

re: Geotechnical Responses to City Comments
Proposed High-Rise Building
1040 Somerset Street West - Ottawa

to: Claridge Homes - **Mr. Stephen Poon** - stephen.poon@claridgehomes.com

to: Claridge Homes - **Mr. Vincent Denomme** - vincent.denomme@claridgehomes.com

date: May 17, 2022

file: PG2674-MEMO.14 Revision 1

Paterson Group Inc. (Paterson) prepared the current memo to provide our responses to the geotechnical-related comments from the City of Ottawa regarding the proposed development at the aforementioned site.

John Wu - Comment 2

Comment: *What impact will short-term dewatering have on the proposed shoring system have on the existing bridge abutment and retaining wall structure.*

Follow-up Comment: *The Geotechnical response from Paterson has not addressed staff's comments. Staff want clear statement of the impact on bridge abutment from dewatering on this site(1040 Somerset Street). The response provided only talked about the retaining wall structure.*

Response: Short-term dewatering of the underlying soils over a 12 month period for construction will not cause excessive settlement of the shallow footings supporting the retaining wall structure of the bridge overpass, nor will it cause excessive settlement of the existing bridge abutment which is supported on timber piles.

Paterson has reviewed the soil conditions immediately below the existing retaining wall and the overall soil overburden profile as part of our geotechnical investigation. Based on our observations, the soil below the retaining wall structure consists of a compact to dense, silty sand with gravel and cobbles, which was noted to be dry followed by a stiff to very stiff, silty clay deposit with low moisture levels. The abovenoted layers are underlain by a glacial till, consisting of a silty sand with clay, gravel, cobbles and boulders. The groundwater level was encountered within the glacial till layer, which is considered to be resistant to settlement due to short-term dewatering based on our observations and testing results.

Further, short-term dewatering will not reduce the frictional and/or end-bearing resistance of the timber piles which are supporting the overlying bridge abutment.

It is also understood that a temporary shoring system will be installed adjacent to the bridge abutment and retaining wall structure which will allow dewatering of the supported soils. However, it is expected that the extent of dewatering will be limited due to the soil consistency. Also, the glacial till layer is not expected to undergo any significant settlement (ie.- less than 5 mm) due to the short-term dewatering. Therefore, the shallow footing supported retaining wall structure and the timber pile-supported bridge abutment will not undergo excessive settlement (ie.- less than 5 mm) due to the short-term dewatering associated with the proposed excavation program for the subject site.

AMB Comment 2

Comment: *The Peer Review report recommended using subsidence control sensors on the bridges and retaining walls. Please confirm if the recommended sensors will be used.*

Response: Yes, Paterson's Displacement Monitoring Plan (Paterson Group Memo PG2674-MEMO.12 Revision 1 dated February 7, 2022) recommends subsidence control sensors on the retaining wall, although the term "deflection monitoring points" is used in the Displacement Monitoring Plan, which is a synonym for subsidence control sensors.

A subsidence control sensor/displacement monitoring point will also be installed and monitored at the top of the bridge abutment.

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



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