



TUNNELLING

SMART SOLUTIONS  FUTURE GROWTH

TUNNELLING ASSOCIATION OF CANADA | 2023 CONFERENCE

TORONTO,
ONTARIO

WWW.TAC2023.CA

SEPTEMBER
24-26, 2023

2023 ANNUAL GENERAL MEETING

Sunday, September 25, 2023



Bruce Downing
President
Tunnelling Association of Canada

Agenda

ITEM

Welcome and Introductions
Acceptance of the 2022 AGM Minutes
(motion)
President's Report
Membership Report 2023 and Targets for 2024
Treasurer's Report
2024 TAC Board of Directors
(motion)
Regional Reports
Young Members Report
Scholarships Committee Update
Communications Committee Update
Canadian Tunnelling Magazine Update
Tunnel Database Project Update
EDI Taskforce Update
WTC 2026 Update
Other Business

PRESENTER

Bruce Downing
Bruce Downing

Bruce Downing
Dan Ifrim
Michelle Richards
Erik Eberhardt

André Rancourt & Jason Mann
Nichole Boulton
Leila Sunderani
Andrew Caruana
Connor Langford
Connor Langford
Mark Diederichs
André Rancourt
Bruce Downing

Minutes of the 2022 AGM

The draft minutes of the November 2, 2022 Tunnelling Association of Canada Annual General Meeting are posted on the TAC website at https://www.tunnelcanada.ca/agm_minutes.php

Motion: to approve the minutes from the 2022 AGM as presented.

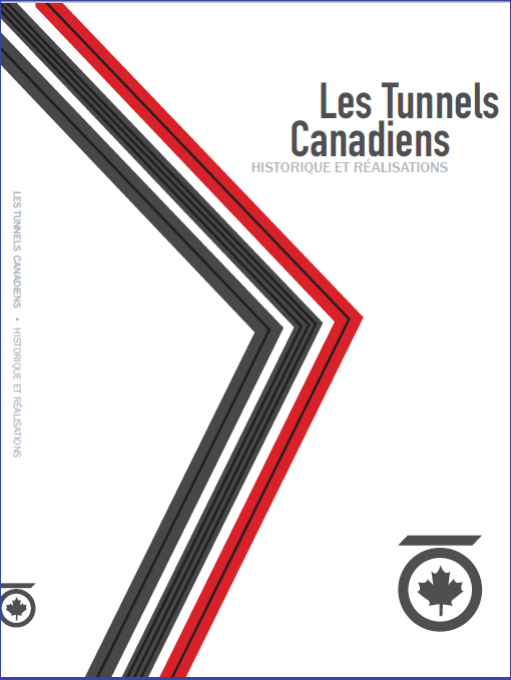
President's Report

A VERY BUSY YEAR

- **Successful bid for WTC 2026!**
- TAC 2023 – three highly successful conferences in three years
- Increased Communications Activity (newsletters, social media, Expanded *Canadian Tunnelling Magazine*)
- New EDI initiative
- Engagement with ITA and EIC
- Complete and launch Tunnel Database
- Ongoing activities (Chapter and TAC-ym Activity, Scholarships, etc)

President's Report

Completed



In Progress



President's Report

INTERNATIONAL TUNNELLING ASSOCIATION

- TAC continues to work closely with the ITA (including hosting ITA ExCo at TAC2023),
 - TAC has been instrumental in developing a new contract to be used for WTC's starting in 2025.
 - Representation on ITA ExCo (Mr Rick Lovat)
- The next WTCs: 2023 Athens, 2024 Shenzhen, 2025 Stockholm, 2026 Montreal!
- The ITA continues to remain active with key initiatives like the Working Groups (TAC currently has members in 12 ITA Working Groups). TAC members are invited to get involved and should contact us if they are interested in being a TAC representative for a particular ITA Working Group.

ENGINEERING INSTITUTE OF CANADA

- TAC is a member society of the Engineering Institute of Canada (EIC). The EIC is a federation of 14 technical/engineering societies.
- As a member, TAC is eligible to nominate members for EIC awards and honours, such as Fellows of the EIC and the Julian C. Smith Medal and K.Y. Lo Medal recognizing significant engineering contributions to Canada and internationally, respectively. TAC members are encouraged to submit nominations for worthy recipients.

President's Report

Officers

Bruce Downing – President

Erik Eberhardt – Immediate Past President

Jason Mann – Vice President West

Andre Rancourt – Vice President East

Michelle Richards – Treasurer

Andre Solecki - Secretary

Directors

Stephanie Robillard – Director, B.C

Mohammed Al-Bataineh – Director, Alberta

Jason Mann – Director, Manitoba and Prairies

Dan Ifrim – Director, Ontario

Jean Habimana – Director, Quebec and Maritimes

Nichole Boulton – Director

Andrew Caruana – Director

Mark Diederichs – Director

Connor Langford – Director

Boro Lukajic – Director

Leila Sunderani – Director

Seamus Tynan - Director

Key Redstone Staff



Sharvari Katekar
Membership & Marketing
info@tunnelcanada.ca



Natalie Wallace
Account Lead &
Redstone Director
natalie@redstoneagency.ca



Angeline Seepersaud
Accountant
angeline@redstoneagency.ca



Jessica Symons
Conference Manager
conference@ttunnelcanada.ca



Olivia Iaboni
Social Media Coordinator
oliviai@redstoneagency.ca

Membership Report

Presented by: Dan Ifrim, Director, Ontario Chapter
Contributions by: Sharvari Katekar, Redstone

TAC 2023 CONFERENCE Financial Report	2023 Toronto (projected)	2022 Vancouver (actual)	2021 Toronto (actual)
Technical Papers	75		60
Sponsors			
<i>Partner</i>	4	5	4
<i>Supporter</i>	6	7	2
<i>Affiliate</i>	4	2	5
<i>Other sponsorships</i>	23		
Total Sponsorship revenue	\$219,500	\$208,500	\$155,000
<i>Top Sponsors revenue</i>	<i>\$160,000</i>	<i>\$180,000</i>	<i>\$125,000</i>
<i>Other Sponsors revenue</i>	<i>\$59,500</i>	<i>\$28,596</i>	<i>\$30,000</i>
Exhibit Booths	62	40	34
Total Exhibit revenue	\$196,000	\$98,000	\$105,000
Total Registration revenue	\$380,350	\$198,237	\$201,950
Total Delegates	751	420	377
Event Revenues (incl. HST)	\$873,849	\$570,461	\$522,003
Event Expenses (incl. HST)*	\$646,591	\$446,591	\$391,468
Excess (shortfall) of Rev. over Exp. (HST Incl.)	\$227,448	\$123,870	\$130,535
Net Excess (shortfall) of Revenue over Expenses	\$201,282	\$109,619	\$115,518

2023 Membership Status

	*as of 21-Sep-2023				
	TOTAL	Corporate	Individual	Retired	Student
INT	54	10	40	4	0
QAT	39	7	26	1	5
ON	416	40	355	5	16
MP	5	3	2	0	0
BC	101	10	77	3	11
AB	12	1	11	0	0
TOTAL	627	71	511	13	32

Year Over Year Membership Status

Chapter	Actual Oct.2021	Actual Nov.2022	Actual Sep.2023	Year over Year Change
INT	42	64	54	-10
QAT	23	36	39	+3
ON	220	284	416	+132
MP	8	9	5	-4
BC	77	108	101	-7
AB	16	20	12	-8
TOTAL	413	521	627	+106

Membership Mission/Goals

The Tunnelling Association of Canada (commonly abbreviated to TAC) is under the umbrella of the International Tunnelling Association (referred to as the ITA).

The objectives of TAC are as follows:

- a. To promote and advance Canadian tunnelling and underground excavation technologies, and safe design, construction and maintenance;
- b. To facilitate the exchange of information on related activities and technical developments;
- c. To represent the interests of the tunnelling and underground excavation community in matters of technical and public concerns;
- d. To encourage the development and use of subsurface space;
- e. To act as an intermediary body between ITA and those individuals and organizations in Canada who are interested in tunnels and underground excavations;
- f. To disseminate throughout Canada the news of the activities of ITA and the technical information available as a result of those activities;
- g. To maintain and publish a Canadian Register of tunnels, under ground excavations and similar works.

Membership Benefits

Individual membership:

- ☐ Subscription (six issues annually) to *Tunnelling Journal / Canadian Tunnelling*, TAC's new magazine, developed and written by TAC and dedicated to promoting and advancing the tunnelling industry in Canada.
- ☐ Access to TAC conference proceedings and preferred member prices for the 2023 TAC Conference in Toronto.
- ☐ Access to electronic documents from other conferences and workshops sponsored by TAC
- ☐ Access to local chapter events at preferred TAC member prices
- ☐ Regular TAC and chapter E-News on society updates/events and news of other association tunnelling events, such as the World Tunnel Congress

Corporate membership:

- ☐ Includes the above benefits (for one individual) plus:
- ☐ Logo and hyperlink to firm from the Corporate Members page on the TAC website
- ☐ Recognition of corporate membership at least once annually in *Tunnelling Journal / Canadian Tunnelling* and complementary subscription.
- ☐ Dedicated financial support for TACym events

2024 Proposed Membership Pricing

Membership Type	Price
Corporate Member:	\$700 + HST
Individual Member:	\$100 + HST
Retired Member:	\$30 + HST
Student Member:	\$12.50 + HST

Treasurer's Report

Presented by: Bruce Downing, President, TAC
(on behalf of Michelle Richards, CPA, Treasurer, TAC)

2022 Audited Financial Statements

Assets

As of December 31, 2022

Current Assets

2022

2021

Cash and Short Term

\$415,870

\$333,646

Accounts Receivable

\$56,805

\$136,074

Prepaid Expenses

\$2,225

\$5,000

Total Assets

\$487,264

\$474,720

Liabilities and Accumulated Surplus

Current Liabilities

Accounts Payable and Accrued Liabilities

\$50,845

\$9,501

Unearned Revenues

\$21,692

\$36,491

Total Liabilities

\$72,537

\$45,992

Accumulated Surplus

\$414,727

\$428,728

Total Liabilities and Accumulated Surplus

\$487,264

\$474,720

Statement of Operations

For the year ended December 31,

2022

2021

Revenues

Conference, Sponsorships and Workshop	\$570,461	\$138,998
Membership Fees	\$90,560	\$54,288
Chapter Event Revenues	\$14,088	\$2,970
Interest and Other	\$485	\$2,125
	\$675,594	\$198,381

Expenses

Conference	\$465,172	
Professional Fees	\$92,011	\$30,892
Scholarships and Awards	\$34,371	\$30,887
History Book Project	\$31,800	\$83,372
National Office Overhead	\$26,522	\$9,723
Chapter and Other Events	\$22,823	\$7,537
Tunnelling Magazine	\$16,896	\$6,666
	\$689,595	\$169,077

Excess/(Deficiency) of Revenues over Expenses

(\$14,001) \$29,304

Accumulated Surplus, Beginning of Year

\$428,728 \$399,424

Accumulated Surplus, End of Year

\$414,727 \$428,728

Treasurer's Report

Motion: to approve the 2022 Year End Financial Statements as presented

Motion: to approve Peter Hogg, CPA, as the auditor for the 2023 TAC fiscal year

2023 Approved Budget & Forecast Year End

	Budget 2023	YTD Actuals (31-Aug-23)	2023 Forecast
REVENUE			
Member Fees	40,000.00	50,860.00	50,860.00
Corporate Membership	45,000.00	32,900.00	33,140.00
Investment Income	13,796.63	11,034.00	13,796.63
TAC Conference	58,800.00	700,157.00	715,000.00
Chapter and Other Events	13,800.00	1,625.00	13,800.00
TOTAL REVENUE	171,396.63	796,576.00	826,596.63
OPERATING EXPENSES			
TAC Administration (Contract services)	56,000.00	37,333.00	56,000.00
TAC Conference	36,750.00	273,651.00	567,227.00
Professional Services (audit)	6,000.00	5,250.00	5,250.00
ITA and EIC Membership	3,937.50	43,447.85	43,936.00
ITA Delegate travel	4,000.00	4,353.37	5,500.00
Other Travel	1,500.00 -	-	
Website	3,800.00	7,047.00	8,000.00
Board and Chapter Exec Meetings	500 -		500
Office (Supplies, Telephone, etc)	1,700.00	2,726.00	2,726.00
Promotional Materials	3,500.00	997	3,500.00
Printing	500 -		500
Postage	900	640	900
Bank Charges	630	333	630
Merchant fees	3,100.00	2,384.00	3,100.00
Insurance & Business Registrations		457	457
TAC Scholarships	8,000.00	8,000.00	8,000.00
TAC Scholarship Travel	2,000.00 -		2,000.00
TAC Awards	4,000.00 -		4,000.00
Awards Video Production	16,000.00 -		16,000.00
Chapter and Other Events	38,350.00	19,188.00	38,350.00
Special Projects - Tunnelling Database	-		36,624.00
Young Members	1,500.00 -		1,500.00
Canadian Tunnelling Magazine	16,540.00 -		16,540.00
TOTAL EXPENSES	209,207.50	405,807.22	821,240.00
NET SURPLUS/(LOSS)	(\$37,810.87)	\$390,768.78	\$5,356.63

2024 Budget

	Budget 2023	2023 Forecast	2024 Budget
REVENUE			
Member Fees	40,000.00	50,860.00	37,675.00
Corporate Membership	45,000.00	33,140.00	42,000.00
Investment Income	13,796.63	13,796.63	15,000.00
TAC Conference	58,800.00	715,000.00	536,250.00
Chapter and Other Events	13,800.00	13,800.00	21,100.00
TOTAL REVENUE	171,396.63	826,596.63	652,025.00
OPERATING EXPENSES			
TAC Administration (Contract services)	56,000.00	56,000.00	68,880.00
TAC Conference	36,750.00	567,227.00	425,000.00
Professional Services (audit)	6,000.00	5,250.00	6,000.00
ITA and EIC Membership	3,937.50	43,936.00	4,000.00
ITA Delegate travel	4,000.00	5,500.00	5,500.00
Other Travel	1,500.00 -	-	
Website	3,800.00	8,000.00	7,800.00
Board and Chapter Exec Meetings	500	500	500
Office (Supplies, Telephone, etc)	1,700.00	2,726.00	3,000.00
Promotional Materials	3,500.00	3,500.00	3,500.00
Printing	500	500 -	
Postage	900	900	200
Bank Charges	630	630	630
Merchant fees	3,100.00	3,100.00	3,100.00
Insurance & Business Registrations		457	247.36
TAC Scholarships	8,000.00	8,000.00	8,000.00
TAC Scholarship Travel	2,000.00	2,000.00	2,000.00
TAC Awards	4,000.00	4,000.00	4,500.00
Awards Video Production	16,000.00	16,000.00	17,000.00
Chapter and Other Events	38,350.00	38,350.00	55,675.00
Special Projects - Tunnelling Database		36,624.00	2,000.00
EDI Committee	-		700
Young Members	1,500.00	1,500.00	1,500.00
Canadian Tunnelling Magazine Pilot	16,540.00	16,540.00	16,540.00
TOTAL EXPENSES	209,207.50	821,240.00	623,392.36
NET SURPLUS/(LOSS)	(\$37,810.87)	\$5,356.63	\$28,632.64

Treasurer's Report

Motion: to approve the 2024 Budget as presented

Board of Directors

Presented by: Erik Eberhardt, Past President, TAC

2023 TAC Board of Directors

	NAME	POSITION	Responsibility	REGION	SECTOR	TERMS*	TERM COMPLETION
OFFICERS	Bruce Downing	Officer - President	ITA/Nordic Forum Rep, EIC Rep, Canadian Tunnelling EAB	W	CS	1	DEC 31, 2024
	Erik Eberhardt	Officer - Immediate Past President	Award Committee Chair, Board Nomination Committee Chair, Canadian Tunnelling EAB, WTC 2026 Bid Committee	W	AC	1	DEC 31, 2024
	Jason Mann	Officer - VP, West	TAC Conferences, Canadian Tunnelling EAB	W	CS	1	DEC 31, 2024
	Andre Rancourt	Officer - VP, East	WTC 2026 Bid Committee Chair	E	CS	1	DEC 31, 2024
	Michelle Richards	Officer -Treasurer	Budget, Cash Management, Banking	W	CS	3	DEC 31, 2025
	Andre Solecki	Officer - Secretary	By Laws Committee Chair, Governance	E	CS	1.5	DEC 31, 2023
DIRECTORS	Mohammed Al-Bataineh	Director, Alberta & Prairies Region	Canadian Tunnelling EAB	W	CS	1	DEC 31, 2025
	Glen Mongillo	Director	TAC 2023 Co-Chair	E	SP	1	DEC 31, 2025
	Leila Sunderani	Director	Scholarship Committee Chair	E	CS	1.5	DEC 31, 2025
	Boro Lukajic	Director	EIC awards, WTC 2026 Bid Committee	E	CS	>5	DEC 31, 2025
	Dan Ifrim	Director, Ontario Region	TAC 2023 Co-Chair, Membership, Canadian Tunnelling EAB	E	CS	1.5	DEC 31, 2024
	Stephanie Robillard	Director, British Columbia Region	Communications Committee, Canadian Tunnelling EAB	W	CS	2	DEC 31, 2024
	Connor Langford	Director	Canadian Tunnelling EAB Chair, Scholarship Committee	W	CS	2	DEC 31, 2024
	Seamus Tynan	Director	Safety Working Group	E	CT	3	DEC 31, 2024
	Andrew Caruana	Director	Communications Committee Chair, By-Laws	E	SP	1.5	DEC 31, 2023
	Mark Diederichs	Director	EDI, Universities	E	AC	1.5	DEC 31, 2023
	Jean Habimana	Director, Quebec & Maritimes Region	WTC 2026 Bid Committee, Canadian Tunnelling EAB	E	CS	2	DEC 31, 2023
	Nichole Boulton	Director	Young Members, EDI	W	CT	3	DEC 31, 2023

2024 Board of Directors

- The TAC Board have reappointed Andre Solecki as Secretary. The secretary position is not elected and instead is appointed by the Directors (Bylaw 6.01c).
- Stephanie Robillard and Boro Lukajic are resigning from the Board. Both have been longtime contributors to TAC. Boro was one of the original founding members of TAC.
- Election of Directors (Bylaw 4.01): Nominees are solicited from the membership and vetted by a TAC nominating committee. The nominating committee is chaired by the immediate past president, and comprised of 3 additional members (traditionally the President and two other past presidents). The nominating committee submits the slate of nominees for Special Resolution by the Board of Directors, and then to the membership with the notice of the AGM. Additional nominees may be submitted by written notice of not less than 5 members at least 5 days prior to the AGM. If additional nominations are received, an election will be held by ballot.

2024 Board of Directors – Slate

Director Position Ending	Nominee	Comments
Nichole Boulton	Dani Delaloye	Appoint for a 3-year term.
Andrew Caruana	Andrew Caruana	Reappoint for 2 nd term.
Mark Diederichs	Mark Diederichs	Reappoint for 2 nd term.
Jean Habimana	Jean Habimana	Reappoint for 3 rd term; co-chair WTC 2026 Montreal.
Boro Lukajic (resigned)	Walter Milani	Appoint for remainder of term (2-years).
Stephanie Robillard (resigned)	Nichole Boulton	Appoint for remainder of term (1-year); takeover as B.C. Director.

2024 TAC Board of Directors – Election

The Board motioned and approved the following slate for the director positions whose terms are ending. This was sent to membership with the announcement of the AGM.

Motion: to approve the TAC Board of Directors Slate as presented

Regional Reports – TAC West

Presented by: Jason Mann, VP West, TAC

REGIONAL REPORT

West – British Columbia

Pre-Construction

- Stanley Park Water Supply Tunnel – 1.4 km under Stanley Park,
- Procurement Phase began in Q3 2023

In - Construction

- Broadway Subway Project - 5.7 km extension of the Millenium Line
- Annacis Water Supply Tunnel – 2.3 km below the Fraser River between Surrey and New Westminster
- Burnaby Lake Interceptor No. 2 – 3 km of single pass 2,130 mm sewer
- Eagle Mountain Woodfibre Gas Pipeline – 9 km tunnel between Squamish and Howe Sound
- Annacis Island Wastewater Treatment Plant Outfall – 575 m 4.2 m ID tunnel, to outfall within the Fraser River



REGIONAL REPORT

West – Alberta

Pre-Construction

- Green Line LRT Calgary – Shepard to Eau Claire, 2 km of tunnel set to begin in 2024

In - Construction

- Duggan Tunnel Replacement Project – 3 km of 1,200 mm sanitary trunk sewer in Edmonton
- Mill Creek S2 – Combined Sewer Trunk Rehabilitation – 830 m 2,100 mm diameter sewer along 97th Street in Edmonton
- Capital Line South Extension, Edmonton – Early drainage works (1,350 to 1,800 mm storm sewers) to advance project critical path

REGIONAL REPORT

West – Manitoba and the Prairies



In - Construction

- Continued works under the Basement Flood relief (BFR) and Combined Sewer Outflow (CSO) programs, separation of 43 combined sewer districts in the City of Winnipeg
- Cockburn and Calrossie Contract C9A – 1,050 – 1,800 mm land drainage sewer by trenchless methods
- Cockburn and Calrossie Contract C7 – 1,350 mm land drainage sewers by trenchless methods

Future Projects

- Ongoing design for Winnipeg projects in the Cockburn, Ferry Road, and Jefferson Districts
- The Dewdney Avenue Corridor Revitalization project in Regina will require key deep trenchless rail crossings including approximately 800 m of water mains, and wastewater sewers, along with 600 m of new large diameter wastewater storage
- CentrePort South Regional Water and Wastewater Servicing Project in Winnipeg – detailed design of approx. 1,500 ha of land, anticipated to require installations of 1,200 – 1,350 mm diameter interceptor sewers

Regional Reports – TAC East

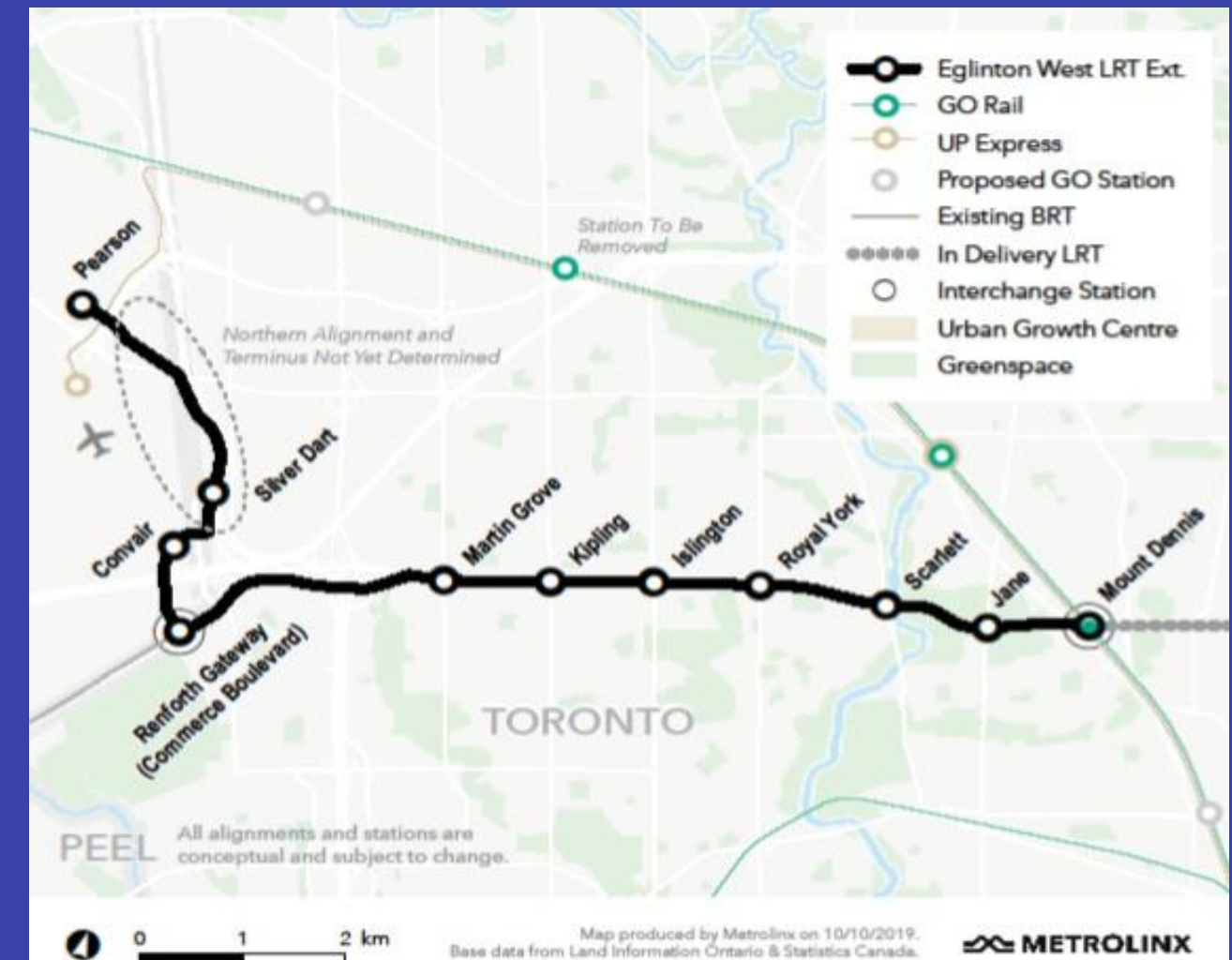
Presented by: André Rancourt, VP East, TAC

Ontario Tunnelling Updates

Current and Future Projects

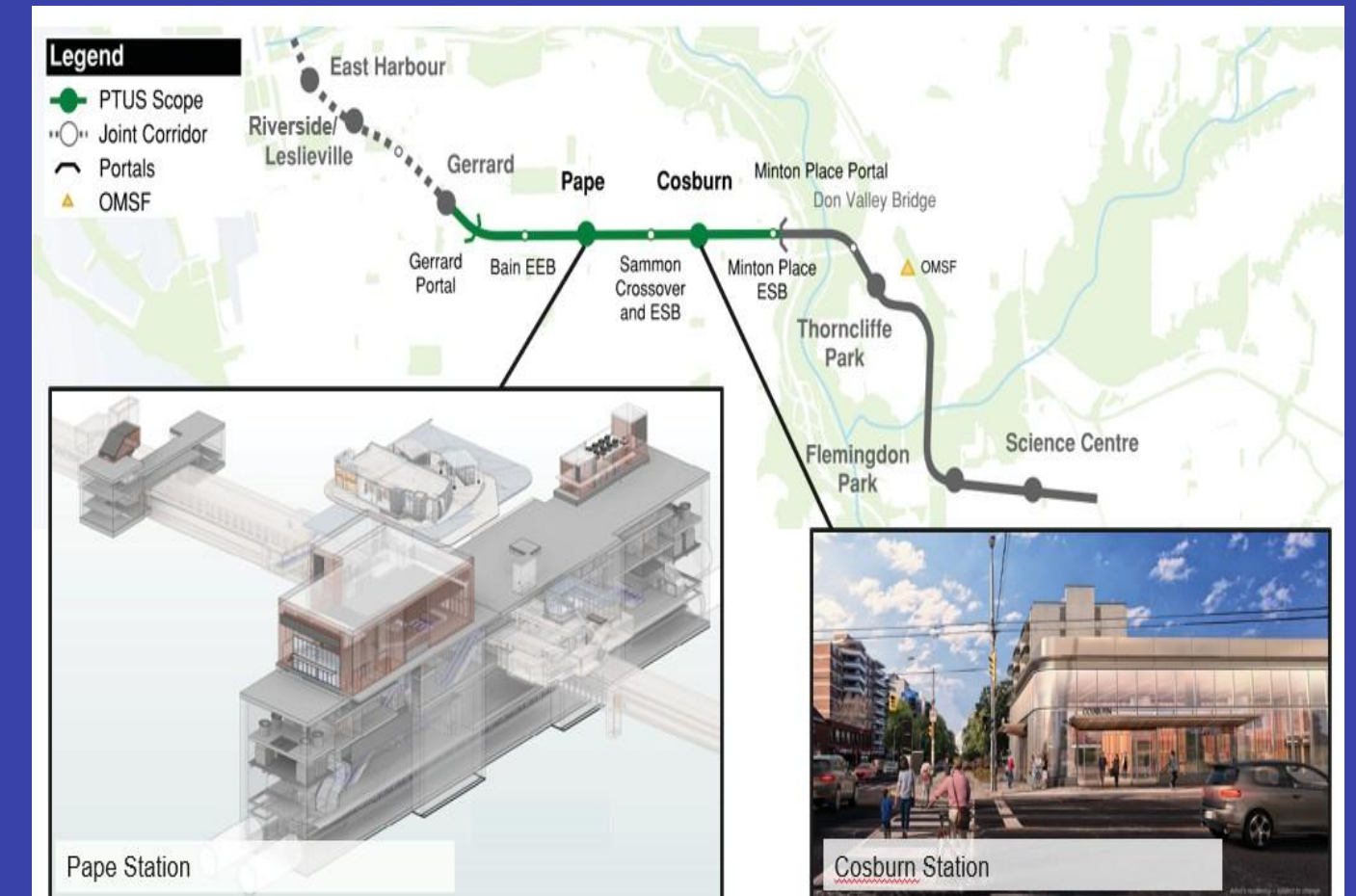
Eglinton Crosstown West Extension (ECWE) Station, Rail, System Contract)

- Owner: Metrolinx / IO
- Location: Toronto
- Engineer: ARUP
- Status: Procurement in 2023
- Capital Cost: \$3.9B
- Project Overview:
 - Scope limited to Stations: between Mt. Dennis and Renforth Gateway five underground stations and two elevated stations are planned.
 - Benefits: Links Line 5 to Mississauga Transitway (Renforth BRT Station) Services airport employment zone south of airport Alternative to Line 2 for north- south bus route users
 - 5km future Airport Segment between Renforth and Pearson not part of this scope. Conceptually elevated over Hwy 401 and continuing as elevated and surface running configuration to the GTAA Regional Transit and Passenger Centre (RTPC)



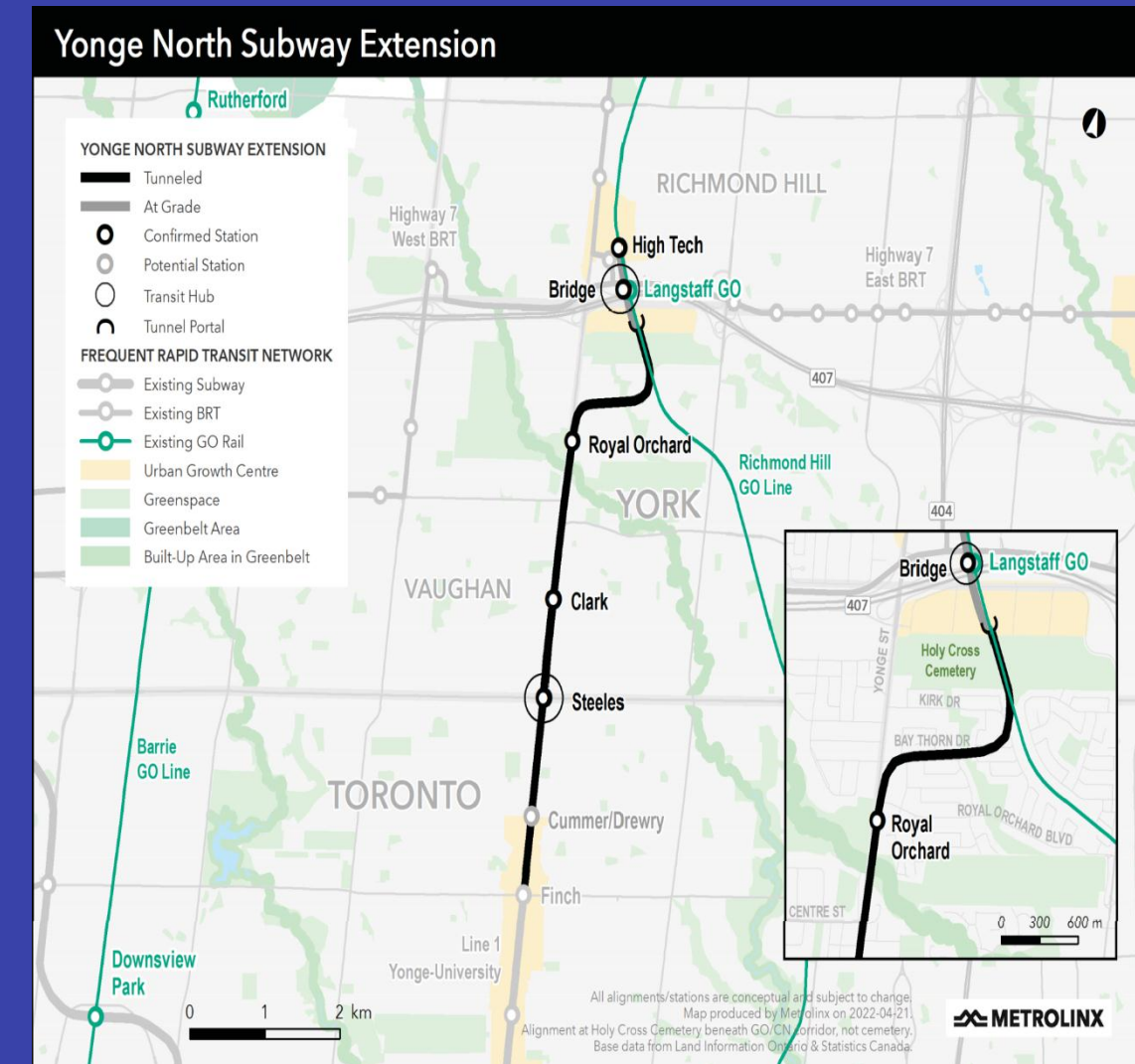
OLN: Pape Tunnel and Underground Stations (PTUS)

- Owner: Metrolinx / IO
- Location: Toronto
- Engineer: HDR
- Status: RFP Spring 2023
- Capital Cost: TBD
- Procurement Model: PDB
- Project Overview:
 - 3km of Twin Running Tunnels underneath Pape Avenue between the Gerrard Portal and the Don Valley Bridge
 - 2 Underground Stations: Pape and Cosburn
 - 2 Portals: Gerrard & Minton
 - 3 EEBs/ESBs: Bain, Sammon & Minton Place
 - Pape Station Underpinning (Line 2 TTC Interface)
 - Sammon Crossover.



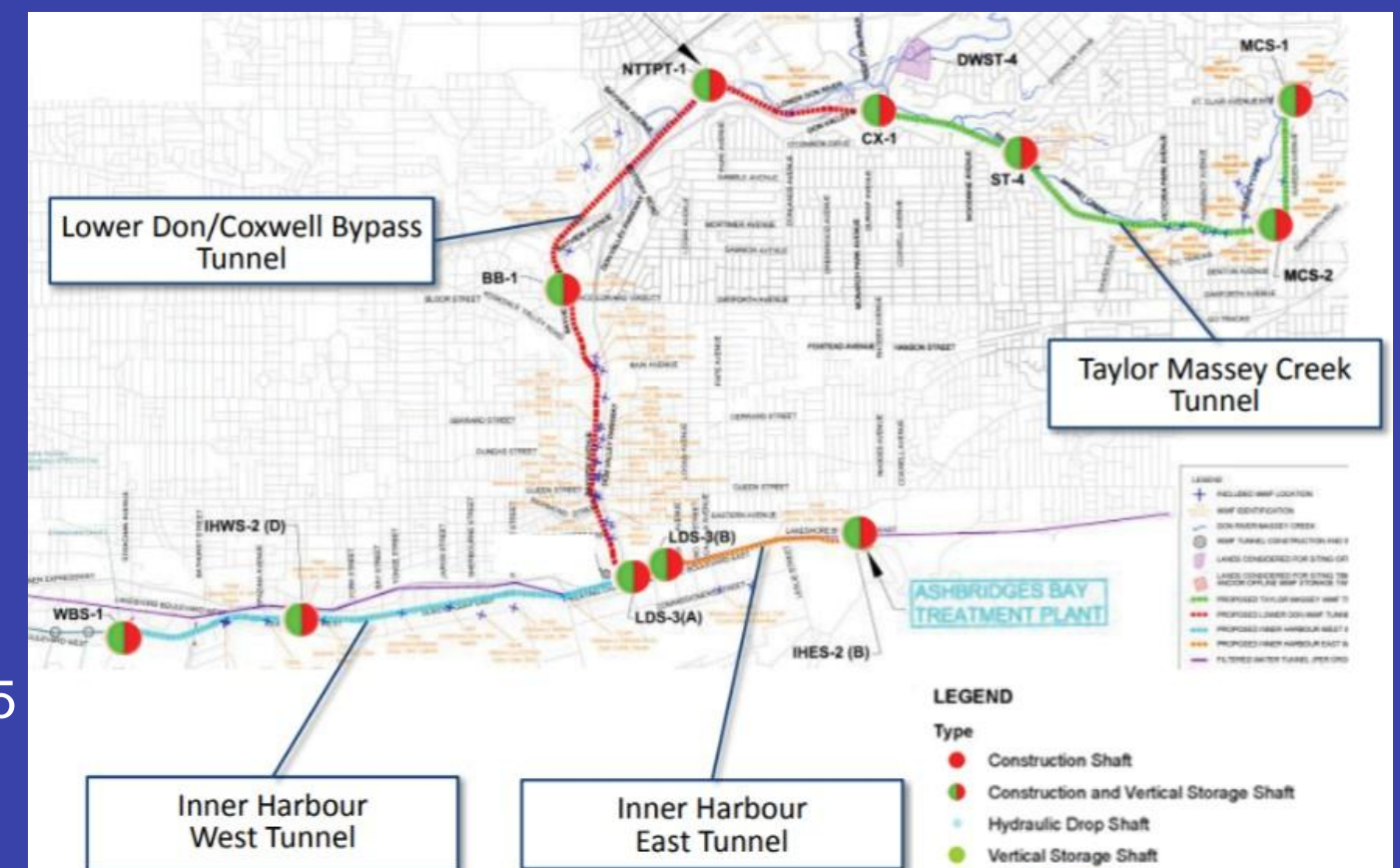
Yonge North Subway Extension

- Owner: Metrolinx / IO
- Location: Toronto, Vaughan & Markham
- **Technical Advisor** OneT+ (incl. Dr. Sauer and GHD)
Delivery Partners MCS (Mace, Comtech, Systra)
- **Contractor:** TBD
- **Construction:** RFQ Tentative Q2 of 2023
- **Project Value:** \$6 B
- **Project Overview:**
 - Alignment is 6 km, twin bore
 - Internal diameter 5.6 m
 - 2 EPB TBMs required
 - Tunnels driven from northern launch shaft
 - 2 Contracts - Advance Tunnel (AT) + Stations, Rail (SRS)
 - 3 underground stations at Steeles, Clark, Royal Orchard
 - 2 surface stations at Bridge and High Tech
 - 7 cross-passages
 - 6 Emergency Exit Buildings



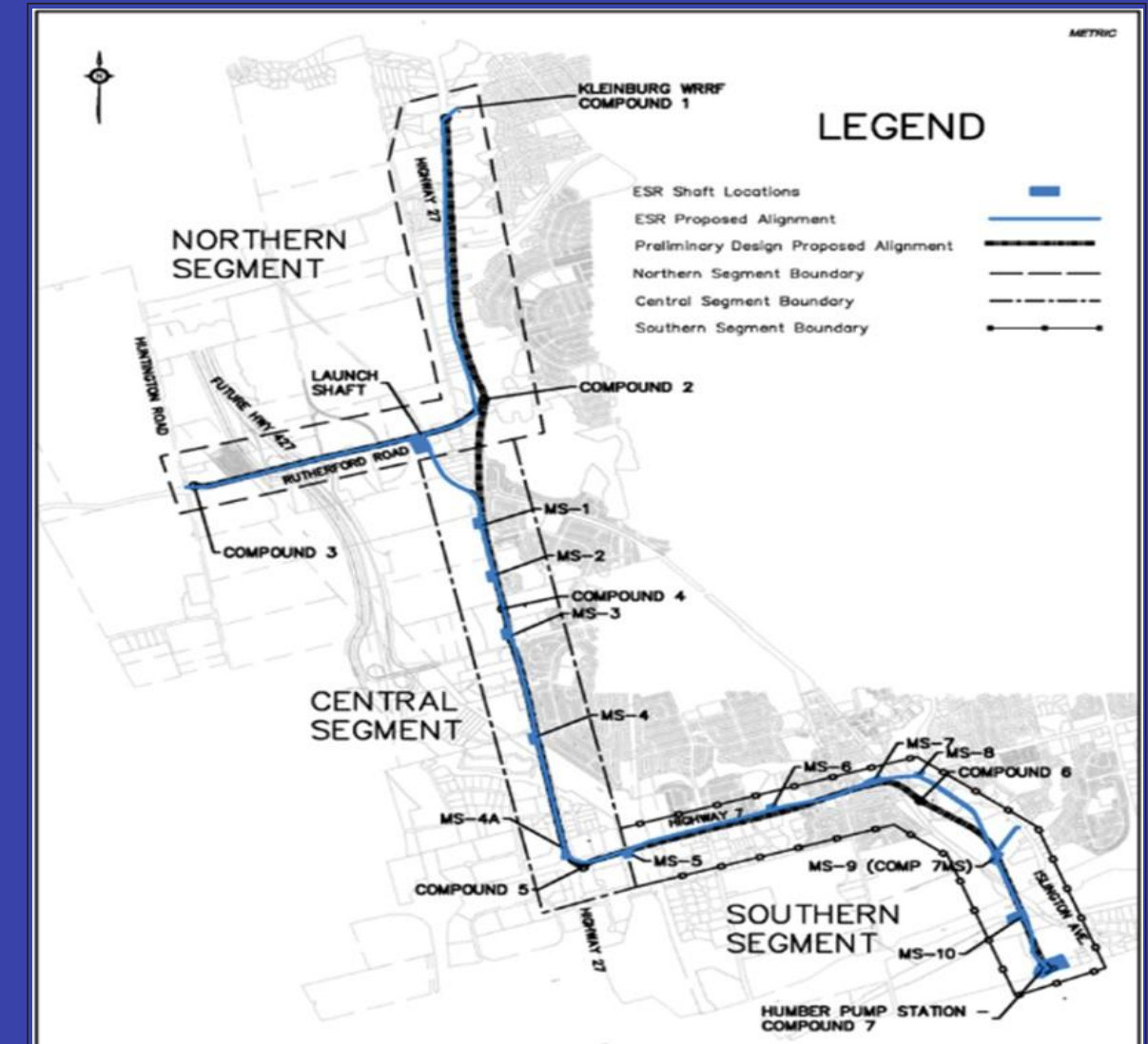
Inner Harbour West (IHW) WWF Tunnel

- Owner: City of Toronto
- **Location:** City of Toronto
- **Engineer:** Hatch with AECOM
- **Status:** Detailed Design (2021-2024)
- **Contract Type:** DBB
- **Construction:** Year 2029-2034
- **Project Overview:**
 - 5.6 km of tunnel (6.3m ID) from the Don River to Strachan Avenue and Lake Shore Blvd
 - Tunnel ground conditions: Georgian Bay Shale Formation
 - Gravity operated, tunnel slope 0.15%. Tunnel depth ~50m
 - Three (3) online storage shafts between 38 m to 49 m depth (diameter 15 m to 30 m ID)
 - 8 drop shafts & outfall connections



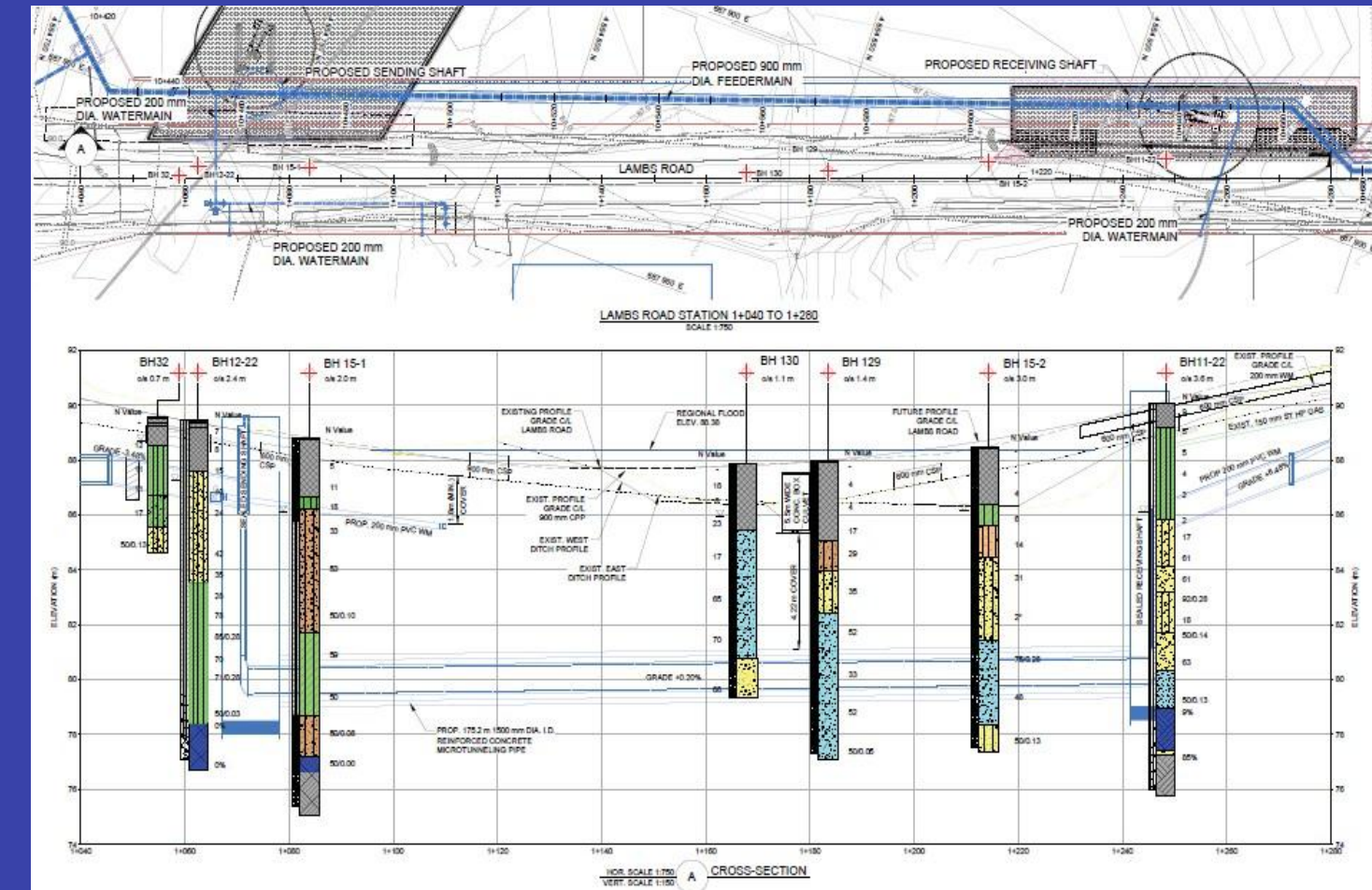
The West Vaughan Sewage System Project

- **Owner:** York Region
- **Location:** Vaughan
- **Engineer:** Parsons
- **Construction:** Divided in 3 different contracts
- **Project Overview:**
 - The internal diameter will be **3m finished** and the total length of tunneling will be approximately **14km long**.
 - The project will include 7 shafts, of which one larger than the others will function as both launching for the TBM and to host the wet well of the pumping station.
 - The Permits acquisition is ongoing and by the end of year it is expected to get out to the market with the following schedule:
 - ✓ Humber Pumping Station package
 - Under construction
 - ✓ Tunnel Phase 1 package
 - RFQ concluded – RFP expected in spring 2023
 - ✓ Tunnel Phase2 package
 - Construction delayed beyond 2034



Bowmanville Zone 1 Feedermain King St East, Lambs Road, and Concession St East

- **Owner:** Durham Region
- **Location:** Bowmanville
- **Engineer:** GHD
- **Contractor:** Tendering soon
- **Construction:** 2023 and 2024
- **Project Value:** \$10.3 m approx.
- **Project Overview:**
 - Approx 3 km of 300 and 900 mm i.d. Zone 1 Feedermain as follows:
 - open cut installation of 900 mm CPP (2330 m)
 - open cut installation of 300 mm PVC (265 m)
 - 1500 mm i.d. microtunnel for creek crossing (175 m)
 - 300 mm HDPE by HDD for creek crossing (165m)
 - 2 x 11 m deep shafts for microtunnel section
 - Microtunnel section to be constructed in sand, silt, gravel and clay
 - Single 900 mm i.d. carrier pipes to be installed in tunnel on completion



West Trunk Diversion

- **Owner:** Region of Peel
- **Location:** Mississauga
- **Engineer:** Hatch
- **Design:** 2021 - 2024
- **Construction:** 2025 - 2028
- **Project Value:** \$10.3 m approx.
- **Project Overview:**
 - Diversion of flows from the existing Credit Valley Trunk Sewer to the West Trunk Sewer via three (3) diversion areas and two (2) major Trunk Sanitary Sewers for the Region of Peel within Mississauga
 - ~6km of 15 – 45m Deep Trunk Sanitary Sewer (1200, 2400mmØ) complete with automated diversion structures



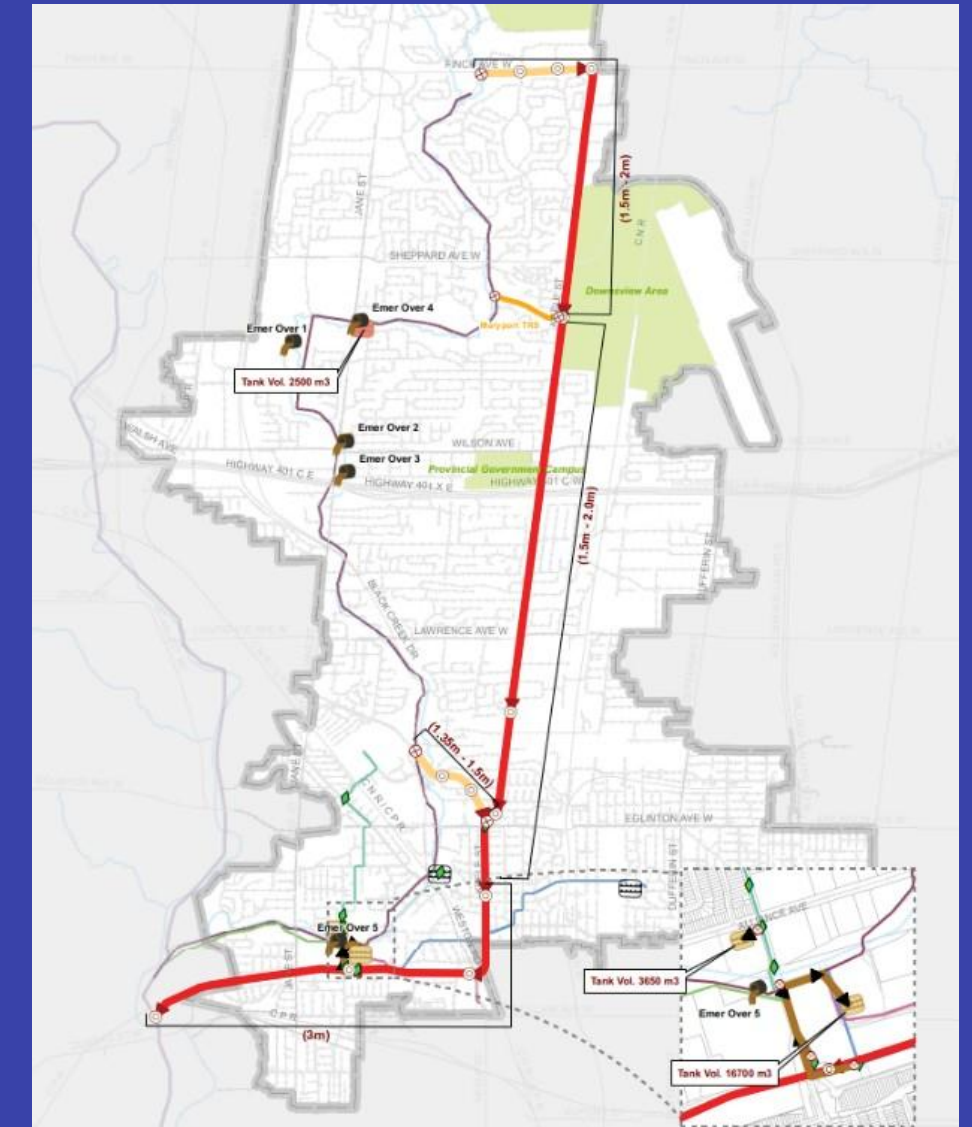
Toronto Midtown/Area 17 Sewer

- **Owner:** City of Toronto
- **Location:** Toronto
- **Engineer:** Hatch
- **Design:** 2021 - 2023
- **Project Overview:**
 - 8.5km of storm and sanitary sewer and a new stormwater storage tank and pumping station as part of Toronto's Basement Flooding Protection Program
 - Located in the densely populated Forest Hill North and Glen Park neighborhoods of Toronto, Ontario
 - 1.6km of infrastructure to be installed by tunnel methods (microtunnel pipe jacking)



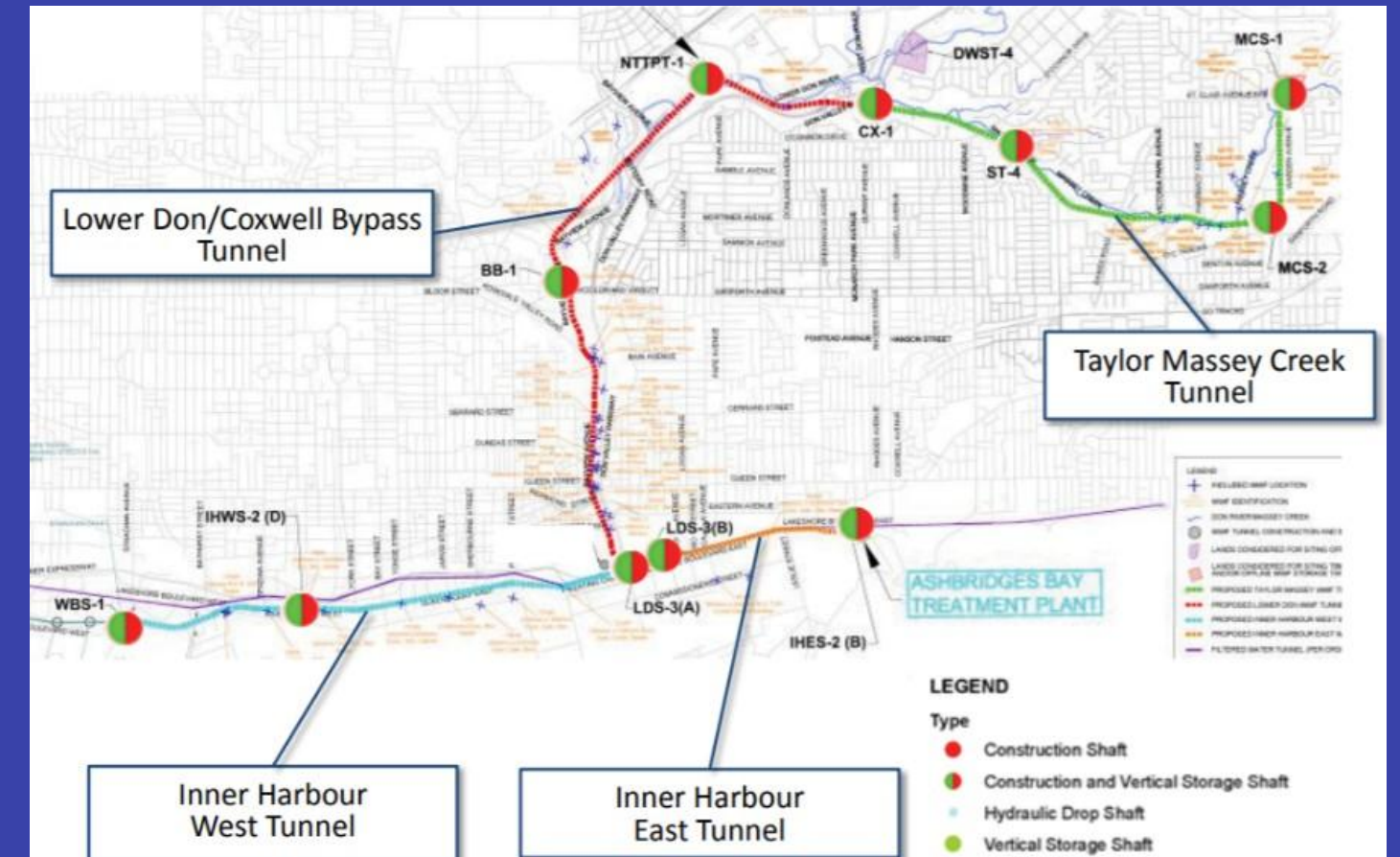
Toronto Black Creek Tunnel

- **Owner:** City of Toronto
- **Location:** Toronto
- **Engineer:** B&V
- **Status:** Construction RFP foreseen in 2024
- **Project Overview:**
 - Different options currently proposed, including both micro-tunneling, EPB TBM tunneling and large underground excavations for the CSO tanks.
 - The storage tunnel option includes a 3000 mm 462-m-long (3,200 m³) and Rockcliffe CSO Tank (39,000 m³) in combination with 1.6 km tunnel along Jane Street and approximately 2.3 km east along Downsview Avenue of a 1800 mm diameter relief sewer + second diversion would divert flow from the Black Creek STS at Downsview Avenue to the relief sewer
 - The deep tunnel option includes and almost 16-km long and over 70m deep (in the northern section more superficial, about 14 m) 3000 mm diameter relief trunk sewer to be excavated with an earth-pressure balance (EPB) TBM.



Taylor Massey Tunnel (TMT)

- **Owner:** City of Toronto
- **Location:** City of Toronto
- **Engineer:** B&V with RVA (Preliminary)
- **Status:** Pending Detailed Design RFP (TBD)
- **Contract Type:** TBD
- **Construction:** TBD
- **Project Overview:**
 - Part of Toronto's Don River and Central Waterfront Program
 - 6km tunnel (4.4m diameter) – soft ground
 - 4 Construction/Storage Shafts (10.5-12m diameter) and depths up to 60m
 - Tunnel follow Taylor-Masset Creek
 - Baffle Drop structures for connecting to existing WWF CSOs



GE Booth Outfall

- **Owner:** Peel Region
- **Location:** Mississauga
- **Planner:** GM Blue Plan
- **Status:** Schedule C Class EA
- **Contract Type:** TBD
- **Construction:** 2025+
- **Project Value:** \$175M+
- **Project Overview:**
 - Existing Outfall is 3.65mØ, Length is 1.4km into Lake Ontario, Capacity is 1200 MLD
 - Construct a new outfall of larger diameter and deeper into Lake Ontario with a capacity of 2000 MLD

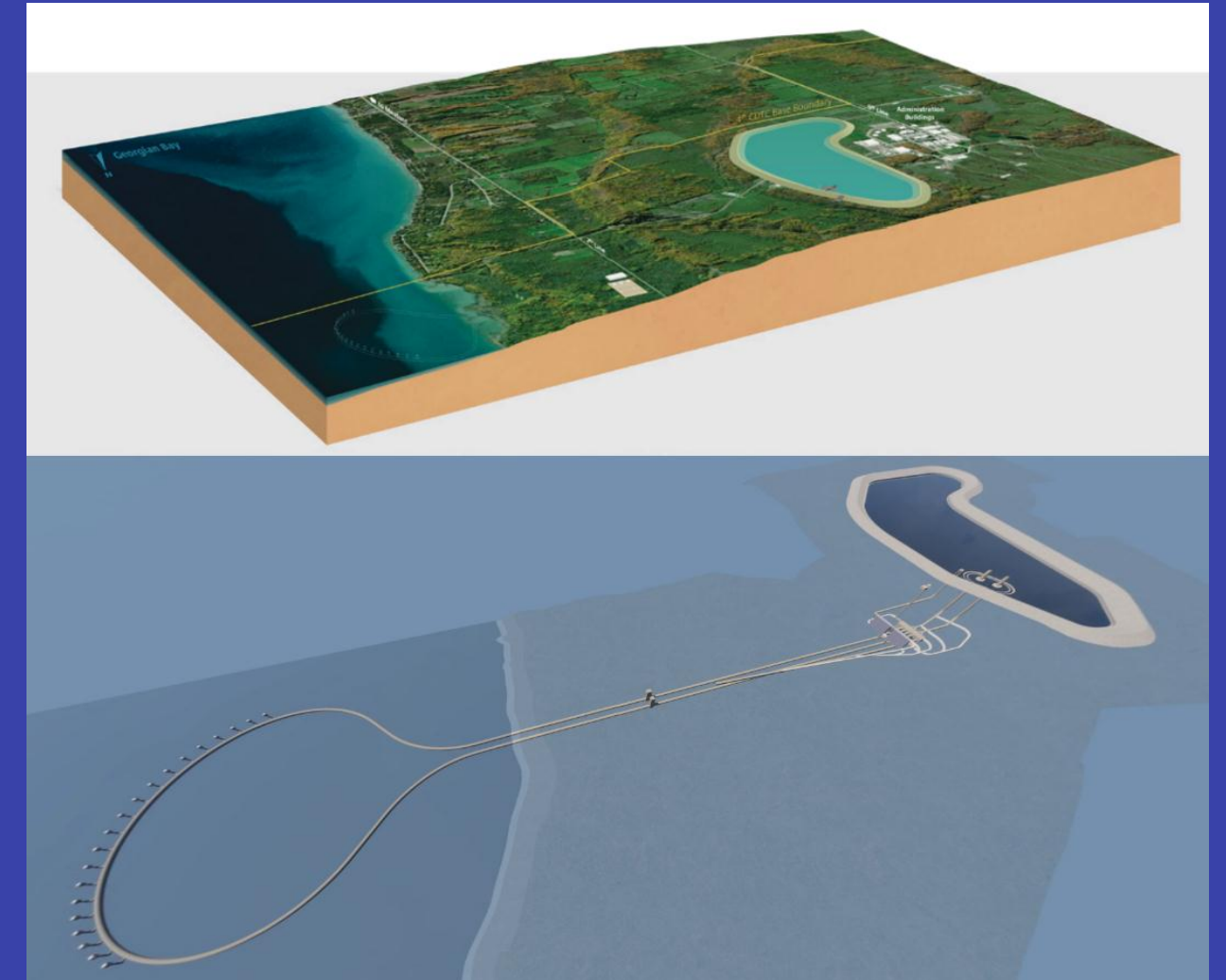


Region of Peel
working with you



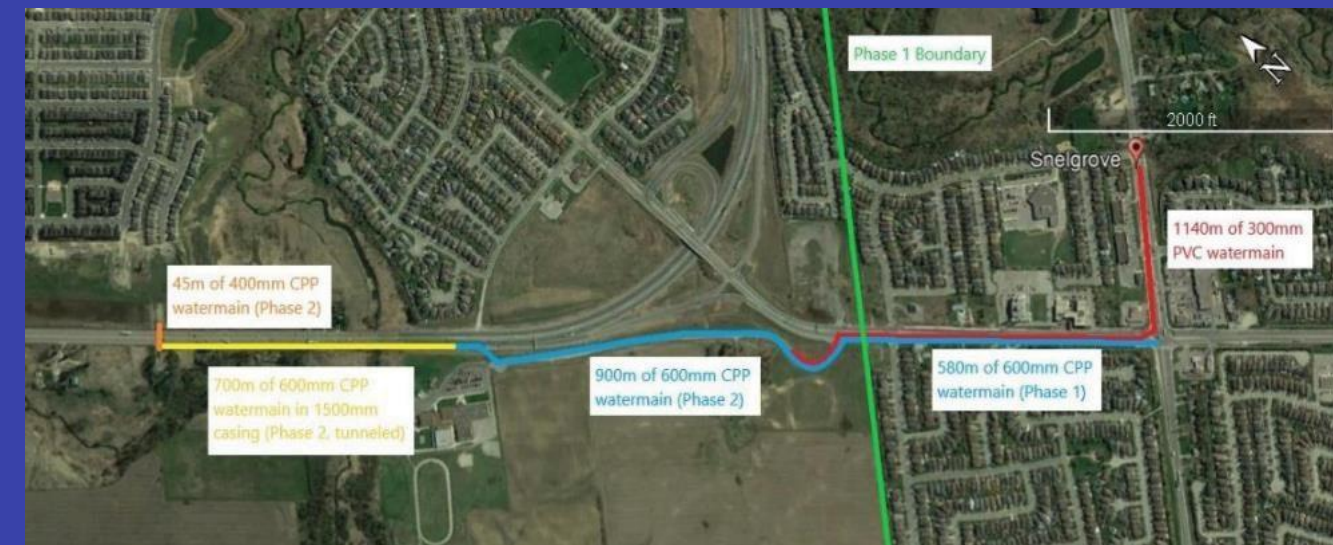
Ontario Pumped Storage

- **Owner:** TC Energy
- **Location:** Meaford
- **Engineer:** Hatch
- **Status:** Conceptual Design
- **Contract Type:** TBD
- **Construction:** 2026-2030
- **Project Value:** \$4B+
- **Project Overview:**
 - New reservoir at the top of the escarpment
 - Major components include the pump turbines, generators, and transformers located underground in a cavern below the escarpment
 - Tunnel from the reservoir, under Georgian Bay, beyond the sensitive shoreline environment
 - 20 risers spread out over a 1.5km semi-circle



Snelgrove Watermains – Phase 2

- **Owner:** Region of Peel
- **Location:** City of Brampton
- **Engineer:** GHD
- **Status:** Under Design
- **Project Overview:**
 - Original design was for 3.6km of 1050mm 300mm & 600mm diameter watermain on Highway 10 (Hurontario) and Mayfield Road – tunnelling & open cut
 - Now being redesigned due to future MTO interchange at project area
 - Crossings of East Holland River, and Highway 10
 - Second pass for installation of watermain pipe
 - Phase 1 was awarded August 2019 to London Excavators & Trucking and is now complete

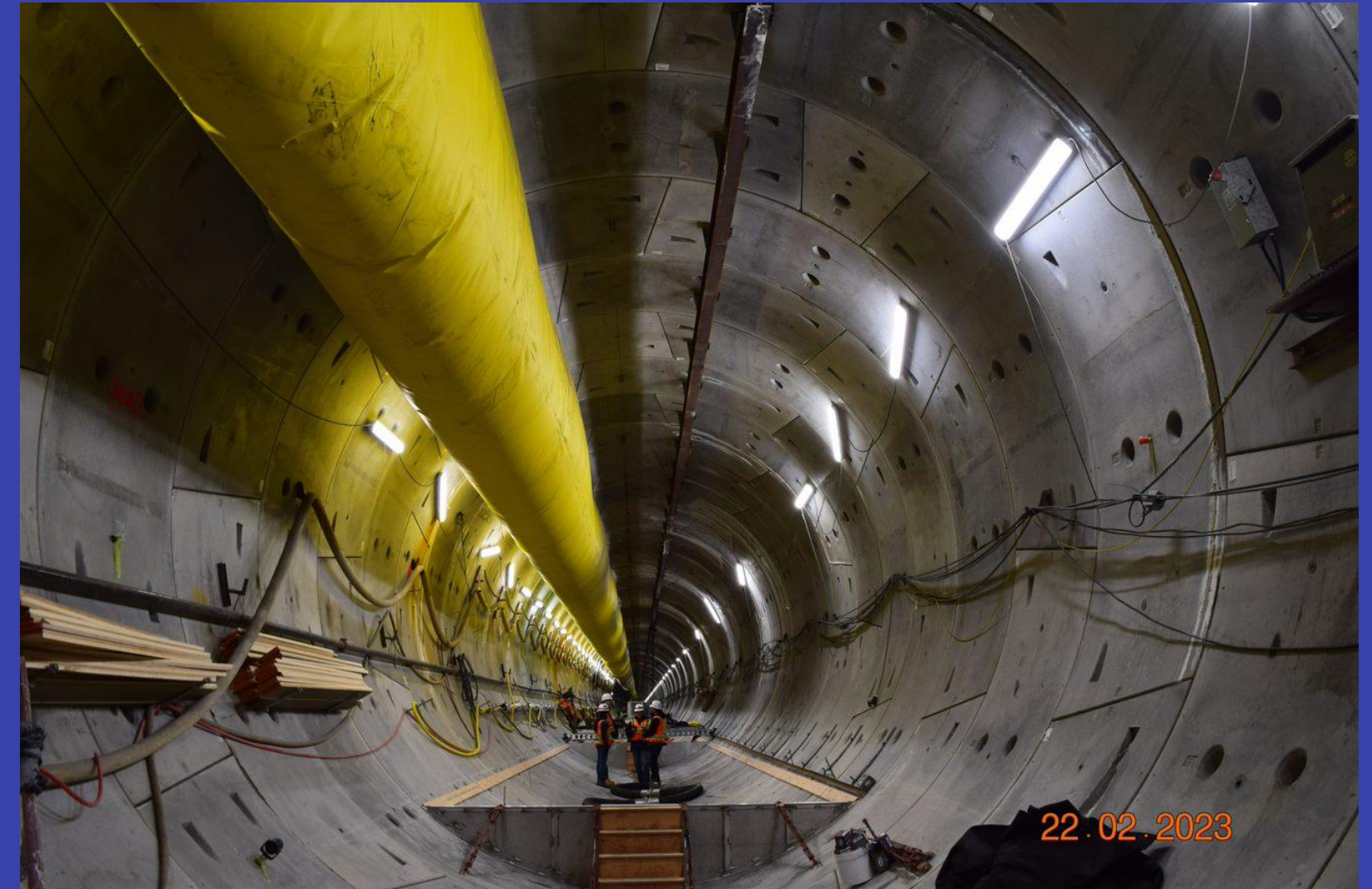


Québec & Maritimes Tunnelling Updates

Ongoing Projects

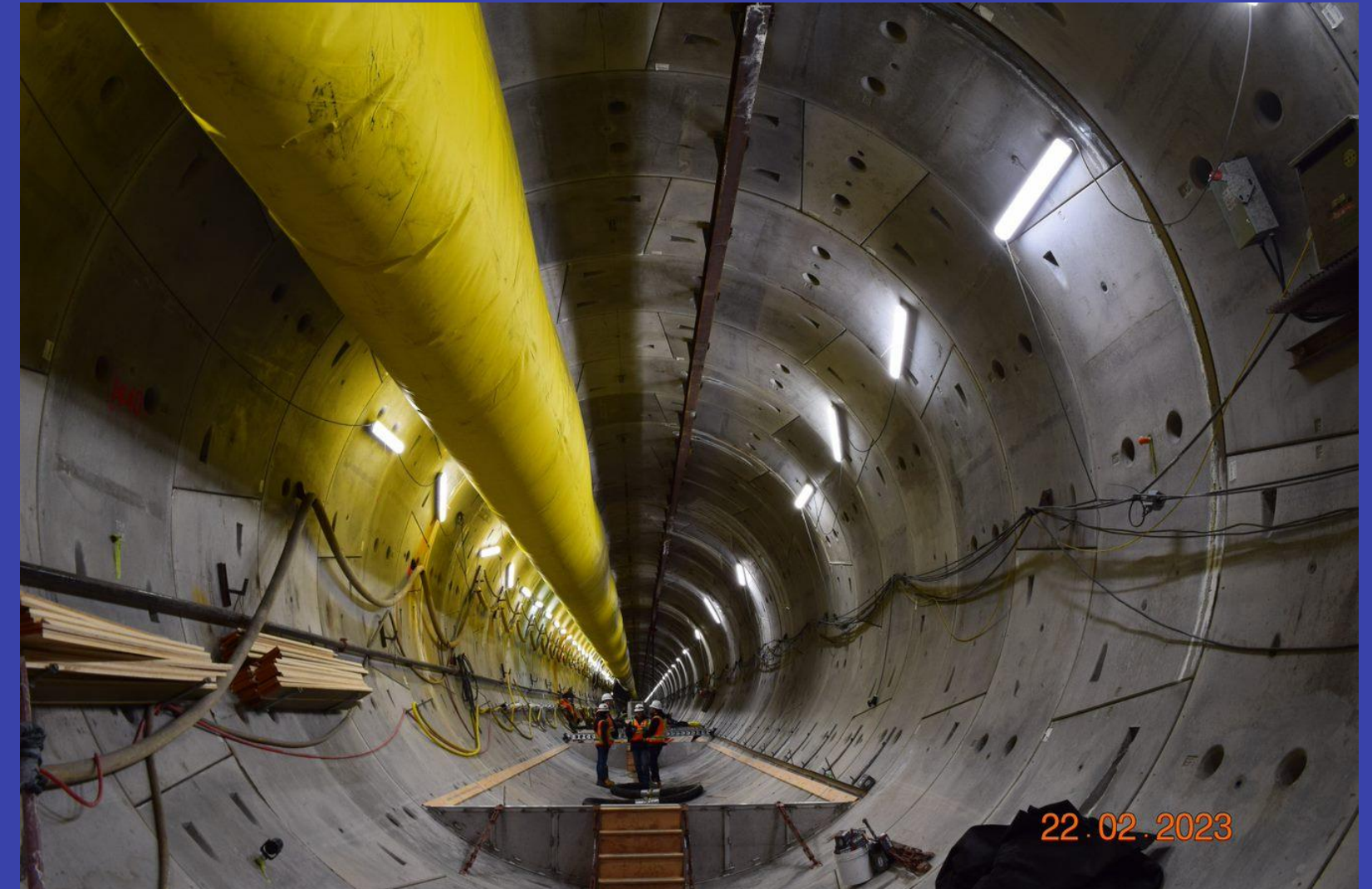
Réseau Express Métropolitain - REM

- The South Shore Branch of the REM Project opened for operation on July 30, which was an important step for the project but also a record for this fast-track project delivery. In fact, it took only 6 years from its inception to the commissioning of this branch. The rest of the branches are expected to follow with the West Island Branch to open next year and the Airport Branch to open in 2027.
- For the West Island Branch, the installation of the invert slab has started and subsequent trackwork as well as inside structure will follow before the installation of the tunnel systems. Another milestone was recently reached on July 17, 2023 at the Airport Station when its excavation reached the cutterhead of the TBM that was left in place after its dismantling from the upstream Technopark Station for the 2.5 km long 7.4 m diameter single track tunnel that runs underneath airport runway and taxiway.



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Installation of the invert at the Airport Tunnel of REM

Réseau Express Métropolitain - REM

- In meantime, the conversion work for 5 km long 100 year old Mont-Royal Tunnel that from a commuter rail operation to a high frequency light rail operation is progressing with the installation of its associated systems and equipment.
- The installation of the inside structure for the two underground stations is complete and work for mechanical, electric and piping is well underway.



Lafontaine Tunnel Major Rehabilitation Project

- The western southbound tube is closed to traffic and the eastern tube that typically operates in northbound direction is being used in bidirectional operation. This allows repair work to be carried out inside the closed tube and installation of equipment and tunnel systems to follow. Structural repairs are based on damage conditions of existing structure and on elaborated scenarios to avoid disturbance to existing post tensioning cables. The rehabilitation work will also include a sacrificial reinforced concrete with polypropylene fiber to provide a passive fire protection on the lower part of the wall. Once repair work will be finished for the southbound tube a similar scheme will be carried out for the north bound tube. It is expected that lane closures will take up to three years to finish work that is needed for this major rehabilitation of the Lafontaine Tunnel.



Structural repair work for the southbound tube under the ventilation shaft

Blue Line Extension Project

- The procurement process launched end of last year by the Société de Transport de Montréal (STM – Montreal Transit Agency) for the construction of the first contract of the Blue Line Extension that consist of excavation by rock TBM for a 5.8km long 10 m diameter tunnel with excavation of the shell of three stations and some ancillary structures is progressing well with bids expected this Fall for the prequalified prospective bidders. The STM has also launched this summer an industry outreach for other small contracts for excavation and constructions of other structures including stations and ancillary structures. The project is being tendered under design bid build delivery methods.

Tramwaw of Quebec Project

- The City of Quebec has selected Alstom Transport Canada in Spring to provide the rolling stock for the Quebec Tramway Project. Tender period for the infrastructure package is nearing the end as bids are expected end of the summer and subsequent selection in Fall 2023. The project has approximately 2.5 km of underground section with two underground stations near the Parliament.

REM de l'Est Project

- After the CDPQ Infra withdrew from REM de l'Est Project, the government of Quebec has mandated the City of Montreal and local transportation agencies to review options and come up with a revised alignment that will address public and stakeholders concerns. It was reported that the revised alignment that is due in Fall will mainly be underground and will cost much more than previously announced. Cost of as much as \$36 billions has been reported in the media. Much of the cost is tied to contingencies for risk and uncertainties such as inflation. The ministry of transportation has announced it will be looking into delivering the project through several packages mimicking what is being implemented in Toronto for their transit expansion projects. Further details will be announced in Fall 2023.



Third Link Project

- The Quebec provincial government has revised its ambition of building a massive single tube with 3 lanes in each direction roadway tunnel to connect the south shore and the Quebec City. It was announced that studies have shown that there was not enough ridership to justify such a massive project.
- The revised project under study will consist of transit tunnel and details will be announced once the studies are completed.

Chapter Activities

- **The Quebec and Maritimes Section held two events recently:**
 - Planning, Design and Construction of the Alaskan Way Viaduct Replacement Tunnel in Seattle, by Jean Habimana, April 6, 2023
 - Site Visit of graduate students of the Ecole de Technologie Supérieure de Montreal to the Airport underground Station for the REM, April 26, 2023
- **Upcoming events**
 - Excavation of the Airport Station using rock splitter, by Patrick Chandonia & Eric Gelinas, EBC, September 7, 2023
 - History of development and application of shotcrete in underground construction, Marc Jolin, Laval University, October 12, 2023
 - End of the Year Gala Dinner, December 7, 2023



Young Members Report

Presented by Nichole Boulton, Director, TAC

Young Members Report

Current Young Members

- Student Members: 30 (including 5 new student members from Quebec for first time)
- Young Members : 97 (First time asking for this information on registration)

Social Media Outreach has been combined with the Communications Task Force and Redstone with positive results and greatly improved engagement.

BC Site Visit

Site Visit to Newton Microtunnel Project for GeoRox students hosted by Michels Canada – Nov 28, 2022



Tunnelling 101 – Webinar Series

Nov 21, 2022

- Drilling and Blasting Practices in Tunnel Construction – Jonathan Aubertin (ETS)
- 138 attendees

Jan 25, 2023

- Intro to Risk Management – Connor Langford (MM)
- 135 attendees

March 22, 2023

- Intro to Geological and Geotechnical Site Investigations and Characterization – Dani Delaloye (MM)
- 140 attendees

April 20, 2023

- Machine Learning in Tunnelling – Not If, but When! – Josie Morgenroth (RockMass)
- 135 attendees

All posted on the YouTube Channel and website now!

Upcoming topics:

- Tunnel Mapping
- Shotcrete
- Tunnel Safety



TAC YM LEARNING SERIES VIDEOS ARE NOW AVAILABLE ONLINE FOR FREE!

Catch up on old seminars that you might have missed, learn something new, and stay up-to-date with the latest industry topics

Stay tuned for upcoming presentations!



www.youtube.com/@tunnelcanada6762

Young Member Committee Composition

Title	Person(s)
Director (National Board)	Nichole Boulton
Co-Chairs	Michael Dutton & Tim Packulak
Past Chair	Nichole Boulton
Secretary	Archana Gopakumar
Regional Sub-Chair – BC	Elaina Collis and Farah ElAmir
Regional Sub-Chair – Alberta & Prairies	Vacant
Regional Sub-Chair – Southern Ontario	Kavya Koganti
Regional Sub-Chair – Eastern Ontario	Simone Markus
Regional Sub-Chair – Quebec & Maritimes	Jonathan Aubertin
Sub-Chair – Communications	Émélie Gagnon
Sub-Chair – Academic Outreach	Lauryn Gehier
Sub-Chair – Industry Outreach	Graham Swarbrick

Scholarships Committee Update

Presented by: Leila Sunderani, Director, TAC

Scholarships Committee Update

Eisenstein Scholarship & TAC Undergraduate Scholarship

Eisenstein Scholarship

- Awarded annually to a post-graduate student planning to undertake or currently undertaking post-graduate studies in the field of tunnelling
- Cash prize of \$6,000
- One-year TAC membership,
- Full registration and attendance at the next TAC Conference and Awards Banquet

Scholarships Committee Update

Eisenstein Scholarship & TAC Undergraduate Scholarship

TAC Undergraduate Scholarship

- Awarded annually and is intended to support undergraduate engineers in the fields of Geological or Civil Engineering who have a passion for tunnelling and further developing their skillset and career.
- Cash prize of \$2,000
- One-year TAC membership,
- Full registration and attendance at the next TAC Conference and Awards Banquet

Scholarships Committee Update

Eisenstein Scholarship & TAC Undergraduate Scholarship

Scholarship Updates

- Moved the targeted deadlines and submissions to coincide with School Calendar year to attract more applicants
- New Chair - Leila Sunderani
- New member join committee - Mohammed Al-Bataineh
- Member is stepping down – Stephanie Robillard

Communications Committee Update

Presented by: Andrew Caruana, Director, TAC

TAC Newsletter

- First TAC Bilingual Newsletter
- Published on a bi-monthly basis
- Distributed by email* to all active members

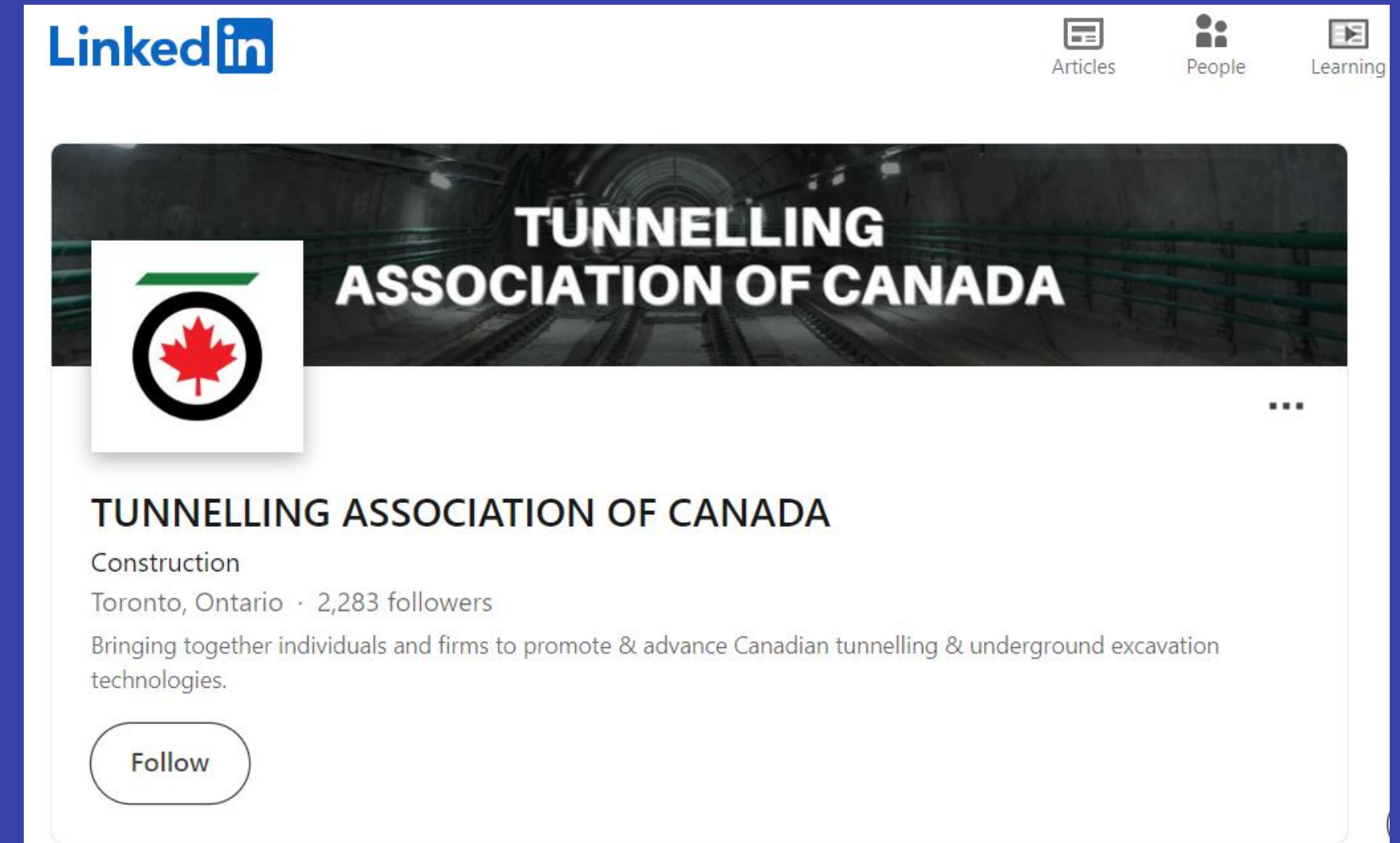
*Update your email address by logging into your membership profile on the TAC website

Le français suit



TAC LinkedIn Page

- Page established in September 2022
- Highest performing TAC Social platform
- The main platform for online content sharing
- **Key Analytics from over the last year:**
 - 2,291+ followers (with ~120 more per month)
 - 126,940 impressions generated
 - 4,317 Reactions
 - 94 Comments
 - 386 Reposts
 - 9.8% average engagement rate (very high)



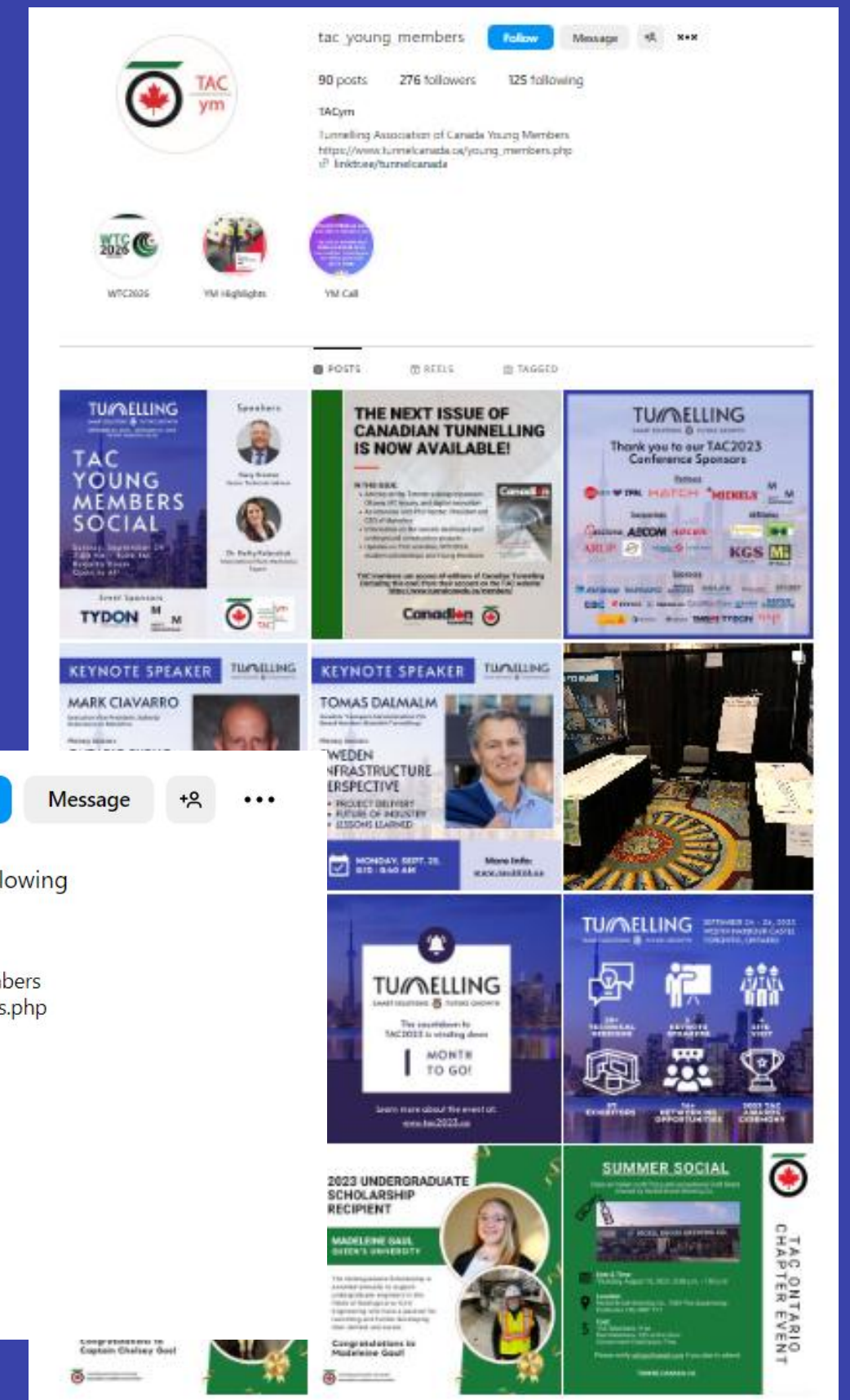
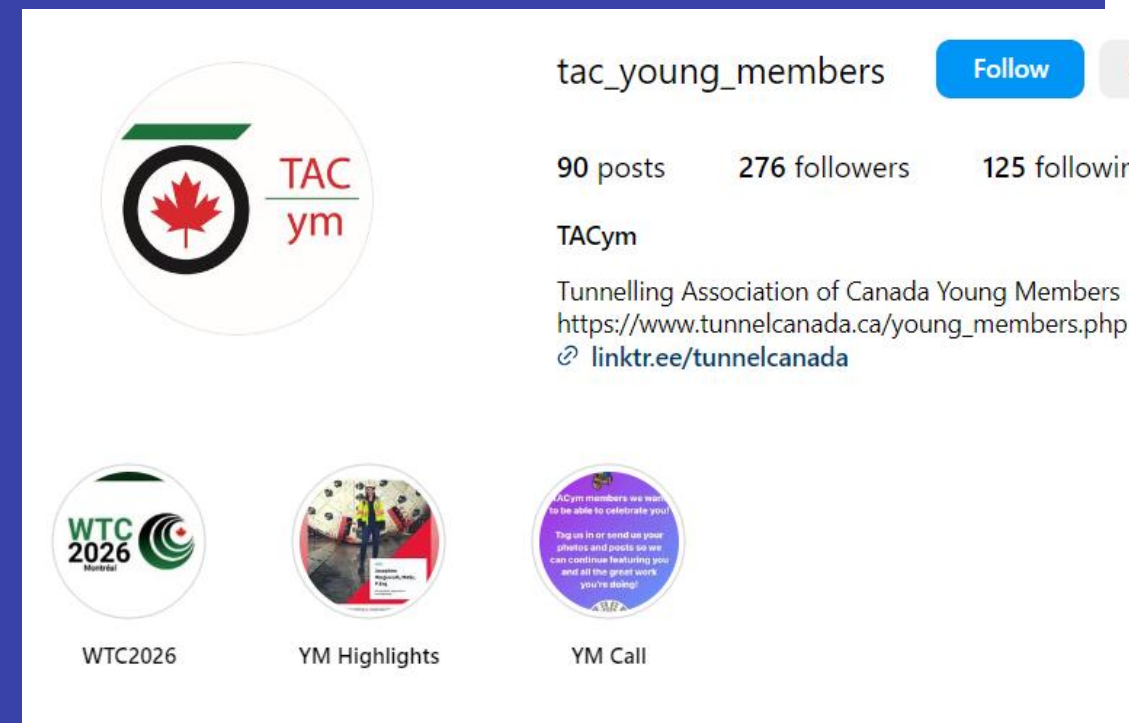
<https://www.linkedin.com/company/tunnelling-association-of-canada>

TAC Instagram Page

- @tac_young-members
- Content primarily geared towards the TACym community but also includes larger TAC topics
- Photos, videos & graphics are prioritized

Key Analytics from over the last year:

- 276 followers
- 77 posts shared
- Average post likes of 7-10



TAC Facebook Page

- 2nd largest TAC social media audience with **1.6K followers**
 - The average growth rate of 20-25 new followers per month
- **1.5K page likes**
 - The average rate of 10-20 new likes per month
- Engagement on this social platform is low compared to the others but remains consistent.
- Content shared on this platform is similar to the content on LinkedIn.



<https://www.facebook.com/TunnelCanada>

Tunnelling Magazine Update

Presented by: Connor Langford, Director, TAC

2023 UPDATES

Signed a new MOU to continue producing two issues each year

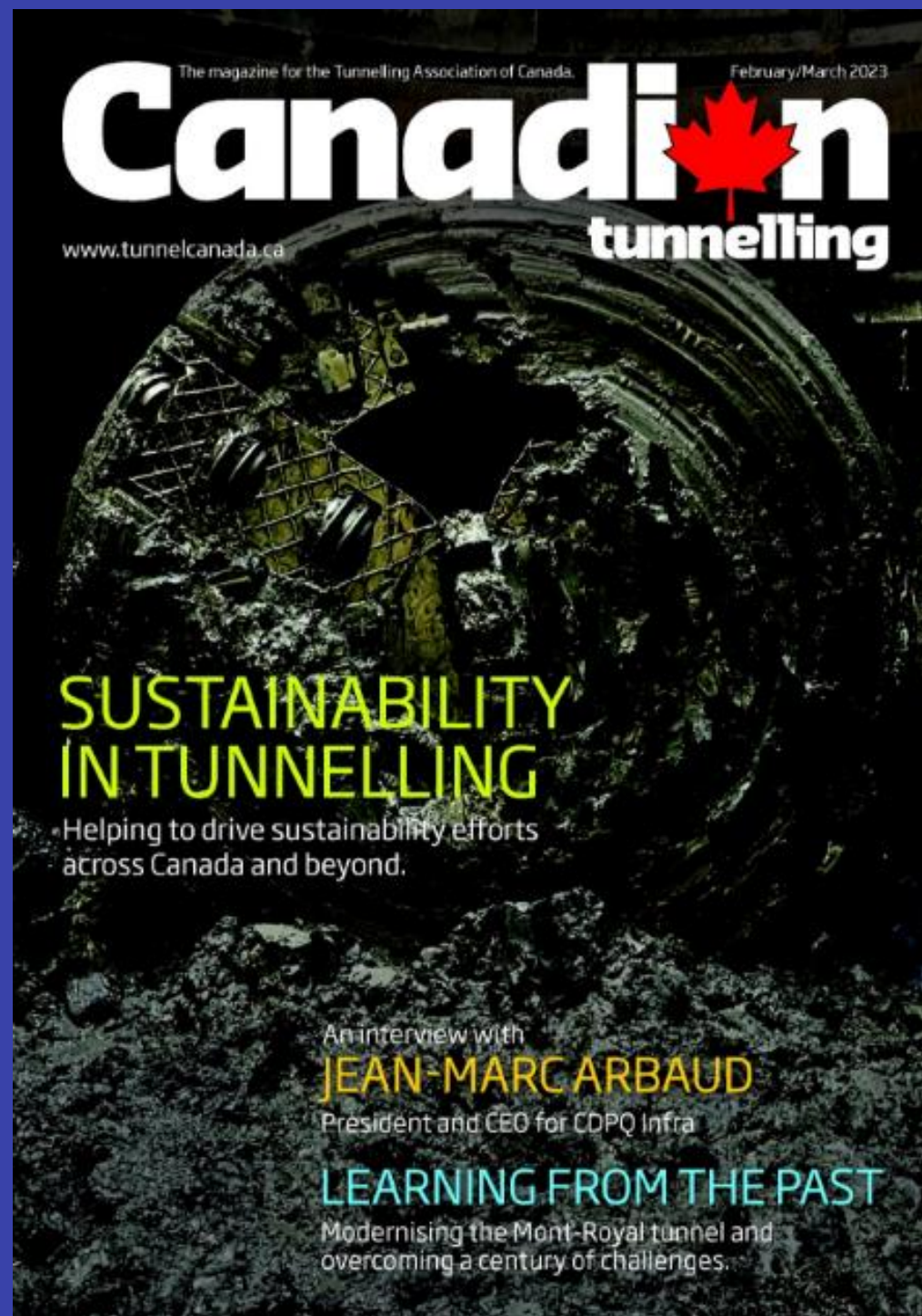
- Magazine well received in 2022, want to continue that relationship
- Focus on establishing a stronger relationship with Tunnelling Journal

Adding value for Individual and Corporate Members

- New content – increased in length from previous years (27 pages to 35 pages in Sept 2023 issue)
- Focus on industry projects / leaders, TAC news / conferences, and YMs
- Renewed focus on Corporate Members (thank you, advertising discounts)

More social media / website focus

- More information on the TAC website, all issues available to members in their portal
- Social media pushes for each issue



Updates in 2023:

- Interview with industry member in every issue
- Structured approach to TAC news (chapters, annual conferences)
- Awards coverage in Feb/Mar issue, scholarships in Sept issue
- Member sourced articles
- Corporate member thank you in the September issue
- Expanded YM section including updates and an article

Updates planned for 2024:

- More structured project section that connects to the dashboard
- Corporate sponsor member directory option – will be reaching out to corporate members this winter to promote



Tunnelling Association of Canada
Association canadienne des tunnels

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IMAGE: Evergreen Line Tunnel, Coquitlam, BC, 2015

Canadian Tunnelling Magazine Overview

Canadian Tunnelling is the official magazine of the Tunnelling Association of Canada (TAC) and is the leading publication for the Canadian tunnelling and underground construction industry.

Produced in partnership with *Tunnelling Journal*, the magazine is issued twice per year (spring and fall). Each issue is packed with interesting articles, interviews with key influencers in the tunnelling industry, updates on upcoming and in progress tunnelling projects, and information on TAC activities and events.

The content of each magazine is developed by an Editorial Advisory Board (EAB) and the lead editor.

Have an idea for a future issue? TAC members are invited to submit ideas for project articles, news and events, and other noteworthy items to the editorial team. Feel free to reach out to them using the contact information below.

Contact Information

- Editorial Board Chair - Connor Langford: CTMagazine@tunnelcanada.ca
- Editor - Nicole Robinson: nicole@tunnellingjournal.com



Canadian Tunnelling Magazine

See below for all issues of Canadian Tunnelling Magazine – you can either click on the magazine cover to be taken to the digital E-reader, or click "Download" to get a PDF copy.



Canadian Tunnelling
September 2021

[Download](#)



Canadian Tunnelling
February / March 2022

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Canadian Tunnelling
September 2022

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Canadian Tunnelling
February 2023

[Download](#)



Canadian Tunnelling
September 2023

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THE NEXT ISSUE OF CANADIAN TUNNELLING IS NOW AVAILABLE!

IN THIS ISSUE:

- Learn how the tunnelling industry is driving sustainability efforts across Canada and beyond
- See how the Mont-Royal tunnel was modernized as part of Montreal's new light rail system
- Hear from Jean-Marc Arbaud (President and CEO of CDPQ Infra) on infrastructure investment
- Get important updates on TAC chapters, the Tunnel Project Dashboard, and the 2023 Conference



TAC members, can access all editions of Canadian Tunnelling (including this one!) from their account on the TAC website:

<https://www.tunnelcanada.ca/members/>

The magazine for the Tunnelling Association of Canada
Canadian tunnelling
www.tunnelcanada.ca



THE NEXT ISSUE OF CANADIAN TUNNELLING IS NOW AVAILABLE!

IN THIS ISSUE:

- Articles on the Toronto subway expansion, Ottawa LRT inquiry, and digital innovation
- An interview with Phil Verster, President and CEO of Metrolinx
- Information on the tunnels dashboard and underground construction projects
- Updates on TAC activities, WTC2026, student scholarships and Young Members



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The magazine for the Tunnelling Association of Canada
Canadian tunnelling
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ABC Ventilation Systems https://abcventilation.com/	Geocontrol SA http://www.geocontrol.es/
Accuwork Inc. http://accuwork.ca/	Geoform Canada Ltd. http://geoformcanada.com/
Aecon Group Inc. https://www.aecon.com/	GeoVerra https://www.geoverra.com/
AECOM https://www.aecom.com/	GHD https://www.ghd.com/en-ca/index.aspx
Aggreko https://www.aggreko.com/en-ca	Ghella Canada Ltd. http://www.ghella.com/en
Arup http://arup.com/Global_Locations/Canada/Toronto.aspx	Hatch https://www.hatch.com/
ASI Group Ltd. http://asi-group.com/	Herrenknecht Tunnelling Systems USA, Inc. http://www.herrenknecht.com/en/home.html
Barnard Constructors of Canada LP https://www.barnard-inc.com/	IMEX International Inc. http://www.imexworldwide.com/
Bekaert https://www.bekaert.com/	Integrated Wireless Innovations Ltd https://www.i-wi.ca/
Brierley Associates Corporation https://www.brierleyassociates.com/	Jay Dee Canada ULC https://www.jaydee.us/
Cancrete Equipment Ltd http://cancrete.ca/	J-CON Civil LTD. http://www.j-concivil.com/
CIMA+ https://www.cima.ca/en/	Keller Foundations https://www.kellerfoundations.ca/
C&M McNally Engineering Corp http://www.mcnally.ca/	Loval Tunnelling Solutions https://loval-ts.com
CMP International Inc. https://www.cmpcanada.com	Michels Canada https://www.michelscanada.com/
Construction Demathieu & Bard (CDB) Inc. https://cdbtechno.com/en/	Monteith & Sutherland Limited https://mssurvey.com/
COWI https://www.cowi.com/	Mott MacDonald https://www.mottmac.com/
CRT Construction Inc. http://www.crtconstruction.ca/en	Pomerleau Inc. https://pomerleau.ca
CSI TUNNEL SYSTEMS LLC - CSITS-FPP LP www.csigroup.com	Region of Peel - Public Works http://www.peelregion.ca/pwl/construction/
Daedalus Safety Group https://www.daedalussafetygroup.com/	Sandvik Mining and Rock Solutions https://www.rocktechnology.sandvik
Di-Corp http://www.di-corp.com/	Sika Canada Inc. https://can.sika.com/
Dr. G Sauer & Partners Corporation http://www.dr-sauer.com	Southland http://www.southlandholdings.com/
Earth Boring Co. Limited http://www.earthboring.ca/	Strata Worldwide http://www.strataworldwide.com/
EBC Inc. https://ebcinc.com/en/	Traylor Bros. Inc. https://www.traylor.com/
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FCC Canada Ltd https://www.fcco.com/en/home	Underhill Geomatics Ltd. http://www.underhill.ca/
Flatiron Constructors Canada Limited https://www.flatironcorp.com/	WJ Groundwater https://wjgroup.org/locations/wj-canada/



Updated Corporate Member Options

- Overall discounts on advertising options
- September issue: corporate “thank you”
- February / March issue: optional (discounted) corporate sponsor member directory to be launched in 2024

Canadian tunnelling

Corporate Rates & Data

Advertising Data

Advert Sizes

All sizes in millimetres and horizontal by vertical	
Page (trim size)	210 x 297
Page (type area)	192 x 280
Page (bleed)	216 x 303
DPS (trim size)	420 x 297
DPS (bleed)	432 x 303
Half page (horizontal)	192 x 130
Half page (vertical)	88 x 280
Qtr page (horizontal)	192 x 62
Qtr page (vertical)	88 x 130

Rates

	Colour
DPS	US\$ 8,748.00
Full Page	US\$ 5,250.00
Half Page	US\$ 3,150.00
Quarter Page	US\$ 1,890.00

Digital Ad Copy Requirements

Maximum file size 10Mb. Please provide hi-res pdf or jpeg files.

TAC Corporate Member Rates

1 Insertion - 10% Discount	2 Insertions - 25% Discount*
Full Page - US\$4,725.00	Full Page - US\$3,938.00
Half Page - US\$2,835.00	Half Page - US\$2,363.00
Quarter Page - US\$1,701.00	Quarter Page - US\$1,418.00

*The 2-insertion offer applies to any combination of advert size (full page, half page, quarter page) in the February/March and September issue in a calendar year.

TAC Corporate Members Directory +

Published annually with the February/March issue of Canadian Tunneling. Exclusive offer to TAC Corporate members only, gives you the opportunity to highlight your company's products and services. Take a full-page advert and get a full page company profile included. Take a half page advert and get a half page company profile included.

WE WORK WELL UNDER PRESSURE

Our Corporate Members Directory is an essential tool for the tunnelling industry. It provides a comprehensive overview of the companies and services involved in tunnelling projects. The directory is published annually with the February/March issue of Canadian Tunneling.

ASI Marine

Our Corporate Members Directory is an essential tool for the tunnelling industry. It provides a comprehensive overview of the companies and services involved in tunnelling projects. The directory is published annually with the February/March issue of Canadian Tunneling.

ASI Group

Our Corporate Members Directory is an essential tool for the tunnelling industry. It provides a comprehensive overview of the companies and services involved in tunnelling projects. The directory is published annually with the February/March issue of Canadian Tunneling.

Directory +
for TAC Corporate
Members ONLY
Get a Double Page
Spread from as little as
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Full page from
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For further information please contact Daniel Lee-Billinghurst on daniel@tunnellingjournal.com or + 44 (0) 1892 522585

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Tunnelling Database Project Update

Presented by: Connor Langford, Director, TAC

2023 UPDATES

Started in 2022 – began as a “simple” idea to show upcoming project information graphically

- TAC published a “Tunnel Prospects” list in Canadian Tunnelling, similar to BC Major Projects Brochure
- Wanted something “real time”, e.g. Canada’s Top 100 Infrastructure Projects dashboard
- Mott MacDonald intern and GIS team supported to get a concept off the ground

Since then – intent was to grow database to include completed and in progress projects

- Motion brought to the TAC Board of Directors to approve funding for a special project
- Approved budget of \$36K – non-commercial rates, no Board Member time

Next Steps – database goes live on Monday Sept 25

- 2023 will be focused responding to feedback, updating the projects etc.
- 2024 will transition the dashboard to TAC to take ownership, update going forward

TAC Tunnel Prospects

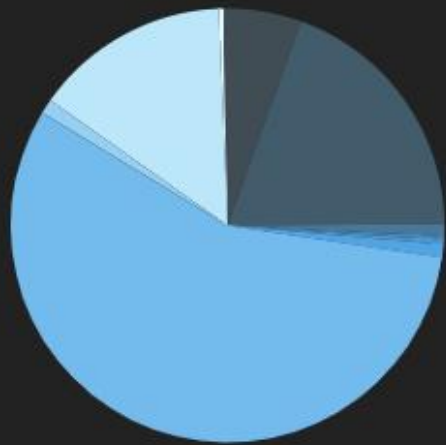


[About Us](#) [Projects](#) [Publications and Resources](#)

Region	Location	Project	Owner
BC	North Vancouver	Second Narrows Water Supply Tunnel	Metro Vancouver

Top 100 Canada's Biggest Infrastructure Projects

Total \$ Value by Province

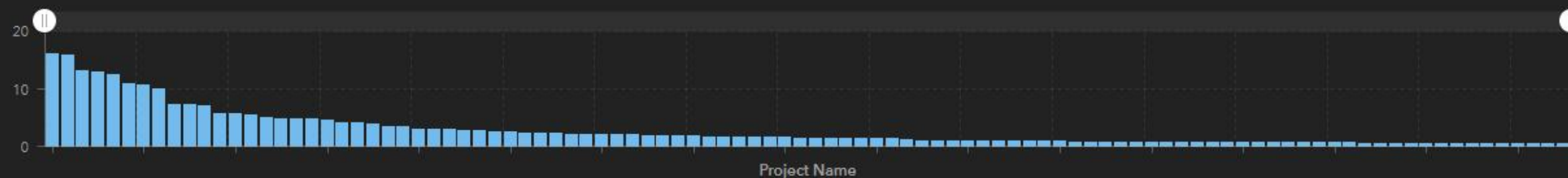


Billions

[Province](#) [Sectors](#) [Funding](#) [About](#)



Projects by \$ Value (click on bars for details)



BC Major Infrastructure Projects Brochure

British Columbia's Infrastructure Projects Brochure offers a detailed and informed picture of upcoming infrastructure investment or major construction opportunities throughout the province.



IMAGE: Evergreen Line Tunnel, Coquitlam, BC, 2015

Overview

The Tunnelling Association of Canada (TAC), in association with **Mott MacDonald**, has developed a free GIS-based **Tunnel Dashboard** that showcases Canadian tunnelling projects.

The purpose of the dashboard is to:

- Provide knowledge about the size of the Canadian tunnelling industry;
- Support owners in advertising upcoming project work; and
- Assist consultants, construction companies and other interested parties by providing vital information on upcoming projects early in the planning and procurement process.

The entries included in the database involve microtunnel and tunnel excavations, and can include any number of other elements (i.e., large shored excavation, shafts, portals, etc.).

Projects are grouped into two main categories:

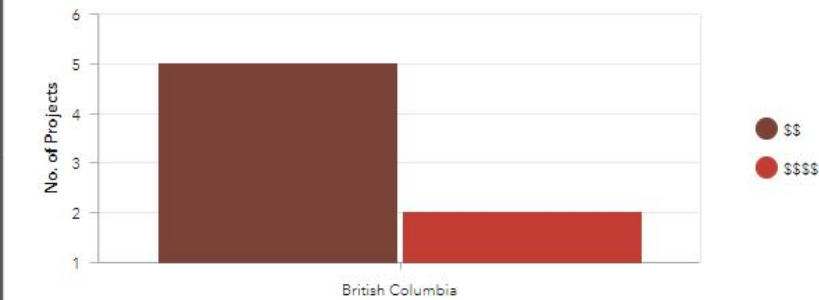
- **Active:** currently in the planning, design, procurement or construction phase.
- **Completed:** construction has been completed and the tunnel is in operation.

The dashboard is updated regularly and can be accessed [here](#).

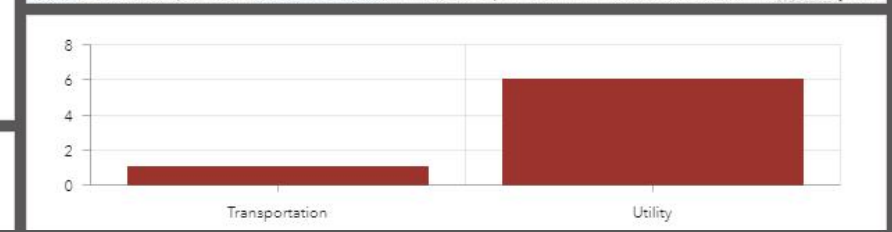
If you have questions about the dashboard, or wish to provide project information, please reach out to connor.langford@mottmac.com.

TAC Tunnel Projects

- Annacis Water Supply Tunnel
- Cambie-Richmond Water Supply Tunnel
- Coquitlam Intake No. 2 & Tunnel
- Coquitlam Main No. 4 (South Section) Tunnel
- George Massey Tunnel Replacement
- Haney Main No. 4 (Marine Crossing)
- Stanley Park Water Supply Tunnel

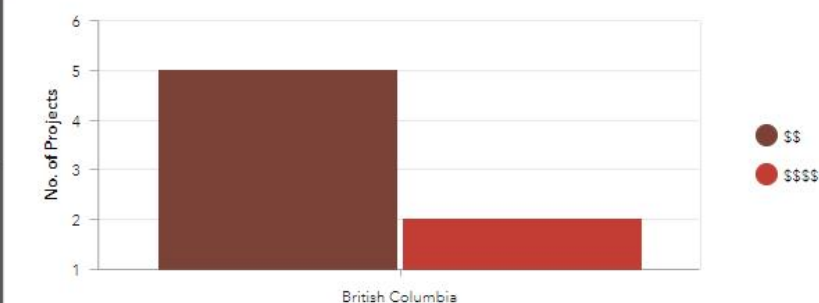


Tunnel Project Locations

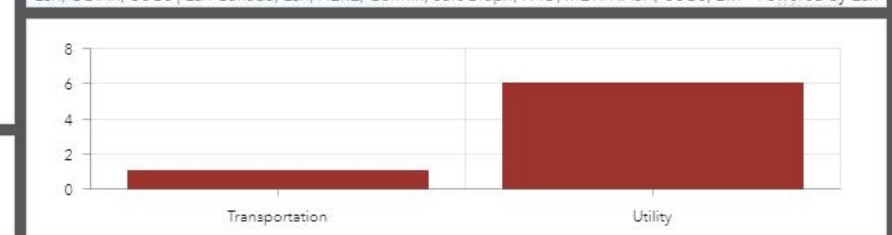
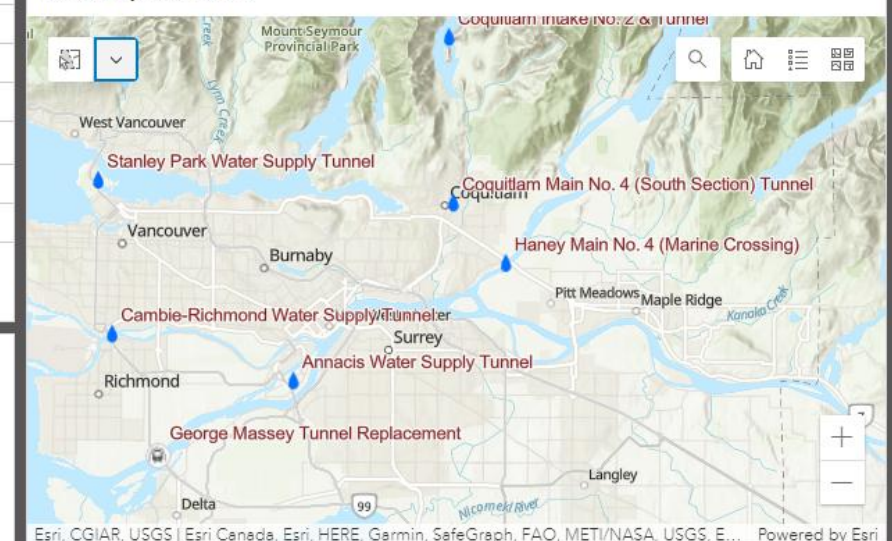


TAC Tunnel Projects

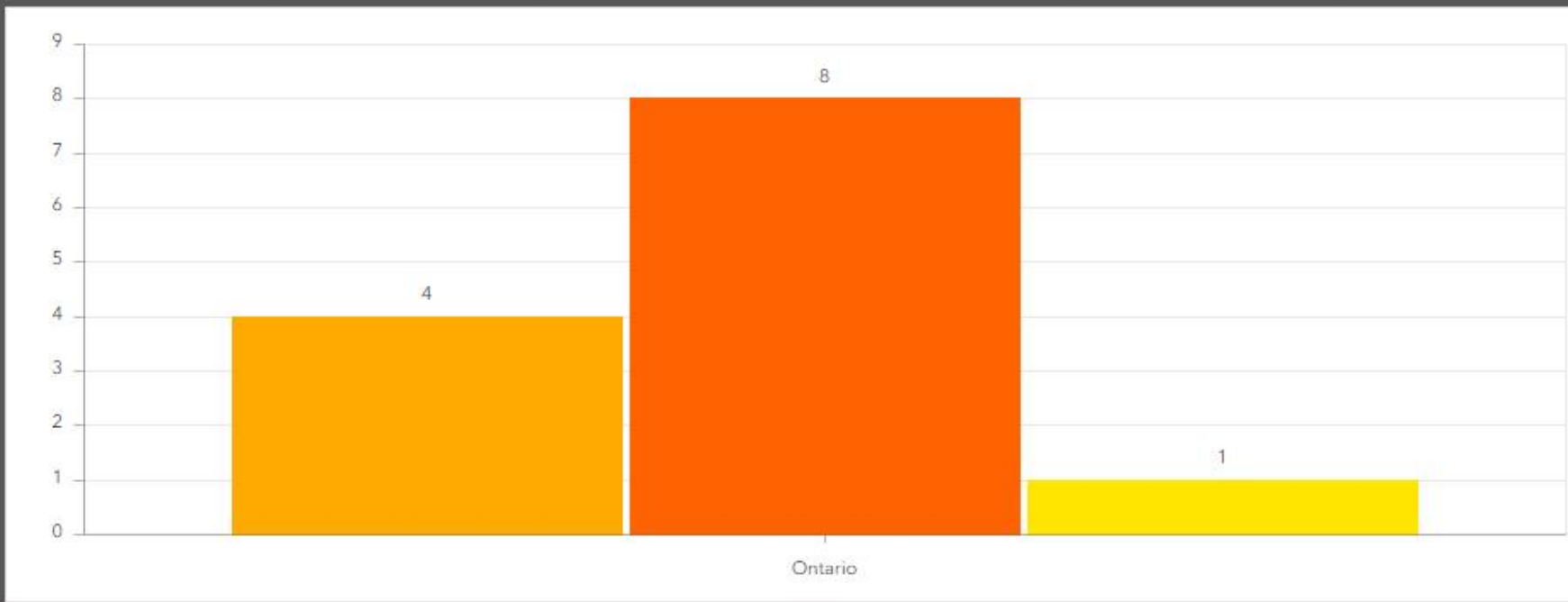
- Annacis Water Supply Tunnel
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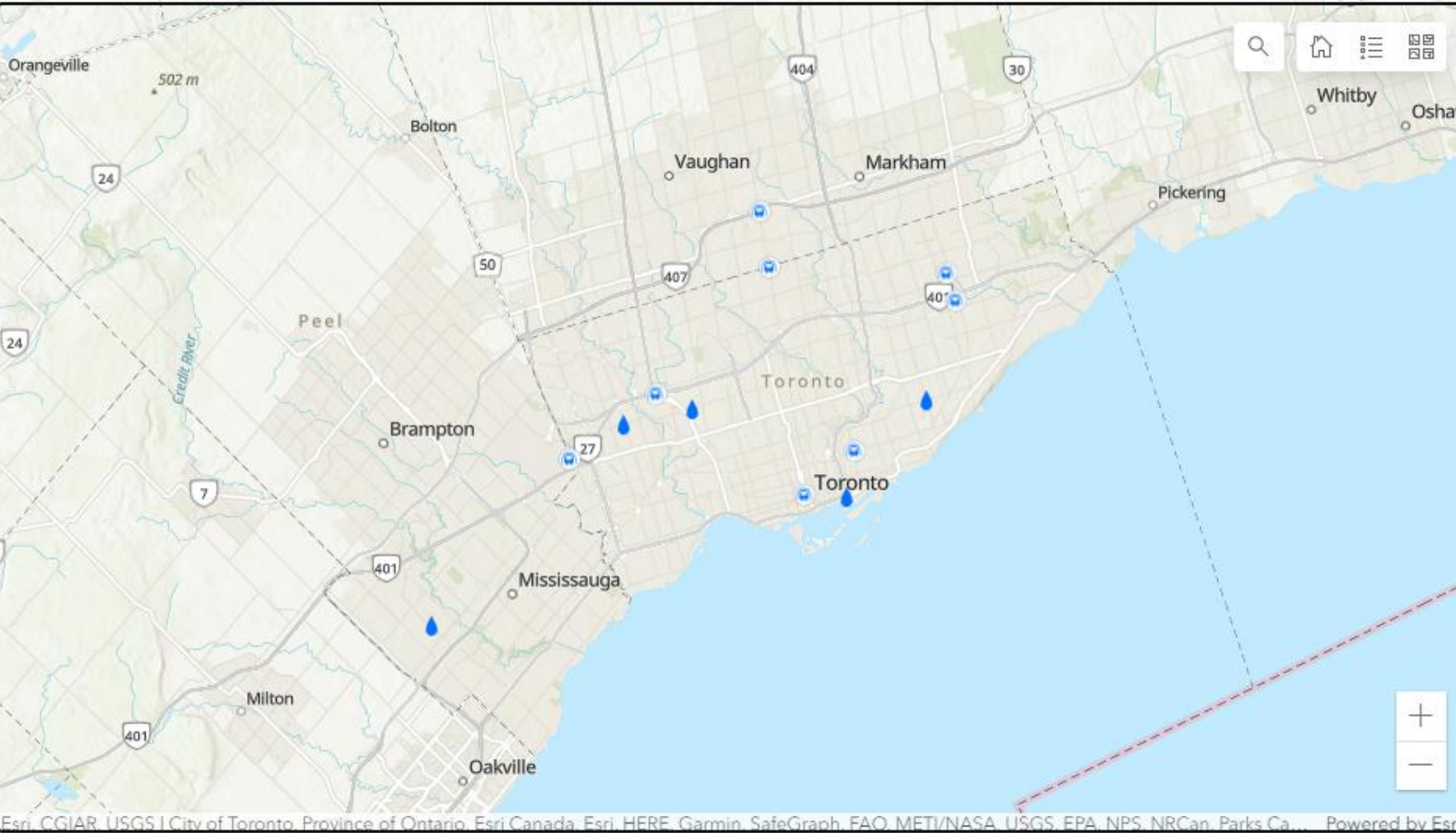
Tunnel Project Locations



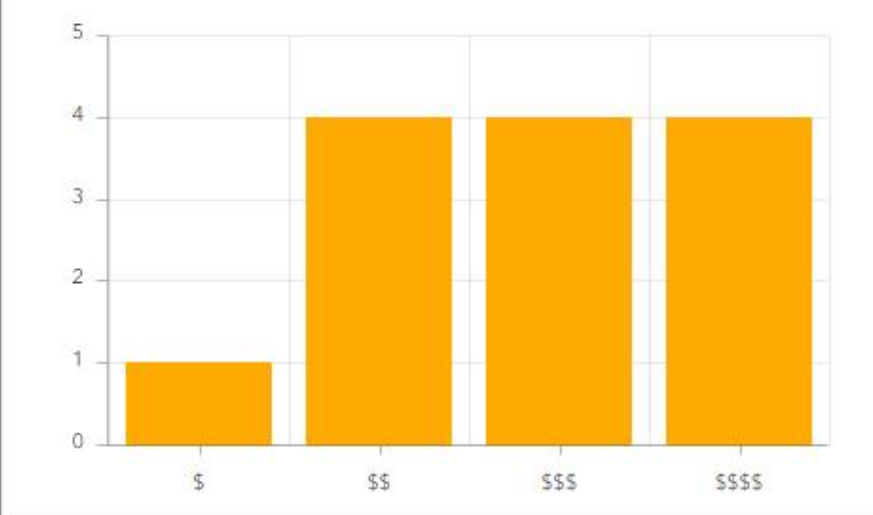
Project Name	City / Region	Sector	Currently In	Project Type	Estimated Construc...
Calgary Green Line...	Calgary	Transportation	Design	New Build	2024
Comox Valley Sew...	Comox	Utility	Design	New Build	2023
Annacis Water Sup...	New Westminster / ...	Utility	Construction	New Build	2022
Stanley Park Water ...	Vancouver	Utility	Design	New Build	2023
Haney Main No. 4 (...)	Port Coquitlam	Utility	Design	New Build	2030
Cambie-Richmond...	Marpole / Bridgeport	Utility	Design	New Build	2029
Coquitlam Intake ...	Coquitlam	Utility	Design	New Build	2030
Coquitlam Main N...	Coquitlam	Utility	Design	New Build	2028
George Massey Tu...	Richmond / Delta	Transportation	Design	New Build	2026



Tunnel Project Locations



- Inner Harbour West
- Taylor-Massey Creek Tunnel
- Black Creek
- Ontario Line North
- Ontario Line - Southern Civil, Stations and Tunnel
- Eglinton Crosstown West Extension - Advance Tunnel
- Eglinton Crosstown West Extension - Advance Tunnel 2
- Yonge North Subway Extension - Advance Tunnel
- Young North Subway Extension - Stations, Rail and Systems
- Scarborough Subway Extension - Advance Tunnel



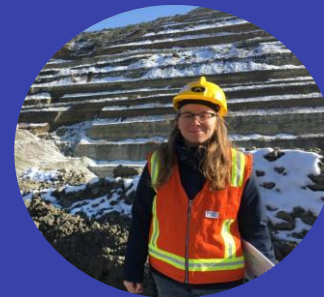
TAC EDI Task Force Update

Presented by: Mark Diederichs, Director, TAC

Key Updates

- Our Team
- Successes
- Current Initiatives
- Future Initiatives

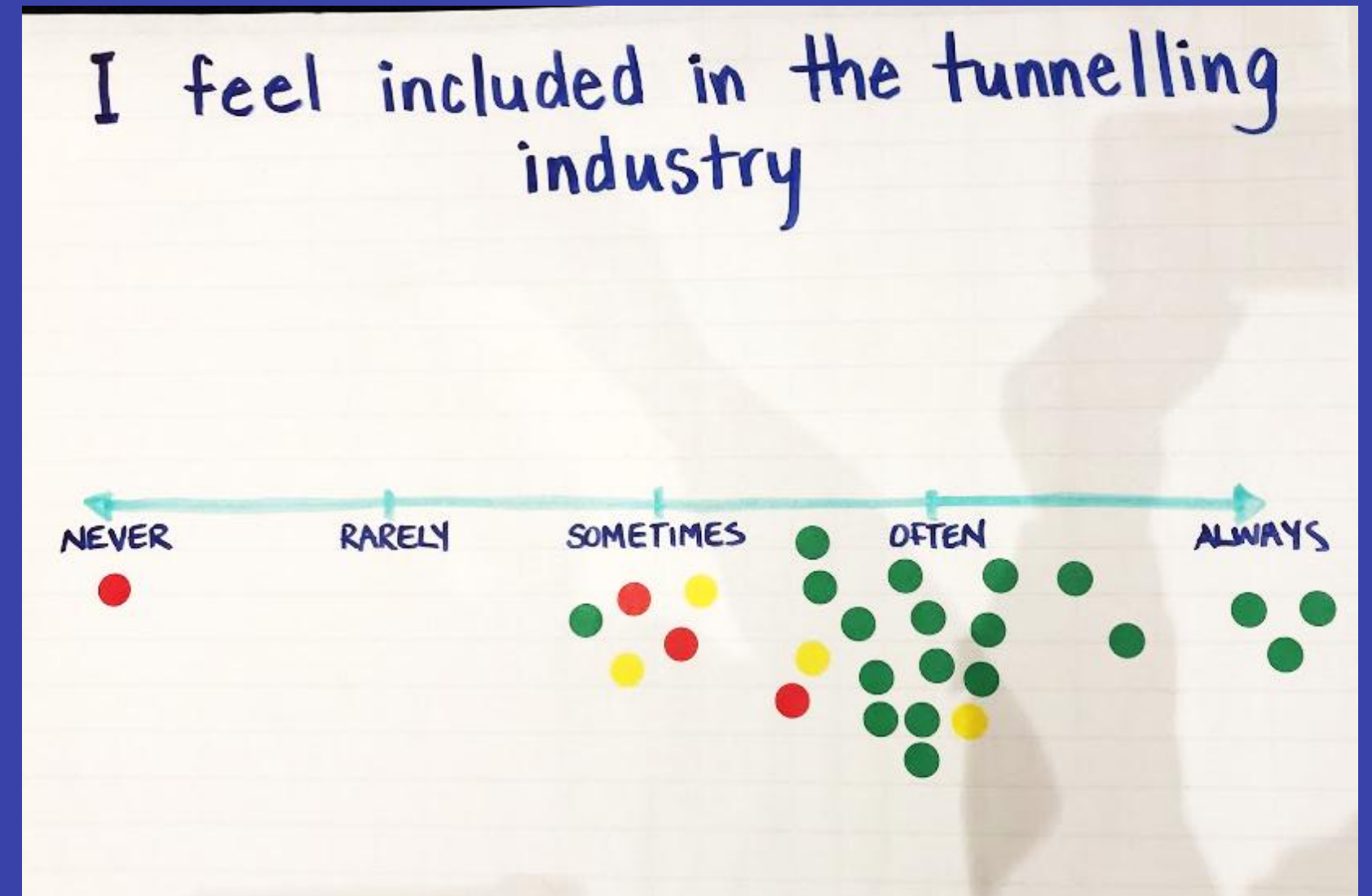
Our Team



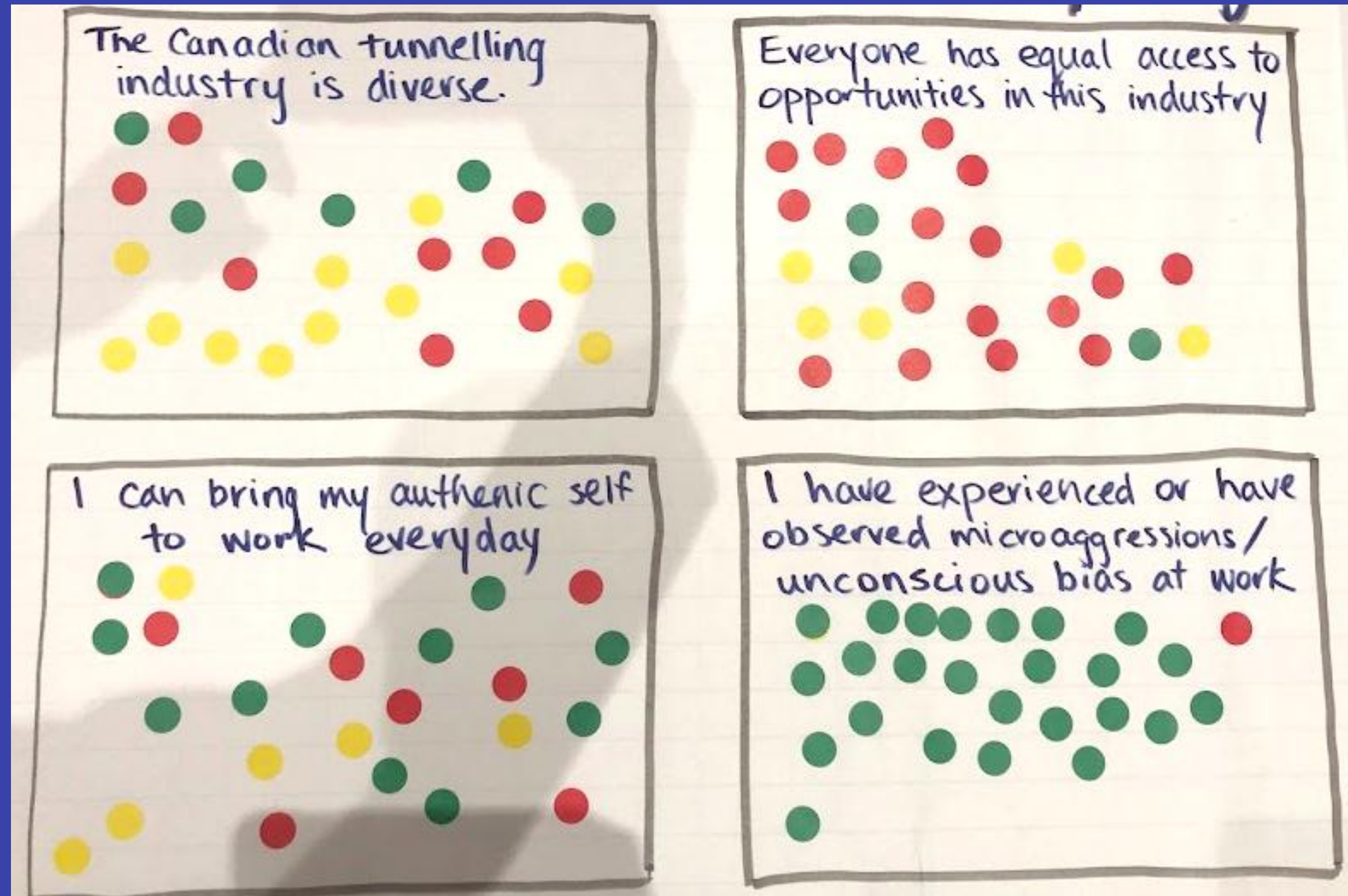
Our Mission

- Identify and address issues of diversity, equity, and inclusion to improve the experience of working in the tunnel industry in Canada.
- Invest in the participation and promotion of underrepresented groups, while supporting the tunnelling industry to achieve their diversity and inclusion goals.

TAC2022 Conference Booth



TAC2022 Conference Booth



- Agree
- Unsure
- Disagree

Coordination with other organizations

Underground Construction Association (UCA) of SME

- Met with UCS women in tunnelling group in Boston and looking for opportunities for collaboration



Australian Tunnelling Society

- Meet with team quarterly to share ideas, successes and lessons learned



American Rock Mechanics Association (ARMA)

- Looking for opportunities for collaboration



ITA


- Have representative on EDI special committee
- Looking to influence path forward



EDI Moment Library

Tunnelling Association of Canada

Date



Tunnelling Association of Canada
Association canadienne des tunnels


Equity, Diversity, and Inclusion Moment

Unconscious Bias

date

1

Tunnelling Association of Canada



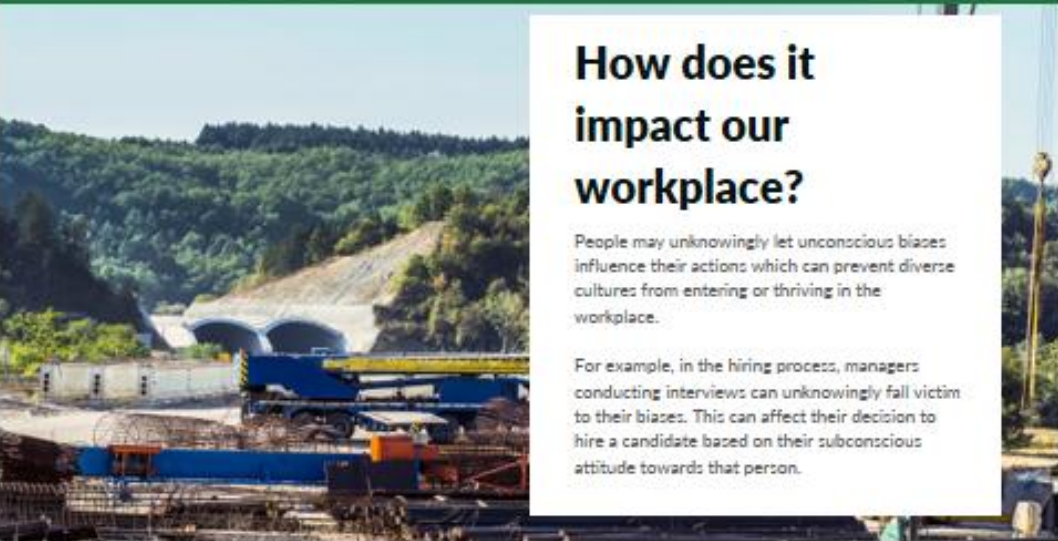
What is unconscious bias?

Unconscious biases (also known as implicit biases) are attitudes or beliefs about certain groups of people that individuals form outside their own conscious awareness.

2

2

Tunnelling Association of Canada




How does it impact our workplace?

People may unknowingly let unconscious biases influence their actions which can prevent diverse cultures from entering or thriving in the workplace.

For example, in the hiring process, managers conducting interviews can unknowingly fall victim to their biases. This can affect their decision to hire a candidate based on their subconscious attitude towards that person.

3

Tunnelling Association of Canada



Example of Unconscious Biases

Unconscious bias can exist related to any or all of the following:


• Age	• Gender	• Height
• Weight	• Beauty	• Religion
• Race	• Name	• Culture

4

4


Tunnelling Association of Canada

Tips on How to Avoid Unconscious Bias



Identify Your Biases

Learn about your own biases through tests and training.



Use Strategies to Avoid the Influence of Unconscious Bias

Setting our and agreeing on decision making criteria ahead of making decisions is a proven way to avoid unconscious bias influencing decision making.

5

5

Tunnelling Association of Canada

Date

Thank you!

The End

6

TAC Website



Equity, Diversity and Inclusion

The Tunnelling Association of Canada is committed to building and supporting a diverse, equitable, and inclusive tunnelling industry.

What are equity, diversity, and inclusion?

Equity - the fair and respectful treatment of all people.

Diversity - the demographic mix of the community, with a focus on the representation of equity-deserving groups (considering aspects such as gender, age, indigeneity, sexual orientation, race, immigrant status, disability, etc.)

Inclusion - an environment where everyone feels welcome, is treated with respect, and is able to fully participate. An inclusive culture is about creating a deep sense of belonging, where every member is valued and their ideas heard.

EDI Resources

Check out the links below for useful EDI resources and information on initiatives from tunnelling associations around the world.

General

[Equity & Diversity Archives - ACEC-BC](#)

[Diversity and inclusion: a call to action - Canadian Construction Association \(cca-acc.com\)](#)

[Dismantling Bias - Engineers Geoscientists Manitoba \(enggeomb.ca\)](#)

[Canadian Center for Diversity and Inclusion \(ccdi.ca\)](#)

[Build Force - Respectful Workplaces Blog](#)

[Canadian Construction Association - Respect, diversity & inclusion toolkits and resources](#)

[Canadian Building and Trades Union - Diversity and Inclusion](#)

Other Tunnelling Association Initiatives

[Diversity in Tunnelling Sub-Group - Australian Tunnelling Society \(ats.org.au\)](#)

[Diversity And Inclusion Protocol - Australian Tunnelling Society \(ats.org.au\)](#)

[Women in Tunneling - Society for Mining, Metallurgy & Exploration Inc. \(smenet.org\)](#)

Land Acknowledgements

The Tunnelling Association of Canada acknowledges and respects Indigenous Peoples on whose traditional territories we all live, work, and play. To look up the Traditional Territory where you are or where you are from, please visit the interaction map @ [Native-Land.ca](#).

[Native-Land.ca](#) | Our home on native land

Indigenous peoples living in Canada

The University of Alberta offers a fantastic free course developed by the Faculty of Native Studies. The course is called **Indigenous Canada** and can be taken online and you will get a certificate of completion.

Women in Science, Technology Engineering and Math (STEM) and Construction

[Engendering Success in STEM](#)

[Westcoast Women in Engineering, Science and Technology](#)

[Canadian Association of Women in Construction](#)

BIPOC People in STEM and Construction

[Black Engineers Canada](#)

[AISES for Indigenous Canadian STEM students](#)

[Afro Canadian Contractors](#)

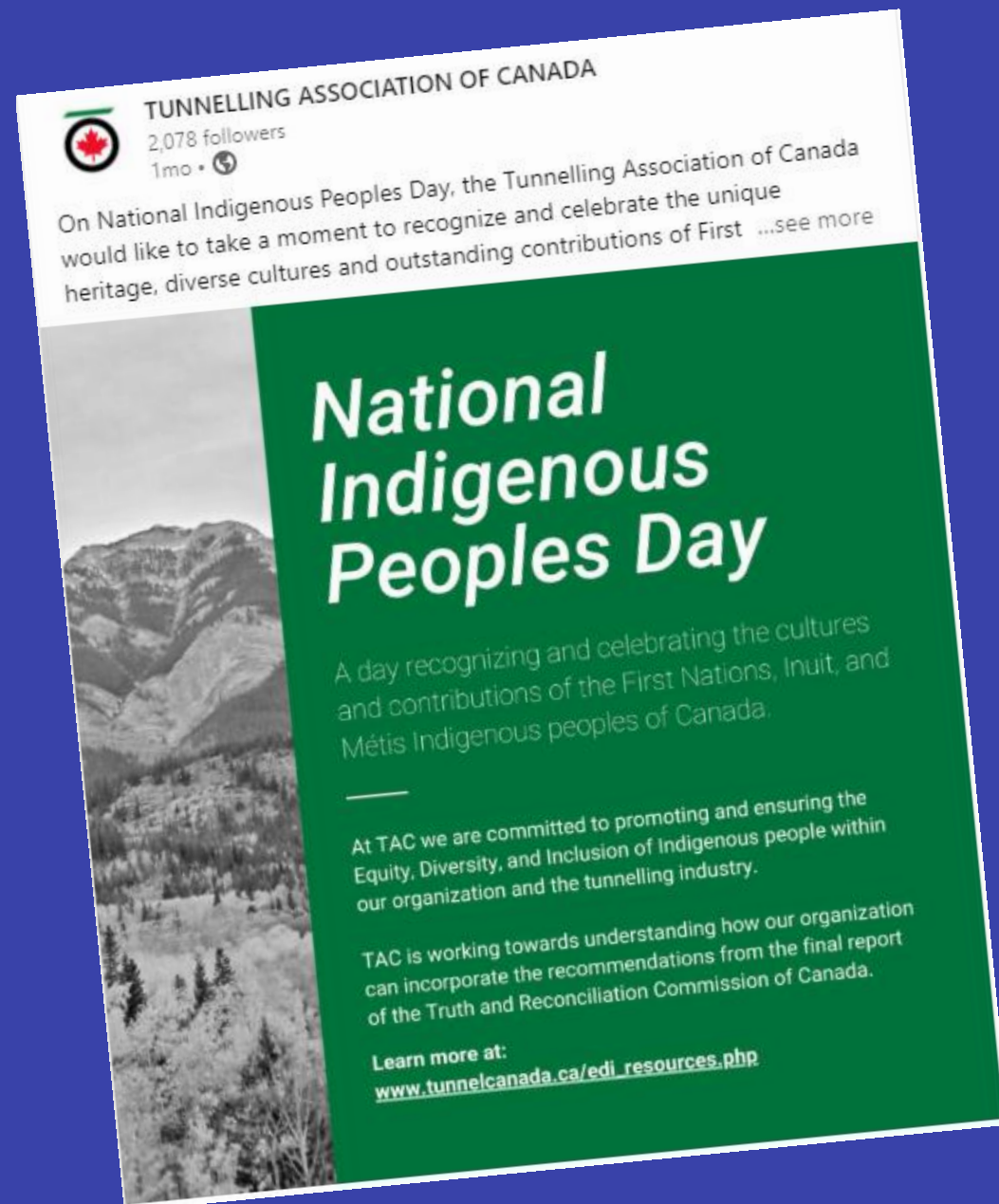
2SLGBTQ+ People in STEM and Construction

[EngiQueers Canada link tree for current events and resources](#)

[Pride in STEM](#)

[EGALE](#)

Social Media, Communications and Presentations



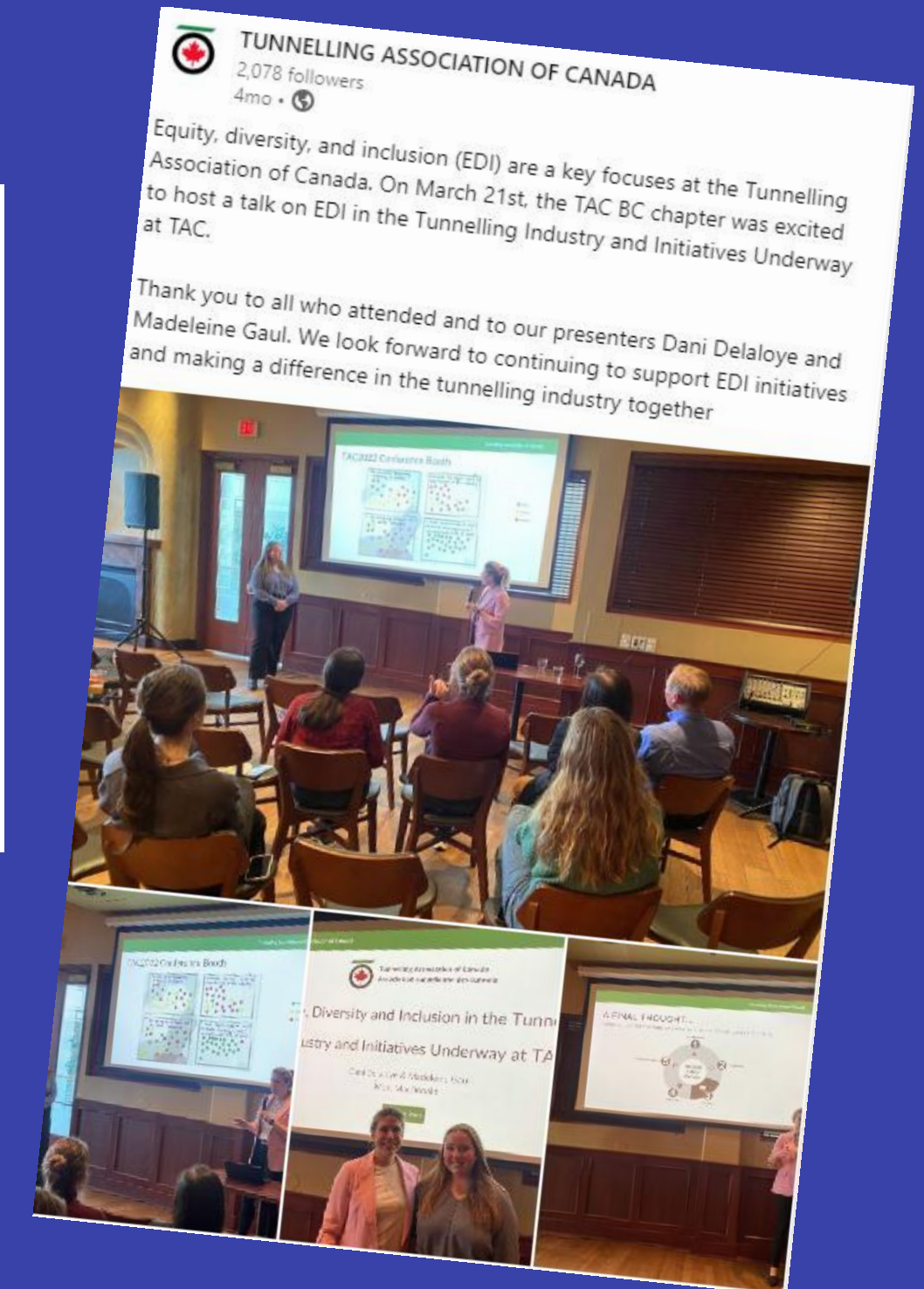
TAC Board of Directors - Call for interest

TAC would like to invite all members in good standing who are interested in serving on the TAC Board of Directors to submit a letter of interest and their CV to admin@tunnelcanada.ca by August 27, 2023.

The CV should be accompanied by a letter from your employer confirming their support in accommodating your time/availability required to undertake the position of TAC Director as described in the Association's by-laws. The TAC by-laws are available at <http://www.tunnelcanada.ca/byLaws.html>.

TAC is expecting to fill one to two vacancies for the 2024 Board as will be decided on at the AGM during the TAC 2023 Toronto Conference.

Aligning with our Association values, we seek diverse voices to serve on our Board. We welcome applications from all qualified candidates with experience, competence, and perspective on the tunnelling industry in Canada.



Survey

- Launched at this conference
- Partnered with researchers in EDI space to develop questions and who will help analyze data
- Data will be collected continually to assess change over time

INCLUSION LEVELS ACROSS CIP

The following table indicates the inclusion levels by social group based on the divergence from the average CIP respondent:



Future Initiatives

- Mentorship program in coordination with Young Members
 - Looking at traditional, peer and reverse mentorship
- Global leadership and influence
- Truth and Reconciliation calls to action
- Survey promotion and data analysis

WTC 2026 UPDATE

Presented by: André Rancourt

WTC 2026 – TAC wins the bid!



WTC 2026 Organizing Committee



Dr. André Rancourt, PhD, P. Eng.
Congress Chair
TAC Vice President East



Dr. Jean Habimana, PhD, P. Eng.
Congress Vice Chair
TAC Québec & Maritimes Director



Bruce Downing, MSc,
DIC, P. Eng.
TAC President



Dr. Erik Eberhardt,
PhD, P. Eng.
Scientific Committee Chair
TAC Immediate Past President



Dr. Jonathan Aubertin,
PhD, P. Eng.
Scientific Committee Vice Chair



Rick Lovat, P. Eng.
Advisory Committee Chair
TAC Past President,
ITA Past Vice President



Boro Lukajic, P. Eng.
Advisory Committee Vice Chair
TAC Past President



Michelle Richards, CPA
Finance Committee Chair

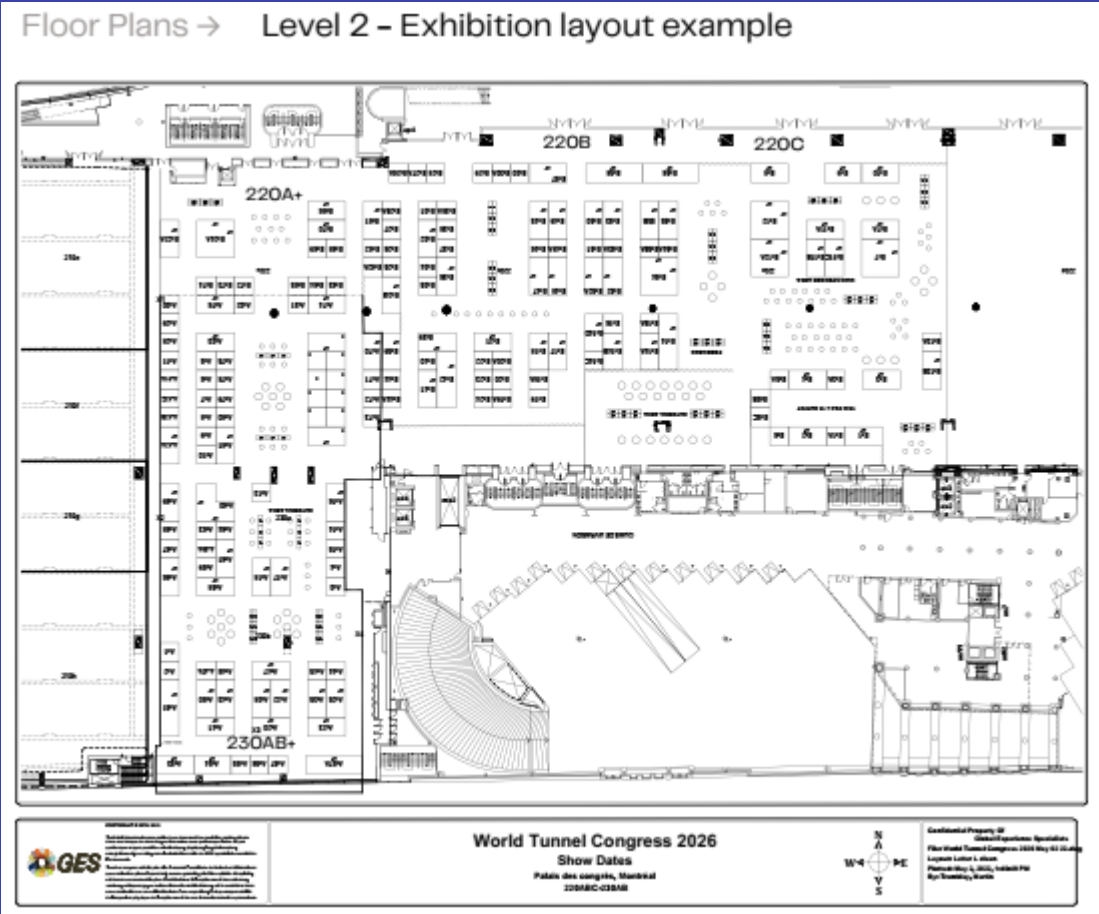
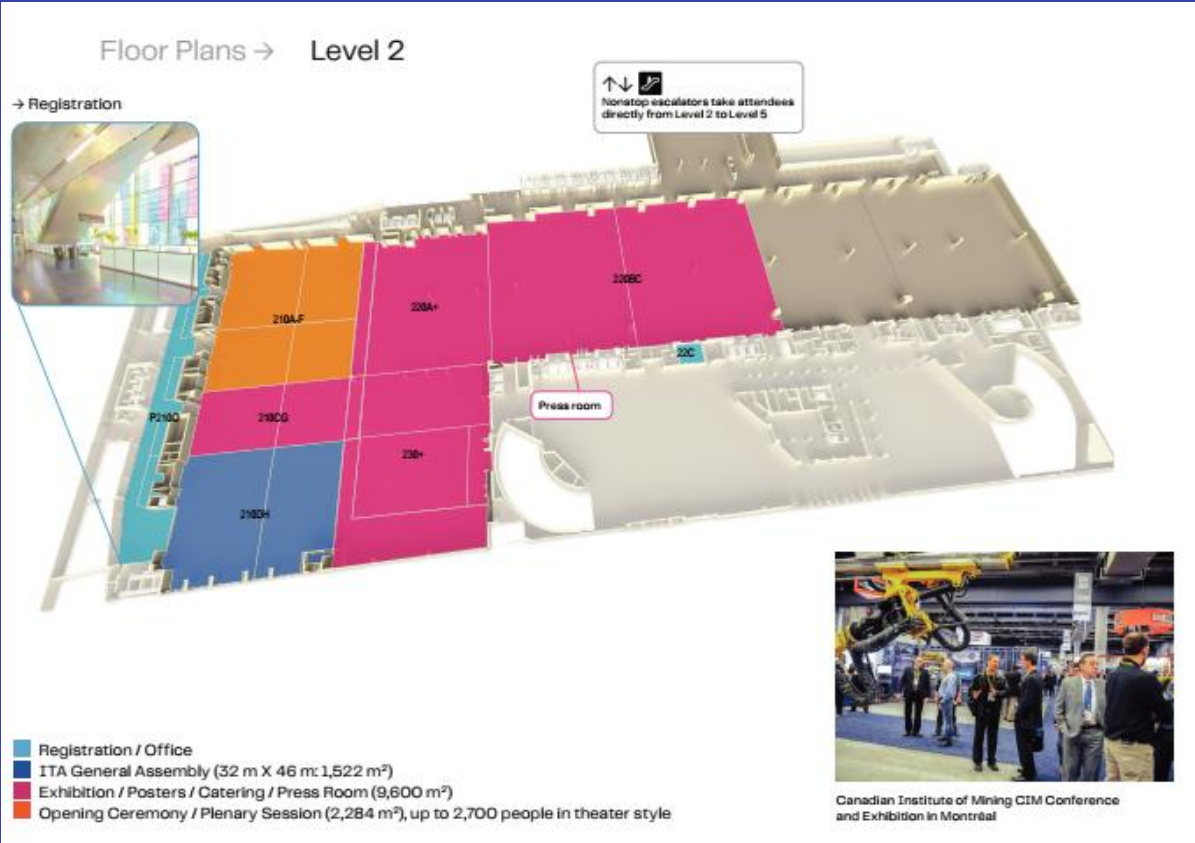


Andrée-Anne Sauvageau
Palais des congrès de Montréal
Business Development Manager



Andre Solecki, P. Eng., PMP
Program Committee Chair

WTC 2026 Venue – Palais des congrès de Montréal



WTC 2026- Theme of the Congress

Connecting Communities through Underground Infrastructure

Connecter les communautés au moyen d'infrastructures souterraines

The tunnelling industry plays a vital role in connecting our communities through underground infrastructure - delivering transportation, water and sanitation, utility and energy networks that cross, connect and unite cities, regions and continents. The nature of these projects and the challenges they face are varied, and so the ITA-AITES and WTC play an important role in bringing together and connecting our community of owners, contractors, suppliers, consultants and academics. This is a diverse community, and very much like our communities at home, we often speak different languages, both literally and metaphorically; and so it is that we look to bring together our international community of tunnelling practitioners to connect across languages to share experiences and knowledge to make our projects more safe, economic, resilient and sustainable.

The technical program will be organized to bring together diverse voices to discuss emerging and cutting-edge solutions, connecting government decision makers and city planners with the international tunnelling industry. These connections will help to build a stronger global network, connecting Canadian knowledge and expertise with the growing infrastructure needs of the developing world. For example, the technical program will place emphasis on sharing Montréal's vision and innovation on its world-class Underground City, connecting it with the ITA community to advance its goals for better use of underground space. In addition, the technical program will include a forum to exchange on the best ways to delivery complex underground projects faster while minimizing risks and reducing cost through partnering with public and private sectors as well as frameworks that connect owners, designers, contractors, and suppliers to streamline project delivery. Case studies such as the fast-track delivery of the Montréal REM Project will be highlighted.

WTC 2026- Draft Program

Time	Friday May 15, 2026	Saturday May 16, 2026	Sunday May 17, 2026	Monday May 18, 2026	Tuesday May 19, 2026	Wednesday May 20, 2026	Thursday May 21, 2026
7:30 - 8:00	ITA-CET Training course registration			Authors' Coffee	Authors' Coffee	Authors' Coffee	
8:00 - 8:30							
8:30 - 9:00							
9:00 - 9:30							
9:30 - 10:00							
10:00 - 10:30	ITA-CET Training course	ITA-CET Training course	ITA-AITES ExCo Meeting	ITA General Assembly	ITA Open Session	Technical Sessions	ITA Young Member General Meeting
10:30 - 11:00							
11:00 - 11:30							
11:30 - 12:00							
12:00 - 12:30							
12:30 - 13:00							
13:00 - 13:30	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	Technical Tours
13:30 - 14:00							
14:00 - 14:30							
14:30 - 15:00							
15:00 - 15:30							
15:30 - 16:00	ITA-CET Training course	ITA-CET Training course	ExCo Meeting / Committee Chairs / WG Announcements	WG Meetings	Technical Sessions	ITAtech AG Meetings	ITA General Assembly
16:00 - 16:30							
16:30 - 17:00							
17:00 - 17:30							
17:30 - 18:00							
18:00 - 18:30							
18:30 - 19:00							
19:00 - 19:30							
19:30 - 20:00		ITA-AITES Reception	WTC 2026 Welcome Reception				
20:00 - 20:30							
20:30 - 21:00							
21:00 - 21:30							
21:30 - 22:00							
22:00 - 22:30							
22:30 - 23:00							

OTHER BUSINESS

ADJOURNMENT