

# Quanics

Engineering Water Solutions®

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The Country Club Golf Homes (CCGH) located in Elizabethtown, Kentucky is a shining example of how technology, engineering, and land development can come together to make unsuitable land suitable for onsite wastewater dispersal.

In late 2001, the CCGH developers required assistance with their patio home construction project. Located along side the Elizabethtown Country Club, the developers were planning to build a 9-bedroom patio home complex. However, poor soil conditions including a shallow restrictive horizon and an extremely high seasonal perched water table were preventing construction from moving forward. Utilizing a SCAT AeroCell with drip irrigation provided the solution that allowed the project to begin. This project was to be the first of its kind in the state; construction on the system began in late summer 2002.

A dispersal field area had been created with the addition of high quality fill soil several months prior to construction. This fill was allowed to settle and a vegetative cover established before drip placement. The amount of fill required was lessened due to the shallow placement of the drip irrigation tubing. A conventional system would have required a great deal more fill and created a large mound, detracting from the overall aesthetics of the project. The current drip irrigation field and surrounding green space blend naturally into the surrounding landscape.

After construction of the treatment system, approximately 3600 lineal feet of pressure compensating drip lines were installed into two separate zones. The zoned drip field was placed in the green space that had been reserved in front of the complex. Installation was achieved through the use of a vibratory plow, which made installation quick and simple with very little site disturbance. Automated control of the management system allowed for frequent backwashing of the spin filter and drip field. A mandatory 6-month maintenance visit from qualified personnel was also a requirement.

The system has been in use for almost four years and has overcome all the site limitations that were present. The SCAT AeroCell continues to produce the highest quality effluent and the drip field has proven itself to be a reliable method for effluent dispersal. The system has been so successful the developers have installed Phase II of the project by building another 11 bedroom complex and duplicating the SCAT AeroCell system followed by drip irrigation for dispersal.

## Advanced Treatment System

## Case Study ✓

Site: County Club Golf Homes

Location: Elizabethtown Kentucky



Drip field location



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## Design Specifications Country Club Golf Homes

**Installation Date** - July 2002

### Facility/Development Served

4 unit patio home complex  
9 bedrooms  
1080 gpd design flow

### Tanks

Primary septic tank - 2500-gallon capacity  
Treatment system pump tank - 2000-gallon capacity  
Dispersal field pump tank - 2000-gallon capacity

### Treatment System

SCAT AeroCell fixed film media filter  
85 ft3 of open cell foam media  
Loading Rate: 12.70 gpd/ft3  
Recirculation: 80%

### Dispersal

Subsurface dispersal through drip irrigation  
3600' of pressure compensating drip tubing  
Total area required: 7500 ft2  
Hydraulic loading rate: 0.15 gal/ft2/day  
Installed in two zones

### Required Effluent Quality

Secondary quality  
CBOD5: 25 Mg/L  
TSS: 30 Mg/L

### Operation and Maintenance

Annual maintenance contract  
Quarterly visits for maintenance

