

BY JOHN WALSH

In due time

Minnesota superintendent tends to irrigation system while he waits for overhaul

Fred Taylor and his crew might not have the best irrigation system in Minnesota, but they've made do repairing and maintaining the 18-year-old system, and will continue to do so, until a new one is installed – which won't be for another eight or nine years.

"Right now, we have more urgent needs, such as a bunker renovation, drainage improvements and a clubhouse renovation that will take three years to complete," says Taylor, certified golf course superintendent at the private, 18-hole Mankato Golf Club. "We're reviewing our master plan right now with architect Garrett Gill."

Mankato opened in 1920 as a nine-hole course designed by golf course architect Tom Bendelow. In 1954, it expanded to an 18-hole facility. Architect William Langford designed the additional nine holes. The club has about 340 golfing members out of a cap of 350. The course features a turfgrass mix. The greens are *Poa annua* and bentgrass, and the fairways are the same mix with the addition of bluegrass.

Taylor, who has been working at the club for 27 years, started there as an intern while attending college. He worked there for five years, left and went back to school, then returned. His maintenance budget is \$455,000

sans utilities, which are part of the club's administration budget. Because of that, Taylor says he doesn't have a good idea of what he spends annually on water.

"We don't really pay for water other than \$500 for the permit," he says.

Throughout the years, Taylor has allocated a small amount of his budget for repairs and maintenance of the irrigation system. This year, he budgeted \$3,650. This line item has increased a bit more recently than in

years past. About seven years ago, Taylor was spending about \$1,500 for repairs and maintenance to the system.

"We're popping more sprinkler heads," he says. "Over time, the plastic becomes brittle, the pipes become brittle, and the valves leak."

Mankato's irrigation system was installed in 1989, and Taylor says there hasn't been much talk of getting a new irrigation system just yet.



From left, Scott Ness, Allen Starke and Fred Taylor make sure Mankato's irrigation system runs smoothly. Photo: Mankato Golf Club

The maintenance budget at Mankato Golf Club is \$455,000.

Mankato's irrigation system can pump 900 gallons a minute.

Fred Taylor budgeted \$3,650 this year for irrigation-system repairs.

"However, Bob Vavrek from the USGA looks at our maintenance practices, and he has talked about a new system more seriously than I," Taylor says. "A new irrigation system is eight to nine years out."

The irrigation system is a double-row system from Toro, but one could make the case that it's wall to wall because there are rough lines in most places where the fairway heads don't cover, Taylor says. The system pumps 900 gallons a minute at full go. Taylor doesn't have individual control on the sprinkler heads, but he can run two heads per control station.

"When the system was put in, it was a way to save money," he says.

The system's central control used to be a VT3 video, a first-generation central control that was operated with a light pen. But the flaw of the controller was that the pen wouldn't always work with the monitor. So, Taylor and his staff found a used VT2 mechanical controller and used that for a few years. Then, Scott Ness, one of Taylor's assistants who has a computer and electronics background, made his own central controller from a computer. Using timing software, the staff upgraded to a one-of-a-

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— FRED TAYLOR

kind system that has worked great for five years, Taylor says.

"Five years ago, we were quoted between \$40,000 to \$50,000 to upgrade the control system," he says. "Instead, we spent about \$600."

Taylor usually discovers weaknesses in the system when he winterizes it in late October, a process that takes about eight or nine hours.

"When blowing it out full of air, I've seen a weak head shoot 20 feet in the air," he says.

When pressurizing the system in the spring, Taylor drives around the golf course looking for puddles, which are indications of busted pipes.

"If it's a break associated with freezing

and thawing, it's a major deal," he says. "You'll have a lot of water."

When a nozzle base or gear drive assembly needs to be replaced, Taylor says those parts are usually on hand in the maintenance facility. Other parts such as fittings and pipe usually are purchased from a local plumbing house.

"I can get fittings from Toro and Rain Bird, but it's easier to buy pipe from the local plumbing house," he says. "We are blessed with two good distributors. They're a phone call away to help with a problem."

Starting about three years ago, Taylor and his crew have been replacing the old nozzles on all greens and tees with FCI brass nozzles, and they've seen an improvement. Eight years ago, Taylor and his crew added a variable frequency drive and jockey pump to the pump station.

"We couldn't go two weeks without a pipe breaking before that," he says. "That's when it's crucial to have an experienced irrigation guy on staff. Fortunately, Allen Starke, the other assistant at the club, has been with us for about 15 years and knows the system inside and out."

When a complete irrigation system upgrade takes place, most of the pipe will have to be replaced, some of the pipe can be used again, all new heads and controls will need to be replaced, as well as the pump station, but there will be no need to reroute the system.

"It would be nice to duplicate the heads on greens, so one set waters the greens and the other set waters the surrounds," he says. "Having individual head control would be great, too."

Taylor and his crew will make small upgrades to the system – just like they have been doing for years – between now and when they get a new one.

"We'll get by until a major upgrade is done," he says. **GCI**



A new irrigation system at Mankato is about eight or nine years away. Photo: Mankato Golf Club

BY JOHN WALSH

Water delivery

Development team chooses decoder system for irrigation

In the context of building a golf course, an irrigation system is an unglamorous (and unseen, most of the time) part of a project. Yet it's vital to a successful project. Golfers like – and in many cases demand – green grass everywhere, and effective and efficient irrigation helps provide those results. And for some development teams, a decoder system is the control option of choice.

In Wilson, Mich., the 18-hole Sweetgrass Golf Club is being developed for about \$5.5 million. Golf course architect Paul Albanese of Plymouth, Mich.-based Albanese & Lutzke designed the course. Construction started in August of 2005, and it's scheduled to be completed in July. The 7,300-yard, public course is scheduled to open in May of 2008.

Dan Grassi, owner and president of Grassi Enterprises, a golf course construction company, is Sweetgrass' project manager who's overseeing the irrigation installation. Grassi first looked at the project in February of 2003 and came on board in June of 2005. Kuhn & Associates, an irrigation design firm, drew the original irrigation plans. Changes were made to those plans, mainly adding to the irrigation system because length was added to the course.

Toro, Rain Bird and John Deere bid the irrigation system, Grassi says.

"We looked at the price, then narrowed it

down to service and reliability of the product," he says. "Then we made our decision. John Deere made a package deal, including the maintenance of the golf course after it was grown in, through One Source. Toro also came up with a package. We were looking long term."

The irrigation system is controlled by a decoder system instead of a satellite or hard-wired system. All the heads require fewer

wires than heads that are part of a completely hard-wired system, so there's less copper wire and labor required for installation, Grassi says, adding that the price of copper wire has increased considerably recently. With a decoder system, irrigation can be controlled via the Internet, cell phone or hand-held radio.

At press time, Grassi had four holes left to install.

"It's been a much easier and faster instal-



The number of irrigation heads was increased because of the windy site. Photo: EPIC Creative

lation because of the decoder system," he says. "This is the first decoder system John Deere has done in the U.S. I had my doubts, but I've been pleasantly surprised by the performance. For example, the heads feature a flushing system that helps prevent sticking caused by the dirt around them during construction."

When completed, the system will have about 1,200 heads, all with individual control. A double-row system is in place from the tees to landing areas. Near putting greens, there are two sets of heads, one to irrigate the greens and one to irrigate the surrounds. The system cost about \$750,000 including the pump station by Watertronics and the control system by Signature Controls. The pump station, which features 60-horsepower motors, pumps 1,500 gallons per minute.

Because Sweetgrass sits on a windy site, trajectory adjustments were made to various nozzles and extra heads were added, mostly on par 5s and tees, and John Deere accommodated that, Grassi says.

"Those extra heads will be taken out because the turf will be in no-mow areas, but enough water is needed to establish them," he says.

Because of the no-mow areas, Grassi says



there are fewer heads (about eight per hole) incorporated into the system than if there weren't any no-mow areas.

Reclaimed water and rain water will be used to irrigate Sweetgrass, yet nothing in the irrigation system had to be changed because of reclaimed water use, Grassi says.

The fairways and tees are a mix of L-93 bentgrass and Southshore, and the greens are straight L-93. John Hoberton, the golf course superintendent who was brought in when the grass started to grow, is in charge of maintaining the turf.

The irrigation system has a 15-year life span. Throughout time, Grassi expects no problems with the system. The pipes will remain, but he expects some heads might need to be swapped out, which is common with any system. **GCI**



With a decoder system, irrigation can be controlled via the Internet, cell phone or hand-held radio. Photo: EPIC Creative