

December 19, 2023

Brampton Office

Biglieri Group.
2472 Kingston Rd.
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Attention: Merve Kolcak, M.E.S. (PI)
E-Mail: mkolcak@thebiglierigroup.com

**RE: MEMORANDUM –
Evaluation of Building Foundation Installation in Relation to the
Municipal Supply Aquifer**

**901 ESSA ROAD AND BROWN BEAR STREET
BARRIE, ONTARIO**

Dear Mr. Kolcak:

This memo is prepared in response to the City of Barrie Memorandum on Environmental Risk Management, dated May 25, 2023, specifically referencing note number 2 on page 1.

Terraprobe, a company of Englobe, as the appointed engineering firm, has conducted a review of the proposed building foundation installation with regard to the municipal supply aquifer regulations. The assessment, based on the drawing package provided by Kirkor, aims to ensure compliance and adherence to the stipulated guidelines.

The ground surface elevation, as reported in the design package (drawing number dA4.01 and 02) stands at 312.720 m. Notably, the Finished Floor Elevation (FFE) for the P2 parking lot is positioned at 6.45 meters below ground surface (mbgs), with an elevation of 306.270 m. Anticipating a maximum excavation depth of 2 meters below FFE, the bottom of the excavation is estimated to reach approximately 304 m.

Referencing the preliminary hydrogeological study conducted by Terraprobe on April 7, 2022, the groundwater level is identified at approximately 307.5m. As a result, the foundation elevation will be

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situated below the stable groundwater level, necessitating the implementation of active dewatering measures for the development. While the Terraprobe Hydrogeological report discussed potential impacts with three levels of underground parking, it confirmed that the proposed development would be municipally serviced, with no on-site groundwater use. A well record search revealed no domestic or municipal water supply wells within the estimated zone of influence. Importantly, excavation and shoring activities will be situated outside the municipal supply aquifer, minimizing the likelihood of affecting water resources.

To ensure responsible construction practices, it is recommended to conduct a well survey program before commencement to establish local groundwater use. Additionally, if permeable shoring methods are employed, monitoring of local domestic wells is advised throughout the pre-construction, construction, and post-construction phases to assess the impact of dewatering on local resources.

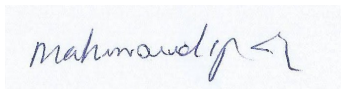
CONCLUSION

Based on the presented information and rationale presented earlier, the depth of the required excavation for this building is deemed unlikely to impact the municipal supply aquifer. These findings affirm our commitment to ensuring environmentally sound and regulation-compliant engineering practices.

We trust this information is sufficient for your present purposes. Should you have any questions concerning the above, please do not hesitate to contact the undersigned.

Yours truly,

Terraprobe Inc.



Reza Mahmoudipour, M.Sc., P.Eng.
Senior Project Manager, Geotechnical – GTA Office



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