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DCR Phoenix Homes
18 Bentley Avenue
Nepean, Ontario
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Attention: Mr. Mike Boucher

RE: ADDITIONAL GEOTECHNICAL GUIDELINES
PROPOSED CHANGE OF USE FROM RESIDENTIAL AND COMMERCIAL
DEVELOPMENT TO BUSINESS PARK INDUSTRIAL ZONE
O'KEEFE COURT AND FALLOWFIELD ROAD
OTTAWA, ONTARIO

Dear Sirs:

This letter is intended to provide additional guidelines for the proposed development at the site between O'Keefe Court and Fallowfield Road in the City of Ottawa, Ontario further to the preliminary subsurface investigation in August 2006 and additional subsurface investigation in March 2008. Based on information provided by Ms. Meredith Lynes, a planner for MMM Group Limited, the proposed development for the site will change from residential and commercial development to commercial/business park development.

Kollaard Associates previously completed the preliminary subsurface investigation report and additional subsurface investigation letter for a development at the above location consisting of proposed residential and commercial development. Since the preparation of that report and letter, it is understood that revised plans for development have been made to consist of Commercial / Business Park Development, including office uses, hotel and associated secondary uses, and a place of worship. The proposed developments seek to include building structures between 4 to 12 storeys in height. In view of the proposed development changes, the City of Ottawa requested that a review of the geotechnical investigations provided by Kollaard Associates be carried out to verify if the proposed development changes might influence the conclusions of the geotechnical reports.



Soil Background Information

The results of the above mentioned preliminary subsurface investigation and additional subsurface investigation letter are provided in the Kollaard Associates Inc. Report No. 060445, entitled "Preliminary Subsurface Investigation, Proposed Residential and Commercial Development, O'Keefe Court and Fallowfield Road, Ottawa, Ontario", dated August 2006 and Additional Subsurface Investigation, Report No. 080069, Proposed Residential and Commercial Development, O'Keefe Court and Fallowfield Road, Ottawa, Ontario, dated March 5, 2008 should be read in conjunction with this present letter. That report and letter indicate, in general, the site is underlain by shallow bedrock, glacial till and silty clay. Based on the results of the test pits and boreholes put down at the site for the investigations, the silty clay is stiff to very stiff in consistency. Beneath the silty clay, both boreholes encountered a deposit of glacial till. The glacial till is in a loose to compact state of packing. Refusal to auger advancement and/or practical refusal was encountered on the surface of bedrock or on large boulders within the boreholes and test pits at depths ranging between about 1.3 to 5.5 metres below the existing ground surface.

Geotechnical Considerations

A review of a planning rationale for this project was provided by Ms. Meredith Lynes, planner for MMM Group Limited. The planning rationale illustrated a proposed plan of subdivision along with a height strategy figure that identifies proposed building heights within each proposed lot within the business park. The review of the planning rationale provided general development information that could influence design considerations from a geotechnical point of view.

As such, Kollaard Associates considers that the following letter provide supplemental Geotechnical Guidelines for the proposed changes to the development at the above noted site.

Proposed Commercial / Business Park Development

Foundations for Proposed Commercial Buildings

From a geotechnical point of view, with the exception of the fill materials and topsoil, the subsurface conditions, in general, encountered at the test pits and boreholes advanced during the investigations are suitable for the support of the proposed commercial buildings on conventional spread footing foundations bearing on either the overburden or the underlying bedrock. It is considered that the excavations for the foundations should be taken down through any surficial fill, topsoil or otherwise deleterious material to expose the undisturbed silty clay, glacial till and/or bedrock.

For the proposed commercial buildings founded beneath the fill and topsoil on the undisturbed native silty clay or glacial till a maximum allowable bearing pressure of 150 kilopascals for serviceability limit states and 350 kilopascals for the factored ultimate bearing resistance.

For the proposed commercial buildings founded beneath the fill and topsoil on the undisturbed bedrock or on engineered fill placed on bedrock an allowable bearing pressure of 500 to 800 kilopascals for serviceability limit states and 1500 kilopascals for the factored ultimate bearing resistance may be used for both strip and pad footings.

As the types of developments and foundation requirements have not been determined at this stage, These preliminary allowable bearing pressures and factored ultimate bearing resistances are subject to changed with more detailed, site specific geotechnical investigations for site specific design purposes.



Seismic Design for the Proposed Commercial Buildings

Based on the limited information from the test pits and the boreholes put down at the site and from information obtained from adjacent sites, for seismic design purposes, in accordance with the 2006 OBC Section 4.1.8.4, Table 4.1.8.4.A., the site classification for seismic site response is Site Class A or B. For building permit application purposes, site specific investigations should be carried out to confirm the seismic site response for each lot.

Site Services

No changes

Roadways

No changes

Construction Considerations

No changes

Conclusions

In summary, Kollaard Associates has considered the proposed changes to the development as indicated by MMM Group Limited from a geotechnical point of view. Kollaard Associates considers the proposed Commercial / Business Park Development is feasible from a geotechnical point of view. Kollaard Associates strongly suggests that additional subsurface investigations be carried out on a site per site basis for the final design of each of the proposed buildings.

We trust this letter provides sufficient information for your purposes. If you have any questions concerning this letter please do not hesitate to contact our office.

Yours truly,

Kollaard Associates Inc.

Dean Tataryn, B.E.S, EP.



Reviewed by Steve deWit, P. Eng.