

## Sequencing Batch Reactor (SBR)



- Customers:**
- Municipality of L'Original, ON, Canada
  - Ontario Clean Water Agency (OCWA)

The Ontario Clean Water Agency (OCWA) is a Crown Agency of the Province of Ontario in the business of providing safe and reliable clean water services. OCWA provides operation, maintenance and management services for over 500 water and wastewater treatment facilities and their associated distribution and collections systems. These systems range in size from small municipal wastewater lagoons and pumping stations to large urban water treatment and regional water distribution systems.

### Facts

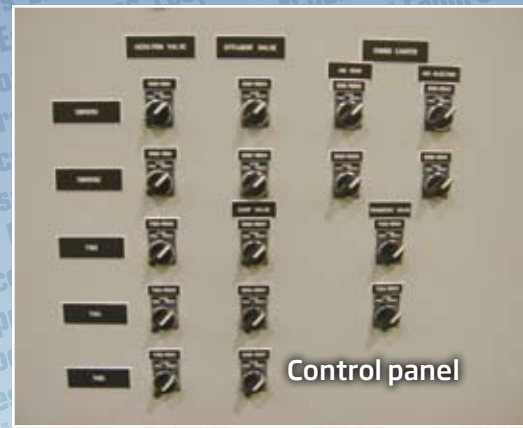
The Regulations for water and wastewater treatment in Ontario entered into many changes over the last few years. Under new regulations, Ontario municipalities have to comply with much stricter discharge standards. The aerated lagoons found in the municipality of L'Original needed to be upgraded due to overflow casualty possibility. The municipality opted to seek and move quickly towards a wastewater treatment system that not only could be implemented gradually within the fleet, but that could address overflow risks.

### Challenges

The municipality of L'Original investigated possible treatment solutions offering the following:

- **High performance**      A technology treating very high strength and contaminated wastewater
- **Flexibility**              A technology meeting stable performance in response to high peak flows due to defective municipal sewers
- **Aesthetic**                A treatment system that discretely adapts to the immediate environment of the site





## Solution

Premier Tech Aqua (PTA) designed an Ecoprocess™ SBR treatment plant and provided most of the process equipment needed for this high performance solution. The engineering was designed and provided by The M.S. Thompson Rosemount Group. The plant started up in 2007 and is now being operated by Ontario Clean Water Agency (OCWA).

The solution consists of two SBR reactors designed to treat a 1200 m<sup>3</sup>/day and able to handle typical municipal sewage with BOD<sub>5</sub> of 110 mg/L during the dry flow conditions. Furthermore, during wet weather flow conditions, the system has to cope with continuous peak flows at four times the average daily flow, and up to five times during the hourly peak flows.

The treatment plant being located along L'Original Bay, the new system was designed to be discreet and leveled to keep the bay's panoramic view for the neighborhoods.

## Results

Ecoprocess™ SBRs are fully controlled technologies, decreasing drastically the pollutants concentration: carbon, nitrogen and phosphorus. This flexible solution has generated more than satisfactory results. In fact, if high flows were caused by water infiltration then the system would handle these high flows hydraulically, while keeping its performance at high standards.

Overall, this new Ecoprocess™ SBR treatment plant is providing:

- A high performance treatment solution – even in peak flows and temperature variations
- A self performing system – no adjustments to be made
- A strong technical and operation support from PTA

Parameters	Performance
BOD <sub>5</sub> (biochemical oxygen demand)	15 mg/L
TSS (total suspended solids)	15 mg/L
Total Amonia	10 mg/L
Phosphorus	0.5 mg/L

## Benefits and Perspectives

The effluent quality produced by the Ecoprocess™ SBR solution exceeds the Province of Ontario requirements. The system capacity allows a lot of flexibility for the municipality in case of population demographic growth.

*« Ecoprocess™ SBR is an operator friendly system. It is a nice system to operate! »*

**Jean-Pierre Gélinas**

Process & Compliance Technician, OCWA

*« We feel very confident with Premier Tech Aqua. The company is technically strong and after delivery, support is more than expected! »*

**Joshua Eamon**

Municipal Engineer, M.S. Thompson Rosemount Group



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