

Memorandum

Date: March 19, 2021

Project #: 2101801

To: Morris Bonakdar – 2452595 Ontario Ltd.
From: Andrew Wesley-James, M.Sc. – Palmer
cc: Jason Cole, M.Sc., P.Geo. – Palmer
Re: Water Well Survey Memo, Uxbridge, ON

1. Introduction

Palmer Environmental Consulting Group Inc. (PECG) is pleased to provide the attached memorandum describing the results of the water well survey of residential properties within 250 m of the development site at 231, 235, 237, 241, 245, and 249 Durham Regional Road No. 8 (formerly Reach Street), in Uxbridge, Ontario. The water well survey was used to identify the presence of domestic water wells and characterize their current condition. The survey method involved both a roadside well screening to identify domestic wells and confirming the locations municipal water connections, as well as going door to door to residential properties along Reach Street adjacent to the site conducting an interview with willing homeowners to obtain baseline well information.

2. Results

Palmer staff conducted the water well survey on March 12, 2021. During the survey the properties shown on **Figure 1** were screened or visited. Where homeowners were not home, Palmer staff left well survey forms at select properties for homeowners to fill out and email back. As of March 19, 2021, no responses have been received.


Only the owners at 227 Reach Street agreed to participate in the survey. All other residents visited either declined to participate or were not home at the time of the survey. The owner at 227 Reach Street confirmed that potable water is supplied by a drilled domestic well. The well was estimated to be over 30 years old, and has not had any water quantity or quality issues. Interior access was not provided to the well to take a groundwater measurement, exterior inspection revealed no damage to the well nor depressions surrounding it.

A visual inspection from public property indicated that the residential subdivisions to the north and southwest of the site are supplied by municipal water, not domestic water wells. Furthermore, municipal water connections along Reach Street were observed ending at 209 Reach Street. The properties to the



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 Site Boundary

 Dwellings supplied by domestic water wells

N



150 m

| | | | | | | |
|----------------|----------------------|-----------|--------------|---|-------------|---|
| Client: | 2452595 Ontario Ltd. | | Project No.: | 2101801 | Figure No.: | 1 |
| Drawn: | AWJ | Approved: | JC | Title: Neighbouring Domestic Wells | | |
| Date: | March, 2021 | Scale: | As shown | Project: Reach Street Hydrogeology Updates | | |
| Original Size: | Landscape | Rev: | A-0 |  74 Berkeley Street Toronto, Ontario M5A 2W7 | | |

Note: Satellite Image from Google Earth

east, starting at 211 Reach Street to 283 Reach Street (**Figure 1**) are likely to all be on domestic water wells due to the presence of visible drilled wells and/or lack of municipal water servicing.

3. Groundwater Levels

As no access was provided to nearby domestic water wells, Palmer staff monitored the drilled domestic wells and monitoring wells (MW-1, MW-2 and MW-3) on the development site at 231, 235, 237, 241, 245, and 249 Reach Street. The observed groundwater levels in the on-site domestic wells ranged from 10.55 to 15.10 metres below ground surface (mbgs). All monitoring wells were dry at a depth of 6.7 mbgs. The results of the groundwater level monitoring are summarized below in **Table 1**. Due to the ubiquitous presence of the Oak Ridges Moraine Aquifer Complex (ORMAC) below the site and the area, it is expected that all drilled wells shown on **Figure 1** obtain potable water supplies from the ORMAC and that their water level and chemistry is consistent with the on-site wells. Therefore, the well monitoring data presented in **Table 1** can be considered to represent a baseline condition for the area.

Table 1. Groundwater Monitoring Results, March 12, 2021

| Address – Well Type | Groundwater Level (mbgs) |
|--|--------------------------|
| 231 Reach Street – Monitoring Well, MW-1 | Dry at 6.7 |
| 231 Reach Street – Domestic Well | 10.55 |
| 235 Reach Street – Domestic Well | 12.01 |
| 237 Reach Street – Monitoring Well, MW-2 | Dry at 6.7 |
| 237 Reach Street – Domestic Well | Inaccessible |
| 241 Reach Street – Domestic Well | 12.29 |
| 245 Reach Street – Domestic Well | 15.10 |
| 249 Reach Street – Monitoring Well, MW-3 | Dry at 6.7 |
| 249 Reach Street – Domestic Well | Inaccessible |

4. Construction Monitoring Recommendations

As groundwater levels are predicted to be below the base of the deepest excavation on site (for the underground SWM facilities), no dewatering is expected. As such, no impacts are expected on neighbouring domestic wells.


Based comments received from the Lake Simcoe and Region Conservation Authority (LSRCA), monitoring of groundwater quantity and quality is recommended should groundwater be encountered during site construction. To address this comment, a preliminary groundwater monitoring plan is presented in **Table 2** for during and post-construction conditions.

Table 2. Hydrogeological Monitoring Plan (if Groundwater is Encountered During Construction)

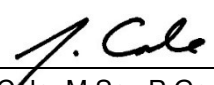
| Period | Location | Parameters | Frequency | Trigger for Mitigation | Mitigation Measures |
|---|---|---|--|--|---|
| Groundwater Quality and Quantity | | | | | |
| During Construction | Within excavation and adjacent domestic wells (shown on Figure 1) | Measurement of groundwater levels both manually and through the use of dataloggers. Collection of groundwater quality samples for comparison against ODWS. | Weekly water level monitoring during dewatering, with monthly monitor following completion of below water works until water levels return to static. | Reduction in groundwater quantity or quality adversely affecting potable water supplies. | An assessment must be conducted by a qualified hydrogeologist to confirm that the impact is likely caused by the project. If the impact is a result of the project, potential mitigation strategies include: (1) reduce dewatering rates until water level rebound, (2) provide affected residents with an alternative supply of potable water, (3) continue monitoring. |
| Post-Construction | Wells affected by construction | Groundwater levels and/ or quality. | Collect one (1) groundwater level measurement and a groundwater quality sample. | Groundwater levels and/or quality have not returned to baseline conditions. | If domestic wells have been adversely impacted by dewatering activities, water deliveries may be required and/or the well restored or replaced. |

5. Signatures

This memorandum was prepared and reviewed by the undersigned:

Prepared By: 

 Andrew Wesley-James, M.Sc.
 Environmental Scientist

Reviewed By: 

 Jason Cole, M.Sc., P.Geo.
 Principal, Senior Hydrogeologist