7.3 metres by 13.4 metres – and comes equipped with a kitchenette, washroom and office space.

On November 15, 2013, five years after its initial conception, Aecon's first remote training centre was ready to open its doors to serve the surrounding community.

"The logistics involved with building this project were extremely challenging given how remote Neskantaga is," notes Justin French, Aecon Programs Director, who is credited for quarterbacking the coordination among the partners. "From designing a building that could be transported by cargo plane to labour logistics, this project kept everyone involved on their toes. We're really happy with the end product though. It was such a rewarding experience to see the training centre in operation a month after we turned it over. I feel very privileged to have been a part of such an important Aecon initiative."

A BRIGHTER FUTURE

On August 19, 2014, the grand opening of the first ARTC was officially celebrated and renamed to the Neskantaga Training Centre. Key players in the creation of the centre were in attendance, both in person and virtually, through the facility's newly installed video conferencing system.

In addressing the audience, Aecon President and CEO Teri McKibbon said the development of such an innovative concept as the remote training centre was made possible only through the collaboration and contributions from best-in-class companies and organizations "that share the combined objective of creating a sustainable solution for training in remote communities.

"Training and education are keys to success," he added, "and we are very proud to be a part of bringing these opportunities to Matawa First Nations communities."

Now owned and solely operated by the KKETS educational division of the Matawa First Nations, the facility houses educational and training programs that have been designed and structured by KKETS for maximum success within the Aboriginal population. Since KKETS has been developing strategies for potential employment opportunities with the area's mining industry and, in particular, Northern Ontario's Ring of Fire and Arch of Fire, much of the training hosted at the NTC will revolve around these core interests.

Currently, KKETS is looking to acquire two more training centres to place in other remote locations within the Ring of Fire, specifically in communities lacking road access.

Of the 24 desks that fill the Neskantaga Training Centre's classroom, 18 have already been occupied with eager minds thirsty for knowledge in classes hosted earlier this year. With their home only minutes away, students of all ages can now take their first proud step toward building a successful career. This noble goal also marks the beginning of what will make the ARTC project a major success across Canada not only within Aboriginal communities, but within a magnitude of other applications.

"The First Nations have really taken ownership over the training centre since it opened, which is reflected in the level of engagement within the Neskantaga community so far," notes Clarke. "Our partners and Aecon have brought together the equipment and end points needed to build a successful tool that will be utilized for years to come. Pioneering the way for what will become a national program has given us invaluable experience and insight in preparation for repackaging the centre for similar projects and using it within our own job sites across Canada."

When Aecon is working in hard-to-reach locations across Canada, a remote training centre could travel and be redeployed on site as projects are finished. Stocked with the same robust technology as the NTC, it would increase the communication capabilities that aren't normally present in such remote locations.

Clarke says the ARTC's potential is limitless, making it an attractive alternative to building larger structures. He envisions the training centre serving multiple purposes as it can be customized for any number of situations, such as a health triage centre in times of crisis or as a gathering place where families can enjoy movies together. With the ARTC partnership ready to put another one together, Clarke says several parties across the globe have shown interest in the remote training centre and how it could elevate their current and future business.

SAFETY MATTERS

THE AECON SAFETY OPPORTUNITY PROGRAM

By Mike Archambault
Senior Vice President, Chief Safety Officer

AECON EMPLOYEES COMPLETING AN ELECTRONIC SAFETY OPPORTUNITY REPORT

Have you ever looked back on a past opportunity and wish you had acted, or reacted, differently?

Perhaps when it came to a family matter or a financial decision, you wish in retrospect that you had taken the opportunity to approach the decision differently or changed it altogether.

At Aecon, we have initiated a "Safety Opportunity Program" to capture as many safety opportunities as possible so that we can analyze and use these scenarios to enhance overall safety awareness and drive a more positive safety culture in our workplace. These opportunities are the close calls and near misses where something in our workplace could have been damaged or, even worse, an injury could have occurred. By understanding why these near misses occurred in the first place, we can effectively change our environment to eliminate the possibility of such scenarios turning into real events.

Every one of us encounters safety opportunities on a daily basis. When you say to yourself, "That was close" or "Somebody's going to get hurt," chances are you're witnessing a safety opportunity where you can make a difference. Once you've identified a safety opportunity, you must take every opportunity to report and fix it before someone is hurt. If you have experienced a safety opportunity on site, odds are you are not the first to come across it. Remember: The opportunity is lost if you choose not to proactively find a safe solution.

Every Aecon employee is responsible for reporting safety opportunities to their supervisor to ensure appropriate corrective action is implemented to prevent future unsafe acts or conditions. To put this into perspective, studies have shown that thousands of at-risk behaviours and hundreds of close calls have taken place before an actual injury has occurred. In some cases, you can include these opportunities as part of the chain of events or underlying causes of an actual incident; these are the opportunities for which we must all be on the lookout.

HOW TO REPORT SAFETY OPPORTUNITIES

Reporting safety opportunities takes only a few moments but can have a major impact in preventing an accident. Firstly, when faced with a safety opportunity, correct the issue if it is within your ability to do so. Secondly, inform your supervisor and complete a Safety Opportunity Report or simply enter the information on the electronic Safety Opportunity Report form for your division. This program is designed to allow anyone to report these events through their computer, tablet or phone and to send immediate notification to the EHS department.

When you are completing the Safety Opportunity Report, you must detail the cause of the safety opportunity and not just the outcome. This is important because whenever there is a safety opportunity, or even an injury, corrective actions need to be focused on the causes of the incident to devise the best possible solution for prevention.

At Aecon, we group causal factors into five main categories or buckets. When you are identifying the cause, you need to be asking yourself if the cause of the safety opportunity is related to:

- Equipment, tools or personal protective equipment (PPE) used
- Behaviours or actions of the people involved
- Process or procedure used
- Working environment
- Other factors, such as the public, vehicle use, etc.

HOW TO ACCESS THE ELECTRONIC SAFETY OPPORTUNITY REPORT

1. To access the electronic Safety Opportunity Report, simply go to the Aecon Intranet page and select the Safety Opportunity Program image link.
2. Select the correct link for your division.
3. Complete the required info onscreen.
4. Click "Submit".

2014 STATS – WHERE COMMON ON-SITE SAFETY OPPORTUNITIES OCCUR

NOTE: THE DATA IS A SAMPLE FOR A SPECIFIC PERIOD OF TIME AND MAY CHANGE.

WHY ARE SAFETY OPPORTUNITIES IMPORTANT?

Safety opportunities are exactly that, opportunities. If we take action on all of our opportunities, not only are we actively living our "Safety First" core value, we also have the ability to prevent potentially dangerous situations.

Most safety systems are reactive, looking back after the damage has occurred. We must be proactive and utilize an opportunity to prevent a future injury or worse.

When all safety opportunities are reported, we're able to identify trends and develop intervention programs that we can launch across the entire organization. For example, with the data collected to date, we've identified that 33 per cent of safety opportunities occur because of the behaviours or actions of the people involved in the situation. Knowing this, we can dig deeper into understanding the changes required to correct these behaviours. These changes could take place with our training programs or by offering additional mentorship and coaching.

This approach has enabled Aecon to achieve one of the best years on record from a safety perspective. No matter how large or small the opportunity is, changes can take place only when the situation is brought forward and recognized as a safety opportunity. Please take a moment to report your safety opportunities to underscore that Safety Matters … Most.

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