TOWN OF HALTON HILLS

REPORT

REPORT TO: Mayor Bonnette and Members of Council

REPORT FROM: Michael Dean, Senior Climate Change & Energy Planner

DATE: May 10, 2021

REPORT NO.: ADMIN-2021-0024

RE: EV Charger Site Agreement Between Town of Halton Hills and IVY

RECOMMENDATION:

THAT Report No. ADMIN-2021-0024, dated May 10, 2021 regarding EV Charger Site Agreement Between Town of Halton Hills and OGP/IVY be received;

AND FURTHER THAT Council support the agreement between OPG/IVY Charging Network and the Town to install EV chargers at Town facilities and public parking lots;

AND FURTHER THAT Council direct staff to incorporate operating costs and revenues associated with the agreement into the 2022 and future operating budgets upon execution of the agreement as per the recommendation contained within the Finance section of this report.

BACKGROUND:

The May 2019 Climate Emergency Declaration Issued by Council, set out 14 priority actions to address climate change including, to “encourage staff and the public to switch to plug-in vehicles by installing more Electric Vehicle (EV) charging stations at Town facilities beginning with Town Hall, and further strategies (such as preferred parking spots) be considered to encourage the switch to electric and high efficiency vehicles by the public.” As part of the effort to implement this action, staff have been investigating opportunities to increase access to EV charging stations at Town owned facilities and parking lots across Halton Hills. In 2020, staff completed the installation of a dual head podium charger at Town Hall. In addition to the Town Hall, EV chargers are currently available at Mold-Masters SportsPlex, Acton Arena, and Halton Hills Hydro

Headquarters. Town Staff have been assessing the capacity of other sites to support EV charging infrastructure.

This report identifies a further six sites for installation of chargers and proposes that the Town enter into an agreement with Ontario Power Generation (OPG) and their newly formed EV charging network IVY to install and maintain chargers at these sites.

In January 2019, the Town entered an MOU with OPG to enter into discussions regarding opportunities to develop electrical vehicle charging infrastructure in Halton Hills. Following the signing of the MOU, OPG applied to Natural Resources Canada's (NRCAN) Zero Emission Vehicle Infrastructure Program, with the Town and other Municipal Partners, for grant funding to support the project. That funding was awarded in fall 2019, following which Town Staff have been working with OPG and Halton Hills Hydro to develop a list of potential sites for the installation of EV Chargers. Over 2020, a variety of potential sites were evaluated for technical and financial suitability for installing chargers, leading to the development of a short-list of candidate sites that were further evaluated through a set of sites visits with potential installation contractors to confirm details about site conditions, charger locations, and installation costs. This led to a final list of 11 chargers to be deployed at six sites throughout Halton Hills. If the Town agrees to enter into the Site Agreement with IVY, installation of the chargers is expected to begin in June 2021.

COMMENTS:

The 2019 Climate Emergency Declaration committed the Town to a goal of net-zero carbon by 2030. This ambitious target requires rapid decarbonization of the primary emissions sources in Halton Hills. Greenhouse Gas (GHG) emissions associated with transportation accounts for the largest single share of emissions in Halton Hills at approximately 41% of the total.

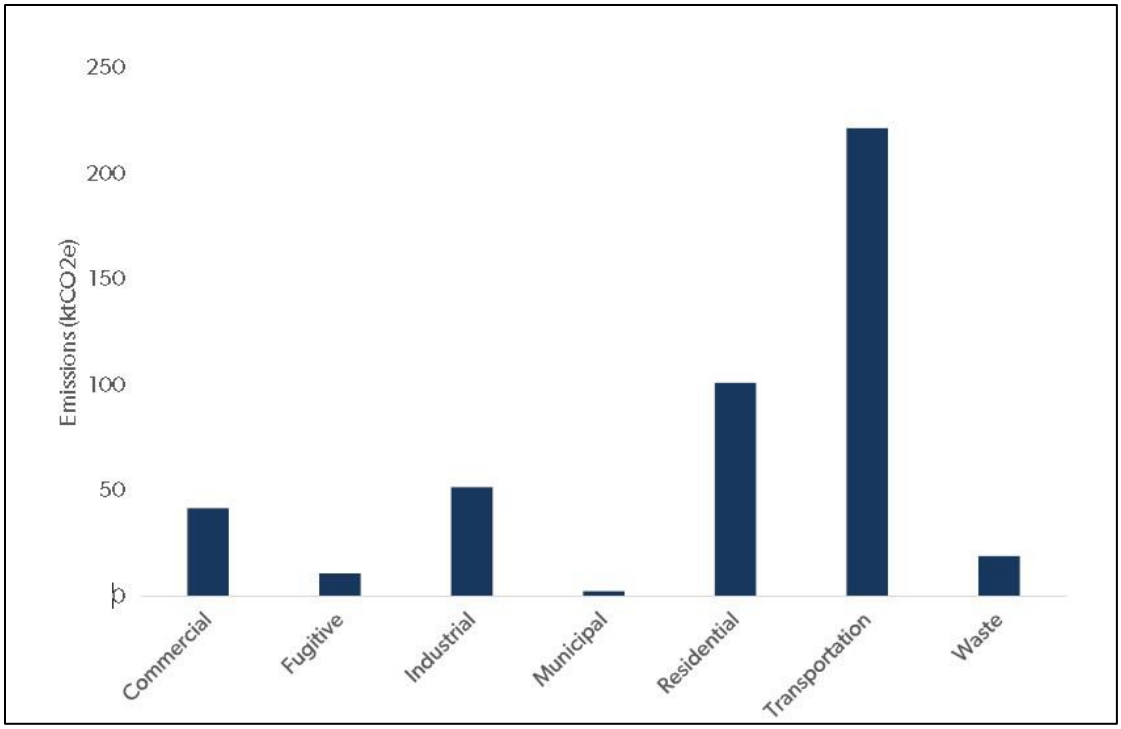


Figure 1 Halton Hills GHG Emissions by Sector (2016)

Due to existing settlement patterns in Halton Hills, it is likely that personal vehicles will remain the largest transportation mode share to 2030. The recent Reference Scenario Report, produced as part of ongoing work on the Low Carbon Transition Strategy, estimates that under current conditions transportation mode share will continue to be dominated by personal vehicles, (as shown in figure 2), and without aggressive new actions to encourage residents to switch away from fossil fuels, transportation will remain a significant source of GHG emissions in 2030. (figure 3).

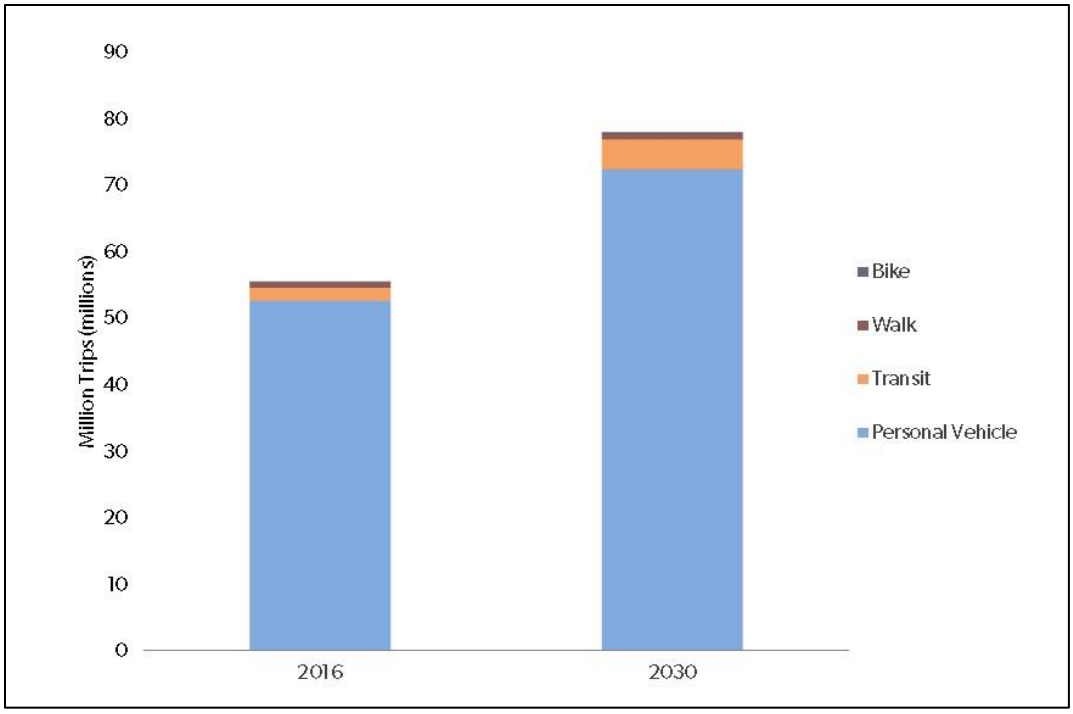


Figure 2 Modelled Halton Hills Mode Share 2016-2030.

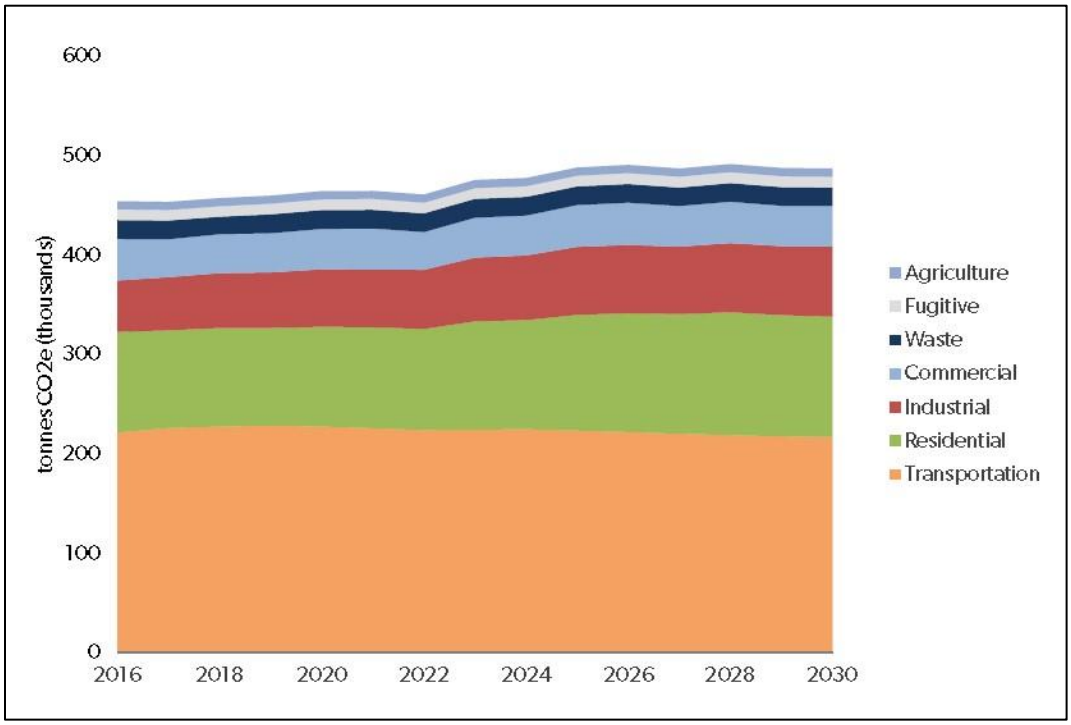


Figure 3 'Business as Planned' Halton Hills GHG Emissions by Source (2016-2030)

Addressing this major emissions source will require a broad strategy that includes improvements to active transportation networks, public transit expansion, intensification, and crucially, policies and programs that drive a rapid shift from fossil fuel based

internal combustion engines towards electric vehicles. The details of this strategy will be one of the outcomes of the **Low Carbon Transition Strategy**, which is currently underway. Preliminary analysis from that strategy has indicated that rapid shifts away from internal combustion engine vehicles will be crucial to achieving the Town's net-zero target.

In addition to the need to drive adoption of alternatives to fossil fuels in the community, the Town is seeking to take a leadership role in reducing its own corporate emissions. GHG emissions associated with employee commuting make up approximately 12% of the total emissions associated with Town activities, according to the 2020 Corporate Energy Management Plan. By increasing access to EV charging infrastructure at Town facilities, the Town can encourage Town employees to switch to electric vehicles and significantly reduce emissions from commuting.

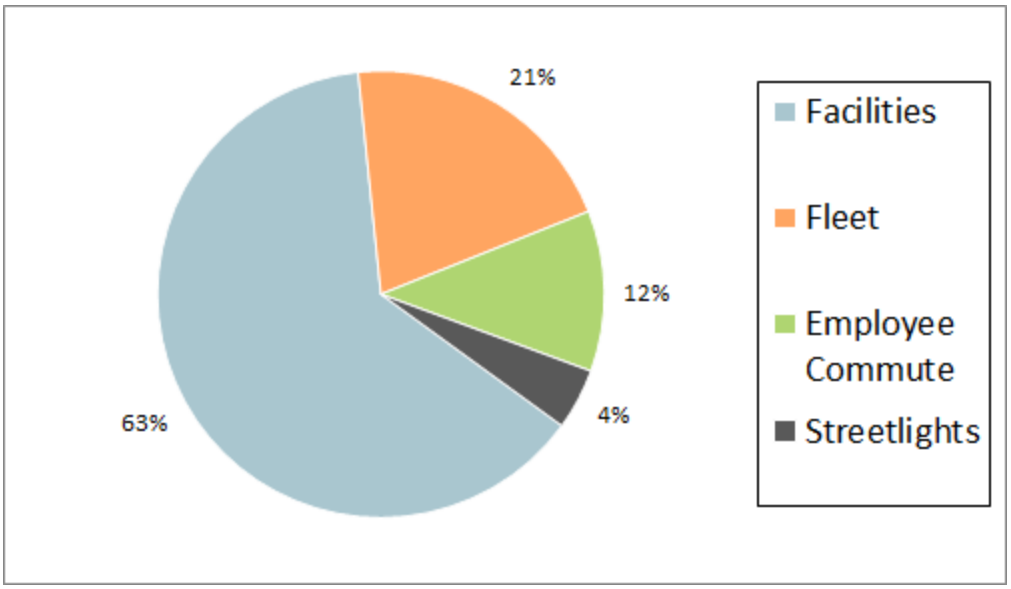


Figure 4 Town of Halton Hills Corporate GHG Emissions by Sector

Expanding access to EV charging in Halton Hills

According to McKinsey, perceived lack of access to EV charging is the third biggest barrier to EV adoption, after price and range. With prices of EVs declining and ranges increasing, access to charging is likely to become an even bigger barrier.[1] Other studies have found a direct correlation between access to EV chargers and electric vehicle uptake, with leading jurisdictions tending to have much higher numbers of EV chargers per capita. Norway, which leads the world in EV uptake – with greater than 50% of all new vehicles purchased being EVs – has more than 10 times the average number of chargers per capita.[2] While current rates of EV uptake in the Town, and resulting

[1] Engel et al. *Charging Ahead: Electric-Vehicle Infrastructure Demand*, McKinsey & Company (2018).

[2] Hall, Dale and Nic Lutsey, *Emerging Best Practices for Electric Vehicle Charging Infrastructure, International Council on Clean Transportation* (2017).

demand for charging, remains low, by constructing a network of chargers across Halton Hills and increasing access to charging, the Town helps to reduce 'range-anxiety' and create more visibility for EVs in the community. In doing so, the Town can drive faster uptake of a key technology for reducing dependence on climate change causing fossil fuels.

Site Agreement

The Town will agree to allow IVY to install EV chargers at mutually agreed sites and will pay an annual fee to IVY for a period of ten (10) years with an option to renew for a further five (5) years. At any time during this period, the Town will be able to purchase the EV charging equipment for an agreed upon fee. The Town will also be able to collect revenues from fees associated with the use of the chargers net a 4% transaction fee.

The proposed agreement with IVY will allow the Town to rapidly expand the availability of Level 2 chargers at Town facilities and Town owned parking lots for use by the public and employees. Through the proposed partnership, IVY will source, install, maintain, and undertake all administrative functions associated with the EV chargers as part of their growing network of charging stations across Ontario

In addition to discussions with IVY, Town staff have investigated other potential partnerships to implement EV charging networks in Halton Hills. It was found that these alternatives provided similar or less beneficial economic terms for the installation of the same service and do not have the structure and readiness to install. While several organizations are in the process of applying for NRCAN funding to support EV chargers, IVY has already secured funding and is the only applicant offering the Charging-as-a-service model. Pursuing other potential models would risk significantly delaying the project and given uncertainties about whether ongoing applications would be successful, may endanger the project.

Town staff have also been involved in on-going discussions with Halton Hills Community Energy Corporation to investigate opportunities to partner on the agreement with IVY. These discussions will continue as the chargers are deployed.

Description of Proposed Charging Network

The proposal includes the installation of eleven level 2 chargers at six sites across Acton and Georgetown. Most sites will have two chargers installed, with the sole exception of the Halton Hills Fire Department Headquarters, where site conditions were only able to accommodate one charger. While level 3 charging works significantly faster than Level 2 chargers – 30 minutes for a full charge compared to 4-8 hours for a level 2 – per unit costs for level 3 chargers can be greater than $100,000 and likely require extensive upgrades to electricity distribution infrastructure in many areas.

The installation of level 2 chargers at appropriate locations will contribute to the development of a charging network that includes both level 2 and level 3 chargers, with an emphasis on level 2 chargers at workplaces and near areas where people are likely to spend longer periods of time and level 3 chargers – like the fast-charging station recently installed at Toronto Premium Outlets by Electrify Canada – along commuting corridors. Level 2 chargers remain a key component of a network that includes home charging, work charging, and fast charging at strategic locations, and act as 'stop-and-shop' chargers that help drive local economic activity and facilitate adoption of EVs for employees and residents who may not have reliable access to at-home charging.

In addition to the installation of the EV chargers listed below, Town staff will be investigating opportunities to expand the number of sites and add Level 3 chargers in areas where the technical capacity and demand exist.

Proposed Sites

The locations and number of chargers for the proposed charger network are summarized in table 3 below. Location details are provided in Appendix A.

Site Name	Address	Chargers	Location Features
Edith St. Parking Lot	60 Edith St.	2	Local retail, offices, employee, and guest parking
Willow St. North Parking Lot	14 Willow St. N.	2	Local retail, offices
Halton Hills Fire HQ	14007 10th Side Rd.	1	Employee and guest parking
Robert C. Austin Operations Centre	11620 Trafalgar Rd.	2	Employee and guest parking
Halton Hills Fairgrounds	1 Park Ave.	2	Park Visitors, School, multi-unit residential, Georgetown Hospital
Dominion Gardens	118 Guelph St.	2	Park Visitors, School, multi-unit residential

Table 1 Proposed EV Charger Locations

The sites selected fall into two main categories: Chargers intended for use by Town Employees and visitors to Town Facilities; and chargers intended primarily for residents and visitors to local amenities.

Program Costs

The annual fee per charger will be $2,181. The eleven chargers identified for this initial installation will have a total annual fee of $23,991(11 X $2, 181).

An annual fee of $23,991 over a ten-year period will cost the Town a total of $239,900. If renewed for the additional five years, the total will rise to $359,848. These are summarized in table 2, below.

	Cost/Charger	Total Cost
First 10 years	$21,809	$239,900
Extend for additional 5 years	$32,713	$359,848

Table 2 Summary of Program Costs

Costs associated with the proposed EV chargers will be lower as a result of the Town's participation in the IVY network and site agreement. Through accessing $5,000 per charger in grant funding provided by NRCAN's Zero Emission Vehicle Infrastructure Program, bulk purchasing discounts associated with the large number of sites being installed by IVY, and reduced administrative fees, staff estimate that the cost of the program has been reduced by approximately 20%. In addition, this estimate does not factor in the savings associated with a reduction of staff time dedicated to planning, coordinating, and monitoring the installation of the chargers which can be significant.

As noted above, the Town can charge a fee for use of the chargers, which can be used to offset the annual fee and utility costs associated with the chargers. The existing chargers at Town Hall charge users $2.00/hour. If a similar fee is charged at the proposed IVY network chargers, each charger will have to be in use for approximately 3,000 hours per year in order to fully offset the annual fee and utility costs associated with charging. This amounts to 34% of the year.

It is unlikely, at least in the first few years, that the chargers will be used enough to fully offset their costs, however any recovered costs will offset impact on Town operating budgets, as the rate of EV adoption increases in coming years, these chargers may become self-sustaining.

In addition to the reduced costs associated with participation in the IVY network, the Town also obtains additional benefits. If any of the chargers fail, they will be replaced by IVY at no cost to the Town, there is no need for the Town to monitor the operation of the chargers or conduct routine maintenance on the chargers themselves and, by participating in the IVY network, the chargers will be part of a rapidly expanding, province-wide EV charging network.

If the Town terminates the agreement prior to the end of the first term, a termination payment will be applied as summarized in table 3 below. Prices below represent the

cost for all chargers if only one or a partial list of sites are terminated then the amount will be adjusted relative to the number of ports on the terminated site(s).

Period	Total
Year 0 - 1	73,426.58
Year 1 - 2	65,115.24
Year 2 - 3	56,847.47
Year 3 - 4	48,623.48
Year 4 - 5	40,443.49
Year 5 - 6	32,307.73
Year 6 - 7	24,216.40
Year 7 - 8	23,869.74
Year 8 - 9	15,867.97
Year 9 - 10	7,911.31

If the Town chooses to purchase the chargers upon cancellation of the agreement, an additional buy-out fee will apply, as show in table 4. Prices below represent the cost for all chargers if only one or a partial list of equipment is bought out, then the amount will be adjusted relative to the number of ports.

Period	Total
Year 0 - 1	18,356.64
Year 1 - 2	16,278.81
Year 2 - 3	14,211.87
Year 3 - 4	12,155.87
Year 4 - 5	10,110.87
Year 5 - 6	8,076.93
Year 6 - 7	6,054.10
Year 7 - 8	5,967.44
Year 8 - 9	3,966.99
Year 9 - 10	1,977.83

If the Town chooses not to purchase the chargers at the end of the agreement, then IVY will remove the chargers at a cost to be determined, but no more than $3,000 per site, plus any required repayment of NRCAN funding.

At the end of the agreement, the Town can either purchase the chargers for a nominal fee to be determined, or the agreement specifies that IVY will remove the chargers at no cost to the Town.

Public EV Survey

In 2020, Town staff conducted a brief survey on Let's Talk Halton Hills enquiring about residents' preferences regarding the expansion of EV charging infrastructure. In total, there were 90 responses to the survey. Key concerns included: minimizing impacts on Town budgets while ensuring fairness in the rates charged for use of the chargers; ensuring that chargers were located in appropriate areas, including Gellert Community Centre and local shopping malls and retail; and the need for level 2 or 3 chargers – with some residents emphasizing the importance of increased access to level 3 fast charging.

With this feedback in mind, staff are recommending that the Town set fees for use of EV charging locations at a level that will offset the cost of electricity and some portion of installation and maintenance of chargers and should review fees on a regular basis to ensure that they are fairly reflecting costs of charging infrastructure while not discouraging use. Potential sites for installing chargers are limited to locations where the Town has direct control, but staff should also investigate opportunities to encourage existing retail locations and other sites to provide access to charging as well and reassess the feasibility of installing chargers at Gellert at the time of the upcoming expansion to that facility. Finally, the costs associated with level 3 chargers and above, and the need to upgrade existing electricity distribution infrastructure in a number of areas, limits the opportunity for the Town to install fast chargers at a number of locations. As a result, Town staff are pursuing the installation of level 2 chargers at appropriate sites as part of an overall strategy that will include evaluation of potential fast charging locations for future expansions to the Town's network of chargers.

Next Steps

In addition to work to source and install EV chargers at various Town facilities and parking lots, staff are developing a draft EV Charging Policy and By-Law that set out conditions of use for the Town's network of EV chargers. These additional tools are important in order to ensure that there is clarity about the intended use of the various EV chargers installed at Town owned locations, and in order to maintain access to the chargers by preventing chargers from being blocked by vehicles not actively charging.

Branding and promotional support will also accompany the installation of the EV chargers. The Town will work with IVY to develop an awareness campaign to promote awareness and uptake of the chargers. As part of this campaign, the Town will be featured as part of the promotional materials accompanying the roll-out of the IVY network and will be listed as a partner on the IVY network site and app. The charging agreement sets out the IVY will work with the Town's communications staff to coordinate messaging and public awareness campaigns relating to the chargers.

Figure 5 Example of potential IVY charging station branding (actual equipment and appearance may differ)

RELATIONSHIP TO STRATEGIC PLAN:

The proposed agreement with IVY supports the Town's strategic plan by contributing to environmental sustainability and reducing our impact on the climate through decreasing community GHGs and supports Council priorities of addressing climate change and reducing our environmental impact.

FINANCIAL IMPACT:

Upon council approval of this report and the execution of the agreement, the Town will incur annual fees for the period between mid-2021 and mid-2031 with an option to extend for an additional five years thereafter. Accordingly, the estimated annual fees

(i.e. $23,990 per year) and the revenues associated with the agreement with IVY will be incorporated into the 2022 and future operating budgets.

With respect to the required funding, it is expected that the annual fees for the first four years (mid 2021- mid 2025) will be financed by redirecting funds previously approved for the installation of the EV chargers as part of the capital budget in project: (7300-22-1703 - the Corporate Energy Plan implementation). Following approval of this report, this portion of the capital project will be closed, and the remaining funds will be transferred back to reserves to be used to support the operating budget during these initial years. The subsequent funding requirements beginning mid 2025 will be addressed through the operating budget process.

CONSULTATION:

Climate Change & Asset Management Staff consulted with relevant departments in developing this report, including Transportation & Public Works, Recreation & Parks, Corporate Services, Halton Hills Fire Department, and Halton Hills Hydro.

PUBLIC ENGAGEMENT:

The Town conducted a public survey seeking through Let's Talk Halton Hills, seeking input on proposed locations for EV chargers and conditions for use.

SUSTAINABILITY IMPLICATIONS:

The Town is committed to implementing our Community Sustainability Strategy, Imagine Halton Hills. Doing so will lead to a higher quality of life.

The report's recommendations advance the Strategy's implementation.

This report supports the environmental pillar of Sustainability.

COMMUNICATIONS:

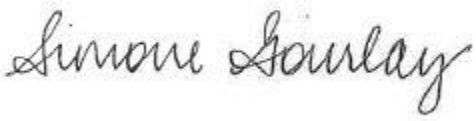
If the Town enters into the partnership with IVY/OPG it will be necessary to communicate to the public about the locations, use conditions, and intent of the EV charging network. This can form part of the overall communications effort surrounding the Low Carbon Transition Strategy and the Town's effort to transition to a low carbon transportation system across the community.

Appropriate Town departments will also be made aware of the planned installations and their responsibilities under the site agreement.

CONCLUSION:

As directed by Council in the Town of Halton Hills Climate Change Emergency Declaration of May 2019, staff have prepared a proposal to significantly scale up access to EV chargers at Town facilities and Town owned parking lots as part of a broader program to facilitate and encourage uptake of EVs by residents through the Town's Low Carbon Transition Strategy.

Reviewed and Approved by,



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