

MEMORANDUM

To: Daniel Boulanger
Director of Planning & Consulting
TCU United Group
From: McIntosh Perry
Date: May 28, 2018
Re: Response to the City of Ottawa Review Letter

The City of Ottawa review letter issued on May 17, 2018, file No. D07-12-18-0061 states the following comment regarding the geotechnical report completed by McIntosh Perry in April 2018 for the property at 506 Gladstone Avenue in Ottawa;

“...The Geotechnical Report provided is not up to standard. We require information on the impact of groundwater on neighbouring properties.” It is presumed the comment meant to say the “impact of groundwater lowering” for the above statement. If that is the intention of the letter, any groundwater lowering in theory may cause some settlements. Regardless of the soil type, if the foundation soil is under water and if the hydrostatic pressure changes the effective stress experienced by the foundation soil will change. In this case, if for any reason the groundwater lowers, the hydrostatic pressure decreases and it causes the total stress to increase, which can potentially cause excess settlements.

However, the “impact” of such groundwater lowering as the City is requesting cannot be determined with the current information. The “impact” which is interpreted as excess settlement in this case, is a function of several factors which are currently unknown to McIntosh Perry. The soil type is one factor. Fill encountered down to 3 m below existing surface at 506 Gladstone underlain by stiff clay. We don’t know the depth of fill at the adjacent property and what type of strata the adjacent property is founded on. The founding level is unknown. The footing stress is also another factor which is unknown. Hydraulic conductivity of the material also plays a role in its response to short-term and long-term dewatering.

Given the unknowns as mentioned above, if the stratigraphy at the neighbouring property is similar to the 506 Gladstone and if the groundwater table does not permanently lower, no significant impact is expected at adjacent properties. Since the observed water table is close to the expected frost penetration depth and the proposed building will have one basement level, no permanent lowering of groundwater is expected based on current information. Proper construction practice is necessary to protect the adjacent properties during construction.

McIntosh Perry Consulting Engineers



N'eem Tavakkoli, P.Eng.