GEOTECHNICAL REPORT
(Slope and Soil Stability Report)

Terms of Reference

October 2018

Study Description

A ***Geotechnical Report*** is a sub-surface investigation that analyses soil and bedrock composition to determine its structural stability and its ability to accommodate development.

Purpose

To provide an assessment in the event that there may be significant challenges in the conceptual designs, land requirements, detailed design, and construction stages of a development and to supplement *Stormwater Management Reports* or *Hydrogeological Studies*.

Who should prepare this?

A registered professional engineer qualified in geotechnical engineering. All reports and drawings must be stamped, signed and dated by a qualified professional, licensed in the Province of Ontario.

When is this required?

To support the following applications:

- Zoning By-law Amendment
- Draft Plan of Subdivision
- Site Plan Control
- Consent to Sever

Required Contents

Introduction

- Purpose and scope of services, site and project description
- Geologic setting (overview of regional geology, local stratigraphy, groundwater occurrence)
- Subsurface conditions including soil and groundwater conditions

Discussion and Recommendations

- Service installation
- Road construction and pavement design
- Retaining structures
- Foundation recommendations
- Floor slab
- Frost protection
- Temporary shoring and retaining walls
- Drainage
- Seismic consideration
- Explanation and/or justification of the number of boreholes
- Confirmation of the feasibility of the conceptual stormwater management design from a geotechnical perspective. This must include a test pit or borehole in the location of all stormwater management facilities including low-impact development locations (if known at the time of the geotechnical investigation)
- Address any side slope stability concerns, hazardous soils, berm construction (with the appropriate materials and compaction), specifications of a liner (if required), high groundwater table and/or bedrock issues

- Determination of the location of the seasonably high groundwater level after the ground has thawed to account for the high groundwater table associated with the snowmelt event
- Discussion and conclusions

Appendices

- Figures and illustrations including site plan, borehole location plan, and typical cross-section drawing
- Borehole logs
- Lab test data (grain size analysis)

What else should we know?

This study should be prepared using the Ministry of Natural Resources and Forestry Technical Guide – River and Stream Systems: Erosion Hazard Limit where appropriate.

What other resources are available?

Professional Engineers Ontario - To hire a professional engineering consultant, consult the directory:

http://forum.peo.on.ca/cgi-bin/CED/CEDSearch.cgi

Section 5.3 Stormwater Management of the Official Plan:

https://www.barrie.ca/City%20Hall/Planning-and-Development/Pages/Official-Plan.aspx

Engineering Storm Drainage and Stormwater Management Policies and Design Guidelines:

https://www.barrie.ca/City%20Hall/Planning-and-Development/Engineering-Resources/Documents/City-Standards/Storm-Drainage-and-Stormwater-Management-Policies-and-Design-Guidelines.pdf

Engineering Standards, Policies & Guidelines:

https://www.barrie.ca/City%20Hall/Planning-and-Development/Engineering-Resources/Pages/Engineering-Standards-Policies-Guidelines.aspx

Engineering Department Development Manual:

https://www.barrie.ca/City%20Hall/Planning-and-Development/Engineering-Resources/Documents/City-Standards/Development-Manual.pdf

Ministry of Natural Resources and Forestry Technical Guide – River and Stream Systems: Erosion Hazard Limit:

http://www.lprca.on.ca/userfiles/files/2017%20Updates/Tech%20Guide/Technical%20Guide%20-%20River%20and%20Stream%20Systems%20-%20Erosion%20Hazard%20Limit.PDF

Notes

If the proposed development is revised, the study/report shall reflect the revisions by an updated report or letter from the author indicating the recommendations and conclusions are the same.

Please note that a peer review may be required. The cost of the peer review will be borne by the applicant.

Please note that the requirements of this study may vary depending on the nature of the proposal. This will be determined through the pre-consultation process and in consultation with any applicable external agencies.

If the submitted study is incomplete, is authored by an unqualified individual, or does not contain adequate analysis, the application will be considered incomplete and returned to the applicant.