

Winged Foot Gets a Leg Up...with major irrigation upgrade

BY ANTHONY PIOPPI

Although he was just a few months into his tenure as superintendent of the 36-hole Winged Foot GC in Mamaroneck, N.Y., Eric Greytok came to a conclusion that the club's plan to upgrade the irrigation system should be discarded.

By June 2001, two months after he took over, Greytok realized the club needed to install an entirely new irrigation system. But Greytok could not have foreseen what his idea would unleash. Not only is Winged Foot installing a new system, but it is also changing the way other existing courses will handle their next system upgrades.

From the color of the wiring to the valve connections to the grounding of the satellite stations to the irrigation control systems, and most obviously, the way the bedrock is being carved up, Winged Foot is taking irrigation to new heights — or in this case, new depths.

Teaming with Greytok and his staff are Aqua Agronomic Solutions of Clifton, N.J., which designed the system, and Leibold Irrigation of East Dubuque, Ill., system installers.

"Once I became familiar with the [existing] system, I saw spending that money was a waste," Greytok said. "Just putting more pipe in the ground was not the answer."

Greytok knew an entirely new system was needed to replace the one that dates from the 1950s. He said the system had been upgraded and expanded over the last

Winged Foot is using a 50,000-pound machine to blast through the course's hard granite.

PHOTOS BY ANTHONY PIOPPI

Problem

There are three generations comprising the current irrigation system at Winged Foot GC. With such a patchwork system, there are constant problems with it.

Solution

Shortly after joining Winged Foot in April 2001, superintendent Eric Greytok realized the course needed a major and state-of-the-art irrigation upgrade. The course is undergoing that now.

50 years from a single-row to a triple-row system.

"But there are three generations of irrigation systems in here," he said, including transite pipe (made from a mixture of asbestos and cement) mainlines from the 1940s or 1950s, galvanized pipes around the greens from the 1960s, and PVC pipe installed in the 1990s.

Wires and mainlines are buried anywhere from a few inches to a foot below the ground, depending on the rock. In some cases, pipes sit above ground in the rough lines, just a few yards off the fairways.

"[The system] is just not big enough to carry the amount of water needed — never was," said Paul Granger, president of Aqua Agronomics. "It's amazing they (the maintenance staff) could keep the golf course in the condition they have with what they had to work with."

With the old system, Greytok said irrigating both courses takes between eight and 10 hours and can't be done in one night. The system pushes out 1,500 gallons per minute. The new system will be capable of 3,600 gallons per minute with both courses able to be watered in five to six hours.

Of course, with such a patchwork system there are constant problems with the current system. Two members of Greytok's staff are dedicated to daily repairs of the antiquated system. Up to 15 people are on constant syringing duty during the hot, dry months.

Although he came to Winged Foot in April 2001 after leaving the superintendent position at Pebble Beach Golf Links, Greytok's plan for a new system began to take shape soon after his arrival. With Winged Foot hosting the 2004 U.S. Amateur on both the East and West courses and the West Course as the site of the 2006 U.S. Open, work would have to begin in 2002 in order to be completed in time to have the layouts healed for the Amateur. If not, a new system could not be installed until after the Open.

Granger's firm came aboard later in



the summer and by November 2001 he had designed a new system to give the club an understanding of the financial commitment needed for the undertaking

In January 2002, a proposal for the project was approved by the green committee. Within a few weeks of that decision, three contractors came in to view the site. Their bid proposals were in Winged Foot's decision-makers' hands by March.

Greytok said the decision on what company would do the work was not based on money. "It came down to who the club felt comfortable with installing the system," he says.

Although intertwined, the plan by Leibold called for the courses to be worked on one at a time with the West finished in 2002 and the East completed the following year. That plan has since gone out the window. Completion of all 36 holes is expected by June.

Final overwhelming approval for the project from club members came with a vote last June. Once the go-ahead was given, things started to move. Pipe, wire and an irrigation system were ordered, and contracts were signed before July 1.

At this point, Granger convinced Greytok to have Paige Electric Co. based in Union, N.J., customize the color coating of the wiring. According to Granger, because so much work had been done to the old system over the years by a number of superintendents,

Workers install the irrigation line behind the fourth green on the East Course.

literally every coating color used by wire manufacturers was buried somewhere on the two courses. Fearing confusion down the road when repairs needed to be made, Granger suggested that all new wiring come striped and not solid. For instance, instead of white wire, which could be confused with the old white wire, the new wire is white with green bands. Granger said he intends to use striped wire on other jobs.

By the middle of July, Leibold was on site with a crew of five plotting the location of the pipes and wires of the existing system as well as selecting sites for the cement platform bases for the 140 irrigation control stations. Installation of the cement pads was the first work done on the course and began in August.

Actual digging did not begin until Sept. 3. As they excavated, workers had to avoid the old system that continued to perform irrigation duties until mid-November.

The project encountered its first problem even before ground was broken. In late August, John Leibold, president of Leibold Irrigation, noticed the pipe being delivered to the course was 2 years old. Although 60 percent of the order was already on the property, the pipe was rejected and returned. Greytok listened when Leibold made the

Continued on page 80

Real Life Solutions: Winged Foot

Continued from page 79

suggestion to go with a new pipe company. "It was really early on in our relationship and I said, 'You know what you're doing.'" Greytok recalls.

A different manufacturer was found one that would make the pipe specifically for Winged Foot — and in one run and at one plant. The date of production stamped on the 21,500 feet of pipe reads Aug. 29, 2002 — just five days before digging began.

While the pipe problem was a surprise, the Winged Foot rock was not. Going in, all parties involved knew they would have to contend with the granite that ran throughout the golf course. Although the project would encounter the rock on about 20 percent of the course, the methods needed to break through the stone were extraordinary. One geologist who tested a sample reported the Winged Foot granite to be the hardest he had ever come across.

Leibold's solution was a track trencher from Vermeer Manufacturing Co. that would cause less disturbance than a conventional rock hammer method. When the original model proved to be ineffective, Leibold turned to a Vermeer 955, a 50,000-pound machine normally used for the installation of water or sewer lines.

Leibold says the boom was shortened since the maximum depth mainlines are buried about 50 inches, much shallower than normal sewer and water lines. The Vermeer was further customized when the boom was filled with lead to keep it from bouncing off the rock.

While this means of trenching may appear to be overkill, it is at times barely enough. When encountering some of the hardest granite, the trencher can only carve about 80 feet a week of the 48-inch wide, 50-inch deep trench. But no matter how hard the stone, the Leibold crew just keeps going.



In some places, old pipe sits above the ground, just a few yards off the fairways.

"I've never seen those guys discouraged," Greytok says. "We'll get 'er' — that's what they say all the time."

Going is easier with the softer granite with the Vermeer chewing up to 300 feet a day.

The mainline running out of the pumphouse is 20 inches and decreases in 2-inch increments as it get farther out onto the property.

A much smaller stone wheel is being used to cut in the 2 1/2-inch fairway laterals. Here, too, Winged Foot is like no other. Both Greytok and Leibold



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agreed on the need to eradicate as many problem areas as possible, which meant the connection of the fairway laterals to the 4-inch mainlines.

Normally the pipes would be coupled by threaded ends and glued, but Greytok and Leibold wanted that procedure eliminated. At the 2002 GCSAA Conference and Show, the two visited the Leemco booth to discuss the possibility of alternate means of connection. The Colton, Calif.-based company designed a gasketed coupler specifically for Winged Foot. Greytok said the customized pieces should eliminate many of the leaks resulting from the common way of connection between mainlines and laterals.

There are other new procedures Winged Foot is implementing:

- The grounding procedure is also slightly different. Rather than confront the rocky terrain with a combination of grounding rods and grounding plates, Winged Foot's controllers

will rely solely on grounding plates for protection. Granger said he's not aware of any other layouts installing new irrigation systems that have opted for just grounding plates.

- Other work going on below ground has helped to increase the output of the three wells that feed the lone irrigation pond. Winged Foot also purchases water from the town of Mamaroneck.

- Because the three wells were producing only about 325 gallons a minute, something needed to be done to increase output. Granger suggested, "hydrofracturing," a procedure in which water is forced under high pressure down into the existing well in an effort to break open or widen the cracks in the rock through which water flows into the wells. The Winged Foot wells now produce 710 gallons per minute.

- Installation of a Rain Bird Cirrus central control system with the new Rain Bird PAR+ ES satellites. Each

Rain Bird PAR+ ES satellite can handle up to 72 stations. Winged Foot will be the first complete system installed with the new Rain Bird PAR+ ES satellites.

Unbelievably, the irrigation project was not the only work being done on the courses. On the same day Leibold began digging, Winged Foot began the last phase of its fairway bunker renovation project to be completed early this year. Also, an outside firm began deep-tine aeration of the entire club's greens.

As if the irrigation upgrade wasn't enough excitement for Greytok, early in the project he married his girlfriend Kelly Gray, who's the secretary for golf course maintenance department.

"Without her support and understanding, life would be a lot tougher," Greytok says. ■

Pioppi is a free-lance writer from Middletown, Conn.

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