

Quanics

Engineering Water Solutions®

P.O. Box 1520
Crestwood, Kentucky 40014-1520

1-877-QUANICS
www.quanics.net



Now Open

www.arringtonvineyards.com

In the spring of 2006, Williamson County, Tennessee officials were approached about the possibility of the development of the first winery in the county. Co-owned by country music celebrity Kix Brooks (half of the superstar duo Brooks and Dunn), Arrington Vineyards was proposed in the small-unincorporated community of Arrington, which has no public sewer.

The technical experts at Quanics were faced with the task of treating process wastewater with as much as 4000 ppm BOD and 1500 ppm TSS. Quanics proposed the use of 4 settling tanks, with commercial effluent filters and two Bio-COIR® fixed media filters. The treated process water was then dosed to a 3-zone low-pressure pipe system.

The Bio-COIR advanced treatment system media consists of 100% short and medium coconut husk fibers. These natural fibers are long lasting and durable. The fibrous nature of the Bio-COIR media also provides excellent structure for air movement, which is necessary for efficient aerobic treatment. This system is similar in technology to sand filters that have been used extensively in winery treatment systems. However, sand filters have been found to clog and require more intensive maintenance than other filters in this setting.

As with all advanced treatment systems, maintenance of the system is necessary to ensure long-lasting reliable performance. In accordance with an agreement required by the Williamson County Board of Health, the winery will enter into a perpetual service contract with a Level 5 management entity. This Quanics approved service provider will be trained to operate and maintain the Bio-COIR and all its related components.

"When the first-ever winery was proposed in Williamson County, Tennessee, we were faced with unique challenges in dealing with the process wastewater. We toured winery operations in California several years ago and knew this wastewater was considered high strength and had to be dealt with much differently than residential wastewater. That's where the folks at Quanics® came in. They helped research the wastewater characteristics and devised a unique solution for our project. With their help, the first bottles of wine from Williamson County will soon be ready for market."

Brian Corwin

Williamson County Sewage
Disposal Management Director

Advanced Treatment Case Studies

SITE PROFILE	DATE
ARRINGTON VINEYARDS	12-06-06
Treatment = Bio-COIR Media	ENGINEER
Sizing = 1,250 gpd	YOUR COMPANY
Site Challenges = High Strength Waste	
Solution!	
QUANICS Advanced treatment system with 100/80/20 recirculation to low pressure pipe dispersal.	



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Design Specifications

Arrington Vineyards,
Arrington, Tennessee

Installation Date - March 2007

Facility/Development Served

Wastewater from winery processing. Challenge is extremely high BOD and TSS.

1,250 gpd design flow

Tanks

Four lees settling tanks: 2000 gal, 1500 gal and two 1000 gal, all two compartment equipped with A600 effluent filters and alarms.

Recirculation pump tank: 2,000-gallon capacity pump tank to LPP dispersal field 3750 gallons.

Treatment System

2 Bio-COIR® fixed film media filters

170 ft³ of treatment media

Loading rate: 7.35 gpd/ft³

Recirculation: 80%

Dispersal

1250 foot LPP laterals in 3 zones of 417 each distributed with 3 zone alternating valve

Total area required: 6,250 ft²

Soil absorption rate: 60 mpi

Required Effluent Quality

Secondary quality

CBOD₅: 15 Mg/L

TSS: 15 Mg/L

Operation and Maintenance

Level 5 utility management

