

DATE OF MEETING    FEBRUARY 12, 2024

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SUBJECT              **ELECTRIC VEHICLE SUPPLY EQUIPMENT COST RECOVERY  
BYLAW**

## **OVERVIEW**

### **Purpose of Report:**

To provide information to Council regarding cost recovery associated with City owned, public-facing electric vehicle charging stations.

## **BACKGROUND**

On 2021-NOV-01, Council directed Staff to enter into a participation agreement with eleven other local governments, to accept a partnership grant with the provincial and federal government to install a network of Level 2 electric vehicle (EV) chargers throughout the mid-island. Five public-facing, dual head EV chargers were installed in Nanaimo through this agreement at a cost of \$100,835 which included a funding contribution of \$75,239 from the Regional District of Nanaimo. The City currently operates a total of six dual-head, public-facing, Level 2, *networked* EV chargers. The City also currently operates two, single-head, public facing, Level 2, *non-networked* EV chargers in two of the parkade facilities. The following usage and cost summary only applies to the *networked* EV chargers, as there is no usage data available for the *non-networked* EV chargers.

During 2023, the six dual-head, networked EV charging stations have accumulated 11,171 individual charging sessions, with an average length of 1hour 49min. Individual session lengths range from one minute to 31 hours. A total of 76MWh of power has been dispensed through these six networked EV chargers during this time, costing the City approximately \$9,880 in indirect electrical costs.

EV chargers are typically referred to as EV Supply Equipment (EVSE). In addition to the cost of power dispensed, EVSE have several other financial implications. One-time financial impacts to the City include initial infrastructure which may include concrete mounting base, bollards, wiring, and ensuring sufficient electricity is available at the end location. This cost varies based on location, access to sufficient electricity, and site work required.

EVSE have a planned asset renewal cycle of 12-years and cost in the order of \$15,000 per EVSE. Line markings and decals are refreshed with the remainder of the parking lot line markings at minimal additional cost. Network costs are approximately \$46 per month, per EVSE. Electricity is paid at the rate associated with the source location. As the City operates under medium and large electric services, the rate paid varies from location to location, but is approximately \$0.13/kWh.

Discretionary costs include 3<sup>rd</sup> party monitoring for functionality, maintenance, support, repair of damage (including vandalism), and issue resolution amount to approximately \$53 per month, per EVSE.

The above cyclical asset renewals, excluding electricity, amounts to approximately \$1,349 annually per EVSE. Electricity consumption depends on usage and generally amounts to about \$1,650 per EVSE per year. These costs are currently paid from general revenue and benefit a portion of the population who operate EVs.]

## **DISCUSSION**

EVSE was installed to support EV charging in the community while attending a city facility, park, or attending neighbouring businesses. As EVs become more prolific, it is important to encourage turnover at EVSE, allowing more individual sessions, and providing the service to a larger portion of the population.

EVSE provide a service for owners of electric vehicles, but the cost is currently paid by general taxation. The proposed bylaw provides cost recovery to sustain a user-pay fee model. Usage may drop off if fees are introduced, but as more EVs come on the road, it is anticipated that demand will increase, further emphasizing the importance of vehicle turnover.

The fee structure provides two (2) hours of charging at a rate comparable to home-based charging while incentivising moving after the first two hours. Users requiring additional time would pay a premium for a longer stay. As many City facilities have maintenance and cleaning activities overnight, it is not desirable to provide charging overnight, and a premium rate has been included for overnight hours. Vehicle charging apps notify users when their vehicle is finished charging. A grace period of 15 minutes would be included allowing users to return to their vehicle and relocate prior to being subject to a premium rate attached with an idle connection.

There are some drawbacks to a time-based fee. As each charging port of the EVSE is powered via the same circuit, there is reduced charging available when load sharing. Additionally, different vehicle makes and ages charge at different rates.

An alternate fee structure based on consumption of electricity was considered, however, the per kilowatt-hour rate required to recover the capital and operating cost of the services exceeded the current interim rate permitted by BC Utilities Commission to BC Hydro. There are minimal comparisons available for a rate other than that used by BC Hydro.

In October 2023, KPMG assembled a table of local governments and their fee structure for EVSE. While many local governments in the mid-island are not yet charging for the service, greater Victoria and Lower Mainland local governments are generally charging fees for this service. Typically, these fees are between \$1 - \$2 per hour (\$0.017 - \$0.03 per minute) with several variations based on time of day, location, length of time, idle-time, etc. Should Council adopt the bylaw, the proposed 2024 rates and charges would be:

| ELECTRIC VEHICLE CHARGING CONNECTION FEES             |   |
|---|---|
| Active Charging Connection Between 6:00am and 10:00pm | \$0.025/minute or portion thereof for the first 120 minutes<br><br>\$0.06/minute or portion thereof for each subsequent minute. |
| Active Charging Connection Between 10:00pm and 6:00am | \$0.06/minute or portion thereof.   |
| Idle Connection any time of day                       | \$0.10/minute or portion thereof, following a 15-minute grace period.   |

Staff propose to adjust these charges each year based on BC Hydro rate increases and increases related to asset management specific to these services.

Penalties associated with this bylaw to be incorporated into the Fees and Charges Bylaw for 2024 are as follows:

| Description   | Penalty | Early Payment Penalty | Late Payment Penalty |
|---|---------|-----------------------|----------------------|
| Unlawful parking in a designated electric vehicle area  | 35.00   | 22.50                 | 37.50                |
| Parked in a designated electric vehicle area but not connected to the Electric Vehicle Supply Equipment | 35.00   | 22.50                 | 37.50                |

## **CONCLUSION**

Staff propose to bring back the following bylaws to the February 26<sup>th</sup>, 2024 Council meeting as a complete package in support of cost recovery for Electric Vehicle Charging Infrastructure:

- Electric Vehicle Recharging Bylaw,
- Fees and Charges Amendment Bylaw, and
- Bylaw Notice Enforcement Amendment Bylaw]

## **SUMMARY POINTS**

- The City currently has six, dual head, electric vehicle charging stations available for public use and the demand for charging is increasing.
- The service provided is used by a small portion of the population but is paid for through general revenue. Adopting a bylaw will provide cost recovery for the City.
- The proposed “Electric Vehicle Recharging Bylaw 2023 No. 7365” would enable recovery of the City’s direct costs and are commensurate with home charging costs.

**ATTACHMENTS ]**

“Electric Vehicle Recharging Bylaw 2024 No. 7365”

“Fees and Charges Amendment Bylaw 2024 No. 7336.07”

“Bylaw Notice Enforcement Amendment Bylaw 2024 No. 7159.19”

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