



DISTRICT OF WEST VANCOUVER
750 17TH STREET, WEST VANCOUVER BC V7V 3T3

11.1.

COUNCIL REPORT

Table with 2 columns: Field (Date, From, Subject, File) and Value (September 1, 2021, M. Chan, Deputy CAO, John Wong, Manager of Facilities & Assets and Ruby Clarke, Facilities Capital Project Manager, Update on Municipal Hall Seismic Upgrades & Renewal Project, 0500-01)

RECOMMENDATION:

THAT the report titled "Update on Municipal Hall Seismic Upgrades & Renewal Project" be received for information.

1.0 Purpose

The purpose of this report is to provide an update on the Municipal Hall Seismic Upgrades & Renewal Project.

2.0 Executive Summary

The planning for the Municipal Hall Seismic Upgrades & Renewal Project ("the Project") started in 2017, with construction commencing in late 2019.

The rationale for the Project was that the Municipal Hall had not had any significant renovations during its 50+ year history; all of its building systems were at end of useful life; the building systems were expensive to operate, inefficient and well below the District's sustainability objectives; and the seismic performance of the Municipal Hall was well below current code requirements and created a risk of potential collapse and damage to the new Police Services and Municipal Hall Building in the event of a major earthquake.

In summary, staff anticipate that the Project will be completed earlier than initially anticipated, and below the Project cost estimates. The Project is currently anticipated to be completed around March 2022.

Upon completion of the Municipal Hall Seismic Upgrade and Renewal Project, the District will have achieved:

- within a 5 year period, a new Municipal Precinct, with an essentially new seismically upgraded Municipal Hall that will safely serve the community for decades, a recently opened post-disaster standard Police Services and Municipal Hall Building (PSMH); and a Fire Hall No.1 that has a seismically upgraded roof and apparatus bay;
• replacement of all end of life Municipal Hall building operating systems with modern, energy efficient systems;

- new building envelope for Municipal Hall with modern, high thermal efficiency windows;
- 90%+ reductions in GHG emissions from Municipal Hall building operations;
- the sensitive restoration and sustainable renewal of a recognized heritage building;
- business continuity for the community by significantly improving the structural integrity and safety of the District's key municipal buildings (Police, Fire and Municipal operations);
- significant safety improvements through the removal of all known Hazardous Materials in the Municipal Hall building;
- mitigation of the risk of damage to the adjacent PSMH Building in the event of a major seismic event; and
- an up to date and flexible office environment with reduced operating costs and reduced capital costs now and into the future.

3.0 Legislation/Bylaw/Policy

There is no legislation/bylaw/policy directly related to the subject matter of this report.

4.0 Council Strategic Objective(s)/Official Community Plan

The Official Community Plan contains multiple supporting policies for the Project including: 2.1.9 regarding the protection of heritage buildings; 2.1.23 regarding the advancement of community energy efficiency and reduction of Green House Gas emissions; 2.4.24 regarding providing infrastructure for electric and low-emission vehicles and charging stations; 2.6.23 regarding incorporation of low-carbon energy systems in public projects; and 2.8.9 regarding maintaining and optimizing existing civic facilities and managing space to meet changing needs.

5.0 Financial Implications

The financial implications for the Project are set out in the Analysis section of the Report below.

6.0 Background

6.1 Previous Decisions and History

The detailed planning for the Project began in 2017. Council determined that following completion of the Police Services and Municipal Hall building ("PSMH"), the next phase for the Municipal Hall Precinct (i.e. 17th Street and Fulton Avenue) was to start the Municipal Hall Seismic Upgrades & Renewal Project. The primary rationale for the Project was that: the Municipal Hall and its building systems were at end of useful life and the building had never had a significant renovation; and due to the age of the building (50+ years) and the unique design of the tower at

Municipal Hall, the seismic performance was well below modern standards, and there could be a risk of damage to both the Municipal Hall and the newly constructed PSMH building thereby affecting the District’s ability to provide essential services after a major seismic event. During 2017, Council also approved the Project Goals and Objectives to guide the Project.

Council approved funding each year through adoption of the District’s Five Year Financial Plan Bylaws. The approved funding for each year and the total is set out below.

2017	2018	2019	2020	2021	TOTAL
\$500,000	\$900,000	\$5,674,536	\$8,350,000	\$4,250,000	\$19,674,536

Below is a high level summary of the work:

- 2017 and 2018: pre-planning, feasibility, scoping and determination of phasing; and included testing, opening of various areas to determine as built conditions, core samples, environmental testing, space planning, code review, etc;
- 2019: design, tendering, and start of construction in August 2019 for Phase 1 – seismic upgrades, and design for Phase 2 – building envelope and major building systems;
- 2020: design and continuation of Phase 1 – seismic upgrades, and tendering and start of construction of Phase 2 – building envelope and major building systems; and
- 2021: completion of Phase 1 – seismic upgrades, continuation of Phase 2 – building envelope and major building systems; and start of Phase 3 – interior modifications.

The Project is anticipated to be completed around March 2022.

7.0 Analysis

7.1 Discussion

Status of Construction

Phase – 1 Seismic Upgrades is now approximately 75% complete. All of the new concrete footings have been poured and constructed. All of the steel bracing has been installed. The main remaining work is to construct the concrete shear walls from the basement to the roof level and tie them into the existing structure.

Phase 2 – Building Envelope and Major Building Systems is now approximately 60% complete. Installation of new window frames and windows on the ground floor and main floor of the east administration area is complete and the installation in the west tower building is in progress. This will result in a major improvement in the thermal performance of the building. The main Air Handling Unit was brought on-line in August 2021

with new ductwork. Other main building systems such as sprinklers, plumbing, lighting, building system controls, etc are being worked on now and will be completed in conjunction with Phase 3 – Interior Modifications.

Phase 3 – Interior Modifications is now approximately 20% complete with occupancy in the ground floor offices in August 2021, and occupancy in the main floor Council Chamber and Administration area around October 2021. The interior modifications for the Tower side of the Municipal Hall are being constructed now.

Full occupancy of the Tower and completion of the Project is planned for March 2022. This is significantly ahead of the initial anticipated schedule and results in less cost escalation, and less inconvenience to the public and provision of services.

Cost Estimates / Budget

In February 2018, the District engaged an independent quantity surveyor to provide a construction cost estimate that was used to develop an overall Project budget of \$20.3M. In July 2019, the District obtained a second construction cost estimate from the District's independent quantity surveyor. That second construction cost estimate was completed shortly before commencing construction, and took into account the latest design, partial tendering of contracts, and constructability advice from the District's independent construction managers. Based on that work, a second Project cost estimate was developed totalling \$22.3M.

As explained above, the current approved funding to complete the Project is \$19.67M. Staff anticipate that the Project will be completed around March 2022 within the approved funding of \$19.67M and below the two cost estimates obtained in 2018 and 2019.

The District anticipates completing the Project earlier than originally anticipated, and for less than the original cost estimates. As with most renovations of old buildings, surprises were encountered that were only discovered as excavation exposed underground site conditions, and walls and ceilings were opened up. Furthermore, some surprises were discovered due to inaccuracies in the original as-built drawings. The District was able to address these surprises and absorb this additional scope into the Project without exceeding the overall Project cost estimates. Examples of these surprises are: the discovery of additional hazardous materials which have now been completely removed from the Building; the discovery of unreinforced non-structural elements of the Building which have now been seismically reinforced; and the strengthening of previously unknown unreinforced walls in the Council Chamber and throughout the main floor area of the Building. If undiscovered and unaddressed, these would have created significant risk to the safety of the public and staff at Municipal Hall.

Sustainability and Earthquake Safety

The Project will also deliver a major sustainability enhancement for the District. The Building will now have a modern window (glazing) system with new window frames and windows to replace the previous single pane and jalousie (lever shutter) type windows. The new frames will replicate features of the existing windows while resulting in significant improvements in thermal performance, avoiding the need to rely on custom manufacturing from overseas, and also reducing costs. The new window system, coupled with the new electrification of the heating system is estimated to reduce the Building's annual Green House Gas emissions from 160 tonnes to an estimated 11 tonnes CO². This results in a significant 90%+ reduction in GHG emissions, and is a major step forward in delivering the District's sustainability objectives in light of Council's June 2019 Declaration of Climate Emergency.

In terms of public safety, seismically upgrading the Municipal Hall will result in a major step forward for business continuity, ensuring that the core of government services can continue to operate and provide essential services to the public after a major seismic event. Disasters such as the Christchurch, New Zealand earthquake have shown that a community's overall ability to recover after a disaster is highly dependant upon how quickly public services can be restored.

The seismic performance of the Building was based on 50+ year old designs and prior to construction was assessed at well below current code requirements. During demolition and site preparation, additional structural issues were discovered in the existing building which further reduced its existing seismic performance.

To provide a sense just how much the building will be strengthened upon completion, below are some illustrative statistics. Upon completion, the building will have been reinforced with:

- 45+ truckloads of concrete;
- 250,000 lbs of rebar (i.e. steel reinforcing bars); and
- 100,000 lbs of steel bracing and structural improvements.

These statistics help to illustrate the complexity of the Project, and the consequences if the District had not decided to seismically upgrade the 50+ year old Building.

7.2 Sustainability

The Project provides significant sustainability benefits in terms of reduced GHG emissions, the retention and renewal of an existing building rather than demolition, and social sustainability through the major enhancements in public safety and business continuity for the community.

7.3 Public Engagement and Outreach

As this report is to be received for information, no specific public engagement and outreach has been conducted for this report.


7.4 Other Communication, Consultation, and Research


The Project has been delivered through a multi-divisional team working with an integrated design team of consultants.

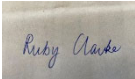
8.0 Conclusion

In conclusion, upon completion of the Municipal Hall Seismic Upgrades and Renewal Project, the District will have achieved:

- within a 5 year period, a new Municipal Precinct, with an essentially new seismically upgraded Municipal Hall that will safely serve the community for decades, a recently opened post-disaster standard Police Services and Municipal Hall Building (PSMH); and a Fire Hall No.1 that has a seismically upgraded roof and apparatus bay;
- replacement of all end of life Municipal Hall building operating systems with modern, energy efficient systems;
- new Municipal Hall building envelope with modern, high thermal efficiency windows;
- 90%+ reductions in GHG emissions;
- the sensitive restoration and sustainable renewal of a recognized heritage building;
- business continuity for the community by significantly improving the structural integrity and safety of the District's key municipal buildings (Police, Fire and Municipal operations);
- significant safety improvements through the removal of all known Hazardous Materials in the Municipal Hall building;
- mitigation of the risk of damage to the adjacent PSMH Building in the event of a major seismic event; and
- an up to date and flexible office environment with reduced operating costs and reduced capital costs for now and the future.

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