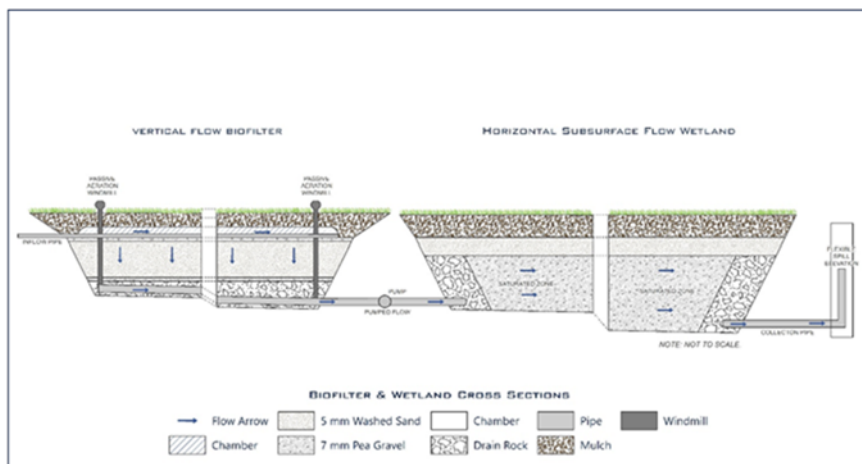


Clearwater County – MAGNA Omni-Processor

MAGNA Engineering has been developing an innovative wastewater treatment solution that would address the needs of small municipalities through naturalized treatment. The need for an innovative solution stems from inadequate performance of existing treatment technologies and overwhelming complexity of conventional mechanical upgrades.

In this project MAGNA will design, construct, and operate an integrated system called the MAGNA Omni-Processor (MOP), a naturalized treatment technology that combines micro-filtration and engineered wetlands to provide low-complexity, high-performance wastewater treatment. There are two innovative aspects to the approach – one is applying wetlands as key treatment processes and the other is the integration of all the components into a functional system.



RECIPIENT:

**MAGNA
Engineering**



PARTNERS:

Clearwater County



TOTAL BUDGET:

\$8,625,00



AI FUNDING:

\$500,000



PROJECT DATES:

**MAR 2022 –
APR 2025**



PROJECT TRL:

**Start: 5
End: 8**

APPLICATION

The target market for the MOP system is small communities that focus on green solutions for wastewater treatment and require a solution that is low complexity, has no chemical inputs, and reduced utility costs. The primary application will be for municipalities that require treatment upgrades to meet regulatory requirements, accommodate population growth, or have infrastructure that requires replacement. The MOP can be applied in both brownfield and greenfield installations.

ALBERTA INNOVATES CLEAN RESOURCES

ENVIRONMENTAL INNOVATION

WATER INNOVATION PROGRAM

PROJECT GOALS

The purpose of this project is to construct a wastewater treatment facility that is the first of its kind in Canada for wastewater treatment wetlands with the overall goal to optimize treatment effectiveness objectives with simplicity of operation, resulting in a Class 1 or 2 certification level. Specific objectives include:

- Demonstrating regulatory compliance – water quality treatment.
- Demonstrating treatment of increased strength wastewater effluent.
- Developing a set of standard operating and maintenance procedures.
- Engaging with operators to verify applicability and ease of the proposed O&M efforts.

BENEFITS TO ALBERTA

- Reduced capital cost to municipalities for wastewater infrastructure.
- Improved quality of wastewater effluent, meeting federal quality guidelines
- Reduced odour from wastewater treatment.
- Reduced facility footprint.
- Reduced user fees when compared to traditional systems.
- Potential for rural communities to attract new industry through low-cost wastewater treatment capacity expansion.
- Increased acceptance of wetlands for wastewater treatment with both public and regulator.
- Reduced risk for funding agencies when presented with wetland wastewater treatment projects.



1 Student Trained



1 Project Job



5 Future Jobs

CURRENT STATUS

APR 2022

The project recently kicked-off and is ongoing.