Onsite septic a cost-effective alternative to public systems

Wastewater centre promotes rural innovation with new workshop

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News – As budgets shrink and costs rise, many rural municipalities could find themselves in deep doo-doo as their wastewater management infrastructure crumbles underneath them.

But the Ontario Rural Wastewater Centre was helping to keep communities out of the brown on Sept. 4 with an all-day workshop exploring the potential for onsite septic systems and other decentralized options to cut costs, protect water supplies and relieve infrastructure pressure.

"We’re at the cusp where technology can solve the problem and you don’t need the big pipe,” said Terry Davidson, director of regulations at the Rideau Valley Conservation Authority, which partners with the ORWC run by the University of Guelph.

The workshop began at the Baxter Conservation Area, where the ORWC has a demonstration centre. Several presentations explored case studies and new advances in septic system technologies before the group took a bus tour to several innovative sites in the south end of Ottawa.

One of those sites was the Quinn Farm development in Greely, which will become the first development in eastern Ontario to use nitrogen-removing onsite septic systems.

By cutting household nitrogen output in half through an innovative septic system, the developer won the city of Ottawa’s approval to build more residences within a smaller area — and that’s a good thing, Davidson said.

"You can keep good agricultural land while intensifying with onsite systems (so) let’s intensify by using technology," Davidson said. "People need to live somewhere."

Shadow Ridge, another subdivision in Greely, was also a tour stop because it offers a unique combination of private and communal systems: private homes have their own septic systems, but they pump to a communal bed.

Several industrial sites were also included on the tour, because job creation and innovation is key to building a sustainable rural community, Davidson said.

"It’s not just about building houses," he said. "We want to show that (industries) can be looked after with (decentralized) technology now."

Roddy Bolivar is a water resource specialist and engineer who worked on Manotick’s transition to the city’s public sewer and wastewater system several years ago.

He said there needs to be more innovative solutions for communities than just the two polar opposites we currently have: namely, small private onsite septic systems versus the big public treatment plants.

"In 5,000 years, how do we only have two solutions and a brick wall in between?" he asked the workshop participants.

Part of the problem is that the provincial policy statement dictates large, public systems should always be considered the best solution first, followed by public communal septic systems and then private onsite systems.

But Bolivar said that approach limits a municipality’s ability to customize a solution to their needs — including their bottom line. He argued that environmental assessments should instead be left to decide the best solution on a case by case basis.

He added that a growing list of innovative septic solutions across Canada can only lead to more innovation, which is important if the province hopes to stem the costs associated with ageing infrastructure, energy and climate change.

A number of those innovative systems are on display at the ORWC’s demonstration centre. Bionest, for example, uses an extended aeration fixed film reactor to break down effluent. Other systems are aerobic, some use peat and others reduce nitrogen.

As technologies rapidly develop, change is still slow to come — lags in policy changes and experience at the Ministry of Environment can slow down approvals for new technologies — but Ontario is getting there, Bolivar said.

"If you go look for these technologies they’re out there, but you have to break down a few walls to figure out how to use them," he said. "We’re in a planning era but I think we’re tipping over to an innovation era and that’s going to provide you with new opportunities to deal with wastewater in your communities."

The ORWC will host another municipal tour and workshop in June 2014.