Quick4® Standard Chambers Help Preserve Natural Beauty in Condo Project Installation

Lack of space and sensitive area make drainfield choice critical.

Project
Wastewater system using Quick4 Standard Chambers at new 24-unit resort condominium development.

Installation Date
May 2007

Private Sewage Consultant/ Soil Tester
Michael E. Young,
Wausau, WI

Contractor/Installer
Peter Wade
Joe Flitcroft
PGA Inc.
Weston, WI

Permitting Agency
Vilas County Zoning Administrator

Owner
Jeff Koranda
GPS Inc.
Eagle River, WI

Design Specifications

Soil Type: Loamy sand

Distribution Type: Pump-up

Drainfields: Two individual drainfields with 658 Quick4 Standard chambers

Design Flow: 9200 GPD

Eagle River, Wisconsin is famous for water recreations and outdoor sports. Kee-Mi-Con Lodge sits on prime lake frontage on Eagle Lake. This new 24-unit condominium development is surrounded by trees and natural beauty. The area is home to the world's largest chain of fresh-water lakes with over 174 miles of shoreline. Because of the sensitive area and permeable soil conditions, the wastewater system design for the development was critical in order to protect the natural resources and obtain project approvals.

Designers of the property and of the onsite wastewater treatment system already had several challenges in determining the best way to approach the project. One major hurdle was the mandate by the property owner to develop the site to accommodate a large in-ground pool for visitors. In addition, the wastewater treatment system needed to handle waste typical of vacation locations, and to filter the effluent to extremely high levels to protect the groundwater as well as the river and nearby lake.

"It was critical to be sure that the groundwater was protected as well as being concerned about the water people could see," said Peter Wade of PGA Plumbing, Heating, and Cooling Inc. "We felt it would be better to filter the effluent to above the required levels and ensure the best result possible for the long-term."

Two individual wastewater treatment systems were designed with the in-ground swimming pool sited in between. The combined daily flow of the two systems is 9200 gallons. The Site A system serves 12 condos and 28 bedrooms and has a design flow of 4200 gpd. It includes three 3000 gallon septic tanks and one 2500 gallon pump tank. Site B system for the remaining 12 units has a capacity of 4979 gpd and incorporates one 5000 gallon septic tank, two 3000 gallon septic tanks and one 2500 gallon pump tank. The multiple tanks are used to accomplish proper settling prior to filtration. Effluent exits the septic tanks and goes through two filters. It then travels into the pump chamber equipped with a duplex pump system with alternating switch. Each pump tank and the last septic tank for each system have an alarm unit with audible external and visible alarms. From the filter, effluent is then pumped to a distribution box to provide proper distribution to the drainfield. Each individual system pumps the effluent to its own drainfield. Combined, the two drainfields include 658 Quick4 Standard chambers.

"Infiltrator chambers were chosen because of the ease of installation in tight quarters and in difficult soils," commented Wade. "What is really special about this system is that the grassed area above the system and adjacent to the pool area is fully utilized for recreation."

"The chambers are great! Everything went in per plan in a very smooth and timely manner," said Joe Flitcroft also of PGA.

A key to the maintenance of the system is easy access at the surface for maintenance. Long-turn elbows on piping offsets allow for excellent accessibility and assurance to the development owner that the resort will not be disturbed for regular system maintenance. Observation ports at surface level have green poly covers so they are not visible, nor do they interfere with the recreational use of the area.

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