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| <i>COUNCIL AGENDA</i> | |
| Date: <u>July 25, 2022</u> | Item: <u>8.</u> |



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

8.

COUNCIL REPORT

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| Date: | June 28, 2022 |
| From: | Jenn Moller, Director of Engineering & Transportation Services Sue Ketler, Director of Parks, Culture & Community Services |
| Subject: | Capilano Pacific Trail |
| File: | 1700.09 |

RECOMMENDATION

THAT

1. staff be directed to immediately initiate decommissioning and permanently securing the landslide area and section of the Trail contained therein, by installing permanent fencing and signage as described in the report;
2. staff fund the Trail decommissioning and securing of the landslide area through a combination of the Weather Related Incidents Reserve for the Trail decommissioning at an estimated cost of \$30,000, and the Sewer Utility for the sewer decommissioning at an estimated cost of \$65,000;
3. the existing signage and temporary fencing measures as described within the report remain in place to deter public trespass until permanent fencing is installed; and
4. staff continue to monitor the landslide area and temporary sewerage system in accordance with the recommendations of a qualified professional as described in the report.

THAT

1. staff initiate reinstatement of the Capilano Pacific Trail in an alternate alignment as described within this report, built to a standard width of approximately 1.3 metres; and
2. staff fund the Capilano Pacific Trail realignment at an estimated cost of \$850,000 through the Community Serving Community Amenity Contributions (CACs) fund.

1.0 Purpose

The purpose of this report is to seek Council direction regarding a section of the Capilano Pacific Trail (the Trail) affected by the January 2021 landslide events. This report recommends Council adopt a specific policy resolution regarding the decommissioning and permanent securing of the landslide area and section of the Trail contained therein, to guard against public trespass to the hazardous area. This report further recommends a policy resolution to fund the reinstatement of the Trail within an alternate alignment.

2.0 Legislation/Bylaw/Policy

Plan for Trails on Public Land

Approved by Council in 2018, the Plan for Trails on Public Land (The Trails Plan) is a policy document that provides guidance for decisions about trails on public land in the District and deals with the operations and maintenance of public trails, see link.

https://westvancouver.ca/sites/default/files/dwv/assets/gov/docs/strategies-and-plans/Plan_for_Trails_on_Public_Land_DWV.pdf

It includes the following statements:

- “Currently, the District’s trail maintenance is focused on replacing and/or repairing failing trails and trail structures, with priority given to areas where there is high public use or safety concerns. The District has not had sufficient resources to proactively manage trails.”
- “An important part of the trail maintenance program is monitoring. Monitoring allows the District to track trail condition and damage and to collect data, which helps to set priorities for maintenance efforts. Trails are currently monitored by users and District staff through an informal process.”

The Trails Plan does not otherwise set out a regular inspection or maintenance schedule for recreational trails and there are no other formal policies in this regard.

These core values were endorsed by the community through the engagement process for The Trails Plan.

- protection and stewardship of the natural environment
- experience, appreciation, and understanding the natural beauty of waterfront, creeks, and forests
- support of active living, health, social, and spiritual well-being by facilitating access to low-cost, unstructured opportunities like trails
- inclusiveness, accessibility, and respect for all trail users

- sustainability for future generations
- support of community engagement and volunteers
- public safety and security
- prudent financial stewardship and management

Occupiers Liability Act

As discussed in greater detail below, the *Occupiers Liability Act (OLA)* imposes duties on owners and occupiers of property. As owner of the Trail, the District must ensure that its actions with respect to the Trail are consistent with its obligations under the *OLA*.

3.0 Council Strategic Objective(s)/Official Community Plan

The District's Official Community Plan contains supporting language in several areas relating to resilient and safe provision of municipal servicing, operations, and infrastructure as well as managing the District's valuable park system and open spaces (see sections 2.5 and 2.7.1).

This report also aligns with Council Strategic Objective 3.0:

- Climate Change and Nature - Protect our natural environment, reduce our impact on it, and adapt to climate change.

4.0 Background

A landslide occurred along a section of the Trail on January 6, 2021. During the period leading up to the failure, heavy daily rainfall had occurred between December 30, 2020, and January 6, 2021. The landslide caused the failure of a section of the Trail and put the sewer infrastructure underneath the Trail at risk of failure. Subsequent heavy rain and strong wind caused a second slide, resulting in more extensive damage and ensuing ongoing sloughing of the slope. It should also be noted that a fill slope failure in December 2019 closed the Trail, which was subsequently reopened in December 2020.

The section of the Trail contained within the landslide area is currently closed to the public. A detour through the adjacent residential neighbourhood provides an alternate route for trail users to bypass the landslide area. The District installed multiple layers of signage and fencing at entrances both south and north of the slide area to warn members of the public of the hazard and prevent trespassing.

The sewer infrastructure compromised because of the landslide has been temporarily reinstated and secured within the landslide area. Monitoring and surveillance protocols have been developed and are actively being adhered to. These protocols were developed in accordance with the

recommendations of the qualified professional, a geotechnical engineer specializing in steep slope hazards.

4.1 Previous Decisions

At its June 27, 2022, Closed Council meeting, Council unanimously passed the following resolutions:

THAT

1. staff bring forward a report regarding the Capilano Pacific Trail (“the Trail”), including a specific policy resolution to decommission and permanently secure the landslide area and section of trail contained therein, from public trespass, to an open Council meeting for Council’s consideration;
2. the existing signage and temporary fencing measures as described within the report remain in place to prevent public trespass until such a time that permanent fencing is installed;
3. staff continue to monitor the landslide area and temporary sewerage system in accordance with the recommendations of a qualified professional as described in the report; and
4. this resolution be released for public information by forming part of the report to be brought forward for consideration at an upcoming open Council meeting.

THAT

1. staff bring forward a report regarding a policy resolution to reinstate the Trail in an alternate alignment, built to a standard width of 1.3 m, and a request for associated funding, to an open Council meeting for Council’s consideration; and
2. this resolution be released for public information by forming part of the report to be brought forward for consideration at an upcoming open Council meeting.

4.2 History

The Trail has been in place for many decades and is a popular trail. The Trail takes users from the ocean through to the forest.

It begins at the dog walk area of Ambleside Park and it follows a path along the river, onto the eastern terminus of Keith Road, past Klee Wyck Park, and continues through the Capilano River Regional Park to

the Fish Hatchery, Cleveland Dam, and Capilano Lake. From Ambleside to Cleveland Dam, the Trail is roughly 7.5 kms in length and crosses through several jurisdictional boundaries: West Vancouver, North Vancouver, and Metro Vancouver. Trail counter statistics for the Trail indicate over 56,000 visitors in 2020.

A section of the Trail follows a sanitary sewer right-of-way that crosses steep escarpment slopes on the west side of the Capilano River. The sewer services a population of roughly 530 households within eastern sections of the British Pacific Properties.

5.0 Analysis

5.1 Discussion:

Alignment

With consideration of the occurrences of the more recent slope activity as described in this report, a qualified professional specializing in terrain stability assessment was engaged to conduct an assessment and develop a hazard rating of the escarpment area of the existing Trail and sewer alignment within the jurisdictional boundaries of the District. The objective was to map, in high detail, the hazard ratings across the slope and to describe any constraints that may affect route options for the sewer and/or Trail. This assignment also included assessment of the land under the proposed Trail and sanitary routing as presented below.

The assessment considers the multiple instabilities caused by construction of the original Trail alignment across steep slopes underlain by laminated silt, silty clay, and interbedded sands, including past cut slope slumping and gully fill slope failures. Considering these factors, it was determined that the original Trail alignment is not feasible to construct and reinstate using conventional practices, and a more practicable alignment should be sought. Furthermore, it was determined that the landslide failure area will remain at a high hazard rating and has a high likelihood of recurring slope failure activity over time.

Sewer Infrastructure Reinstatement

The reroute of the sanitary main ties into the existing alignment, north of the landslide area, and adjacent to 354 and 360 Moyne Drive. Due to existing gradients, a sewage lift station and force main are required to convey flows up onto Moyne Drive where the sewer main heads off Moyne Drive through the right-of-way between 382 and 384 Moyne Drive. This route stays on the terrace flat and crosses level to gentle terrain underlain by well-drained sandy gravels and presents no significant slope hazard issues. The only steep slope encountered is the final 14 m descent over the scarp from the cemetery storage area to the existing alignment.

Trail Reinstatement

As part of the preliminary feasibility and design works, it was determined that the most cost-effective approach to reinstating the Trail is to follow the sewer alignment. This alignment would include 2 staircases, allowing the Trail to climb up to the Moyne Drive area at the northern end of the realigned Trail and then to re-join the existing Trail adjacent to the cemetery at the southern end of the realigned Trail.

The trail would be an approximately 1.3 m wide naturalized gravel trail, it would be constructed by overlaying its alignment on the sewer which will require an approximately 1.3 m width trench excavation. The trail base and surface would be constructed as part of the backfilling of the sewer trench.

Existing Trail and Landslide Area: Duty of Care and Liability

Existing Fencing and Monitoring

Currently the Trail is closed to the public in the landslide zone. The District installed multiple layers of signage and fencing at entrances both south and north of the landslide area. The existing fencing consists of a series of three sets of temporary construction fencing which is locked and includes supporting measures to deter public trespass.

The landslide area and temporary sewer system that is in place is visually inspected on a weekly basis by sewer operation personnel. Inspection includes review of the slope within the landslide area for any changes to the slope condition, as well as verification of the operation of the temporary sewer configuration.

Should a rainfall event exceeding 25 mm in a 24-hour period occur, a Geotechnical Engineer conducts a site inspection of the slope within the landslide area to review its condition and monitor for any observed changes.

In addition, there is an onsite camera with motion detection that staff can review through an online app at any time. Staff log into the app daily to review the site and receive photographs via email notification when the motion sensor is triggered. It has been confirmed, through on-site inspection and camera surveillance, that members of the public continue to access the landslide area regularly. If signage and/or the temporary fencing is removed or displaced because of unpermitted public access, it is reinstated by operations personnel when they are made aware of such an occurrence which is typically during conducted weekly site visits.

Legal Considerations

The District generally has a duty to take reasonable care to see that persons and property are reasonably safe while on property owned or occupied by the District. This duty is set out in the *OLA*. In the case of recreational trails or property where the person who enters is trespassing,

both of which apply in the case of the Trail, a lowered duty of care applies. In these cases, the District has a duty not to (a) create a danger with intent to do harm to the person or damage to the person's property, or (b) act with reckless disregard to the safety of the person or the integrity of the person's property.

In light of the fact that the District has knowledge that members of the public are tampering with the fencing and signage and continuing to access the Trail, Staff propose that Council adopt a policy resolution regarding fencing, signage, and monitoring, as well as decommissioning and realignment of the Trail, in order to reduce potential liability to the District.

Proposed Fencing, Signage, and Monitoring

Investigation into a permanent fencing system has been carried out and a solution developed that is more robust and could better deter public trespass. The system will be a minimum of 1.8 m in height with razor wire on top, with the extents of the fencing designed and placed in such a way to minimize the likelihood of being able to climb over or around the fencing. It will include a locked gate system for the purposes of maintaining machine and personnel access as necessary. Separate to being more secure, the permanent fencing system is more feasible to maintain safe access to the area from both a budgetary and resource perspective.

In conjunction with the permanent fencing system, Staff will erect signage indicating that the Trail is permanently closed. Signage will be posted both on the fencing itself and as a warning within the Trail's approach to the closure area.

Staff recommends that the existing signage and temporary fencing remain in place until this permanent fencing and signage system is installed. Staff also recommends that the monitoring of the landslide area and temporary sewer system described above continue until such time as Staff receives further direction from Council. In conjunction with this monitoring, Staff will inspect the permanent fencing system and signage and undertake repairs to the fencing and signage as necessary.

5.2 Sustainability

Given the multiple instabilities caused by construction of the Trail across steep slopes over naturally occurring materials vulnerable to slumping and slope failure, the abandonment of this section of the Trail and underlying sanitary sewer alignment is recommended. The preferred routing that has been identified is underlain by well-drained sandy gravel and presents no significant slope hazard issues. In turn, the identified alternate alignment is more favourable from a risk and asset longevity perspective.

5.3 Public Engagement and Outreach

Currently, the District maintains up-to-date information as it becomes available regarding the Trail detour, Trail closure, and landslide event on the District's website. Beyond this, and as mentioned earlier within this report, signage and fencing is in place to alert the public to the existing landslide hazard and inform of the Trail closure and detour route.

Should an alternate alignment of the Trail be funded, property owners adjacent to the Trail and sewer alignment will need to be considered and informed of the works and anticipated construction impacts as the works proceed.

Should an alternate alignment of the Trail not be funded, property owners with adjacency to the sewer alignment will need to be considered and informed of the anticipated construction impacts as the works proceed.

6.0 Financial Implications

Existing Trail Decommissioning

The anticipated costs associated with the trail decommissioning are:

- \$30,000 for permanent fencing at the north and south sides of the landslide area, including main access gate and permanent signage
- \$65,000 for decommissioning of the existing sewer and hydroseeding the slide area

It is proposed that this work be funded by through a combination of the Weather Related Incidents Reserve for the Trail decommissioning and the Sewer Utility for the sewer decommissioning as described above.

Sewer Infrastructure

The anticipated costs for design and construction of a permanent sewer collection system and decommissioning of a portion of the existing one associated with the Trail failure is \$4,500,000. This cost is considered a Class C estimate based on a preliminary design. The sewer works will be funded by the Sewer Utility and is part of the existing 2022 capital budget.

Trail Reinstatement

As part of the preliminary feasibility and design works, it was determined that the most cost-effective approach to reinstating the Trail is to follow the sewer alignment.

The Trail would be an approximately 1.3 m wide naturalized gravel trail, it would be constructed by overlaying its alignment on the sewer which will require a approximately 1.3 m width trench excavation. The trail base and surface would be constructed as part of the backfilling of the sewer trench.

The anticipated design and construction costs associated with the Trail realignment is \$850,000; these costs are considered a Class C estimate based on a preliminary design, allowing for a 30% contingency.

Staff are recommending that the Trail be funded through Community Serving Community Amenity Contributions (CAC's). Currently there is \$2.139 million in the Community Serving CAC fund.

7.0 Options

7.1 Recommended Option

THAT

1. staff be directed to immediately initiate decommissioning and permanently securing the landslide area and section of the Trail contained therein, by installing permanent fencing and signage as described in the report;
2. staff fund the Trail decommissioning and securing of the landslide area through a combination of the Weather Related Incidents Reserve for the Trail decommissioning at an estimated cost of \$30,000, and the Sewer Utility for the sewer decommissioning at an estimated cost of \$65,000;
3. the existing signage and temporary fencing measures as described within the report remain in place to deter public trespass until permanent fencing is installed; and
4. staff continue to monitor the landslide area and temporary sewerage system in accordance with the recommendations of a qualified professional as described in the report.

THAT

1. staff initiate reinstatement of the Capilano Pacific Trail in an alternate alignment as described within this report, built to a standard width of approximately 1.3 metres; and
2. staff fund the Capilano Pacific Trail realignment at an estimated cost of \$850,000 through the Community Serving Community Amenity Contributions (CACs) fund.

7.2 Considered Options

Council may request additional information or provide alternate direction (to be specified).

8.0 Conclusion

This report recommends Council adopt a specific policy resolution regarding the decommissioning and permanent securing of the landslide area and section of trail contained therein, to guard against public trespass to the hazardous area. This report further recommends that a policy resolution to fund the reinstatement of the Trail within an alternate alignment.

The Trail has been in place for many decades and is a popular trail. The Trail is an important connector trail and takes users from the ocean at Ambleside Park through the forest and up to Cleveland Dam.

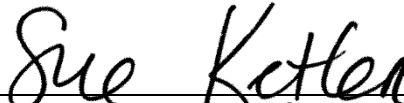
Council's policy resolution related to the Trail reinstatement is independent of the policy resolution to decommission and permanently secure the landslide area and section of trail contained therein, from public trespass.

Author:



Jenn Moller, Director of Engineering and Transportation Services

Concurrence



Sue Ketler, Director of Parks, Culture & Community Services