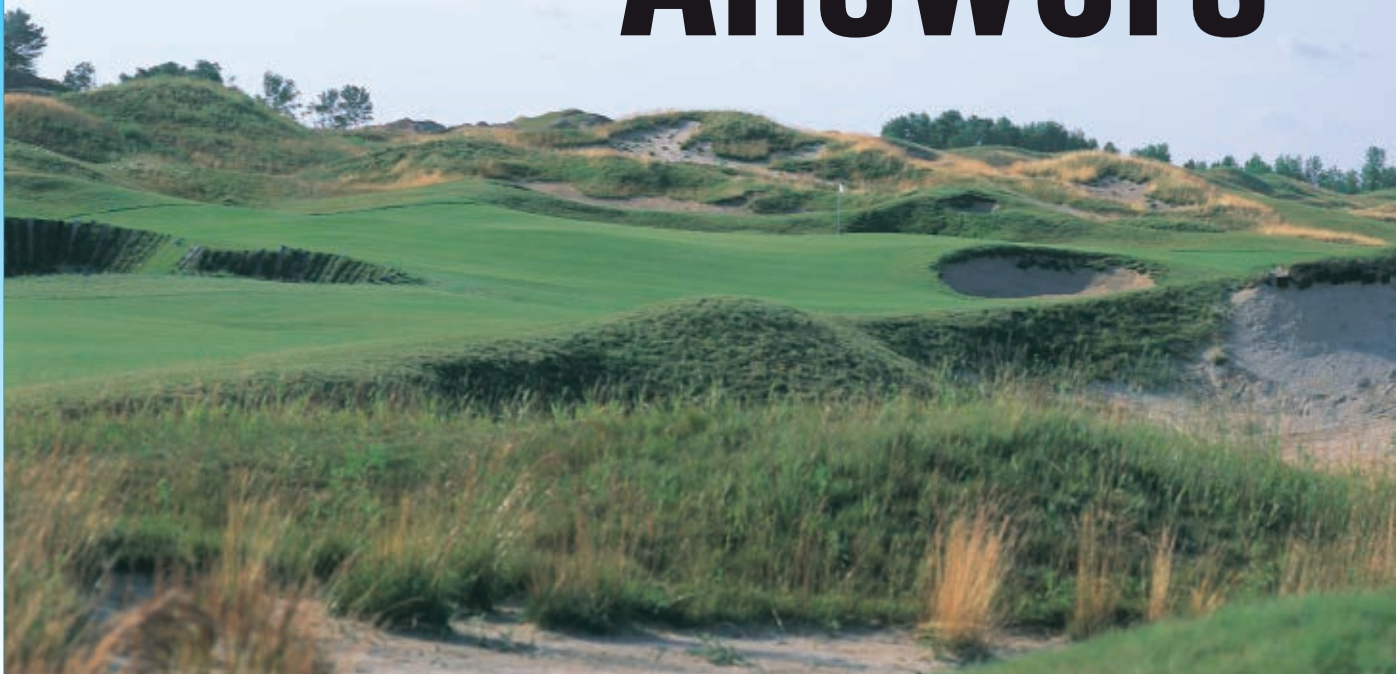


Architects Have Answers



**ENVIRONMENTALLY
MINDED GOLF COURSE
DESIGNERS KNOW HOW
TO CONSERVE WATER**

**BY ANTHONY PIOPPi,
CONTRIBUTING EDITOR**

WELL BEFORE AN IRRIGATION SYSTEM is powered up and the first head is close to popping up and turning, important decisions on how a golf course will maintain its turfgrass have been made. This dictum usually comes from the golf course's owner or members, but they don't reach the decision on their own.

Often times, it's the golf course architect who has the ear of the decision makers and is the one who can convince them that conserving water is the right road to follow, which does not diverge with the ability to create a great design.

"To me, it comes down to management expectations and that's an education process that begins early in the development process," says Michael Hurdzan of Hurdzan/Fry Environmental Golf Design in Columbus, Ohio, whose layouts include Erin Hills Golf Course in Erin, Wis., and Shelter Harbor Golf Club in Westerly, R.I.

PHOTO BY: MIKE KLEIMME



Whistling Straits (above) in Kohler, Wis., was designed by Pete Dye, regarded as the first environmentally conscious architect. Mike Hurdzan (right), taking a soil sample, says the trend is toward environmentally friendly golf courses.

PHOTO COURTESY: HURDZAN/FRY

It's then the architect can explain why grassing a layout with certain varieties is better for the environment and why irrigation heads from tree line to tree line are unnecessary.

"About every developer would like to build Augusta National Golf Club because it's the best-maintained golf course on the planet," says Hurdzan, who holds a doctorate degree in environmental plant physiology from the University of Vermont. "You can do that, but the trend is toward environmentally friendly golf courses."

Scottsdale, Ariz.-based architect John Fought has encountered the same sort of developers who equate lush and green with good.

"[It's] a little over the top," says Fought, whose designs include the Sand Hollow Golf Resort in St. George, Utah. "When I see a golf course that's perfectly manicured and green, I think, 'What's wrong?'"

The move to conserve water by irrigating smaller portions on a course

and maintaining conditions that are firm and fast is not new. Yet, developers and golfers still love green and soft, with water playing a big role in the process.

Hurdzan blames this in part on "celebrity golf pros with status," the ones who dabble in design at best but in reality merely attach their names to golf courses.

"They don't see the bigger issues," Hurdzan says, adding these golf professionals don't care or know how to push for ways to save water.

The celebrity designers are hired in an effort to have new designs noticed by the golf magazines that rank golf courses.

"They want to be rated in the top 100," Hurdzan says. "There are other ways to get in the top 100 other than the Augusta National look."

The drive to attain green and lush has sometimes reached ludicrous proportions.

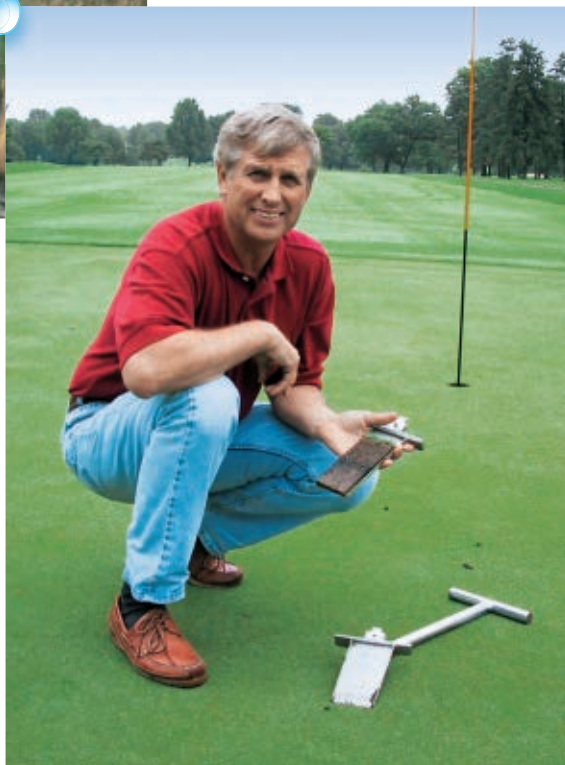
"I've had members take me into the deep rough and under a tree and ask me why the grass isn't perfect," says architect Brian Silva, whose designs include The Black Creek Club in Chattanooga, Tenn., and the Renaissance Golf Club in Haverhill, Mass.

As another example, Fought points to the trend of courses in the warmest areas of the country grassing their greens with cool-season varieties that require a ridiculous amount of water and maintenance to keep them alive. This is one opportunity for architects to enlighten clients.

"We want the owners to trust us, and we want to help educate them," Fought says. "Education is a beautiful thing."

That can mean explaining why not irrigating the entire golf course makes sense as does utilizing grasses that require less water to survive but might go slightly off color.

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Hurdzan says there can be trouble getting permits for a design requiring copious amounts of water because of water restrictions and shortages in many regions of the country. This creates a chance for an architect to enlighten a developer.

"[The architect] can manage the developer and manage his expectations," Hurdzan says.

At Naples National Golf Club, Hurdzan and partner Dana Fry produced a layout with only 50 acres of irrigated turf, implementing pine straw, native grasses and sandy waste areas. "You have to try and set obtainable goals," Hurdzan says.

Still, there are those who don't grasp the concept of firmer and faster and why turfgrass that isn't a deep emerald hue is a better playing surface.

"I get questioned on a daily basis, 'Why isn't this grass green? Why does my ball land on the green and bounce over?'" Silva says.

Fought says what's considered the "perfect" maintenance conditions are, in fact, just the opposite.

"We have to start to get people away from the idea that we have to have perfectly manicured greens all the time," says Fought, a former pro who was a two-time winner on the PGA Tour. "If it's 95 degrees every day and you don't have a little brown . . . my goodness."

Perhaps the first environmentally conscience architect is the legendary Pete Dye. Dye designed the Old Marsh Golf Club in Palm Beach Gardens, Fla., which opened in 1987, with a drainage and pump system that took all the runoff, including irrigation water, from the layout and directed it back to holding ponds.

Dye says he was not forced by regulators to recycle the water, but did it of his own volition to keep runoff out of the swamps that surround the layout.

"The Environmental Protection Agency thought it was the greatest thing since sliced bread," Dye says.

Dye continues

World-Traveling Architect Aims to Educate About Water Use

As director of design for IMG Golf Design in Cleveland, the majority of Brit Stenson's work takes place in the Far East, where water usage, quality and conservation are viewed in a much different light.

According to Stenson, because golf is so new to many of these regions, his goals are the most basic when it comes to irrigation.

"We try to do education, but more often we're solving a problem," he says. "How are we going to get it? How are we going to store it? How are we going to conserve it?"

"A lot of time, there's too much water," Stenson says. "In places like Singapore, drainage is the issue."

In other locations, there are extreme opposites. India, for example, has a well-defined, three-month monsoon season and nine months of drought. There, drainage, storage and conservation are all important facets of golf course irrigation.

In countries like the Philippines, Vietnam and Thailand, untreated water is often sent right back into streams, rivers and lakes. Stenson says golf courses could help with purification.

"One thing they should be doing is have developers build a package treatment plant," Stenson says. "The effluent water could then be used to irrigate the new courses, many that are capped with sand. It's a great way to be a final filter for treated effluent."

Stenson says he also regularly encounters owners and developers who want to landscape the courses with exotic veg-



Brit Stenson sees improved irrigation solutions overseas.

etation and an abundance of color that requires increased maintenance and lots of water, rather than having an environmentally friendly design. Stenson says he is seeing improvement in environmental endeavors, such as in northern China, where a massive reforestation project is under way. According to the United Nations Environment Program, South Korea and China lead the world's 20 largest economies in the percentage of economic stimulus money they invest in environmental projects.

Golf courses throughout the world need to look at alternate ways to acquire irrigation water, Stenson says. He points to the Ile-Aux-Cerfs Golf Course built on one of the smaller islands that make up the country of Mauritius off the southwest coast of Africa. For the Bernard Langer design, effluent water from a sugar cane plantation on another island is piped across the ocean floor to the course. "There's a lot of solutions besides putting a well in the ground and pumping it dry," Stenson says. ■

— Anthony Pioppi

to recycle water on courses he designs, including the Canyons Course at TPC San Antonio, scheduled to open in January.

Part of Dye's motivation in reusing and storing water is economic. As an example, he points to the fact that his design at the French Lick (Ind.) Resort didn't have to pump water up a steep hill into its holding pond this past season because the above-average rainfall and recycled irrigation water kept it at an adequate level. Other courses where he has incorporated reusing water to reduce irrigation output experienced the same economic benefit.

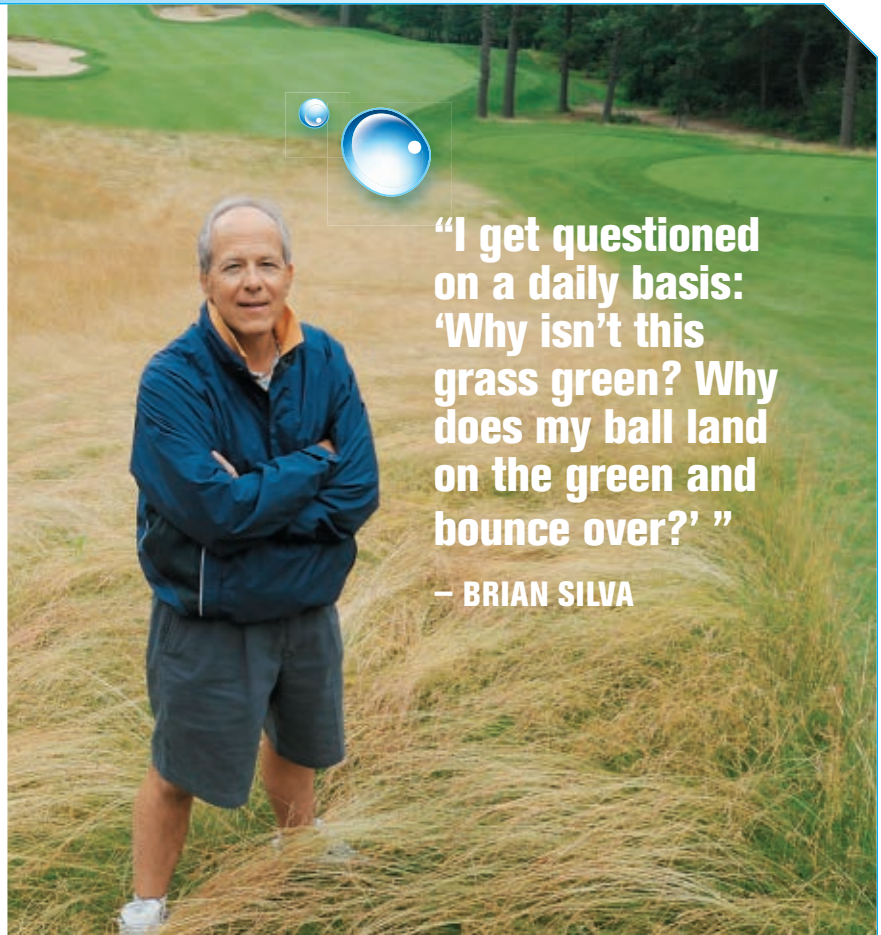
Dye is also proud of the Kampen Course at Purdue University in West Lafayette, Ind., where there was five years of constant monitoring of water coming into and leaving the property. Runoff from homes, gas stations and a nearby interstate that made its way onto the Kampen property had a water quality grade between two and four, depending on the time of year. After making its way through man-made marshes, holding ponds and the irrigation system on the course, it left the site rated with a grade much higher, between six and nine.

Where education and an appreciation of the environment don't work to convince owners and golfers to adjust their thinking, the current economic state might.

"It would be great in this difficult economic period if good things came from it," Silva says. "Maybe it will be that club members and golfers reconsider the levels of maintenance they expect."

A golf course that Silva renovated two years ago recently contacted him seeking his advice in its efforts to decrease water usage—and therefore expense—by 10 percent.

But Hurdzan says getting private facilities to change their maintenance regime in most cases is most always a



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— BRIAN SILVA

battle. Other architects agree.

"When you go to an existing course or club, you have 300 people who know more about golf course architecture than you do," Hurdzan says.

Silva believes it's imperative for clubs and courses to develop a statement of purpose for course maintenance to guide future decision makers and give superintendents clear directions.

"I think it's been difficult for some clubs to follow up on the firmer and faster goals," Silva says. "The committee a superintendent works with one year is not the same committee three years later, and it's difficult to maintain continuity."

Silva puts the onus on the club to make sure superintendents know what conditions are sought and if the goal changes.

One way superintendents can help the cause is to convince their clubs to install soil sensors in greens, Silva

says, adding they provide a remarkably accurate measure of subsurface moisture and are an effective way to help reduce water usage. The science can be used to inform golfers that while the greens might not be as soft as they once were, the correct amount of water is being applied.

"Most people don't know how dry they can get their soil," Silva says.

The industry, with the assistance of architects and others, is improving the way it treats water. For instance, Silva says more clubs than ever have maintenance mission statements. "I never heard of that 10 years ago," he says.

Fought also sees an improvement in water conservation.

"Golf is doing a much better job," he says. "Change is afoot." ■

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