

## Municipal Ozone Assisted BioFiltration Water Treatment— A First for Saskatchewan

**Fidelma Horgan, PINTER & Associates Ltd.**

The first Waterworks System Assessments (WSA's) in the Province of Saskatchewan identified many rural waterworks with poor raw water sources requiring immediate upgrades to meet current and upcoming drinking water quality standards. The cost of conventional water treatment plants proved to exceed the budgets of many small communities and in many cases could not provide good quality water due to the challenges posed by the raw water.

PINTER & Associates Ltd. (PINTER) worked closely with both Mainstream Water Solutions Inc. (Mainstream) and Saskatchewan Ministry of the Environment (MOE) in the introduction and approval of an innovative ozone assisted biofiltration water treatment technology to the Province of Saskatchewan.

This technology incorporates ozonation, biological slow sand filtration and biological activated carbon filtration. It provides a safer “two barrier process” for the inactivation and removal of cryptosporidium and an exemplary method of trihalomethane (THM) reduction.

A total of eleven (11) municipal ozone assisted biofiltration water treatment systems have been approved to date ranging in capacity from 12 m<sup>3</sup>/day to 625 m<sup>3</sup>/day. Ten (10) of these water treatment plants are fully operational and one (1) is currently under construction.

Small communities which were once struggling to treat poor quality water with conventional systems are now producing high quality potable water and enjoying the benefits of renewed economic growth.

**Fidelma Horgan, B.E. , E.I.T.**

Ms. Horgan is an environmental engineer with PINTER & Associates Ltd., an environmental, municipal, safety and geotechnical consultancy headquartered in Saskatoon. Fidelma has practical experience in waterworks system assessment and municipal water treatment system design and upgrades. She has played a primary role in the completion of Waterworks System Assessment's for over 52 communities in Saskatchewan.

She has been instrumental in the design and approval of more than 10 Mainstream Ozone Assisted Biofiltration water treatment plants for which in November of this year PINTER received a Consulting Engineers of Saskatchewan Brian Eckel Award of Merit for establishing this innovative technology in the Province.