

Quanics

Engineering Water Solutions®

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"Unique" and "Visionary" are terms that have been used to describe the new equestrian oriented Voyageur Lakes development outside Halifax, Nova Scotia. Voyageur Lakes is a mixed-use development that includes, residential homesites, shops and at the heart of the development an Equestrian Center. Voyageur Lakes is also unique in that the developers utilized decentralized technology for the development's wastewater system. In the fall of 2006, construction began on a Quanics, Inc recirculating sand filter system to provide treatment to approximately 28,000 gallons per day.

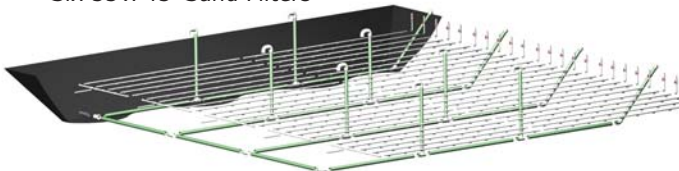
The large-scale recirculating sand filter is composed of 6 individual cells that measure 55' x 45'. Each cell is dosed via a duplex alternating pumps housed in custom built filtered pump vaults. Utilizing pre-assembled distributing valve packages allows sequential dosing of the individual lateral zones within each respective cell. Efficient use of a custom-built cast-in place tank to house all pumps underneath a control room building reduced the overall footprint of the system. Quanics provided a pre-cut and partially assembled sand filter kit, which included the liners, supply manifolds, laterals, and return piping. Because the sand filter was essentially built by Quanics then disassembled and shipped to the site, installation by the contractor was efficient and simplified. The treated effluent is disinfected utilizing a gravity ultraviolet disinfection

system and is then pressure dosed to the disposal area. Disposal occurs through a 400' long open surface trench, which diffuses the treated wastewater before it gravity flows along the natural grade into a wetland area and ultimately into surface water.



Site Solution:

Six 55' x 45' Sand Filters



Advanced Treatment System Case Study

Site: Voyageur Lakes Development

Location: Nova Scotia, Canada



"The staff at Quanics has been excellent to deal with. Their product knowledge is exceptional. They have addressed everyone involved with this project in a professional manner and delivered their equipment on time under a tough schedule. I look forward to doing more business with Quanics."

> Doug McKinnon
Sansom Equipment Limited,
Nova Scotia, Canada
www.sansom.ca



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Design Specifications

Voyager Lakes Development

Installation Date - Spring 2007

Facility/Development Served

Multi-use Residential & Commercial
28,000 gpd design flow

Tanks

Recirculation pump tank - 56,000-gallon capacity
Disposal field pump tank - 14,000-gallon capacity

Treatment System

Six individual 55' x 45' sand filter cells
Recirculation: 80%

Dispersal

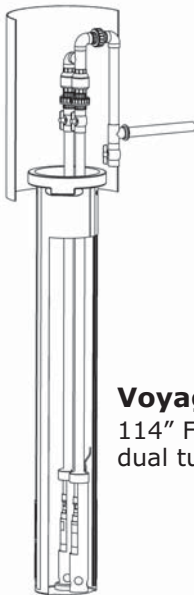
Pressure dispersal trench followed by gravity over
land flow surface dispersal

Required Effluent Quality

Secondary quality
CBOD⁵: 25 Mg/L
TSS: 30 Mg/L
Disinfection: Gravity flow disinfection

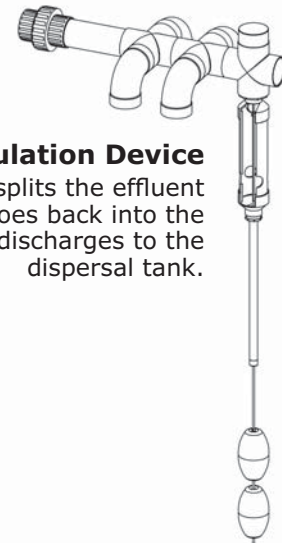
Operation and Maintenance

Private utility management with monthly
monitoring visits recommended



Voyager Lakes STEP System

114" Filtered Pump Vaults houses the
dual turbine effluent discharge package.



Voyager Lakes Recirculation Device

This 4" recirculation device splits the effluent
from the sand filter. 80% goes back into the
treatment tank and 20% discharges to the
dispersal tank.

