

Irrigation Consultations for Utility Customers in San Antonio, Texas

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Abstract. The San Antonio Water System's Conservation Department conducts over 2,000 residential and commercial irrigation focused consultations per year. A typical consult starts with a customer request for a conservation consultation. The consult itself consists of water meter reading, review of controller program, system maintenance issues, calculation of gallons per minutes (gpm) per irrigation zone, landscape assessment, and a review of applicable SAWS irrigation design rebates. At the end of the visit a consultation report is left with the customer. The report highlights any found maintenance/repair issues with the recommendation that they be repaired by a license irrigator. In addition the customer is given a recommendation for a more efficient watering schedule. This presentation will focus on the typical findings made by staff and on the documented savings achieved from a consultation which is an average of 25,000 gals/year.

Keywords. Conservation, irrigation consultation, checkups, irrigation design, utility, rebates, water savings

For more than a century, the Edwards Aquifer has supplied San Antonio, Texas with pure spring water. In the early '90s, the Federal courts and the Texas Legislature established limits on this primary water supply. After years of discussion and inaction, the community united to address critical water supply issues. So how does a community change from water careless to water careful? Water conservation was immediately identified as one of the ways to address both short- and long-term water needs.

With a service population now reaching approximately 1.6 million people, The San Antonio Water System (SAWS) from the beginning recognized that a significant community ownership of conservation in San Antonio was required for program success.

San Antonio has made significant progress in reducing per capita water use from a high of 225 gallons a day in the mid-1980s to a dry-year low of 136 gallons a day. But challenges still remain particularly outdoor water use.

The Challenge

Landscape water use accounts for 25 percent of annual water use in San Antonio and up to 50 percent in the summer. Customers with automatic irrigation systems are consistently among the highest water users in the SAWS service area. Strategies for reducing outdoor water use must include ongoing and consistent education both for homeowners and professional landscapers.

The Solution

In addition to general public outreach and other water conservation incentives, SAWS offers WaterSaver Irrigation Checkups. This free service assists customers one-on-one with reducing their landscape water use. Most customers find out about this service via the SAWS website and through conservation outreach events.

The primary goal is to:

- Check controller for number of program start times and number of minutes per zone.
- Identify each zone type: Spray, rotor, drip, or bubbler. Is there mixed design?
- Identify plant type by zone, grass vs. flower beds. And by site conditions, shade vs. sun. Check if program is appropriate for the landscape.
- Run each irrigation zone to identify design and maintenance issues with system: broken heads, clogged, not vertical, sunken, blocked, high or low pressure and overspray to impervious areas that contribute to water waste.
- Estimate gallons per minute (gpm) used per zone using water meter reads. This information is then used to estimate the total gallons of water used per cycle, per week and per month.
- Make recommendations on landscape practices and irrigation equipment as necessary to promote efficiencies that result in water savings.
- Give the customer educational material, as well as make them aware of all conservation incentive programs.

At the end of the consultation a copy of a form filled with notes gathered during the checkup is left with the customer. In it are all the findings of the types of issues listed above. The homeowner can make the necessary adjustments and/or repairs themselves or they can use the report to present to a licensed irrigator to do the work.

If design changes are recommended by the conservation consultant the customer is informed of SAWS' Irrigation Design Rebate they can apply for to make their irrigation system more efficient. For example, the customer can convert a popup spray zone to drip for a flower bed, or split a zone to beds and turf. Additionally, the customer is informed of other landscape related rebates SAWS may have available to help them create a more water saving landscape.

The information gathered during the consult is also used to explain the impact of irrigation water use on the customer's water bill giving them a better understanding of the difference between indoor and outdoor consumption. Lastly, if the consultant finds that the homeowner has been overwatering their landscape they are given a recommended watering schedule based on the consultation findings. If they agree with the recommendations and give permission the consultant makes the appropriate scheduling changes to the controller.

Checkup findings in San Antonio, Texas:

- Predominately, homes have drought-tolerant landscapes.
- Controllers are not programmed appropriately for plant material. Typically each zone is programmed with the same run times with little to no consideration given to plant material and site conditions.

- Inappropriately maintained or designed irrigation systems for their landscape.
- Controller intimidation. Typical customer finds controllers too difficult to program thus over programming without intention.
- Customer disconnection to landscape/irrigation system and reliant on landscapers and/or irrigators for programming. Customers are constantly asking conservation consultants to recommend an irrigation professional.
- Awareness of legal responsibility. In San Antonio all irrigation systems must have a working rain sensor. It is sometimes found bypassed or broken. Programs are sometimes found to be in violation of local year round watering rules or of drought restrictions when in effect. Some are unaware that allowing water to run off onto the street due overspray or that failing to repair a controllable leak, such as a broken head, is considered water waste and in violation of local ordinance.

The WaterSaver irrigation checkup usually takes about one hour, but the savings have proven to be substantial. Since 2000, this program has assisted more than 5,000 individual homeowners with irrigation systems saving an average of over 25,000 gallons of water per year. Though labor intensive, this program has proven to be one of SAWS' most effective programs.