



# SOIL-MAT ENGINEERS & CONSULTANTS LTD.

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**PROJECT No.: SM 302489-G**

August 8, 2024

CACHET DEVELOPMENT PARTNERS  
361 CONNIE CRESCENT, SUITE 200  
Concord, Ontario  
L4K 5R2

Attention: Andrew Eldebs

**SUPPLEMENTAL GEOTECHNICAL AND HYDROGEOLOGICAL CONSIDERATIONS  
PROPOSED RESIDENTIAL DEVELOPMENT  
41 PARK STREET WEST  
CLIFFORD, ONTARIO**

Dear Mr. Eldebs,

As requested, SOIL-MAT ENGINEERS has prepared this Supplemental Geotechnical and Hydrogeological Considerations report in connection with the above noted project. This letter should be read in conjunction with our initial Geotechnical Investigation report dated April 28, 2022.

It is understood that the proposed development limits have expanded to include the lands further to the southwest, as illustrated in the Concept Plan dated April 2024 provided to our office. A representative of SOIL-MAT ENGINEERS visited the subject site and advanced a series of hand dug test excavations to depths of up to approximately 2 meters within the expanded area. The conditions encountered in the test excavations consisted of silty sand with trace to some gravel and cobbles, consistent with those encountered during our initial investigation referenced above. As such, it is our opinion that the subsurface conditions within the new expanded area are consistent with those in the original development area, and the comments and recommendations provided in our geotechnical report remain valid and should be adhered to.

As noted in our original geotechnical report, the groundwater level is estimated at depths of up to 3 to 4 metres below the existing grade. Observations made during advancement of the test excavations yielded no indication of water within the depth of the test excavations, and water level readings were generally consistent, to deeper than those previously taken. As such the estimated groundwater level as outlined in our above noted geotechnical report remains appropriate, at depths of 3 metres or more below the ground surface. Regardless, as previously noted, shallower 'perched'

deposits within more permeable layers may be encountered, especially during the 'wet' times of the year.

Regardless, all basement foundation walls should be suitably damp proofed in accordance with the Ontario Building Code, including the provision of a 'dimple board' type drainage product, and provided with a perimeter drainage tile system outlet to a gravity sewer connection or positive sump pit a minimum of 150 millimetres below the basement floor slab. The clear stone material surrounding the weeping tile should be encased with a geotextile material to prevent the migration of fines from the foundation wall backfill into the clear stone product.

All footings exposed to the environment must be provided with a minimum of 1.2 metres of earth or equivalent insulation to protect against frost penetration. This frost protection would also be required if construction were undertaken during the winter months. All footings must be proportioned to satisfy the requirements of the Ontario Provincial Building Code.

It is imperative that a soils engineer be retained from this office to provide geotechnical engineering services during the excavation and foundation construction phases of the project. This is to observe compliance with the design concepts and recommendations outlined in this report, and to allow changes to be made in the event that subsurface conditions differ from the conditions identified at the borehole locations.

The short-term excavations for the proposed servicing are generally anticipated to extend through the upper layer of silt and sand and into the clayey silt/clayey sandy silt material, above the estimated static groundwater level, however as noted above, may encountered shallower perched deposits during the 'wet' times of the year. It should be possibly to adequately control such infiltration using conventional construction dewatering techniques such as pumping from sumps in the base of the excavation. During wet times of year, some instability of the excavations within the upper sand and silt soils may be experienced. The rate of dewatering would be expected to be below 50,000 L/day, and certainly less than 400,000 L/day, and would not be from the static groundwater level, such that an EASR or PTTW would not be required. Excavations for the proposed basement levels are expected to be above the static groundwater level, and as such would not require ongoing groundwater control.

The somewhat permeable condition of the native sand and silt soils present over the site will generally allow for natural drainage and movement of groundwater. As such, it is not considered likely that service trenches would present any conflict or impact to the natural

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groundwater conditions. As such, the provision of clay 'cut-offs' within trench backfill is not expected to be required.

Based on our observations, the proposed construction is not considered to have an adverse impact on the groundwater condition in the area. Conversely, the groundwater level is not considered to have an impact on construction of the proposed development, limited to typical control of infiltration and runoff into open excavations, readily handled at the time of construction via conventional construction practices.

We trust that this supplemental geotechnical and hydrogeological report is sufficient for your present requirements. Should you require any additional information or clarification as to the contents of this document, please do not hesitate to contact the undersigned.

Yours very truly,  
SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Kyle Richardson, P. Eng.  
Project Engineer



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