



---

## MUNICIPAL INFRASTRUCTURE

### Assimilative Capacity & Plume Modelling Analyses

---

#### Lakewood Beach Development (Lake Erie Basin)

*Client: Lakewood Beach Properties Ltd.*

*Location: Township of Wainfleet, Ontario*

---

In 2016, the 41 unit Lakewood Beach Development was proposed for the Township of Wainfleet. GREENLAND® was retained by Lakewood Beach Properties Ltd. to lead the environmental assessment and planning of water and wastewater servicing for the proposed community.

The purpose of our initial contract was to identify and select the preferred water supply, storage and wastewater collection, treatment and disposal servicing strategies to minimize impacts to both the natural and social environments as well as insuring the technical feasibility and economical sensibility of the development. As part of this Schedule 'B' Class Environmental Assessment Study, a long list of alternative servicing solutions for both water and wastewater were developed, evaluated, and screened against a variety of criteria. Pre-consultation with the Province of Ontario (MOECC) indicated that tertiary wastewater treatment would be required for this development, resulting in the analysis of a variety of discharge options.

One challenge associated with this assignment included the site encroaching on Fowler Toads habitat (type 2), an endangered species under the Endangered Species Act and Species at Risk Act. Protection of this habitat was a key criteria in the evaluation of acceptable servicing options.

Part of this analysis included a sampling and analysis initiative to determine current levels of phosphorus within the Lake. A preferred alternative solution was then chosen after rigorous technical and public engagement tasks were undertaken. Thereafter, GREENLAND® also initiated (in the spring 2018) the detailed development design. Construction will be undertaken in 2019/20.

