

GROUND ENGINEERING CONSULTANTS LTD.

CIVIL & GEOENVIRONMENTAL ENGINEERS

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FILE: GE-1-6161

June 17, 2019

Ms. Selinda England
1253 Wolfe Avenue
Moose Jaw, Saskatchewan
S6H 1K3

Dear Ms. England:

**SUBJECT: GEOTECHNICAL INSPECTION
LOTS 7 & 8, BLOCK 48, PLAN S1896 AND
LOT 83, BLOCK 48, PLAN 73MJ01488
1253 WOLFE AVENUE
MOOSE JAW, SASKATCHEWAN**

1.0 INTRODUCTION

On June 10, 2019, Mr. Ahmed Hosni, P. Eng. verbally requested on your behalf that we inspect the above captioned property. The purpose of the inspection was to provide a geotechnical engineering opinion on the proposed re-development of the property insofar as the long term stability of the property is concerned. The property is located within the s2 (Low to Moderate Risk) Slump Hazard Overlay District of the City of Moose Jaw's Zoning Bylaw. Therefore, new developments may be permitted at City of Moose Jaw Council's discretion, subject to the receipt of a favourable Geotechnical Report that authorizes the specific proposed development (City of Moose Jaw Zoning Bylaw, Section 10.3). It is understood that your proposed re-development includes demolition and re-construction of the existing wooden decks located along the south and east sides of the house. This letter summarizes our observations, analysis and recommendations with respect to the long term stability of this property.

A MEMBER FIRM OF THE ASSOCIATION OF CONSULTING ENGINEERING COMPANIES SASKATCHEWAN

• SOIL MECHANICS AND FOUNDATION CONSULTANTS • SITE INVESTIGATIONS • FOUNDATION DESIGN • SPECIFICATIONS
• CONSTRUCTION SUPERVISION • INSPECTION AND LABORATORY TESTING SERVICES • SOILS • CONCRETE • ASPHALT
• PAVEMENT DESIGN AND EVALUATION • SLOPE STABILITY • REPORTS • SEEPAGE CONTROL BARRIERS FOR MUNICIPAL
AND INDUSTRIAL WASTE CONTAINMENT • ENVIRONMENTAL SITE ASSESSMENTS

2.0 SITE INVESTIGATION

Our field inspection was conducted with you on June 13, 2019. The following observations were made during our inspection:

1. The property is located on the west side of Wolfe Avenue between Oak Street and Saskatchewan Street East.
2. The lot is developed with a single storey house with a full basement covering an area of approximately 864 square feet (24' x 36').
3. There are wooden decks located at the south and west sides of the house. The south deck covers an area of approximately 175 square feet (12.5' x 14') and the west deck covers an area of 240 square feet (12' x 20').
4. The decks generally consist of 2" x 6" wooden decking over 2" x 8" joists spaced at 16 inches on centre. The decks are supported on 4" x 4" wooden columns and concrete deck blocks bearing on the existing ground surface.
5. The west portion of the lot (up to the east side of the house) is generally flat and the east portion of the lot slopes down at a low to moderate slope angle to the east side of the property.
6. There is an undeveloped public lane at the east side of the property which is relatively flat and there is a relatively steep slope down from the east side of the lane to the bottom of the Thunder Creek river valley. The overall change in elevation from the west side of the subject property to the bottom of the valley is in the order of 12 to 15 metres.
7. Thunder Creek runs along the opposite side of the valley bottom, roughly 160 metres to the east of the subject property. There is no indication of erosion on or adjacent to the slope at the east side of the subject property.
8. There were no indications of recent or historic slope movements noted during our inspection of the property and adjacent slope.

3.0 AIR PHOTO REVIEW

The valley slopes were investigated by means of air photo interpretation utilizing air photographs taken in 1949, 1961, 1974, 1985, 1992, 1996 and 2000 in addition to the field inspection. Satellite imagery available for the area between 2000 and the present was also reviewed through online mapping resources (Google Earth, ISC, etc.).

There were no indications of historic or recent landslide activity noted in the study area during our review of the air photographs and satellite imagery.

3.0 CONCLUSION AND DEVELOPMENT RECOMMENDATIONS

In our opinion, the potential for instability along this portion of the valley wall is considered to be low. The proposed decks will not substantially impact the existing slope conditions and will not result in any appreciable change in risk to existing developments. Therefore, it is recommended that the proposed development be allowed to proceed insofar as slope stability is concerned.

To reduce the potential for problems associated with slope instability, the following development guidelines are recommended:

1. It is understood that the new decks should will constructed at approximately the same elevations as the existing decks. In addition, each deck will be slightly smaller than the existing footprint. Any significant changes to the scope of the proposed development should be reviewed by this office prior to approval and/or construction.
2. The extent of any required surface grading should be kept to a minimum. The maximum allowable depth of cut recommended is 1.5 metres and the maximum allowable depth of fill is 1.0 metres. Finished slope angles should not exceed 4 horizontal to 1 vertical, unless additional structural reinforcement is provided (ie. – retaining walls or reinforced slopes).
3. Landscaping should ensure that positive surface drainage is maintained on the property. Existing vegetation should be disturbed as little as possible and exposed soil should be protected with surface cover as soon as possible to prevent erosion.
4. Care should be taken to prevent excess moisture within the soil at all times. Excessive lawn watering should be avoided.

4.0 CLOSURE

We trust this letter satisfies your present requirements. If you have any questions or require additional information, please call our office.

Yours very truly
Ground Engineering Consultants Ltd.



Paul Walsh, P. Eng.



PW:pw

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