Researchers see golf applications for subsurface drip irrigation

By PETER BLAIS

Subsurface drip irrigation of greens and tees could be the wave of the future, according to companies and researchers involved in the cutting edge technology.

"By the year 2000, water is going to be the major environmental issue for golf courses," predicted Karen Ferguson, vice president of Sausalito, Calif.-based Geoflow Inc., which has been in the drip irrigation business for 20 years. "Golf is an expensive business to get into. But in the next two years, we plan to go after it hard."

Geoflow is busily testing its subsurface grid of 1/2-inch drip line on turf plots in California, Texas and Hawaii. It has been installed on a green at Point Grey Golf Course in Vancouver, Canada, and tees at the Mid-Ocean Club in Bermuda, Canyon Crest Country Club in Riverside, Calif., plans to install the system on a green sometime in the next two years, according to superintendent Michael Rohwer. Netafim Irrigation Inc. of Fresno, Calif., recently installed its Techline subsurface drip system along a steep bunker face at the Country Club of Rochester (N.Y.), according to Regional Sales Manager Mike Stoll.

"The water from sprinklers was passing through the bunker and splashing sand on the faces," Stoll said. "We installed the system along with a moisture-sensing probe that checks moisture levels every 20 minutes and opens the water valve as needed. The goal is to not have to aim the sprinklers.

Research conducted on this plot at the Center for Irrigation Technology at California State University, Fresno, Calif., points to numerous golf course applications for subsurface irrigation.

The Freedom System is engineered to give golf course superintendents direct access and control over irrigation operations through a convenient handheld radio.

The six winners are:

• Manuel Delgado, Crystaline Country Club (Llano, Calif.)
• Robert K. Ellis, Indian River Country Club (Vero Beach, Fla.)
• Doug Falk, Indian Springs Golf Course (Litchfield, Mo.)
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Sizing for Pressure

Excessive pressure in piping can be as much a problem as inadequate pressure. High pressure, usually the result of a pump station elevated above the rest of the irrigation system, can exceed pipe, valve and sprinkler pressure capacities and create a hazard with quick-coupler connections at lower points on the course.

Position and pressure requirements of all turf heads on the course are needed to determine output from the pump station. It takes energy to move water uphill, and additional pressure must be provided for irrigation water to reach the highest locations on a course. Under static conditions, every 2.31-foot change in elevation equals 1 psi in pressure. If the mainline goes up 2.31 feet, pressure's up 1 psi. If the mainline goes down 2.31 feet, pressure's up 1 psi. In extreme

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Matching your course with the right pumping station

By DAVID B. BECK

A properly designed pump station responds to the water demands of an irrigation system with little hesitation and minimal fluctuation in pressure and power consumption.

Every golf course is unique in its pump station requirements. Site factors like elevation changes, the location and elevation of the water source relative to the pump station and total irrigated area shape the individuality of pumping systems. Down the line, the number and type of sprinkler heads, as well as variations in pipe type, sizing and routing help to more precisely define pumping needs. Finally, the way the individual irrigation systems are operated from course to course and season to season clarify site-specific pumping requirements.

When sizing a pump station, all operational and system characteristics must be analyzed and coordinated to calculate a maximum expected flow rate and total pressure requirement. Pump stations should meet, but not significantly exceed, the capacity needs of the course. Excess flow capacity is money spent on horsepower that's never used, while the pump station consumes more power than is actually required. This excess pressure also unnecessarily stresses other system components and can lead to failures later.

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GCSAA reorganizes headquarters staff

LAWRENCE, Kan. — The Golf Course Superintendents Association of America (GCSAA) has announced a series of organizational changes in its departmen
tal and management structure. Among the key changes announced were:

• Establishment of a Public Affairs Department that includes government and public relations. Pat Jones, former GCSAA director of communications, will be director of public affairs and will handle public relations.

• Creation of a department focusing on GCSAA’s television projects and media relations. Michael Urban, former GCSAA sales manager, has been named publications manager to oversee this department.

• Development of a department focused on technology and management information systems (MIS) functions. Marc Lim, MIS manager, will be department leader.

• Re-focus of the Publications Department on the GCSAA’s magazine, Golf Course Management, other association publications and directories.

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Club of Paducah (Paducah, Ky.)

• Dan Higgins, Winchester Country Club (Winchester, Mass.)

The Freedom System retrofits to any of Rain Bird’s Maxi computer-based irrigation control systems. Through it, the superintendent can access any Maxi command- or schedule-based function like Turn On, Turn Off, Advance, Pause or Resume. The contest ran from August to October 1994. The contest winners were drawn out of a field of nearly 200 superintendents who entered by sending in a special card from a magazine ad. All entrants received a Rain Bird golf shirt.

SINGAPORE — Striving to keep superintendents in-tune with design changes and increasingly sophisticated electronics and software equipment, Flowtronex PSI is conducting pump station training and education programs all over the world.

The latest training session took place here and drew nearly 200 industry professionals from the People’s Republic of China, Malaysia, Thailand, Hong Kong.

“Our industry continues to evolve,” said Flowtronex PSI President Dave Brockway. “We’re becoming far more site-specific by crafting systems that address specialized course design needs. But technology alone will not address the challenges of today’s course professionals. Up-to-date information and quality service support also are required. That’s really what our training is all about.”

Greg Lush, the firm’s head of product development and educational products, said courses offered one intensive training covering pump station operation, maintenance and repair from electronic systems to hydraulic parts; computer-based irrigation control systems. Through it, the superintendent can access any Maxi command- or schedule-based function like Turn On, Turn Off, Advance, Pause or Resume. The contest ran from August to October 1994. The contest winners were drawn out of a field of nearly 200 superintendents who entered by sending in a special card from a magazine ad. All entrants received a Rain Bird golf shirt.

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