



March 14, 2018 - Revision 1

Kollaard File # 160861 Page 1

To: **Mark Fraser**
Project Manager Infrastructure Approvals
Planning Infrastructure & Economic Development
City of Ottawa, Ontario

Re: Retaining Wall design for 351 Croydon Avenue, Ottawa, Ontario.

Kollaard Associates Inc has completed a retaining wall design for the proposed retaining walls indicated on the following drawing:

Proposed Site Grading and Stormwater Management Plan, prepared by, T.L. Mak Engineering Consultants Ltd. drawing No. G-1 Revision 4 dated January 30, 2018

The retaining wall design is presented on Kollaard Associates Inc. drawing 160861-RW, Retaining Wall Design dated March 5, 2018.

The retaining wall sections as presented have minimum factors of safety as follows:

Wall Section	Factor of Safety					
	Over-turning	Base Sliding	Internal Failure	Seismic Over-turning	Seismic Base Sliding	Global Stability
Section A	Engineered wall not required due to limited height. With Segmental block construction, The factor of safety for global stability will be above 3					
Section B	1.9	2.7	> 2	> 2.2	> 2.2	> 4
Section C	1.7	2.6	> 2	> 2	> 2	> 4
Section D	3	4.1	> 2	> 3	> 2.6	> 4

The retaining wall sections have been designed in consideration of the maximum allowable bearing pressures provided for both SLS and ULS in the geotechnical report , *Geotechnical Investigation, Proposed Residential Development, 351 Croydon Road, City Of Ottawa, Ontario*, prepared by Kollaard Associates Inc for the site, dated January 24, 2017.

Based on the above factors of safety it is considered that the proposed retaining wall will be stable from a global perspective when constructed as specified on the retaining wall design drawings prepared by Kollaard Associates Inc.

If you have any questions concerning this response or if we can be of any further assistance to you on this project, please do not hesitate to contact our office.

Sincerely,



Steven deWit, P.Eng.
Kollaard Associates Inc