



re: Grading and Site Servicing Plans Review
Proposed Residential Building
230-232 Lisgar Street – Ottawa, Ontario
to: 230 Lisgar Street Inc. – Mr. Albert Falsetto – a.falsetto@rogers.com
to: Fotenn – Ms. Jillian Simpson – simpson@fotenn.com
date: May 23, 2023
file: PG6401-MEMO.02 Revision 1

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide a review from a geotechnical perspective for the grading and site servicing plans for the proposed residential building at the aforementioned site. This memorandum should be read in conjunction with Paterson Geotechnical Report PG6401 -1 Revision 1 dated November 8, 2022.

1.0 Grading Plan Review

Paterson reviewed the following grading plans prepared by Novatech, regarding the aforementioned residential building:

- Grading and Erosion and Sediment Control Plan – 230-232 Lisgar Street - Project No. 122160 – Drawing No. 122160-GR - Revision 2, dated May 19, 2023.
- Existing Condition and Removals Plan – 230-232 Lisgar Street - Project No. 122160 – Drawing No. 122160-REM - Revision 2, dated May 19, 2023.

Based on our review of the above noted grading plans, the proposed grade raises within the aforementioned site are within the recommended permissible grade raise of **2.0 m**. No exceedances were noted for any area within the subject site. Therefore, the proposed grade raises are generally acceptable from a geotechnical perspective and will not require the use of lightweight fill at this time.

2.0 Site Servicing Plan Review

Paterson reviewed the following site servicing drawings prepared by Novatech for the aforementioned development:

- General Plan of Services – 230-232 Lisgar Street - Project No. 122160 – Drawing No. 122160-GP - Revision 2, dated May 19, 2023.
- Pre-development Storm Drainage Plan – 230-232 Lisgar Street - Project No. 122160 – Drawing No. 122160-STM1 - Revision 2, dated May 19, 2023.
- Post-development Stormwater Management Plan – 230-232 Lisgar Street - Project No. 122160 – Drawing No. 122160-STM1 - Revision 2, dated May 19, 2023.





Based on our review of the above noted site service plans, The services were found to be outside of the lateral support zone of the proposed footing and be considered to be acceptable from a geotechnical perspective. However, insufficient frost protection has been provided for the storm and sanitary sewer services. At these locations, the storm sewer services are located within the frost zone, approximately 2.1 m below the finished grade.

Refer to Figure 1, attached to the current memorandum, which demonstrates these approximate locations. In the following section, frost protection of the site servicing is recommended where insufficient frost cover has been provided.

3.0 Geotechnical Recommendations

Any portion of the services where the invert level is installed at a depth of 1.8 m below the finished grade or deeper is considered to have sufficient soil cover for frost protection. Where insufficient soil cover is present above the invert of storm and sanitary sewer pipes, the following frost protection criteria should be followed:

Table 1 - Rigid Insulation Recommendations for Storm and Sanitary Sewer Pipes with Reduced Soil Cover			
Thermal Condition	Soil Cover Provided (mm)	Insulation Dimensions	
		Thickness (mm)	Extension (mm)
Unheated	600 to 900	125	Extend 1200 mm horizontally beyond edge face of the sewer
	900 to 1200	100	Extend 1200 mm horizontally beyond edge face of the sewer
	1200 to 1500	75	Extend 900 mm horizontally beyond edge face of the sewer
	1500 to <1800	50	Extend 600 mm horizontally beyond edge face of the sewer

Notes: All designs are based on a freezing index of 1000°C-days

All rigid insulation should consist of either Dow Chemical High-Load 40 (HI-40), Styro Rail SR.P400, or equivalent approved by Paterson. The placement of all insulation within the service trenches must be reviewed and approved by Paterson personnel at the time of construction.



We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Maha K. Saleh, P.Eng



Faisal I. Abou-Seido, P.Eng.