

Centennial Branch – Increase to Architect Contract for Net Zero Building

Date:	December 16, 2019
To:	Toronto Public Library Board
From:	City Librarian

SUMMARY

The purpose of this report is to request Toronto Public Library (TPL) Board approval to increase the contract value for architectural services with Ken Fukushima Architecture jointly with McCallum Sather Architects Inc. for the Centennial branch capital project by \$360,150, for a total value of \$980,662, to include requirements for a Net Zero building.

City of Toronto Council has directed that agencies, corporations and divisions should aim to achieve a net zero energy/emissions target for all new buildings greater than 100 square meters, where technically practical and financially feasible, commencing in 2018. The Centennial branch reconstruction will be the first TPL building to achieve the net zero objective.

RECOMMENDATIONS

The City Librarian recommends that the Toronto Public Library Board:

1. increases the award of the contract to Ken Fukushima Architecture jointly with McCallum Sather Architects Inc. by \$360,150 for architectural services for the Centennial branch capital project to include additional consulting fees for the design, certification and commissioning of a Net Zero building, for a total contract value of \$980,662 [excluding Harmonized Sales Tax (HST)].

FINANCIAL IMPACT

The increase in project scope to include net zero study, design and construction, registration and certification, and commissioning is \$360,150, for a total contract value of \$980,662. This additional cost can be accommodated within the overall approved project budget of \$11,483,000 as the net zero design introduces savings in the construction budget because a smaller mechanical room is required. Additional future operating savings will also result from the net zero design.

Board approval of the increase in the architectural services contract is required because the contract value has increased by 58%.

The Director, Finance & Treasurer, has reviewed this financial impact statement and agrees with it.

DECISION HISTORY

On February 25, 2019, the Board approved that the [contract for architectural services](#) for the Centennial branch be awarded to Ken Fukushima Architecture jointly with McCallum Sather Architects Inc. The award was based on fees of 6.93% of the estimated construction budget of \$8,954,000, resulting in a cost of \$620,512.

BACKGROUND

In March 2017, City Council directed the City's agencies, corporations and divisions to apply the Toronto Green Standard Tier 2 Core performance measures and aim to achieve a net zero energy/emissions target for all new buildings greater than 100 square meters, where technically practical and financially feasible.

TPL has recently completed a study to determine if it is technically practical and financially feasible to design the reconstructed Centennial branch as a net zero energy/emissions building. The study determined that, in conjunction with a high performance building envelope, it is technically practical and financially feasible to achieve net zero on this project.

COMMENTS

Design work for the 15,000 sq. ft. Centennial branch is underway with the architects. The building design is proceeding on schedule. The net zero requirements will require increasing the footprint of the branch on City-owned land, and consultations are

underway with: Parks, Forestry and Recreation, located adjacent to the branch; City Planning; Transportation Services; and the public.

In future, requests for architectural services will include design and building requirements (where technically and financially feasible) to be in compliance with the City of Toronto Green Standards, which now includes a net zero energy/emissions target for new buildings.

CONTACT

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SIGNATURE

Vickery Bowles
City Librarian



Centennial Branch Net Zero

Toronto Green Standard

Gail Rankin, Senior Manager, Facilities Management

Toronto Green Standard

The Centennial branch will be designed to surpass the Toronto Green Standard

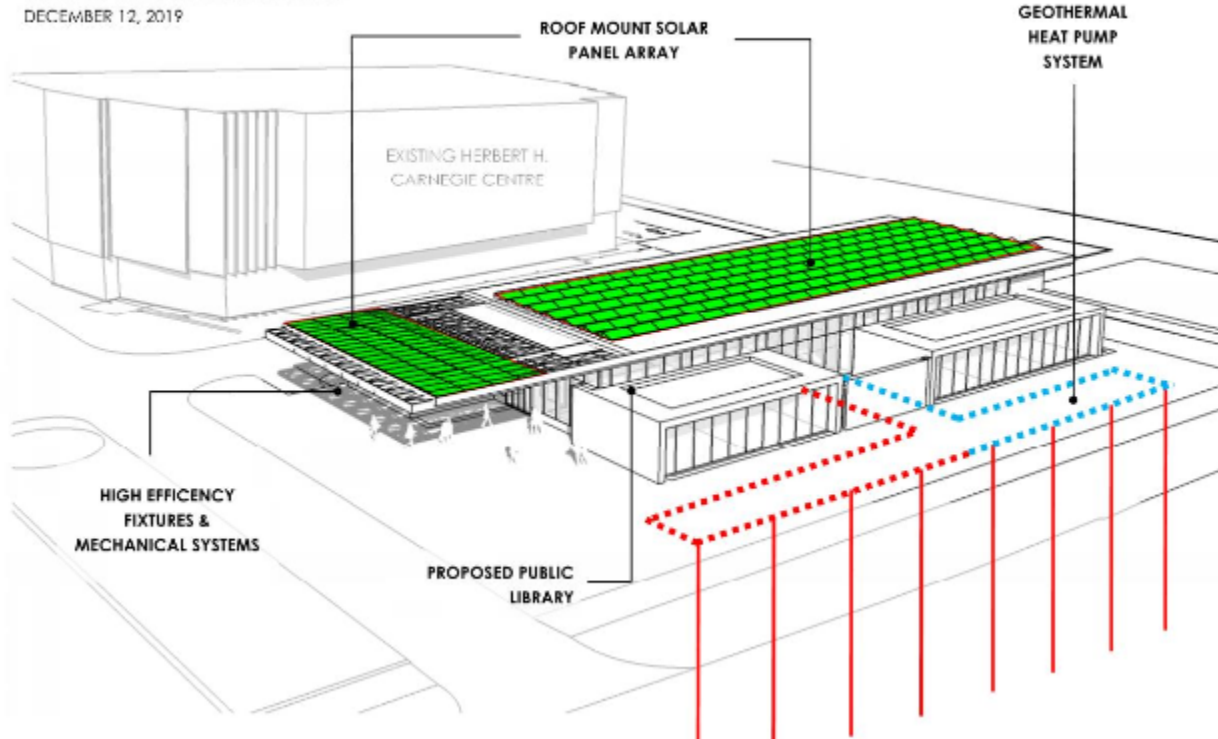
- The Standard applies to all non-residential development being planned and built
- Considers Air Quality, Energy Efficiency, GHG & Resilience, Water Balance, Quality and Efficiency, Ecology, and Solid Waste
- Buildings must be third party certified post-construction to certify that all new capital facilities have met the Tier 2 Core performance requirements.
- Council also directed the City's agencies, Corporation and Divisions to further **aim to achieve** a new-zero energy/emissions target for all new building greater than 100 sq. m. where technically practical and financially feasible commencing in 2018
- The Centennial branch will be designed and constructed to meet the net-zero target

What is Net Zero?

The total amount of energy used on an annual basis is equal to the amount of renewable energy created on the site

RENEWABLE ENERGY SYSTEMS

CENTENNIAL LIBRARY RECONSTRUCTION
DECEMBER 12, 2019



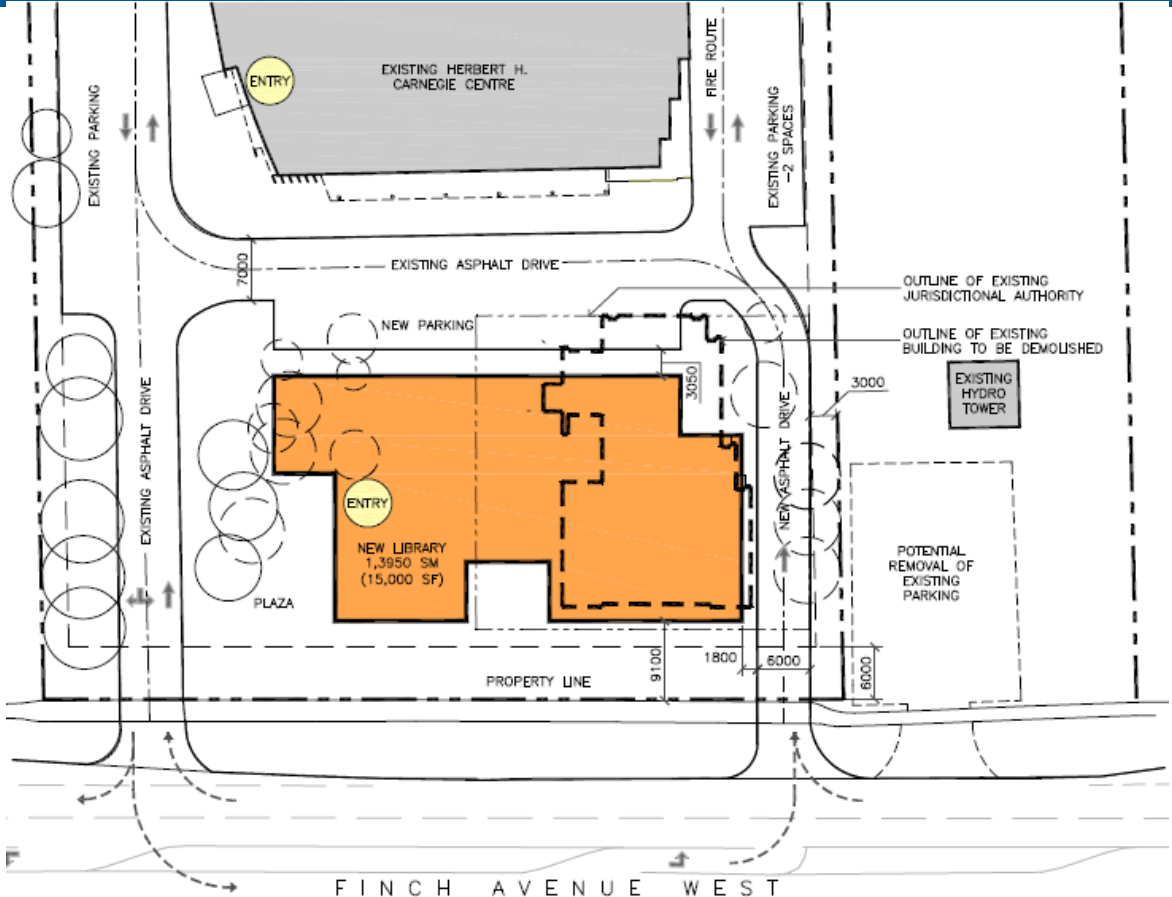
Future RFPs for Architectural Services will specify projects to aim to achieve Net Zero

- Incorporated in the RFP scope of work for Passive design principles
- Specified Net Zero Energy goal: the site generates as much On-Site renewable energy as it uses
- Required that the Design meets the CaGBC's Zero Carbon Standard
- Requires third party audit



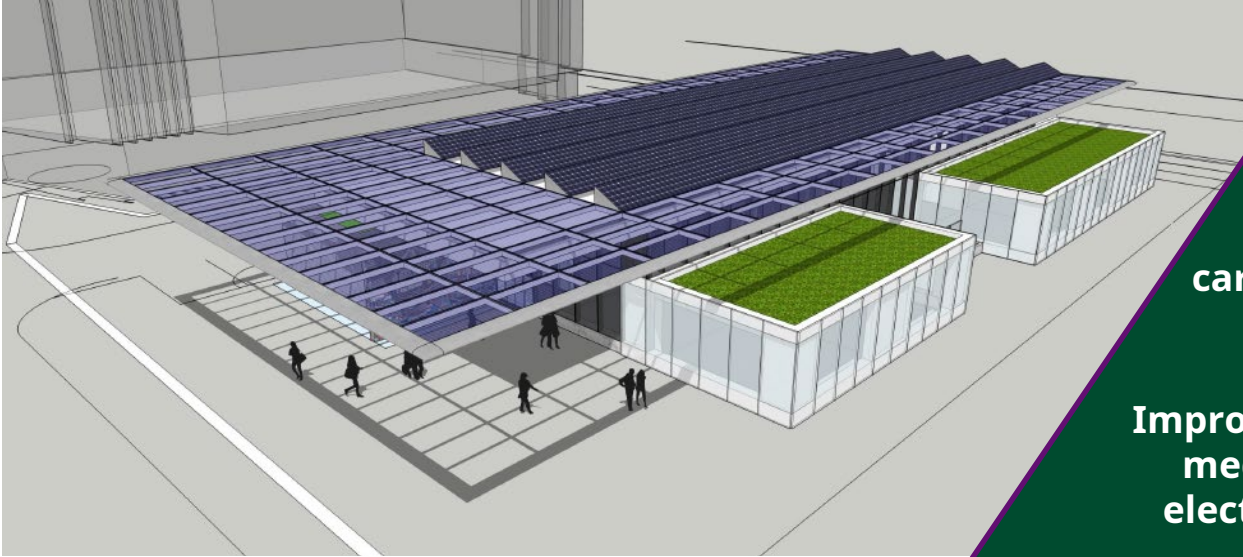
tpl:

The new design increases the branch footprint on the site



Branch Design

The new design increases the branch footprint on the site



Use low
carbon energy

Improve efficiency of
mechanical and
electrical systems

Reduce energy loads through
passive design

There is considerable Renewable Energy Potential in the Centennial design

- Reduce total Energy Use by 50%
- Reduce annual energy cost by \$22,830 / year or \$684,900 over 30 years
- Reduce green house gas emissions by 81%

The project budget can absorb the additional Net Zero design costs

- Overall approved project budget is \$11,340,000
- Cost of Net Zero consulting, design, construction management, certification, and commissioning is \$360,150
- Brings the total value of the architectural services award to \$980,662



thank you!