

To: Board of Management

From: Chief Operating Officer

Subject: **ENERGY RETROFIT PROJECT – RFP 18 (2018-03)**

Date: 2019-01-28

SUMMARY:

This report will recommend the award of the Energy Retrofit contract for the Toronto Zoo site. The Energy Retrofit Project will serve to reduce energy and water consumption, upgrade capital energy-related equipment, improve building operations and maintenance, while saving costs. The project will coincide with the Toronto Zoo's environmental and natural resources conservation platform.

RECOMMENDATIONS:

It is recommended that the Board approve the Energy Retrofit Project and award the Contract to Ecosystem Energy Services Inc.

FINANCIAL IMPACT:

There is no financial impact as the Energy Retrofit Project is expected to be self-funded by Ecosystem Services Inc., grants, incentive programs and operational cost savings from energy and water consumption reductions during the defined payback period, as outlined in the Detailed Concept Report deliverable. Estimated costs, up to an amount of up to \$4.7 million if all energy saving components are approved, will be paid by Ecosystem Services Inc. and reimbursed by the utilities savings generated by the project. Ongoing annual savings are projected to be \$0.948 million.

DECISION HISTORY:

In the 2007 Green Plan the Toronto Zoo set greenhouse gas emissions (GHG) and water consumption reduction targets of 95% and 40% respectively, below 1990 levels, by the year 2027. To date, the Zoo has achieved GHG reductions of 30% below 1990 levels instead of the projected 50% reductions at the end of 2017. Although, the Zoo has surpassed the 40% reduction in water consumption, there is still potential to further reduce the Zoo's consumption.

In addition to attempting to meet the 2007 Green Plan targets, the cost of utilities continue to rise. In 2016 and 2017, the Zoo realized a significant reduction in utility costs as a result of the installation of the Variable Frequency Drives (VFDs) in the Indo-Malaya and African Rainforest Pavilions which helped offset the increase in per unit cost. Regardless, the Zoo needs to ensure it continues to implement new energy reducing projects to reduce its energy demand in the face of increasing utility charges.

In April 2018, the Toronto Zoo released a Request for Proposals - RFP 18 (2018-03) to complete a site-wide Energy Retrofit Project that will target energy and water consumption.

COMMENTS:

Energy Retrofit is a designated conservation project that evaluates, through an energy and water audit, the potential for reducing energy and water consumption based on current infrastructure and mechanics, state of good repair, operational procedures and the organization's purpose and operations. After completion of the project it is expected the Zoo will realize continued savings in energy and water consumption as well as annual utility costs.

Three (3) proposals were submitted in response to the RFP and after a two-step review process by the evaluation team, consisting of Zoo staff and including representation from the City of Toronto Environment & Energy Office, it is recommended that we award the Energy Retrofit Project to Ecosystem Services Inc. (Ecosystem). All proposals received were similar in the approach and strategies for reliable energy savings and the firms were also very experienced in completing this type of project. However, it was the consensus of the evaluation team that Ecosystem better understood the Zoo's unique environment and were more specific to the needs of the Zoo. Ecosystem has experience completing this type of retrofit project within a Zoo environment (Montreal Biodôme) and understands the concerns and restrictions required for this type of project while working in an animal environment.

The awarded Energy Retrofit Project will be divided into 3 phases: 1) Detailed Concept Report Phase, which will include an energy audit and presentation of a project plan with recommendations of facilities upgrades and replacement; 2) Implementation of the Zoo approved projects as defined in the Detailed Concept Report; and 3) Training of Toronto Zoo staff, commissioning of all equipment, and monitoring of achieved savings. The Toronto Zoo will have the option to accept all, none or some of the recommendations in the Detailed Concept Report.

Benefits to the Zoo include:

- Savings in energy, natural gas, water and greenhouse gases
- Zero net cost to the Zoo as the project is self-funded through utility cost savings and incentives
- Simple payback period of less than 6 years
- A possible savings in asset renewal as the project may include proposed Capital and Operating projects, such as lighting upgrades in all buildings, completion of the VFD installations, installing automated louvres in pavilions and greenhouses, R22 equipment and heat pumps replacement.
- Education opportunities to demonstrate sustainability actions.

Completion of the Energy Retrofit Project will help the Zoo support the City's goal, as stated in the 2017 TransformTO Report, to retrofit existing buildings to achieve an average 40% energy performance improvement.

There is little risk associated with the Project and the benefits are strong. The capital investment in the project will be funded by Ecosystem, government grants and incentive rebates. The repayable project costs will be paid back in a simple payback period of less than 6 years with the guaranteed utility cost savings. After the payback period, the Toronto Zoo will benefit from the ongoing utility cost savings.

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