



REPORT FOR ACTION

Toronto Parking Authority Off-Street Electric Vehicle Charging Program Update

Date: February 13, 2023

To: Board of Directors, Toronto Parking Authority

From: President, Toronto Parking Authority

Wards: All

SUMMARY

As part of our vision to become the world's best provider of sustainable parking, bike share and last mile mobility experiences, Toronto Parking Authority (TPA) is executing an ambitious rollout plan for Electric Vehicle (EV) charging across the City of Toronto. The build-out of TPA's EV charging network is well underway and is planned to grow to more than 650 EV chargers in off-street (garages and lots) and on-street Green P locations by the end of 2024. The provision of EV charging services is a key component of TPA's transformation to a mobility services provider, supports the City of Toronto's Net Zero Strategy and will support TPA's growth and financial returns over the long-term.

Throughout 2022, TPA worked to establish a deployment plan that will guide the build out of TPA's EV charging network over the next three (3) years. As the first step in this plan, TPA and its partners installed 116 EV chargers across eleven TPA off-street parking facilities in 2022, exceeding Management's commitment to install a minimum of 50 EV chargers in 2022.

In 2023, TPA will deliver 175 EV chargers across 18 Car Parks, bringing the total number of off-street chargers to 291. To support the delivery of the 2023 Off-Street EV Charging Program, TPA completed a number of enabling work programs in 2022, including site assessments, detailed engineering design, coordination with Toronto Hydro-Electric Systems Limited (THESL), the release of construction tenders and the establishment of a Vendor of Record arrangement with EV charging equipment suppliers.

The purpose of this report is to provide TPA Board of Directors with an update on the 2023 Off-Street EV Charging Program and to seek authority to award approximately \$6.6 million, excluding Harmonized Sales Tax (HST) in contracts to Ferguson Electric Company Ltd., Bevcon Construction & Paving Ltd. and Black and McDonald for the construction services required to complete the installation of 175 chargers across 18 Car

Parks in 2023. Additional information on the Request for Proposal (RFP), bid evaluation and selection process is included in Attachment 1.

Lastly, TPA requires significant electrical upgrades and improvements in order to install and operate electric vehicle charging infrastructure at many of its car parks, particularly surface car parks where existing hydro capacity is limited. THESL is the sole electric utility provider for Toronto and the sole vendor capable of providing this critical enabling work and, as a result, TPA is seeking authority to issue a Purchase Order to THESL in the amount of \$1.0 Million to support necessary electrical upgrades associated with the development of TPA's off-street EV charging network in 2023.

RECOMMENDATIONS

The President, Toronto Parking Authority recommends that:

1. The Toronto Parking Authority Board of Directors provide authority to the President, Toronto Parking Authority, to award the Electric Vehicle (EV) Infrastructure Construction Contract for 2023-CS-VAR-D50.1 Car Parks 1, 36, 42, 52 and 286 to Black and McDonald, having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$2,020,499 inclusive of contingency but excluding Harmonized Sales Tax (HST).
2. The Toronto Parking Authority Board of Directors provide authority to the President, Toronto Parking Authority, to award the Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.2 Car Parks 13, 96, 111, 261 and 655 to Ferguson Electric Company Ltd., having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$769,200 inclusive of contingency but excluding HST.
3. The Toronto Parking Authority Board of Directors provide authority to the President, Toronto Parking Authority, to award the Electric Vehicle Infrastructure Construction Contract for 2023-CON-VAR-D50.3 Car Parks 78, 170, 183 and 855 to Ferguson Electric Company Ltd., having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$2,278,800 inclusive of contingency but excluding HST.
4. The Toronto Parking Authority Board of Directors provide authority to the President, Toronto Parking Authority, to award the Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.4 Car Parks 91, 231, 532 and 533 to Bevcon Construction & Paving Ltd., having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$1,535,880 inclusive of contingency but excluding HST.
5. The Toronto Parking Authority Board of Directors provide authority to the President, Toronto Parking Authority, to issue a Purchase Order to Toronto Hydro Electrical Systems Limited in the amount of \$1,000,000 excluding HST for electrical upgrades required for the development of TPA's off-street EV charging network in 2023.

FINANCIAL IMPACT

TPA recently released four (4) Requests for Proposals (RFP) for construction services to complete the installation of 175 EV chargers across 18 Car Parks in 2023. Following careful evaluation of the bids, TPA recommends awarding approximately \$6.6 million in contracts to Ferguson Electric Company Ltd., Bevcon Construction & Paving Ltd. and Black and McDonald for the construction services associated with the 2023 Off-Street EV Charging Program. Additional information on the RFP, bid evaluation and selection process is included in Attachment 1. The contract awards are summarized as follows:

- The amount to award Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.1 CP 1, 36, 42, 52 and 286 be awarded to Black and McDonald is \$1,683,749 plus contingency of \$336,750, being the sum total of \$2,020,499 excluding HST.
- The amount to award Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.2 CP 13, 96, 111, 261 and 655 be awarded to Ferguson Electric Company Ltd. is \$641,000 plus contingency of \$128,200, being the sum total of \$769,200 excluding HST.
- The amount to award Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.3 CP 78, 170, 183, and 855 be awarded to Ferguson Electric Company Ltd. is \$1,141,793 plus contingency of \$379,800 and optional items costing \$757,207, being the sum total of \$2,278,800 excluding HST.
- The amount to award Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.4 CP 91, 231, 532, and 533 be awarded to Bevcon Construction and Paving Ltd. is \$833,000 plus contingency of \$255,980 and optional items costing \$446,900, being the sum total of \$1,535,800 excluding HST.

In addition, TPA is seeking authority to issue a Purchase Order to THESL in the amount of \$1,000,000, excluding HST, to support necessary electrical upgrades associated with the development of TPA's off-street EV charging network in 2023.

Sufficient funding for these works is available in the TPA Board-approved 2023 Capital Budget and 2023 – 2032 Capital Plan.

DECISION HISTORY

At its meeting of December 12, 2022, TPA Board of Directors (Item PA1.7) received an informational update on TPA's electric vehicle charging program. Further information about this report can be found at the link below:

<https://secure.toronto.ca/council/agenda-item.do?item=2023.PA1.7>

At its meeting of December 12, 2022, TPA Board of Directors (Item PA1.8) provided authority to the President, Toronto Parking Authority, to award the Electric Vehicle Charging Equipment and Related Services contract to both ChargePoint Inc. and Services Flo Inc. The total amount of the contract will not exceed \$10,618,000, excluding HST. Further information about this report can be found at the link below:

<https://secure.toronto.ca/council/agenda-item.do?item=2023.PA1.8>

At its meeting of December 12, 2022, TPA Board of Directors (Item PA1.9) provided authority to the President, Toronto Parking Authority, to enter into Vendor of Record Agreements with Stantec, WSP Canada Inc., and CIMA Canada Inc., to provide engineering design and contract administration services required for electric vehicle infrastructure construction. Further information about this report can be found at the link below:

<https://secure.toronto.ca/council/agenda-item.do?item=2023.PA1.9>

At its meeting of February 18, 2022, TPA Board of Directors (Item PA28.8) authorized staff to enter into detailed design contracts with CIMA Canada Inc. and WSP Canada Inc., each with an upside limit of \$1,000,000 (excluding HST) for consultant services to complete the design, tendering and construction administration of related to the installation of up to 500 EV chargers at nearly 30 TPA off-street locations. Further information about this report can be found at the link below:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2022.PA28.8>

COMMENTS

As part of our vision to become the world's best provider of sustainable parking, bike share and last mile mobility experiences, Management is executing an ambitious rollout plan for EV charging across the City of Toronto. The plan includes the installation and operation of almost 290 EV charging stations at TPA off-street parking locations and the acquisition and installation of almost 100 on-street EV charging stations before the end of 2023.

The development of TPA's on-street charging program will be integrated with the EV charging infrastructure that is both planned and already implemented at TPA's off-street parking facilities. The total number of EV chargers under TPA's operation is expected to exceed 350 by the end of 2023 and will undoubtedly position TPA as the single largest EV charging operator in the City of Toronto and amongst the largest in Canada.

To deliver on this ambitious plan, TPA has started to lay the foundation for the necessary team resources and access to external expertise, and has developed plans to forge strategic partnerships to maximize its potential to deliver a critical and emerging service that will be valued by millions.

2022 Off-Street EV Charging Program

TPA currently has 116 chargers installed and open for public use across eleven locations. A list of the locations and quantity/type of chargers installed is included in Table 1. Included amongst the 116 chargers are 32 chargers installed by THESL as part of its EV charging pilot agreements with TPA.

Table 1: TPA Off-Street EV Installations - 2022

Car Park	Address	Facility Type	Quantity of L2 Chargers	Quantity of DC Fast Chargers
13	20 Delisle Ave*	Garage	4	0
29	75 Holly St	Garage	28	1
34	20 Dundas Sq.*	Garage	8	0
36	110 Queen St W.*	Garage	8	3
43	2 Church St	Garage	23	4
51	365 Lippincott St	Surface	10	0
87	14 Arundel Ave	Surface	8	0
110	1612 Danforth Ave	Surface	2	0
262	10 Soho St*	Garage	4	0
286	51 Dockside Dr	Garage	5	0
304	9 Wellesley St W.	Garage	8	0
Totals	11 Locations		108	8

Note: Asterisk denotes locations that received EV chargers through the TPA-THESL Pilot Project.

Performance of EV chargers in off-street facilities is off to a strong start despite only being in market for several weeks. A snapshot of performance results tied to off-street EV chargers is included in Table 2.

Table 2: TPA Off-Street Early Performance Results for the month of January 2023

Total # of Charging Sessions	552
Average # of Charging Sessions per Day	17.8
Average # of Charging Sessions per Charger	6.34
Average EV Charging Connection Time (Hours)	3.04
Average EV Charging Revenue per Session (Excludes Revenue from Paid Parking)	\$5.29
Top 5 Charging Locations (Total Charging Hours)	Car Parks 34, 36, 51, 286, 304

2023 Off-Street EV Charging Program

TPA is continuing the installation of EV charging infrastructure in its off-street facilities in 2023 with over 175 chargers planned for installation across 18 Car Parks. 2023 installations are focused on garage locations with additional installations at select surface car parks. A list of the locations and quantity/type of chargers being installed is included in Table 3.

Table 3: TPA Off-Street Planned EV Installations - 2023

Car Park	Address	Facility Type	Quantity of L2 Chargers	Quantity of DC Fast Chargers
1	20 Charles St E.	Garage	30	0
13	10 Delisle St	Garage	2	0
36	110 Queen St W.	Garage	40	0
42	91 Via Italia	Garage	12	0
78	35 Erindale Ave.	Surface	8	1
91	265 Armadale Ave.	Surface	8	1
96	10 Portland St.	Garage	4	0
111	74 Clinton St.	Garage	4	0
170	117 Hammersmith Ave.	Surface	6	0
183	166 Woodbine Ave.	Surface	6	0

Car Park	Address	Facility Type	Quantity of L2 Chargers	Quantity of DC Fast Chargers
217	1445 Bathurst St.	Garage	4	0
231	19 Spadina Rd.	Surface	6	0
261	45 Abell St.	Garage	12	4
286	51 Dockside Dr.	Garage	5	0
532	14 Barkwin Dr.	Surface	4	0
533	2300 Lakeshore Blvd. W.	Surface	6	0
655	168 Chiltern Hill Rd.	Garage	2	0
855	5A Bandshell Place	Surface	5	5
Totals	18 Locations		164	11

In recent months, TPA has completed a number of critical and enabling steps to support the delivery of new off-street EV chargers in 2023. These include:

- Completion of site assessments and detailed engineering design;
- Establishment of a Vendor of Record contract arrangement with both Flo and ChargePoint to secure charging equipment;
- Coordination with THESL and identification of estimated budget needed for design, permitting and connection fees; and,
- Tendering of construction services contracts for the installation of 2023 off-street chargers. These contracts are recommended for award as part of this report. Installations are anticipated to commence in Summer 2023 with the chargers open for public use by end of 2023.

Funding

TPA identified funding for its EV Charging Program in its 2023 Capital Budget submission and has allocated \$8.16 Million in the 2023 Capital Budget towards its EV charging program (refer to Table 4).

Table 4: Summary of Planned EV-Related Infrastructure Capital Expenditures for 2023

Category	2023 (Budget)
Off-Street EV Charging Design and Contract Administration	\$1,912,500
Off-Street EV Charging Supply, Installation and THESL Coordination/Connection Fees	\$6,247,500
Total	\$8,160,000

To assist with the capital costs of the EV program, TPA continues to seek new government funding opportunities while managing previously approved funding commitments and reporting requirements. On January 30, 2023, TPA submitted its first expense claim for the period ending December 31, 2022 to NRCan as part of its \$2.145 Million funding grant executed in 2022.

Table 5 summarizes the status of all TPA EV funding applications related to TPA's EV Charging Program. TPA continues to await a decision about its funding application to NRCan for \$5 Million submitted on August 11, 2022 and will continue to monitor and apply to new government funding programs and opportunities based on eligibility and timing requirements.

Table 5: Summary of TPA EV Funding Applications

Application	Application Date	Amount Requested	Amount Approved	Status
2021 NRCan Zero Emission Vehicle Infrastructure Program (ZEVIP)	June 2021	\$2,145,000	\$2,145,000	TPA received approval for \$2.145 Million in funding from NRCan on May 16, 2022. This funding will support the installation of over 400 chargers through 2024. Contribution Agreement has been executed and a public announcement was made on February 3, 2023.

Application	Application Date	Amount Requested	Amount Approved	Status
TAF EV Station Fund	April 2022	\$103,000	\$103,000	TPA received a letter of acceptance on May 13, 2022 for the full \$103,000 it applied for. Contribution Agreement has been executed and a claim expense will be submitted by the end of April 2023.
2022 NRCan Zero Emission Vehicle Infrastructure Program (ZEVIP)	August 2022	\$5,000,000	TDB	Application submitted for \$5.0 Million in funding from NRCan on August 11, 2022. Decisions by NRCan about successful proposals are expected in Q2 2023.

Strategic Partnerships/Sponsorships

TPA is preparing to solicit market interest for strategic partners to help identify and engage one or more corporate partners to invest in the buildout and/or operation of the EV charging network. The goal is to assemble a consortium of like-minded partners to provide the necessary infrastructure, operational support and expertise in marketing and analytics to deliver best-in-class EV charging services and accelerate EV adoption in the City of Toronto and the broader Greater Toronto and Hamilton Area.

While individual partners may have their own unique interests and brand objectives, TPA believes that they will be fundamentally aligned to a set of common goals:

- Provide convenient, reliable and best-in-class customer experience for EV charging services;
- Maximize commercial activity and business results;
- Accelerate electrification and EV adoption in the City of Toronto consistent with Transform TO Net Zero goals; and,
- Benefit from a first-mover advantage and association to build City's EV program from ground up.

Preparations are now underway and TPA plans to release an Expression of Interest in late March 2023 to explore opportunities for strategic partnerships.

2023 Off-Street EV Charging Construction Contract Awards

As part of the development of TPA's EV Charging Program, TPA is planning to install 175 EV chargers at 18 off-street locations in 2023. To complete this work, TPA requires construction services and as such released four (4) separate RFP packages on MERX on November 7th, 2022 for construction services. Further information on the RFP

packages, bids received, scoring and selection process is included in Attachment 1. A summary of the construction services contracts recommended for award is included in Table 6.

Table 6: Summary of EV Construction Services Contract Awards for 2023 Off-Street EV Installations

RFP #	# of Installation Locations	Winning Contractors	Contract Amount
2023-CS-VAR-D50.1	5	Black and McDonald	\$2,029,499
2023-CS-VAR-D50.2	5	Ferguson Electric Company Ltd.	\$769,200
2023-CS-VAR-D50.3	4	Ferguson Electric Company Ltd.	\$2,278,800
2023-CS-VAR-D50.4	4	Bevcon Construction & Paving Ltd.	\$1,535,880
Totals	18		\$6,604,379

Toronto Hydro Electric Systems Limited (THESL)

TPA requires significant electrical upgrades and improvements in order to install and operate electric vehicle charging infrastructure at many of its car parks, particularly surface car parks where existing hydro capacity and infrastructure is limited. As a result, TPA is seeking authority to issue a Purchase Order in the amount of \$1.0 M to THESL to support the electrical upgrades associated with the development of the TPA's EV charging network in 2023. Issuance of the Purchase Order will help expedite delivery of the planned 2023 EV charger installations at off-street TPA car parks.

Next Steps

TPA will continue to work with its partners to advance the 2023 off-street EV charging installations and will continue to provide regular updates to the Board throughout 2023.

CONTACT

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SIGNATURE

W. Scott Collier, President
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ATTACHMENTS

Attachment 1 – Contract Award for 2023-CS-VAR-D50.1, 2023-CS-VAR-D50.2, 2023-CS-VAR-D50.3 and 2023-CS-VAR-D50.4

ATTACHMENT 1 –

CONTRACT AWARD FOR 2023-CS-VAR-D50.1, 2023-CS-VAR-D50.2, 2023-CS-VAR-D50.3 AND 2023-CS-VAR-D50.4

As part of the development of TPA's EV Charging Program, TPA is planning to install 175 EV chargers at 18 off-street locations in 2023. This will build upon the 116 chargers installed in 2022 and significantly ramp up the scale of TPA's EV charging network.

To build this public charging network, TPA requires construction services to complete the installation of 175 EV chargers and the accompanying electrical infrastructure at 18 TPA off-street Car Parks in 2023. A breakdown of the chargers to be installed by car park is included above in Table 3.

Given the large number of locations, four (4) separate RFP packages were created and posted on MERX on November 7, 2022. Each RFP package contained a minimum of four (4) car parks. The breakdown of locations by RFP package is as follows:

1. RFP 2023-CS-VAR-D50.1 – Car Parks 1, 36, 42, 52 & 286
2. RFP 2023-CS-VAR-D50.2 – Car Parks 13, 96, 111, 261 & 655
3. RFP 2023-CS-VAR-D50.3 – Car Parks 78, 170, 183 & 855
4. RFP 2023-CS-VAR-D50.4 – Car Parks 91, 231, 532 & 533

A total of 24 bids were received prior to the closing of the tender period on January 13, 2023. Bid submissions were reviewed by both TPA and TPA's design consultants, CIMA Canada Inc. (CIMA) and WSP Canada (WSP). The selection was guided by the fee quoted, technical capabilities of the bidder, submission requirements and acceptance of the terms and conditions noted in the RFP. A letter of recommendation for award was provided to TPA by CIMA and WSP. A summary of the bids received for each of the four (4) RFPs can be found below.

Table 1: Summary of Bids Received (2023-CS-VAR-D50.1 – Electric Vehicle Charger Infrastructure Installation at CP 1, 36, 42, 52 & 286)

Contractor	Ranking	Bid Price (excl HST)
Black & McDonald Limited	1	\$1,683,749.00
Four Seasons Site Development Ltd	2	\$1,283,575.00
Ferguson Electric Company Ltd	3	\$1,691,000.00
Energy Network Services Inc.	4	\$1,931,894.30
Kudlak Baird (1982) Limited	5	\$2,127,826.09

For this RFP, the selected bidder, Black & McDonald was chosen based upon cost, schedule, and project experience.

Table 2: Summary of Bids Received (2023-CS-VAR-D50.2 – Electric Vehicle Charger Infrastructure Installation at CP 13, 96, 111, 261 & 655)

Contractor	Ranking	Bid Price (excl HST)
Ferguson Electric Company Ltd	1	\$641,000.00
Black & McDonald Limited	2	\$776,029.90
Precise ParkLink Inc.	3	\$901,433.00
Energy Network Services Inc.	4	\$948,753.49
Kudlak Baird (1982) Limited	5	\$953,324.87
Four Seasons Site Development Ltd	6	\$1,031,300.00

Table 3: Summary of Bids Received (2023-CS-VAR-D50.3 – Electric Vehicle Charger Infrastructure Installation at CP 78, 170, 183 & 855)

Contractor	Ranking	Bid Price (excl HST)	Optional Items Price (excl HST)	Total Sum Price
Ferguson Electric Company Ltd	1	\$1,141,793.00	\$757,200	\$1,899,000
Bevcon Construction & Paving Ltd	2	\$1,035,530.00	\$894,050	\$1,929,580
Four Seasons Site Development Ltd	3	\$1,379,050.00	\$732,200	\$2,111,250
ON-TEK ELECTRIC	4	\$1,479,209.13	\$1,042,786	\$2,521,995
Energy Network Services Inc.	5	\$1,667,391.25	\$911,069	\$2,578,460

Table 4: Summary of Bids Received (2023-CS-VAR-D50.4 – Electric Vehicle Charger Infrastructure Installation at CP 91, 231, 532 & 533)

Contractor	Ranking	Bid Price (excl HST)	Optional Items Price (excl HST)	Total Sum Price
Bevcon Construction & Paving Ltd	1	\$833,000.00	\$446,900	\$1,279,900
Ferguson Electric Company Ltd	2	\$826,745.00	\$443,976	\$1,295,966
Precise ParkLink Inc.	3	\$851,990.00	\$567,255	\$1,394,000
Energy Network Services Inc.	4	\$951,227.41	\$543,902	\$1,495,130
Four Seasons Site Development Ltd	5	\$958,000.00	\$503,000	\$1,461,000
Kudlak Baird (1982) Limited	6	\$961,122.89	\$637,989	\$1,599,112

Please note that for the RFP 2023-CS-VAR-D50.3 and 2023-CS-VAR-D50.4 which are for the installation of EV charging infrastructure at TPA surface car parks, an 'Optional Items' component was added to the RFP. Contractors were required to price optional scope items which include car park resurfacing, installation of new catch basins and drainage, line painting and others. These items will help support TPA's state of good repair program while at the same time provide customers with a better overall charging experience. TPA recommends awarding contracts in the amount that will cover all optional item pricing and will determine at a later date whether to proceed with any optional scope.

Should TPA Board of Directors adopt the recommendations in this report, TPA will notify the consultants and proceed to the contract execution stage. Project initiation is expected in April 2023 with completion of the work targeted for the third quarter of 2023. Commissioning of the equipment will occur before the end of the year.