



Policy Title: Slope Stability Management Policy

Policy Number: TP019

Report Number: TT0213-0094 Approved

by: City Council

Effective Date: 2013 July 22

Business Unit: Roads

BACKGROUND

The City of Calgary (The City) owns land and infrastructure such as Environmental Reserves, parks, roadways, utilities, pathways, and embankments that are potentially affected by slope instability. When slope stability concerns pose risks to public safety, City infrastructure, City owned land (City land) or adjacent private land The City will assess the slope and determine the most appropriate course of action as outlined below.

PURPOSE

The Slope Stability Management Policy (the Policy) is intended to provide guidance to Administration and information to the public about how The City will assess slope stability risks to public safety, City infrastructure, City land or adjacent private land and determine the most appropriate course of action.

SCOPE

The Policy applies to City land where slope stability may pose a risk to public safety, City infrastructure or City land; and to privately owned land where slope stability may pose risks to public safety.

DEFINITIONS

For the purposes of the Policy:

- “City infrastructure” means manmade assets owned and maintained by The City including but not limited to utilities, roads, sidewalks, pathways, bridges, and sport fields.
- “Factor of Safety” or “FOS” means a calculated ratio commonly used to indicate the stability of a slope. The FOS is the ratio by which the strength of the soil exceeds the strength required to prevent a failure. A FOS greater than one indicates that the soil strength is greater than that required to prevent failure. A FOS less than one indicates the slope is unstable.
- “mitigation measure(s)” means any actions taken in order to lessen or eliminate identified slope stability risks to public safety, City infrastructure, City land or adjacent private land.
- “risks to public safety” means a safety concern arising from slope stability within City land or private land.

- “slope stability concern” means shallow or deep seated slope failures, tension cracks, localized slumping, slope surface erosion, river bank erosion or scour, and other concerns typically associated with slope stability.

POLICY

1. Slope stability concerns on City land

The City will:

- Conduct an initial assessment of reported slope stability concerns and seek to mitigate public safety concerns as a first priority.
- Conduct the appropriate level of technical review of slope stability concerns that have the potential to affect public safety, City land or infrastructure.
- Use the Triple Bottom Line (TBL) approach to evaluate a range of potential options and determine the most appropriate course of action, considering slope stabilization may not be appropriate.
- Consider allowing slope movements to occur naturally and reassess the slope as conditions change where risks to public safety can be mitigated.
- Seek to mitigate slope stability risks and prevent damage to City land and infrastructure focusing on public safety and City infrastructure essential for day-to-day operations.

2. Slope stability concerns on private land

The City will:

- Restrict new development to areas with an FOS of at least 1.5 to ensure urban development is reasonably safe from slope instability.
- Inform citizens of inherent risks of instability surrounding natural slopes and their responsibilities on their land related to slope stability through The City’s website and other communication tools.
- Conduct the appropriate level of technical review and seek to mitigate slope stability concerns on private property where public safety or public infrastructure are at risk.

The City may:

- Consider mitigating slope stability concerns where a City action, City land or infrastructure are the suspected cause of the concerns, if appropriate, having regard to all of the circumstances.
- Recognizing each situation is unique, conduct the appropriate level of investigation or technical review and collaborate with private land owners in order to mitigate slope stability concerns on private land on a case-by case basis.

PROCEDURE

The City’s Slope Stability Management Framework (Framework) will guide the implementation of this Policy. The Framework  (286 KB) is available at calgary.ca or by contacting 3-1-1.

AMENDMENTS

New Policy.