

AGENDA INFORMATION

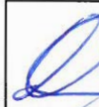
☒ Regular Meeting

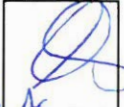
Date: April 15, 2019

☐ Other:

Date: _____


Dept.
Manager


GM/
Director


CAO

The District of North Vancouver REPORT TO COUNCIL

April 5, 2019

File: 02.0740.40/000.000

AUTHOR: Monica Samuda, Energy Manager
Sacha Jones, Revenue Officer, Financial Services

SUBJECT: Grant funding application – District Hall Zone Control Optimization

RECOMMENDATION:

THAT Council supports the District Hall Zone Control Optimization Project and the application for grant funding through the *Investing in Canada Infrastructure Program Green Infrastructure – CleanBC Communities Fund*;

AND THAT the District of North Vancouver commits to its share (\$200,000) of the total project cost of \$700,000 to be funded through the Infrastructure Reserve;

AND THAT the 2019-2023 financial plan be amended prior to year-end to reflect the project.

REASON FOR REPORT:

A resolution of Council is required to support the District of North Vancouver's (DNV) grant application under the *Investing in Canada Infrastructure Program Green Infrastructure – CleanBC Communities Fund*.

The District Hall Zone Control Optimization Project is an upgrade to the building controls for heating and cooling throughout District Hall. The Project addresses an upcoming requirement in the Building Asset Management Plan to refurbish an outdated system and advances the District's efforts to bring corporate emissions to carbon neutrality.

SUMMARY:

In late 2018, the Government of Canada and the Province of British Columbia announced program funding through their *Investing in Canada Infrastructure Program – CleanBC Communities Fund*. The District Hall Zone Control Optimization Project is the best candidate as it meets the program objectives and delivers much-needed upgrades to extend the life and improve the performance and energy efficiency of existing equipment at District Hall. The DNV Strategic Energy Management Plan has identified this project as one of several

opportunities for energy and Greenhouse Gas (GHG) reductions at the Hall, which is one of the DNV's top energy consuming facilities.

This Project focuses on the building-wide devices that play a large part in occupant comfort and how much energy heats and cools the building.

The project will reduce energy usage in two ways:

- Better control of intentional energy delivered to building occupants, and
- Reduction of unintentional losses of energy due to outdated components and system design.

BACKGROUND

The DNV is a signatory of the BC Climate Action Charter and has been actively working to bring our corporate emissions to carbon neutrality and to reduce community emissions through various plans, policies and projects. The 2012 Official Community Plan (Chapter 10) calls for the community to reduce GHG emissions 33% from 2011 levels by 2030.

A new draft Community Energy and Emissions Plan (CEEP) is currently being finalized and has been presented in a recent council workshop. The CEEP identifies actions to be supported by the DNV to reduce community-wide emissions to zero by 2050.

The DNV aims to demonstrate actions to be replicated in the community and, since 2011, has been actively pursuing energy use and emission reduction targets for its own corporate operations that are more aggressive than the community targets. The corporate targets and actions are guided and regularly updated in the DNV's Strategic Energy Management Plan (SEMP).

The SEMP includes a review of the asset management plan and prioritizes systems requiring major maintenance or replacement. The District Hall fan coil system, which is outdated and in need of refurbishment, is critical to the proper functioning of the heating and cooling of this key District facility. This District Hall Zone Control Optimization project takes advantage of a need to refurbish an outdated system in order to also optimize the building's energy, emissions and comfort performance. This project is exactly the type of upgrade to an existing building that will create meaningful energy and emissions reductions.

ANALYSIS:

The District Hall Zone Control Optimization Project will upgrade the controls from the existing outdated devices to work with the building's Building Automation System (BAS). Full control of the energy investment in operating this facility will only be possible by addressing the user-level comfort system: the zone-controlled fan coil system distributed throughout the facility. The fan coils are also the system that delivers conditioned air to building occupants. This project will deliver more consistently comfortable work areas.

Reducing the total building energy load will make future projects, such as low-carbon electrification, even more feasible. Accurate control of heating and cooling is key in reducing overall energy consumption and GHG emissions. Electronic space temperature sensors will allow the boilers and fans in the system to operate at their optimal level to keep work zones comfortable for users.

This project is expected to reduce District Hall's GHG emissions by over 25% and total energy consumption by over 10%, while extending the life of critical building components and improving occupant comfort.

Timing/Approval Process:

The deadline for submission of a Council resolution supporting this application is April 27, 2019.

Financial Impacts

The total capital cost of the District Hall Zone Control Optimization Project is estimated at \$700K, of which the DNV portion will be \$200K if the grant application is successful. Annual energy cost savings are estimated to be approximately \$14,000.

If the grant application is not successful, the full cost of the project will need to be funded within the next 5 years in order to avoid failure of the District Hall fan coil controls.

Environmental Impact:

This project is expected to reduce District Hall's GHG emissions by over 25% and total energy consumption by over 10%.

Conclusion:

The District Hall Zone Control Optimization Project provides an opportunity to renew existing equipment and add the refined level of controls needed to deeply reduce energy consumption and emissions from the Hall's heating and cooling systems. As fundamental infrastructure work, the project is a strong candidate to receive funding under the *Investing in Canada Infrastructure Program Green Infrastructure – CleanBC Communities Fund* grant so that this work can be done sooner, and at a lower cost, than otherwise planned.

Monica Samuda
Energy Manager

Sacha Jones
Revenue Officer

REVIEWED WITH:					
<input type="checkbox"/> Community Planning	_____	<input type="checkbox"/> Clerk's Office	_____	External Agencies:	
<input type="checkbox"/> Development Planning	_____	<input type="checkbox"/> Communications	_____	<input type="checkbox"/> Library Board	_____
<input type="checkbox"/> Development Engineering	_____	<input checked="" type="checkbox"/> Finance	_____	<input type="checkbox"/> NS Health	_____
<input type="checkbox"/> Utilities	_____	<input type="checkbox"/> Fire Services	_____	<input type="checkbox"/> RCMP	_____
<input type="checkbox"/> Engineering Operations	_____	<input type="checkbox"/> ITS	_____	<input type="checkbox"/> NVRC	_____
<input type="checkbox"/> Parks	_____	<input type="checkbox"/> Solicitor	_____	<input type="checkbox"/> Museum & Arch.	_____
<input type="checkbox"/> Environment	_____	<input type="checkbox"/> GIS	_____	<input type="checkbox"/> Other:	_____
<input type="checkbox"/> Facilities	_____	<input type="checkbox"/> Real Estate	_____		
<input type="checkbox"/> Human Resources	_____	<input type="checkbox"/> Bylaw Services	_____		