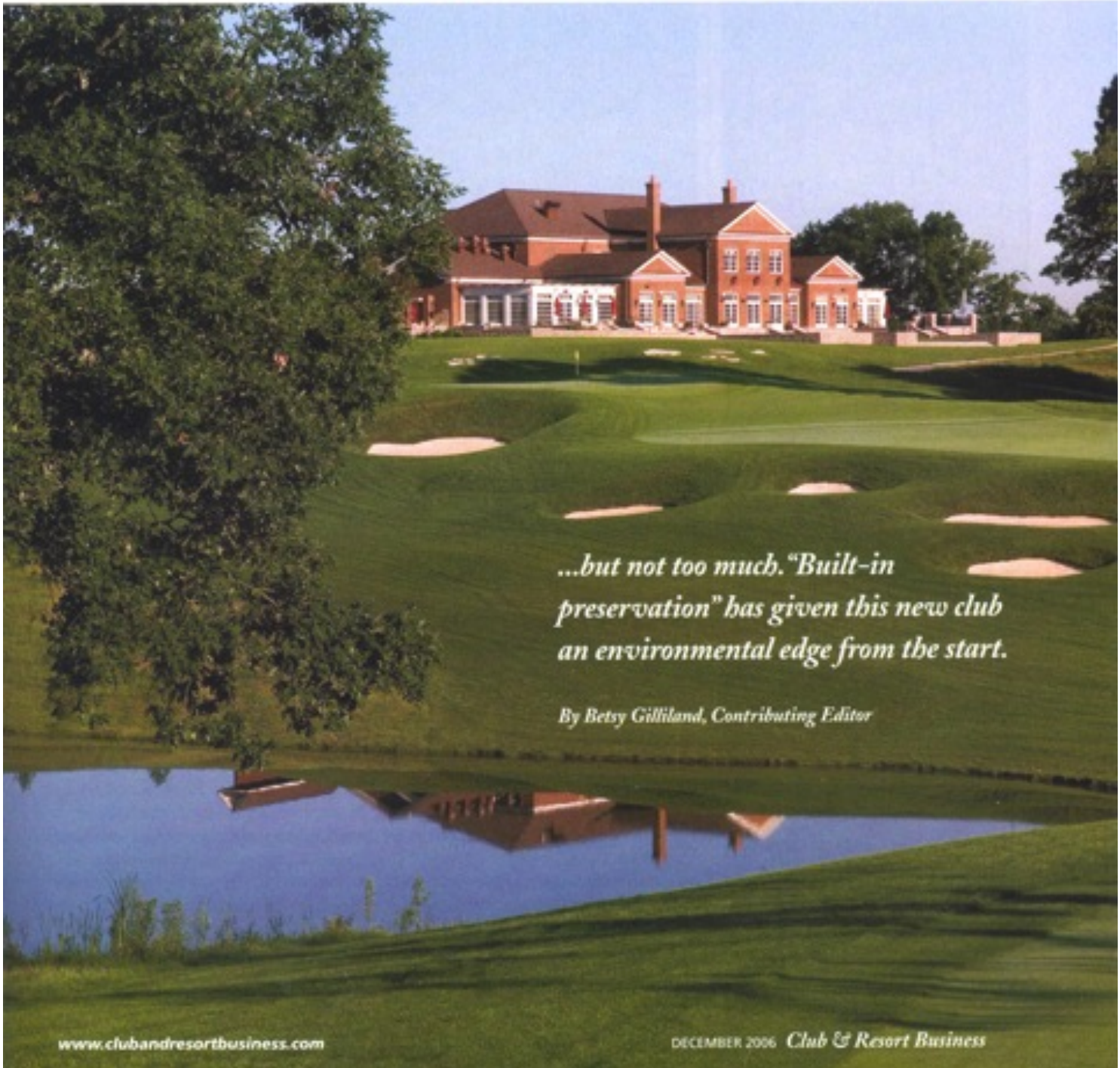


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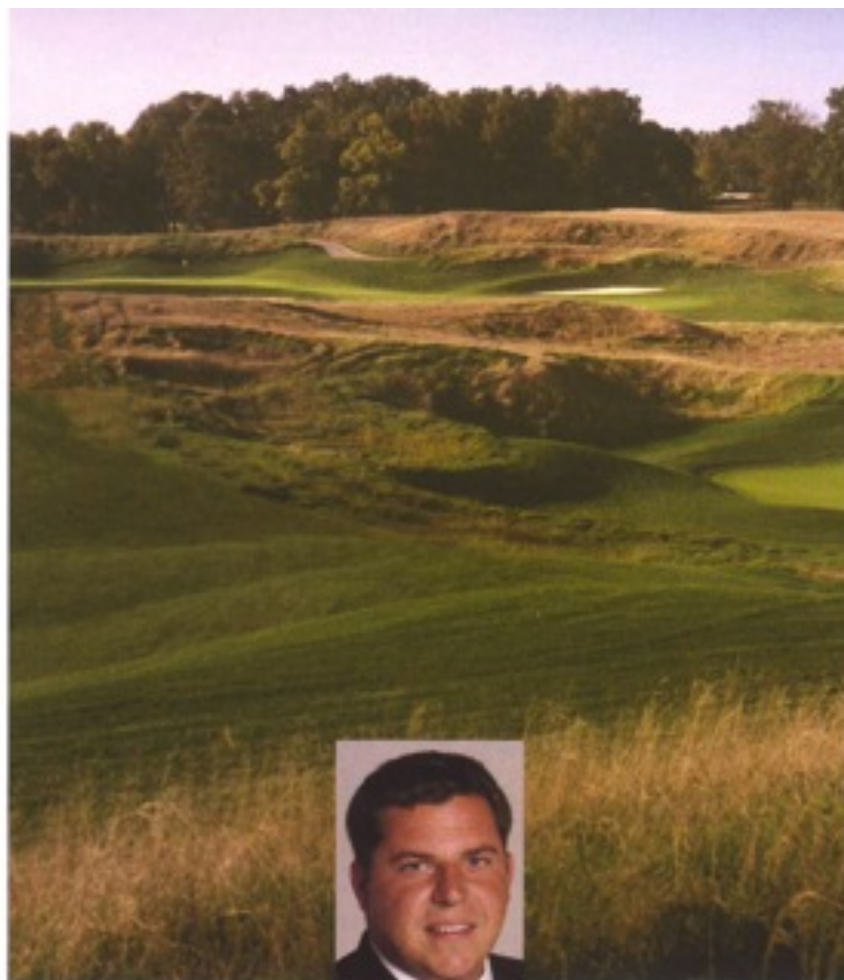
● Course & Grounds Case Study: THE CLUB AT OLDE STONE, Alvaton, Ky.

## Just Add Water...



*...but not too much. "Built-in preservation" has given this new club an environmental edge from the start.*

*By Betsy Gilliland, Contributing Editor*



PHOTOS COURTESY THE CLUB AT OLDE STONE



**Wyatt Warfel,**  
**Golf Course**  
**Superintendent,**  
**The Club at Olde**  
**Stone**

**P**airing the need to keep a golf course in top-flight condition with a commitment to environmentally sound practices need not be a prickly proposition.

In fact, when the design team members of The Club at Olde Stone in Alvaton, Ky., took a swing at this growing trend in the golf course business, they not only pulled the right club out of the bag—they drove the green.

And nothing has changed since the private, 18-hole course near Bowling Green in south-central Kentucky opened this past June. In his role of balancing environmental considerations with top turf conditions, Wyatt Warfel, the club's Course Superintendent, says there's been little guesswork from day one.

The Olde Stone course, designed by Arthur Hills/Steve Forrest and Associates in Toledo, Ohio, has enjoyed blissful harmony with its native terrain from the beginning. The layout follows the natural topography of the gently rolling

Kentucky hillside. The course is also distinguished by its immaculate bent grass greens, tees and fairways in a southerly region—the so-called “Transition Zone”—where wall-to-wall bent grass was once thought to be inconceivable.

“It depends on what the expectations are,” Warfel says in explaining how this has all been accomplished. “Here, they expect the best.”

#### **Beneath the Surface**

Olde Stone's fairways, built like a putting surface, boast an extensive underground drainage system (see diagram, pg. 48). Each fairway also features an eight- to 10-inch layer of sand, which pulls water off the surface to the roots below. This measure added six weeks and \$1 million to the construction process. However, by repelling moisture that normally dooms bent grass in the Transition Zone, the benefits of the additional expense should outweigh the costs.

“It requires less water because it's a healthier plant, so it actually allows us to use water more efficiently,” notes Drew Rogers, Senior Design Associate and Partner for Arthur Hills/Steve Forrest and Associates. “And that improves the efficiency of the turf.”

Warfel, who was the assistant superintendent during construction and took over the top spot in August, says the club's irrigation system has more than 3,000 heads, allowing him to pinpoint water usage to the areas that need it.

The greens also feature layers of sand and gravel on top of a subsurface aeration system. The sand helps prevent compaction, Warfel explains, while the gravel allows maximum water drainage to the root system.

The underground aeration system provides the technology to remove excess moisture, exchange harmful gases with fresh oxygen, and cool or heat the root zone as needed, he adds.

“It helps us any time it rains,” notes Warfel. “We go out and run the (system), to try to take all the excess moisture out of the greens.”

#### **Less Pay for Spray**

The ability to remove excess water quickly and efficiently also offers added environmental—and financial—benefits to the new club's maintenance operations.

For example, the subsurface drainage system wards off disease and limits pesticide use, says Warfel, by probably eliminating the need for one or two spray applications a year (at \$10,000 to \$15,000 per application) on the 35 acres of fairways.

Pesticide and fertilizer runoff into the lakes and ponds is reduced by buffer zones of tall native grasses, which also provide habitat for birds and wildlife.

“That has certainly become the framework for a very natural look for the golf course,” notes Rogers.

#### **A Clean Shop**

Olde Stone's conservation-friendly features also extend beyond the grounds, to a state-of-the-art maintenance facility. A water recycling system filters out the dirt that is washed off equipment, and then circulates the



## Olde Stone's Eco-Friendly Design

### Layout

Tall native grasses reduce pesticide and fertilizer runoff into the lakes and ponds on the property

### Playing Surface

Bent grass grows healthier and requires less watering

### Irrigation System

More than 3,000 heads pinpoint water usage to the areas that need it

### Sand Cap

An eight- to 10-inch layer of sand and gravel pulls moisture from surface and prevents compaction

### Drainage Trench

The extensive subsurface drainage system wards off disease and limits pesticide use

### Sub-Grade

A sub-surface aeration system removes excess moisture, exchanging harmful gases with fresh oxygen and cooling or heating the root zone as needed



Sound environmental practices were instituted from the construction phase of the course, which opened in April near Bowling Green, Ky.

water through a sewage treatment area.

"Everything drains back to a filter system," notes Warfel. "Dirt and grass clippings are filtered out."

The water is also treated once a week with microbes that "feed on the grass and keep the water oxygenated," he adds.

The fill station for grounds equipment is isolated in the chemical room, allowing for proper disposal of materials. "If there's a spill, everything goes into a tank that can be pumped back into a sprayer," Warfel notes.

Stringent federal regulations on pesticide and chemical use will encourage more courses to follow sound practices and improve their images as environmental stewards, Olde Stone's superintendent feels. "It's almost like a nature preserve," he says of his new club.

Actually, Olde Stone—like many new courses now coming on stream—stands as proof of how to create a "preserve" from the start. **CRB**

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