



**re: Geotechnical Review – Additional Groundwater Levels
Proposed School Development
620 Triangle Street – Ottawa, Ontario**

to: Robinson Consultants Inc. – **Brandon MacKechnie** – bmackechnie@rcii.com

cc: Ottawa Catholic School Board – **Donald Wood** – donald.wood@ocsb.ca

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file: PG7249-MEMO.01

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide a review and summary of the groundwater observation program at the subject site.

1.0 Geotechnical Review and Commentary

Paterson completed piezometer water level measurements throughout March 2025 to supplement previous measurements taken during the August 2024 field investigation program. The additional readings are summarized below in Table 1:

Table 1 – Measured Groundwater Levels					
Test Hole Number	Method	Ground Surface Elevation (m)	Measured Groundwater Level		Date
			Depth (m)	Elevation (m)	
BH 2-24	Piezometer	99.05	3.24	95.81	August 26, 2024
			0.18*	98.87*	March 19, 2025
			0.25*	98.80*	March 21, 2025
BH 3-24	Piezometer	99.19	Dry	-	August 26, 2024
			0.04*	99.15	March 14, 2025
			0.10*	99.09	March 19, 2025
			0.51*	98.68	March 21, 2025
BH 4-24	Piezometer	99.10	1.45	97.65	August 26, 2024
			0.56	98.54	March 19, 2025
			0.27	98.83	March 21, 2025
BH 5-24	Piezometer	99.34	3.26	96.08	August 26, 2024
			1.53	97.81	March 19, 2025
			1.41	97.93	March 21, 2025
BH 6-24	Piezometer	99.30	4.12	95.18	August 26, 2024
			0.25*	99.05	March 19, 2025
			0.36*	98.94	March 21, 2025



Table 1 (Continued) – Measured Groundwater Levels					
Test Hole Number	Method	Ground Surface Elevation (m)	Measured Groundwater Level		Date
			Depth (m)	Elevation (m)	
BH 7-24	Piezometer	99.21	3.43	95.78	August 26, 2024
			0.17*	99.04	March 19, 2025
			0.36*	98.85	March 21, 2025
NOTE: The ground surface elevations at the test hole location of the current investigation were surveyed by Paterson using a high precision GPS unit and was referenced to a geodetic datum. “ * ” – Denotes piezometer blocked with ice assumed to be present within the piezometer as a result of frozen subsoil conditions.					

The above-noted water level readings are consistent with our experience of piezometers installed throughout clay deposits. Due to the nature of the in-situ clays, piezometer water levels are highly influenced by surface water infiltration into the borehole column by snowmelt and thawing saturated soils. The above-noted water levels are consistent with our expectation for water level fluctuations throughout the subject site such that the recommendations provided in the current Geotechnical Report remain valid and unchanged at this time.

Based on this, while the seasonally high groundwater level may not have fully developed to date, the above-noted water level readings are indicative of near-surface water levels during the spring-thaw period. The seasonally high-water level at the subject site may be considered to be at or very close to the existing ground surface for the assessment of sewer system designs that concern groundwater table fluctuations from a geotechnical perspective. Based on this, Paterson does not suggest completing additional piezometer readings to support spring freshet water level estimates for design purposes at this time.

Based on Paterson’s review, due to the presence of a combination of clay and silt soils and relatively shallow levels of seasonally high-water levels, infiltration-type Low Impact Development (LID) measures are not considered suitable for the subject site from a geotechnical perspective and as advised by the City of Ottawa Technical Bulletin IWSTB-2024-04.

We trust that this information is satisfactory for your immediate requirements.

Best Regards,

Paterson Group Inc.


Nicholas F. R. Versolato, CPI, B.Eng.




Drew Petahtegoose, P.Eng

