



REPORT FOR ACTION

Toronto Parking Authority On-Street Electric Vehicle Charging Program Update

Date: May 8, 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. Responding to City Council direction that TPA assume responsibility for the operation, maintenance and continued expansion of the City's on-street EV charging program, TPA began to mobilize plans to deliver its first 50 on-street EV chargers at 30 locations across eight (8) Wards in 2023.

To support the delivery of the 2023 On-Street EV Charging Program, TPA has completed a number of enabling work programs in recent months, including site assessments, detailed engineering design, coordination with Toronto Hydro-Electric Systems Limited (THESL) and the establishment of a Vendor of Record arrangement with EV charging equipment suppliers.

Compared to the off-street EV charging program, the installation of on-street EV charging infrastructure has additional complexities and costs due to technical, permitting and stakeholder considerations in the public right-of-way. These risks were summarized in a presentation provided to TPA Board of Directors at its March 3, 2023 meeting and are being actively managed by TPA.

The purpose of this report is to provide an update on the 2023 On-Street EV Charging Program and seek authority to award approximately \$816,642, excluding Harmonized Sales Tax (HST), in contracts to Black and McDonald Limited for the construction services required to complete the installation of 50 chargers at 30 locations in 2023. Additional information on the Request for Proposal (RFP), bid evaluation and selection process is included in Attachment 1.

Lastly, TPA requires utility application and connection support in order to install electric vehicle charging infrastructure at on-street locations. 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 \$0.5 Million to support project delivery.

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 Infrastructure Construction Contract for 2023-CS-VAR-D50.5 in Wards 3, 4, 5, 11, and 18 to Black and McDonald Limited, having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$454,124 inclusive of contingency but excluding 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-D50.6 in Wards 10, 14, and 19 to Black and McDonald Limited, having submitted the lowest compliant bid and meeting all specifications in conformance with the Construction Tender requirements, in the amount of \$362,518 inclusive of contingency but excluding HST.
3. 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 \$500,000 excluding HST for electrical connections required for the development of TPA's on-street EV charging network in 2023.

FINANCIAL IMPACT

TPA recently released two (2) Requests for Proposals (RFP) for construction services to complete the installation of 50 EV chargers across eight (8) Wards in 2023. Following careful evaluation of the bids, TPA recommends awarding both contracts totaling \$816,642 to Black and McDonald Limited for the construction services associated with the 2023 On-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-D50.5, in Wards 3, 4, 5, 11 and 18 be awarded to Black and McDonald Limited is \$349,326 plus contingency of \$104,798 being the sum total of \$454,124 excluding HST.

- The amount to award Electric Vehicle Infrastructure Construction Contract for 2023-CS-VAR-D50.6 in Wards 10, 14, and 19 be awarded to Black and McDonald Limited is \$278,860 plus contingency of \$83,658, being the sum total of \$362,518 excluding HST.

In addition, TPA is seeking authority to issue a Purchase Order to THESL in the amount of \$500,000, excluding HST, to support necessary electrical connections associated with the development of TPA's on-street EV charging network in 2023.

Sufficient funding for these works is available in the approved 2023 – 2025 Capital Budget.

DECISION HISTORY

At its meeting of March 3, 2023, TPA Board of Directors (Item PA2.2) received an informational update on TPA's on-street 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.PA2.2>

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 June 15 and 16, 2022, City Council received the *On-Street Electric Vehicle Charging Stations - Pilot Conclusion and Next Steps* report. As part of this consideration, City Council requested the Board of Directors of the Toronto Parking Authority to work with the General Manager, Transportation Services, Toronto Hydro and relevant stakeholders to install a minimum of 50 on-street electric vehicle chargers by the end of 2023.

<https://secure.toronto.ca/council/agenda-item.do?item=2022.IE30.11>

COMMENTS

As part of its vision to become the world's best provider of sustainable parking, bike share and last mile mobility experiences, TPA is executing an ambitious rollout plan for EV charging across the City of Toronto.

In addition to the installation of 50 new on-street EV chargers in 2023, TPA plans to acquire all active on-street charging assets from THESL comprising 47 chargers at 25 sites in the coming months. The total number of on-street 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.

2023 On-Street EV Charging Program

A list of the quantity/type of on-street EV chargers being installed in 2023 by ward is included below in Table 1.

Table 1: Planned TPA On-Street 2023 EV Installations

Ward #	Ward	# of Ports	Charger Type Flo SmartTWO (7.2kWh)
3	Etobicoke-Lakeshore	4	Level 2
4	Parkdale-High Park	6	
5	York-South Weston	4	
10	Spadina-Fort York	6	
11	University-Rosedale	4	
14	Toronto-Danforth	9	
18	Willowdale	9	
19	Beaches-East York	8	
8 Wards		50	

The installation of EV charging infrastructure in the public right-of-way has additional complexities and risks compared to off-street installations driven by technical limitations, congested curb space and stakeholder considerations. To help mitigate risk, TPA has recently completed a number of critical and enabling steps to support the delivery of new on-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;
- Consultation with affected Ward Councillors to review and approve proposed new on-street EV charging locations;
- 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 on-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.

Existing On-Street EV Charging Stations in Operation

In the coming months, TPA plans to purchase all active on-street charging stations from THESL comprising 47 chargers at 25 sites. A list of the locations as well as the quantity/type of chargers is included in Attachment 2.

A summary of performance metrics for the existing EV chargers currently owned and operated by THESL is included in Table 2.

Table 2: Performance Results – Existing 47 Chargers (January 1st - April 30th, 2023)

Total # of Charging Sessions	4,522
Average # of Charging Sessions per Day	38
# of Unique Customers	1,100
Average EV Charging Connection Time (Hours)	4.8
Average EV Charging Revenue per Session (Excludes Revenue from any Paid Parking)	\$4.81
Top 3 Charging Locations (Total Charging Hours)	10 Palmerston Avenue 248 Shaw Street 43 Alton Avenue

Funding

Funding for the EV Charging Program is included in the approved 2023-2025 Capital Budget, including \$8.93 Million for the delivery of the 2023 On-Street EV charging program (refer to Table 3).

Table 3: Summary of Planned EV-Related On-Street Infrastructure Capital Expenditures for 2023

Category	2023 (Budget)
On-Street EV Charging Design and Contract Administration	\$4,228,750
On-Street EV Charging Supply, Installation and THESL Coordination/Connection Fees	\$4,700,500
Total	\$8,929,250

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. Attachment 3 includes a summary of all TPA EV funding applications related to TPA's EV Charging Program. TPA continues to await a decision about its funding application to Natural Resources Canada (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.

Strategic Partnerships/Sponsorships

TPA is soliciting market interest for strategic partners to invest in the buildout and/or operation of the EV charging network and released an Expression of Interest on March 31st, 2023. As of early May 2023, 80+ organizations have signalled interest in learning more about the opportunity. TPA and LANG Partnerships will be undergoing 'discovery' engagements with all interested parties prior to releasing an evaluation framework at the end of June, 2023. The entire process is expected to be carried out over 2023 and into 2024.

2023 On-Street EV Charging Construction Contract Awards

TPA released two (2) separate RFP packages on MERX on March 20th, 2023 for the construction services needed to install 50 EV chargers at 30 on-street locations in 2023. 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 4.

Table 4: Summary of EV Construction Services Contract Awards for 2023 On-Street EV Installations

RFP #	# of Installation Locations	Winning Contractors	Contract Amount (incl. contingency and excl. HST)
2023-CS-VAR-D50.5	16	Black and McDonald Limited	\$454,124
2023-CS-VAR-D50.6	14	Black and McDonald Limited	\$362,518
Totals	30		\$816,642

The scope of work for the installation of the 50 EV chargers was broken into two (2) contracts to minimize the overall risk associated with an award to a single contractor. Following the selection process, the same contractor (Black and McDonald Limited) was chosen as the winning bidder for both contracts as a result of both technical submissions and costs (both cost proposals have significant savings when compared to the second ranked proposals).

Next Steps

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

CONTACT

Jeffrey Dea, Vice President, Business Development, Toronto Parking Authority,
437-243-6545, jeffrey.dea2@toronto.ca

Philip Safos, Director, Business Development and Partnerships, Toronto Parking
Authority, 647-229-4185, philip.safos@toronto.ca

SIGNATURE

W. Scott Collier, President
Toronto Parking Authority

ATTACHMENTS

Attachment 1 – Contract Award for 2023-CS-VAR-D50.5 and 2023-CS-VAR-D50.6

Attachment 2 – 2022 On-Street Program (EV Charging Locations)

Attachment 3 – Summary of TPA EV Funding Applications

ATTACHMENT 1 –

CONTRACT AWARD FOR 2023-CS-VAR-D50.5 AND 2023-CS-VAR-D50.6

As part of the development of TPA's EV Charging Program, TPA is planning to install 50 EV chargers at 30 on-street locations in 2023. This will build upon the 117 chargers currently operating within TPA's off-street facilities 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 50 EV chargers and the accompanying electrical infrastructure at 30 on-street locations in 2023.

Given the complex nature of installing chargers within the public right-of-way and onto existing utility poles, two (2) separate RFP packages were created and posted on MERX on March 24th, 2023. Each RFP package contained a minimum of fourteen (14) pole locations. The breakdown of locations by RFP package is as follows:

1. RFP 2023-CS-VAR-D50.5 – 16 locations across five (5) Wards
2. RFP 2023-CS-VAR-D50.6 – 14 locations across three (3) Wards

A total of seven (7) bids were received prior to the closing of the tender period on April 28th, 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 two (2) RFPs can be found below.

Table 1: Summary of Bids Received (2023-CS-VAR-D50.5 – Electric Vehicle Charger Infrastructure Installation at 16 Locations in Wards 3, 4, 5, 11 and 18)

Contractor	Ranking	Bid Price (excl. HST)
Black & McDonald Limited	1	\$349,325.90
Valard Construction LP	2	\$565,129.23
Tristar Electric Inc.	3	\$884,449.07

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

Table 2: Summary of Bids Received (2023-CS-VAR-D50.6 – Electric Vehicle Charger Infrastructure Installation at 14 Locations in Wards 10, 14 and 19)

Contractor	Ranking	Bid Price (excl. HST)
Black & McDonald Limited	1	\$278,859.46
Ainsworth Inc.	2	\$609,604.00
Valard Construction LP	2	\$620,290.77
Tristar Electric Inc.	3	\$862,393.00

Please note that for both RFPs, TPA requested optional pricing for single and dual chargers per Ward. TPA recommends awarding contracts in the amount that will cover the core 50 charging ports across 30 locations only and will determine at a later date whether to proceed with any additional scope (subject to approvals). The amounts shown above in Tables 1 and 2 exclude both contingency and HST.

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 May 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.

ATTACHMENT 2 – 2022 ON-STREET PROGRAM (EV CHARGING LOCATIONS)

Civic Address	Quantity of L2 Charging Ports	Installation Year	Ward #
91 Elizabeth Street	2	2020	10
10 Palmerston Avenue	2	2020	10
124 Mount Joy Avenue	2	2020	14
248 Shaw Street	2	2020	10
43 Alton Avenue	2	2020	14
29 Bowmore Road	1	2020	19
500 Commissioners Street	2	2020	14
216 Oakcrest Avenue	2	2020	19
535 Runnymede Road	2	2022	4
64 Annette Street	2	2022	4
115 High Park Avenue	2	2022	4
685 Dovercourt Road	2	2022	9
705 Shaw Street	2	2022	11
41 Inglewood Drive	2	2022	11
580 Christie Street	2	2022	12
186 Carlton Street	1	2022	13
188 Carlton Street	1	2022	13
453 Jones Avenue	2	2022	14
503 Jones Avenue	2	2022	14
132 Chatham Avenue	2	2022	14
258 Riverdale Avenue	2	2022	14
31 Roseheath Avenue	2	2022	19
543 Strathmore Boulevard	2	2022	19
1856 Queen Street East	2	2022	19
1766 Queen Street East	2	2022	19
25 Total Locations	47		8 Wards

ATTACHMENT 3 – 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. This funding will support the installation of over 350 chargers through 2024. Contribution Agreement has been executed and a public announcement was made on February 3, 2023.
The Atmospheric Fund (TAF) EV Station Fund	April 2022	\$103,000	\$103,000	TPA received approval for \$103,000 in funding from TAF. Contribution Agreement has been executed and a claim expense was submitted at 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. Final decisions by NRCan about successful proposals are expected in Q3 2023.