

The Tree Doctor Is In

BY LARRY AYLWARD,
MANAGING EDITOR

And he has saved
the famous
and frightening
100-year-old oak tree
on the 13th hole
at Firestone CC

Problem

The massive oak tree on the 13th hole at Firestone CC is in danger of dying because its trunk is rotting to the core. If you take the towering tree from the hole, you take away its biggest hazard — and the hole becomes a walk in the park.

Solution

Tree surgery, as in removing the rotting wood and filling the gaping tree cavity with a thick mix of masonry sand, Portland cement and water.

From the tee, the 80-foot oak tree looms in the distance — its monstrous branches stretching over the fairway like Frankenstein's arms.

You feel the tree's ominous presence as you prepare to hit your ball. You swear you hear its perverse voice whispering in your ear. "Watch out for me," the tree says with an evil hiss. "If your ball hits me, I'll bounce you in the rough, and you'll never make par."

The tree is to the right, about 225 yards from the tee. You have the muscle to hit the ball that far, but the tree has you spooked. So you aim left and end up hooking your ball over a slope and into an adjacent fairway.

"Fore!"

Angry and shaken, you glance at the tree, which seems to wear a sinister smile on its expansive trunk. You scatter like a goose being chased by a border collie. You'll gladly take double bogey to be done with this hole.

Welcome to the 13th hole at Firestone CC's South Course in Akron, Ohio, where the famous — or infamous — 100-year-old oak tree has messed with the minds of many golfers for years. But the tree doesn't mean to terrify them — it's all in the name of fun and challenging golf.

Competitive players realize if you took away the towering tree, the par-4, 457-yard hole would play as free and easy as a character from a Jimmy Buffett song. They



PHOTOS BY DAVEY TREE EXPERT CO.

Once the cavity was cleaned and filled, the tree began its healing process. Two years later, it appears to be in good health.

don't want the hole to be smooth sailing. And they're thankful it's not because they know it could have been. The cruel world almost took the awe-inspiring tree from the 13th hole. One can only say, "Thank god for technology of yore."

The problem

It's a wonder the tree has stood this long. "It's a giant lightning rod," says Mark Connor, the

South Course's superintendent.

What lightning couldn't do, however, decay caused by weathering nearly did. It started when the tree's huge lower limb broke off its side several years ago.

All was well, but more than two years ago the tree's massive secondary trunk began rotting on the side where the limb broke off. Carpenter ants, recognizing an opportunity to feast, swarmed

Continued on page 48

Maintenance

Continued from page 46

over the barkless trunk as if it were a huge crumb. They dug toward the core, and the tree's base weakened.

A summer storm with a stiff wind could have flattened the tree — and tamed the 13th hole.

Options

Connor and the folks at Firestone weren't about to chop down the tree, even though that's what you do these days with old, sickly hardwoods. They knew they had to stop it from rotting — but how?

Brian Mabie, Firestone's director of golf course maintenance, phoned the tree doctor — in this case, Stow, Ohio-based Davey Tree Expert Co. Davey's Gordon Matthews, a certified arborist, agreed to examine the tree.

What he saw — a hideous 7-foot-high deterioration — was not pleasant. What he told Mabie was worse.

"I said, 'Brian, I have to be honest with you. I don't know what I'm getting into,'" Matthews says.

Solution

There was no magic potion to turn the 5-foot-wide trunk solid again. In fact, there was no state-of-the-art solution. So Matthews opted for an old method of tree surgery.

The operation began with a chain saw. Matthews' crew cut portions of the rotted wood in blocks and removed it. "They cut into the heart of the tree," he says.

Matthews discovered another grapefruit-sized rot pocket had formed on the trunk's opposite end. He figured the two rotted ends would meet in the middle of the tree.

Fortunately, he was wrong. Only about 2.5 feet of the tree's 5-foot-wide trunk was decayed. The middle 2.5 feet of the tree was solid.

After the rotted wood was removed,

Matthews began researching the old art of filling a gaping tree cavity, which is similar to the way a dentist fills a tooth. He dusted off old maintenance books and researched other information from the 1940s. He contacted a retired Davey foreman, Ivan Frank, who worked for the company for more than 40 years and specialized in tree surgery.

"He sent me some notes and gave me an overview about how to do it," Matthews says.



After the trunk was cleared of decayed wood, Davey Tree's Gordon Matthews (right) and Roger Hays installed rods to help provide additional support for the cavity.

This type of tree surgery was in vogue in the '20s and '30s, Matthews notes. But over the years, the technique became less popular because of rising costs and time-consuming labor.

"People stopped seeing the importance of it," Matthews says. "They figured that a hollow tree was a hollow tree, and it goes when it goes."

But Matthews knew it was the only method to save Firestone's oak tree. And yes, the doctor was sweating over performing the surgery like a pilot on his maiden flight.

Matthews and his assistant Roger Hays first installed rods to help provide addi-

▼ A cavity filling requires much more than dumping concrete into a hole in the tree. In fact, filling a cavity in a tree is similar to the way a dentist fills a tooth cavity. One of the first steps is to carve out the decayed area and remove any rotted wood.



Once the rods were in place, a protective covering was used to line the inside of the tree.

tional support for the cavity. When the rods were in place, a protective covering was used to line the inside of the tree.

Matthews and his assistant then built a base anchored by a wood form filled with concrete, much like a sidewalk. It provided a horizontal surface to fill the cavity.

Continued on page 50

Continued from page 48

The job turned tricky when the two men began working to fill the cavity. The problem was getting concrete to hold in a 7-foot-high vertical area. The mix couldn't be soupy or it would slip out of the cavity.

"It took us about a day to figure the right mix," Matthews says.

The thick mix included masonry sand, Portland cement (made from limestone and clay) and a small amount of water. The workers placed pieces of tar paper between layers of mix laid in the cavity. They had to wait for a layer to dry before starting another.

"The tar paper between each layer gives the cavity filling a little flex and sway to it," Matthews explains. "When the wind blows, there's some give. If the cavity was filled with one solid piece, it would eventually crack."

The cavity took about six days to fill and cost about \$4,500, but only about



After the covering was in place, a worker began to fill the cavity with a specially mixed Portland concrete to serve as a surface for the tree's callus to grow over.

\$200 for materials. "You can't rush a project like this," Matthews notes.

Outcome

People always talked about the mammoth oak tree on the 13th hole, but now they also

chat about its huge cavity filling, as did TV announcers who covered the NEC Invitational golf tournament last summer. From a distance, people will tell you the filling looks like tile in a bathroom shower. But Matthews says grooves were added to the final layer for aesthetic reasons.

"It would look terrible if it was a flat surface," he adds.

Matthews visits the tree after powerful storms to make sure it's holding up. On a recent day, he fertilized it with slow-release tree food.

Matthews is keeping a close watch on a callous that surrounds the filling. The idea is for the callous to grow from both ends and eventually cover the filling with bark. It's growing slowly, but the filling might not be covered until Tiger Woods hits the Senior Tour.

But the bottom line is the oak tree has been saved — and it's as big and bad and unnerving as ever. ■

Want a new source for pest information?



www.pestfacts.org

Termites, cockroaches, rodents, even poison ivy and other nasty weeds. They're all pests, which means they can cause real problems that pose health and safety risks to children and adults. The good news is now you've got the Pest Facts Information Center at www.pestfacts.org. It's a handy resource discussing the problems caused by pests, as well as the safe and responsible use of urban pesticides and related issues. So don't just sit there...log on.

Scaled-Down Solution

Superintendent Mark Cote didn't have \$2 million to automate irrigation, so he opted for a programmable electronic activator

Problem

Short of investing more than \$2 million to revamp power sources across Palm Desert CC, superintendent Mark Cote had to resort to some old-fashioned ingenuity to automate irrigation. He wanted to cut down on wasted water, prevent puddling, and more effectively irrigate the course.

Solution

Using a programmable electronic activator, Cote placed an actuator where the old solenoids were, added a Banditogram up to 16 starting times for his quick-coupler irrigation system.



When Mark Cote assumed duties four years ago as superintendent of Palm Desert CC in Palm Desert, Calif., he knew irrigating the course would be a chore. The course had a nonautomated quick coupler system, making irrigation labor-intensive.

"My assistant and I were running back and forth between greens, and that's practically all we were doing — nothing else," Cote recalls, shaking his head. "It wasn't practical, so the first thing I wanted to do was get control of irrigation on greens, and get the greens on some kind of a decent program."

The problem

"The problem out here is that we

can't run power," Cote says of the decades-old course that was built before computerized irrigation was a run-of-the-mill expenditure for new courses. "They would have to completely rethink the electrical system."

But costs to install new electrical wiring and improve existing power and water sources across the course were estimated at more than \$2 million, an investment that owners wouldn't approve — not when the club can pay five workers much less to irrigate the course at night.

Although that may be true, it's difficult to irrigate the course uniformly and efficiently under that system. "You can imagine watering this course by hand," Cote says.

Besides the added labor headaches, the course was spending substantially more on water than a more efficient, computer-

With a programmable unit and a 9-volt battery, 16 separate irrigation starting times can be programmed.

ized irrigation system would spend. There was also the matter of wasted water in a desert community where water is at a premium.

Options

Footing the \$2 million-plus bill to rebuild Palm Desert CC's electrical power system, improve lake capacity and revamp pump stations was ruled out, at least for the immediate future. Even if the club hired a company to rebuild the sprinkler system, enlarge existing lakes and upgrade two pump stations, there were still the problems of inadequate power sources.

Cote could have continued watering as he had been, but he wanted to take a more environmentally sensitive approach by cre-

ating a more efficient, effective irrigation system. He also wanted to eliminate puddles, which irked players. An option was to purchase an electronic program that could set 16 irrigation starting times.

Solution

With a programmable unit and a 9-volt battery (which should be replaced about every six months), Cote programs up to 16 separate irrigation starting times. The activator hooks onto a 2-inch or an 1.5-inch electric valve. "I installed a manual gate valve before the electric valve for emergency purposes and the AV solenoid into the new electric valve," Cote explains.

Outcome

The result is consistent control of water on greens despite a slight cutback in the work force.

"When I first got here, some greens were real wet, some dry," Cote says. "Irrigators were out there, and if they took a break or something, they might forget a green. One

green might be irrigated for an hour, the next might run for the proper amount of time. There was no consistency."

Now Cote can dictate when and where to water, which has resulted in more efficient and effective placement of water across greens — and a healthier soil profile.

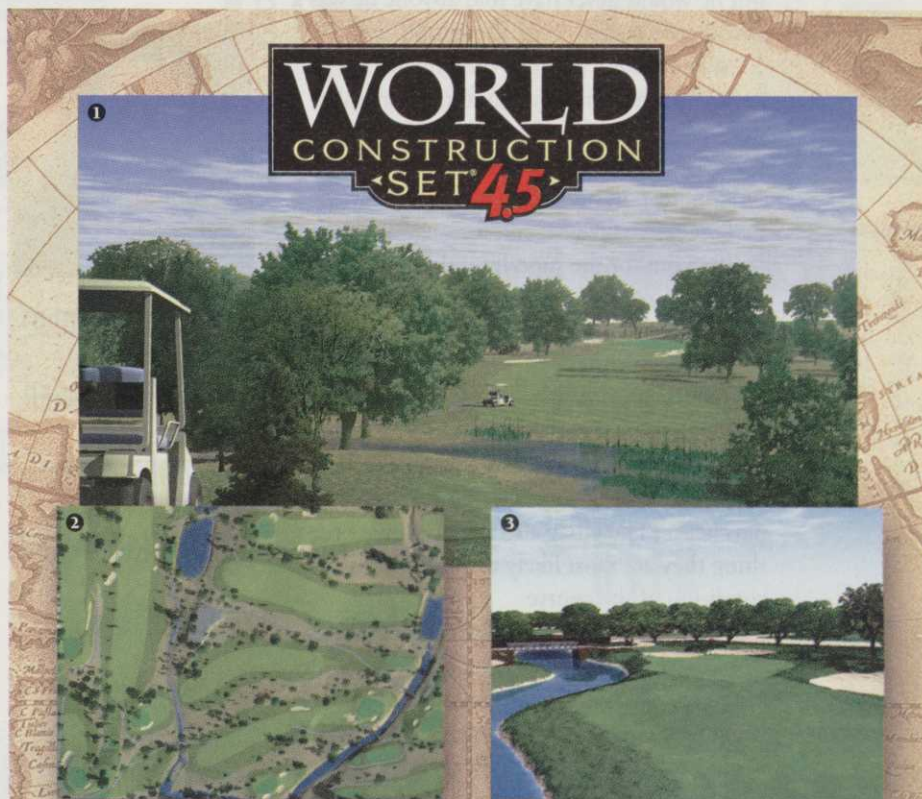
Added irrigation control allows Cote to

more carefully time watering of overseeded greens.

"It helped when we were growing in the overseeded ryegrass," he says. "It allowed us to have 12 start times for five minutes every day, whereas before we were running around like madmen trying to keep the soil moist." ■



In a desert community where water is at a premium, Mark Cote wanted to irrigate his greens as efficiently and effectively as possible — but at a low cost.



Make a "rough" draft...

With World Construction Set Version 4.5 you can design a new course or change a current one. Build new sandtraps, reshape greens or add new areas of rough. Customize lakes, tee boxes, fairways and cart paths. Animate a golfball's path from the tee box, down the fairway, onto the green and into the cup. Create aerial and ground-level images to visualize the course.

When realism matters, choose World Construction Set.



3D Nature, LLC: (303) 659-4028
Formerly Questar Productions, LLC

www.3DNature.com

Email: WCSInfo@3DNature.com

1. ©1999 3D Nature, LLC
 2. ©1999 3D Nature, LLC
 3. ©1999 Poitra Visual Communications and Digital Interactive
- 3D model of golfcart provided by Viewpoint Datalabs, Inc.

Pump Problems? No Problem at All

A Texas course needed a new pump system to beat the summer heat – and fit into an existing pump house

Problem

Since The Four Seasons Resort Tournament Players Club was built in the late 1970s, the pump system was not sufficient to meet the needs of hot Texas afternoons.

Solution

Upgrade the system to the Flowtronex PSI Silent Storm system, with a pumping capacity of 4,000 gallons per minute.

Industrialist Henry Kaiser once said trouble is only opportunity in work clothes. He could easily have been speaking about superintendents who need creative solutions when replacing or installing new pumping systems. The Four Seasons Resort Tournament Players Club in Las Colinas, Texas, which hosts the GTE Byron Nelson PGA Tour Classic, found its opportunity when troubles arose with its aging pump system.

The problem

Because the course was originally designed in the late 1970s, there was concern about its aging pumping system failing during a hot Texas summer. A new system would have to fit an existing wet well, slab and pump house.

Filtration would also prove an important consideration since the water source contained silt, algae, Asiatic clams and other debris.

Finally, installing the system posed challenges as well. How do you protect turf from heavy equipment and machinery required to install the system?

The solution

According to Willie Slingerland, of Flowtronex PSI, careful analysis and consultation led course officials to a Flowtronex PSI Silent Storm station with a capacity of 4,000 gallons per minute.

Scott Miller, Four Seasons resort director of golf and landscape operations, said: "We evaluated our old system and found that we needed to replace the old pump station. The logical



A crane, resting on the plywood road constructed to protect the landscape at Las Colinas Tournament Players Club, lowers the Flowtronex PSI pumping system in through the top of the existing pump house.

decision was to choose a system with variable frequency drive to increase our efficiency and with increased filtration to

handle a variety of sediment."

Three Amiad SAF filters were chosen to complete the system.

Continues on page 68

Continued from page 67

This design offered both the output and water-quality protection the course demanded.

Implementation

To install the system, the team worked around a settling building slab that had

dropped 6 to 12 inches. To keep the station level, a new steel frame was constructed on top of the existing slab.

The team also had a tight squeeze, as the new station was too large to fit through the pump house door.

Generally, a pump station will be brought into the building in pieces and re-

assembled once inside, Slingerland said. Club managers, however, decided that since the roof was already beginning to show signs of weakness and leaking in spots, they would remove the roof and bring the system in from above. A new roof would then be constructed once the system was set into the structure.

Two options were considered to protect turf:

Option one was to set the station with a helicopter. Unfortunately, the helicopter required to lift the massive weight was tied up on another project.

In addition to the energy savings the course has seen, the new pump system has been virtually maintenance free.

Option two — the one selected — was to construct a plywood road on which a crane and the truck containing the station could be driven to the site with minimal damage to the turf.

Outcome

Today, officials at the Four Seasons Resort TPC at Las Colinas and Flowtronex engineers look back on the two-day, 24-hour installation process during a hot spell in June with pride, since the new pump station has performed flawlessly. "In addition to the energy savings we have seen, the system has been almost maintenance free," Miller says.

The old station was reaching the point where it was beyond repair, Slingerland said. Now officials can rest assured that the pump station is reliable and concentrate on keeping the championship course, which was remodeled in 1984, in top condition. ■

"the best money I've spent this year... a no-brainer."

Wayne Van Arendonk, CGCS
Rolling Hills Country Club
Wichita, KS

"guys just don't know what they're missing..."

Jerry Coldiron, CGCS
Boone Links/Lassing Pointe
Florence, KY

The advertisement features a computer monitor displaying the TurfNet.com website. The website has a green and white color scheme with a navigation menu on the left including links for Membership Info, News, Employment, Used Equipment, The Forum, Research Reports, Factory Links, Weather, Turf Events, and Guestbook. The main content area includes a 'Welcome to TurfNet.com!' message, a 'Latest Job Listing' for an Assistant Superintendent at Hunter Ranch Golf Course, and a 'Used Equipment' section for an E-Z-GO Oasis Beverage Cart. A sidebar on the right contains a 'LOVE IT?' section with links to various resources. Overlaid on the monitor is a magazine titled 'TurfNet' with the subtitle 'If dazed and confused...'. The magazine cover features the text 'L' and 'Contr?'.

TurfNet
1.800.314.7929
www.turfnet.com

Circle No. 146