

Date: 2023-08-31

Subject: **Supply and Delivery of Two (2) Fully Electric Powered Fire Truck – Budget Amendment and Request to Begin Procurement Report**

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Report Number: Brampton Fire and Emergency Services-2023-763

Recommendations:

1. That the report titled: "**Supply and Delivery of Two (2) Fully Electric Powered Fire Trucks – Budget Amendment and Request to Begin Procurement Report**", to the Committee of Council Meeting of September 13, 2023, be received;
2. That a budget amendment be approved for Capital Project #232310-001 (Fire Vehicle Replacement — Pumper 201) in the amount of \$600,000, with funding to be transferred from Reserve #4 – Asset Repair & Replacement and Capital Project #232300-003 (Growth Vehicle — Pumper 215) in the amount of \$700,000, with funding to be transferred from Reserve #133 - DC: Fire Protection to cover incremental costs of purchasing two (2) fully electric powered fire truck; and
3. That the Purchasing Agent be authorized to commence the procurement and enter into direct negotiations with City View Specialty Vehicles. for the Supply and Delivery of Two (2) Fully Electric Powered Fire Trucks.

Overview:

- **Council approved Fire and Emergency Services request to replace one (1) Squad Class "A" Pumpers for Station 201 and purchase one (1) net**

new pumper for Station 215, both fully electric, as part of the 2023 Capital Budget. To achieve Council's priority of being a Green City, Brampton Fire and Emergency Services has identified a viable alternative to the traditional internal combustion engine powered apparatus in the Rosenbauer RT, fully electric emergency response apparatus.

- **Rosenbauer currently has one (1) unit built using City of Brampton specifications being shipped to Minnesota, USA as a demo unit for other potential customers in Ontario that is available now for purchase reducing our build wait time of two (2) years**
- **The Rosenbauer RT is the only fully electric fire apparatus available on the market that is able to meet current firefighting standards and would make the City the first municipality in Ontario to deploy three electric powered front-line emergency response vehicles**
- **City View Specialty Vehicles is the only authorized dealer of Rosenbauer product in Ontario.**
- **The purpose of this report is to amend the Capital Budget for two (2) fully electric fire trucks of \$1,300,000, as each fully electric fire truck are anticipated to cost more than \$2,600,000.**
- **This request seeks approval to begin procurement and enter into direct negotiations through a limited tender process with City View Specialty Vehicles.**
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Background:

The 2023 Capital Budget Submission included an approved budget for the replacement of one Squad Class "A" Pumper apparatus for Station 201 and purchase a net new Squad Class "A" Pumper for Station 215, both fully electric. In support of a "Green City" as identified in the Term of Council Priorities by moving towards greener and more environmentally friendly technologies, coupled with the sustainability focus in the 2021-2025 Fire Master Plan, an alternative to the traditional internal combustion engine was sought for the replacement of the apparatus. The Rosenbauer RT is a fully electric powered fire truck and has been identified as a viable alternative to the traditional vehicles purchased by Brampton Fire and Emergency Services (BFES) in the past.

Moving forward with this advanced technology vehicle would represent an innovative contribution to the Community Energy and Emissions Reduction Plan and allow BFES to strengthen our commitment to a sustainable fleet. The City would join other world class cities such as Berlin, Amsterdam, Dubai, Vancouver and Los Angeles in deploying such technology and showcase Brampton as an international leader.

Current Situation:

To continue the City's drive towards a greener, more environmentally sustainable community, BFES has sought a viable alternative to the traditional emergency response vehicles. As such, the current in-service 2012 Squad Pumper 201 that is due for replacement and net new Pumper 215 that is required, along with the added pressure of rising fuel costs, make an ideal candidate for the fully electric powered fire truck in the province of Ontario.

The identified vehicles are the world's first fully electric fire truck (apparatus). The new technology allows fire crews to respond to emergencies with low noise and exhaust emissions, not only while travelling but also on site. The elimination of emissions on-site not only protects the environment but also the health and safety of the firefighters on scene by reducing the intake of carcinogens while operating near a diesel apparatus. The reduction in noise levels when on scene helps reduce stress levels for both emergency responders and residents close to the scene.

As is the case with all electric vehicles (EV), range and battery useful life is a key area of concern. However, the proposed electric vehicle has increased range technology for the batteries while also deploying a redundancy system known as a range extender. This built-in range extender is essentially an onboard diesel generator, which is able to charge the batteries up to 80% in 15 minutes in the case of extensive fire and emergency service operations.

Additional unique features of the vehicle include the ability to raise and lower ride heights, similar to a passenger bus, to allow for ease of entry into the vehicle and reduce the reach height for firefighters to access equipment while on site. The ride height can be lowered to 6.8 inches and raised to a height of 18.5 inches. The raising of the ride height is significant, as it allows for flood response with no chance of water entering the engine, as there is no engine.

Other noteworthy attributes to the driving capabilities, include all wheel steering to maneuver in tight locations and narrower roads in new subdivisions. In addition to its driving characteristics and safety features, the truck deploys the latest in ergonomic technologies, improving the health and safety of firefighters and reducing risks of firefighter injury.

The fully electric vehicle will be adjusted to meet the needs of BFES in terms of usage and loading, without limiting the flexible vehicle architecture in the building process. The unit will be designed to meet all current industry standards for firefighting. Moreover, the reduction in fuel, maintenance and operating costs is expected to generate financial savings over the life cycle of the vehicle.

The new units are planned to be deployed at new, state of the art, Brampton Fire Stations 201 and Station 215. The required electrical infrastructure that charges electric apparatus has been incorporated into the construction of the new Fire Stations to ensure that current and future needs for electrical power supply have been addressed for the foreseeable future.

This new apparatus will enable BFES to lead the fire and emergency services industry in environmental sustainability and climate protection while protecting the safety of the citizens of Brampton.

The Rosenbauer RT is the only fully electric fire apparatus available on the market that can meet current firefighting standards. City View Specialty Vehicles is the only authorized dealer of Rosenbauer product in Ontario.

Corporate Implications:

Financial Implications:

Council approved \$4,176,000 as part of the 2023 Capital Budget for the purchase of two (2) new fully electric powered Squad Class "A" Pumper apparatus at Station 201 and Station 215. A budget amendment will be required for Capital Project #232310-001 (Fire Vehicle Replacement — Pumper 201) in the amount of \$600,000, with funding to be transferred from Reserve #4 – Asset Repair & Replacement and Capital Project #232300-003 (Growth Vehicle — Pumper 215) in the amount of \$700,000, with funding to be transferred from Reserve #133 - DC: Fire Protection to cover the incremental increase costs in foreign exchange rates and price increase of purchasing two (2) fully electric powered fire truck with similar capabilities. The operating cost savings realized over time from reduced fuel usage and maintenance will partially offset the incremental capital cost of purchasing an electric powered apparatus when compared to a traditional diesel-powered apparatus.

Upon Council approval of the budget amendment, sufficient funding will be available in the following projects:

Project	Project #	Original Approved Budget	Budget Amendment Requested	Revised Budget*
Fire Vehicle Replacement — Pumper 201	232310-001	\$2,088,000	\$600,000	\$2,688,000
Growth Vehicle — Pumper 215	232300-003	\$2,088,000	\$700,000	\$2,788,000

*Pending Council approval of budget amendment

The 2023 Budget included approval of a 3-year capital program and funding plan, which maximized the allocation of anticipated funding availability across planned

projects. The approval of this amendment will require reprioritization of capital projects forecasted to be funded against Reserve #133 - DC: Fire Protection and Reserve #4 – Asset Repair & Replacement.

Other Implications:

Purchasing Implications

The City will enter into direct negotiations with City View Specialty Vehicles. Upon successful conclusion, purchase approval will be obtained in accordance with the Purchasing Bylaw

Strategic Focus Area:

This report has been prepared in full consideration of our strategic focus by showing leadership in environmental innovation, by upgrading the City's assets according to energy and environmental efficiency standards.

- **Environmental Resilience & Sustainability:** Focusing on nurturing and protecting our environment for a sustainable future.
- **Government & Leadership:** Focusing on service excellence with equity, innovation, efficiency, effectiveness, accountability, and transparency.

Conclusion:

It is recommended that a budget amendment be approved, and the Purchasing Agent be authorized to commence the procurement, subject to Council's approval of the budget amendment as described in this report.

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