



February 1, 2018

Paul and Jessica Brooks
9597 Brook Line
Dresden, Ontario
N0P 1M0

Dear Mr. and Mrs. Brooks,

I am writing on behalf of the Ministry of the Environment and Climate Change regarding the well interference claim for your property at 9597 Brook Line.

Ministry hydrogeologists and staff with vibration monitoring expertise have reviewed the following water test and vibration monitoring results as part of the evaluation of your claim:

- observations and water testing results completed by ministry staff on August 1 and September 19, 2017
- baseline well water sampling conducted by AECOM on February 2, 2017
- Technical Memorandum prepared by AECOM on behalf of North Kent Wind, updated November 15, 2017*, which included observations and sample results from AECOM's August 2, 2017 site visit
- vibration monitoring conducted by Golder Associates Ltd. on behalf of North Kent Wind
- water sampling results made available to the ministry collected by WSC Consulting and Water Wells First

Upon reviewing the above mentioned reports and test results, the ministry concludes that any pile-driving-induced vibrations that may have reached your well would have been less than other common daily sources, and would not have caused the water quality issues you are experiencing.

The following is a summary of the ministry's evaluation and findings.

WATER SAMPLING RESULTS

The sampling results at the time of the AECOM and MOECC site visits indicate that there was a change in the raw water quality of your well. As a result of these observations the ministry looked very closely at all available information to determine if pile driving activity may have been responsible for the water quality change. Based on a review of all of the information available to the ministry at this time, the ministry has concluded that the construction of the North Kent Wind project is not the cause of the water quality issue you are experiencing.

* *It is the ministry's understanding that North Kent Wind has provided you with a Technical Memorandum as prepared by AECOM. Upon review of that memorandum, the ministry required additional information from North Kent Wind and their consultants. This resulted in the document needing to be updated. North Kent Wind has indicated to the ministry that they will be providing you with a copy of this updated technical memorandum in the near future.*

The sampling results show an increase in concentrations over baseline preconstruction water quality for turbidity, total suspended solids, bacteriological parameters and aluminum. Both the bacteriological and aluminum results may be related to the elevated turbidity observed in your water supply at the time of the ministry site visits in August and September 2017.

The ongoing issue at your well does not appear to be consistent with the temporary nature of the pile driving activities in the area. The September 19, 2017 test results indicate on-going degradation in water quality more than seven weeks following the completion of all pile driving activities within 2.5 kilometers of your well. This suggests that other unidentified factors may be contributing to the observed water quality issue.

VIBRATION MONITORING RESULTS

Ground-borne vibration associated with pile driving activity is the alleged cause of the well interference. The ministry used the findings of the vibration monitoring program conducted by Golder Associates Ltd (Golder) to assess whether there was a link between the observed water quality issue and the North Kent Wind turbine construction activities.

The vibration assessment by Golder was based on comparisons of the vibration levels observed at monitoring wells located at Brook Line, Cedar Hedge Line and two locations on Union Line. Using this vibration monitoring data, Golder Associates Ltd. was able to evaluate the potential for well interference.

The vibration levels related to pile driving activities around the time of your concern ranged from 0.003 mm/s to 0.03 mm/s. Based on Golder's assessment of this situation, the vibration levels at your well during pile driving activities were predicted to be within the same range. The vibration monitoring program also determined that local day to day activities, such as passing vehicles or operation of a well pump resulted in much higher levels of vibration.

The ministry has reviewed Golder's assessment and agreed with the conclusion that any pile-driving induced vibrations at your well would have been much lower than those created during common daily activities around the home.

Further information about the ministry's review of the vibration monitoring results can be found in the Jan. 24, 2018 memorandum included with this letter.

SUPPLEMENTAL MONITORING AND INFORMATION

Based on the concerns of area residents, the ministry instructed North Kent Wind and its consultants to undertake additional monitoring within the project area to assess the potential for water quality impacts. This monitoring was separate and independent from the test pile driving and construction phase monitoring. Turbidity data was collected at several selected wells twice daily - before, during, and after the installation of piles at nearby turbine construction sites. The results of this enhanced monitoring program further indicated that pile driving activity did not have an effect on water quality at the monitored wells.

Further details about the overall review can be found in the attached Technical Memorandum dated October 25, 2017 and the Addendum dated December 8, 2017. Please note the addendum provides updated information that replaces comments in the memorandum. We have also included a document titled, "Understanding Water Supply and Quality Issues at Rural Wells" to help further explain causes of turbidity and well interference.

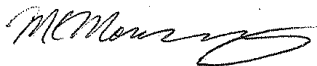
North Kent Wind will be contacting you in the next few days to provide you with their updated technical memorandum on their assessment of your complaint. The company has advised the

ministry that they are committed to working with you to provide clarity on any questions you may have and to discuss next steps.

Ministry staff have heard the concerns of residents regarding potential risks to human health from rock particles in well water that are believed to have originated from the Kettle Point formation shale. Wells that draw water from this underground aquifer may contain particles from the shale. Water containing fine particles could appear cloudy – or turbid. Turbid water can also be caused by bacterial contamination or harbour bacterial contamination. Turbid water is certainly unappealing, but according to the Chatham-Kent Medical Officer of Health, in the absence of bacterial contamination there is no health hazard from undissolved particles in water. The local health unit recommends that bacterial testing of well water be undertaken three times per year. Sampling instructions and bottles are available from the Chatham-Kent Health Unit, at no cost.

If you wish to speak to someone about the ministry's findings, please contact Teri Gilbert, Issues/Project Coordinator in the ministry's Windsor Area Office at 519-948-3892. For health-related questions, please contact the Chatham-Kent Public Health Unit at 519-352-7270.

Sincerely,



Mike Moroney
District Manager
Sarnia/Windsor District

Enc. MOECC Memorandum, January 24, 2018
MOECC Technical Memorandum, October 25, 2017
MOECC Addendum, December 8, 2017
Understanding Water Supply and Quality Issues at Rural Wells

cc. Mark Smith, Supervisor, MOECC Windsor Area Office
Teri Gilbert, Issues/Project Coordinator, MOECC Windsor Area Office
Deb Jacobs, Senior Environmental Officer, MOECC Windsor Area Office