



TOWN OF CALEDON
PLANNING
RECEIVED
February 13, 2026

September 29, 2017

Joseph Reichmann
King Station Developments
1 First Canadian Place
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**Subject: Slope Stability Assessments
2H:1V Slope
232 and 240 King Street West
Caledon, Ontario
151-07618-06**

Dear Mr. Reichmann:

WSP Canada Inc. (WSP) retained by King Station Facility Inc. to complete a stability assessment of the northeast slope area at the above mentioned property (Site) located in Caledon, Ontario. It is our understanding that King Station has received comments regarding the Site Grading Plan from the Toronto Regional Conservation Authority (TRCA). The TRCA requires that a review of the current Site Grading Plan, specifically where a proposed cut slope is steeper than 3H:1V, be completed to confirm that the slopes remain stable in long term, and that the slope stability Factor of Safety (FOS) be at least 1.5.

Our analysis is limited to an assessment of the slope according to the Site Grading Plan completed by Stantec, and is not meant to provide specific advice for construction.

1. BACKGROUND

The subject Site is located at 232 and 240 King Street West in Caledon, Ontario. Several geotechnical investigations have been completed at the Site, and are briefly summarized as follows:

- Terraprobe Inc., Geotechnical Slope Stability Review/Update, Proposed Seniors Residence and Townhouse Complex, King Street West and Station Road, Caledon Ontario, File No. 11-13-3138, dated August 26, 2013;
- Stantec Consulting Ltd., Updated Report Geotechnical Investigation, Proposed, Residential Development, King Street West and Station Road, Caledon, Ontario, Project No. 160622088, dated May 29, 2014; and
- Stantec Consulting Ltd., Final Report, Geotechnical Investigation, Existing Retaining Wall, 1030-134 Rolling Hills Lane, Caledon, Ontario, Project No. 160622088, dated November 11, 2014.

Based on review of available resources and WSPs observations onsite, the subsurface soil conditions at the Site predominantly consist of clayey to silt-textured glacial till, derived from ice contact and/or glaciolacustrine deposits. Further it is expected that native soils will general have a stiff to hard consistency, be over-consolidated, well graded (poorly sorted) and have relatively low hydraulic conductivity.

The above mentioned investigations were referenced in the following slope assessment.

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2. SLOPE STABILITY ANALYSES

The Site Grading Plan prepared by Stantec was reviewed as input to the current slope stability analysis. The analysis included an assessment of the 2H:1V slope using soil parameters determined from previous investigations. The cross section location is shown on Figure 1. The position of the groundwater table was estimated based on topographical considerations and site inspection information.

WSP modeled the inferred slope profile using RocScience Slide v.6 software. A Bishop's two dimensional limit equilibrium analysis was used to evaluate the Factor of Safety (FOS) for a representative two-dimensional section. Input soil parameters for the analysis are summarized in Table 1 below.

Table 2: Inferred Soil Parameters

PARAMETER	CLAYEY SILT
Soil Unit Weight (kN/m ³)	21
Soil Cohesion (kPa)	10
Soil Internal Friction Angle (drained) (degrees)	35

Model outputs are attached as Figures 2 and 3. A horizontal peak ground acceleration (PGA) of 0.081 g was applied to generate a pseudo-seismic stability analysis. The PGA value corresponds to the 2%/50 yrs probability earthquake for the Site location, as determined using the 2015 National Building Code of Canada seismic hazard calculator. No other external loadings were applied, and existing structural loadings from the on and offsite existing developments were deemed beyond the slope stability influence zone.

A global FOS of 2.5 was computed for the static case, and 2.0 was calculated for the pseudo-seismic case.

3. SUMMARY

In summary, our analysis concludes that the proposed 2H:1V: slope is adequately stable with acceptable FOS for static and potential seismic loading conditions.

Grading should be completed to minimize runoff towards the slope and to prevent the development of concentrated flow channels and down-slope erosion. Resistive (deep-rooted) slope vegetation should be maintained on the slope to inhibit erosion from runoff.

These current analyses only apply to the proposed slope conditions as documented on the Site Grading Plan, prepared by Stantec. WSP should be contacted prior to any additional slope alterations including excavation, drainage alterations, grading, etc., to review impacts on our assessment.

4. LIMITATIONS

This report is based on the existing site conditions and our understanding of the proposed slope. Our analysis is an assessment of the stability of the subject slope for approval purposes and is not intended as instructions to designers or contractors.

We trust this report satisfies your requirements. Please contact our office if you have any questions.

WSP Canada Inc.

Vikki Gledhill, B.E.Sc.
Geotechnical Project Lead

J. Stephen Ash, P.Eng., P.Geo.
Director, Environment



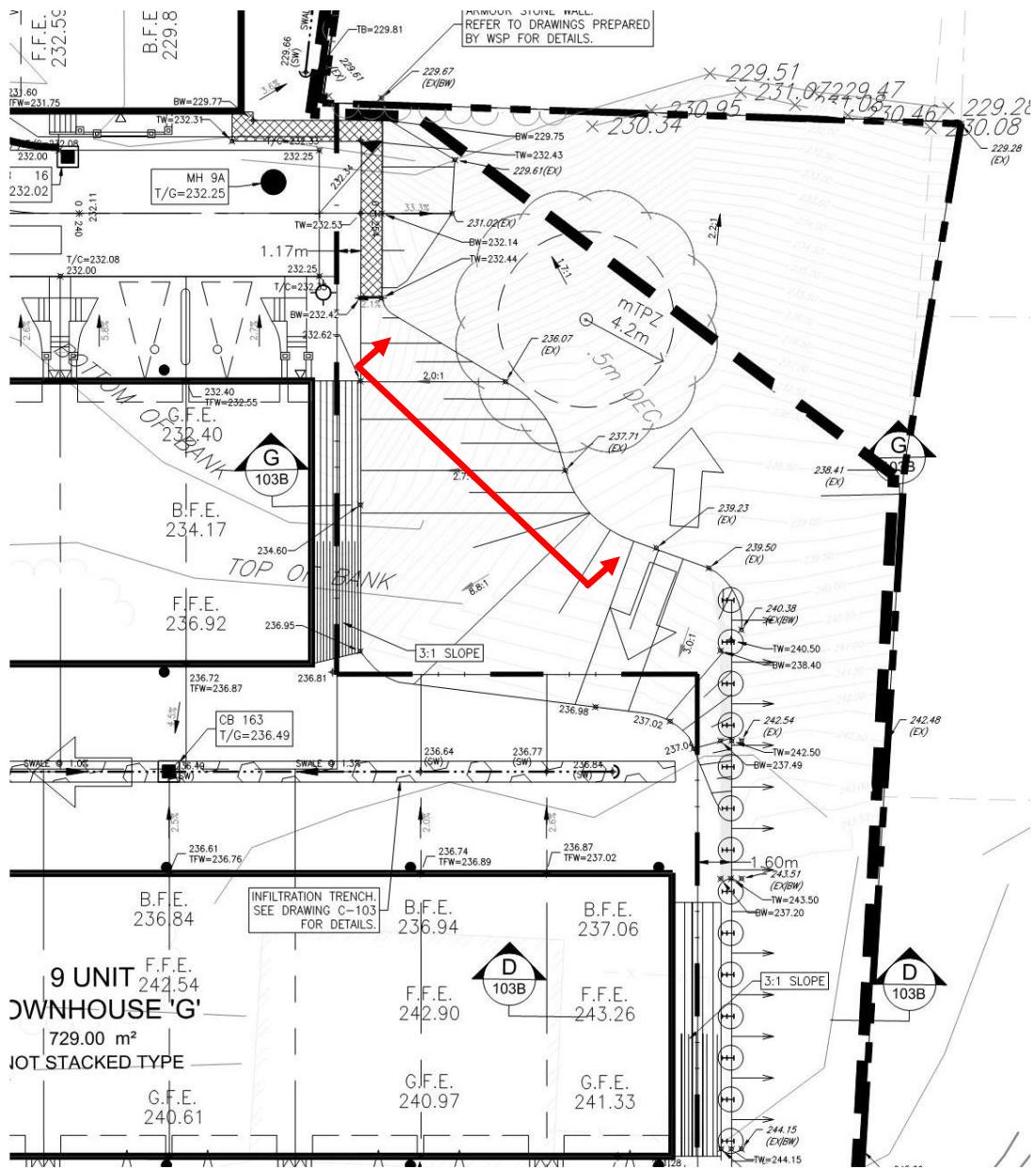


Figure 1 (Option 2)
NOT FOR CONSTRUCTION



Legend:

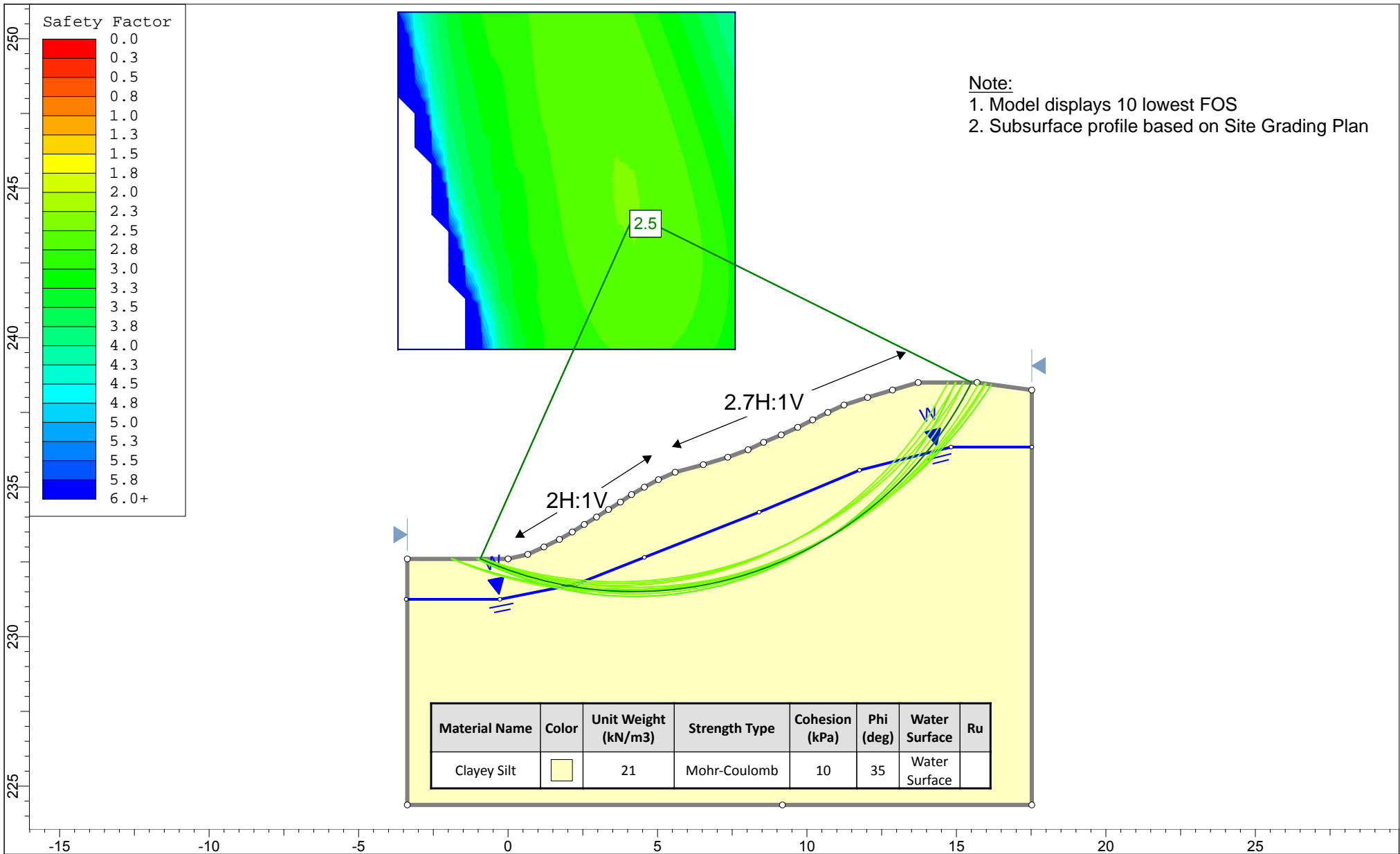
Proposed 2H:1V Slope



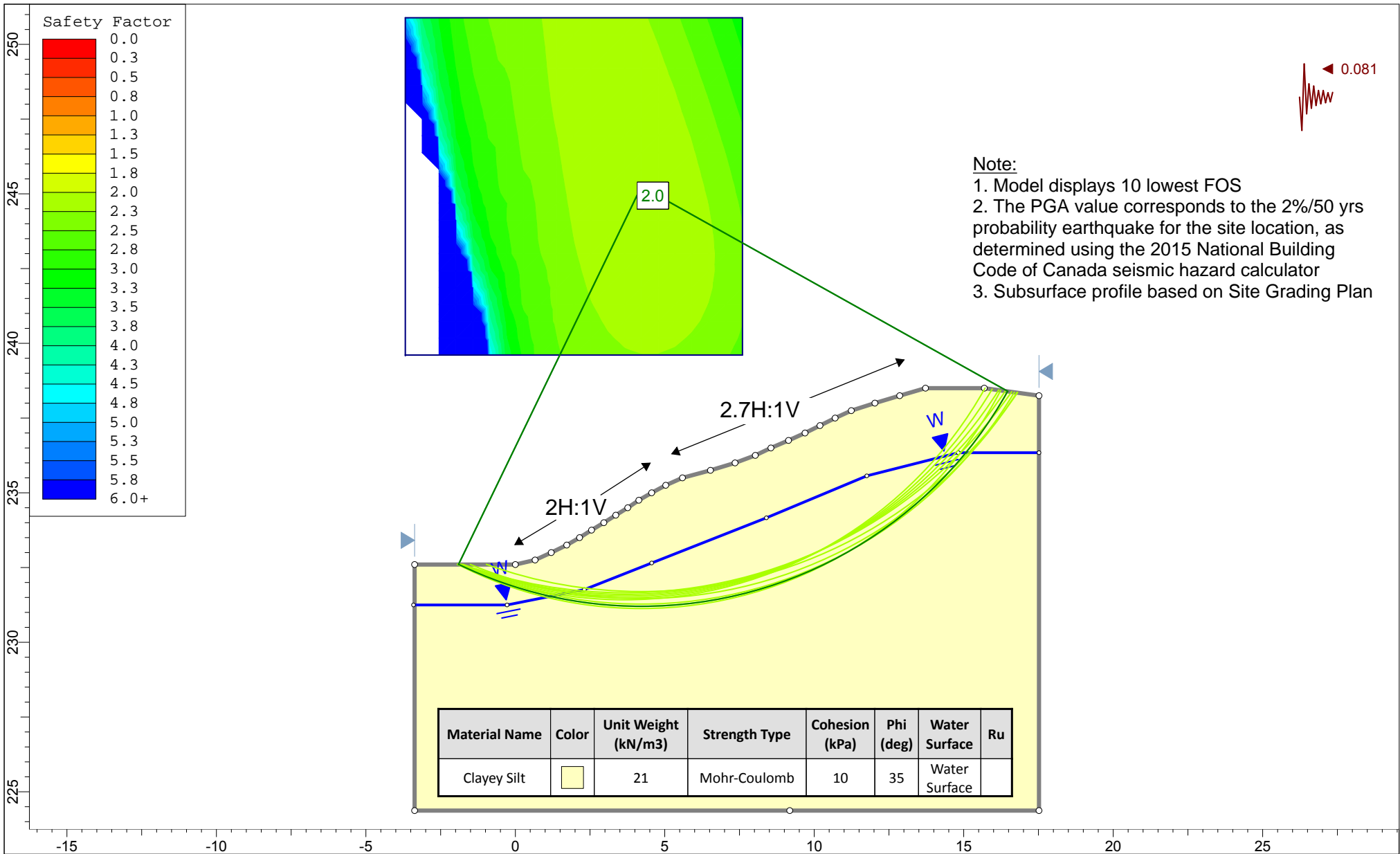
Project:

SLOPE STABILITY ASSESSMENT
232 and 240 King St. W.
Caledon, Ontario

Figure No.:



	<i>Project</i>		King Station Slope Stability Analysis	
	<i>Analysis Description</i>		2H:1V Slope	
	<i>Project Number:</i>	151-07618-06	<i>Scale</i>	1:175
	<i>Date</i>	September 2017	<i>File Name</i>	Slope.slim
		<i>Figure No.</i>	2	



	Project		King Station Slope Stability Analysis	
	Analysis Description		2H:1V Slope with Pseudoseismic Coefficient	
	Project Number:	151-07618-06	Scale	1:175
	Date	September 2017	File Name	Slope.slim
		Figure No.	3	