

# WHAT'S GOOD FOR THE SYSTEM?

...As in irrigation system. Water management is more sophisticated. Money and water savings can be yours with troubleshooting, auditing and monitors.

by Jack Simonds, contributing editor

**A**n irrigation system serves its purpose when the results are seen and the system's not heard.

When problems arise, grounds superintendents find themselves on the business end of troubleshooting.

As a green industry "major appliance," underground irrigation systems are only as good as their last season of service; and no one knows this better than irrigation designers and installers.

Water management is taking a front-and-center position in the 1990s, believes John Elliot of Irrigation Technologies in Temecula, Calif.

Irrigation Technologies, which concentrates on corporate landscaping irrigation, can analyze watering systems for weaknesses such as uneven water distribution because of improper head spacing, broken heads and underground water line breaks.

## Is an audit an answer?

"Water management" is an industry buzzword. The term takes in irrigation design, water scheduling and systems maintenance. A system analysis, or audit, is the first action one should take if a problem is suspected, Elliot maintains. Other firms around the U.S. agree.

Emerging from such an analysis can be one of those good news/bad news set-ups; but the punchline may not get a laugh. The good news might be that a thorough systems check finds a simple mechanical problem which can be overcome by replacing a widget. Life goes on and all is well with the world.

The bad news? The original irriga-



Lesco's John Dunlap: "New water distribution designs require less water pressure and electricity."

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—John Elliot  
Irrigation Technologies  
Temecula, Calif.

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tion system has significant design problems. Corrections will carry a heavier price tag.

"If you've got wet spots, dry spots, brown-outs, water bills that seem exceedingly high, you've got a real problem," Elliot says. "Audits like the ones we do are not real expensive and they can tell you where your problems are."

Using catch-can and other monitoring techniques, Irrigation Technologies auditors are able to de-

termine the effectiveness of a system. Elliot says soil types and the kinds of plantings being watered also factor into the equation.

## Sensors reduce waste

Regardless, Elliot has found one recurring error:

"Our opinion is that most people over-water by 100 percent or more."

Elliot's firm, like others in varying degrees of endorsement, recommends rain sensors. A \$20 investment, he says, can go a long way, if the device is installed and used correctly. But the science can be a sensitive topic within the industry.

"We recommend rain sensors," says Elliot, adding Irrigation Technologies is now in the process of testing different models.

"Trying to guess where to put them is a really sensitive subject. With rain sensors, you get credit for rain; the system shuts down automatically," Elliot offers; adding this caveat: "It gets very complicated very quickly."

Add, too, irrigation scheduling, which is dependent on the "W" word: weather.

## Trouble down below

John Dunlap, an irrigation specialist with Lesco, Inc. in Rocky River, Ohio, says common telltale signs—surface puddles and extraordinarily high water bills—usually mean the underground piping system is deteriorating.

"If water coverage is inadequate during long dry spells," advises Dunlap, "changes and upgradings in systems are likely needed. New sprinkler designs and layout configurations giving maximum coverage are now available."

*continued on page 66*

## All systems go

- If you suspect you're wasting water, have a water audit done ASAP.
- Wet spots, dry spots, brown-outs and astronomical water bills mean something's up down under.
- If water coverage is inadequate during long dry spells, changes and upgrades are likely needed.
- New sprinkler designs and configurations give maximum coverage using less electricity.
- Weather stations and moisture sensors can be retrofitted to older, still-servicable irrigation systems. □

ditions," Robbies says. He prefers weather stations and computerized watering controls, particularly when building a new system.

Too many moisture sensors would be needed on courses where terrain varies from shady to sunny, grassy to sandy, he says.

Robbies, who says 80 percent of his business is in golf course irrigation design or troubleshooting, points to some general guidelines course superintendents may use to find out if it's time to call in a systems analyst.

"The first thing to do is keep a record on the number of man-hours spent on repairs. How much time is spent dragging hoses around to dry spots?" he says. If these and other operating costs recur—particularly curiously high water bills—upgrading and renovating is in order.

His analysis includes seeking out and isolating underground water breaks.

"Is any of the existing pipe usable?" Robbies first asks.

Likewise, David Dynan, head of American Lawn Sprinkler in Norwood, Mass., looks to signs of stress in plant material, lowered or inadequate water pressure or sprinkler heads which simply and obviously are working.

### Plug it up early

Sometimes, Dynan says, small underground leaks build up over time, adding up to a major retooling job.

"From an analysis we may have recommendations of specifically what must be replaced," says Dynan.

Weather stations and moisture sensors can be installed where conditions dictate. He has retrofitted the monitoring devices to older, still-servicable irrigation systems.

"With the price of water so essential, it makes good common sense to use these simple devices," says Dynan.

He says golf course owners at times opt to make repairs piecemeal, blunting and spreading out costs; making upgrades where needed most and the capital improvement budget permits.

Like other irrigation consultants and installers, Dynan notes drought-resistant plantings are more a function of landscape designers.

Dynan also says some golf course work can be done during the season.

"Depending on the upgrading needed, you plan the logistics for major repairs so you obviously don't get in the golfers' way," says Dynan. Fall and early spring are ideal times, but other repairs along the periphery of the playing area may be made during peak season. **LM**

### IRRIG. from page 64

With new distribution designs requiring less water pressure, golf course superintendents and other landscape managers can look forward to significant electricity savings from the pumping station as well.

Newer head designs, grouped in clusters and emphasizing energy efficiency, may also help ease the cost of upgrading, industry specialists agree.

With an average golf course irrigation system running from \$300,000 and up and a typical 7,000 square foot

## New, energy efficient head designs may ease the cost of irrigation system upgrades

residential system hovering between \$2,000 and \$3,000, design and installation costs weigh heavily on the man holding the purse strings.

"All of those (factors) can be major considerations," says Dunlap, adding that computer controls and local weather stations and moisture sensors, where applicable, can only assist in maintenance ease.

### Keep play going

And what of making repairs or installations during the season?

Dunlap has seen two plans work: "either close the hole to play (with golfers taking a score based on par and handicap) or work around golfers by having repair crews effect repairs, stopping as foursomes pass through."

Dunlap says Lesco has offered training sessions for crews to efficiently work even as golfers play through a hole under repair. The trick is to be as unobtrusive as possible, and such plans of attack can only be used when conditions for the job permit.

### Weather stations for golf

Rick Robbies, an Englewood, Colo. landscape irrigation designer and installer, also uses rain or moisture sensors on some contracts, but generally doesn't include them on golf course irrigation plans.

"You'd have to have so many out there on the course to do an effective job," Robbies maintains.

"They (moisture sensors) work well in a commercial setting where you have the same contours and con-

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