

Healthy Waters Project Guidelines

Advanced Treatment Septic Systems Adjacent to Lakes & Rivers

About the Healthy Waters Program Grant

Grant Rate 30%

Maximum Grant Up to \$2,000

Rationale:

To enhance residential sewage treatment in sensitive areas adjacent to rivers and lakes. To promote the safe and environmentally responsible treatment of domestic sewage.

Eligible Projects:

- Existing system must be within 30m of a natural water-body (e.g. lake, river)
- Only tertiary treatment systems are eligible (must meet national CAN/BNQ 3680-600 standards)
- Will be constructed in accordance with the Building Permit or Certificate of Approval
- Be constructed by a licensed company
- Meet any other applicable laws and by-laws.

Conditions:

- The project must be maintained in good condition for its intended purpose for at least 10 years.
- A building permit and final inspection approval from the municipality is required.
- Written permission of the landowner(s) must be given on the grant application and agreement.

Eligible Costs:

- Permit fees, design, materials and contract labour from a registered business.

Ineligible Costs:

- Annual operating costs
- Sewage system upgrades or replacement required due to home additions or renovations
- Grants will not be provided for costs of in-kind labour and machine time, and personal expenses of the applicant, the applicant's business, or family members

Permits:

- Municipal building permit
- NVCA permit if in regulated area (NVCA will waive our permit fee for approved projects under this program)

Advanced Septic Systems



Advanced (tertiary) Treatment Systems provide better sewage treatment than conventional septic systems.

Most reduce bacteria levels by an additional 99% compared to conventional septic system.

They all have three parts:

1. the tank
2. the treatment unit
3. a small infiltration bed

These systems are more costly, but:

- Require less space
- Can operate where there is a high groundwater table, heavy clay soils, and shallow soils on bedrock
- Can treat higher strength wastes

There are about several types that are certified for use in Ontario, including:

- Ecoflow (Premier Tech Aqua)
- Waterloo Biofilter
- NORWECO

Check with your contractor to confirm they meet national CAN/BNQ 3680-600 standards, required in Ontario as of January 1, 2017.

Advanced Septic Systems Approved in Ontario

Advanced or Tertiary Treatment Septic Systems include a treatment unit in-between the tank and the filter/tile-bed, whereas conventional systems contain only a tank and tile-bed. Advanced systems provide oxygen-rich treatment, which greatly improves treatment compared to a conventional system. In sites with high water tables, concentrated wastes, small lots, or shallow bedrock, an advanced system may be the only option or may be more cost effective.

Advanced systems require a maintenance contract by an approved provider, who gives the system a check-up once or twice a year, and includes periodic sampling of the effluent to ensure system performance. This typically costs \$150-300 per year; many providers include cleaning/exchange of the effluent filter within this price.

To be considered an Advanced System they must provide at least this treatment, and typically also provide lower nitrate and bacteria levels. As of January 1, 2017, eligible systems must meet national CAN/BNQ 3680-600 standards.

Parameter	Septic Tank Effluent	Tertiary Treatment Unit Effluent (Max. Allowed Concentration)
BOD5: biological oxygen demand	150-250 mg/L	15 mg/L
CBOD5: biochemical oxygen demand	130-230 mg/L	10 mg/L
TSS: total suspended solids	150-250 mg/L	10 mg/L

Advantages:

- can remove more bacteria, nitrates and organics can work on sites not suited for conventional systems
- take up less room
- may extend the life of an existing leaching bed
- require mandatory maintenance (which, ensures the unit is functioning properly)
- may reduce nutrient output (depending on type)

Disadvantages:

- may be more expensive to purchase and install depending on site characteristics
- are more expensive to operate than a conventional septic system (e.g. mandatory yearly inspection, electrical costs, media replacement)
- some include more mechanical parts that can break down or need replacement

This information is from the Ontario Onsite Wastewater Treatment Systems Course and the [Ontario Building Code](#).