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A WATER MANAGEMENT SUCCESS STORY

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UPDATE**

A Water-Management Success Story

By John Basanese

According to a recent study by the Contra Costa Water District, "... contract landscapers tend to be inefficient irrigators." A current report of the Santa Clara Valley Water District's Irrigation Technical Assistance Program (ITAP) also shows that although contractors rate high in system maintenance and efficiency, they tend to do poorly in the area of irrigation scheduling.

These types of findings led a city engineer in the Bay Area to give the following recommendation: "Conversion of your irrigation system from automatic to manual controls would probably help."

With these negative perceptions of the landscape maintenance contractor out there, it's good to point out that some companies not only do "good" water management, but are paving the way for the future of the industry. These exemplary companies are not holding some secret formulas for saving water while keeping sites healthy. They are simply:

- putting into practice basic concepts,
- learning from experience (not always success),
- measuring the results,
- continually refining their programs,
- and then repeating this process over and over till they get something that works.

We can all learn from watching what others have done. But we shouldn't try to just copy their successes. We should take their ideas and adjust them to fit our situations. Then with that as a head start, we can start the learning process without reinventing the wheel.

Jensen Landscape Services Inc.

A great place to start learning is to look at the program that Jensen Landscape Services Inc. in Cupertino



Kevin Pearson compares soil samples for actual moisture at various depths. Photos courtesy: John Basanese.

has developed during the past eight years. Its long-term commitment to the concept of water management has resulted in add-on contracts for 36 clients whose landscaped area exceeds 6.5 million square feet (150 acres). Even with the added cost of the program, upgrades and repairs, these clients have come out ahead with lower water bills and some other benefits.

The driving force behind all this is Scott McGilvray, 1986 San Francisco Bay Area Chapter president and principal at Jensen. McGilvray is truly a pioneer in the young field of landscape water management. He was on the original task force that put together the Model Water-Efficient Landscape Ordinance. He has taken the time to help many of us individually or through seminars during our first attempts at developing a water budget. His passion for doing it right, his practical "keep it simple" attitude and his refreshing willingness to share with anyone and everyone has made him one of the founding fathers of landscape water budgeting.

So what have McGilvray and his staff done that makes them worth looking at? In a nutshell, they have learned how to actually *sell* water management as an add-on service in such a way that the client saves money while getting a more intensively managed landscape. It's the "win/win" situation we often hear about but rarely experience. In the process,

Jensen Landscape enhances its client/company interaction, which in turn leads to a closer relationship, more opportunity to do upgrades and less chance of losing jobs to open bidding. This improved client relationship may be one of the most important benefits of the program.

John Moore and John Ossa are the key administrators of the program. They are not just office people, but work in the field and get their hands dirty. They recently invited me to see the company's operation from the inside. I was a guest at a mid-month water management meeting. Through Jensen's openness, I was able to get a picture of how they have succeeded over the years. The company's program is both simple and sophisticated. The simple parts like reading meters can easily be imitated by anyone who wants to get started. The sophisticated parts require trained personnel, computers, a high level of communication (which takes time) and the long-term commitment of the contractor to work through the many trials of starting something new.

A Human Central-Control System

As with a majority of the landscape contractors with whom I have spoken, most of Jensen's sites have stand-alone controllers. Central-control systems are still rare on commercial sites. So, Jensen has what I call a "human central-control system." McGilvray is at the center as the prime motivator. Don DeFever is the general manager and oversees the maintenance operations. He integrates water management into the regular services. Ossa and Moore do much of the number crunching, report generating and problem solving. Field horticulturists like Brock Lindsey and Kevin Pearson put the schedules into effect, monitor plant response and report back from the field. Then the rubber meets the road with the crew foremen and the crews. They do the real work ... trying to make the places look



John Ossa uses a remote valve actuator to fine-tune the irrigation system.

good under some tough water-budget restrictions.

Discussing the problems of tight water budgeting with Lindsey confirmed what I suspected: Site workers do not always appreciate managing the sprinkler systems "on the edge." It's much safer to over-apply, but they go along with the program because a site only really looks good if the numbers from the meter readings look as good as the plant material. Finally, reports of the water use are submitted to the client with comparisons to where the projections were. The successes and problems get attention right away.

Key Elements

The program is "real" budget driven. A real budget is hydrozone specific as opposed to a whole-site model like the Model Water-Efficient Landscape Ordinance. When a client signs up a site for the program, a water-volume budget for each hydrozone is put in place.

The budget requires finding square footage for each zone, locating the landscape meter, designating main plant types, sprinkler technology and evapotranspiration data (usually historical). A target volume-per-month based on a percentage of evapotranspiration is calculated per hydrozone. The total monthly volume projections for the site are added up and recorded as a real target to aim for. The object is not to see how far *under* you can be, but to get as close to the projected use as possible.

A mid-month projection is then used to see how well each site is doing based on weekly meter readings. If a site's use is way off, adjustments can be made before the final use total goes to the client. Often a skipped cycle can bring a site under budget even if it was too wet early in the month.

Most horticulturists have a background in ornamental horticulture and a

college degree. They also undergo in-house training, go to seminars, get CLCA certifications and go through the ITRC water audit course. They have a well-rounded grasp on the total picture and can integrate water management into the rest of the landscape management.

Detailed site data is kept in binders by the horticulturists and the administrators. Maps of valves are carefully drawn and color-coded by hydrozone. Base schedules are recorded and a log of seasonal changes is kept religiously. In most cases, volume-per-cycle is recorded for each hydrozone.

This is possible because Jensen sets run times to stay the same. The number of cycles per night and days per week change to fit the volume to the season. By keeping a tight rein on the run time, they experience less waste from runoff. Graphs and numbers comparing past use with current use are also a part of the binders. Sites with problems are regularly identified and given more attention.

An incentive is given to stay on budget. Each horticulturist has to give an account for his budget overages (or "underages") at monthly meetings and at review time. By the fierce dedication I saw on the sites I toured, I believe the incentive must be very strong. These managers treat water use as the key element of the site management.

Reports are sent to the client once a month showing how their sites are doing compared to the projected budget. Many site engineers appreciate the process of tracking water use and conserving water as a valuable resource. Once they are sold on the benefit of the program, they are more open to upgrades that will further improve the efficiency of the system. These reports also provide a basis for valuable discussions with the client. For instance, some may request you to go *over* budget in choice areas for a "lush" look and under budget in less critical areas like roadsides. In the water report, they see the real effect of such requests reflected in water volume and costs.

A year-end payback report showing costs and savings is a way to reward the client for having the foresight to hire a water-management service. As seen by the example of one of Jensen's best successes, dollar savings have been dramatic. Finally, a water-management



Pearson checks results of changes in irrigation schedules.

program takes time. Jensen gives its staff the time and support needed to do a good job.

Tools

To do the program, Jensen uses some important tools: Remote-control actuators are one of the most important tools they have to make fine adjustments to systems in the most efficient manner. Although the actuators cost around \$1,000 apiece, the company claims that they would not be without them and has about 15 sets. Soil probes and good observation of plant response are both critical to making any program work. They want to know what it's like in the rootzone.

Ossa made a good point that you have to aim at growing better roots to get healthier plants. Plants also give signs that must be considered. Water management cannot just be done on paper. Rain shut-off devices save water with very little manpower. Enhanced controllers help in setting up to four programs. Irrigation strategies are based on standard run times that are set by the time it takes until runoff. Changing schedules is done by changing the numbers of cycles per week rather than by adjusting run times.

Last, but not least, computers are a key part of Jensen's program. Massive amounts of data are gathered, stored, sorted and displayed easily with computer spreadsheets and databases. Lindsey created a spreadsheet that makes data input easy for the many reports and tables necessary to communicate clearly with clients and in company meetings. It also generates a variety of graphs that compare actual water use to estimated budgets. These visual displays of numbers are very useful in seeing a site's progress in a glance. Many people cannot relate to

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numbers all over a page. Graphs can be posted, put on overheads at meetings and kept in site binders. Without such a customized computer program, the labor to input, calculate and display the vast amount of data would be cost prohibitive. This is where computers become indispensable.

Benefits

Besides dramatic savings in water use, there have been serendipitous benefits. One client discovered that reduced water use led to fewer repairs in asphalt surfaces. This is a great potential for money savings since street repairs are costly. The amount of money saved by not having to redo a road is much greater than any water savings.

Static system losses account for a big percentage of water waste. Regular monitoring of the meters alerts a manager to these leaks. When brought to the attention of the client, they lead to extra work to repair, which, in turn, reduces the water bills.

Lessons learned on tightly managed sites can often be used in general ways



The landscape meter can be the most powerful tool in water management.

on regular sites. In this way the level of service of the whole company goes up with the experiences on the water management sites. Well-managed sites seem to have fewer weed and fungus problems.

The client saves money on water use, looks good as a conservationist and gets an intensely maintained site for nothing, since the costs of the program are usually compensated by water savings.

A proactive relationship with the

client is developed. Rather than waiting for problems to develop that demand attention, the program foresees problem areas and offers solutions. It's really a matter of paying up-front with a water management program or ending up paying later with high water bills and emergency repairs.

Jensen Landscape Services has succeeded in marketing commercial water management by persevering, constantly learning and refining its program, using its track record as a reference for potential clients and actually producing the results the company promises to deliver. There are no shortcuts or secrets. Those who want to work with Jensen to forge the way to a future of limited water will do the same. The key is like the shoe commercial says, "Just do it!" ♣

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