

## Town of Middleton's oxidation ditch gets a new life

### *Thanks to the new Flojet Aeration System from Flygt*

The Town of Middleton's Sewage Treatment Plant is located in the heart of the Annapolis Valley, Nova Scotia, Canada. They have been operating a race track style oxidation ditch at their treatment plant for the past 35 years using two brush aerators to supply oxygen and flow.



*Middleton's Town Hall*

#### **The Challenge**

The immediate problem was that the brush aerators were over 35 years old and one unit had already failed. But once the Town looked at the technology that was available today they realized that there were other options.

Clayton McMurtry, the Director of Public Works engaged an engineering consultant team to consider options for upgrading the aeration at the Sewage Treatment Plant. They realized at this point that they had other concerns with the brush aerators besides their age. There were issues with maintenance. The units were very labor intensive especially when it came to bearing maintenance. The rotors were very loud and residents at times were not pleased with this fact. The units were tough to deal with in the winter as they tended to ice up. Lastly of course was

the safety of the operator using current technology. The Town of Middleton and the consultant team looked at the following options: 1) replacement of the existing system with new or rebuilt brushes, 2) floating propeller type aerators, and 3) Flojet Aeration System by Flygt.

#### **The Solution**

The parameters that were identified by the Engineering team were: Organic load: 300 kg/d BOD, 250 kg/d suspended solids. An hydraulic load or flow into the system of 3640 m<sup>3</sup>/d. Needed was an oxygen transfer rate of 660 kg/d with a safety factor of 1.5 and .57 AOTR/SOTR included. The velocity in the oxygen ditch that would have to be maintained was 0.4 m/s.



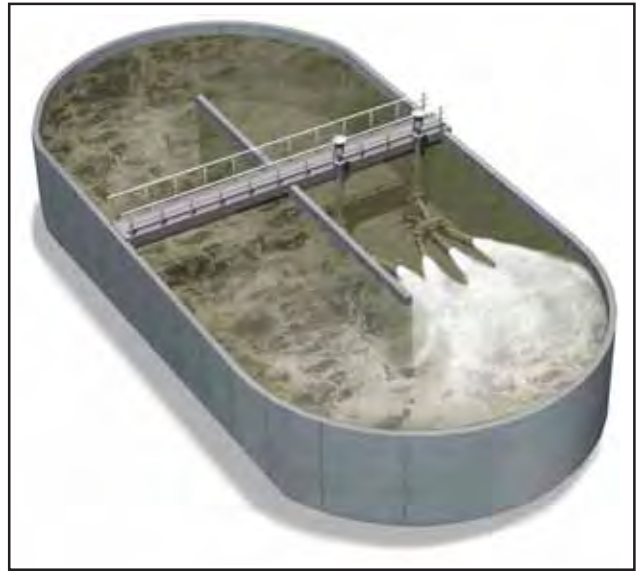
*The complete Flojet Aeration System from Flygt. Shown in inset: the NS 3152 MT pump with a 117-150 ejector kit.*

The Town of Middleton decided to go with Flygt's Floget system utilizing two NS 3152 MT pumps with a 117-150 ejector kit. Clayton McMurtry and the Town are very pleased with the oxygen transfer rate and with the ease of maintenance of the Floget System.

Another very large benefit to the Town is how quiet these units are compared to the original brush aerators. An additional benefit was the Floget system generated less spray compared to the brush aerators. They also have the added advantage of using the "N" pumps as backup units for their existing sewage lift stations.

*A special thank you to Clayton McMurtry, Town of Middleton, Tom Austin, ABL Environmental Engineering and Jim Wilcox, SGE Acres.*

For more information please contact:  
**Ian Paton**, Flygt, Halifax at (902) 450-1177  
[www.ittflygt.ca](http://www.ittflygt.ca)



*Illustration of a Floget system oxidation ditch installation.*



[www.ittflygt.ca](http://www.ittflygt.ca)