

Shelly Cham

From: Jeff Walters
Sent: Thursday, March 29, 2018 4:55 PM
To: Shelly Cham
Subject: D01-16002, D02-16012 and D03-16006
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To: Shelly Cham
Cc: Sybelle von Kursell

The following attachments have been securely sent to you.

[Appendix G - Geotechnical and Groundwater\[1\].pdf](#) (938.8KB)
[Urban MESP Final May 2014 TMIG\[1\].pdf](#) (42.3MB)

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I have reviewed the Hydrogeological Assessment prepared by Groundwater Environmental Management Services Inc. (GEMS) dated January 18, 2016 as well as the TRCA comments on this Hydrogeological Assessment dated August 19, 2016 and provide the following comments.

A portion of this site is within the study area for the 2014 Urban MESP. The Urban MESP report needs to be reviewed as a background document by GEMS. This assessment will need to address conformity to the recommendations in the Urban MESP for the Town growth centers and corridors. This MESP document is attached for reference. This hydrogeological assessment including the impact assessment needs to conform to the specific requirements for hydrogeological studies identified in the recommendations of Section 3.3 of the Urban MESP. Please add a section to the report to address conformity to the Urban MESP.

The Background Study (Section 5.4 and Appendix A.4) prepared in support of the Yonge Bernard KDA Secondary plan should also be reviewed by GEMS as a background document. Please use the below link to access the Background Study.

<https://www.richmondhill.ca/en/find-or-learn-about/yonge-street-and-bernard-key-development-area.aspx>

TRCA has commented that Oak Ridges Aquifer is present within this site. GEMS should confirm that the Fine to Medium sand unit identified within Boreholes 6 and 7 is the Oak Ridges Aquifer. GEMS and the Geotechnical consultant should review whether additional geotechnical data is required in order to define the extent of this Aquifer within the site. I concur with the comment from TRCA that instrumentation or piezometers should be installed within the sand unit to understand the hydraulic pressures within this unit. This additional information should be used to update the

Hydrogeological Assessment, the requirements for temporary construction and permanent dewatering systems and the required impact assessment to the NHS, existing wells and adjacent structures.

TRCA has commented that they do not support foundations within the Oak Ridges Aquifer which will restrict the depth of foundations and the number of underground parking levels. Based on this restriction, the Consulting Team should assess the number of underground parking levels that are feasible within the site and the Hydrogeological assessment should be updated accordingly (currently the assessment is based on three underground parking levels).

Please provide geologic sections through the site. Include the depth of proposed foundations and servicing, various soil units including Oak Ridges Aquifer, groundwater levels and proposed foundation depths. Based on site specific information, GEMS should assess whether there are any confined aquifers or artesian conditions within the site. Please confirm if any municipal servicing is proposed within the Aquifer.

Please update the dewatering assessment to reflect the most recent building design information. Please include a summary table for all assumptions used to assess dewatering requirements (groundwater levels, excavation levels etc.) For the dewatering assessment for the high rise buildings, suggest the more shallow groundwater levels should be considered for the assessment. Please provide the zone of influence for the construction dewatering including supporting calculations.

The property owner should confirm whether a continuous caisson wall will be used as a shoring system and the dewatering assessment should then be updated accordingly.

Please have the Geotechnical consultant assess the potential for settlement for adjacent structures within the dewatering zone of influence. Please also confirm if any existing wells or NHS features are within the zone of influence.

Please confirm if there is a potential to discharge construction dewatering flows to a Town sewer – the Town has specific requirements with respect to issuance of a permission to discharge.

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