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TOP 100



CANADA'S BIGGEST
INFRASTRUCTURE PROJECTS

2024

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TOP100 PROJECTS — 2024

An annual report inserted in ReNew Canada's
January/February 2024 issue

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Taking Care of our Health

MOST PEOPLE IN THIS COUNTRY would agree that the three biggest issues we face are: inflation, housing, and healthcare.

Since the province of Saskatchewan introduced the first universal healthcare plan in 1947, Canada has been a leader in making sure that everyone has access to medical care. Never has that goal been more challenging than it is right now.

If this year's Top100 Project Report is any indication, provincial governments across the nation are putting their money where their mouth is when it comes to addressing the crisis facing Canada's healthcare system.

Nine of the top 50 projects on the list are new or upgraded hospitals, totalling investments of more than \$20 billion. New facilities on the list this year, include the South Niagara Hospital (\$3.6 billion) and the Surrey Hospital and B.C. Cancer Centre (\$2.88 billion). Overall, there are 19 healthcare facilities in six provinces with a total project value of \$33 billion.

With a boost from the healthcare sector, the 2024 Top10 Project Report topped \$292 billion, a nearly \$20 billion jump from last year.

Overall, the transit sector leads the 2024 report with a quarter (26) of the projects, valued at \$122 billion, followed by the buildings sector (31 projects, \$51 billion), the energy sector (nine, \$48 billion), the transportation sector (19 projects, \$40 billion), and the water-wastewater, remediation, and communications sector (15 projects, \$31 billion).

With continued investment in important public infrastructure—like hospitals—it appears our 2025 Top100 Projects Report is sure to break the \$300 billion barrier in the not-too-distant future!

And remember the fun doesn't stop with the publication of the 2024 Top100 Projects Report. Make sure to attend our annual gala dinner of key players and owners at The Carlu in Toronto on Feb. 27, 2024, where our keynote speaker will be Federal Minister of Infrastructure, Housing and Communities, the Honourable Sean Fraser.

Also in 2024, we will host our second-annual Top100 dinner event in Vancouver on May 14.



John Tenpenny is the
editor of ReNew Canada.
john@actualmedia.ca

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Process Mechanical | Self-Storage | Transportation | Water/Wastewater Treatment | Waterway Structures & Hydro Power

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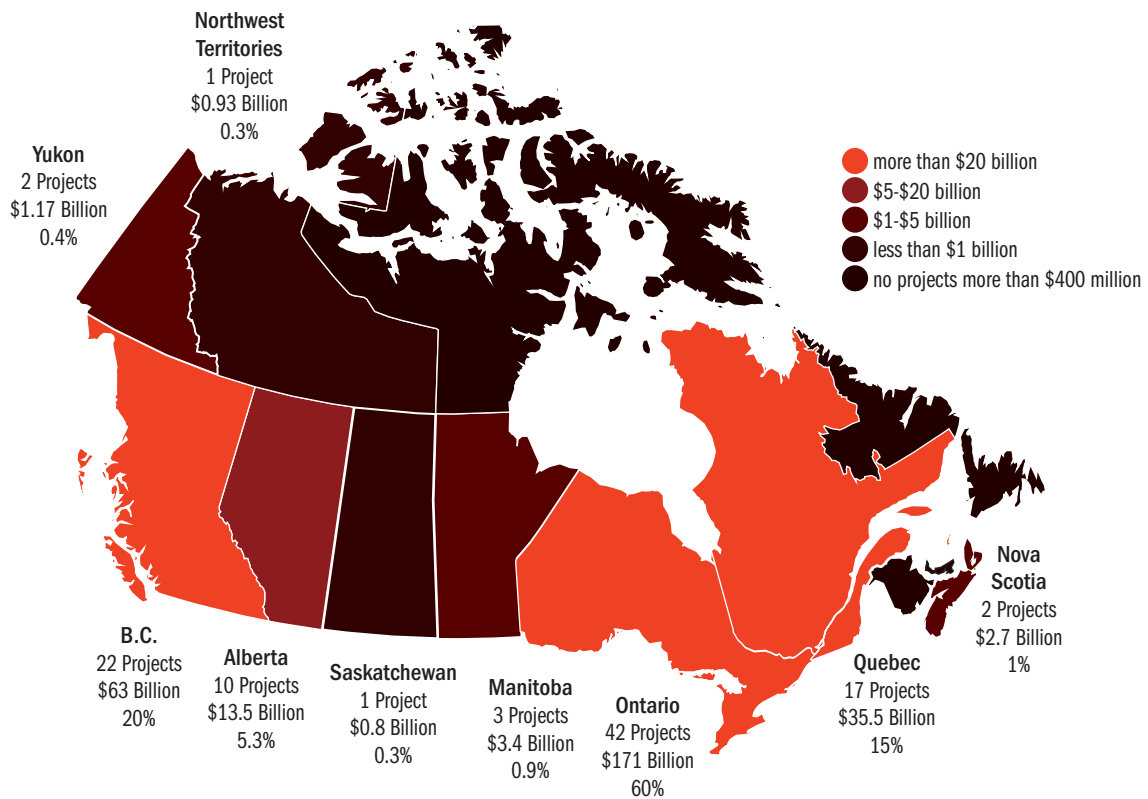
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SECTOR	BC	AB	SK	MB	ON	QC	NS	YT	NWT
Buildings	10	2		1	14	4	2		
Energy	21		1		4	2			
Transit	2	3			17	4			
Transportation	5	3			2	8		1	
Other	4	2		2	5			1	1

The ESAP Energy Services Modernization has been counted in the 'Buildings' category for both ON and QC

PROJECTS BY SECTOR

OF PROJECTS

ENERGY	9	TRANSIT	26	BUILDINGS	31
Hydroelectric	4	LRT	11	Health Care	19
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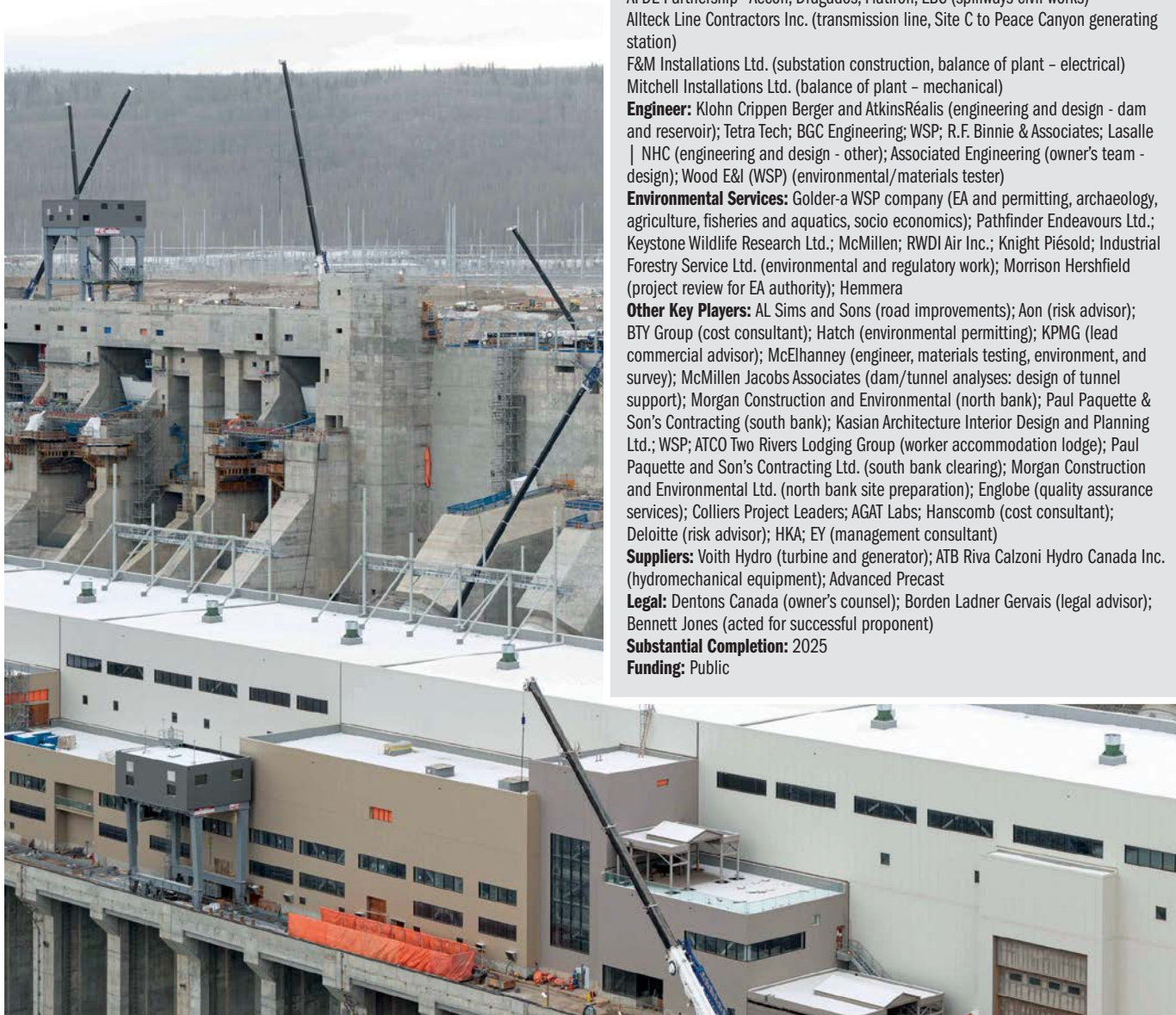
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1

HYDROELECTRIC
Site C Clean
Energy Project
\$16 BILLION



2023 Rank: 1

Location: Near Fort St. John, B.C.

Owner: BC Hydro

DB(F)OM Team (Site C accommodation lodge): ATCO Two Rivers Lodging Group—ATCO Structures & Logistics Ltd. and Bird Design Build Construction Inc.

Contractor: Peace River Hydro Partners—ACCIONA Infrastructure Canada, and Samsung C&T Canada (main civil works construction)

AFDE Partnership—Aecon, Dragados, Flatiron, EBC (spillways civil works)

Allteck Line Contractors Inc. (transmission line, Site C to Peace Canyon generating station)

F&M Installations Ltd. (substation construction, balance of plant – electrical)

Mitchell Installations Ltd. (balance of plant – mechanical)

Engineer: Kohn Crippen Berger and AtkinsRéalis (engineering and design – dam and reservoir); Tetra Tech; BGC Engineering; WSP; R.F. Binnie & Associates; Lasalle | NHC (engineering and design – other); Associated Engineering (owner's team – design); Wood E&I (WSP) (environmental/materials tester)

Environmental Services: Golder-a WSP company (EA and permitting, archaeology, agriculture, fisheries and aquatics, socio economics); Pathfinder Endeavours Ltd.; Keystone Wildlife Research Ltd.; McMillen; RWDI Air Inc.; Knight Piésold; Industrial Forestry Service Ltd. (environmental and regulatory work); Morrison Hershfield (project review for EA authority); Hemmera

Other Key Players: AL Sims and Sons (road improvements); Aon (risk advisor); BTY Group (cost consultant); Hatch (environmental permitting); KPMG (lead commercial advisor); McElhanney (engineer, materials testing, environment, and survey); McMillen Jacobs Associates (dam/tunnel analyses: design of tunnel support); Morgan Construction and Environmental (north bank); Paul Paquette & Son's Contracting (south bank); Kasian Architecture Interior Design and Planning Ltd.; WSP; ATCO Two Rivers Lodging Group (worker accommodation lodge); Paul Paquette and Son's Contracting Ltd. (south bank clearing); Morgan Construction and Environmental Ltd. (north bank site preparation); Englobe (quality assurance services); Colliers Project Leaders; AGAT Labs; Hanscomb (cost consultant); Deloitte (risk advisor); HKA; EY (management consultant)

Suppliers: Voith Hydro (turbine and generator); ATB Riva Calzoni Hydro Canada Inc. (hydromechanical equipment); Advanced Precast

Legal: Dentons Canada (owner's counsel); Borden Ladner Gervais (legal advisor); Bennett Jones (acted for successful proponent)

Substantial Completion: 2025

Funding: Public

🎯 The Peace River already has two large hydroelectric facilities (W.A.C. Bennett Dam and Peace Canyon Dam) that rely primarily on the Williston Reservoir for water storage. As the third project on the Peace River, Site C will rely on water already stored in the Williston Reservoir. This means that Site C will generate about 35 per cent of the energy produced at W.A.C. Bennett Dam, with only five per cent of the reservoir area. Construction on Site C began in July 2015. The project is more than 80 per cent complete and remains on-track to have all six generating units in-service by 2025. In July 2023, BC Hydro announced the completion of the earth-

fill dam. The earthfill dam stands about 60 metres tall (the height of a 20-storey building), stretches more than one kilometre across the Peace River and is about 500 metres wide at its base. The completion of the earthfill dam was one of the essential milestones required before we can begin filling the Site C reservoir. Filling the reservoir is one of the last steps in building Site C as it allows us to put the generating station, spillways, turbines and generators into operation. The reservoir will be more than 80 kilometres long and cover 5,550 hectares of land, with a total surface area of 9,330 hectares. It will take two to four months to fill the reservoir. ■

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2

RAIL
GO Expansion
– On-Corridor Works
\$15.7 BILLION



2023 Rank: 2

Location: Greater Toronto and Hamilton Area

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

ONxpress Transportation Partners

Systems and Integration Team: ALSTOM Transport Canada Inc.

Construction, Design and Engineering Team: Aecon Infrastructure Management Inc., ALSTOM Transport Canada Inc., FCC Construcción S.A., WSP Canada, Hatch

Fixed Infrastructure Maintenance Team: Deutsche Bahn International Operations GmbH, Aecon O&M, a division of Aecon Construction Group Inc.

Operator Team: Deutsche Bahn International Operations GmbH, Aecon O&M, a division of Aecon Construction Group Inc.

Other Key Players: Morrison Hershfield (engineer: planning and environmental); Wood E&I (WSP) (consulting engineer/geotechnical studies/environmental assessment); Dillon Consulting (architectural services); Golder-a WSP company (geotechnical studies); EY (mgmt. consultant); Deloitte (mgmt. consultant); Comtech (project mgmt. consultant); Entuitive; Parsons (consulting engineer); R.V. Anderson Associates Ltd.; Turner & Townsend (project controls); AECOM (owner's engineer); Arup (engineer); SEMP Ltd. (consulting engineer)

Legal: Borden Ladner Gervais (for the owner); Dentons; Stikeman Elliott LLP; McMillan LLP (ONxpress)

Funding: P3

Substantial Completion: 2032

▶ As On-Corridor Works is a complex regional project with multiple external interfaces, stakeholders, utility and operational elements, it is being delivered as a Progressive DBOM (design-build-operate-maintain) model. In a Progressive model, the project features a collaborative approach between the project owner and the contracting partner. In the Spring of 2022, Metrolinx and Infrastructure Ontario (IO) executed an agreement with ONxpress Transportation Partners (ONxpress) to enter

the Development Phase of the On-Corridor Works project—the largest project in Metrolinx's GO Rail Expansion program.

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3

NUCLEAR

Bruce Power Refurbishment \$13 BILLION*



2023 Rank: 3

Location: Tiverton, Ont.

Owner: Bruce Power

DBFM Team (Office Complex and Training Facility): Concert Infrastructure—Bird Construction, Stantec, Concert Realty Services—Stonebridge Financial Corp.

Engineer: Hatch (preliminary/planning study); Wood E&I (WSP) (consulting engineer); Tetra Tech (MCR); Candu Energy (MCR)

Contractor: AECOM, Aecon, AREVA NP; Framatome (steam generator replacement); Black & McDonald (Unit 6 mechanical and electrical projects); Shoreline JV: Aecon, AECOM, AtkinsRéalis (Fuel Channel Feeder Replacement program); E.S. Fox, BWXT (Highland Nuclear)

Other Key Players: WSP (drafting support); Golder-a WSP company (geotechnical services/environmental engineering); Deloitte; AGAT Labs (analytical testing); Burns & McDonnell (integrated project controls support); Sargent & Lundy (integrated project management & project controls support); Deloitte; CIMA+; Comtech

Suppliers: BWXT Canada Inc. (steam generators, feeder fabrication, end fittings, liners, and flow elements); Nu-Tech Precision Metals (zirconium alloy pressure tubes); Cameco Fuel Manufacturing (calandria tubes and annulus spacers); Brotech Precision (shield plugs); BC Instruments (Positioning assemblies, feeder hubs); Framatome (PHT chemical decontamination skid); Laker Energy Products (end fittings, liners, and flow elements); Victaulic; A.W. Hooker (cost consultant); Turner & Townsend (management consultant)

Legal: Osler (lead counsel); Torsys (acting for the lender)

Funding: Private

Substantial Completion: 2033

* All capital cost is disclosed by TC Energy

▶ In 2015, Bruce Power reached an agreement with the Independent Electricity System Operator (IESO) to advance a long-term investment program to extend the life of its nuclear fleet and secure the site's operation until 2064. The Life-Extension Program started on January 1, 2016, and began with the replacement of older systems during regularly scheduled maintenance outages. As part of the Life-Extension Program, Bruce Power is carrying out an intensive Major Component Replacement (MCR) Project, which began in January 2020 and focuses on the replacement of key reactor components in Units 3-8, including steam generators,

pressure tubes, calandria tubes, and feeder tubes. The first of 6 MCR refurbishments was completed on September 8, 2023 when Unit 6 was synced back to the grid. The Unit 6 MCR project was finished ahead of schedule and under budget with over 12 million hours of construction work executed over the 3.5 year project. The second MCR refurbishment began on March 1, 2023 and Unit 4 will start in 2025 with all 6 refurbishments scheduled for completion by 2033. The life extension of each unit will add approximately 30 to 35 years of operational life, while other investments will add a combined 30 reactor years of operational life to the units. ■

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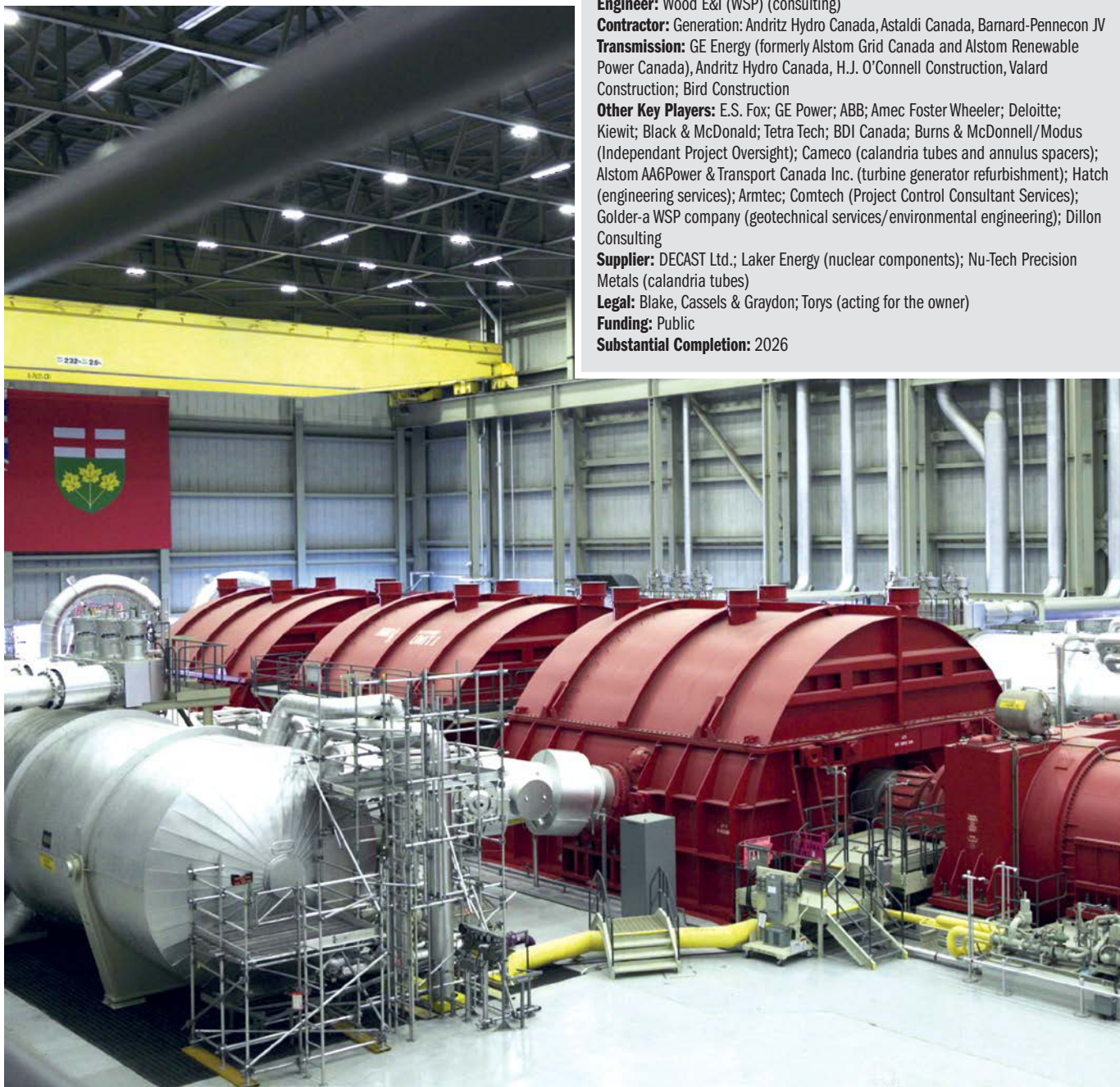
Réseau express métropolitain project.
photo credit: CDPQ Infra.



4

NUCLEAR

**Darlington
Nuclear Refurbishment
\$12.8 BILLION**



2023 Rank: 4

Location: Clarington, Ont.

Owner: Nalcor Energy; Ontario Power Generation

Project/Construction Manager: Aecon Group Inc./ AtkinsRéalis JV (execution phase of the retube and feeder replacement)

Engineer: Wood E&I (WSP) (consulting)

Contractor: Generation: Andritz Hydro Canada, Astaldi Canada, Barnard-Pennecon JV
Transmission: GE Energy (formerly Alstom Grid Canada and Alstom Renewable Power Canada), Andritz Hydro Canada, H.J. O'Connell Construction, Valard Construction; Bird Construction

Other Key Players: E.S. Fox; GE Power; ABB; Amec Foster Wheeler; Deloitte; Kiewit; Black & McDonald; Tetra Tech; BDI Canada; Burns & McDonnell/Modus (Independent Project Oversight); Cameco (calandria tubes and annulus spacers); Alstom AAGPower & Transport Canada Inc. (turbine generator refurbishment); Hatch (engineering services); Armtec; Comtech (Project Control Consultant Services); Golder-a WSP company (geotechnical services/environmental engineering); Dillon Consulting

Supplier: DECAST Ltd.; Laker Energy (nuclear components); Nu-Tech Precision Metals (calandria tubes)

Legal: Blake, Cassels & Graydon; Torys (acting for the owner)

Funding: Public

Substantial Completion: 2026

▶ The Darlington Nuclear Refurbishment Project was managed in three distinct phases: Initiation Phase (2007 – 2009); Definition Phase (2010-2015); and Execution Phase (2016-2026). During the execution phase of the project, workers will remove, inspect, and install main reactor components using tools and methods that were developed and tested during the Project's definition phase, carried

out by CanAtom. OPG removes each of the four Darlington CANDU reactors from service sequentially for approximately three years each to allow for the replacement of, feeder tubes, end fittings, pressure tubes and calandria tubes. The overall refurbishment project is 20 years in duration, with the execution phase scheduled for 112 months. ■



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5

LRT

Eglinton Crosstown LRT

\$12.6 BILLION



2023 Rank: 5

Location: Toronto, Ont.

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

DBFM Team: Crosslinx Transit Solutions—ACS Infrastructure Canada, Aecon, EllisDon, AtkinsRéalis, and Dragados Canada

Contractor: Design-Build JV: Aecon Infrastructure Management, Dragados Canada, EllisDon, and AtkinsRéalis Constructors (Pacific)

Engineer: Jacobs and 4 Transit—WSP (project management/engineering/GIS); Hatch, and Parsons (consulting engineer, technical advisor, construction oversight); AECOM (consulting engineer, preliminary planning/study, design); Wood E&I (WSP) (consulting/environmental/geotechnical studies); LEA (design); Parsons

Architect: Station Architects; NORR Architects & Engineers; DIALOG; Daoust Lestage

Other Key Players: AECOM (consulting engineer, preliminary planning/study, design); Aon (risk advisor); Arup (preliminary design work); Arcadis-IBI Group (design engineer); BTY Group (independent certifier); Caterpillar; Entro; Entuitive (structural eng. consultant); EY (advising gov't.); EXP (instrumentation and monitoring); Golder-a WSP company (geotechnical services); Hanscomb (preliminary and concept designers' cost consultant for 7 stations); Infrastructure Ontario; INTECH (insurance advisor); McCormick Rankin; Munro (concrete); Norton Rose Fulbright; Obayashi Canada; Kenny Construction; EXP; Kenaidan Contracting; Technicore (contractors); URS/Parsons JV (systems design); CRH Canada (cement supply); Dufferin Construction (prep work); McMillen Jacobs Associates (independent verifier); Mott MacDonald (track design review and tunnel construction management); Englobe (geotechnical studies); CIMA+ (traffic mgmt. and road safety audits); Morrison Hershfield (transit operations and maintenance advisory services); GHD (traffic mgmt., site civil support); AGAT Labs; Comtech (consulting services); Deloitte; Geosolv; HKA; GFL (excavation, shoring, soil management); R.V. Anderson Associates Ltd.; Turner & Townsend (cost management); E.S. Fox

Supplier: Bombardier (vehicle); DECAST Ltd. (precast tunnel liner segments); CRH Canada (cement); Canam Group (steel fabricator); Victaulic

Financiers/Banks: National Bank Financial and Scotiabank Global Banking and Markets (underwriters); Alberta Treasury Branches; Caisse Centrale Desjardins; Bank of Nova Scotia; Bank of Tokyo-Mitsubishi UFJ; and Toronto-Dominion Bank (mandate lead arrangers); BMO Capital Markets (financial advisor)

Architects: (Station Architects) NORR Architects & Engineers; DIALOG; Daoust Lestage

Management Consultants: Infrastructure Ontario; Metrolinx; SEG Management Consultants (fairness advisor); EY (transaction advisor); BMO Capital Markets (financial advisor); Aon Risk Solutions (insurance advisor)

Legal: Blake, Cassels & Graydon (Metrolinx legal advisor); Fasken Martineau DuMoulin (advising lenders to consortium); Borden Ladner Gervais (legal advisor); DLA Piper (Canada); Norton Rose Fulbright; Stikeman Elliott LLP

Funding: P3

Substantial Completion: 2024

► This light-rail transit line will run along Toronto's Eglinton Avenue between Mount Dennis (Weston Road) and Kennedy Station. Part of the Government of Ontario's light-rail transit plan for the city, this 19-kilometre corridor will include an 11-kilometre underground portion between Keele Street and Laird Drive. When running at street level, the line will carry passengers in dedicated right-of-way transit lanes separate from regular traffic with priority signaling at intersections. Travelling at an average speed of 28 km/h, it will link to 54 bus routes, three subway stations, and various GO Transit lines. The capacity of the LRT vehicles is 15,000 passengers per hour per direction, with the flexibility to easily remove or add cars. ■



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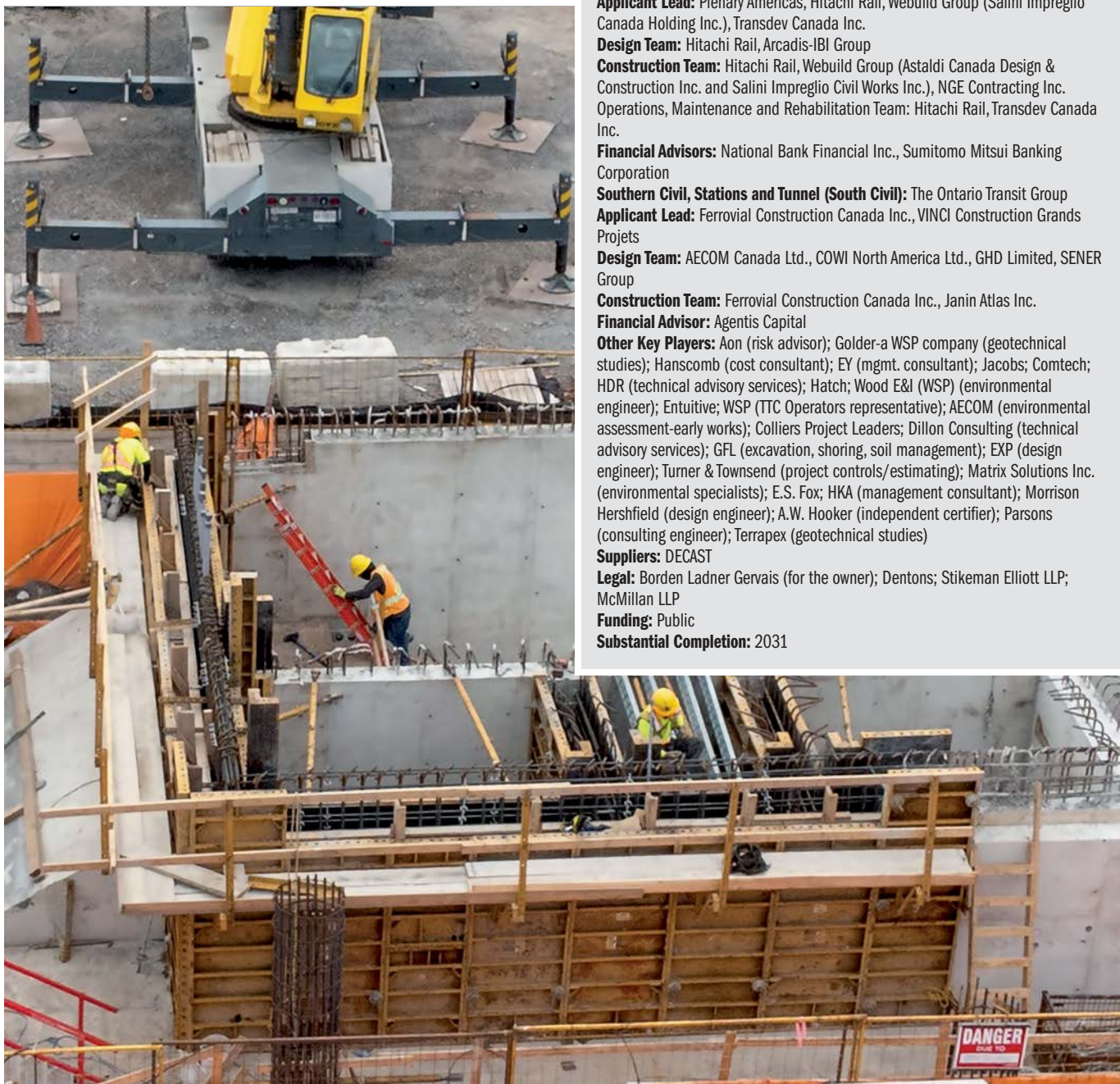
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6

SUBWAY

Ontario Line \$11 BILLION



2023 Rank: 6

Location: Toronto, Ont.

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

Rolling Stock, Systems, Operations and Maintenance (RSSOM): Connect Six
Applicant Lead: Plenary Americas, Hitachi Rail, Webuild Group (Salini Impreglio Canada Holding Inc.), Transdev Canada Inc.

Design Team: Hitachi Rail, Arcadis-IBI Group

Construction Team: Hitachi Rail, Webuild Group (Astaldi Canada Design & Construction Inc. and Salini Impreglio Civil Works Inc.), NGE Contracting Inc.
Operations, Maintenance and Rehabilitation Team: Hitachi Rail, Transdev Canada Inc.

Financial Advisors: National Bank Financial Inc., Sumitomo Mitsui Banking Corporation

Southern Civil, Stations and Tunnel (South Civil): The Ontario Transit Group

Applicant Lead: Ferrovial Construction Canada Inc., VINCI Construction Grands Projets

Design Team: AECOM Canada Ltd., COWI North America Ltd., GHD Limited, SENER Group

Construction Team: Ferrovial Construction Canada Inc., Janin Atlas Inc.

Financial Advisor: Agentis Capital

Other Key Players: Aon (risk advisor); Golder-a WSP company (geotechnical studies); Hanscomb (cost consultant); EY (mgmt. consultant); Jacobs; Comtech; HDR (technical advisory services); Hatch; Wood E&I (WSP) (environmental engineer); Entuitive; WSP (TTC Operators representative); AECOM (environmental assessment-early works); Colliers Project Leaders; Dillon Consulting (technical advisory services); GFL (excavation, shoring, soil management); EXP (design engineer); Turner & Townsend (project controls/estimating); Matrix Solutions Inc. (environmental specialists); E.S. Fox; HKA (management consultant); Morrison Hershfield (design engineer); A.W. Hooker (independent certifier); Parsons (consulting engineer); Terrapex (geotechnical studies)

Suppliers: DECAST

Legal: Borden Ladner Gervais (for the owner); Dentons; Stikeman Elliott LLP; McMillan LLP

Funding: Public

Substantial Completion: 2031

▶ The Ontario Line is a 15.6-kilometre stand-alone rapid transit line in Toronto that will connect the Flemingdon Park neighbourhood to Exhibition/Ontario Place. Over half of the route is planned to run underground through new tunnels, with the remainder running along elevated and at-grade rail corridor sections of track. Fifteen stations are proposed, with numerous connections to the

broader transit network, including GO Transit rail services, the Toronto Transit Commission's subway Lines 1 and 2, the future Line 5 (Eglinton Crosstown LRT), as well as numerous bus and streetcar routes. The Ontario Line is one of four priority transit projects announced by the province in 2019 for the GTA. ■

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7

RAIL
GO Expansion Projects
 – Early Works
\$10.5 BILLION



2023 Rank: 7
Location: Greater Toronto and Hamilton Area
Owner: Metrolinx
Procurement Agent: Infrastructure Ontario
DBF Team (Highway 401 Rail Tunnel): Toronto Tunnel Partners
 • **Applicant Lead:** EllisDon Capital Inc. and STRABAG Inc.
 • **Construction:** EllisDon Civil Ltd. and STRABAG Inc.
 • **Design:** WSP Canada, Dr. Sauer & Partners, Amec Foster Wheeler (Wood)
 • **Financial Advisor:** EllisDon Capital Inc. and STRABAG Inc.
DBF Team (Davenport Diamond Grade Separation project): Graham Commuter Rail Solutions
 • **Applicant Lead:** Graham Capital Partners LP and Gracorp Capital Ltd.; Graham Construction and Engineering LP
 • **Construction:** Graham Construction and Engineering LP
 • **Design:** LEA Consulting Ltd. as Design Lead; EXP; International Bridge Technologies; Brown & Storey Architects Inc.
 • **Financial Advisor:** Graham Capital Partners LP
 AllianceTeam (Union Station Enhancement project): ONTrack Alliance
 • **Constructors:** Kiewit-Alberici Union General Partnership
 • **Designers:** WSP Canada Inc.
 • **Signalling Work:** Mass. Electric Construction Canada Co.
Contractor: EllisDon (Dufferin/Queen bridge); Kenaidan/Cole Engineering (rapid pedestrian tunnels)
Engineer: Wood E&I (WSP) (consulting/geotechnical studies); Parsons; Hatch; AECOM
Other Key Players: 4-Transit JV (technical advisory services): Hatch, Parsons, WSP; CIMA+ (utilities relocation); Morrison Hershfield (owner's technical advisors team (sub-consultant to Gannett Fleming); Comtech (program/project consulting); Jacobs (program mgmt.); A.W. Hooker Associates Ltd. (cost consultant); Golder-a WSP company (environmental services); INTECH Risk Management; Deloitte (transaction advisor); Aon (risk advisor); Comtech (mgmt. consulting services); DECAST; Hemmera; Entuitive; Arcadis-IBI Group (environmental engineering); EXP; GFL (shoring, soil management); Hanscomb (cost consultant); R.V. Anderson Associates Ltd.; Turner & Townsend (project controls); E.S. Fox
Legal: Borden Ladner Gervais; Norton Rose Fulbright (owner's advisor); Torys
Funding: Public
Substantial Completion: 2025

► The Early Works portion of the GO Expansion project is one of three blocks of works to be done to accommodate two-way, all-day transit throughout the GTHA corridor.

There are over 50 individual projects included in the early works program, including 40 smaller projects delivered as Design-Build or Design-Bid-Build, along with 12 larger projects delivered as Build-Finance and Design-Build-Finance. The latter includes the Davenport Diamond Rail Grade Separation Project, for which the

winning bidder was selected in July 2019, and the Highway 401 Rail Tunnel, which began construction in March 2019, and the Stouffville Corridor Stations Improvement project. The program also includes the Union Station Enhancement project, which will see construction of a new South Concourse, track expansion east of the station and replacement of the 90-year-old signalling system with new state-of-the-art signals, communications, power supply, CCTV, and SCADA systems. ■



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8

WATER/WASTEWATER

Iona Island Wastewater Treatment Plant Projects

\$10 BILLION

2023 Rank: 8

Location: Richmond, B.C.

Owner: Metro Vancouver

Program Management Consultant: Stantec

Engineer: AECOM, Jacobs

Architect: Space2Place, Local Practice

Other Key Players: Musqueam Indian Band; WSP (geotechnical services/permitting)

Funding: Public

Substantial Completion: 2035

Phase 1 Early and Enabling Works: 2026

Phase 2 Treatment Plant and Related Works: 2026+



▶ The existing Iona Island Wastewater Treatment Plant provides primary treatment for communities in Vancouver, the UBC Endowment Lands, and parts of Burnaby and Richmond. As the facility reaches the end of its service life, Metro Vancouver has a once-in-a-lifetime opportunity to positively contribute to the health and well-being of people, as well as the ecological health and biodiversity of the Fraser River Estuary and the Salish Sea. The plant upgrade will provide tertiary-level treatment and meet the latest seismic standards, account for future sea level rise, and

incorporate cutting-edge technologies for resource and energy recovery, greenhouse gas reductions, odour reduction and energy efficiency. Metro Vancouver is working to ensure the new facility contributes positively to the community and is working closely with stakeholders and 14 local First Nations, particularly the Musqueam Indian Band. The upgrade project also includes a suite of 20 ecological projects to enhance freshwater wetland habitat for birds and wildlife.

Image: Conceptual rendering (2022) is subject to refinement. ■



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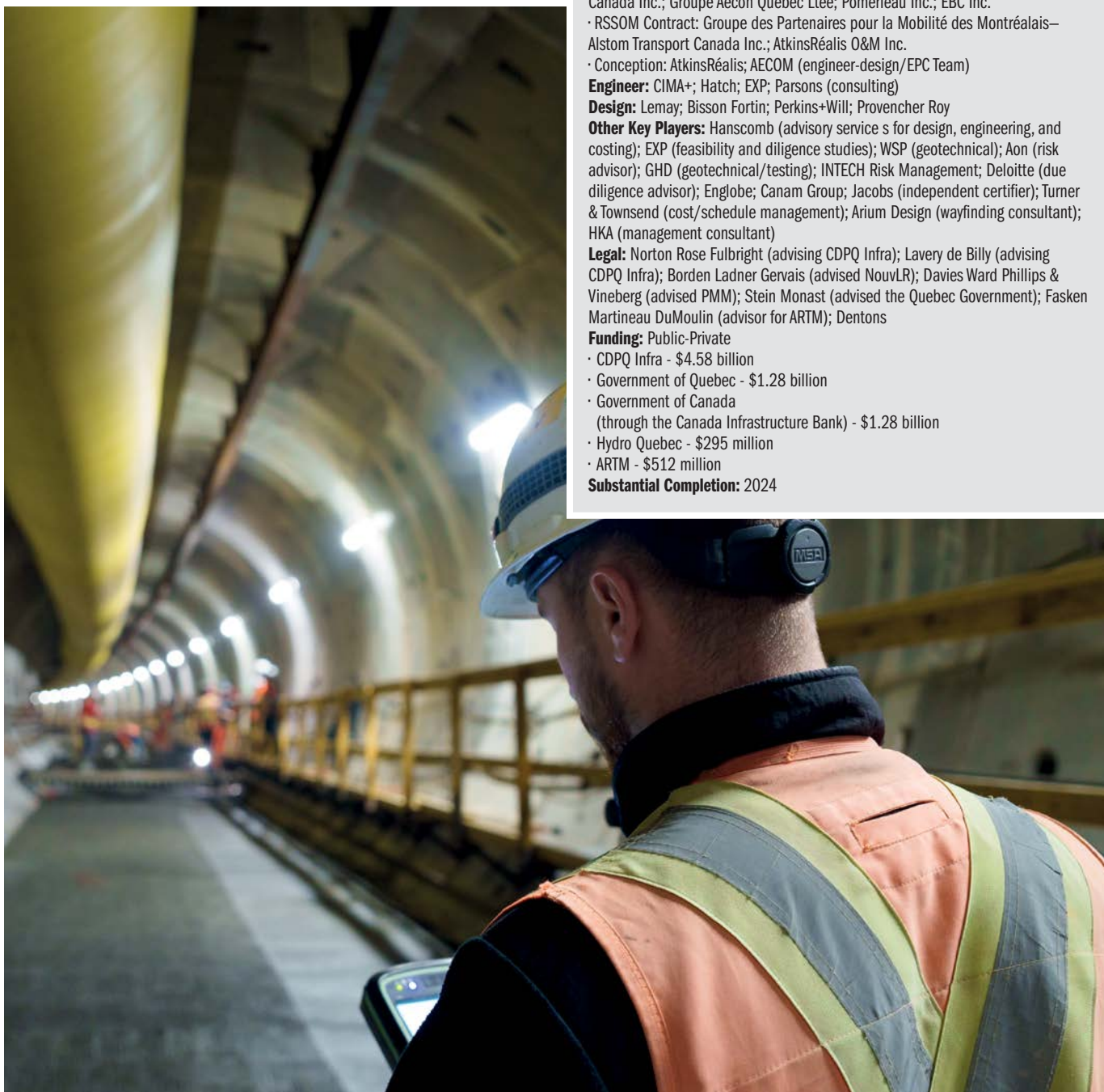
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9

LRT
**Réseau express
métropolitain**
\$8 BILLION



2023 Rank: 10

Location: Montreal, Que.

Owner: CDPQ Infra

Contractor:

• EPC contract: Groupe NouvLR—AtkinsRéalis Grands Projets Inc.; Dragados Canada Inc.; Groupe Aecon Québec Ltée; Pomerleau Inc.; EBC Inc.

• RSSOM Contract: Groupe des Partenaires pour la Mobilité des Montréalais—Alstom Transport Canada Inc.; AtkinsRéalis O&M Inc.

• Conception: AtkinsRéalis; AECOM (engineer-design/EPC Team)

Engineer: CIMA+; Hatch; EXP; Parsons (consulting)

Design: Lemay; Bisson Fortin; Perkins+Will; Provencher Roy

Other Key Players: Hanscomb (advisory services for design, engineering, and costing); EXP (feasibility and diligence studies); WSP (geotechnical); Aon (risk advisor); GHD (geotechnical/testing); INTECH Risk Management; Deloitte (due diligence advisor); Englobe; Canam Group; Jacobs (independent certifier); Turner & Townsend (cost/schedule management); Arium Design (wayfinding consultant); HKA (management consultant)

Legal: Norton Rose Fulbright (advising CDPQ Infra); Lavery de Billy (advising CDPQ Infra); Borden Ladner Gervais (advised NouvLR); Davies Ward Phillips & Vineberg (advised PMM); Stein Monast (advised the Quebec Government); Fasken Martineau DuMoulin (advisor for ARTM); Dentons

Funding: Public-Private

• CDPQ Infra - \$4.58 billion

• Government of Quebec - \$1.28 billion

• Government of Canada

(through the Canada Infrastructure Bank) - \$1.28 billion

• Hydro Quebec - \$295 million

• ARTM - \$512 million

Substantial Completion: 2024

► The Réseau express métropolitain (REM) will be a new integrated network linking downtown Montreal, South Shore, West Island, North Shore, and the airport. Once completed, the 67-km line will be one of the longest automated metro lines in the world. The REM opened its first segment on July 31, 2023, with five new stations

spread over 17 kilometres. Since its opening, over a million people have already used the service, which has maintained a 99 per cent reliability rate in recent weeks. Construction continues on the remaining antennas, with a completion rate of 85 per cent. Testing will begin in these areas in spring 2024. ■



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10

BRT
TTC Vehicles Program
\$7.2 BILLION

2023 Rank: 9
Location: Toronto, Ont.
Owner: Toronto Transit Commission (TTC)
Other Key Players: Entuitive; WSP (procurement and operations advisory services); CIMA+; Comtech; Hatch (consulting engineer); E.S. Fox
Suppliers: Alstom SA; New Flyer Industries Inc; Proterra Inc.; BYD Canada Co. Ltd.; Creative Carriage Ltd.; Ontario Power Generation; Toronto Hydro
Funding: Public
Substantial Completion: 2022-2036



► The Toronto Transit Commission is upgrading its fleet, including 264 new streetcars (\$1.613 billion), new Wheel-Trans vehicles (\$363 million) as well as hybrid and electric buses (\$4.413 billion). An electrification program (\$766 million) covers the electrification infrastructure to support the charging of electric buses according to the Green Bus Technology Plan approved by the TTC Board.

In 2022 the program aimed to complete design for Eglinton, Wilson and Malvern garages and phase two construction at Wilson and Birchmount garages.

By 2024, the TTC will complete installation of 60 e-chargers at three TTC garages (Arrow Road, Mt. Dennis and Eglinton) and plans electrification of the entire fleet by 2036. For the electric and hybrid bus projects, the TTC aims to deliver the pilot vehicle for the next round of procurement and start full production delivery in 2022. The Wheel-Trans project plans to deliver 109 seven-metre Wheel-Trans buses in 2022, as well as start design and award the contract for the next round of six-metre buses. ■

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11

SUBWAY

Montreal Metro Blue Line Extension \$6.4 BILLION

2023 Rank: 11

Location: Montreal, Que.

Owner: Société de transport de Montréal (STM)

Project Manager: Blue Line Project Office (Société de transport de Montréal)

Project Partners: Autorité régionale de transport métropolitain (ARTM), ministère des Transports de la Mobilité durable du Québec (MTMD), Société québécoise des infrastructures (SQI) and City of Montréal

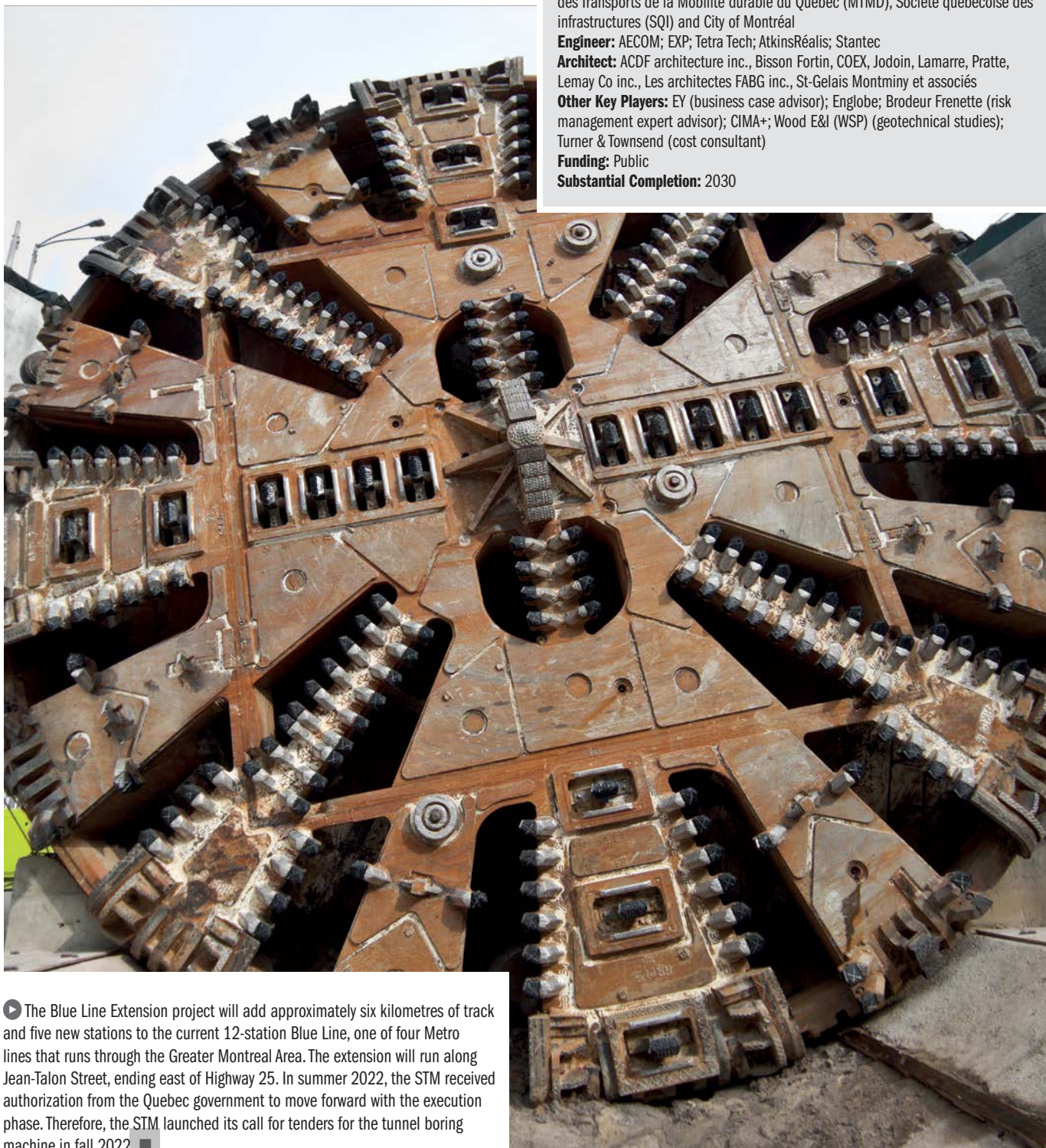
Engineer: AECOM; EXP; Tetra Tech; AtkinsRéalis; Stantec

Architect: ACDF architecture inc., Bisson Fortin, COEX, Jodoin, Lamarre, Pratte, Lemay Co inc., Les architectes FABG inc., St-Gelais Montminy et associés

Other Key Players: EY (business case advisor); Englobe; Brodeur Frenette (risk management expert advisor); CIMA+; Wood E&I (WSP) (geotechnical studies); Turner & Townsend (cost consultant)

Funding: Public

Substantial Completion: 2030



► The Blue Line Extension project will add approximately six kilometres of track and five new stations to the current 12-station Blue Line, one of four Metro lines that runs through the Greater Montreal Area. The extension will run along Jean-Talon Street, ending east of Highway 25. In summer 2022, the STM received authorization from the Quebec government to move forward with the execution phase. Therefore, the STM launched its call for tenders for the tunnel boring machine in fall 2022. ■

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12

BRIDGE
**Gordie Howe
International Bridge**
\$5.7 BILLION

► This crossing is the largest and most ambitious binational border infrastructure project along the Canada–United States border. It includes a new six-lane bridge across the Detroit River, associated border inspection plazas, and connections to the freeway systems in Ontario and Michigan. This project will provide a new alternative crossing for this trade corridor.

The Canada-Michigan Crossing Agreement, signed in June 2012 by Canada and Michigan, provided a framework for the construction, financing, operation, and maintenance of the new publicly owned bridge. The agreement called for the establishment of both a crossing authority, known as WDBA, to deliver, procure, and fund the project through a P3 and an international authority to oversee the project procurement and compliance with the agreement. Work on all four components of the project is being conducted simultaneously: Canada and U.S. Points of Entry, the Michigan I-75 Interchange, and the bridge itself.

Activity over the past year has focused on completion of the towers on both sides of the border along with construction of the back span and deck of the bridge. Now complete, the towers stand at 220 metres in height. Work continues on the other



2023 Rank: 12

Location: Windsor, Ont. to Detroit, Mich.

Owner: Windsor-Detroit Bridge Authority (WDBA)

Project/Construction Manager: Deloitte

DBFOM Team: Bridging North America—ACS Infrastructure Canada Inc.; Fluor Canada Ltd.; Aecon Concessions; RBC Dominion Securities Inc.; AECOM; Carlos Fernandez Casado S.L./FHECOR Ingenieros Consultores, S.A.; Moriyama & Teshima Architects; Smith-Miller + Hawkinson Architects LLP; Dragados Canada Inc.; Aecon Infrastructure Management Inc.; Turner Construction Company; Aecon O&M, a division of Aecon Construction Group Inc.; DBI Services, LLC; URS Federal Services, Inc. (AECOM)

Engineer: Parsons (owner's engineer); Arcadis-IBI Group (design); Morrison Hershfield; COWI (design)

Other Key Players: EY (advising team); Golder-a WSP company (geotechnical and foundation engineering); Hanscomb (owner's cost consultant and special advisor); Kasian (PDC team); LeighFisher (lender's technical advisor); INTECH Risk Management (insurance advisor); CIMA+ (transmission relocation design); WSP (environmental services); Aon (risk advisor); Parsons (bridge technical advisor); Tetra Tech; Rider Levett Bucknall; A.W. Hooker Associates Ltd. (cost consultant); Canam Group; Englobe; EXP (engineering and testing services); Wood E&I (WSP) (materials tester); Mulvey & Banani; HKA (management consultant)

Supplier: Entro (signage and wayfinding); Victaulic

Legal: Fasken Martineau DuMoulin (transaction advisor); Blake, Cassels & Graydon (legal advisor to the proponent); Dentons; Borden Ladner Gervais

Funding: P3

Substantial Completion: 2024

components of the project including, the Canadian and U.S. Ports of Entry and the Michigan Interchange. ■

13

LRT
**Hazel McCallion
(Huronario) LRT**
\$5.6 BILLION



► The Hurontario Light Rail Transit (LRT) project will bring 18 kms of fast, reliable, rapid transit to the cities of Mississauga and Brampton along the Hurontario corridor. New, modern light rail vehicles will travel in a dedicated right-of-way and serve 19 stops with connections to GO Transit's Milton and Lakeshore West rail lines, Mississauga MiWay, Brampton Züm, and the Mississauga Transitway BRT. Works on the Hazel McCallion LRT project continue, with over 20 kms of watermain, sanitary and stormwater systems installed, 231 new hydro poles installed, 22,000 linear metres of underground telecom relocations installed and 42,000 metres of guideway track delivered to the site, as of end of September 2023. ■

2023 Rank: 13

Location: Mississauga and Brampton, Ont.

Owner: Metrolinx

Project Agent: Infrastructure Ontario

DBFOM Team: Mobilinx Hurontario General Partnership

Applicant Lead: John Laing, Astaldi, Hitachi, Transdev, Amico Concessions, Salini Impregilo

Construction: Astaldi, Hitachi, Amico, Bot, Salini Impregilo

Design: Arcadis-IBI Group, Hitachi, Morrison Hershfield, Daoust Lestage, EXP Operation Maintenance & Rehabilitation Provider: Transdev, Hitachi, Astaldi, Salini Impregilo

Financial Advisor: National Bank, HSBC

Engineer: AtkinsRéalis (project lead); Steer Davies Gleave (preliminary engineering); Stantec (design); WSP (consulting engineering services); SEMP Ltd. (consulting)

Other Key Players: DIALOG (urban design); Dufferin Construction; Golder-a WSP company (preliminary geotechnical services); Hanscomb (preliminary design engineer's cost consultant); Hatch; LEA Group (ITS); Aon (owner advisor and construction insurance broker); AECOM (owner's representative/technical advisor); EY (financial and transaction advisory); Morrison Hershfield (transit O&M advisors); AGAT Labs; Comtech (program/project consulting); DECAST; RLB; Jacobs (program mgmt.); INTECH Risk Management; Deloitte (financial advisor); Englobe; HKA; INFRATA (managing consultant); GFL (soil management); LEA Consulting (engineer-planning & structural); Parsons (consulting engineer); Turner & Townsend (cost management); E.S. Fox

Supplier: DECAST (precast infrastructure)

Legal: Borden Ladner Gervais (legal advisor); Torsys (acted for lender); McMillan LLP (for the proponent); Dentons

Funding: Public

Substantial Completion: 2024

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14

SUBWAY
**Scarborough
Subway Extension**
\$5.5 BILLION



▶ The Scarborough Subway Extension is a 7.8-km extension of TTC's Line 2 Bloor-Danforth Subway, from the existing Kennedy Station northeast to McCowan Road/Sheppard Avenue. The line will include three new stations at Lawrence Avenue and McCowan Road, Scarborough Centre and a terminal station at McCowan Road and Sheppard Avenue. Construction for the Scarborough Subway Extension began in the spring of 2021 at the corner of Sheppard Avenue and McCowan Road with the excavation of the tunnel launch shaft, which is about 80 metres long, 28 metres wide, and 28 metres deep. Tunnelling started in January 2023. ■

2023 Rank: 14
Location: Scarborough, Ont.
Owner: Metrolinx
DBF Team (Advance Tunnel contract): Strabag Scarborough Project Inc.
• Construction Team: Strabag Inc.
• Design Team: ARUP Canada Inc., Brian Isherwood & Associates Ltd.
• Financial Advisor: Strabag Inc.
Stations, Rails & Systems contract: Scarborough Transit Connect
Applicant Leads: Aecon Infrastructure Management Inc., FCC Construction S.A.
Design Prime Team Member: Mott MacDonald Canada Ltd.
Construction Prime Team Members: Aecon Infrastructure Management Inc., FCC Construction S.A.
Engineer: OneT+ (Gannett Fleming, Arcadis-IBI Group, GHD)
Design: Hatch (tunnel design); WSP (systems design and management); AECOM (station design)
Environmental Services: Englobe
Other Key Players: Jacobs (quality mgmt. and risk assessment); Comtech; WSP (operator's representative); Morrison Hershfield (consulting engineer); Wood E&I (WSP) (consulting engineer/geotechnical studies); CIMA+; Dillon Consulting (technical advisory services); Entuitive; EY (management consultant); GFL (excavation, shoring, soil management); Hanscomb (cost consultant); Parsons (consulting engineer); R.V. Anderson Associates Ltd.; Turner & Townsend (project controls/estimating); Matrix Solutions Inc. (environmental specialists); AGAT Labs
Legal: Borden Ladner Gervais (for the owner); Norton Rose Fulbright (for Strabag Scarborough Project Inc.)
Funding: P3
Substantial Completion: 2026

METROLINX

15

PUBLIC SPACES
**Centre Block
Rehabilitation Project**
\$5 BILLION



▶ The Government of Canada is undertaking a comprehensive rehabilitation of the Parliament buildings in Ottawa, including the rehabilitation of the Centre Block and the construction of Canada's new Parliament Welcome Centre. These represent the largest and most complex heritage rehabilitation projects in Canadian history. The project remains on track to complete main construction in

2023 Rank: 15
Location: Ottawa, Ont.
Owner: Government of Canada
Project/Construction Manager: PCL/EllisDon JV
Architect: CENTRUS a Joint Venture of WSP and HOK
Other Key Players: Turner & Townsend (risk management services); Colliers Project Leaders Inc. and Tiree Facility Solutions (project management support services for Centre Block); Atwell-Morin (northern ventilation towers rehabilitation for Centre Block); Golder-a WSP company (geotechnical studies/environmental engineering); Morrison Hershfield (code consulting); Engineering Harmonics; EY (business case advisor); Aon (risk advisor); Kasian, Moriyama & Teshima Architects (West Memorial Building architectural and interior design); Hanscomb (cost consultant); Arcadis-IBI Group; Englobe; EXP; Entuitive (construction engineering services); E.S. Fox; GeoVerra; NORR Architects & Engineers
Funding: Public
Substantial Completion: 2030-31

the 2030-31 timeframe and within the estimated \$4.5-5 billion budget. The project has completed the schematic design phase and is well into design development. On the construction site, current progress includes the completion of the main excavation for the new Parliament Welcome Centre

and the drilling of the wells needed to install a geo-exchange system. In addition, the interior demolition and removal of hazardous materials within the Centre Block is substantially complete, the restoration of over 20,000 heritage assets has commenced and the conservation of the exterior masonry has also progressed. ■

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CONSTRUCTION

16

LRT
Green Line LRT
\$4.9 BILLION

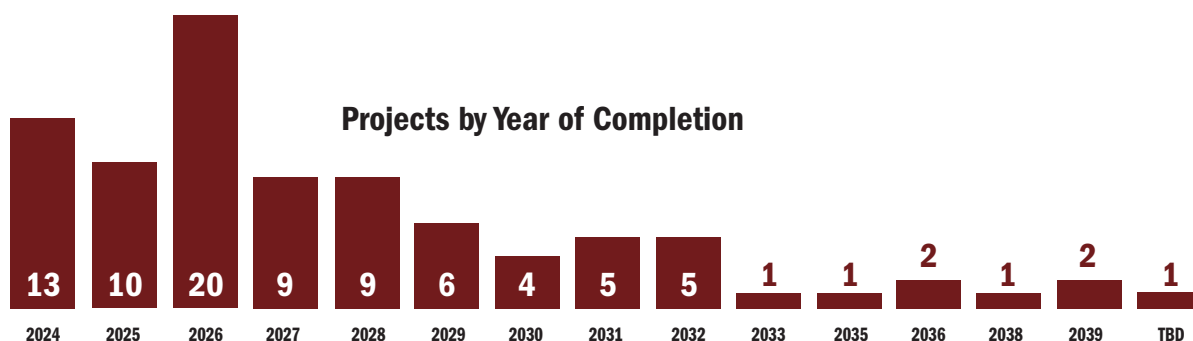


2023 Rank: 16
Location: Calgary, Alta.
Owner: City of Calgary
Development Partner: Bow Transit Connectors (Barnard Constructors of Canada, LP; Flatiron Constructors Canada Ltd.; WSP Canada; EllisDon Capital Inc.—financial advisor)
Delivery Team: CSIX Partners (AtkinsRéalis; Aldea Services Inc.; Altus Group; Mott MacDonald; Turner & Townsend)
Engineer: Hatch; Wood E&I (WSP) (consulting/geotechnical studies); Tetra Tech, Arcadis-IBI Group (design); Comtech (consulting); Dillon Consulting (design/planning)
Architect: Sturgess Architecture
Supplier: Light Rail Vehicles (LRVs)—CAF (Construcciones y Auxiliar de Ferrocarriles)
Other Key Players: Colliers Project Leaders; CIMA+; RLB; A.W. Hooker Associates Ltd. (cost consultant); Graham Construction; INTECH Risk Management; Deloitte (pre-procurement assessment); Aon (risk advisor); Englobe (geotechnical studies); EY (management consultant); Hanscomb (cost consultant)
Legal: Blake, Cassels & Graydon (advising the City of Calgary); Borden Ladner Gervais; Dentons; Stikeman Elliott LLP
Funding: Public
 • Federal: \$1.64 billion
 • Provincial: \$1.7 billion
 • Municipal: \$1.56 billion
Substantial Completion: 2027

▶ The Green Line Light Rail Transit system will add 28 stations and 46 kilometres of track to Calgary's existing LRT system. The line will run from 16th Avenue north to 126 Avenue SE, with an underground tunnel for the downtown portion of the system. The initial plans were for the Green Line to be constructed as a bus-only transitway but was later converted to LRT as funding became available. With the selection of Bow Transit Connectors (BTC), in 2023, the Development Phase, has begun, which

will allow for collaboration, design progression, and agreement on project costs, risks, and overall schedule between Green Line and BTC, before signing a Project Agreement. As part of negotiations, Green Line agreed to extend the Development Phase from approximately 12 months to 16 months to allow for greater design progression and cost certainty. The Implementation Phase remains on track to begin in 2024. ■

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Flatiron is partnering with Barnard Constructors of Canada LP on the Green Line LRT project to connect communities and improve transit in Calgary. Want to join a team that's shaping tomorrow's transportation?



17

LRT
**Eglinton Crosstown
West Extension**
\$4.7 BILLION



▶ The Eglinton Crosstown West Extension is an approximately 9.2-kilometre extension of the Eglinton Crosstown LRT (future Line 5), from Mount Dennis to Renforth Drive. Metrolinx is actively collaborating with the GTAA and municipal partners on the proposed alignment from Renforth Drive to the airport. Tunnelling is one of the first phases of work for the project.

The project is being delivered in four separate contracts: Advance Tunnelling DBF; Second Advance Tunnelling DBF; Elevated Guideway DB; and Stations and Remaining Work. ■

2023 Rank: 17

Location: Toronto, Ont.

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

DBF Team (Advance Tunnel Contract): West End Connectors

• Applicant Lead: Aecon Infrastructure Management Inc., Dragados Canada Inc., Ghella Canada Ltd.

• Construction Team: Aecon Infrastructure Management Inc., Dragados Canada Inc., Ghella Canada Ltd.

• Design: TYPESA Inc., EXP Services Inc., Dr. G. Sauer & Partners Corporation, Pedelta Canada Inc.

• Financial Advisor: ACS Infrastructure Canada, Aecon Concessions, Scotiabank Capital, Ghella Investments & Partnerships

Engineer: ARUP Canada Inc.; LEA (engineer design); Morrison Hershfield (consulting); Comtech (consulting)

Environmental Services: Matrix Solutions Inc. (environmental specialists)

Other Key Players: Golder-a WSP company (geotechnical studies); Jacobs (document control, contract administration, schedule, quality mgmt. and risk assessment); WSP (TTC Operators Representative); INFRATA (managing consultant); A.W. Hooker Associates Ltd. (independent certifier for advance tunnel); Dillon Consulting (technical advisory services); GFL (excavation, shoring, soil management); Hanscomb (cost consultant); Turner & Townsend (cost management); Hatch (geotechnical and tunnel studies); Parsons (planning engineer)

Supplier: DECAST; Victaulic

Legal: Borden Ladner Gervais (legal advisor-owner); Stikeman Elliott LLP; Dentons

Funding: P3

Substantial Completion: 2030-31

METROLINX

18

LRT
**Ottawa LRT
– Stage 2**
\$4.675 BILLION

▶ The Stage 2 Light Rail project, when complete, will extend the O-Train system farther south, east, and west, adding approximately 44 kilometres of new rail and 24 new stations.

Stage 2 is a package of three extensions—south, east, and west:

• The O-Train South extension will see rail service continue from Greenboro to Limebank in Riverside South, while adding a link to the Ottawa Macdonald-Cartier International Airport.

• The O-Train East extension will see LRT continue from Blair to Place d'Orléans Station, and then all the way to Trim Road

• The O-Train West extension will see LRT continue from Tunney's Pasture to Moodie and Baseline Stations.

The first portion of the project, the Trillium Line, was handed over to the City of Ottawa in 2023. The second segment, Confederation Line East, is planned for handover at the end of 2024. ■



2023 Rank: 18

Location: Ottawa, Ont.

Owner: City of Ottawa

Engineer: STV Group, AECOM, Parsons and Morrison Hershfield (Capital Transit Partners/owner's engineer)

Design-Build Teams: Kiewit, Vinci, WSP, and Hatch (Confederation Line east and west extension design build); AtkinsRéalis (Trillium Line design build maintain); EXP; Golder-a WSP company (owner's engineer); EllisDon (environmental)

Environmental Services: WSP (environmental lead)

Other Key Players: Rideau Transit Maintenance (Confederation Line maintainer); Aon (owner's advisor and construction insurance broker); Deloitte (owner's advisor); A.W. Hooker Associates Ltd. (Independent Certifier); PCL Construction (contractor); SENER (Independent Safety Auditor); INFRATA (managing consultant); ACS Infrastructure; Dragados Canada; Bird Construction; Colliers Project Leaders (project management support services); Englobe; GFL (excavation, shoring, soil management); Hanscomb (cost consultant); NORR Architects & Engineers (design/architect); Tiree Facility Solutions (contract management); E.S. Fox; HKA (management consultant); Turner & Townsend (project management)

Suppliers: Thales (Confederation Line signaling technology); Siemens (Trillium Line signaling technology); Alstom (Confederation Line vehicles); Stadler (Trillium Line vehicles); DECAST

Legal: Borden Ladner Gervais, Norton Rose Fulbright (owner's legal advisor); Dentons; McMillan LLP; Torsy (consortium)

Funding: P3

• Federal: \$1 billion

• Provincial: \$1.208 billion

• Municipal: \$2.449 billion

Substantial Completion: 2026

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Gordie Howe International Bridge

Finch West LRT

Île-aux-Tourtes Bridge

Confederation Line (Ottawa LRT)

19

HIGHWAY

**Fraser River
Tunnel Project**
\$4.15 BILLION



2023 Rank: 19

Location: Richmond and Delta, B.C.

Owner: Province of British Columbia (The Transportation Investment Corporation is leading the delivery of the project on behalf of the Ministry of Transportation and Infrastructure)

Owner's Engineer: COWI (immersed tube tunnel); R.F. Binnie & Associates Ltd. (highway and civil work)

Other Key Players: Golder-a WSP company (archeology & heritage/geotechnical services); Sartori Environmental Inc. (independent Environmental monitor for the corridor improvement projects); TyPlan Consulting (marine navigation advisor); Lucent Quay Consulting Inc. (communication and engagement services—Highway 99 tunnel project/Stevedore Interchange project); Northwest Hydraulic Consultants Ltd. (hydraulic and river hydraulics services); RAM Engineering Ltd. (marine construction advisor); Wood E&I (WSP) (consulting engineer); Charter PDI; McElhanney; GeoVerra (quality control); Turner & Townsend (cost consultant)

Funding: Public

Substantial Completion: 2030

► The Ministry of Transportation and Infrastructure announced on August 18, 2021, that a new, eight-lane immersed tube tunnel (ITT) will replace the existing George Massey Tunnel on Highway 99, providing people a toll-free crossing that aligns with regional interests and an active transportation connection across the Fraser River. On September 14, 2023, the Project received a Readiness Decision from the

Environmental Assessment Office. This moves the project into the Process Planning phase of the EA process. In the interim, the Province is also taking action to reduce traffic congestion and improve transit and cycling infrastructure along the Highway 99 corridor. Work on these improvements is underway, with two of the three transit and cycling improvement projects have already been completed. ■

20

LRT

**Surrey Langley
SkyTrain Project**
\$4 BILLION



2023 Rank: 20

Location: Surrey/Langley, B.C.

Owner: Province of British Columbia (The Transportation Investment Corporation is leading the delivery of the project on behalf of the Ministry of Transportation and Infrastructure)

Engineer: Hatch (lead engineer); Westco, DIALOG; AECOM (design); COWI (owner's)

Other Key Players: Deloitte; Golder-a WSP company (geotechnical studies); McElhanney Consulting Services; Ausenco; Charter PDI; Hanscomb (cost consultant); Morrison Hershfield (early works); Parsons; Colliers Project Leaders; EY (advisory services); GeoVerra (early works)

Legal: Norton Rose Fulbright; Borden Ladner Gervais

Funding: Public

Substantial Completion: 2028

► The Surrey Langley SkyTrain Project is a 16-kilometre extension of the Expo Line primarily along Fraser Highway from King George Station in Surrey to 203 St. in Langley City Centre. With an elevated guideway, eight new stations, and three new transit exchanges, travel time between Langley City Centre and Surrey City Centre will be 22 minutes. Advance works continue including the relocation of utilities (including transmission, distribution, and telecommunications lines), and the property acquisition process. The Surrey Langley SkyTrain Project will be delivered through three separate contracts – one for the guideway, another for the stations, and a third for the design and installation of SkyTrain systems and trackwork. Contract awards are expected in 2024 along with the start of early works and major construction. ■





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21

COMMUNICATIONS

Accelerated High-Speed Internet Program (Ontario Connects)
\$3.9 BILLION

▶ The Government of Ontario has committed nearly \$4 billion to connect every region in Ontario to reliable, high-speed internet by the end of 2025. This is the largest single investment in high-speed internet, in any province, by any government in Canadian history. This investment will help ensure that every household and business, in every community, has access to the digital world. To connect the remaining unserved and under-served communities across the province, Infrastructure Ontario led an innovative procurement process that started in summer 2021. The competitive process enabled Internet Service Providers (ISPs) to bid for provincial funding through a series of reverse auction events for defined geographic areas and based upon requirements for high-speed internet infrastructure deployment. In 2022, the Ontario government signed agreements with eight ISPs to bring access to municipalities across Ontario. ■



2022 Rank: 21

Location: Province of Ontario

Owner: Ontario Ministry of Infrastructure

Procurement/Project Manager: Infrastructure Ontario

Other Key Players: Ernst & Young LLP; Planview Utility Services Ltd.; Black & Veatch; Theory + Practice; KPMG LLP; Optimus SBR Inc.; Conboy Advisory Services Inc.; JTS Consulting Inc.; EY (management consultant)

Service Providers: Bell Canada; Bragg Communications; Cogeco Connexion; Community Network Partner; Eh!tel Networks Inc.; North Frontenac Telephone Company; Rogers Communications Canada Inc.; Xplore Inc.

Legal: Torns (owner)

Funding: Public

Substantial Completion: 2025

GETTY IMAGES

22

HEALTHCARE

South Niagara Hospital
\$3.6 BILLION



▶ The new South Niagara Hospital will be an integral part of Niagara Health's connected healthcare system. The South Niagara Hospital will be located at the intersection of Biggar Road and Montrose Road in Niagara Falls, Ont., just off the Queen Elizabeth Way (QEW). The new South Niagara Hospital project will centralize services from existing facilities, making it easier for residents to access the care they need at one location, provide an overall better experience, and enable communities to be healthier. In February 2023, Infrastructure Ontario and Niagara Health awarded a fixed price contract to EllisDon Infrastructure Healthcare (EDIH) to design, build, finance and maintain the new South Niagara Hospital project. ■



Location: Niagara Falls, Ont.

Owner: Niagara Health

DBFM Team: EllisDon Infrastructure Healthcare (EDIH)

Applicant Leads: EllisDon Capital Inc. & Plenary Americas LP

Design Team: Parkin Architects Ltd. & Adamson Associates Architects

Construction Team: EllisDon Corporation

Financial Advisor: EllisDon Capital Inc.

Other Key Players: Matrix Solutions Inc., WSP (environmental services); Arium Design (wayfinding consultant); Comtech (project manager); E.S. Fox; Morrison Hershfield (engineer/P3 team member); Colliers Project Leaders; EY (risk advisor)

Legal: Borden Ladner Gervais (Niagara Health)

Funding: P3

Substantial Completion: 2028

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23

LRT
Finch West LRT
\$3.43 BILLION



► This new LRT, located along Finch Avenue West in the city's northwest end, will be integrated with the city's existing transit system. The project includes 11 kilometres of new semi-dedicated rapid transit between Humber College and the new Finch West subway station on the Toronto-York Spadina subway extension; 18 surface stops and a below-grade interchange station to connect with the new Finch West subway station; and a maintenance and storage facility for the light rail vehicles. Construction is making progress throughout the Finch West LRT project, including road widening, continued utility relocations and upgrades, and excavating the underground interchange station at Finch West Subway Station. In summer 2021, the first light rail vehicle arrived at the Finch West Maintenance and Storage Facility. ■

2023 Rank: 22

Location: Toronto, Ont.

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

DBFM Team: Mosaic Transit Partners—ACS Infrastructure Canada Inc.; Aecon Concessions; CRH Canada Group Inc.

Construction: Aecon Infrastructure and Management Inc.; Dragados Canada Inc.; Dufferin Construction Company—a division of CRH Canada Group Inc.

Design: Arup Canada Inc.; Dillon Consulting Limited; DPM Energy Inc.; DTAH; Perkins + Will Canada Inc.; Sener SES Canada Inc.

Maintenance: ACS Infrastructure Canada Inc.; Aecon O&M—a division of Aecon Construction Group Inc.

Engineer: Jacobs (owner's engineer and project manager); WSP (engineer/sustainability consultant/project management/TTC operator's representative); Hatch (owner's engineer); LEA (engineer design); EXP

Other Key Players: AECOM (technical advisor); Aon (risk/insurance advisor to authority); EY (advisor); LeighFisher (lenders technical advisor); Parsons (overseeing technical advisor); INTECH Risk Management (insurance advisor); Morrison Hershfield (MEP design services); GHD (traffic mgmt.); GFL (excavation, shoring, soil management); Comtech (program/project consulting); Rider Levett Bucknall; Englobe; A. W. Hooker Associates Ltd. (cost consultant); CIMA+; Deloitte (management consultant); Entuitive; HKA; INFRATA (managing consultant); Turner & Townsend (project controls); Matrix Solutions Inc. (environmental specialists)

Supplier: Bombardier (vehicles); Dufferin Concrete; DECAST (precast infrastructure); SEMP Ltd. (consulting engineer)

Legal: Norton Rose Fulbright; McMillan LLP (for the lender); Borden Ladner Gervais (for the owner); Dentons

Funding: P3

Substantial Completion: 2024

METROLINX

24

LRT
Hamilton LRT
\$3.4 BILLION

► In September 2021, Hamilton City Council voted to reinstate the project after it was previously cancelled by the province in 2019 due to rising costs. The LRT, as proposed, would bring 14 kilometres of rapid transit to Ontario's fifth-largest city. Once complete, the new LRT line will connect McMaster University in the west to Eastgate in the East, with 17 stops planned on the route. Demolition of Metrolinx-owned properties along the Hamilton LRT route began in the Spring of 2022, along with early construction works for utility relocations.

In the coming years, these properties will be required for station stops, infrastructure, and widening to accommodate the future LRT right of way. In the short term, demolition sites will be restored, secured with fencing, and monitored by security contractors. ■



2023 Rank: 23

Location: Hamilton, Ont.

Owner: Metrolinx

Procurement Agent: Infrastructure Ontario

Other Key Players: AECOM, Wood E&I (WSP) (consulting engineer/geotechnical studies); Arcadis-IBI Group; Comtech; Hatch; Turner & Townsend (project controls/estimating); Dillon Consulting (design engineer)

Legal: Borden Ladner Gervais (for the owner)

Funding: Public

· Federal: \$1.7 billion

· Provincial: \$1.7 billion

Substantial Completion: TDB

METROLINX

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25

WATER/WASTEWATER

**Don River and Central Waterfront
& Connected Projects**
\$3 BILLION



► Toronto is embarking on the largest and most significant stormwater management program in the city's history. This program will greatly improve the water quality in the Lower Don River, Taylor-Massey Creek and along Toronto's Inner Harbour by keeping combined sewer overflows out of our waterways by upgrading technology and increasing the system's capacity to capture, transport and treat them. The project is comprised of an integrated system of tunnels, storage shafts, connections, an integrated pumping station, a high-rate treatment facility, a real-time control system and wastewater treatment plant upgrades. The program is made up of several individual

2023 Rank: 24

Location: Toronto, Ont.

Owner: City of Toronto

Don River and Central Waterfront Wet Weather Flow System (DR&CW WWF System):

- Coxwell bypass (stage 1): Black & Veatch Canada (consultants); North Tunnel Constructors (contractor)
- Inner Harbour West Tunnel: Hatch/AECOM (consultant)
- Mid-Toronto-Interceptor (MTI) Real-Time Control: Tetra Tech (consultant)
- Integrated Pumping Station (IPS): Black & Veatch Canada in association with R.V. Anderson Associates Ltd. (consultants); Strabag Canada (contractor-contract 2)
- Ashbridges Bay Landform Project: Toronto and Region Conservation Authority (TRCA) with Shoreplan Engineering (designer); TRCA (constructor of landform)
- UV (Ultraviolet) Disinfection Facility: AECOM (consultants); Graham (contractor)
- Outfall: Hatch, Jacobs and Baird (consultants); (SAJV) Southland Astaldi Joint Venture (contractor)

Other Key Players: Wood E&I (WSP) (environmental engineer/geotechnical studies); Golder- a WSP company (geotechnical services); Arcadis-IBI Group (risk assessment); LEA Consulting (engineer-planning); R.V. Anderson Associates Ltd.; E.S. Fox; Arup (engineer)

Funding: Public

Substantial Completion: 2038

projects that will work together, including the Don River and Central Waterfront Wet Weather Flow System, the Ashbridges Bay Treatment Plant (ABTP) Integrated Pumping Station, ABTP Ultra-Violet (UV) Disinfection Facility, ABTP Landform and high-rate treatment facility, and the ABTP Outfall. ■

CITY OF TORONTO

26

PUBLIC SPACES

**Energy Services Acquisition Program's
Energy Service Modernization**
\$3 BILLION

► Within the National Capital Region (NCR), Public Services and Procurement Canada (PSPC) is responsible for heating 80 buildings and cooling 67 buildings. As part of PSPC's activities, the Energy Services Acquisition Program was established in 2009 to explore new business models for the provision of energy services in the NCR. The modernization project is looking for an energy services solution for PSPC's five central heating and cooling plants (CHCP) and their associated distribution networks within the NCR. As part of the new District Energy System, the design phase for the Modernized Gatineau Energy Centre began in spring 2022, and construction is expected to be completed by the end of 2026. The new centre is part of the District Energy System and when operational, will be carbon neutral and one of the cleanest, most sustainable energy centres of this scale in North America. By 2027, the entire District Energy System will be modernized and converted from an energy-intensive and high-polluting steam system to a state-of-the-art low-temperature hot-water system, reducing greenhouse gas emissions from heating and cooling operations by an estimated 92 per cent. ■



2023 Rank: 25

Location: Ottawa, Ont.

Owner: Government of Canada

DBFOM Team: Innovate Energy—Black & McDonald Capital Limited; Black & McDonald Limited; ENGIE Services Inc.; PCL Constructors Canada Inc.; PCL Investments Canada Inc.; BBB Architects Ottawa/Golder- a WSP company (design partners)

Other key players: EY (oversight advisor); WSP (engineering services); Aon (risk advisor); Tiree/Colliers Project Leaders (project management & business consulting services); Turner & Townsend (cost management)

Legal: Norton Rose Fulbright (advisor to project owner)

Funding: Public

Substantial Completion: 2027

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27

PORT
Roberts Bank Terminal 2
\$3 BILLION



2023 Rank: 38
Location: Delta, B.C.
Owner: Vancouver Fraser Port Authority
Project/Construction Manager: Collings Johnston Inc. (program management), Hatch (project controls); WSP (construction management/quality assurance)
Engineer: Moffatt & Nichol (owner's engineer), Stantec (engineering and design)
Environmental Services: Ecofish, Ecowest, Ausenco, Golder-a WSP company (environmental & geotechnical services), AECOM, Ventus, BlueDot (environmental assessment and permitting)
Other Key Players: KPMG (procurement advisory), Hamburg Port Consultants (terminal operations); Hanscomb (cost consultant)
Legal: Blake, Cassels & Graydon LLP, Fasken Martineau DuMoulin LLP (legal advisor)
Financing Detail: Roberts Bank Terminal 2 will be funded by the financially self-sufficient port authority and private investment.
Substantial Completion: 2030+

approved the project, concluding a rigorous federal environmental assessment process. Then, in September 2023, the Government of British Columbia issued an environmental assessment certificate. Before construction can begin, there are several more steps, including obtaining permits (such as a Fisheries

▶ Roberts Bank Terminal 2 involves the construction of a trade-enabling three-berth marine container terminal on new federally owned land, built in subtidal waters to minimize environmental effects. In April 2023, the Government of Canada

Act Authorization and a Species at Risk Act permit), continuing consultation and collaboration with First Nations, assessing market conditions, starting procurement, and preparing for a final investment decision. ■

VANCOUVER FRASER PORT AUTHORITY

NEW

28

HEALTHCARE
Surrey Hospital and
B.C. Cancer Centre
\$2.88 BILLION

▶ The first of its kind in British Columbia, the new Surrey hospital and B.C. Cancer Centre will be a fully digitally equipped, fully electric facility that will be at the forefront of health care innovation, technology and sustainability. As a next generation health care facility within Fraser Health, the new hospital and cancer centre will integrate digital and virtual health innovation to increase clinical capacity, expand access to care for patients and their families, and improve patient outcomes. The new state-of-the-art hospital will provide increased capacity in areas such as emergency, surgical, inpatient, ambulatory care, medical imaging, laboratory, pharmacy, and cancer care services, to support thousands of additional patients every year.

The new hospital and cancer centre will feature 168 acuity-adaptable inpatient beds, a surgical/perioperative suite with five operating rooms, four procedure rooms, and an emergency department with 55 treatment spaces. The BC Cancer Centre will be one of the largest in the province. ■



Location: Surrey, B.C.
Owner: Fraser Health Authority
DB Team: EllisDon Design Build Inc.
Architects: Parkin Architects Ltd.; ZGF Architects Inc.
Other Key Players: Arcadis IBI Group (owner's technical advisor); WSP (preliminary design/environmental services);; Hatch (environmental engineer); Victaulic (supplier)
Funding: Public
Substantial Completion: 2029



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29

SUBWAY

**Broadway
Subway Extension
\$2.8 BILLION**

► The Broadway Subway Project will see the addition of six underground stations and 5.7 kilometres of track to the Millennium Line. The extension will run from VCC-Clark Station to Arbutus Street; 700 metres will be elevated guideway and the remainder will be tunneled. On opening day, the line will have the capacity to move three times as many people through the corridor. Tunnel boring has begun, and construction continues on the elevated guideway portion of the line as well as the underground stations. ■

2023 Rank: 26

Location: Vancouver, B.C.

Owner: Province of British Columbia (The Transportation Investment Corporation is leading the delivery of the project on behalf of the Ministry of Transportation and Infrastructure)

DBF Team: The Broadway Subway Project Corporation – A joint venture of Acciona Infrastructure Canada Inc. and Ghella Canada Ltd.

Other Key Players: Arcadis-IBI Group / DIALOG BC Architecture Engineering Interior Design Planning Inc. / Mott MacDonald Canada Ltd. / Parsons Inc / Norland / BD Hall, Golder-a WSP company (geotechnical

services); McElhanney (assessment and surveying services); Associated Engineering (quality control); Aon (risk advisor); Hanscomb (cost consultant); Morrison Hershfield (early works); Wood E&I (WSP) (consulting engineer/geotechnical studies); EXP; Hatch; Colliers Project Leaders; GeoVerra (site surveyor); Kontur (geotechnical services)

Legal: Norton Rose Fulbright (owner's advisor)

Funding: Public

• Federal: \$896.9 million

• Provincial: \$1.82 billion

• Municipal: City of Vancouver: \$99.8 million (in-kind land contribution)

Substantial Completion: 2026

30

HEALTHCARE

**The Ottawa Hospital
New Campus Development
\$2.8 BILLION**

► The Ottawa Hospital's new campus will serve the greater Ottawa and Eastern Ontario region, Western Quebec, and Nunavut. The new hospital will feature highly specialized inpatient, outpatient, emergency, and trauma services. Physicians and staff will treat the most complex adult injuries and illnesses. This world-class centre for academic training and medical research will be networked with partners in Ontario, across Canada and around the world.

Construction began in fall 2022 on the parking garage that will support the hospital. A Request for Proposals seeking a design and development team for the main hospital building was issued November 2022 and closed October 2023. At the conclusion of the RFP process, the successful bidder will work in collaboration with Infrastructure Ontario, The Ottawa Hospital and the Ministry of Health under a Development Phase Agreement, to further define and refine project requirements, and design, pricing and risk parameters. ■

2023 Rank: 27

Location: Ottawa, Ont.

Owner: The Ottawa Hospital

Project/Construction Manager: GBA Group (development advisor/project management)

Strategic Finance Planning Services: Deloitte

Architectural Services: HDR Architecture Associates, Inc.; NORR Architects & Engineers

Master Programmer: Agnew Peckham Health Care Consultants

Other Key Players: Parsons (engineering services); Colliers Project Leaders (planning and procurement services); EXP (planning, design & compliance - structural engineering); GFL (excavation, shoring, soil management); Hanscomb (cost consultant); LEA Consulting (engineer-structural); Morrison Hershfield (consulting engineer); PCL Construction (contractor-parking garage)

Legal: Borden Ladner Gervais (for the owner)

Funding: Progressive P3

Substantial Completion: 2028

31

LRT

**Valley Line West LRT
\$2.6 BILLION**

► The Valley Line West LRT project is the next phase of Edmonton's light rail transit expansion. This project represents a 14-kilometre extension from downtown Edmonton to Lewis Farms in west Edmonton. The low-floor, community-integrated, urban-style LRT will help move more people along key corridors as Edmonton grows into a city of two million over the coming decades. In 2023, Marigold Infrastructure Partners entered its second year of major construction. Work this year has included: utility relocations and road works, installation of girders for the new Stony Plain Road Bridge, work on the elevated guideway and two elevated stations at West Edmonton Mall and the Misericordia Community Hospital, site preparations at street-level stops, piling work for the bridge at Anthony Henday Drive, and further work on the storage facility at Lewis Farms and the Gerry Wright operations and maintenance facility. In spring 2023, a major project milestone was achieved when Hyundai Rotem Company, the supplier of 46 light rail vehicles (LRVs) for Valley Line West, delivered a full-scale mock-up to Edmonton for user and accessibility testing. ■

2023 Rank: 28

Location: Edmonton, Alta.

Owner: City of Edmonton

DB(F) Team: Marigold Infrastructure Partners—Colas, Parsons, Standard General, Franci Architecture, Fast & Epp, Stantec

Owner's Engineer: connectEd Transit Partnership: AECOM (owner); Hatch; Mott MacDonald; DIALOG; ISL Engineering and Land Services; SMA Consulting; reVerb Communications; Hanscomb; Associated Engineering (consulting)

Other Key Players: EY (financial advisor); Aon (risk advisor); Golder-a WSP company (geotechnical studies); Morrison Hershfield, AW Hooker; CIMA+; Northstar Consultancy; INFRATA; Wood E&I (WSP) (geotechnical studies/materials tester); Englobe; McElhanney (site surveyor); Turner & Townsend; Matrix Solutions Inc. (environmental specialists); AGAT Labs

Funding: P3

• Federal \$948.56 million

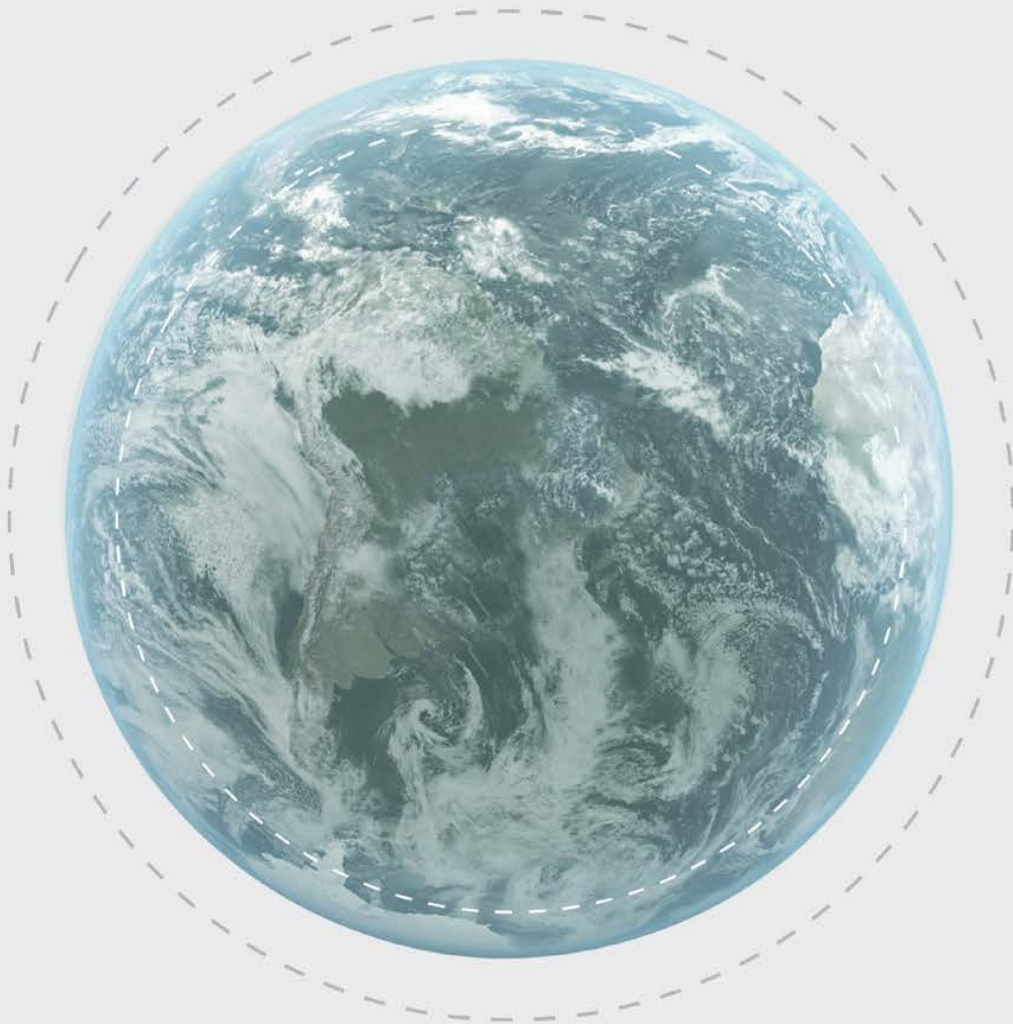
• Provincial \$1.04 billion

• Municipal \$637 million

Substantial Completion: 2027

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BUSINESS AS UNUSUAL

32

HEALTHCARE

**Projet Hôpital
Vaudreuil-Soulanges
\$2.6 BILLION**

► This ambitious infrastructure project will provide the region with a 404-bed hospital, featuring an 11-room operating block and a 41-stretcher emergency department—one of the biggest in the Montérégie region. This project will position the Hôpital de Vaudreuil-Soulanges as a leading-edge facility and a model for the next generation of Québec hospitals. The hospital will be equipped with state-of-the-art technologies and innovations aimed at optimizing the experience for both patients and staff. It will also be built according to environmental and sustainable development best practices. ■

2023 Rank: 29

Location: Vaudreuil-Dorion, Que.

Owner: CISSS (Centre intégré de santé et des services sociaux) de la Montérégie-Ouest

Engineer: CIMA+; BPA (consultant); EXP (design/environmental/geotechnical studies)

Architect: Provencher et Roy; Yelle Maillé et associés architectures inc.

Other Key Players: Pomerleau (contractor); Pageau Morel & Associés Inc. (contractor's engineer); Stantec Consulting Ltd.; AtkinsRéalis (mechanical & electrical design); SDK et associés; WSP Canada; Jodoin, Lamarre, Pratte architects Inc. (contractor's architects); Lemay Co. Inc.; Menkes, Shooner, Dagenais, Letourneau Architects; EXP

Funding: Public

Substantial Completion: 2026

33

HIGHWAY

**Louis-Hippolyte-
Lafontaine Tunnel Project
\$2.5 BILLION**

► The original Louis-Hippolyte La Fontaine Tunnel was constructed in 1967 and needed significant rehabilitation. In July 2020, the contract was awarded for the rehabilitation project. Construction work began in 2021. The main work in the tunnel consists of carrying out major structural repairs, modernizing operating equipment, redeveloping service corridors, and adding fire protection. In 2023, the repair of the pavement of autoroute 25 southbound was carried out between the tunnel and rue Sherbrooke, in addition to structural repairs on the Souigny interchange. The repair of the pavement of autoroute 25 northbound began in 2023 and will continue in 2024. Concreting of walls and arches are underway in the tunnel's southbound tube, as is the work to modernize operation systems. ■

2023 Rank: 49

Location: Montréal, Que.

Owner: Ministère des Transports et de la Mobilité durable (MTMD)

P3/Project Team: Vinci (subsidiaries Eurovia and Dodin Campenon Bernard); Pomerleau (50-50 JV)

Engineer: Parsons, Tetra Tech (owner's engineer); WSP-Hatch JV (design); Lombardi (tunnel safety); EXP (design, consulting)

Other Key Players: Aon (risk advisor); CIMA+, Egis (independent certifier); Jacobs (mgmt. consultant); Deloitte (mgmt. consultant); Englobe; GHD (materials tester)

Financier: Desjardins Capital Markets

Legal: Borden Ladner Gervais; Stikeman Elliott LLP

Funding: P3

• Federal: \$427.7 million

• Provincial: \$2.064 billion

• Municipal: \$4.7 million

Substantial Completion: 2026

34

HEALTHCARE

**New Hospital for Sick Children
\$2.4 BILLION**

► Dubbed 'Project Horizon' by Sick-Kids, the three-phase project to rebuild and rehabilitate The Hospital for Sick Children in Toronto is well underway. There are three phases to the project, which are expected to take a total of 15 years to complete: A new 22-storey Patient Support Centre; The Peter Gilgan Family Patient Care Tower; and Renovations to the existing campus.

The new Patient Support Centre, was officially opened in September, 2023. The Patient Care Tower is scheduled for completion in 2029, followed by the completion of the Peter Gilgan Family Patient Care Tower in 2035. ■



2023 Rank: 30

Location: Toronto, Ont.

Owner: Hospital for Sick Children

Engineer: WSP (planning)

Patient Support Care Project Team - Construction Manager: PCL Constructors Canada Inc.; **Structural Consultant:** Entuitive; **Electrical Consultant:** Mulvey & Banani; **Mechanical Consultant:** The Mitchell Partnership; **Demolition:** Priestly

Demolition, Peter Gilgan Family Patient Care Tower-Stage 2 Functional Program

Design Team: Stantec/KPMG joint venture; **Functional Programmer:** RPG

Engineer: WSP (stage 1&2 master planning)

Other Key Players: Hanscomb (cost consultant); EY, HKA (management consultant); EY

Supplier: Stantec

Legal: Borden Ladner Gervais, McMillan LLP (for the owner)

Funding: Public

Substantial Completion: 2035



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HEALTHCARE

Burnaby Hospital Redevelopment \$2.4 BILLION

▶ The Burnaby Hospital redevelopment is a multi-phase project that will transform the hospital into a modernized medical and surgical health care campus. It will see two new patient care towers, new cancer centre, and expansion and renovations to existing buildings on campus. The first phase will include the construction of the new Keith and Betty Beedie Pavilion and the expansion and renovations to the existing Support Facilities Building. Construction is currently underway, and the new buildings are expected to open in 2025. The second phase will increase the hospital's bed capacity and expand cancer services. Procurement is underway for phase two and the projected timeline for completion is in 2030. ■



2023 Rank: 51
Location: Burnaby, B.C.
Owner: Fraser Health Authority
Procurement Manager: Infrastructure BC
DBF Team: EllisDon Infrastructure (Phase 1)
Other Key Players: WSP (owner's

technical advisor); Morrison Hershfield (consulting engineer); Mulvey & Banani; Victaulic (supplier); Kontur (geotechnical services)
Legal: McMillan LLP
Funding: Public
Substantial Completion: 2030

36

WATER/WASTEWATER

North End Sewage Treatment Upgrades \$2.34 BILLION

▶ The scope of work for the first capital project includes the design and construction of a new headworks facility that will include a raw sewage pump station, a micro-tunnel extension of existing interceptor sewers, a grit removal system, a main control room, fine screens and compactors, and a plant emergency generator facility. This project is currently in construction. The second capital project



includes the design and construction of a new biosolids facilities that will address end-of-life equipment and regulatory requirements regarding the recovery of nutrients and maximizing biosolids reuse. It will add new facilities to treat the sludge from the City's three sewage treatment plants and replace end-of-life equipment.

2023 Rank: 40
Location: Winnipeg, Man.
Owner: City of Winnipeg
Engineer: KGS Group (owner's advocate/consultant)—NEWPCC Power Supply; AECOM (owner's advocate/consultant)—NEWPCC Upgrade: Headworks, Biosolids & Nutrient Removal Facilities, Design Builder—NEWPCC Power Supply: Black & Macdonald, AECOM (design engineer), Design Builder—NEWPCC Headwork Facilities: Red River Solutions (Aecon/Oscar Renda JV); Hatch (design engineer)
Other Key Players: EY (management consultant); Veolia; P1 Consulting Ltd.; KGS Group Ltd. (owner's advocate/consultant); Wood E&I (WSP) (design engineer/geotechnical studies); Colliers Project Leaders; Hanscomb (cost consultant); Deloitte LLP; Buy Social Canada; Victaulic (supplier)
Legal: Blake, Cassels & Graydon
Funding: Public
• Federal \$317 million
• Provincial \$264 million
• Municipal \$1.755 billion
Substantial Completion: (Headworks) 2027; (Biosolids & Nutrient Removal) 2030

This project is currently in the procurement phase. The third capital project includes the design and construction of the nutrient removal facilities that will remove nitrogen and phosphorus from the wastewater. This project is currently in the planning stage. ■

37

HEALTHCARE

St. Paul's Hospital \$2.3 BILLION

▶ In February 2019, the Government of British Columbia approved the business plan for a new St. Paul's Hospital in the False Creek Flats. The new hospital will continue to serve as an acute-care hospital and integrated health campus. The new facility will be expanded to a capacity of 548 beds and be the home of several leading provincial programs and referral centres, including for heart and lung care, renal, eating disorders, and specialty surgeries and transplants. ■

2023 Rank: 33
Location: Vancouver, B.C.
Owner: Providence Health Care/Vancouver Coastal Health
DB (F): PCL Construction
Engineer: Tetra Tech (geotechnical design)
Architect: HDR; Stantec
Other Key Players: Arcadis-IBI Group (early design works); KPMG (clinical planning services); Entuitive; EY (mgmt. consultant);

McElhanney (site surveyor); WSP (roads, offsite utilities and onsite design services); Victaulic (supplier)
Legal: Norton Rose Fulbright (owner)
Funding: Public/Private
• Provincial: \$1.327 billion
• Private: Providence Health Care \$850 million (from sale of existing hospital site); St. Paul's Foundation \$136 million
Substantial Completion: 2026



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NEW

38

WATER/WASTEWATER

Northwest Langley Wastewater Treatment Plant

\$2.3 BILLION

► The Northwest Langley Wastewater Treatment Plant, which currently serves 30,000 people, is being expanded to serve over 280,000 people, including residences and businesses in the Township of Langley, Maple Ridge, Pitt Meadows and North Surrey. The plant expansion is one of several projects taking place to improve the sustainability and resilience of wastewater treatment in the region. To divert the flows to the Northwest Langley Wastewater Treatment Plant, a new pump station is being built north of the Fraser River in Maple Ridge. Two new sewer pipes are being constructed under the Fraser River to connect the pump station in Maple Ridge to the upgraded treatment plant in Langley. A new storage tank, located with the pump station, will temporarily store wastewater to significantly reduce overflows during storms. ■

Location: Township of Langley, B.C.

Owner: Metro Vancouver

Construction Manager: Delve Underground (Fraser River Crossing), Stantec (Pump Station and Storage Tank), Jacobs (WWTP Ground Improvements)

Contractors: Pomerleau (Fraser River Crossing and WWTP Ground Improvements), NAC (Pump Station and Storage Tank)

Engineers: Delve Underground (Fraser River Crossing), CDM Smith (Outfall), Stantec (Pump Station and Storage Tank), Jacobs (Wastewater Treatment Plant)

Other Key Players: Carollo (Program Management), Katzie Development Limited Partnership (Archaeological Services); WSP (program management/technical support services); Entuitive

Legal: Cassels; Norton Rose Fulbright (owner)

Funding: Public

Substantial Completion: 2023 (Pump Station and Storage Tank), 2023 (Fraser River Crossing), 2029 (Outfall), 2030 (Wastewater Treatment Plant)

NEW

39

HIGHWAY

Reconstruction of the Île-aux-Tourtes Bridge

\$2.3 BILLION



► The Île-aux-Tourtes bridge, which was commissioned in 1965, is located on autoroute Félix-Leclerc (autoroute 40) and links the island of Montréal (village of Senneville) and the Montérégie region (city of Vaudreuil-Dorion). This key structure is part of the strategic road network supporting trade. To ensure its sustainability, it will be rebuilt north of the existing bridge. The new bridge will include: three lanes in each direction; a multipurpose path; and wide shoulders designed for bus traffic only. ■

Location: Montréal, Québec

Owner: ministère des Transports et de la Mobilité durable

Contractor: Groupe Nouveau Pont Île-aux-Tourtes (Dragados Canada inc., Roxboro Excavation inc., Construction Demathieu et Bard (CDB); ACS Infrastructure Canada

Engineer: Tetra Tech-Cima+Aecom (owner's engineer); Arup / FNX-INNOV (Independent certifier); WSP (consulting engineer-Phase I/technical support services)

Other Key Players: Strategia conseil (risk and financial advisor); Price-Waterhouse (management consultant); Marsh (insurance consultant); AGAT Labs

Legal: Gowling WLG

Funding: Public

Substantial Completion: 2030



40

HEALTHCARE

Nouveau complexe hospitalier CHU de Québec-Université Laval

\$2.239 BILLION

► The New Hospital Complex (NCH) aims to consolidate the activities of L'Hôtel-Dieu de Québec and the Enfant-Jésus Hospital on the same site. The NCH will become a reference center for several specialties including nephrology, neurology, oncology, traumatology, and burns.

The project places the patient and employee at its heart to innovate in healthcare and research, and above all, to provide even better care for the population of eastern Quebec. With a total of 174,983 square meters of new constructions and the redevelopment of almost a third of the existing buildings, the NCH will have 700 hospital beds, including 105 critical care beds, 30 operating rooms and 60 emergency stretchers. ■

2023 Rank: 32

Location: Quebec City, Que.

Owner: CHU de Québec-Université Laval

Project Manager: Société québécoise des infrastructures (SQI)

Construction Manager: (Phase 1) Pomerleau

Construction Manager: (Phase 2) Groupe Axor Inc.

Commissioning Officer: Ambioner; Pageau Morel et associés inc.

Architect: AES Group-Groupe A/Annexe U; DMG architecture; Lemay; Jodoin Lamarre Pratte architectes ;

NFOE Inc. ; GLCRM Architectes
Civil engineering and structure:
CIMA+; Stantec

Mechanical and Electrical Engineering: AtkinsRéalis; Bouthillette Parizeau; Tetra Tech

Other Key Players: Englobe (geotechnical/environmental investigation, quality control); GHD (vibration monitoring); Golder-a WSP company (geotechnical studies); Deloitte; Arium Design (wayfinding consultant)

Funding: Public/Private

Substantial Completion: 2029

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HIGHWAY

F.G. Gardiner Expressway Strategic Rehabilitation Plan \$2.2 BILLION

▶ The F.G. Gardiner Expressway Strategic Rehabilitation Plan addresses the rehabilitation of the expressway, extending from Highway 427 to the eastern limit at the Don Valley Parkway (DVP), including the 11-km at-grade section from Highway 427 to Dufferin Street with its 32 bridges and structures, and the 7-km elevated section from Dufferin Street to the DVP with 335 spans. In the fall of 2023, the City awarded the contract for the second section in the Rehabilitation Plan and will rebuild and repair the elevated portion of the Expressway between Dufferin Street and Strachan Avenue. ■



2023 Rank: 31

Location: Toronto, Ont.

Owner: City of Toronto

Section 1: Cherry St. to Jarvis St.

Contractor: Aecon

Consulting Engineers: WSP; Morrison Hershfield; Parsons; GHD

Section 2: Dufferin St. to Strachan Ave.

Contractor: Gracian Construction Limited

Consulting Engineers: Parsons (OETA)

Environmental Services: Dillon Consulting Limited (Environmental assessment); Perkins+Will; Hargreaves Associates

Other Key Players: EY, Hanscomb, and HDR (advisory support); Aon (risk advisor); WSP (design work); EllisDon; Englobe; Entuitive; HKA; EY (financial advisor)

Supplier: Canam Group

Legal: Blake, Cassels & Graydon (City of Toronto); Osler

Funding: Public

Substantial Completion: 2030

42

HEALTHCARE

Trillium Health Partners Redevelopment – Mississauga Hospital \$2+ BILLION

▶ Trillium Health Partners is the largest community-based hospital network in Canada. This historic, multi-billion-dollar project is a key part of Ontario's plan to build a stronger, more resilient health care system and Trillium Health Partners' plan to create a new kind of health care that serves the growing and diverse communities in Mississauga and Etobicoke. In anticipation of this growth, the new Peter Gilgan Mississauga Hospital will fully replace the existing Mississauga Hospital. The project is being delivered using a new progressive public-private partnership (P3) approach, which involves both a Development Phase Agreement and a design-build-finance-maintain P3 Project Agreement. In March 2023, Infrastructure Ontario and THP signed a Development Phase Agreement with EllisDon + PCL Health Care Partners. ■



2023 Rank: 34

Location: Mississauga, Ont.

Owner: Trillium Health Partners

Procurement Manager:

Infrastructure Ontario

Consultants: Stantec (planning, design, and conformance services); Colliers Project Leaders (planning and procurement services); Comtech; EY (management consultant); Hanscomb (cost consultant)

Legal: Borden Ladner Gervais (for the owner)

Development Partner: ED+PCL Healthcare Partners consortium

Proponent Lead, Developer and

Financial Advisor: EllisDon Capital and PCL Investments

Construction Prime Team Member:

EllisDon and PCL Constructors

Canada Inc. Joint Venture

Facilities Management Prime Team Member: EllisDon Facilities Services

Design Prime Team Members and Architects: Parkin Architects Ltd., Adamson Associates Architects and Jodoin Lamarre Pratte Architectes Inc.

Structural Consultant: Stephenson Engineering Inc. and Read Jones Christoffersen Ltd.

Mechanical Consultant: H.H. Angus & Associates Limited Consulting Engineers and Smith+Andersen

Electrical and ICAT Systems

Consultant: Mulvey &

Banani International Inc. and

Smith+Andersen

Funding: Progressive P3

Substantial Completion: TBD

43

HIGHWAY

Ville-Marie and Viger Tunnels \$2 BILLION

▶ The Ville-Marie and Viger tunnels are integral parts of the Montréal transportation network. The two tunnels are located along route 136, formerly known as autoroute 720, along a stretch commonly referred to as autoroute Ville-Marie. The Ville-Marie tunnel was inaugurated in 1974, followed by the Viger tunnel in 1986. The project is expected to be completed in six construction phases. All four sub-phases of phase 1 are now underway (anticipated work time in brackets): 1A - complete repair of the



2023 Rank: 35

Location: Montréal, Que.

Owner: Ministère des Transports et de la Mobilité durable (MTMD)

Engineer: Consortium AECOM/Tetra Tech/Parsons

Other Key Players: WSP (construction services); TVM 20-30 Consortium—CIMA+/Stantec/FNX-Innov (construction supervision services)

Monitoring: TVM 20-30 Consortium (CIMA+/Stantec Experts- conseils)

Funding: Public

Substantial Completion: 2030

tunnels at the exit of de la Montagne, including the removal of the last tunnel pergolas (completed); 1B - beginning of the electrical migration work towards 25 kilovolts (completed); 1C - reconstruction of the decks of the Saint-Urbain and Saint-Laurent overpasses (to be completed in winter 2026); and 1D - the replacement of 37 exhaust fans (to be completed in summer 2024). ■

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HEALTHCARE

QEII Health Sciences Centre Redevelopment \$2 BILLION



► The redevelopment of the QEII Health Sciences Centre is a multi-phase project involving several health care sites throughout Halifax and the surrounding area. The project will transform health care delivery in Nova Scotia, providing modern services for patients throughout the province. The primary project elements include: the renovation of Hants Community Hospital in Windsor; renovation of Dartmouth General Hospital; a new Community Outpatient Centre in Bayers Lake (opened Nov.

2023 Rank: 37

Location: Halifax, N.S. and surrounding communities

Owner: Government of Nova Scotia

Project Manager: Nova Scotia Lands

Advanced Work Contract (Halifax Infirmary site): Plenary PCL Health DBFM Contract (Bayers Lake Community Outpatient Centre) – EllisDon Infrastructure HealthCare

• **P3 Electrical Design Team:** Mulvey & Banani International Inc./Dillon Consulting Limited, led by Plan-Group/Cahill.

• **P3 Mechanical Design Team:** HHA/Dillon Consulting Limited, led by Plan-Group/Cahill.

Contractor: PCL Constructors Canada Ltd. (Hants Community Hospital renovation)

Other Key Players: Morrison Hershfield (engineer/P3 team member); Contracting Specialties (2005) Inc.; Coastal Woodworkers Ltd.; Dantra Specialty Products; Duron Atlantic Limited; Twin City Painting (1979) Limited; Northfield Glass Group Ltd.; Apex Industries; Atlantica Mechanical; Bond and Coolen Contracting Ltd.; Life Safety Systems; RKO Steel Ltd.; Southeast Drywall Ltd.; Inflector Environmental Services; Darim Masonry Limited; Flynn Canada Limited; McCarthy's Roofing Limited; Royal Door Limited; Kasian (planing and design compliance team); Deloitte (financial advisor); Hanscomb (cost consultant); Entuitive; EXP (geotechnical studies); LEA Consulting (engineer-structural); AGAT Labs; Arup (consulting engineer); Colliers Project Leaders

Legal: Borden Ladner Gervais; Osler (for the proponent)

Funding: Public/P3

Substantial Completion: TBD

2023); expansion of the Halifax Infirmary site; a new hospice residence in Halifax; and movement of the QEII Cancer Centre to the new Infirmary site. Completion of these projects will result in the closure of Centennial, Dickson, and Victoria buildings on the QEII Victoria site in Halifax. ■

45

WATER/WASTEWATER

Annacis Island Wastewater Treatment Plant Expansion \$2 BILLION



► There are over 20 projects planned as part of the onsite improvements of the Annacis Island Wastewater Treatment Plant. Key improvement projects include new trickling filters, secondary clarifiers, and a co-generation facility to make better use of green energy captured on site. Detailed design of the remaining Phase 2 works is underway with construction anticipated to commence in 2025. A new digester and biosolids dryer have been added to the expansion program. ■

2023 Rank: 54

Location: Delta, B.C.

Owner: Metro Vancouver

Construction Manager: Hatch (outfall project); CDM Smith (Overall Construction Coordination)

Contractors: JJM Construction and Geopac Inc. (Phase 1 ground improvement and 12.5 kV power feed relocation); Graham/AECOM Joint Venture (Phase 1 treatment plant process structures and equipment); North American Construction (blowers contract); Kenaidan Contracting (computer control system and laboratory building, cogeneration and backup power); Maple Reinders Inc. (Phase 2 Gravity Thickeners and Aeration Tanks Retrofit); Bennett Mechanical Installations (Phase 2 Digester Heat Exchangers Upgrade); Pomerleau-Bessac General Partnership (outfall pipeline)

Engineers: Brown and Caldwell, Stantec, EIC Solutions, Klohn Crippen Berger (stage 5 expansion); CDM Smith, Golder Associates, McMillen Jacobs, Golder-a WSP company (outfall); Wood/Black & Veatch (cogeneration backup power); EXP (geotechnical engineering & monitoring/instrumentation); COWI

Other Key Players: AECOM (Stage 5 Phase 1 Design review); WSP (materials engineering & testing); Arup (design architect); Wood E&I (WSP) (consulting engineer/geotechnical studies & materials tester); Hatch (tunnel design review and outfall construction management); Colliers Project Leaders; Jacobs; CDM Smith; Associated Engineering (project and construction management/staff augmentation); Envirowest (environmental); McElhanney; Victaulic (supplier)

Legal: Norton Rose Fulbright (for Metro Vancouver)

Funding: Public

Substantial Completion: (Phase 2 – Early Works) 2024; (Outfall) 2026; (Phase 2) 2032

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TRANSMISSION
**Wataynikaneyap
Transmission Project**
\$1.9 BILLION

▶ Wataynikaneyap Power is majority-owned by a partnership of 24 First Nations, in partnership with Fortis Inc. and other private investors, and regulated by the Ontario Energy Board. To connect remote communities to the electrical grid, Wataynikaneyap Power will develop, manage construction, and operate approximately 1,800 kilometres of transmission lines and 22 substations in northwestern Ontario. Ultimately, 17 remote First Nations will be connected to the power grid, ending their electrical load restrictions and reliance on diesel generation as their primary power source. As of August 2023, five communities have been energized and construction is 95 per cent complete. ■



2023 Rank: 39
Location: Northern Ontario
Owner: Wataynikaneyap Power
Contractor: EPC Contract: Valard Construction
Contractor: Operations: PowerTel
Engineer: Hatch (owner's engineer); Wood E&I (WSP) (consulting)
Environmental Services: Giiwedini Environmental; Woodland Heritage; Golder-a WSP company (environmental Services-Phase 1 EA)
Other Key Players: Deutsche Bank (MOU for design, construction, and financial services); PwC (financial feasibility study and socioeconomic impact analysis); Arcadis-IBI Group (Phase 2 routing study); EY (consultant); INTECH Risk Management; Englobe
Legal: Torys (legal advisor); McMillan LLP (for the federal government); Stikeman Elliott LLP
Funding: Public/Private
• Federal \$560 million
• Provincial \$1.34 billion (loan)
Substantial Completion: 2024

47

HIGHWAY
**Highway 1 Upgrades –
Kamloops to Alberta**
\$1.705 BILLION

▶ The Government of B.C. has embarked on a 10-year project to expand the Trans-Canada Highway (Highway 1) between the city of Kamloops and the Alberta border. Highway 1 includes 339 kms under the jurisdiction of the B.C. Ministry of Transportation and Infrastructure, as well as 101 kms under the jurisdiction of Parks Canada. There are seven sections of the work that are scheduled for completion: Chase four-laning at a cost of \$220M; Ford Road to Tappen Valley overhead, at a cost of \$243M; Salmon Arm west, at a cost of \$155M; Bruhn Bridge, at a cost of \$224.5M; Illecillewaet, at a cost of \$85.2M; Quartz Bridge and four-laning, at a cost of \$123.7M; and Kicking Horse Canyon Phase 4, at a cost of \$601 million. ■



2023 Rank: 41
Location: Kamloops, B.C. to the Alberta border
Owner: B.C. Ministry of Transportation and Infrastructure
DB Team: Team (Kicking Horse Canyon Phase 4): Kicking Horse Canyon Constructors: Aecon Group Inc, Parsons, Emil Anderson Construction
Contractors: Emil Anderson Construction Inc. (Illecillewaet); Springline (Salmon Arm West); Pennecon (Quartz Creek Bridge); Dawson Civil (Chase West); CIF (Chase East)
Engineer: Wood E&I (WSP) (consulting engineer/geotechnical studies)
Other Key Players: Golder-a WSP company (geotechnical and environmental services); Englobe (pavement engineering services, QA, QV); WSP (owner's engineer/construction supervision services); McElhanney (design and planning services); Hanscomb (cost consultant); EY (mgmt. consultant); Charter PDI
Funding: P3
Federal: \$505 million
Provincial: \$1.2 billion
Substantial Completion: 2026

48

RAIL
SmartTrack Stations Program
\$1.7 BILLION

▶ The SmartTrack Stations Program will improve transportation choice within Toronto by leveraging existing transit infrastructure to serve more people. Combined with Metrolinx's GO Expansion Program, the SmartTrack Stations Program will transform heavy rail infrastructure in Toronto from a regional commuter service into an urban rapid transit network. The SmartTrack Stations Program, funded by the City of Toronto (including Federal funding from the Investing in Canada Infrastructure Program) and the Province of Ontario, will see five stations constructed at Finch-Kennedy, East Harbour, King-Liberty, Bloor-Lansdowne, and St. Clair-Old Weston. The SmartTrack Stations program will expand transit access for Toronto residents travelling within and beyond the city. The Design-Build contract for Bloor-Lansdowne

2023 Rank: 48
Location: Toronto, Ont.
Owner: City of Toronto/Province of Ontario
Delivery Partner: Metrolinx
Construction Manager and Contractor: Graham (St. Clair/Old Weston Station); JV-Ledcor & Dragados Canada (Finch-Kennedy Station)
Engineer (Planning & Design): Hatch; Parsons (consulting)
Other Key Players: Turner & Townsend (cost management); Matrix Solutions Inc. (environmental specialists); Hanscomb (cost consultant)
Funding: Public
Substantial Completion: 2030

was awarded in summer 2023 and construction contracts for the St. Clair-Old Weston, Finch-Kennedy, King-Liberty and East Harbor Stations are expected to be awarded by summer 2024. ■

49

SUBWAY

Réno-Systèmes and Réno-Infrastructures Programs

\$1.66 BILLION

► The STM has implemented three programs for asset maintenance and development of the metro network. The Réno-Systèmes program's objective is to replace and refurbish the metro's fixed equipment that has reached or exceeded its lifecycle. The Réno-Infrastructures program was set up to intervene preventively on all infrastructures. The Metro Accessibility program is directly devoted to the development of the level of service and improving the customer experience in terms of universal accessi-

2023 Rank: 42

Location: Montreal, Que.

Owner: Société de transport de Montréal (STM)

Engineer: STM, Consortium: AtkinsRéalis-Stantec; WSP-Systra JV

Other Key Players: Bairn Architecture et Design; CIMA+; Englobe (quality management services)

Funding: Public

Substantial Completion: 2026

bility by integrating elevators into stations that already exist and are in operation, as well as the integration of new pieces of art in those stations. ■

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PUBLIC SPACES

Place du Portage III Renewal

\$1.6 BILLION

► The Portage III complex, currently serving as Public Services and Procurement Canada's headquarters, is the largest of the four buildings that comprise the Place du Portage federal campus in Gatineau, Que. Built in the 1970s, the complex consists of: nine towers; commercial areas; four basement levels; and a three-level underground parking garage. The renewal of Portage III encompasses a complete overhaul of both the inside and outside of the building, including modernized activity-based workplaces; a new energy-efficient building envelope and heating; (HVAC) system; a new accessible entrance and a completely revamped main entrance; and improved landscaping. ■



2023 Rank: 62

Location: Gatineau, Que.

Owner: Government of Canada

Project/Construction Manager: BGIS

Other Key Players: Perkins & Will, Provencher, EllisDon Corporation; Arup; Tiree (project management support services)

Funding: Public

Substantial Completion: 2027

51

PUBLIC SPACES

Macdonald Block Reconstruction Project

\$1.536 BILLION



2023 Rank: 44

Location: Toronto, Ont.

Owner: Ontario Ministry of Public and Business Delivery Services

Project/Construction Manager: Infrastructure Ontario

DBFM Team: Fengate PCL Progress Partners (FP3)

Developers: Fengate Asset Management and PCL Investments Canada Inc.

Design-Builder: PCL Constructors Canada Inc.

Design Architect: WZMH Architects

Facilities Management: Johnson Controls Canada

Financial Advisor: National Bank Financial

Engineer: TMP (mechanical); LEA Consulting (engineer-consulting & structural)

Other Key Players: Aon (risk advisor); Hanscomb; E.S. Fox; Morrison Hershfield; Entuitive; EY (management consultant); Comtech (project management consultant); WSP (independent certifier); Turner & Townsend (cost control/management); Mulvey & Banani; HKA (management consultant)

Funding: P3

Substantial Completion: 2024

► The Macdonald Block Complex is the hub for administrative services for the Government of Ontario. The complex consists of five buildings, including four office towers, with a total of approximately \$1.7 million square feet. Each building in the complex will be taken back to its original building core, remediated, and rebuilt using modern technologies,

systems and materials while preserving the integrity of its many heritage features. The newly reconstructed complex will meet current building, health, safety, and accessibility standards and will accommodate more employees through more efficient use of this government-owned office space. ■

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SUBWAY

Bloor-Yonge Station Capacity Improvements
\$1.5 BILLION

► Bloor-Yonge Station will be undergoing a design retrofit and significant expansion to meet both current and future ridership demand. The Bloor-Yonge Station project includes the construction of a new Line 2 passenger platform and the expansion of both Line 1 passenger platforms, enhancements to the concourse level, entrances, exits and improved accessibility features. Advanced construction started in May 2023, and includes the removal of the buildings at 81 Bloor Street East and 40 and 42 Hayden Street to construct a new, accessible subway entrance as a part of the larger project. ■

2023 Rank: 45

Location: Toronto, Ont.

Owner: Toronto Transit Commission

Owner's Engineer: AECOM

Other Key Players: AECOM (preliminary design and early works); Golder-a WSP company (geotechnical studies); WSP; CIMA+

Funding: Public

Federal: \$500 million

Provincial: \$449 million

Municipal: \$564 million

Substantial Completion: 2029

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HEALTHCARE

Royal Columbian Hospital Redevelopment Project
\$1.49 BILLION

► The Royal Columbian Hospital redevelopment is a three-phase, multi-year project that will increase the hospital's capacity by approximately 50 per cent, introduce advanced medical technologies and improve the health care environment for staff and patients. Phase 1's Mental Health and Substance Use Wellness Centre opened in August 2020. Phase 2, now under construction, will create the new Jim Pattison Acute Care Tower with more beds, a larger Emergency Department and more operating rooms. Phase 2 is expected to be complete in 2025. Phase 3 will upgrade and expand areas in existing buildings to support the beds and services in the new acute care tower. Phase 3 construction is expected to begin in 2024. ■



2023 Rank: 47

Location: New Westminster, B.C.

Owner: Fraser Health Authority

Design-Build Team: EllisDon Design Build Inc.

Architects: Parkin Architects Ltd.; HDR; Arcadis-IBI Group

Other Key Players: WSP (owner's technical advisor); EY (management consultant); Victaulic (supplier); GeoVerra (quality control); ULMA Construction

Funding: Public

Substantial Completion: 2025

54

HEALTHCARE

Cowichan Hospital Redevelopment
\$1.45 BILLION



► The Project consists of a replacement community-level acute care hospital, with capacity for 204 inpatient beds, built to modern clinical and technical standards on a greenfield site in the Municipality of North Cowichan. The facility will provide patient care and programs to address future service needs for the region while including the following: total building area of approximately 56,448 square metres; capacity for core inpatient and ambulatory services, including seven operating rooms, and additional procedure rooms and outpatient/ambulatory clinic

2023 Rank: 69

Location: Municipality of North Cowichan, B.C.

Owner: Island Health

Alliance Team: EllisDon, Parkin Architects, BC Infrastructure Benefits and Infrastructure BC

Other Key Players: Entuitive, WSP; Bird Construction; Hanscomb (cost consultant); Mulvey & Banani; Victaulic (supplier); EY (management consultant)

Legal: Borden Ladner Gervais (legal advisor-designers); Norton Rose Fulbright (owner's advisor)

Funding: Public

Substantial Completion: 2026

capacity, expanded diagnostic imaging, and expanded emergency department capacity.

EllisDon Corporation and Parkin Architects Western Ltd, were awarded the contract to design and construct the hospital after a competitive process in which multiple proponents submitted bids and designs under an Alliance project delivery model. Under this delivery model, the project owner (Island Health and the Province of BC) and the private sector share risks and opportunities, operating as a fully integrated team to complete the project. ■

55

WATER/WASTEWATER

Port Lands Flood Protection and Enabling Infrastructure

\$1.42 BILLION**2023 Rank:** 55**Location:** Toronto, Ont.**Owner:** City of Toronto**Project Manager:** Waterfront Toronto; City of Toronto**Construction Manager:** EllisDon**Contractor:** Colliers Project Leaders; Arcadis-IBI Group; HDR; INTECH; Altus; Geosyntec; Stantec; Entuitive; Grimshaw; Dillon; Graham Construction**Engineer:** Wood E&I (WSP) (consulting/environmental/geotechnical studies); Cherubini Metal Works Ltd.; DTAH; Planmac; Jacobs; LEA Consulting (engineer-consulting)**Architect:** Michael Van Valkenburgh Associates Inc. (Port Lands Estuary Plan)**Environmental Services:** Interfluv; GHD; GFL; Englobe; Geo-Solutions; EXP**Other Key Players:** SBP; Golder-a WSP company (geotechnical services/roads & municipal infrastructure); E.S. Fox; A.W. Hooker Associates Ltd.; Hanscomb; HRI (heritage contractor); Earth Boring Co. Ltd.; Priestly Demolition Inc.; Comtech (risk advisor); R.V. Anderson Associates Ltd.; Mulvey & Banani; Matrix Solutions Inc. (environmental specialists); Terrapex (consulting engineer)**Supplier:** DECAST**Legal:** Borden Ladner Gervais (Waterfront Toronto)**Funding:** Public**Substantial Completion:** 2024

► The Port Lands Flood Protection and Enabling Infrastructure project is the redevelopment of one of the largest portions of under-developed land in a major urban core in North America. Located along the shore of Lake Ontario southeast of Toronto's downtown core, the project will include substantial soil remediation, a new mouth for the Don River, and critical infrastructure for flood resilience to unlock the 325-hectare site for residential and commercial development. ■

NEW

56

MILITARY

Dwyer Hill Training Centre

\$1.4 BILLION

► The Department of National Defence is investing in a \$1.4 billion (taxes included), 10-year infrastructure project to upgrade facilities at the Dwyer Hill Training Centre (DHTC) in Ottawa. This investment will provide the Canadian Special Operations Forces Command (CANSOFCOM) with the modern infrastructure needed to support their training and operations.

This project will provide more than 100,000 m² of purpose-built space to meet CANSOFCOM's long-term growth, training, and high-readiness operational needs. Work includes replacing 89 aging and temporary structures with 23 new facilities; renovating seven buildings; and upgrading the site's utilities. Construction began in May 2023. Foundations for new buildings and concrete work will start in 2024. Most of the building demolition work will occur between 2028 and 2032, while the construction of major buildings will be completed between 2026 and 2033. ■

**Location:** Ottawa, Ont.**Project Owner and Project Manager:** Department of National Defence**Architect/Engineer:** GRC Cohos in Joint Venture**Construction Manager:** EllisDon Corporation**Contract Management:** Defence Construction Canada**Project Management Services:** Colliers Project Leaders**Other Key Players:** Hanscomb (cost consultant)**Funding:** Public**Substantial Completion:** 2034

57

BRIDGE
**Pattullo Bridge
 Replacement Project**
\$1.38 BILLION

► In February of 2018, the Government of British Columbia announced its plans to replace the Pattullo Bridge, a key crossing between Surrey and New Westminster. The new four lane crossing is being built to modern safety standards and features wider lanes to better accommodate passenger and commercial vehicles, a centre median barrier, dedicated multi-use pathways for walking and cycling that are separated from traffic on both sides of the bridge and is designed to accommodate potential future expansion to six lanes. The new bridge will be located just upstream and northeast of the existing bridge and will include new on and off ramps to connect the new bridge with the existing road network. Major construction is underway. In-river, construction is underway on the bridge tower, and work is also underway to build the second in-river foundation. In New Westminster and Surrey, bridge foundation construction, utility relocations and roadworks are underway. ■



2023 Rank: 52

Location: New Westminster and Surrey, B.C.

Owner: Province of British Columbia (The Transportation Investment Corporation is leading the delivery of the project on behalf of the Ministry of Transportation and Infrastructure)

Owner's Team: TI Corp., Charter PDI, WSP, R.F. Binnie, Northwest Hydraulic Consultants, Tetra Tech, TYLin, Archer CRM

Contractor's Design Team: Leonhardt, Andrä and Partner (LAP), EXP, Thurber Engineering, GNEC, VIA Architecture, Hatch

Design-Build Contractor: Fraser Crossing Constructors General Partnership—Acciona Infrastructure Canada Inc. and Aecon Constructors

DBF Team: Fraser Crossing Partners

Engineer: Parsons (Owner's Engineer); Hatch; Tetra Tech (environmental); WSP (owner's engineer/technical advisor/field services); COWI

Other Key Players: Golder-a WSP company (geotechnical studies); Morrison Hershfield (engineering services); Wood E&I (WSP) (materials tester); Deloitte (commercial advisor); Hemmera; Hanscomb (cost consultant); McElhanney, G. Ho Engineering Consultants (road safety audits); Entuitive; GeoVerra (quality control); Kontur (materials testing)

Legal: Borden Ladner Gervais; McMillan LLP (for the lender); ULMA Construction

Funding: Public

Substantial Completion: 2024 (new bridge); 2026 (demolition of old bridge)

58

REMEDIATION
**Port Hope
 Area Initiative**
\$1.3 BILLION

► The Port Hope Area Initiative (PHAI) is a federal environmental clean-up program. Its mandate is the remediation and local, long-term, safe management of approximately \$1.7 million cubic metres of historic low-level radioactive waste in the municipalities of Port Hope and Clarington in southern Ontario. The historic waste resulted from the radium and uranium refining operations of the former Crown corporation, Eldorado Nuclear Limited, and its private sector predecessors, which operated until 1988.

The PHAI has two projects: the Port Hope Project and the Port Granby Project.

The Port Hope Project involves the construction of an engineered above ground mound and supporting infrastructure for the safe, long-term management of approximately \$1.2 million cubic metres of historic low-level radioactive waste, cleanup of the waste from various major sites and small-scale sites in Port Hope and transportation of the waste to a new long-term waste management facility (LWTF) currently under construction. After the facility is capped and closed, anticipated to be in 2025, ongoing maintenance and monitoring will continue for many years. ■

2023 Rank: 53

Location: Port Hope and Clarington, Ont.

Owner: Atomic Energy Canada Ltd., Natural Resources Canada

Project/Construction Manager: Canadian Nuclear Laboratories

Contractor: Wood-CB&I Joint Venture; ECC/Quantum Murray Limited Partnership; Wood E&I (WSP); Maple Reinders; Kenaidan Contracting Ltd.; Northwind Portage; Milestone Environmental; WSP; Graham

Engineer: GHD/MMM Joint Venture; AECOM; WSP; Wood E&I (WSP) (consulting/design/environmental)

Environmental Services: Golder-a WSP company (contamination investigation/remediation; Phase I ESA; geotechnical services); Arcadis-IBI Group; Dillon Consulting; EXP (environmental consulting); Wood E&I (WSP) (geotechnical studies)

Other Key Players: Hanscomb (owner's preliminary design stage cost consultant and special advisor); Tetra Tech; AtkinsRéalis; E.S. Fox; Colliers Project Leaders; CIMA+; Aon (risk advisor); Bird Construction

Financiers/Banks: Natural Resources Canada

Legal: Osler; Torys (acted for the lender)

Funding: Public

• Federal: Atomic Energy of Canada Ltd.: \$1.28 billion

Substantial Completion: Port Hope Project—2025

59

SOCIAL INFRASTRUCTURE Thunder Bay Correctional Complex \$1.2 BILLION

► Infrastructure Ontario is working with the Ministry of the Solicitor General to deliver a new Thunder Bay Correctional Complex, to replace the city's existing jail and correctional centre.

The project will result in development of a 345 bed, multi-purpose correctional facility. This project supports the ministry's strategy of replacing aging institutions to address health, safety and security issues, including efficiencies of design, technology and space. It will improve access to programming, living conditions and education, while also updating automation and technology. The correctional complex will be designed to meet the Leadership in Energy and Environmental Design (LEED) Silver certification. ■



2023 Rank: 57

Location: Thunder Bay, Ont.

Owner: Ontario Ministry of the Solicitor General

Procurement/Project Manager: Infrastructure Ontario

DBFM Team: EllisDon Infrastructure

Developer: EllisDon Capital Inc.

Design-Builder: EllisDon Corporation

Design Team: Zeidler Architecture Inc., DLR Group Inc.; NORR Architects & Engineers

Facilities Management: EllisDon Facilities Services Inc.

Financial Advisor: EllisDon Capital Inc.

Other Key Players: E.S. Fox; A.W. Hooker Associates Ltd. (cost consultant); Engineering Harmonics (AV planning, design and conformance consultant for Infrastructure Ontario); EXP (structural engineer); Hanscomb (cost consultant); Mulvey & Banani; Bird Construction; EY (risk advisor)

Legal: Stikeman Elliott LLP

Funding: P3

Substantial Completion: 2026

60

MILITARY CFB Esquimalt A/B Jetty Recapitalization Project \$1.1 BILLION

► The aim of the A/B Jetty project is to demolish and replace the old A and B jetties at CFB Esquimalt's Dockyard, which were constructed during World War II. The A/B Jetty project supports Canada's National Shipbuilding Procurement Strategy, which is delivering modern ships to the Royal Canadian Navy over the next 30 years. The new fully integrated A/B Jetty facility will be home to several of these Canadian-built vessels, including the new Arctic/Offshore Patrol Ship and Joint Support Ship, and in due course the future Canadian Surface Combatant ships. The implementation of this \$1.1 billion project has been advancing steadily over the past decade and it currently



2023 Rank: 58

Location: Esquimalt, B.C.

Owner/Project Manager: Department of National Defence

Contractor: Pomerleau (B Jetty construction)

Project Contract Management: Defence Construction Canada

Engineer: Statec (design authority for B Jetty); Wood E&I (WSP) (design authority for A Jetty)

Other Key Players: Hanscomb (design engineer's cost consultant for A Jetty); Advicas (design engineer's cost consultant for B Jetty); Golder-a WSP company (geotechnical studies/environmental engineering); Anchor QAE (environmental advisor); Hemmera (environmental); HDR (risk advisor); WSP (commissioning agent); Ruskin/CDI, RIC Power, Trotter & Morton, Black & McDonald (subcontractors to Pomerleau); Englobe; EY (management consultant); McElhanney; GeoVerra (site surveyor); Turner & Townsend (cost consultant)

Funding: Public

Substantial Completion: (B Jetty) 2024 (A Jetty) 2029

involves three primary contracts: one for the design and engineering work of the new B Jetty, one for the design and engineering work of the new A Jetty and one for the construction of new jetty facilities. ■

61

NEW LRT Capital Line LRT \$1.1 BILLION

► Phase 1 of the Capital Line South LRT project is a 4.5 km extension from Century Park Station to just north of Ellerslie Road. Phase 1 includes: an underpass at 23 Avenue and 111 Street; bridges crossing Blackmud Creek and Anthony Henday Drive; an operations and maintenance facility; two LRT stations (Twin Brooks station and Heritage Valley North station); and light rail vehicles.

In 2022, EllisDon, the early works construction manager, began work to prepare the alignment for major construction to start in 2024. Early works construction includes: utility relocations, construction of a lift station at 23 Avenue and 111 Street, median removals at key intersections, and necessary tree removals.

Location: Edmonton, Alta.

Owner: City of Edmonton

Early Works Construction Manager: EllisDon

Owner's Engineer: Capital Line Partners (Associated Engineering; Stantec Egis; SMA; Stewart Group; EY; GEC; McElhanney Consulting; Wood E&I (WSP); CIMA+)

Other Key Players: Aon (risk advisor); EY (management consultant); Entuitive

Funding: Public

· Federal: \$418 million

· Provincial: \$324 million

· Municipal: \$343 million

Substantial Completion: 2029

In March 2023, a key milestone was achieved as the project team issued the RFP to the two qualified shortlisted bidders. The selection of the Design-Build contractor is anticipated in early 2024. ■

62

HIGHWAY

**Yellowhead Trail
Freeway Conversion Project**
\$1 BILLION

▶ The Yellowhead Trail Freeway Conversion involves converting the existing corridor from an expressway with signalized intersections to a free-flowing freeway with grade-separated interchanges. The upgrade will eliminate eight intersections, build two new interchanges, modify three existing intersections, and build new collector roads. Construction on the project continued in 2023, including: Fort Road Widening (Yellowhead Trail to 66 Street); continuing work on the 156 Street to St. Albert Trail project; and early construction activities on the St. Albert Trail to 97 Street project. This year, work on the Fort Road Widening project focused on completing the Canadian National Rail (CN) bridge over Fort Road and removing the temporary bridge detours.



2023 Rank: 60

Location: Edmonton, Alta.

Owner: City of Edmonton

Contractor: Standard General Inc., Lafarge Canada Inc., PCL Construction Management Inc.; Graham Construction

Consultants: AECOM (owner's engineer), WSP, Stantec, CIMA+; ISL Engineering and Land Services Ltd; Al-Terra Engineering Ltd.; WSP (design and construction administration)

Other Key Players: Wood E&I (WSP) (environmental engineering); Arcadis-IBI Group (design); McElhanney (site surveyor); Parsons (consulting engineer)

Funding: Public

• Federal: \$24\$1.6 million

• Provincial: \$24\$1.6 million

• Municipal: \$516.8 million

Substantial Completion: 2027

Construction along the St. Albert Trail to 97 Street project includes building demolition, installation of underground infrastructure and construction of a detour road around the future 127 Street interchange. ■

CITY OF EDMONTON

63

PUBLIC SPACES

**West Memorial Building
Rehabilitation Project**
\$1 BILLION

▶ The Government of Canada is undertaking a comprehensive rehabilitation to modernize and conserve the West Memorial Building, built in 1958 as a tribute to the men and women who lost their lives in WWII and to honour Veterans' legacies for years to come. The work will not only conserve this important tribute, but also make it more efficient, greener, safer and more accessible for occupants and visitors.

When completed, the West Memorial Building will host the occupants, visitors, and functions of the Supreme Court of Canada Building while it undergoes its own rehabilitation. ■



2023 Rank: 63

Location: Ottawa, Ont.

Owner: Government of Canada

Project/Construction Manager: EllisDon Corporation

Design & Architectural Services: Moriyama & Teshima Architects, Kasian Architecture Interior Design and Planning Ltd.

Consulting Engineer: Morrison Hershfield

Other Key Players: Ttree (project management support services); Turner & Townsend (cost consultant)

Funding: Public

Substantial Completion: 2025

project includes construction of a new patient tower and renovations to some existing spaces at Queensway Health Centre. ■

MTA

64

HEALTHCARE

**Trillium Health Partners—The Gilgan
Family Queensway Health Centre**
\$1 BILLION

▶ Trillium Health Partners is the largest community-based hospital network in Canada. This historic, multi-billion-dollar project is a key part of Ontario's plan to build a stronger, more resilient health care system and Trillium Health Partners' plan to create a new kind of health care that serves the growing and diverse communities in Mississauga and Etobicoke. Over the next 20 years, the demand for health care services offered by Trillium Health Partners is expected to increase by nearly seven times more than the average hospital in Ontario. In anticipation of this growth, the

Location: Etobicoke, Ont.

Owner: Trillium Health Partners

Procurement Manager: Infrastructure Ontario

Consultants: Stantec Architecture Limited (Prime Consulting Services); Colliers Project Leaders (Procurement Services); HH Angus (ICAT Systems Consultant)

Other Key Players: Comtech (project manager); Hanscomb (cost consultant)

Legal: Gowlings: Borden Ladner Gervais (for the owner)

Funding: P3

Substantial Completion: TBD

65

RAIL

GO Kitchener Extension \$959 MILLION

**2023 Rank:** 64**Location:** Kitchener-Waterloo, Guelph, Halton Hills, Brampton, Mississauga, and Toronto, Ont.**Owner:** Metrolinx**Engineer:** Gannett Fleming, AECOM (Toronto to Kitchener); Hatch; LEA Consulting, Parsons (consulting); WSP (design/construction oversight)**Other Key Players:** Canadian National Railway Company; Bird Construction; CIMA+; R.V. Anderson Associates Ltd.; Turner & Townsend (project controls); Comtech (project manager); Morrison Hershfield**Legal:** Borden Ladner Gervais (for the owner)**Funding:** Public**Substantial Completion:** TBD

► The Kitchener GO extension will enhance train service over its outermost segment to offer a versatile regional travel option that runs outside rush hour. Today, the Kitchener Line between Kitchener and Georgetown GO consists of a single active track, where GO trains share space with freight traffic. To enable two-way, all-day service on the Kitchener Line from Union Station to Kitchener GO, improvements will be made along the rail corridor and to some existing stations on the Kitchener

Line. The Kitchener Extension project will be completed in phases to deliver the required infrastructure. Some of the work entails: track work including storage tracks and passing tracks; bridge work; additional station platforms. The first construction package commenced in May 2022. Additional GO service will be introduced incrementally as construction advances, and as key segments of work are completed. ■

66

PORT

Port of Montreal Contrecoeur Terminal \$950 MILLION

**2023 Rank:** 66**Location:** Contrecoeur, Que.**Owner:** Montreal Port Authority (MPA)**Other Key Players:** ARUP (preliminary engineering); Dentons (legal services); WSP (advisory services); CIMA+; PwC (commercial support); Hatch; AGAT Labs**Funding:** Private

• Federal: \$450 million

(financing from Transport Canada and loan from Canada Infrastructure Bank)

• Provincial: \$130 million (subsidy)

Substantial Completion: TBD

► With the support of Canada Infrastructure Bank and private partners, the Port of Montreal intends to develop a new state-of-the-art container terminal. The greenfield terminal will be fully connected to the regional transportation hub, including a Class 1 railroad and highway connections. After receiving a favourable decision statement to proceed with this expansion, the project is moving forward through a hybrid approach: a collaborative Design-Build process for the water works, under MPA management, and a DBFOM (Design-Build-Finance-Operate-Maintain) contract to a Private Partner for the land site works and terminal operation through a Request for Proposals to be issued in early 2024. ■

67

REMEDIATION

**Giant Mine
Remediation Project
\$934 MILLION**

Between 1948 and 2004, operations at the Giant Mine site grew to encompass roughly 900 hectares, including several ponds and small lakes. In 1999, the former operator entered receivership and the Government of Canada, and the Government of Northwest Territories became responsible for the site. Mining operations continued until 2004. Several environmental and site remediation needs were identified. This included cleaning up the 237,000 tonnes of arsenic trioxide dust left behind in underground chambers and 16 million tonnes of tailings, open pits, debris, and site infrastructure.

Today, the project's goals are to: minimize public health and safety risks; minimize the release of contaminants from the site to the surrounding environment; remediate the site in a manner that instills public confidence; and implement a remediation approach that is cost-effective and robust.

2023 Rank: 67

Location: Yellowknife, N.W.T.

Owner: The Government of Canada (led by Crown-Indigenous Relations and Northern Affairs Canada with support from Public Service and Procurement Canada) and the Government of the Northwest Territories (led by the Department of Environment and Natural Resources).

Construction Manager: Parsons Inc.

Design Engineer: AECOM; Golder-a WSP company (multi-disciplinary consulting services/general and civil design)

Environmental Services: Dillon Consulting; SLR; Blumetric

Other Key Players: SRK Consulting; Wood E&I (WSP) (consulting engineer/risk advisor); Hatch; KPMG (commercial advisor); SRK Consulting; Arcadis-IBI Group; Tiree/Colliers Project Leaders (management consultant); McElhannay; Englobe; Stratos; Turner & Townsend (cost consultant)

Funding: Public

· Federal: \$903.5 million

Substantial Completion: 2025 to 2038

NEW

68

HYDROELECTRIC

**John Hart Dam Seismic
Upgrade Project
\$923 MILLION**

Built in the 1940s, the John Hart Dam is about 32 metres tall and more than 800 metres long. The project work will include upgrades to the earthfill and concrete sections of the dam; creating an overflow spillway under the road deck near the spillway; and replacing the three spillway gates and related works. In the fall of 2023 concrete work on a spillway section of the dam, as well as on a water seepage barrier. A narrow trench will be excavated, about 20 metres deep and concrete panels will be placed within the hollow to act as an additional water seepage barrier.



Project Owner: BC Hydro

Project Location: Campbell River, B.C.

Civil Work Contract (Phase 1): Aecon-EBC General Partnership (AEGP)

Consulting Engineer: AECOM

Other Key Players: EY (risk advisor); GeoVerra (site surveyor)

Legal: Borden Ladner Gervais

Other Key Players: Hatch

Substantial Completion: 2030

BC HYDRO

NEW

69

TRANSMISSION

**Oneida Energy
Storage Project
\$900 MILLION**

Oneida Energy Storage Limited Partnership (Oneida LP) executed an agreement with the Independent Electricity System Operator (IESO) for the Oneida Energy Storage Project to deliver a 250 megawatt / 1,000 megawatt-hour energy storage facility. The project is the largest of its kind in Canada and amongst the largest in the world. It will provide a gigawatt-hour of much needed capacity to the Ontario grid, while prioritizing local Indigenous partnerships and environmental benefits. The scope



Location: Nanticoke, Ont.

Owner: Oneida LP (Consortium: Northland Power; Six Nations of the Grand River Development Corporation; NRStor; Aecon Concessions)

Engineering, Procurement and Construction (EPC) contract: Aecon

Battery Supplier: Tesla

Legal: Borden Ladner Gervais (Northland Power)

Funding: Private/Public

· Canada Infrastructure Bank: \$535 million

· Natural Resources Canada: \$50 million

Substantial Completion: 2025

of work includes designing the facility, procuring balance of plant facility equipment, installing equipment foundations, electrical houses, battery transformers, switch gears and underground cabling, as well as constructing a high voltage substation, and commissioning and startup activities. Construction is expected to commence in the second quarter of 2023, with anticipated completion in 2025.

AECON

70

HIGHWAY

**Autoroute 19
Extension
\$899 MILLION**

► The project is located between boulevard Saint-Martin Est, in Laval, and boulevard Industriel, in Bois-des-Filion. It will be developed along the current axis of route 335 and will extend over 11.8 kilometres. A dual carriageway urban freeway with three lanes in each direction, including dedicated transit lanes, will be constructed.

The project includes: construction of four new interchanges; redevelopment of the autoroute 640 and route 335 interchange; construction of a new bridge located east of the Athanase-David bridge; repair of the current Athanase-David bridge; redevelopment and extension of the multipurpose path for pedestrians, cyclists, and off-road vehicle users; reconfiguration of the service roads at near autoroute 440 and autoroute 19; and development of a bus terminal and park-and-ride facility. ■

**2023 Rank:** 68**Location:** Laval, Que.**Owner and Project Management:** Ministère des Transports et de la Mobilité durable**Concepteur:** Consortium WSP/EXP**Project Management:** CIMA+/IGF axiom joint venture**Design:** WSP-EXP Consortium**Geotechnical Study:** GHD Consultants Ltée.**General Contractor:** Roxboro Excavation Inc., Loiselle Inc.**Work Monitoring:** Consortium Stantec/CIMA+/AtkinsRéalis**Quality Control:** Englobe Corp.**Project Management:** Coentreprise CIMA+ / IGF axiom**Funding:** Public**Substantial Completion:** 2027

71

HIGHWAY

**Route 185 Phase III
\$883 MILLION**

► This nearly 40-kilometre conversion to two-lane divided Highway is the final step in the conversion of Route 185 to Autoroute 85, also known as Autoroute Claude-Béchar. The final portion runs from Saint-Antonin to Saint-Louis-du-Ha!-Ha!, connecting Autoroute 20 at Notre-Dame-du-Portage to the New Brunswick border.

Work got underway in August 2019 and four of the seven sections have been commissioned. ■

**2023 Rank:** 70**Location:** Saint-Antonin, Quebec to the New Brunswick border**Owner:** Ministère des Transports et de la Mobilité durable**Other Key Players:** WSP (construction supervision services), Tetra Tech, AECOM (construction supervision); Englobe**Funding:** Public

• Federal: \$389.7 million

• Provincial: \$493.6 million

Substantial Completion: 2026

72

HEALTHCARE

**Richmond Hospital
Redevelopment
\$861 MILLION**

► The Richmond Hospital Redevelopment Project will be conducted over four phases between 2022 and 2031. It is currently in Phase one: Park Centre and Rotunda decant and demolition. This project includes a new nine-floor acute care tower – the Yurkovich Family Pavilion – that will add 113 new beds to the hospital bringing the total to 353 beds. This project will feature a state-of-the-art emergency department and intensive care unit, a fully equipped medical imaging department, a pharmacy and short-stay pediatrics unit to bring more services and better care for people in the growing Richmond community. The South Tower and the Milan Ilich Pavilion will also be renovated. ■

**2023 Rank:** 71**Location:** Richmond, B.C.**Owner:** Vancouver Coastal Health**Funding:** Public**Substantial Completion:** 2031

73

HIGHWAY
**West Calgary
Ring Road**
\$829 MILLION

▶ The 11-kilometre project is divided into three segments: the south one that connects with the Southwest Calgary Ring Road, the north one that meets the Trans-Canada Highway, and a new bridge across the Bow River. The north segment, running between Old Banff Coach Road and the Trans-Canada Highway, was constructed by EllisDon. The West Bow River Bridge twinning project will be built by Flatiron and Aecon and has been tendered at a cost of \$89 million.

The West Calgary Ring Road is expected to open fully to traffic in 2024. When complete, the entire Calgary Ring Road will provide travellers with 101 kilometres of free-flow freeway travel around the largest city in the province. ■



2023 Rank: 89
Location: Calgary, Alta.
Owner: Alberta Transportation and Economic Corridors
Design-Build (North Section): EllisDon
Design-Build (South Section): Calgary Safelink Partners—Carmacks Enterprises Ltd., Graham Infrastructure LP, VINCI Infrastructure Canada Ltd.
West Bow River Bridge Twinning: Flatiron/Aecon Joint Venture
Design-Build (North & South Sections): Associated Engineering (Owner's Engineer)
West Bow River Bridge Twinning: Stantec Consulting (Owner's Engineer, Design)
Engineer: Hatch (lead); Wood E&I (WSP) (consulting/geotechnical studies); Tetra Tech (design); Parsons (consulting); AECOM (design); McElhanney
Other Key Players: Deloitte (financial advisor); Burns & McDonnell (electric utility relocations); CIMA+; Parsons; Englobe; Morrison Hershfield (quality control)
Legal: Borden Ladner Gervais
Funding: Public
Substantial Completion: 2024

ATEC

74

PUBLIC SPACES
**Advanced Nuclear Materials
Research Centre**
\$800 MILLION

▶ The Advanced Nuclear Materials Research Centre (ANMRC) will be a state-of-the-art nuclear research facility that supports and expands CNL's research into clean energy and production capabilities, radioactive materials, advanced reactor fuels, existing fuels, nuclear medicine, environmental stewardship, and global security. The 10,000-square-metre ANMRC is expected to be critical to the life extension and long-term reliability of existing reactors, including Canada's fleet of CANDU reactors and other designs deployed around the world.

Construction of the new laboratory research complex is being managed via an integrated project delivery (IPD) agreement. ■



2023 Rank: 72
Location: Chalk River, Ont.
Owner: Atomic Energy Canada Limited
Project Manager: Canadian Nuclear Laboratories
IPD Team: Chandos Construction Inc., Bird Construction Inc., M. Sullivan & Son Limited, Eclipse Automation, JP2G Consultants, RJC Engineers, Merrick & Company, Modern Niagara, MSE, Plan Group and Siemens
Other Key Players: E.S. Fox; Comtech; LEA Consulting (engineer-planning & structural); AtkinsRéalis; Turner & Townsend (cost/risk/schedule management)
Funding: Public
Substantial Completion: 2028

CNL

75

COMMUNICATIONS
**Ontario Public Safety
Radio Network**
\$765 MILLION

▶ The project aims to renew a radio network used by 38,000 frontline and emergency responders over 750,000 square kilometres. The contract to build the system's land mobile radio network—which includes core infrastructure, support antennas, servers, and data centre equipment—was awarded to Bell Mobility Radio. It will also provide first responders, as well as their dispatchers, with new radio equipment and consoles and provide network and radio equipment maintenance services for 15 years. ■



2023 Rank: 73
Location: Province of Ontario
Owner: Government of Ontario
Project/Construction Manager: Bell Mobility
Other Key Players: Motorola Solutions Canada; Williams Communications; Cartel Communications, Inc.; Entuitive (risk advisor)
Funding: Public
Substantial Completion: 2026

76

NATURAL GAS

Great Plains Power Station

\$760 MILLION

► The Great Plains Power Station is the latest natural gas power plant being constructed in Saskatchewan, following the successful completion of the Chinook Power Station in 2019. The Great Plains Power Station is being constructed as a 350-Mega.watt combined cycle plant, very similar to specifications of the Chinook project. As of the fall of 2023, the project is now more than 90 per cent complete. Project work hours have exceeded 2 million, with ube oil and closed cooling water flushes in progress and the water treatment plant is operating. ■

2023 Rank: 74**Location:** Moose Jaw, Sask.**Owner:** SaskPower**EPC Contractor:** Burns & McDonnell**Other Key Players:** PCL Industrial; KMS

Construction Ltd.; Allan Construction; Soletanche Bacy Canada; Quorex Construction; Innovative Piling Solutions; Inland Concrete; Supreme Steel; Hatch; Victaulic (supplier); GeoVerra (site surveyor)

Funding: Public**Substantial Completion:** 2024

77

HYDROELECTRIC

Carillon Generating Station Refurbishment Project

\$750 MILLION

► Hydro-Québec will invest \$750 million to refurbish its Carillon generating station, mainly to replace six generating units. Carillon generating station is a run-of-river power plant consisting of 14 generating units with a total installed capacity of 753 MW. Built in the early 1960s, it is a key part of Hydro-Québec's hydroelectric generating fleet. The station is close to the greater Montréal area and feeds power into the grid during peak consumption periods. ■

2023 Rank: 76**Location:** Saint-André-d'Argenteuil, Que.**Owner:** Hydro-Québec**Engineer:** AECOM**Design:** WSP**Supplier:** Andritz (turbines)**Funding:** Public**Substantial Completion:** 2027

NEW

78

PORT

Ridley Island Export Logistics Project

\$750 MILLION

► The project will consist of a 108-acre greenfield development on Ridley Island that will commence operation in Q3 2026. Ray-Mont Logistics will develop and operate facilities that provide transloading service capacity for 400,000 TEUs (20-foot equivalent units) for agricultural, forestry, and plastic resin products. Ray-Mont currently operates a successful multi-product transload facility on a temporary Ridley Island location that has proven the export transload concept in Prince Rupert. The project will also include an expansion of the existing Ridley Island Road Rail Utility Corridor that will facilitate unit trains 10,000 feet in length. ■

Location: Prince Rupert, B.C.**Project Owner:** Prince Rupert Port Authority

Site Development Contract: Indigenous JV — Metlakatla First Nation, Lax Kw'alaams Band, Gitxaala Nation and IDL Projects Inc.

Funding: Public/Private

• Federal: \$64.8 million

• Provincial: \$25 million

• PRPA/Ray-Mont Logistics/CN: \$660.2 million

Substantial Completion: 2026

79

BRT

SRB Pie-IX BRT Integrated Project

\$744 MILLION

► The Pie-IX BRT is a leading, high-performance public transit project, integrating the rehabilitation of municipal infrastructures and the reconstruction of Pie-IX Boulevard. It is also a public transit infrastructure spread across 13 km, between Saint-Martin Boulevard in Laval and Notre-Dame East street, including 44 BRT bus shelters and bus priority lights in real time. The Pie-IX BRT service launched in November 2022, from Saint-Martin Boulevard in Laval to Pierre-De Coubertin Avenue in Montréal. The BRT shelters at Jean-Talon and Bélanger will be commissioned in late 2023, due to the ongoing construction work on the pedestrian tunnel from the Pie-IX BRT to the future Blue Line extension métro station. The Pierre-De Coubertin BRT shelters and the reserved lanes on the Pie-IX Bridge will also be ready in 2023, once the work at Pie-IX station has been completed. Also work has begun on the extension that has been announced between Pierre-De Coubertin Avenue and Notre-Dame Street East. ■

2023 Rank: 82**Location:** Montreal & Laval, Que.**Owner:** Autorité régionale de transport métropolitain (ARTM) / Ministère des Transports (MTQ) / City of Montréal**Delegated Manager:** Société de transport de Montréal (STM)**Contractors:** Pomerleau; EBC; MGB; G-Tek; Demix; Hudson Six; Roxboro; De Souza**Engineers:** AtkinsRéalis (consulting); WSP; AECOM; FNX Innov; CIMA+; Stantec; YRH; Intervia; IGF Axiom**Other Key Players:** WSP (pre-feasibility study); CIMA+; STL; City of Laval; SQI; RTM, EXO; CSEM; HQ; CN; EXP (cost consultant); HKA (management consultant)**Legal:** Borden Ladner Gervais**Funding:** Public

• ARTM & MTQ: \$442.5 million

• City of Montreal: \$21\$1.54 million

• STM: \$90 million (pedestrian tunnel)

Substantial Completion: 2027

80

WATER/WASTEWATER

Springbank Off-stream Reservoir \$744 MILLION

▶ When operational, the Springbank Off-stream Reservoir Project (SR1) will work in tandem with the Glenmore Reservoir and other flood mitigation infrastructure in and around Calgary. The SR1 Project includes: a diversion structure on the Elbow River; a 4.7-kilometre diversion channel; a 29-metre earthen dam stretching approximately 3.8 kilometres; and a series of hydraulic structures and two overpass bridges above the diversion channel, totalling 70,000 cubic metres of reinforced concrete. In total, earthwork volume for this project is estimated at around five million cubic metres. ■



2023 Rank: 97

Location: Calgary, Alta.

Owner: Alberta Transportation and Economic Corridors

Engineer: Stantec; Golder-a WSP company (environmental); Wood E&I (WSP) (consulting)

Contractor: VINCI Infrastructure Canada (general contractor)

Environmental Services: Stantec

Other Key Players: Graham (bridges and concrete structures); EY (risk advisor)

Legal: McLennan Ross (Counsel for the Government of Alberta); Osler (advisor to the Government of Alberta)

Funding: Public

Substantial Completion: 2025

ATEC

81

HIGHWAY

Route 389 Improvement Program \$738 MILLION

▶ Route 389 links the city of Baie-Comeau and the Newfoundland-Labrador border over 570 kilometres. The road was built in several steps by various contractors. It has a very uneven, winding profile that needs several corrections. The entire improvement program for route 389 between Fermont and Baie-Comeau chiefly aims to improve road safety for all users while promoting the development of northern Québec. ■



2023 Rank: 90

Location: Baie-Comeau, Que. to the Newfoundland-Labrador border

Owner: Ministère des Transports et de la Mobilité durable

Contractor: Dexter Québec (project A, section 3 and project C); cooperation agreement with the Innu Takuaiikan Uashat mak Mani-utenam Council (project A, sections 1 and 2) Groupe Alfred Boivin (project B)

Other Key Players: BPR/AXOR Experts-Conseils Consortium (planning and specifications north of Manic-5); Roche-TDA Consortium, in conjunction with Inspec-Sol (GHD) (Environmental assessment); WSP (route design work); AECOM (consulting engineer); Englobe/ AtkinsRéalis (quality control and materials engineering-project A, section 3); Norda Stelo/CIMA+/Tetra Tech (work monitoring-project A, section 3)

Funding: Public

• Federal: \$183 million

• Provincial: \$555.1 million

Substantial Completion: 2028

MTM

82

RAIL

Bowmanville Extension Project \$730 MILLION

▶ Building on the recommendations of the Bowmanville Expansion Initial Business Case (IBC) approved at the February 2020 Metrolinx Board meeting, the Preliminary Design Business Case confirms the feasibility of the alignment identified in the IBC, while examining two different weekend service options. The alignment proposes one new track plus sidings and passing tracks where necessary through Oshawa GO station connecting to CP's GM spur line to cross Highway 401, making an eventual connection through CP's Belleville Subdivision to Bowmanville. When service opens, the line will provide four morning trips along the line to Union Station in downtown Toronto, and four afternoon trips making all station stops to the new Bowmanville station. ■



2023 Rank: 81

Location: Bowmanville, Ont.

Owner: Metrolinx

Advance Infrastructure Planning Contract: Bowmanville Construction Partners (BCP)—Ledcor CMI Ltd. and Dragados Canada Inc.

Other Key Players: Wood E&I (WSP) (consulting engineer/geotechnical studies/environmental assessment), Stantec (technical advisory Services); Deloitte, Golder (geotechnical studies/environmental assessment), AECOM; Hatch (consulting engineer); Turner & Townsend (project controls)

Funding: Public

Substantial Completion: 2024

METROLINX

83

REMEDIATION

Faro Mine Remediation Project

\$700 MILLION

► Faro Mine is a former open-pit lead-zinc mine, one of the largest of its kind in the world at approximately 25 square kilometres. It is located in south-central Yukon on the traditional territory of the Kaska Nations, near the town of Faro. Abandoned in 1998, resource extraction led to 70 million tonnes of tailings and 320 million tonnes of waste rock. Care and maintenance work since then has helped to ensure water quality so that environmental standards are met.

In 2020, the construction of the North Fork Rose Creek re-alignment and associated contact water collection system was completed. In 2021 additional urgent works to collect contact water and increase water treatment capacity have been completed. Active remediation is expected to begin in 2025 following the successful completion of the Yukon environmental and socio-economic assessment process, and receipt of a water licence from the Yukon Water Board. Remediation is expected to take about 15 years to complete, followed by ongoing testing, maintenance operations and monitoring to make any needed improvements to the site. ■

2023 Rank: 79

Location: Faro, Yukon

Owner: Government of Canada

Construction and Care and Maintenance Manager: Parsons Inc.

Remediation Design Engineer: AECOM Canada Ltd.

Other Key Players: Ensero Solutions Canada Inc. (environmental monitor); CH2M Hill Canada Ltd. (water treatment plant designer), Tetra Tech Canada Inc., WSP (geotechnical services); Golder-a WSP company (environmental assessment/regulatory support services); Tiree/Colliers Project Leaders (performance management services and contaminated site project valuation); Victaulic (supplier); AGAT Labs

Funding: Public

Substantial Completion: 2039



PSPC

84

HEALTHCARE

Cape Breton Regional Hospital Expansion

\$700 MILLION

► The project—a major component of the CBRM Healthcare Redevelopment Project—a new Clinical Services Building that will house a new, larger emergency department, critical care department, more inpatient beds, surgical suites, maternal/new-born services, and a new cardiac catheterization lab, and a new Energy Centre. Site preparation began in 2020 with foundation work last year and the first structural steel going up in June 2022. Construction is underway on the Energy Centre and Cape Breton Cancer Centre. ■



2023 Rank: 80

Location: Sydney, N.S.

Owner: Nova Scotia Public Works

Construction Manager: Pomerleau Lindsay Health Care Partners

Other Key Players: Cannon Design; EXP, H.H. Angus; ERA Architects, Kazian (planning design & compliance services); A.W. Hooker Associates Ltd. (independent certifier); Aon (insurance advisor); Hanscomb (cost consultant); Colliers Project Leaders

Funding: Public

Substantial Completion: 2028

NSPW

NEW

85

HIGHWAY

Route 138

\$696 MILLION

► The purpose of the Route 138 extension project is to link the Basse-Côte-Nord communities together and with the rest of Québec. The work is carried out in an area featuring complex geographical, physical, and environmental conditions. Between Kegaska and Vieux-Fort, about 400 kilometres are not connected to route 138 and, consequently, to the rest of the province. ■



Location: Between Kegaska and Vieux-Fort, Que.

Owner: Ministère des Transports et de la Mobilité durable

Contractors: Tree clearing phases I and II: Unamen Shipu

Tree clearing Phase III: Gazon Savard

Construction Phase I: Unamen Shipu (Innu Meskanau)

Other Key Players: Groupe Mobilité Basse-Côte-Nord (Stantec and Tetra Tech); Englobe; Norda Stelo; FNX Innov/Tetra Tech

Funding: Public

Federal: \$184.8million

Provincial: \$510.7million

Substantial Completion: TBD

MTM

86

HIGHWAY

**Deerfoot Trail
Improvements
\$664 MILLION**

► Alberta Transportation and Economic Corridors (TEC) is undertaking improvements to Deerfoot Trail. Deerfoot Trail is Alberta's busiest freeway and sees over 180,000 vehicles per day in some sections. It is a critical component of Calgary's transportation network for both commuter travel and goods movement. Since Deerfoot Trail was initially constructed in the 1970s, Calgary's population has doubled, more people have access to vehicles, and traffic volumes have continued to increase. The improvements will add additional lanes along Deerfoot Trail as well as improve safety and reliability for drivers. This work supports Calgary's current traffic volumes and sets The City up for future population growth and projected traffic volumes. ■

Location: Calgary, Alta.

Owner: Alberta Transportation and Economic Corridors
North Program (\$69 million)—4 DBB contracts

Contractors: Aecon (Beddington Trail NW & 11 Street NE/McKnight Blvd. NE); LBCO Contracting Ltd. (64 Ave. NE); 16 Avenue NE (in procurement)

Other Key Players: Associated Engineering (consulting)
South Program (\$595 million)—1 DB contract

Contractor: Aecon Infrastructure Management (Ivor Strong Bridge/Anderson Rd. & Bow Bottom Trail/Southland Dr./Glenmore Trail); COWI

Other Key Players: PCL Construction Management; Volker Stevin Contracting Ltd.

Engineer: Associated Engineering (consulting); McElhanney (engineering); Dillon Consulting (planning); EY (risk advisor); Parsons

Legal: Norton Rose Fulbright (Volker Stevin)

Funding: Public

Substantial Completion: 2027

87

WATER/WASTEWATER

**Bonnybrook Wastewater
Treatment Plant D Expansion
\$655 MILLION**

► Bonnybrook Wastewater Treatment Plant is the largest of three wastewater treatment plants serving Calgary and area. Originally built in the 1930's, Bonnybrook is undergoing its most substantial upgrade to date. With an investment of more than \$1-billion dollars over the span of 10 years, it is expected that Bonnybrook will see its total treatment capacity increase to nearly 1.4 million citizens when completed in 2026.

At Plant D, the greatest number of projects were completed and commissioned including the installation of two new primary clarifiers and six additional secondary clarifiers. This project also entailed the construction of three secondary treatment bioreactors and retrofits and upgrades to existing solids handling digesters, and the UV disinfection facility. Lastly, as part of this Plant D upgrade, a new bio-gas handling storage facility was completed and commissioned. ■

2023 Rank: 85

Location: Calgary, Alta.

Owner: City of Calgary

Project/Construction Manager: Graham Construction

Project Team: Balzers Canada Inc. (Mechanical Contractor); The Vector Group (Electrical Contractor); InCom Electric Corp (Electrical Contractor); Standard General Inc. (Underground); Whissell Contracting Ltd. (Underground); KLS Earthworks & Environmental

Engineer: Stantec; Jacobs; AECOM; Wood E&I (WSP) (environmental)

Other Key Players: Hanscomb (owner's design stage cost consultant); Aon (owner advisor and construction insurance broker); WPC Water Solutions; AGAT Labs; Englobe; EXP; McElhanney; Victaulic (supplier); Hanscomb (cost consultant)

Legal: Blake, Cassels & Graydon (advised the City of Calgary)

Funding: Public

• Municipal: \$600 million

Substantial Completion: 2026

88

HEALTHCARE

**Mills Memorial Hospital
Replacement Project
\$633 MILLION**

► The new Mills Memorial Hospital is more than double the size of the current facility. This state-of-the-art facility was carefully designed to cater to the immediate and future healthcare needs of patients in Northwest BC. The hospital will offer trauma services, orthopedic surgeries, pathology, radiology, clinical support, and pharmacy services, as well as be a training ground for medical students in the Northern Medical Program. A new Seven Sisters mental health facility, almost double the size of the current facility, is also being constructed as part of the project. Along with an increase in bed capacity from 20 to 25, the new Seven Sisters will offer enhanced amenities. Both the new hospital and new Seven Sisters are set to open in 2024. Landscaping, parking and the demolition of the existing hospital will be the focus of the work in 2025 and 2026. ■



2023 Rank: 84

Location: Terrace, B.C.

Owner: Northern Health Authority

Design-Build: PCL Westcoast Constructors Inc.

Engineer: Morrison Hershfield (design/consulting/
P3 team member)

Architect: HDR Architects (subcontracted by PCL)

Other Key Players: WSP (owner's engineering
representative-mechanical & electrical);
McElhanney (quality control); Victaulic (supplier);
Colliers Project Leaders

Funding: Public

• Province of B.C.: \$512.4 million

• North West Regional Hospital District: \$120.2
million

Substantial Completion: 2026

NORTHERN HEALTH AUTHORITY

89

RAIL
GO Expansion
– Off-Corridor
\$619 MILLION

► The Off-Corridor Works package is one of the three packages of work through which the GO Rail Expansion program is being delivered. The Existing Stations Renovations project forms the majority of the Off-Corridor Works package and will involve improvements at existing multi-modal stations along the Lakeshore West, Milton, Barrie, Kitchener, Lakeshore East, Stouffville, and Richmond Hill GO Rail Corridors. The comprehensive goal of the Off-Corridor program is to improve multi-modal station access across GO Transit to support forecasted ridership growth, as well as provide more local service integration with subways, streetcars, LRTs, buses, etc. ■

2023 Rank: 86

Location: Greater Toronto-Hamilton Area, Ont.

Owner: Metrolinx

Concept Design: 4TRANSIT JV (Parsons, WSP & Hatch)

Other Key Players: Parsons (systems work); Golder-a WSP company (geotechnical services); Deloitte, Comtech (project management services); AECOM (engineer-technical); Wood E&I (WSP) (environmental engineer); Arcadis-IBI Group; LEA Consulting (engineer-consulting & structural); R.V. Anderson Associates Ltd.; Turner & Townsend (project controls); E.S. Fox; Morrison Hershfield (design services); AGAT Labs; A.W. Hooker (cost consultant)

Legal: Borden Ladner Gervais (for the owner); Dentons; Torsy

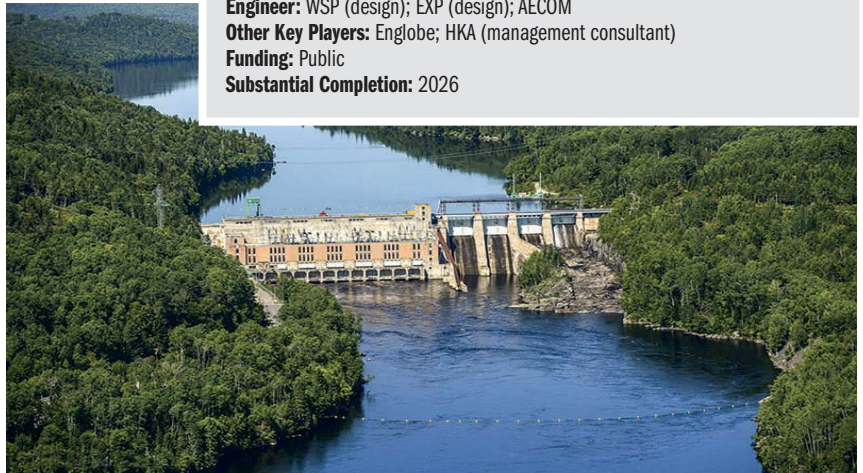
Funding: Public

Substantial Completion: 2025

90

HYDROELECTRIC
Rapide-Blanc Generating Station
Refurbishment Project
\$613 MILLION

► The Rapide-Blanc generation station is located on the Saint-Maurice River, 66 kilometres north of La Tuque, Québec. The station's initial construction began in 1930 and was completed in 1934. All of the six units will be replaced. Four of the existing turbines were installed in 1934, which means by the time the project is complete those units will have been in service for 90 years. The contract for the new units calls for a complete replacement of removable turbine and generator parts, the refurbishment of all embedded components and installation of digitally controlled governor units. The new units will also be more efficient and allow production of approximately 10 per cent more energy with the same amount of water. The components will be designed to last at least 70 years. The site work and assembly will begin in 2021 and, after commissioning, the contract is expected to be completed by the end of 2025. ■



2023 Rank: 87

Location: Rapide-Blanc, Que.

Owner: Hydro-Québec

Contractor: Voith (installation of new turbines, generators, and digital governors, as well as the refurbishment of embedded turbine components)

Engineer: WSP (design); EXP (design); AECOM

Other Key Players: Englobe; HKA (management consultant)

Funding: Public

Substantial Completion: 2026

91

WATER/WASTEWATER
Lake Manitoba and Lake St. Martin
Outlet Channels Project
\$600 MILLION

► In 2011, southern Manitoba experienced widespread flooding and Lake Manitoba experienced excessively high inflows through the Waterhen River, Whitemud River, and the Portage Diversion. Construction of the Lake Manitoba and Lake St. Martin Outlet Channels Project (Outlet Channels Project) will enhance flood protection to the surrounding area and help to strengthen Manitoba's existing network of flood mitigation infrastructure. The \$600 million flood protection Project consists of a 24.6 kilometre long channel from Lake Manitoba and a 23.6 kilometre long channel from Lake St. Martin. The Lake Manitoba outlet channel includes an inlet at Lake Manitoba and outlet at Lake St. Martin, a new water control structure with a bridge and three new bridge crossings over the outlet channel. The Lake St. Martin outlet channel includes an inlet at Lake

2023 Rank: 88

Location: Interlake, Man.

Owner: Government of Manitoba

Contractor: Multiple (TBD)

Engineer: Hatch; KGS Group; Tetra Tech

Environmental Services: Stantec; North/South Consultants Inc.; WSP Global Inc.; and Magellanicum Ecological Services

Other Key Players: Dillon Consulting (preliminary design and construction inspection services)

Funding: Public

• Federal: \$247.5 million

• Provincial: \$352.5 million

Substantial Completion: 2028

St. Martin and outlet at Lake Winnipeg, a new water control structure with a bridge, as well as the necessary Manitoba Hydro infrastructure to power the control structure. ■

NEW

92

HEALTHCARE

Dawson Creek and District Hospital Replacement Project
\$590 MILLION



► The Dawson Creek and District Hospital Replacement Project will result in a new state-of-the-art facility to address current and future health and patient care needs. The project will include the and construction of a new 24,400 ²m hospital with 70 inpatient acute beds (providing medical surgical, maternity, high acuity, and mental health services) two operating rooms, one minor procedure room, 15 emergency department treatment spaces, academic and teaching space, LEED Gold certification, and over 300 surface parking stalls plus landscaping.

Location: Dawson Creek, B.C.
Owner: Northern Health Authority
Design-Build: Graham Design Builders LP
Project Management Services: Colliers Project Leaders
Other Key Players: GeoVerra (early works); Entuitive
Supplier: Victaulic
Funding: Public
Provincial: \$413 million
Peace River Regional Hospital District: \$177 million
Substantial Completion: 2026

NORTHERN HEALTH AUTHORITY

93

PUBLIC SPACES

BMO Convention and Trade Centre Expansion Project
\$500 MILLION

► The 565,000-square-foot expansion will increase the BMO Centre's total floor space to over one million square feet, more than double the centre's existing capacity, transforming it into Western Canada's largest convention facility with more than 100,000 square feet of new exhibition space, 38 new meeting rooms, two new ballrooms and a central gathering space that will feature Canada's largest indoor fireplace. The Calgary Stampede and Calgary Municipal Land Corporation unveiled the design for the Tier 1 convention venue in 2020, and the project has made significant progress since, with the installation of 10,000 metric tonnes of steel that comprise the building's impressive structure.



2023 Rank: 91
Location: Calgary, Alta.
Owner: Calgary Stampede
Development Manager: Calgary Municipal Land Corporation
Construction Manager: PCL Construction
Engineer: Tetra Tech (design); Entuitive
Architect: Stantec, S2 Architecture; Populous (planning and design)
Other Key Players: M3 Development, Wood E&I (WSP) (materials tester); Colliers Project Leaders
Funding: Public
• Federal: \$166.6 million
• Provincial: \$166.6 million
• Municipal: \$166.6 million
Substantial Completion: 2024

94

BRT

GO Bus Infrastructure
\$500 MILLION



2023 Rank: 92
Location: Greater Toronto-Hamilton Area, Ont.
Owner: Metrolinx
Engineer: Hatch; LEA Consulting; EllisDon (consulting)
Other Key Players: Comtech (project mgmt. consultant); Wood E&I (WSP) (quality control); Turner & Townsend (cost management)
Funding: Public
Substantial Completion: 2025

► Metrolinx continues to invest in GO Bus Infrastructure throughout its GTHA network, including significant upgrades to several of its stations. The upgrades are complimentary to the work being done to expand rail service throughout the same corridor. As of mid-2021, more than 80 per cent of the project budget had already been spent (\$400 million).

METROLINX

95

HEALTHCARE

**Michael Garron
Hospital project**
\$498 MILLION

► The Michael Garron Hospital – Phase 1 New Patient Care Tower Project involves the construction of a new patient care tower and three-story connection, as well as demolition of some existing space and renovations to the existing hospital. The project includes: The creation of an eight-storey Ken and Marilyn Thomson Patient Care Centre and adjoining three-storey building at the corner of Coxwell and Sammon Avenues; Demolition of several outdated wings (A, B, C, E, F wings and D podium); Four storey underground parking lot; and Renovations to existing spaces. ■

**2023 Rank:** 93**Location:** Toronto, Ont.**Owner:** Toronto East Health Network**Project Manager:** Infrastructure Ontario**DBF Team:** EllisDon Infrastructure Healthcare–EllisDon Design Build Inc.

(design-builder); B+H Architects, Diamond Schmitt Architects (design); Mulvey & Banani International Inc., Crossey Engineering Ltd., Stephenson Engineering Ltd., WalterFedy (engineer); EllisDon Capital Inc. (financial advisor); WSP (commissioning services)

Other Key Players: Cannon Design; EXP, H.H. Angus; ERA Architects, Kazian (planning design & compliance services); A.W. Hooker Associates Ltd. (independent certifier); Aon (insurance advisor); Hanscomb (cost consultant); Wood E&I (WSP) (environmental engineering/geotechnical studies); Colliers Project Leaders (planning & procurement services); EY (management consultant); GFL (excavation, shoring, soil management); Comtech (project manager)**Legal:** Gowling WLG; Blake, Cassels & Graydon (advisor to the project team); Borden Ladner Gervais (for the owner)**Funding:** P3**Substantial Completion:** 2024

96

PUBLIC SPACES

**Arts Commons
Transformation Project**
\$480 MILLION

► A vivid demonstration that great cities invest in their futures, the Arts Commons Transformation will expand and modernize Calgary's premier performing arts centre while nurturing revitalization of the city's downtown core. Design for the fully funded \$270 million expansion, a new building on the Arts Commons campus, is underway and will break ground in 2024. A capital campaign will launch in 2023 to secure the remaining funds to re-imagine and modernize the existing Arts Commons facility. ■

**2023 Rank:** 96**Location:** Calgary, Alta.**Owner:** City of Calgary/Arts Commons**Project Manager:** Calgary Municipal Land Corporation**Project Manager:** Colliers Project Leaders**Construction Manager:** EllisDon**Engineer:** Entwistle, Reinbold/Altieri Sebor Weiber, Crossey Engineering with Designcore**Architect:** KPMB, Hindle Architects, Tawaw Architecture Collective Inc., SLA**Other Key Players:** Threshold Acoustics, Fisher Dachs Associates, AMS Planning and Research, Venue Consulting and A.W. Hooker Associates; Hanscomb (cost consultant)**Funding:** Public**Budget:** \$480M (Phase 1 Expansion \$270M, Phase 2 Modernization \$180M)

City of Calgary's Greater Downtown Plan - \$80M

City of Calgary's Municipal Sustainability Initiative - \$25M

CMLC's Community Revitalization Levy - \$165M

Substantial Completion: 2028

97

HIGHWAY

**Yukon Resource
Gateway Project**
\$469 MILLION

► The Yukon Resource Gateway Project will upgrade infrastructure for up to 650 kilometres of existing roads in areas with high mineral potential active mining in the Yukon. The Yukon government is working in collaboration with Yukon First Nations to seek input and finalize Project Agreements for components of the Yukon Resource Gateway Program within their Traditional Territories. Six Project Agreements have been signed for seven components with Yukon First Nations to date. The program will provide opportunities to Yukon First Nations through short and long-term employment options, training and benefits agreements. In the Fall of 2023, the Carmacks Bypass component of the project was completed. This project included a new road and bridge, which will allow for industrial mining trucks to bypass the community of Carmacks and create

2023 Rank: 94**Location:** Yukon Territory**Owner:** Government of Yukon**Engineer:** WSP (bridge design)**Other Key Players:** Wood E&I (WSP) (geotechnical studies/materials tester); Associated Engineering (preliminary design); Tetra Tech (water sampling and ARD/ML assessment); Pelly Construction (contractor for Carmacks Bypass Project)**Funding:** Public/Private

• Federal: \$247.3 million

• Territorial Government: \$112 million

• Private: \$108 million (local industry)

Substantial Completion: 2031

a safer flow of traffic. The Government of Yukon is now focusing on progressing the Robert Campbell Highway components and the Silver Trail. Future projects will follow as Project Agreements with Yukon First Nations are reached and implemented. ■

NEW

98

HEALTHCARE

**New Portage District
General Hospital
\$455 MILLION**

▶ The new two-storey Portage Regional Health Centre will replace an existing 88-bed facility and will include: 114 acute care inpatient beds; increased day surgery capacity to allow more procedures locally; an expanded emergency department designed to best practice standards including emergency treatment and assessment rooms, a trauma room, a stretcher bay, and an ambulance bay; ambulatory care (new dialysis stations, chemotherapy, child and adult rehabilitation, mental health offices and interview rooms); enhanced spaces for programs such as diagnostics, palliative care, and outpatient services including lab and rehabilitation; and a new Indigenous health services cultural space with a design informed by Indigenous partners. ■



Location: Portage la Prairie, Man.
Owner: Southern Health-Santé Sud
Construction Management: PCL Constructors Ltd.
Architects and Interior Design: Ft3 Architecture; A49
Engineers: Crosier Kilgour (structural); SMS Engineering Ltd. (mechanical and electrical)
Other Key Players: Nor-Tec Group Ltd. (electrical contractor); Wescan Construction Services (mechanical contractor); Preset Piling Ltd. (piling contractor); Abesco Ltd. (structural steel contractor)
Funding: Public
Substantial Completion: 2025

GOVERNMENT OF MANITOBA

NEW

99

WATER/WASTEWATER

**Annacis Water Tunnel
\$450 MILLION**

▶ Metro Vancouver is constructing a new water supply tunnel deep under the Fraser River. The Annacis Water Supply Tunnel between the City of New Westminster and the City of Surrey is one of the five new marine crossings in the region built to withstand a major earthquake. When complete, it will help ensure the continued delivery of clean, safe drinking water to the communities south of the Fraser River well into the future. Construction is underway and is expected to be completed in 2028. The project involves building an entry shaft in Surrey and an exit shaft in New Westminster and using a tunnel boring machine to excavate the 2.3-kilometre-long tunnel. Once completed, a 2.6 metre diameter steel water main will be installed inside the shaft and tunnel, which will be connected to the regional water distribution system. Following construction, both shaft sites will be restored with green space. ■



Location: New Westminster/Surrey, B.C.
Owner: Metro Vancouver
Construction Manager: Delve Underground
Contractors: Traylor Aecon General Partnership (General Construction contractor)
Engineers: Hatch (prime), GeoPentech (geotechnical), Ausenco (environmental)
Other Key Players: Inlailawatash Limited Partnership (archaeology consultant)
Funding: Public
Substantial Completion: 2028 (commissioning and restoration)

METRO VANCOUVER

100

MILITARY

**Canadian Joint Incident Response
Unit Infrastructure Project
\$415 MILLION**

▶ This project will see the construction of approximately 30,000 square metres of modern and secure training facilities and spaces to support the Canadian Joint Incident Response Unit (CJIRU) at 8 Wing Trenton. The project is currently in the design phase with construction scheduled to begin in summer 2024 and reach substantial completion in 2029. ■

2023 Rank: 98
Location: Trenton, Ont.
Owner: Department of National Defence
Project Contract Management: Defence Construction Canada
Contractor: Pomerleau
Engineers: Stantec (under contract with Pomerleau as a Modified Design Build)
Contract Management: Defence Construction Canada
Funding: Public
Substantial Completion: 2029

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