



Smart Irrigation Controllers

City of West University Place

April 10, 2025

Executive Summary

Background Information

The City of West University Place sought to replace our previous irrigation system which consisted of Rainbird and Hunter Industries controllers that are between 1 and 10 years old, and with our 19 locations it covers approximately 7.13 acres.

Project Purpose

In June of 2021 our City Council approved the creation of a Sustainability task force, citizen-run group, which would be responsible for identifying financially responsible environmental stewardship strategies, initiatives, and programs to eventually be considered by the City Council during the city's annual budget process. After a four-month term the task force presented their sustainability report to Council in January of 2022, and in that report, it was recommended to consider smart irrigation systems for both residential and municipal water use. In the alignment with the task force's mission "Building on decades of environmental leadership, West University is determined to prioritize sustainability, implementing policies and programs to advance our commitment to reducing greenhouse gas emissions, waste, and our energy and water use," the City desired to transition to a smart irrigation system.

Introduction

Product/Equipment Information

The Weathermatic system includes three key features, the smart controller, sensors, and a cloud-based software application. The smart controller will allow the creation of custom settings to optimize watering automatically based on plant type, soil type, slope, geography, and sun exposure while patented diagnostics monitor system operations. On-site, local weather conditions are monitored using weather sensors that would adapt to the City's microclimate and we will be opting to add flow sensors that detect leaks and breaks. The software application provides internet cloud-based connectivity which enables transmission of alerts, remote monitoring, and programming changes to avoid overwatering and poor maintenance. Weathermatic performed a water use analysis for Colonial Park, which is home to one of the City's largest greenspaces and would be estimated at a 35% savings using smart irrigation technology. Taking that 35% estimate and applying it to the rest of our irrigation areas, the implementation of a smart irrigation system will allow the City of West University Place to save approximately \$42,000 and 3.8 million gallons annually.

See Weathermatic water use analysis report and 35% savings estimate below.



Colonial Park City of West University Place

4130 Byron St

Houston, Texas 77005

Smart Irrigation Proposal

July 12, 2023

Weathermatic Headquarters
3301 W. Kingsley Rd.
Garland, TX 75041

Executive Summary

In support of City of West University Place's sustainability and cost savings goals for Colonial Park, Weathermatic is pleased to present the enclosed proposal for your review and consideration.

Smart Irrigation Program

Weathermatic is the world's leading smart irrigation services provider with more than 600,000 installations worldwide and 10 years of audited results across leading Fortune 500s, national property managers, and hundreds of public institutions. Summarized below are specific ways we help meet your goals for saving water and money while achieving regulatory compliance and preserving landscape assets. We leverage our market leading people, process, and technology to your strategic advantage, drawing on our more than 77-years in business as innovators and experts in irrigation technology and services.

- **24/7/365 Full Control** – Simple, remote programming for special city events, emergencies, extreme weather events (tropical storms, hurricanes, freezes), and future water restrictions (time of day/day of week) is an essential and increasing requirement for sustainable institutions
- **Water & Cost Savings** – Weathermatic is ready to help you economize on water consumption and expenses by 20 – 50+% over standard watering through optimization of controller scheduling and enhanced maintenance practices using cloud-based technology and easy to use monitoring dashboards
- **Landscape Asset Preservation** – Using learning, adaptive technology for irrigation scheduling combined with visibility and monitoring of electrical and hydraulic status produces resilient and healthy landscapes
- **Cost Avoidances & Productivity Gains** – Exclusive fixed cost of ownership warranty and savings are generated through reduced landscape replacement, improved hardscape durability, and additional value and time savings generated by grounds and landscape service professionals
- **Integrated Technology and Support** – We enable full city program management and professional support services from our Texas based team for a seamless, integrated solution to optimize your smart irrigation program utilizing proven equipment:
 - Industry-leading SmartLine controller, to calculate actual watering needs based on soil type, plant materials and slope for each individual irrigation zone
 - SmartLine on-site weather station to adjust watering based on weather conditions on the actual property's microclimate
 - SmartLink Aircard to allow two-way communication and remote water usage monitoring and adjustment to ensure your sustainability, compliance, and cost savings goals are achieved.
- **Stewardship & Community Engagement** – Weathermatic donates a lifetime supply of clean water for each control system upgraded (1 for 1) to help solve the global water crisis around the globe through our Save Water | Give Life cause. A specific 3rd world community in need will receive the gift of clean water as a direct result of the completion of your program. Weathermatic will provide a community report with details on the community with photos of the people served. Citizens have the opportunity to engage in the water conservation and participate in resulting water well drilling in Central America.



Colonial Park

Weathermatic Sustainability Services Proposal

Weathermatic Solution

Our Process



Plan



Prioritize



Upgrade



Train



Monitor &
Inspect

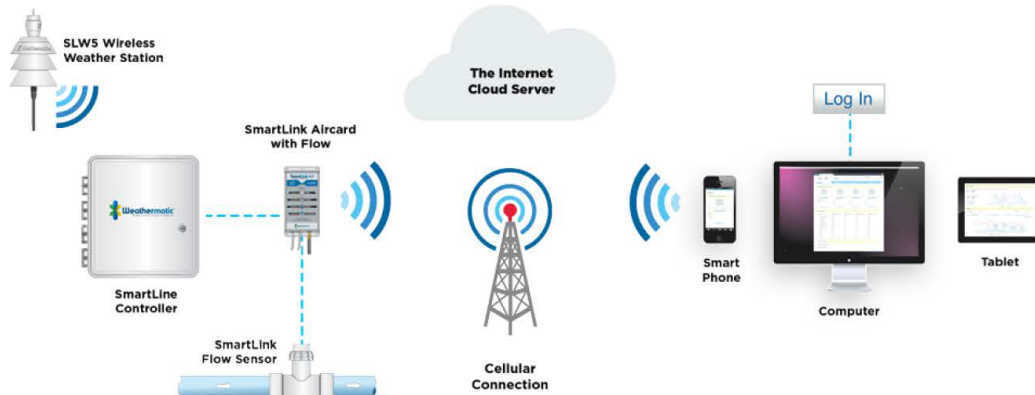


Report

Our Technology

- Smart Controller - Custom settings optimize watering automatically based on plant type, soil type, slope, geography and sun exposure while patented diagnostics monitor system operations.
- SmartLink Software Application - Internet cloud based connectivity enables transmission of alerts, remote monitoring and programming changes to avoid overwatering and poor maintenance.
- Sensors - On-site, hyperlocal weather conditions are monitored using the SmartLine Weather Sensor that adapts to your microclimate. Optional flow sensor detects leaks and breaks.

HOW IT WORKS



Key Weathermatic Advantages

Ease of Use	Professionals enjoy the mobile app and simplicity of remote control and programming
Warranty	Lifetime of service warranty includes lightning, theft, vandalism, technology obsolescence
Diagnostics	Patented valve locator and multimeter included with 20+ remote alert types
Economical	Gain full control with speed and affordability as part of the largest network of connected irrigation control systems (600,000+)
Training & Support	Weathermatic is a Texas based company with a support network for thousands of installations in Houston and in university systems like Texas A&M.
Accountability	Weathermatic internally manages project scheduling, installation, and project reviews for direct communication and accountability.



Colonial Park

Weathermatic Sustainability Services Proposal

Water Use Analysis and Projected Savings

An analysis was performed for the property or properties that considered the amount of irrigated acreage and estimated plant need based on the regional rate of evapotranspiration (ET). Based on this analysis, it is estimated that irrigation sustainability technology and practices will save 832,994 gallons in the first year and \$6,340 per year in water and \$0 sewer expenses alone. Payback Period assumes a one year pilot and is based on the first year total costs.



Irrigated Acres: 1.88

Controllers: 3

Average Water/Sewer Rate per Kgal: \$7.43

Water Savings Analysis				
	Gallons	Dollars (Water Only)	Dollars (Sewer Only)	Dollars Total
12-Month Usage History:	2,403,867	\$17,851	\$0	\$17,851
Approximate Plant Need:	1,570,873	\$11,510	\$0	\$11,510
Annual Savings:	832,994	\$6,340	\$0	\$6,340
% of Savings Opportunity:	35%	36%	0%	36%
Other Savings Analysis				
Avoidance of Landscape/Hardscape Repairs ¹				\$900
Productivity Gains from Landscape Contract ²				\$3,000
Employee Time Savings (LMC Oversight, Training, etc.) ³				\$600
Annual Other Savings:				\$4,500
Total Annual Savings Projected:⁴				\$10,840

1. Includes damage to hardscape surfaces such as parking lots and sidewalks, which over time leads to degradation of surfaces, cracks, pot holes and other repairs. Also includes dead landscape resulting from over/under watering.
2. Includes in-scope work performed by landscape maintenance contractors (LMCs) which otherwise would not be performed.
3. Includes work order submission, landscape maintenance contractor performance, visibility into site conditions (which avoids site visits), and on-boarding new staff on smart irrigation program
4. Services are a critical component of achieving savings relative to baseline water usage. Repairs are identified, water savings is documented, and site conditions are monitored daily to help ensure savings is achieved.



Estimated Water Conservation

12-month time frame: 7/31/23 - 7/31/22

Total 12-Month Usage(in gallons):

10,864,460

Total 12-Month Cost:

\$121,895.09

Total Savings in Gallons:

3,802,561.00

Total Savings in Dollars:

\$42,484.70

Estimating 35% savings:

12 month usage x .35

Estimating Dollar Amount:

Water Only Meters

Cost per 1,000 gallons*

First 7,500 gallons (0 to 7,500)

\$6.63

Next 7,500 gallons (7,501 to 15,000)

\$8.54

Each 1,000 gallons thereafter (over 15,000)

\$11.35

***these rates reflect a 6%
increase for 2024**

Formula:

$((7500/1000)*6.63)+((7500/1000)*8.54)+((12\text{-month usage} - 15000)*11.35)$

Colonial Park**	Gallons	Dollars
12-month Usage	2,570,626	\$29,127
35% Savings of 12-month Usage	899,719.10	\$10,157.63

City Hall	Gallons	Dollars
12-month Usage	118,761	\$1,291.72
35% Savings of 12-month Usage	41,566.35	\$415.36

Communtiy Building	Gallons	Dollars
12-month Usage	890,983	\$9,309
35% Savings of 12-month Usage	311,844.05	\$3,484

Friends Park	Gallons	Dollars
12-month Usage	333,417.00	\$3,728.63
35% Savings of 12-month Usage	116,695.95	\$1,268.28

Huffington Park	Gallons	Dollars
12-month Usage	954,246	\$10,776.65
35% Savings of 12-month Usage	333,986.10	\$3,735.09

Hughes Park	Gallons	Dollars
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12-month Usage	738,300	\$8,325.10
35% Savings of 12-month Usage	258,405.00	\$2,877.04

Judson Park	Gallons	Dollars
12-month Usage	629,296	\$7,087.62
35% Savings of 12-month Usage	220,253.60	\$2,443.93

Liberty Hill	Gallons	Dollars
12-month Usage	242,801	\$2,699.90
35% Savings of 12-month Usage	84,980.35	\$908.22

Public Works	Gallons	Dollars
12-month Usage	1,752,472	\$19,838.59
35% Savings of 12-month Usage	613,365.20	\$6,906.77

Rec Center	Gallons	Dollars
12-month Usage	2,035,170	\$23,047.95
35% Savings of 12-month Usage	712,309.50	\$8,030.04

Scout House	Gallons	Dollars
12-month Usage	2,551	\$16.90
35% Savings of 12-month Usage	892.85	\$5.92

Whitt Johnson Park	Gallons	Dollars
12-month Usage	1,053.00	\$6.98
35% Savings of 12-month Usage	368.55	\$2.44

Wier Park	Gallons	Dollars
12-month Usage	184,533	\$2,038.40
35% Savings of 12-month Usage	64,586.55	\$676.70

University Medians	Gallons	Dollars
12-month Usage	410,251	\$4,600.89
35% Savings of 12-month Usage	143,587.85	\$1,573.57

Methodology

Project Description

In June of 2024, we started installing the new smart irrigation controllers and evaluating the current systems in preparations for installing the flow sensors and any other equipment necessary to get the smart irrigation system online. By the end of June, the contractor had installed all the new controllers and began working on installing the flow sensor and going through the zones for any issues that need to be corrected. By October of 2024 all new equipment (controllers, master valves, weather stations and flow sensors) had been installed and worked on making any necessary repairs that were detected. Once the repairs were made, the contractor returned to complete a final flow analysis to verify that all repairs were successful, no new ones came up. Our smart irrigation project was complete in February of 2025.

Project Plans and Implementation

Timeline

September 25, 2023 – Submitted grant application.

January 25, 2024 – Received notice of selection for grant.

February 2024/March 2024 – Staff solicited formal bids for Smart Irrigation System for facilities, parks and beautification areas in the City of West University Place. The bid was advertised, and a non-mandatory pre-bid conference was held on February 22, 2024, with one vendor attending. On Thursday, March 7, 2024, two bids were received.

April 22, 2024 – The recommended bid was presented before City Council. It was approved at this meeting.

June 2024 – Install of equipment began.

July 24, 2024 – Water Conservation program Coordinator visited West University Place for site visits.

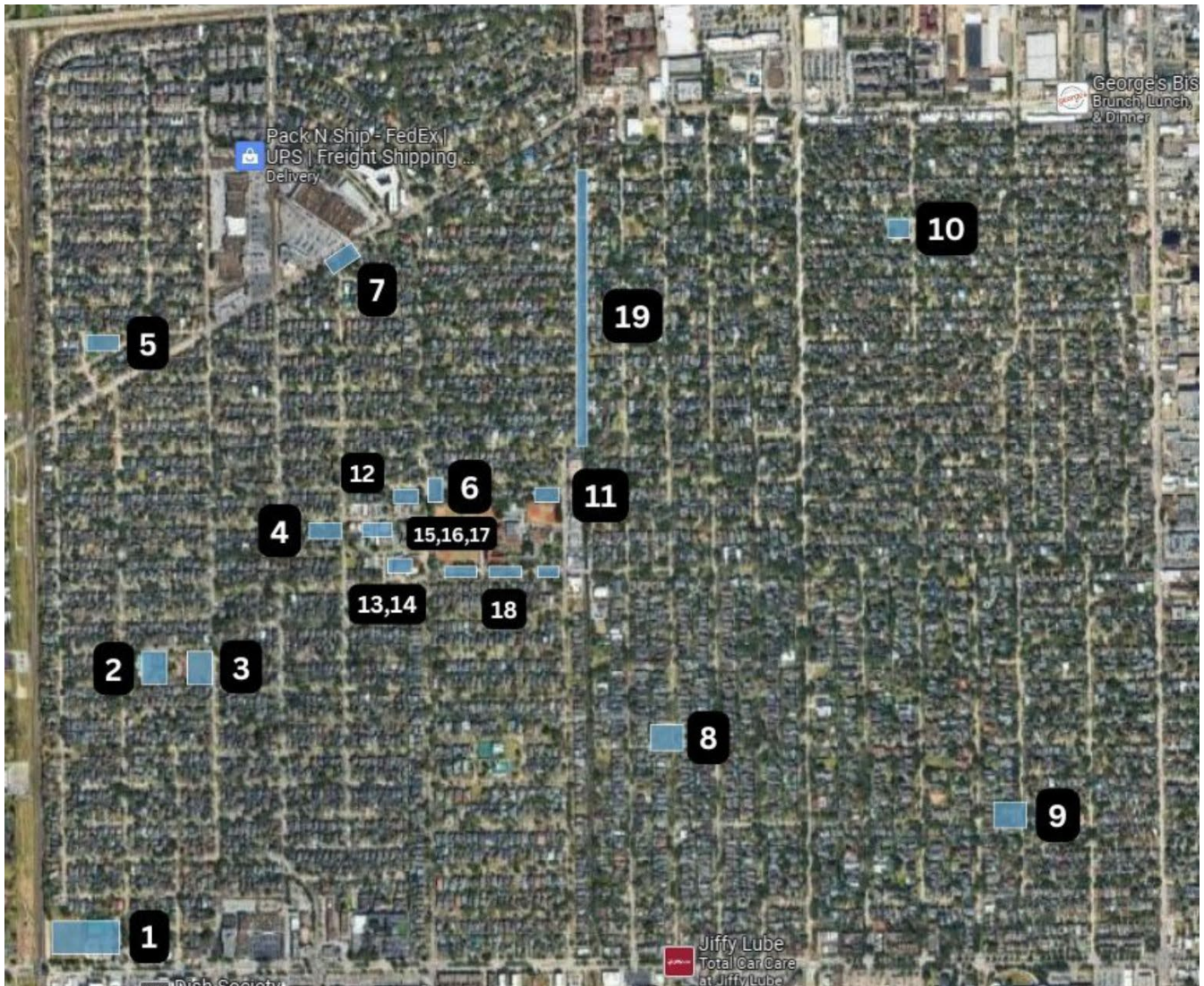
August 9, 2024 – Submitted 1st Quarter report.

October 2024 – Equipment was finished being installed. Made any necessary repairs before Weathermatic did another assessment.

October 2, 2024 – Submitted 2nd Quarter report and 5-year water usage report.

February 2025 – Project was completed.

There were 19 sites that received new controllers, master valves, weather stations and flow sensors. See locations below.



1. West U Recreation Center: 4210 Bellaire Blvd
2. Colonial Park: 4130 Byron St
3. Colonial Park East: 4145 Case St
4. Huffington Park: 6100 College St
5. Judson Park: 5700 Simmons St
6. Friends Park: 3777 Rice Blvd
7. Liberty Hill Park: 3900 Northwestern/College St
8. Jenny Hughes Park: 6446 Sewanee ST
9. Whitt Johnson Park: 6540 Wakeforest St
10. Wier Park: 5500 Belmont (3012 Nottingham) ST

11. Scout House: 6108 Edloe St
12. Community Center: 6104 Auden St
13. City Hall - PD: 3800 University Blvd
14. City Hall - Fire: 3800 University Blvd
15. PW - Water Tank: 3825 Milton St
16. PW - IT: 3825 Milton St
17. PW - Breakroom: 3826 Amherst St
18. University Medians: 3700 University Blvd
19. Edloe Pathway: Starts at 3700 Block of Georgetown St to 3700 block of Albans Rd

Results

Data Collected

The data below is from a time period of January 2024 through February 2025. A full 5-year water usage report will be attached with this report.

Water Usage Summary		
*Time frame with smart irrigation installed		
Public Works Breakroom		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	40,434	9,580
Public Works IT		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	32,294	41,435
Public Works Water Tank		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	734,677	1,103,005
Recreation Center		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	531,681	529,189
City Hall PD		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	2,307,220	101,760
City Hall FD		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	4,676	1,364
CB - Seniors		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	139,275	109,533
CB - West Building		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	222,273	86,207
Colonial Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	1,071,920	807,175
Judson Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	29,112.00	223,893
Wier Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*

Consumption	149,603	104,926
Liberty Hill		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	65,471	47,585
Huffington Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	206,570	248,133
Friends Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	84,757	74,700
Jennie Hughes Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	190,623	310,737
Whitt Johnson Park		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	775	384
Scout House		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	15,619	43,871
University Medians		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	155,136	99,052
Edloe Pathway		
Dates	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Consumption	No data	33,181
	1/31/2024 - 7/31/2024	8/31/2024 - 2/28/2025*
Total Consumption	5,982,116	3,975,710
Consumption Savings	34%	

Conclusion

Data Interpretation and Water Conservation Efforts

From January 2024 – July 2024, 7 months before the smart irrigation system was installed the city used 5.9 million gallons of water. From August 2024 to February 2025, where the smart irrigation system was installed and operational we used 3.9 million gallons of water, which is around a 34% savings. It is estimated that at the year mark of having the smart irrigation system we will have met out 35% water savings goal.

One of the main challenges I faced during the project was making all the necessary corrections to the existing irrigation system to ensure everything was optimized for Weathermatic to enter their calculations. In hindsight, I would have completed a full inspection and made all necessary repairs beforehand, which would have reduced the number of adjustments required after the system was installed.

The Recycling and Solid Waste Reduction Board (RSWRB) have recently evaluated opportunities to add sustainability programs to the duties and responsibilities of the Board which include water conservation programs. This new responsibility will have them exploring strategies to reduce water usage and promote sustainable practices among residents. The RSWRB also references the city's successful implementation of Smart Water Irrigation systems in its parks and greenspaces as a model example for residents to incorporate in their own homes.

Recommendations or Future Plans

We will be updating our Parks & Recreation Department's Standard Operations Manual to require that all future city irrigation systems incorporate the smart irrigation equipment used in this project.