ALBERTA INNOVATES

ONE HEALTH

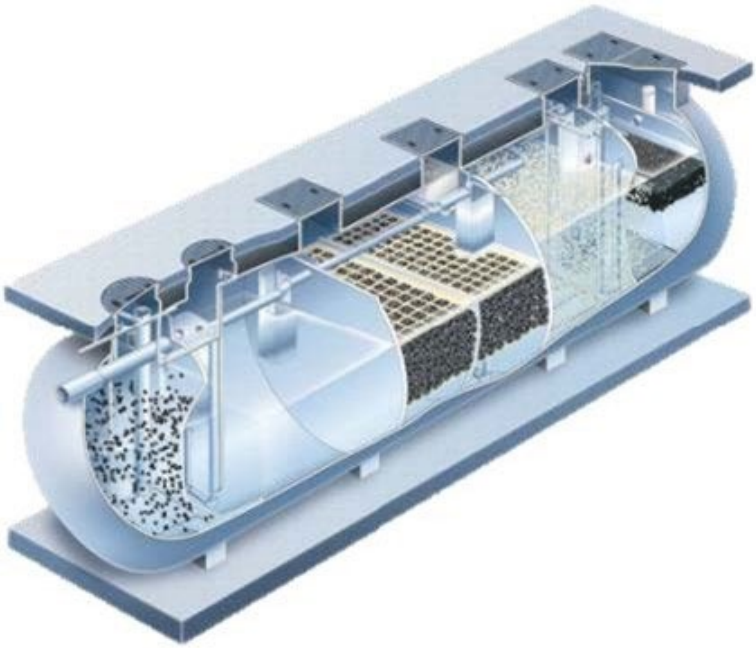
ENVIRONMENTAL INNOVATION

WATER INNOVATION

FUNDING DETAILS

Testing Wastewater Technology Designed for Rural Areas Under Canadian Cold Climate

This project aims to install and test the Jokaso municipal wastewater treatment technology in cold Canadian winters to test its reliability and effectiveness to treat BOD, COD, total nitrogen and partial phosphorous. The technology will be piloted at ACWA's upgraded wastewater research facility (currently under construction), where primary influent from the Pine Creek wastewater treatment plant will be diverted to the piloting site.



RECIPIENT:

LM Wastewater Solutions

PARTNERS:

Advancing Canadian Water Assets (ACWA), Japan Sewage Works, Phil-Japan Mgmt Services, FujiClean Co.

TOTAL BUDGET:

$1,013,472

AI FUNDING:

$406,855

PROJECT DATES:

MAR 2025 – APR 2026

PROJECT TRL:

Start: 8

End: 9

APPLICATION

The term, "Jokaso" means "treatment tank", which is ideal for on-site sewage treatment. The primary customers for Jokaso systems in Alberta are rural and remote communities where centralized wastewater treatment plants are impractical due to low population density and dispersed settlements. These customers include small communities, farms, work camps, and remote facilities.

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PROJECT GOALS

The goal of this project is to operate a Jokaso system through a Canadian winter to evaluate its reliability and effectiveness in treating BOD, COD, total nitrogen and partial phosphorous under cold (<0°C) conditions.

BENEFITS TO ALBERTA

Potential benefits of the Jokaso system include:

- Emphasis on energy-efficient components and potential integration with renewable energy sources contributes to lower operational costs and GHG emissions.
- Effective nutrient removal and high-efficiency treatment processes contribute to improved water quality and environmental sustainability.
- Compact design minimizes land use and disturbance to natural habitats compared to larger, centralized systems.
- Low maintenance and ease of operations enables lower operator certification requirements.
- The modular design of the Jokaso system allows communities to easily add more units as they grow, without the need to expand costly piping networks. This flexibility facilitates affordable and adaptable expansion to meet increasing wastewater treatment needs.

2 HQP Trained

4 Collaborators

1 Field Pilot

5-10 Future Jobs

CURRENT STATUS

SEP 2025

The Jokaso unit has been delivered and installed on site, with construction completed in full compliance with City of Calgary regulations. All required permits were secured during construction. The system has been seeded for operation and testing, with winterization measures installed for cold weather. Pipelines are completed, and the site has been fully restored and inspected, marking readiness for operational evaluation. Operational performance will be monitored throughout the winter season in the next phase of the project.