

# Case Study: Port Perry

## Lagoon Dewatering & Land Application



## Project Background

In the spring of 2005, Wessuc was awarded a 3-year contract with the Region of Durham to manage the cleaning of three lagoons at the Nonquon treatment facility just outside of Port Perry.

The Nonquon River WPCP is a seasonal discharge aerated lagoon system. It consists of six (6) storage cells and two smaller aerated cells. The lagoons discharge continuously to the Nonquon River from October 15 to May 15. During the spring and summer, the discharge to the river is stopped and sewage is stored in the lagoons.

Wessuc was hired for the removal and utilization on agricultural land and/or the removal and alternate disposal of the sludge, sediment and weed growth that has accumulated in the bottom and side slopes of Cells Nos. 1, 2 and 6.

The Region of Durham had specific deadlines with regards to the cleaning and return of each lagoon. The lagoons would be available in late May and had to be cleaned and returned for service by the end of July, the same year. The tight time frame made it difficult to beneficially use the biosolids on agricultural land as a liquid. The working



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period for the project directly conflicted with the farmers growing season and all but eliminated the possibility of taking the liquid biosolids to land.

## The Solution

Wessuc proposed a unique solution with the use of geo-textile bags to dewater over 75,000 m<sup>3</sup> over the 3 year period.

The use of geo-textile bags permitted each lagoon to be cleaned and dewatered within tight time frames. Each spring, the lagoons would be drawn down through regular discharge. This process was complete by the end of May. Access was then granted to the lagoon in early June. Wessuc mobilized onsite and cleaned the three lagoons in the months of June and July of each consecutive year.

## Technical Performance

Wessuc pumped over 800 gallons per minute through the geo-textile dewatering bags. Using the geo-textile bags to dewater the material provided the benefit of storage for the biosolids during the growing season.

Each year the dewatered material consistency ranged from 45-55% solids. Each lagoon was cleaned within the time constraints outlined by the Region of Durham.

## Land Application

Later in the fall the biosolids were removed from the site, and taken to licensed agricultural sites for beneficial use. Prior to land application, local home owners were visited and concerns regarding biosolids were addressed. The biosolids were spread using typical manure spreading equipment and incorporated into the soil within a 24 hour period.

The Region of Durham received a biosolids management award for the use of this innovative technology. Subsequently, the project was presented at the 2006 WEAO conference.

