

# Advanced Wastewater Treatment

The ideal solution for  
campgrounds, trailer parks,  
greenhouses, office  
buildings, communal  
systems, **and more.**

*Flexible, Robust, Low Energy*



**For more information:**

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# The Waterloo Advantage

**Waterloo Biofilter Systems Inc.** is a Canadian-owned and operated company that has for over 20 years developed, designed, manufactured, and maintained advanced onsite wastewater treatment systems.

We are committed to helping protect the environment with technology focused on high quality treatment, low energy usage, and system robustness.



UNIVERSITY OF  
**WATERLOO**

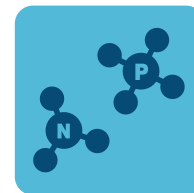
The patented Waterloo Biofilter system was developed at the University of Waterloo's Centre for Groundwater Research.



## Permanent Filter Medium

The key to the Waterloo Biofilter system is the absorbent foam filter medium that has been optimized to physically filter and biologically treat sewage. This filter medium is warranted for up to 20 years and will likely last generations.

Our range of treatment units and add-ons give us the flexibility to design a system suited to your unique needs.



Nutrient Removal



Wastewater Reuse Option



Passive System with Low Energy Use



Low Operating Cost and Maintenance

*The environmentally friendly choice*



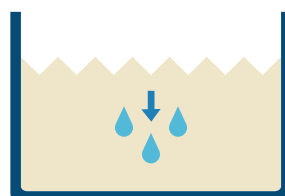
### Step 1

Wastewater is collected and distributed over the Waterloo foam filter medium.



### Step 2

Wastewater slowly trickles down through the foam pieces where natural occurring bacteria remove contaminants.



### Step 3

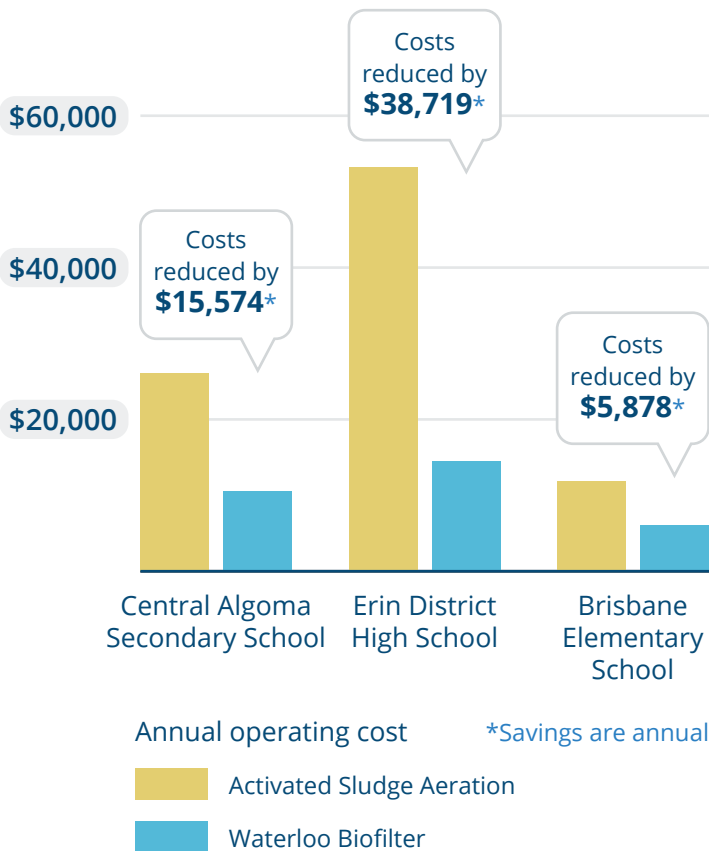
After passing through the foam, the treated water is put back into the environment or reused onsite.





## Low Energy, Low Operating Cost

Under the Ontario Ministries of Research & Innovation and Education's Green Schools Pilot Initiative, Waterloo Biofilters reduced energy costs by **up to 84%** and reduced operating costs by **up to 70%** compared to aeration technologies.



## Nitrogen Removal

Standard Waterloo systems remove up to **50-65% total nitrogen**, helping to reduce nitrate levels in groundwater and protect surface waters. With the **WaterNOx-LS™** system add-on, up to **95% TN removal** can be achieved passively and cost-effectively.



## Phosphorous Removal

With the **Waterloo EC-P™** system add-on, greater than **95% total phosphorus** can be removed – helping protect surface waters from blue-green algae and lake eutrophication. Compact and low energy, the Waterloo EC-P™ permanently removes phosphorus without chemicals or additional sludge production.



## Small Footprint

A Waterloo is discrete and minimizes raised mounding and tree removal. A variety of product configurations are available to suit your unique site conditions and personal tastes.

- Few moving parts*
- Less energy use*
- No noisy air compressor*



## Seasonal Performance

Whether for seasonal or year-round use, the Waterloo is designed to withstand extreme cold temperatures and can easily handle variable flow rates.



**Made in Canada**  
**Tough Enough for Canada**

# Commercial Products



**Waterloo Basket Biofilters** are constructed of a rigid steel mesh coated for corrosion protection, yet are lightweight and easy to maneuver onsite. Basket Biofilters are placed in locally-available concrete tanks for a completely below ground installation.



**Waterloo Shipping Container Biofilters** are pre-assembled, modular, and easily transportable. Shipping Container Biofilters are insulated for winter operation, painted to blend in onsite, and have a control room that can be expanded to house system add-ons such as UV disinfection and chemical dosing pumps.



**Waterloo Bulk-Filled Tank Biofilters** use locally-available concrete or fiberglass tanks that are outfitted as treatment units onsite thereby reducing transportation costs. These completely below-ground installations maximize tankage volume used for treatment reducing the overall footprint.



**Waterloo PE-5 Biofilters** are constructed of polyethylene tanks housed in a new or existing maintenance building for year-round use. Highly modular PE-5 Biofilters are ideal for phased-in developments where the wastewater system can expand over time alongside the facility.

## Proved and Approved

The Waterloo Biofilter has been thoroughly tested and proven effective by numerous 3<sup>rd</sup> party verification programs. We pride ourselves on the high treatment levels our technology consistently demonstrates.

**Is yours a Waterloo?**

### CAN/BNQ Certification

	Median Concentration	Percent Removal
cBOD <sub>5</sub>	4 mg/L	98%
TSS	4 mg/L	> 98%
Fecal Coliforms	17,900 cfu/100mL	> 99%

### ETV Verification

	Median Concentration	Percent Removal
cBOD <sub>5</sub>	7 mg/L	96%
TSS	5 mg/L	97%
Total Nitrogen	13 mg/L	65%