

CASTLE HILLS COMMUNITY PROJECT SPOTLIGHT

DENTON COUNTY FRESH WATER SUPPLY DISTRICT #1A

LEWISVILLE, TEXAS



ISSUES FACED

- High water consumption related to landscape irrigation
- Demand/pressure of potable water system during peak summer months
- Operating Costs: Water, Timer adjustments, System Maintenance.
- Water stewardship to public



BACKGROUND

- Due to remarkable growth in the community, the District struggled to keep up with demand during the peak landscape irrigation summer months, resulting in poor pressure for residential consumers. The District began to evaluate alternative water sources and demand reduction alternatives. Prior to engagement, the District retained a professional Civil Engineering firm to evaluate and design a reclaimed water system as an alternative source and reduced consumption costs for the community's 80 acres of irrigated landscape, medians, parks and boulevards. The projected project cost was in excess of \$3.8M, before repair of residential landscapes impacted by the construction.
- Once Engaged, WaterCentric's review of the proposed reclaimed plan identified a catastrophic flaw; the reclaimed source was Type II effluent, which is prohibited for use in landscapes that are accessible by the public. WaterCentric accumulated and evaluated the 94 potable water irrigation meter historic consumption data, modeled landscape water requirements and developed an alternative water source plan to reduce capital cost by 85% and potable consumption 82% overall.

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CONTRACTED SERVICES

Smart Irrigation Management System
Irrigation Inspections
Residential Smart Yard Program

Fixed-Budget Irrigation Maintenance
Non-Potable Pump System Management
Aeration Fountain Maintenance

RESULTS

The District approved recommended strategy of investing in the highest water recovery opportunities in Phase I to self-generate funds for full plan implementation in two additional phases over a twenty-four-month period.

- Smart Irrigation Management & Alternative Source-Phase I, II & III Implementation of three amenity pond raw water pump systems and eighteen smart irrigation controls with flow meter and remote valve control documented a three-year 20,462,280-Gal reduction, saving the District \$440,892 in wholesale water purchase reductions during the warmest, and driest summer in North Texas history (84.1% reduction). With Phase III completion in June 2017 the program is projected to sustain a 72,152,000 Gal/ year reduction in potable landscape irrigation water demand.
- Irrigation Inspections –WaterCentric delivers the latest Green Vehicle, GPS mapping, cloud-based data, water loss calculator and ROI estimate to the District to assure prioritized focus to irrigation system operation and efficiency.
- Fixed Budget Irrigation Maintenance -Following a budget-buster year of system repairs caused by exceptionally wet and exceptionally dry weather, the District contracted WaterCentric to inspect, prioritize and repair the irrigation system reducing operating costs 60%.
- Smart Yard Incentive Program –To enhance water stewardship image, the District provides a \$200 per residence incentive for irrigation system audit and smart irrigation control installation. WaterCentric provides all of the marketing and customer contact and billing for The District to assure program success.
- Non Potable Pump System Management –The District relies on WaterCentric’s remote monitoring and management of the non-potable pump systems to detect pump operational issues, energy management, leak detection and allocation of water to the community.