

re: Geotechnical Response to City Comments
Proposed Residential Development
Kanata Lakes Golf Club - 7000 Campeau Drive - Ottawa

to: Minto Communities - **Ms. Beth Henderson** - bhenderson@minto.com

date: May 17, 2021

file: PG4135-MEMO.03

Further to your request and authorization, Paterson Group (Paterson) prepared the following memorandum to provide geotechnical responses to city comments regarding the proposed residential development at the aforementioned site. This memorandum should be read in conjunction with Report PG4135-2 Revision 5 dated May 17, 2021.

Geotechnical Comments

Comment No. 50 : *The bottom of pond elevations differ from those proposed in the Functional Servicing Report. Prior to re-submission, please review the FSR to ensure consistency. (Followup comment: If any OGS units continue to be proposed, please note that they are to be sized accounting for the flow-through drainage areas and not just the flows requiring treatment. For very small drainage areas, an OGS can function as a flow through (online) device, however, for larger drainage areas, an OGS must be offline having a diversion of the first flush into the unit and the balance of runoff is to overflow).*

Response: The latest elevations for the bottom of the ponds have been updated in the revised geotechnical report PG4135-Revision 5 May 17, 2021.

Comment No. 51 : *Tree planting setbacks are not provided in Appendix 2, drawings PG4135-3 and PG4135-4 as indicated. Please address original comment 114. (Followup comment 114: Any future development Blocks located within the subdivision (i.e. to be developed by site plan later) are to be modelled with a realistic runoff coefficient value reflective of the proposed zoning).*

Response: As described under Section 6.8 of our revised report, the tree planting setbacks corresponds to the same areas where permissible grade restrictions are to be applied. Area 1 covers the area where no grade restriction is required. Area 2 covers the area where a grade restriction is to be applied. Nevertheless, this has been highlighted in the legends of the Permissible Grade Raise Plans PG4135-3 and PG4135-4 enclosed in Appendix 2 of the revised geotechnical report PG4135-2 Revision 5 dated May 17, 2021. It should be noted that in areas where the design finished grades is provided with a minimum vertical separation of 3.5m from the top of the silty clay, no tree planting setbacks will be required. This will be defined by the geotechnical consultant by a lot by lot basis upon review of the site grading plan.

Comment 52: Please provide a plan showing groundwater elevations and surface throughout the site.

Response: The groundwater levels inferred from moisture levels, colouring and consistency of the recovered soil samples are shown on the Groundwater Contour Plans PG4135-8 and PG4135-9 enclosed in Appendix 2 of the revised geotechnical Report PG4135-2 Revision 5 dated May 17, 2021.

Comment 118-a.: *The proponent is to ensure no groundwater infiltration/exfiltration occurs with the use of a clay liner and/or a geosynthetic liner along the bottom and side slope surfaces.*

Response: A minimum 0.6 m thick clay liner is recommended to be placed over the grinded bedrock surface to provide an impermeable layer over the bedrock. The clay material used for the liner should consist of brown, workable clay that can be placed and compacted using a sheepsfoot roller making several passes and approved in the field by Paterson. Alternatively, a geosynthetic clay liner can be used over the bedrock surface. It is expected that the perched groundwater will be significantly reduced during the site redevelopment and after post-construction servicing.

Comment 118-b.: *Assessment of hydrostatic pressure impact and potential rotational failure is to be provided prior to Draft Plan Approval. This is to ensure the proposed pond(s) can function where located, at all possible water levels, as well as any impact on structures designed to be part of the SWMF (i.e. inlet headwall or outlet structures). All water levels to be assessed including but not limited to: empty (expected during maintenance of the pond), permanent pool elevation, extended detention, rapid drawdown and under emergency overflow conditions. Assessment is to include any impact water level fluctuations might have on the hydrostatic pressures and potential rotational failure on the pond system.*

Response: Paterson completed a slope stability assessment for the critical sections of the side slopes of the proposed ponds. According to the results of the slope stability assessment, the ponds have been found to be stable for the 1:100 Year Water Level and rapid drawdown, under static and seismic loading conditions. The results for the analysis are included in Appendix 2 of the revised geotechnical Report PG4135-2 Revision 5 dated May 17, 2021.

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



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