

## Town surpassing wastewater regulations

*Portugal Cove-St. Philip's plants ahead of their time*



Wastewater plant operator Basil Hibbs shows the final product. — Photos by Joe Gibbons/The Telegram



Raw sewage prior to it becoming pristine, clear water at the Portugal Cove-St. Philip's wastewater plant.

By BONNIE BELEC  
THE TELEGRAM

As municipalities across the country struggle to meet federal wastewater regulations, the Town of Portugal Cove-St. Philip's is rising to the occasion with its pair of state-of-the-art treatment plants.

Not only are the facilities meeting regulations, they are surpassing them and have been for years.

During a recent tour of the town's plant in St. Philip's — the newer of the two is in Portugal Cove — staff said the facilities are ahead of their time. The brain-child of the council of 2002 and its engineers, the secondary processing plants are the only ones of their kind in the province.

Town manager Chris Milley said the secret is in the technology.

"The SBR (sequencing batch reactor) allows us to do all the processing in one tank, in a compact area and do the same job, if not better, than the bigger plants. Some other traditional plants go from tank to tank. That's the reason why they take up huge amounts of space and are normally outside and their smelly, big lagoons," he said, adding the SBRs are fully automated and send out alerts when the process needs attention.

"You're going to see more (SBRs) over the next few years because the federal government is saying you have to do it, but we're way ahead of the curve, especially when it comes to the dollar cost. If you go to any of the neighbouring communities that have to upgrade their wastewater treatment plants, they're now looking at tens of millions of dollars to meet the regulations," said Milley.

He said what cost the town \$3 million to build in 2004 would now cost at least \$10 million to construct. He said it was perfect timing for the town to jump on such advanced technology which is environmentally friendly.

Milley said it's hard to break down the exact amount of how much it costs to run the plant, but he estimates it to be around \$57,000.

"Our three-year operating cost average (not including depreciation of capital cost) is \$170,000 a year to operate the whole sanitary

sewer system. This includes electricity, services, maintenance and repairs, materials and supplies for two wastewater treatment plants and a number of lift stations throughout town. I would make an educated guess that 1/3 of this is dedicated to the (St. Philip's) plant," he said.

Bazel J. Hibbs has been the plant's operator for about six years. He jokes it's his job to keep the bacteria, or bugs as he calls them, happy and healthy by manipulating oxygen and food levels.

As he explains the process, that is exactly what he does.

The sewage flows through the town's piping system and is held in two 75,000-litre underground tanks outside the plant called the trash. Once the trash door is open it's easy to understand why the tanks are buried and contained.

As the heavy waste settles in the trash containers (about one per cent) the treatable sludge oozes into two more tanks inside the building under the floor where all the action takes place.

Hibbs said this is where the bacteria take over.

In an attempt to explain a highly technical, biological process, he says the SBR uses two types of bacteria, one that strives on oxygen and one that doesn't, to consume the waste.

Hibbs monitors their work, using computer automation and samples, and when they need oxygen he adjusts the levels, when they're hungry he adds more waste or molasses, which he says "is perfect."

The bugs obviously like Crosby's Fancy Molasses, as there are big, brown five-kilo-gram jugs, some empty and some full, stored in the room.

Milley says if there's more water than waste it's not enough to keep them going — they start dying off and he uses the molasses to give them a shot of energy.

Milley said on any given day the plant treats 90,000-150,000 litres of waste. Each plant serves about 1,500 people.

Once the waste has gone through the process from start to finish, what began as a brown, stinky sludge in the trash comes out the other end a chemical-free water so clear you can see through it.

Before it's pumped into the ocean at Broad Cove, though, Milley said, it goes through one more step.

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Chris Milley

## Plant was built on a compact scale

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"The main feature of this plant is everything we do with the water can almost be done alone with this process, but at the very end we do further treatment to kill off anything that's going out into the bay. We use UV lights. Other plants like St. John's primary treatment plant uses chlorine to kill off the bugs and then puts it out into the harbour," he said.

Milley said treating the water with another chemical isn't ideal.

"You're adding a chemical and then you have to deactivate the chemical before releasing it. You don't want too much chlorine going into the environment. With the UV we're killing the bugs with light, so we're not adding anything. It's perfectly natural," he said.

"So the St. John's treatment plant is only primary treatment which basically means all they're doing is skimming off the solids and killing

the bacteria with chlorine. They're not treating for the nitrates, or ammonias and all these other types of materials that this plant treats," Milley said.

Jeff Lawlor, the town's director of economic development, marketing and communications, said aside from the important environmental aspect of the SBRs, the council of the day wanted to ensure the plants fit in with the community.

He said council didn't want huge metal plants stinking up neighbourhoods that nobody was able to tolerate living near.

"We couldn't put a huge several-acre wastewater treatment plant here among the residents," said Lawlor.

"We wanted to keep it compact and make sure it didn't have an impact on the neighbourhood. We have houses next door. You'd never

be able to have a traditional plant this close to residents. It would be an operation you wouldn't want to have in the middle of the community," he said.

The St. Philip's plant is not far from old homes in the community and just up over the hill, on this day, workers are walking around the roof of a million-dollar home.

Overlooking Broad Cove, the Bell Island ferry can be seen chugging across the Tickle from the plant's doorstep.

The building is a small bungalow at the end of a residential laneway called Lamswood Lane and is sided with Cape Cod shingles.

"I don't think people even realize it's a wastewater treatment plant, which is exactly the point," Lawlor said.

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Basil Hibbs takes a sample to see how the bacteria is doing its job reacting to waste at the Portugal Cove-St. Philip's wastewater plant.



Water is treated by ultraviolet light, the final part of the process which started with raw sewage, which is converted to clean water and safely released back into the ecosystem.



Basil Hibbs examines the holding tank.



Wastewater plant manager Basil Hibbs monitors the levels on his computer screen. — Photos by Joe Gibbons/The Telegram

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**February Events**

**Tuesday, February 26, 2013 9:30 am**  
NL Network for the Prevention of Elder Abuse  
Coordinator: Elizabeth Siegel  
"Finding Fairness for Seniors: One Person's Fairness is Another's Outrage".  
Guest speaker: Citizen's Representative, Barry Fleming

**Thursday, February 28, 2013 3:00 pm**  
Afternoon Tea  
Savour delectable treats, engaging company, and a great cup of tea all while enjoying musical entertainment.

**March Events**

**Thursday, March 7, 2013 7:00 pm**  
The Wesley Male Choir  
Well-known throughout Newfoundland for the lively music and meaningful worship services they provide.  
Refreshments and light snack to follow

**Wednesday, March 13, 2013 2:30 pm**  
Musical Line Dancers  
The line dancers have been dancing at the Mews Centre for about 20 years and they enjoy sharing the fun and exercise with others.  
Refreshments and light snack to follow.

**Friday, March 15, 2013 3:00 pm**  
Wear'n of the Green Party  
Celebrate St. Patrick's Day at Kenny's Pond and enjoy the best Irish stew in town!  
Live entertainment by  
NL Accordion Player, Sheldon Thornhill.

**Wednesday, March 20, 2013 1:30 pm**  
An Invitation to Play Bridge  
Please call to register your table of four. Space is limited.  
Refreshments and snack will be served.  
No admission required.

RSVP (709) 757-7145 amandak@kennyspondresidence.com

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**PREVENTION WORKSHOP SERIES**  
**WEBINAR: New Employer**  
*Overview of WHSCC services*



As an employer, you face many challenges getting your business started such as hiring and orientating staff and developing policies and procedures. Ensuring your business is compliant with occupational health and safety and workers' compensation legislation is one of the steps to consider in your business start up. Some of your first steps should include registering with the Workplace Health, Safety and Compensation Commission (WHSCC) and to begin the process of developing and implementing occupational health and safety policies and procedures.

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Registration is **FREE**

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