



# **\$**aving irrigation at Panther Valley

By **DICK MILLER** Associate editor, GOLF Magazine

This new club beats droughts and cuts costs with treated sewage water

Irrigating a golf course is like playing a round of golf—when everything goes right, it's easy. If a club has access to enough water, approximately 250,000 gallons of water daily, and there aren't droughts and members don't object to being assessed more each year for the increasing cost of water, then the superintendent has parred his course. But if one of these conditions doesn't exist, then irrigating a course can become a helluva problem.

One of these conditions didn't exist at the Panther Valley CC in Allamuchy, N.J. The course, newly designed by Robert Trent Jones, is the focal point of Panther Valley, Inc., a new 1,900-acre residential community nestled in the hills of northern New Jersey, in which approximately 8,000 people will reside.

As the 60-acre course, measuring 6,850 yards from the back tees, was being designed, it was discovered that a regular well system of irrigation would only yield 100,000 gallons of water daily, 150,000 gallons shy of the normal amount needed.

Thus, necessity being the mother of invention, a unique irrigation system, called the Water Reuse System, was born. It was devised by Panther Valley's consulting engineer, Richard J. Jeske, Springfield, N.J., who is now irrigating Baltusrol GC, the only club to host five U.S. Open tournaments.

"Simply," Jeske says, "the Water Reuse System uses water after it has been used for human consumption. The water is purified

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## IRRIGATION AT PANTHER VALLEY



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through primary and secondary sewage treatment units, then piped to a tertiary unit for further purification. Instead of being discharged into the river, the water is piped into the main irrigation pump on the course. When the community is fully occupied the system will handle 800,000 gallons of water daily, of which only 250,000 will be used to irrigate the course.

"We won't have to be concerned if there's a drought and an ordinance by the town fathers cutting back on a club's use of water. Since the reused water is free, which is quite a savings since it costs almost \$21,000 yearly to irrigate a course in northern New Jersey, our only cost will be pumping and that will run \$3,500 a year."

While the Water Reuse System solved the initial problem of irrigating a course, it produced several by-products that have perked interest among conservationists and agronomists.

Although all used water to be discharged into rivers must meet the standards set by the Federal Water Pollution Control Act of 1965, this used water still can contain nutrients in the form of nitrates and phosphates that are the main cause of algae in rivers and streams. But, with the reclaimed water at Panther Valley being used for the irrigation of the golf course and some of the balance being made available to black dirt farms nearby, the rivers and streams near Panther Valley will remain unpolluted, especially during the summer months.

With the used water containing nitrates and phosphates that have a nutrient value at a pH close to

seven, the course is being irrigated with a form of liquid fertilization.

This, according to superintendent, Al Wilson, a graduate of the University of Massachusetts Turf Management school, will prevent diseases such as dollar spot and brown patch.

"We're using Astoria Seaside Penncross bent on the fairways," says Wilson, "Penncross bent on the tees and greens and Kentucky bluegrass for rough. We'll be watering in 10 to 12 hour cycles. With the Water Reuse System we'll always be assured of having a course that's green and lush. Even the rough can be watered and kept thick and lush. How much of the rough we'll water—we don't know. Certainly, if too much of it is, play would be slowed down considerably."

Used water that isn't used for the golf course and the nearby dirt farms will be used to create ponds and lakes. "These small ponds and lakes," says Philip Barske, Panther Valley's conservationist, "will be created with half used water and half fresh water. The Reuse System can also be used to irrigate the millions of dollars worth of lawns, trees and shrubbery within the Panther Valley complex during dry periods.

"The Water Reuse System," Jeske concludes, "isn't a panacea for all irrigation problems. It's ideal for our set-up and would be for other fairway-living complexes, or even those courses near a municipal sewage treatment plant, provided a tertiary treatment unit had been installed. It costs \$60,000, and those miles of piping and booster pumps wouldn't be needed to get the water to the main pumping station. In the Bahama Islands, where water is scarce and costly, the system also is ideal because the piping and pumping costs would be less than the price of water." □