



CASE STUDY

PROJECT NAME

Burnside Community Care Home
Decentralized Wastewater Treatment
System, Clyde River, PEI

SYSTEM SPECIFICATIONS

Pressurized raised bed chamber system
with remote monitoring

INSTALLATION DATE

Spring 2013

ENGINEER

Kelly Galloway
Engineering Technologies Canada, Ltd.

OWNER

Alan MacPhee
MacPhee and Hartshire Holdings

CONTRACTOR/INSTALLER

Phillip Clark

Pressurized Onsite Treatment System Utilizing Infiltrator Chambers and Remote Monitoring Enables Development of Rural Community Care Home

SUMMARY

The Burnside Community Care Home in Clyde River, PEI is a new three-level, 40-bed facility with wheelchair accessible showers, a dining room, community room, a chapel, beauty salon, activity room and two lounges.

WASTEWATER TREATMENT CHALLENGE

Due to the rural location, connection to a city sewer system was not an option. Owner MacPhee and Hartshire Holdings retained Engineering Technologies Canada Ltd. (ETC) to design a state-of-the-art, cost effective and environmentally beneficial onsite sewage treatment system for Burnside.

ETC assessed the subsurface soil, rock and groundwater conditions on the site and explored conventional septic system and advanced wastewater treatment system options that would be cost effective to install and operate.

An advanced decentralized treatment system with a land-based, pressurized Infiltrator leaching chamber dispersal field was designed and constructed in a raised-bed of special sand fill. The system receives effluent from an advanced secondary sewage treatment system.

Principal Engineer Kelly Galloway explains, "The soil conditions at this site consist of compact glacial till soil – fine sandy loam, which does not have good vertical permeability. These conditions are very typical of many areas of PEI and the Maritime provinces. As a result, it was necessary to bring in good quality sand fill to build up the dispersal field for the treated effluent. The contractor had to search to find the right sand to meet our specs, but this was important to achieve the long term performance that the Client requires."

REMOTE MONITORING AND RELIABILITY

The dispersal field bed is designed with multiple zones or cells, each fed via a mechanical indexing valve allowing the use of smaller, lightweight, and inexpensive pumps and simplifying future expansion. For enhanced reliability, the mechanical distributing valves are fitted with IVM6000-LP electronic monitors and the entire sewage system can be remotely monitored.

SUCCESSFUL SOLUTION

The system has been in operation for over a year and is functioning well to serve the facility's needs. "At the end of the day, we have what we feel is a green and a well-functioning system," says MacPhee.



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