

Report to Council



Date: February 25, 2019

File: 0920-20

To: City Manager

From: Lance Kayfish, Director of Community Safety

Subject: 2019-02-25 Remediation Order Re. Geotechnical Instability Loseth Rd.docx

Report Prepared: James Kay, Manager, Development Engineering

Recommendation:

WHEREAS the Council of the City of Kelowna has the authority under Section 72 (1) (a) and (b) of the Community Charter to impose a remedial action requirement in relation to hazardous/unsafe conditions or declared nuisances;

Council hereby considers that the fill slopes located at 2045 Loseth Road, Kelowna (the "Loseth Property") are in, and create, an unsafe condition, within the meaning of Section 73 (2)(a) of the Community Charter, as a result of the soil stability having an inadequate factor of safety and being susceptible to further destabilization from increased groundwater pressures.

Council hereby considers that the fill slopes located at 2001 Kloppenburg Court, Kelowna (the "Kloppenburg Ct. Property") are in, and create, an unsafe condition, within the meaning of Section 73 (2)(a) of the Community Charter, as a result of the soil stability having an inadequate factor of safety and being susceptible to further destabilization from increased groundwater pressures.

Council hereby declares the fill slopes at the Loseth Property to be a nuisance, within the meaning of Section 74 (2) of the Community Charter.

Council hereby declares the fill slopes at the Kloppenburg Ct. Property to be a nuisance, within the meaning of Section 74 (2) of the Community Charter.

Council considers that there is a significant risk to health and safety and that, pursuant to s. 79 of the Community Charter, the time limit set complying with any remedial action requirements should be shorter than the 30-day minimum period provided under section 76 and that the time limit for requesting reconsideration by Council of any remedial action requirement be 14 days.

Council hereby imposes on the registered owner of the Loseth Property the following remedial action requirement to address and remediate the unsafe condition and nuisance:

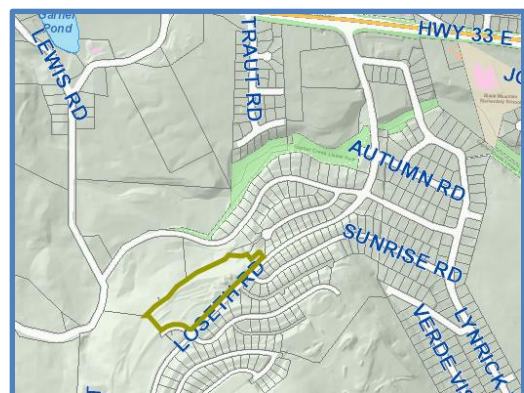
- (a) prepare and present to the City's Manager, Development Engineering a remediation plan based on the January 24, 2019 Geotechnical Investigation Report of Westrek Geotechnical Services Ltd. (the "Westrek Report") that will achieve a factor of safety of 1.3 for the fill slopes;
- (b) provide the remediation plan to the City's Manager, Development Engineering (the "Manager") no later than March 11, 2019;
- (c) the remediation plan must be prepared or approved by a professional engineer or professional geoscientist with experience or training in geotechnical study and geohazard assessments (the "Qualified Professional");
- (d) complete the work in accordance with the approved remediation plan by March 30, 2019;
- (e) provide a report by the Qualified Professional to the Manager within two weeks of completion of the work, certifying the safe condition of the fill slopes.

Council hereby imposes on the registered owner of the Kloppenburg Ct. Property the following remedial action requirement to address and remediate the unsafe condition and nuisance:

- (a) prepare and present to the City's Manager, Development Engineering a remediation plan based on the January 24, 2019 Geotechnical Investigation Report of Westrek Geotechnical Services Ltd. (the "Westrek Report") that will achieve a factor of safety of 1.3 for the fill slopes;
- (b) provide the remediation plan to the City's Manager, Development Engineering (the "Manager") no later than March 11, 2019;
- (c) the remediation plan must be prepared or approved by a professional engineer or professional geoscientist with experience or training in geotechnical study and geohazard assessments (the "Qualified Professional");
- (d) complete the work in accordance with the approved remediation plan by March 30, 2019;
- (e) provide a report by the Qualified Professional to the Manager within two weeks of completion of the work, certifying the condition of the fill slopes as having a factor of safety of 1.3.

Purpose:

Staff recommend Council impose Remedial Action Orders to rectify slope instability and unsafe condition at 2045 Loseth Road and 2001 Kloppenburg Court, which are both urgent and of high-consequence.



Background:

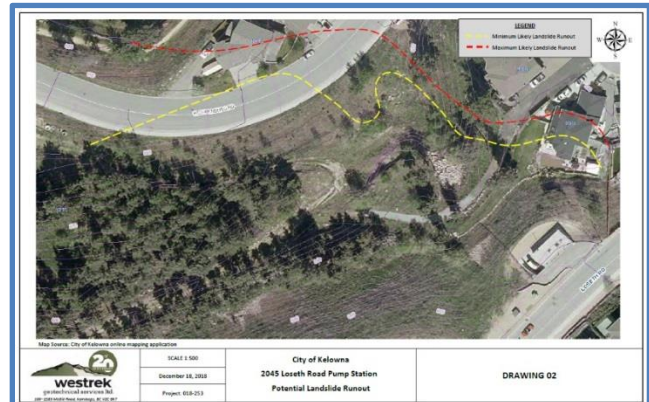
City of Kelowna Operations crews identified signs of slope instability at 2045 Loseth Road in Spring 2018. Tension cracks were evident both in the city-owned boulevard fronting the site, in the embankment on private property, as well as behind the BMID pump station on the property.

In Summer of 2018, Westrek Geotechnical Services Ltd. was retained to investigate and provide recommendations. Their preliminary investigation of June 3, 2018 and detailed geotechnical report of January 24, 2019 are attached. Key conclusions include:

- *The analysis concludes that the entire slope is just marginally stable under current conditions and can be destabilized by even a modest rise in groundwater pressures, which likely occurs each spring.*
- *The toe excavation along Cross-section C-C' in 2015 reduced the factor of safety by 9%, which would be enough to destabilize a marginally stable slope.*

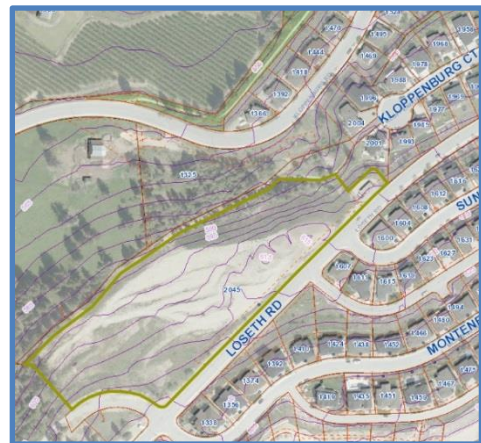


As the tension cracks are evident in the slope, the geotechnical analysis evaluated the areas at risk downstream, which includes significant risk to residents and residence at 2001 Kloppenburg Court. It poses risk to 2004 Kloppenburg Court, as well as the City trail immediately below the slope, 1325 Kloppenburg Road, and Kloppenburg Road itself. The owners have been notified and are aware of the risks, but the situation requires resolution.



As the tension cracks are evident above the slope within Loseth Road, it is important to note that this section of Loseth is the only public access to approximately 90 homes up Kirschner Mountain and contains utility infrastructure under the surface. The BMID Booster Station supplies the reservoir. Of course any failure effecting a home or structure could result in injury or death of the occupants. For these reason staff assess that a failure in this area could have catastrophic consequences.

The instabilities originate on private property and the responsibility to remediate them should rest with the landowner. However, due to the scope and cost of the works, anticipated to be \$750,000 - \$1,200,000, the private owners



have thus far not committed to remediate the slope instabilities or brought forward a plan of to make it safe.

Staff recommend Remedial Action Orders from Council requiring the owners to act and make the slope reasonably safe. It is understood that remediating the slope and area is a significant and costly undertaking. It will require coordination between the subject landowners, occupiers and others. The current land owners may ultimately be determined not be the persons responsible for the existing hazards arising from the fill materials but as owners they are responsible for ensuring the unsafe conditions do not damage homes, parkland and civic infrastructure. There will be an opportunity for the owner's and impacted parties to recover their losses through civil litigation or other means but those processes will take time and can be conducted after existing circumstance is made safe. In the absence of owner action, staff will report back to council to seek authorization for the City to engage forces to remedy the situation and recover the costs accordingly. Staff and legal counsel are satisfied that the statutory prerequisites for imposing remedial action requirements are met in this case; specifically, that the slope instability risks are present in fill soils that were placed or dumped, the soils causing the hazards are not simply a natural condition and thus fall within the description of a "similar matter or thing" as that phrase is used in sections 73(1)(a) and 74(1)(a) of the Community Charter. With respect to the Kloppenburg Ct. Property, Westrek considers that the instability of the slope is related to an excavation for a small pond. The authority under section 73(1)(b) to impose a remedial action requirement in relation to an "artificial opening", "or a similar matter or thing" is also engaged.

The assessment and the amelioration of landslide risk is, according to a 2015 BC Supreme Court decision, an area of decision-making for which elected councils are well suited. It is for Council to determine whether the level of risk warrants intervention through a remedial action order so long as there is information from which Council could reasonably determine the risk from an unsafe condition should be remediated. Staff consider the January 24, 2019 Westrek Report and the further February 18, 2019 Technical Memorandum provide Council with the appropriate information to make the determination whether to impose remedial action requirements.

With respect to BMID's position, it is considered to be an occupier of that portion of the Loseth property statutory right of way area taken up by the pump station and surrounding concrete pad. For that area, there is no basis in the Westrek Report to indicate that the soils directly beneath the pump station are not properly compacted or contribute to the instability of the adjacent fill slopes. Further, the owner of the property retains the right to use the rest of statutory right of way area subject to the rights granted to BMID under the statutory right of way. BMID is therefore not considered to be an "occupier" of the problematic fill slopes for the purpose of the remedial action authority. Should new information arise during the course of remediation work, or otherwise, indicating that the soils directly below the BMID pump station are a source of instability, staff may, to the extent it is practical to do so, bring the matter back to Council to consider the appropriateness of a remedial action order directed to BMID.

Staff have met with the landowners directly effected, closed the trail at the bottom of the slope, and are formalizing an Emergency Response Plan that addresses communications and public notification, evacuations, restoration of an emergency access, stabilization of water, sewer, and shallow utilities, and emergency response if needed.

Staff are prepared to work with consultants and stakeholders to develop the technical details of the action plan to alleviate unsafe conditions, arrange for the contractors and site management, and intervene immediately upon either the dates outlined in the Remediation Order or written confirmation from each homeowner that they will not undertake the works themselves. Should the City undertake action, construction crews would remove the overburden, reduce the slopes, stabilize the instabilities at the bottom of the slope, and work to ensure the protection of the public, property and infrastructure in the area.

Financial/Budgetary Considerations:

If the landowners comply with the Remedial Action Orders, no exceptional budgetary requirements are anticipated. Staff would oversee and confirm completion of the works. The City may opt to seek recovery for costs to date, including the work undertaken by Westrek.

The remediation of this instability has been estimated at between \$750k-\$1.2m. The low range of this estimate assumes simple extension/buttressing of the bottom of the slope which would require additional land and significant impact to the adjacent landowners. The higher range of this estimate provides for stabilization of the slope in place, with more expensive technical solutions.

Should the City be required to undertake the works, staff will seek direction from Council to undertake the work and seek a budget amendment to fund this work.

Communications Comments:

A communications plan has been developed to inform the community regarding unsafe conditions.

Cost Recovery:

If a remedial action requirement is not satisfied by the date specified for compliance, the City may act in default, under section 17 of the Community Charter, and fulfill the requirements at the expense of the person in default. If the amount expended to effect compliance remains unpaid as of December 31 in the year the expense was incurred, it is deemed to be taxes in arrears.

Legal/Statutory Authority:

Council may impose remedial action requirements under the Community Charter, section 72(1)(a) in relation to hazardous/unsafe conditions referred to in s. 73 and section 72(1)(b) in relation to declared nuisances in respect of the subjects referred to in s. 74.

The remedial action requirement

- (a) may be imposed on one or more of
 - (ii) the owner or occupier of the land on which it is located, and
- (b) may require the person to
 - (i) remove or demolish the matter or thing,
 - (iii) bring it up to a standard specified by bylaw, or

(iv) otherwise deal with it in accordance with the directions of council or a person authorized by council.

Legal/Statutory Procedural Requirements:

Notice of any remedial action requirement to be served on owner/person subject to requirement.
Time specified for carrying out remedial action must be no less than 30 days after notice provided unless pursuant to s. 79(1)(a) council considers that a shorter time limit should be set due to a significant risk to health or safety.

Right to request reconsideration under s. 78 Community Charter within 14 days of receiving notice unless pursuant to s. 79(1)(b) council sets a shorter time limit due to significant risk to health or safety.
Recovery of costs to achieve compliance in default under s. 17 and s. 258 Community Charter.

Submitted by: L. Kayfish, Director, Community Safety

Approved for inclusion: S. Leatherdale, Divisional Director, Human Resources and Community Safety

Internal Circulation:

Divisional Director, Infrastructure
Divisional Director, Human Resources & Community Safety
Divisional Director, Financial Services
Director, Development Services
City Clerk
Corporate Communications Manager

Considerations not applicable to this report:

Existing Policy:

Personnel Implications:

Alternate Recommendation:

Attachments: Geotechnical Investigation, 2045 Loseth Road, January 24, 2019;
Preliminary Slope Stability Assessment, June 3, 2018;
Technical Memorandum, Slope Instability – 2045 Loseth Road, February 18, 2019,
Westrek Geotechnical Services Ltd

cc: J.Creron, Deputy City Manager
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D.Edstrom, Divisional Director, Community Planning & Strategic Investments
T.Whiting, Chief, Kelowna Fire Department
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