Slope Stability Analysis & Slope Stability Assessment

The Slope Stability Assessment determines static and dynamic stability of slopes of embankments, excavated slopes, and natural slopes in soil and soft rock. A geotechnical investigation may be required to identify the Existing Top-of-Slope (ETOS) and determine the Long-Term-Stable Top-of-Slope (LTSTOS). Typically, comprehensive assessments are required for development projects close to major features such as steep ravines, while less detail may be required for minor works near shallower slopes. The assessment of the LTSTOS is completed following the Ontario Ministry of Natural Resources - Technical Guide on River and Stream Systems: Erosion Hazard Limit (2002) and accompanied by a detailed slope stability analysis. The Long-Term-Stable Top-of-Slope (LTSTOS) is plotted on a topographic site plan and the minimum Factor of Safety generally required for slope stability analysis is 1.5

Conservation Authority reviews slope stability reports on behalf of the municipality and provide technical comments to the municipality. Conservation Authority also reviews Natural Hazards including unstable slopes on behalf of the Province of Ontario, since 1995.

The cost, scope and duration of a Slope Stability Assessment are dependent on many factors such as the size and location of the site.

Slope Stability Assessment usually includes

- Existing Top-of-Slope (ETOS) Investigation (if possible drilling ETOS boreholes to investigate the origin of erosion, if any, drainage and soil permeability conditions which may affect the subject slope)

- Mid-slope Investigation (If possible drilling boreholes on the mid-slope. Digging by hand to provide a horizontal work position may be required)

- Base-slope Investigation (If possible drilling boreholes)

- Installation of piezometers in top and base boreholes to allow for measurement of groundwater static levels

- Limited topographic survey at the boreholes locations and other points of interest on the slope to relate geodetic elevations on the available topographic map with boreholes elevations

- Detailed slope analysis to determine the Long-Term-Stable Top-of-Slope (LTSTOS)

- Testing of Soil Samples for Moisture and Grain Size distribution

- Slope Stability Modeling and Erosion, and recommendations for slope stabilization/improvement, including the Engineering Report

Typical Slope Stability Assessment will cost **$10,950**$^{+HST}$.
(Up to 4 boreholes)

If required, additional boreholes may cost $990 per borehole.

We provide Phase 1, 2 & 3 Environmental Site Assessments, Geotechnical Evaluations, Slope Stability Analysis and Record of Site Condition Submissions.

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We offer Slope Stability Analysis & Slope Stability Assessment Phase 1, 2 & 3 in Ontario including City of Toronto, Durham Region, Halton Region, Peel Region and York Region (Ajax, Aurora, Bolton, Brampton, Burlington, Etobicoke, Maple, Markham, Milton, Mississauga, Newmarket, North York, Oakville, Oshawa, Pickering, Richmond Hill, Scarborough, Stouffville, Toronto, Vaughan, Uxbridge, Whitby, Barrie, Burlington, Bowmanville, Cambridge, Hamilton, Georgetown, Guelph, Kitchener, London, Peterborough, Stoneycreek, St Catharines, Waterloo, and Woodbridge).