

Non-Competitive Contract with IBI Group Professional Services Canada Inc. for the Support and Maintenance, GUI Enhancements and CSC Upgrades of the TOO Proprietary System Software

Date: October 7, 2021

To: Infrastructure and Environment Committee

From: General Manager, Toronto Water and the Chief Procurement Officer,
Purchasing and Materials Management

Wards: All

SUMMARY

The purpose of this report is to seek authority to enter into a non-competitive contract with IBI Group Professional Services Canada Inc. (IBI Group) for the continued support and maintenance, Graphic User Interface (GUI) Enhancements and Control Strategy Component (CSC) Upgrades of the Transmission Operations Optimizer (TOO) proprietary system software.

TOO is a system which has been developed by the IBI Group and is utilized within Toronto Water. TOO is a highly customized system which contains specialized business logic, algorithms and processing, linked to the Toronto Water and York Region Supervisory Control and Data Acquisition (SCADA) network, weather and the Independent Electricity System Operator (IESO) for Ontario.

Support and maintenance is required as the current partnership and sustainment term with IBI Group is ending on October 31, 2021. This non-competitive procurement is required for 38 months of sustainment at a rate of \$12,500 per month for the period November 1, 2021 to December 31, 2024 inclusive, and a contract value of \$475,000 net of all applicable taxes and charges.

GUI Enhancements are also being proposed and will provide additional functionality to support business improvement, improve user experience, allow operators to enter operating parameters and obtain information from the system in a more efficient manner and ensure the software is current and operating at the highest functionality. The cost of the enhancements is valued at \$105,500 net of all applicable taxes and charges as a one-time cost for this 3 year contract period.

An additional CSC Upgrade is required for sustainability and includes improving the algorithms which decide the best transmission, pumping selection, pumping schedule and reservoir storage. This further optimization is needed based on lessons learned, new equipment, water mains being added and demand pattern changes in the City of Toronto and York Region. The CSC Upgrade will provide further electrical cost savings. This will be a one-time purchase of \$150,000 net of all applicable taxes and charges.

The total value of the non-competitive contract identified in this report is not to exceed \$730,500 net of all applicable taxes and charges (\$743,357 net of HST recoveries).

City Council approval is required in accordance with Toronto Municipal Code Chapter 195, Purchasing, where the current request exceeds the Chief Procurement Officer's authority of the cumulative five-year commitment for each vendor under Article 7, Section 195-7.3(D) of the Purchasing By-law or exceeds the threshold of \$500,000 net of HST allowed under staff authority as per Toronto Municipal Code Chapter 71, Financial Control, Section 71-11A.

RECOMMENDATIONS

The General Manager Toronto Water and the Chief Procurement Officer recommend that:

1. City Council authorize the General Manager of Toronto Water to negotiate and, to enter into a non-competitive agreement with IBI Group Professional Services Canada Inc. to provide TOO support and maintenance, GUI Enhancements and CSC Upgrade (Sustainability), in the amount of \$730,500, net of all applicable taxes and charges, \$743,357 net of Harmonized Sales Tax Recoveries, for a period of five (5) years from November 1, 2021 to December 31, 2024, on terms and conditions acceptable to the General Manager and in a form satisfactory to the City Solicitor.

FINANCIAL IMPACT

The total value of the non-competitive contract identified in this report is not to exceed \$743,357 (net of HST) recoveries as outlined in Table 1.

Funding for the continued support and maintenance of the TOO system software in 2021 is available in the 2021 Approved Operating Budget for Toronto Water and future year funding will be included in the 2022-2024 Operating Budget Submissions for Toronto Water. Funding for the system enhancement and upgrades is included in the 2021-2030 Approved Capital Budget and Plan for Toronto Water with forecasted spending in 2022.

Table 1: Financial Impact Summary (Net of HST Recoveries)

Cost Centre/GL	Year 0 (2021)	Year 1 (2022)	Year 2 (2023)	Year 3 (2024)	Total
Support & Maintenance Cost Element / GL Account: TW6045 / 4474	\$25,440	\$152,640	\$152,640	\$152,640	\$483,360
GUI Enhancements CPW060-01		\$107,357			\$107,357
CSC Upgrade for Sustainability CPW060-01		\$152,640			\$152,640
TOTAL	\$25,440	\$412,637	\$152,640	\$152,640	\$743,357

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

The Bid Committee adopted Item No. BD34.8 at its meeting held on September 5, 2007, authorizing the appropriate City officials to enter into an agreement with IBI Group, being the highest overall scoring proponent and meeting the requirements of Request for Proposals No. 9155-07-7014, to design, develop and implement the Transmission Operations Optimizer in an amount of \$4,517,820 net of GST.

The Bid Committee decision can be found at:

<https://www.toronto.ca/legdocs/2007/agendas/committees/bd/bd070905/bddd.pdf>

City Council adopted Item IE3.4 at its meeting held on April 16 and 17, 2019 authorizing the General Manager, Toronto Water to negotiate, enter into and execute on behalf of the City a non-competitive agreement with IBI Group Inc. to provide Transmission Operations Optimizer system support and maintenance services, including Graphical User Interface upgrades, at a cost not to exceed \$651,264 net of HST recoveries, for a period of up to three years.

The City Council decision can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.IE3.4>

COMMENTS

IBI Group Professional Services Canada Inc. (IBI Group) are required for the effective support and maintenance, enhancements and upgrade of the TOO system. As the only firm involved in the software's development from feasibility to inception, IBI Group is the only firm with the core knowledge of the programming and associated algorithms contained within TOO. City of Toronto staff do not have the required knowledge, skills or abilities to perform this work.

The services to be provided by IBI Group under the contract are necessary to ensure the TOO system continues to properly operate on a daily basis. Without the support and maintenance services of IBI Group, hardware and software issues will significantly compromise functionality.

Since the initial implementation of TOO on November 9, 2015 and the following six months of User Acceptance Testing, TOO has proven electrical savings of 20 kilowatt hours (kWhrs) per Mega litres (ML) of water pumped at the 14 pumping stations controlled by TOO, and has saved Toronto Water \$1.1 million dollars annually in hydro since 2015.

TOO requires regular maintenance to ensure the data inputs, databases and automated pump controls continue to work as intended. The user interface or GUI is based on 2009 legacy Windows® systems and requires upgrading to maintain and enhance user and administrator controls.

Essential to the functionality of the TOO system is the ongoing timely accessibility of the following:

- Immediate response to service calls for network and database troubleshooting;
- Technical guidance to Toronto IT Staff;
- Continued improvement of the optimization algorithms; and
- Support for hydraulic model changes.

TOO took over six and half years to develop to a state ready for User Acceptance Testing (March 2009 to November 2015), an extremely challenging technical and operational assignment. Here are some of the achievements:

- TOO received the City Manager's Award in September 2016 for its demonstrable success;
- TOO received a one-time incentive contribution from Toronto Hydro and IESO of \$1.629 million in July 2016 for the Save-On-Energy Retrofit Program. At the time it was the largest incentive payment made by IESO in Ontario;
- York Region contributed 33% to the capital project and has paid Toronto \$1,656,972.41 since the project started, as the lowered operating costs directly benefit York Region by way of the metered water rate calculation;
- To date, TOO has a net savings to the City of \$1.616 million over three years (i.e. the gross capital costs less contributions less operating expense savings); and

- IBI Group is an industry leader and is developing and marketing the TOO system as "Blue-IQ".

Although other pump scheduling software sources exist such as MWHSOFT and DERCETO, IBI Group has successfully implemented TOO as a custom package for Toronto Water. Accordingly, given the customization of the TOO system, there is no comparable competitor or option to IBI Group for the provision of the timely technical services that are required to ensure TOO continues to provide substantial savings for the City of Toronto. Under the development agreement, the City has the right to access, use and modify the source code for its purposes. With the source code, a software engineer could provide the necessary services but the ability to deliver it in a timely manner would be significantly impacted by their lack of familiarity with the source code and software.

The Fair Wage Office has reported that IBI Group has reviewed and understands the Fair Wage Policy and Labour Trades requirements and has agreed to comply fully.

CONTACT

Francis Poon, Manager, Integrated Technology Management, Toronto Water,
Telephone 416-397-9880, Email: Francis.K.Poon@toronto.ca

Jacquie Breen, Manager, Corporate Purchasing Policy and Quality Assurance
Purchasing & Materials Management Division, Telephone 416-392-0387, Email:
Jacquie.Breen@toronto.ca

SIGNATURE

Lou Di Gironimo
General Manager, Toronto Water

Michael Pacholok,
Chief Procurement Officer, Purchasing and Materials Management