



December 7, 2020

MEMO TO : Park Board Commissioners

FROM : General Manager, Vancouver Board of Parks and Recreation

SUBJECT : **Emissions Free Landscape Equipment Renewal – Board Briefing Memo**

Dear Commissioners,

The purpose of this memo is to report back on the work being undertaken by staff in response to the [Renewal Strategy for Landscape Equipment - Towards an Emission Free Reality](#) motion approved by the Board on January 28, 2019. Building on an [August 2018 Greenest City Greenest City Scholar study](#), staff were directed to develop a transition plan to replace and retrofit gas-powered landscape maintenance equipment with emission-free equivalents or quasi-equivalents where possible. As outlined in this memo, staff anticipate transitioning all small landscaping equipment to zero emission alternatives over the next four years.

In support of the City of Vancouver's Climate Emergency Action Plan, and in alignment with the January 2019 Board motion, the Green Operations' Zero Carbon Working Group has proposed a corporate target to transition twenty-five percent (25%) of small landscaping equipment to electric or Zero Emission (ZE) technologies over the next four years. The Park Operations team expects to exceed this 25% transition corporate target, and per the Board's direction, has developed a plan to convert 100% of the gas powered small landscape equipment fleet to ZE technologies by the end of 2024, with significant progress already made to date.

The Board of Parks and Recreation has been transitioning gas-powered equipment to low or no-emission equipment for many years as equipment reaches end of life; all equipment procurement processes outline the City of Vancouver's commitment to reducing its environmental emissions and fossil fuel consumption and that electric options meeting performance and function specifications are preferred.

On an ongoing basis, Park Operations staff review, assess, and provide feedback on new low and no emission landscaping and significant equipment options by testing how they perform during regular operations. They also actively participate in all transition planning. For clarity, landscaping equipment is defined as manual, hand-operated small equipment such as hand and backpack blowers, hedge trimmers, line trimmers, pole saws, etc. Significant equipment is defined as medium/large items such as ride-on mowing and landscape machines.

In addition to the regular testing of new options as they become available, a specific zero emission small equipment pilot was conducted from June 1 to October 15, 2019. In all weather conditions, Park Operations staff tested various ZE technology landscape equipment items, including hedge trimmers, line trimmers, and leaf blowers. The key findings from the 2019 pilot indicated that some of the ZE technology equipment that was currently available on the market, such as hedge trimmers and pole pruners, performed well compared to gas powered counterparts. Other items, such as leaf blowers, did not perform as well in terms of duration (battery life), did not have comparable effectiveness on all projects (particularly in wet weather), and rated poorly on some ergonomic scores.



Despite some mixed findings regarding the performance of some equipment during the pilot, technological advances in ZE equipment is anticipated to continually improve. Park Operations currently has an inventory of 398 small landscaping equipment items, with 103 already transitioned to ZE technology. Another 30+ items will be transitioned this month, which means over 33% of the Park Board small landscaping equipment will be ZE by the end of 2020. As new technology becomes available, staff expect to be able to move forward with the plan to transition the remaining gas-powered landscape small equipment items to battery operated options over the next four years, with a 25% transition target set for each year.

To date, Park Operations has also already transitioned 42 medium/large equipment items to low or no emission alternatives (e.g. trail vehicles, fleet cars, riding mowers, man lifts, turf rollers, etc.). Additionally, as other significant landscape equipment items reach end of life, staff will continue to partner with the City's Fleet and Manufacturing Services department on delaying replacement of equipment that is still safe and operational to allow the opportunity to review alternative emission-free equivalents as they become available. Hybrid and other available power plants will also be considered, evaluated, and prioritized appropriately (must meet performance specifications).

Transitioning the equipment fleet over a few years will ensure that the majority of equipment will be replaced when it reaches end of life. It is estimated to cost approximately \$85,000 per year, which will be allocated from the small equipment-operating budget. Infrastructure costs related to facility upgrades for battery charging and equipment storage will be an additional cost. Based on data provided within the Greenest City Scholar report, a 25% equipment transition target is estimated to reduce total Green House Gas (GHG) emissions by 149,063kg per year. Staff will track and evaluate costs, along with any potential budget increases or savings realized, and subject to funding, will accelerate this plan as new suitable ZE options become available.

Regards,

A handwritten signature in black ink, appearing to read 'Donnie Rosa', with a long horizontal line extending to the right.

Donnie Rosa (*she/her they/them*)
General Manager - Vancouver Board of Parks and Recreation

/cg/si/ag/clc

Copy to: PB Senior Leadership Team
PB Fleet Supervisor
PB Communications