

TO: MAYOR & COUNCILLORS
FROM: FIRE CHIEF AND GENERAL MANAGER COMMUNITY SAFETY
SUBJECT: **EXPANDED BURNABY MOUNTAIN WILDFIRE PREVENTION PROGRAM**
PURPOSE: To seek Council's endorsement of a proposed expanded wildfire prevention program for Burnaby Mountain and approve the required funding.

RECOMMENDATION

THAT staff be authorized to add \$290,000 from the Burnaby Mountain Safety Reserve for the Expanded Burnaby Mountain Wildfire Prevention Program to the 2026-2030 Financial Plan, as outlined in Section 3.0 in the report titled "Expanded Burnaby Mountain Wildfire Prevention Program" dated January 13, 2026.

1.0 POLICY SECTION

The proposed Expanded Burnaby Mountain Wildfire Prevention and Monitoring Program is pursuant to the:

- Burnaby Council Strategic Plan (2025)
- Burnaby Climate Action Framework (2020);
- Burnaby Community Safety and Well-Being Plan (2025); and
- Burnaby 2050 Official Community Plan (2025).

2.0 BACKGROUND

Burnaby faces increasing wildfire threats due to hotter, drier summers, climate change, and urban expansion. Zones of potential wildfire risk are present in Burnaby Mountain Conservation Area and near adjacent industrial sites. Even historically rare fires can escalate rapidly, threatening lives, property, and infrastructure. The Trans Mountain Tank Farm and Parkland Refinery, both in proximity to Burnaby Mountain, are high-consequence sites. Potential wildfire in these areas could have severe environmental, safety, and economic impacts. As well, Burnaby Mountain and SFU campus both have increasing populations of residents and students, with evacuation routes limited by topography. Early wildfire prevention and monitoring is essential to minimize the risk of wildfires, prevent route disruptions, and ensure successful evacuations.

3.0 GENERAL INFORMATION

Given the evolving wildfire context on Burnaby Mountain and in surrounding areas, and as part of the implementation of the Burnaby Community Safety and Well-Being Plan (e.g. Strategic Action 2.2), staff are proposing an expanded wildfire prevention program for Council's consideration.

3.1 Installation of an Early Wildfire Detection System

The City currently does not have an automated fire detection system in place to monitor Burnaby Mountain and is reliant on manual observation or third-party reporting of fire events in mountainous and forested areas. This can create delays in response times and increases the risk of escalation in the event of a wildfire.

To address these circumstances, staff propose the installation of an autonomous monitoring system including smoke detection cameras and ground sensor nodes, which can detect and report fire indicators such as heat and smoke in near real-time, enabling more proactive risk mitigation and response. Such an approach will also support the City's broader objectives for public safety, environmental stewardship, and resilience.

Current proposed locations are Burnaby Mountain, related wildfire urban interface boundaries (where forested areas are adjacent to urban form), evacuation corridors, the Trans Mountain Tank Farm, and Parkland Refinery. Locations on Burnaby Mountain will be selected in partnership with Simon Fraser University (SFU), including potential on-campus locations.

Should Council approve the Burnaby Mountain Wildfire Prevention and Monitoring Program, a procurement process will be completed to secure the appropriate vendor.

3.2 Evaluation of the Fire Environment on Burnaby Mountain

To complement installation of an early warning system, staff are proposing to work with Dr. Sophie Wilkinson, of the SFU School of Environmental and Resource Management, to complete an evaluation of the potential wildfire situation on Burnaby Mountain. The goal of this process is to provide a stream of relevant and updated data to improve related Emergency Preparedness processes and protocols. Dr. Wilkinson is an expert in wildfire science, ecohydrology, and ecosystem resilience. If approved, this work would be managed via the Civic Innovation Lab (the 'Lab').

The evaluation process would entail implementing two fire environment monitoring stations on Burnaby Mountain, in selected north and south slope locations within the Conservation Area. Each fire monitoring station would be equipped with a state-of-the-art small-scale weather station, a solar powered datalogger, and five soil moisture and temperature probes. The stations connect to a telemetry system to transmit fire environment data (wind speed, direction, air temperature, relative humidity, soil moisture, soil temperature and precipitation rate) to the research team and partners (the City) wirelessly and continuously. The stations are fully self-

sufficient once installed and can provide updates every 15-30 minutes.

The data collected would provide a holistic evaluation of the fire environment on Burnaby Mountain and enables higher resolution assessments of potentially high-risk areas for high-intensity fire and post-fire geohazards. This new data can then inform updated emergency management planning and community education programs. Pending Council approval, a research agreement between Dr. Wilkinson and the City would be advanced, with support from the Lab.

3.3 Burnaby Mountain Emergency Management

The City’s Emergency Management Team continues to design, develop and evaluate emergency management and disaster response plans by implementing and evaluating new and improved protocols, exercises and systems that comply with the Provincial Act, Regulations and local bylaws. Should Council approve these proposed initiatives, it is expected that both the Early Wildfire Detection system and the evaluation of the fire environment on Burnaby Mountain will better inform and assist the Emergency Management Team in analyzing hazards, risks, and emergency response and recovery frameworks and protocols.

4.0 COMMUNICATION AND COMMUNITY ENGAGEMENT

Should Council approve the Expanded Burnaby Mountain Wildfire Prevention Program, further appropriate public information and engagement opportunities will be developed, including focused campaigns on wildfire prevention behavior and on any updated emergency management plans and procedures.

5.0 FINANCIAL CONSIDERATIONS

It is recommended that staff be authorized to add \$290,000 for the Expanded Burnaby Mountain Wildfire Prevention Program to the 2026-2030 Financial Plan as outlined in Section 3.0 above. If approved, the Burnaby Mountain Wildfire Prevention and Monitoring Program would be funded through the Burnaby Mountain Safety Reserve, which has funds available to accommodate.

Respectfully submitted,

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REPORT CONTRIBUTORS

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