



March 11, 2015

Paul Allore, MCIP, RPP
Director, Planning and Development Services
The Town of Ajax
65 Harwood Avenue South
Ajax ON L1S 2H9

Dear Mr. Allore,

**RE: Technical Memorandum Regarding
Actiflo™ Process for Tertiary Treatment
at the Duffin Creek Water Pollution Control Plant (WPCP)
Pickering, Ontario
Schedule C Class Environmental Assessment**

As requested in your February 6, 2015 email to Mr. Barry Laverick, we are pleased to forward the technical memo entitled "Conceptual Design of Actiflo™ Process for Tertiary Treatment at the Duffin Creek WPCP" dated March 11, 2015. This technical memo is provided as a follow-up document to the slide presentation forwarded to you by e-mail on February 20, 2015 on the same topic.

This technical memorandum summarizes the conceptual design, sizing, site layout and costing for full-scale implementation of Actiflo™ at the Duffin Creek WPCP both with full year and seasonal operation. Many of the design assumptions made in this technical memorandum are based on the Actiflo™ facility operating at the Metropolitan Syracuse Wastewater Treatment Plant (WWTP) located in Syracuse New York. This analysis was done to consider the type of installation suggested by the Town through earlier communications as a "long term" final solution. We note that any assessment of a partial or small-scale pilot installation using this technology would not allow the Regions and the Town to fully and accurately assess impacts of this type of tertiary treatment on the nearshore waters of the Lake, most particularly, the amount of algae washing ashore.

The technical memorandum identifies that the Actiflo™ treatment system would be expected to achieve a total phosphorus concentration of approximately 0.1 mg/L in the treated effluent. This would equate to a removal efficiency of approximately 99% compared to the approximately 94% removal efficiency achieved currently at the Duffin Creek WPCP. You will also note from the technical memorandum that this improved removal efficiency comes at a capital cost estimated to be \$150 million and with a present value of approximately \$240 million when operating costs are included. Based on numerous studies, scientific journal articles, provincial strategy documents and the Outfall EA Environmental Study Report, the Regions maintain that even with zero discharge of total phosphorus from the Duffin Creek WPCP (e.g., 100% removal

March 11, 2015 Letter from Laverick/Green of Durham/York Regions to Town of Ajax
Re: Technical Memo re Actiflo Process for Tertiary Treatment, at the
Duffin Creek Water Pollution Control Plant, Schedule C, Class EA

efficiency), there would continue to be *Cladophora* growing along this section of shoreline and potentially washing ashore due to other factors.

You can appreciate that the Duffin Creek WPCP shows exemplary performance in meeting and bettering the current regulatory limits set for total phosphorus by the Ministry of the Environment and Climate Change. The Duffin Creek plant has the strictest total phosphorus limits of all plants discharging to the open water of Lake Ontario. We are justifiably proud of the performance of the Duffin Creek plant and believe the evidence shows that the Regions are doing their part to maintain the quality of the nearshore water.

Our offer stands to meet and discuss our technical fact-finding trip to Syracuse as well as the content of the attached March 11, 2015 technical memorandum on the feasibility of using Actiflo™ technology at the Duffin Creek WPCP. Please let us know if you wish to visit the Syracuse facility to assess this technology first hand or if you would like to meet and discuss the content of the technical memorandum in more detail.

Sincerely,



Barry Laverick
Project Manager
Durham Region



Wayne Green
Project Manager
York Region

Attachments (4): *Conceptual Design of Actiflo™ Process for Tertiary Treatment at the Duffin Creek WPCP*
Actiflo™ Concept Process Flow diagram A1
Actiflo™ Concept Site Plan A2
Actiflo™ Concept Facility Plan A3

Copy to: Erin Mahoney, The Regional Municipality of York
Cliff Curtis, The Regional Municipality of Durham
John Presta, The Regional Municipality of Durham
Mike Rabeau, The Regional Municipality of York

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