RESOLUTION NO. 2011-199

A RESOLUTION BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, APPROVING THE TERMS, PROVISIONS, CONDITIONS, AND REQUIREMENTS OF A COST SHARE AGREEMENT BETWEEN ST. JOHNS COUNTY, FLORIDA, AND THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, FOR THE WATER CONSERVATION COST SHARE PROGRAM FOR A RELIABILITY AND PERFORMANCE TESTING OF NEW LANDSCAPE IRRIGATION TECHNOLOGY, AND AUTHORIZING THE CHAIRMAN OF THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA TO EXECUTE THE AGREEMENT ON BEHALF OF ST. JOHNS COUNTY

WHEREAS, the waters of the state of Florida are among its basic resources and it has been declared to be the policy of the Legislature to promote the conservation, development, and proper utilization of surface and ground water; and

WHEREAS, the District has determined that providing cost-share funding to Recipient for the purposes provided for herein will benefit the management of the water resources; and

WHEREAS, the parties have agreed to jointly fund the following project to benefit the water resources in accordance with the funding formula further described in the Statement of Work, Attachment A (hereafter "the Project"). The St. Johns County Utility Department shall install up to 150 remotely monitored smart irrigation controllers with moisture sensors into existing homes and monitor usage for a period of three (3) years in accordance with Attachment B, Application. The new system and turf conditions will be evaluated against previous water use and conditions.

WHEREAS, the Cost Share Agreement between the County, and the District establishes the rights, duties, and responsibilities of both the County and the District with respect to conducting the Scope of Work noted in the Agreement; and

WHEREAS, the County has reviewed the terms, provisions, conditions, and requirements of the Cost Share Agreement (attached hereto, and incorporated herein); and

WHEREAS, the County has determined that accepting the terms of the Cost Share Agreement, and entering into said Agreement will serve the interests of the County.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF ST. JOHNS COUNTY, FLORIDA, AS FOLLOWS:

Section 1. The above Recitals are hereby incorporated into the body of this Resolution, and are adopted as Findings of Fact.

Section 2. The Board of County Commissioners hereby approves the terms, provisions, conditions, and requirements of a Cost Share Agreement between St. Johns County, Florida, and the St. Johns River Water Management District, and authorizes the Chairman of the Board of County Commissioners of St. Johns County, Florida to execute the Cost Share Agreement on behalf of St. Johns County.

Section 3. To the extent that there are typographical and/or administrative errors that do not change the tone, tenor, or concept of this Resolution, then this Resolution may be revised without subsequent approval by the Board of County Commissioners.

PASSED AND ADOPTED by the Board of County Commissioners of St. Johns County, Florida, this 19th day of July, 2011.

BOARD OF COUNTY COMMISSIONERS OF
ST. JOHNS COUNTY, FLORIDA

Attest:
Pam Hatterman
Deputy Clerk

By:
Joseph "Ken" Bryan, Chair

RENDITION DATE 7/21/11

**WATER CONSERVATION COST-SHARE AGREEMENT
BY AND BETWEEN THE
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
AND ST. JOHNS COUNTY UTILITY DEPARTMENT**

THIS AGREEMENT is entered into by and between the GOVERNING BOARD of the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT ("the District"), whose address is 4049 Reid Street, Palatka, Florida 32177, and ST. JOHNS COUNTY UTILITY DEPARTMENT, whose address is 1205 SR 16, Box 3006, St. Augustine, Florida 32085 ("Recipient"). All references to the parties hereto include the parties, their officers, employees, agents, successors, and assigns.

WHEREAS, the waters of the state of Florida are among its basic resources, and it has been declared to be the policy of the Legislature to promote the conservation, development, and proper utilization of surface and ground water; and

WHEREAS, pursuant to chapter 373, Fla. Stat., the District is responsible for the management of the water resources within its geographical area; and

WHEREAS, the District has determined that providing cost-share funding to Recipient for the purposes provided for herein will benefit the management of the water resources; and

WHEREAS, the parties have agreed to jointly fund the following project to benefit the water resources in accordance with the funding formula further described in the Statement of Work, Attachment A (hereafter "the Project"). The Recipient shall install up to 150 remotely monitored smart irrigation controllers with moisture sensors into existing homes and monitor usage for a period of two (2) years in accordance with Attachment B, Application. The new system and turf conditions shall be evaluated against previous water use and conditions.

NOW, THEREFORE, in consideration of the aforesaid premises, and the funding assistance hereinafter specified, Recipient agrees to perform and complete the activities provided for in the Statement of Work, Attachment A. Recipient shall complete the Project in conformity with the contract documents and all attachments and other items incorporated by reference herein. This Agreement consists of all of the following documents: (1) Agreement, (2) Attachment A- Statement of Work, (3) Application, and (4) all attachments, if any. The parties hereby agree to the following terms and conditions.

1. **TERM; WITHDRAWAL OF OFFER.**

   (a) The term of this Agreement is from the date upon which the last party has dated and executed the same ("Effective Date") until May 31, 2014 ("Completion Date"). Recipient shall not commence the Project until any required submittals are received and approved. Recipient shall commence performance within fifteen (15) days after the Effective Date and shall complete performance in accordance with the time for completion stated in the Statement of Work. Time is of the essence for every aspect of this Agreement, including any time extensions. All provisions of this Agreement that by their nature extend beyond the Completion Date shall survive the termination or expiration of this Agreement.

   (b) This Agreement constitutes an offer until authorized, signed and returned to the District by Recipient. This offer terminates sixty (60) days after receipt by Recipient.

2. **DELIVERABLES.** Recipient shall fully implement the Project, as described in the Statement of Work, Attachment A. Recipient is responsible for the professional quality, technical accuracy,

and timely completion of the Project. Both workmanship and materials shall be of good quality. Unless otherwise specifically provided for herein, Recipient shall provide and pay for all materials, labor, and other facilities and equipment necessary to complete the Project. The District's Project Manager shall make a final acceptance inspection of the Project when completed and finished in all respects. Upon satisfactory completion of the Project, the District will provide Recipient a written statement indicating that the Project has been completed in accordance with this Agreement. Acceptance of the final payment by Recipient shall constitute a release in full of all claims against the District arising from or by reason of this Agreement.

3. **OWNERSHIP OF DELIVERABLES.** Unless otherwise provided herein, the District does not assert an ownership interest in any of the deliverables under this Agreement.

4. **AMOUNT OF FUNDING.**

(a) For satisfactory completion of the Project, the District agrees to provide cost sharing up to an amount not to exceed $150,000. The District cost-share is not subject to modification based upon price escalation in implementing the Project during the term of this Agreement. Recipient shall be responsible for payment of all costs necessary to ensure completion of the Project. Recipient shall notify the District's Project Manager in writing upon receipt of any additional external funding for the Project not disclosed prior to execution of this Agreement.

(b) **In-Kind Services**. Recipient agrees to provide $248,126 in the form of matching funds, in-kind services, or both, for this project. If Project costs exceed the estimated Project cost so as to reach the not-to-exceed amount of the District cost-share, then Recipient shall provide any additional funding required to complete the Project. If the Project is cancelled by Recipient prior to completion, Recipient shall reimburse the District all funds received from the District pursuant to this Agreement. Recipient's in-kind labor services (i.e. labor from Recipient) will be calculated based upon the base salary times a 1.5 fixed multiplier.

5. **PAYMENT OF INVOICES.**

(a) Recipient shall submit quarterly itemized invoices by one of the following two methods: (1) by mail to the St. Johns River Water Management District, Director, Division of Financial Management, 4049 Reid Street, Palatka, Florida 32177, or (2) by e-mail to acctpay@sjrwmd.com. The invoice shall be submitted in detail sufficient for proper pre-audit and post-audit review. Recipient shall be reimbursed for fifty percent (50%) of approved costs until the not-to-exceed amount of the District's cost-share has been expended. If necessary for audit purposes, Recipient shall provide additional supporting information as required to document invoices.

(b) **End of District Fiscal Year Reporting**. The District's fiscal year ends on September 30. Irrespective of the invoicing frequency, the District is required to account for all encumbered funds at that time. When authorized under the Agreement, submittal of an invoice as of September 30 satisfies this requirement. The invoice shall be submitted no later than October 30. If the Agreement does not authorize submittal of an invoice as of September 30, Recipient shall submit, prior to October 30, a description of the additional work on the Project completed between the last invoice and September 30, and an estimate of the additional amount due as of September 30 for such Work. If there have

been no prior invoices, Recipient shall submit a description of the work completed on the Project through September 30 and a statement estimating the dollar value of that work as of September 30.

(c) **Final Invoice**. The final invoice must be submitted no later than forty-five (45) days after the Completion Date; provided, however, that when the Completion Date corresponds with the end of the District's fiscal year (September 30), the final invoice must be submitted no later than thirty (30) days after the Completion Date. **Final invoices that are submitted after the requisite date shall be subject to a penalty of ten (10) percent of the invoice. This penalty may be waived by the District, in its sole judgment and discretion, upon a showing of special circumstances that prevent the timely submittal of the final invoice. Recipient must request approval for delayed submittal of the final invoice not later than ten (10) days prior to the due date and state the basis for the delay.**

(d) All invoices shall include the following information: (1) District contract number; (2) District encumbrance number; (3) Recipient's name and address (include remit address, if necessary); (4) Recipient's invoice number and date of invoice; (5) District Project Manager; (6) Recipient's Project Manager; (7) supporting documentation as to cost and/or Project completion (as per the cost schedule and other requirements of the Statement of Work; (8) Progress Report (if required), and (9) Diversity Report (if otherwise required herein). Invoices that do not correspond with this paragraph shall be returned without action within twenty (20) business days of receipt, stating the basis for rejection. Payments shall be made within forty-five (45) days of receipt of an approved invoice.

(e) **Travel expenses**. If the cost schedule for this Agreement includes a line item for travel expenses, travel expenses shall be drawn from the project budget and are not otherwise compensable. If travel expenses are not included in the cost schedule, they are a cost of providing the service that is borne by Recipient and are only compensable when specifically approved by the District as an authorized District traveler. In such instance, travel expenses must be submitted on District or State of Florida travel forms and shall be paid pursuant to District Administrative Directive 2000-02.

(f) **Payments withheld.** The District may withhold or, on account of subsequently discovered evidence, nullify, in whole or in part, any payment to such an extent as may be necessary to protect the District from loss as a result of: (1) defective work not remedied; (2) failure to maintain adequate progress in the Project, or (3) any other material breach of this Agreement. Amounts withheld shall not be considered due and shall not be paid until the ground(s) for withholding payment have been remedied.

6. **LIABILITY AND INSURANCE.** Each party is responsible for all personal injury and property damage attributable to the negligent acts or omissions of that party, its officers, employees and agents. Nothing contained herein shall be construed or interpreted as denying to any party any remedy or defense available under the laws of the state of Florida, nor as a waiver of sovereign immunity of the state of Florida beyond the waiver provided for in section 768.28, Fla. Stat., as amended. Each party shall acquire and maintain throughout the term of this Agreement such liability, workers' compensation, and automobile insurance as required by their current rules and regulations.

7. **FUNDING CONTINGENCY.** This Agreement is contingent upon funding availability, which may include a single source or multiple sources, including, but not limited to: (1) ad valorem tax

revenues appropriated by the District's Governing Board; (2) annual appropriations by the Florida Legislature, or (3) appropriations from other agencies or funding sources. Agreements that extend for a period of more than one Fiscal Year are subject to annual appropriation of funds at the sole discretion and judgment of the District's Governing Board for each succeeding Fiscal Year. Should the Project not be funded, in whole or in part, in succeeding Fiscal Years, the District shall so notify Recipient and this Agreement shall be deemed terminated for convenience five (5) days after receipt of such notice, or within such additional time as the District may allow. For the purpose of this Agreement, "Fiscal Year" is defined as the period beginning on October 1 and ending on September 30.

8. **PROJECT MANAGEMENT.**

(a) The Project Managers listed below shall be responsible for overall coordination and management of the Project. Either party may change its Project Manager upon three (3) business days prior written notice to the other party. Written notice of change of address shall be provided within five (5) business days. All notices shall be in writing to the Project Managers at the addresses below and shall be sent by one of the following methods: (1) hand delivery; (2) U.S. certified mail; (3) national overnight courier; (4) e-mail or, (5) fax. Notices via certified mail are deemed delivered upon receipt. Notices via overnight courier are deemed delivered one (1) business day after having been deposited with the courier. Notices via e-mail or fax are deemed delivered on the date transmitted and received.

DISTRICT	RECIPIENT
John Wester, Project Manager	Neil Shinkre, Project Manager
St. Johns River Water Management District	St. Johns County Utility Department
4049 Reid Street	1205 SR 16, Box 3006
Palatka, Florida 32177	St. Augustine, Florida 32085
(386) 329-4457	(904) 209-2709
E-mail: jwester@sjrwmd.com	E-mail: nshinkre@co.st-johns.fl.us

(b) The District's Project Manager shall have sole responsibility for transmitting instructions, receiving information, and communicating District policies and decisions regarding all matters pertinent to performance of the Project, and may approve minor deviations in the Project that do not affect the District cost-share or Completion Date or otherwise significantly modify the terms of the Agreement.

9. **PROGRESS REPORTS AND PERFORMANCE MONITORING.**

(a) **Progress Reports**. Recipient shall provide to the District Project update/status reports as provided in the Statement of Work. Reports will provide detail on progress of the Project and outline any potential issues affecting completion or the overall schedule. Reports may be submitted in any form agreed to by District's Project Manager and Recipient, and may include emails, memos, and letters.

(b) **Performance Monitoring**. For as long as the Project is operational, the District shall have the right to inspect the operation of the Project during normal business hours upon reasonable prior notice. Recipient shall make available to the District any data that is requested pertaining to performance of the Project.

10. **FAILURE TO COMPLETE PROJECT.**

(a) Should Recipient fail to complete the Project, Recipient shall refund to the District all of the funds provided to Recipient pursuant to this Agreement. However, the District, in its sole judgment and discretion, may determine that Recipient has failed to complete the Project due to circumstances that are beyond Recipient's control, or due to a good faith determination that the Project is no longer environmentally or economically feasible. In such event, the District may excuse Recipient from the obligation to return funds provided hereunder. If the Project has not been completed within thirty (30) days after the Completion Date, Recipient shall provide the District with notice regarding its intention as to completion of the Project. The parties shall discuss the status of the Project and may mutually agree to revise the Completion Date or the scope of the Project. Failure to complete the Project within ninety (90) days after the Completion Date shall be deemed to constitute failure to complete the Project for the purposes of this provision.

(b) In the event the Project constitutes a portion of the total functional project, this paragraph shall apply in the event the total functional project is not completed. In such event, the ninety (90) day timeframe provided herein shall commence upon the date scheduled for completion of the total functional project at the time of execution of this Agreement, unless extended by mutual agreement of the parties.

(c) This paragraph shall survive the termination or expiration of this Agreement.

11. **TERMINATION.**

(a) **Termination for Default.** If Recipient materially fails to fulfill its obligations under this Agreement, including any specific milestones established herein, the District shall provide Recipient written notice of the deficiency by forwarding a Notice to Cure, citing the specific nature of the breach. Recipient shall have thirty (30) days to cure the breach. If Recipient fails to cure the breach within the thirty (30) day period, the District shall issue a Termination for Default Notice and this Agreement shall be terminated upon receipt of said notice. In such event, Recipient shall refund to the District all funds provided to Recipient pursuant to this Agreement within thirty (30) days of such termination. The District may also terminate this Agreement upon ten (10) days written notice in the event any of material misrepresentations in the Project Proposal.

(b) **Termination for Convenience.** The District may terminate this Agreement at any time for convenience upon sixty (60) calendar day's prior written notice to Recipient. Upon receipt of notice, Recipient shall place no further orders for materials, equipment, services, or facilities, for which reimbursement would otherwise be sought. Recipient shall also make every reasonable effort to cancel, upon terms satisfactory to the District, all orders or subcontracts related to the Project for which reimbursement would otherwise be sought. In the event of such termination, Recipient shall be compensated for all work performed pursuant to this Agreement prior to the effective date of termination.

ADDITIONAL PROVISIONS (Alphabetical)

12. **ASSIGNMENT.** Recipient shall not assign this Agreement, or any monies due hereunder, without the District's prior written consent. Recipient is solely responsible for fulfilling all work elements in any contracts awarded by Recipient and payment of all monies due. No provision of

this Agreement shall create a contractual relationship between the District and any of Recipient's contractors or subcontractors.

13. **AUDIT; ACCESS TO RECORDS; REPAYMENT OF FUNDS.**

(a) **Maintenance of Records.** Recipient shall maintain its books and records such that receipt and expenditure of the funds provided hereunder are shown separately from other expenditures in a format that can be easily reviewed. Recipient shall keep the records of receipts and expenditures, copies of all reports submitted to the District, and copies of all invoices and supporting documentation for at least three (3) years after expiration of this Agreement. In accordance with generally accepted governmental auditing standards, the District shall have access to and the right to examine any directly pertinent books and other records involving transactions related to this Agreement. In the event of an audit, Recipient shall maintain all required records until the audit is completed and all questions are resolved. Recipient will provide proper facilities for access to and inspection of all required records.

(b) **Repayment of Funds.** District funding shall be subject to repayment after expiration of this Agreement if, upon audit examination, the District finds any of the following: (1) Recipient has spent funds for purposes other than as provided for herein; (2) Recipient has failed to perform a continuing obligation of this Agreement; (3) Recipient has received duplicate funds from the District for the same purpose, and/or (4) Recipient has received more than fifty (50%) contributions through cumulative public agency cost-share funding.

14. **CIVIL RIGHTS.** Pursuant to chapter 760, Fla. Stat., Recipient shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin, age, handicap, or marital status.

15. **DISPUTE RESOLUTION.** Recipient is under a duty to seek clarification and resolution of any issue, discrepancy, or dispute involving performance of this Agreement by submitting a written statement to the District's Project Manager no later than ten (10) business days after the precipitating event. If not resolved by the Project Manager, the Project Manager shall forward the request to the District's Office of General Counsel, which shall issue a written decision within ten (10) business days of receipt. This determination shall constitute final action of the District and shall then be subject to judicial review upon completion of the Project.

16. **DIVERSITY REPORTING.** The District is committed to the opportunity for diversity in the performance of all cost-sharing agreements, and encourages Recipient to make a good faith effort to ensure that women and minority-owned business enterprises (W/MBE) are given the opportunity for maximum participation as contractors. The District will assist Recipient by sharing information on W/MBEs. Recipient shall provide with each invoice a report describing: (1) the company names for all W/MBEs; (2) the type of minority, and (3) the amounts spent with each during the invoicing period. The report will also denote if there were no W/MBE expenditures.

17. **GOVERNING LAW, VENUE, ATTORNEY'S FEES, WAIVER OF RIGHT TO JURY TRIAL.** This Agreement shall be construed according to the laws of Florida and shall not be construed more strictly against one party than against the other because it may have been drafted by one of the parties. As used herein, "shall" is always mandatory. In the event of any legal proceedings arising from or related to this Agreement: (1) venue for any state or federal legal proceedings shall be in Duval County; (2) each party shall bear its own attorney's fees, including

appeals, and (3) for civil proceedings, the parties hereby consent to trial by the court and waive the right to jury trial.

18. **INDEPENDENT ENTITIES.** The parties to this Agreement, their employees and agents, are independent entities and not employees or agents of each other. Nothing in this Agreement shall be interpreted to establish any relationship other than that of independent entities during and after the term of this Agreement. Recipient is not a contractor of the District. The District is providing cost-share funding as a cooperating governmental entity to assist Recipient in accomplishing the Project. Recipient is solely responsible for accomplishing the Project and directs the means and methods by which the Project is accomplished. Recipient is solely responsible for compliance with all labor and tax laws pertaining to Recipient, its officers, agents, and employees.

19. **INTEREST OF RECIPIENT.** Recipient certifies that no officer, agent, or employee of the District has any material interest, as defined in chapter 112, Fla. Stat., either directly or indirectly, in the business of Recipient to be conducted hereby, and that no such person shall have any such interest at any time during the term of this Agreement.

20. **NON-LOBBYING.** Pursuant to section 216.347, Fla. Stat., as amended, Recipient agrees that funds received from the District under this Agreement shall not be used for the purpose of lobbying the Legislature or any other state agency.

21. **PERMITS.** Recipient shall comply with all applicable federal, state and local laws and regulations in implementing the Project and shall include this requirement in all subcontracts pertaining to the Project. Recipient shall obtain any and all governmental permits necessary to implement the Project. Any activities not properly permitted prior to implementation or completed without proper permits does not comply with this Agreement and shall not be approved for cost-share funding.

22. **PUBLIC RECORDS.** Records of Recipient that are made or received in the course of performance of the Project may be public records that are subject to the requirements of chapter 119, Fla. Stat. If Recipient receives a public records request, Recipient shall promptly notify the District's Project Manager. Each party reserves the right to cancel this Agreement for refusal by the other party to allow public access to all documents, papers, letters, or other material related hereto and subject to the provisions of chapter 119, Fla. Stat., as amended.

23. **ROYALTIES AND PATENTS.** Recipient certifies that the Project does not, to the best of its information and belief, infringe on any patent rights. Recipient shall pay all royalties and patent and license fees necessary for performance of the Project and shall defend all suits or claims for infringement of any patent rights and save and hold the District harmless from loss to the extent allowed by Florida law.

24. **WATER CONSERVATION.**

(a) **Water Conserving Rate Structure.** A Recipient receiving funding through this Agreement that operates a public water supply utility must develop a rate structure for water customers in its service area that will: (1) promote the conservation of water, and (2) promote the use of water from available alternative water supplies. Recipient, if operating a public water supply utility, acknowledges that it either has a water conserving rate structure in effect or will implement a water conserving rate structure within nine (9) months after the Effective Date. Failure to comply with this paragraph constitutes a material breach that shall constitute a failure to complete the Project.

(b) **Landscape Irrigation.** Within one-hundred eighty (180) days of the effective date of this Agreement, Recipient shall enact a landscape irrigation ordinance that fully implements the landscape irrigation provisions in District Rule 40C-2.042(2), Florida Administrative Code, including adequate enforcement mechanisms, and that does not in any other manner regulate the consumptive use of water. Within two-hundred seventy (270) days of the effective date of this Agreement, Recipient shall rescind any other ordinance provision that regulates or purports to regulate the consumptive use of water. The District may extend the applicable time periods upon a showing of good cause, which determination shall be made by the District in its sole discretion and judgment. In order to ensure that Recipient meets the requirements of this paragraph, Recipient shall submit the draft ordinance to the District's Project Manager for the District's review not less than thirty (30) days prior to the first reading of the ordinance, with a copy to the District's Governmental Affairs Manager, Office of Communications and Governmental Affairs, 4049 Reid Street, Palatka, Florida 32177-2529. Failure to comply with this provision shall constitute a material breach of this Agreement.

IN WITNESS WHEREOF, the St. Johns River Water Management District has caused this Agreement to be executed on the day and year written below in its name by its Executive Director, and Recipient has caused this Agreement to be executed on the day and year written below in its name by its duly authorized representatives, and, if appropriate, has caused the seal of the corporation to be attached. This Agreement may be executed in separate counterparts, which shall not affect its validity. Upon execution, this Agreement constitutes the entire agreement of the parties, notwithstanding any stipulations, representations, agreements, or promises, oral or otherwise, not printed or inserted herein. This Agreement cannot be changed by any means other than written amendments referencing this Agreement and signed by all parties.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

By: _____
Kirby B. Green III, Executive Director

Date: _____

APPROVED BY THE OFFICE OF GENERAL COUNSEL

_____
Stanley J. Niego, Sr. Assistant General Counsel

ST. JOHNS COUNTY UTILITY DEPARTMENT

By: _____

_____
Typed Name and Title

Date: _____

Attest: _____

_____
Typed Name and Title

ATTACHMENTS

Attachment A- Statement of Work
Attachment B - Application

ATTACHMENT A – STATEMENT OF WORK
WATER CONSERVATION COST SHARE PROGRAM
ST JOHNS COUNTY UTILITY DEPARTMENT (RECIPIENT) RELIABILITY AND PERFORMANCE TESTING OF NEW LANDSCAPE IRRIGATION TECHNOLOGY PROJECT

I. INTRODUCTION/BACKGROUND

The St. Johns River Water Management District (District) created the Water Conservation and Demand Management Program (the Program) in FY2008-2009 as a cost share program to develop and implement innovative water conservation initiatives and to develop and analyze metrics to demonstrate the effectiveness of water conservation planned or implemented by the District. To be considered for funding under this program, applicants had to meet one of the following categories:

- Reliability and performance testing of new landscape irrigation technology
- Automated tracking of historical customer water use information
- Reliability and performance testing of new high-efficiency indoor fixtures
- Other

The Division of Water Use Regulation manages the Program to promote projects that will help demonstrate new concepts in the development and execution of water conservation activities. In the past, the District has promoted and helped implement a wide range of water conservation programs in agriculture, industry, education, and the environment. Today, there are many new methods and emerging technologies that offer significant savings, but these remain untested in actual field application and must therefore be field verified. A number of utilities have implemented or may soon implement a range of conservation alternatives, but lack the ability to monitor, collect, analyze, and report actual water savings. As a result, many potentially viable water conservation projects are being deferred or not pursued due to insufficient funding and/or meaningful incentives. This Program will assist in the efforts by funding these types of projects.

II. OBJECTIVES

The objectives of this contract are to provide cost share dollars that will enable the Recipient to install up to 150 remotely monitored smart irrigation controllers with moisture sensors into existing homes and monitor usage for a period of two (2) years in accordance with Attachment B, Application. The new system and turf conditions will be evaluated against previous water use and conditions.

III. SCOPE OF WORK

The Recipient shall manage this pilot project to field verify the use of smart irrigation controllers with moisture sensors with remote monitoring to encourage the reduction of water use among those homeowner groups with the highest consumption.

IV. TASK IDENTIFICATION

The Recipient shall be responsible for the Tasks shown below and for all additional Tasks, which are detailed in Attachment B, St. Johns County Utility Department's Reliability and Performance Testing of New Landscape Irrigation Technology Project application, and Supplemental Statement of Work.

- Obtaining all required permits, including right of access to the project site.

- Identifying inefficient users within the Recipients area using existing County AMR software, selecting up to one-hundred fifty (150) existing properties to participate in the subject pilot project.
- Perform a public education program for equipment operation and maintenance.
- Retain the services of a professional independent irrigation contractor to audit the selected home sites and verify their suitability for participation in the project.
- Meet with selected homeowners to schedule the installation, answer project related questions, and proceed with installations.
- Data Collection and Comparison Analysis.
  - Data shall be remotely collected from each home as well as from baseline examples. Compare water savings and turf grass quality with the District's irrigation rule.
  - Analyze results in water savings and turf grass quality of the time based treatments, District irrigation rule treatment versus soil moisture system treatment or evaportranspiration based irrigation controllers, and savings among system equipment types.
- The Recipient shall be responsible for supervision of the Project.
- Timely submittal of invoices for actual construction costs per the cost share agreement (i.e. quarterly, with adequate substantiation) to enable District staff to review submitted costs for payment.
- Progress Reports to the District's Project Manager in a mutually agreed upon format, identifying project progress to date, overall project schedule versus time to project completion, key issues to be resolved, etc.

V. TIME FRAMES AND DELIVERABLES

The Recipient shall commence work on this project within fifteen (15) calendar days after the effective date of the Agreement. All work shall be completed in accordance with Attachment B – Application – St. Johns County Utility Department's Reliability and Performance Testing of New Landscape Irrigation Technology Project and Supplemental Statement of Work. The project shall be completed no later than May 31, 2014.

Recipient shall deliver a minimum of two (2) years of monthly account level water use data recorded prior to the implementation of this project and three (3) years of monthly account level water use data recorded after the implementation of this project for all affected connections for the remaining duration of this contract. At a minimum, the water use data must include a consumption amount for the month in thousands of gallons and the consumption month. All data collected in association with work performed under this agreement shall be provided to the District's Project Manager in a digital format approved by the District's Project Manager. All analysis performed under this agreement shall be documented and provided to the District's Project Manager in a final summary report.

The required account level billing data must be joined with the county appraiser data available from the District. This can be coordinated with the District's Project Manager or performed by the utility. The data must be sorted by DOR code and descriptive statistics and Pareto analysis derived for each category based on DOR code, year built, and residential valuation per the Water Conservation estimate workflow. The data must be compared to District derived typical use and conservation savings benchmarks for each category of DOR code. The strategies and costs for development of water conservation savings in each category will be derived using the District costing spreadsheet and in close collaboration with the District.

VI. BUDGET/COST SCHEDULE

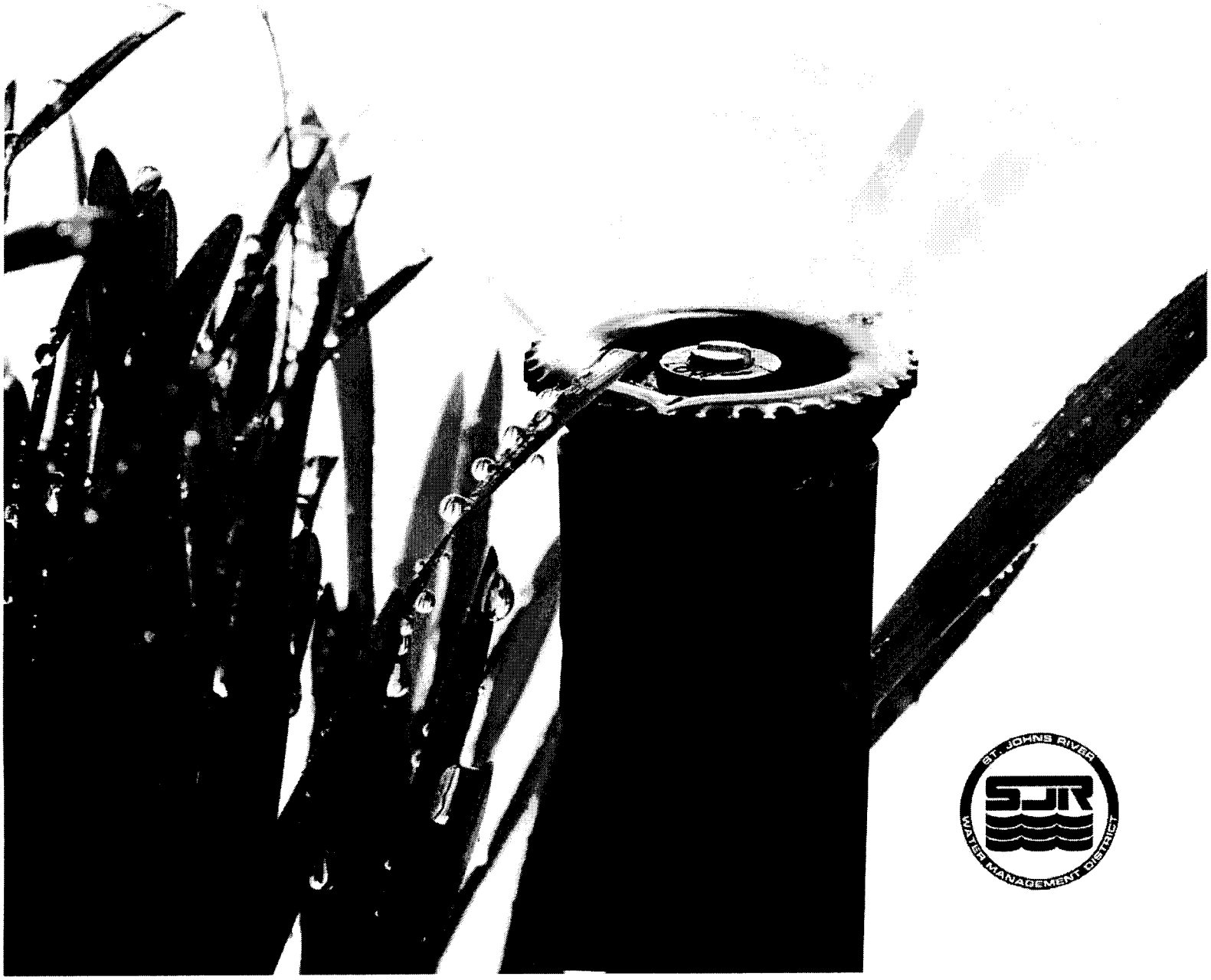
The estimated cost share budget for the entire term of this contract, ending May 31, 2014 shall not exceed $150,000.

ATTACHMENT B
APPLICATION AND SUPPLEMENTAL STATEMENT OF WORK

Application for:
St. Johns River Water Management District
Water Conservation Cost Share Program

Presented by:
St. Johns County Utility Department

January 2010



St. Johns County Board of County Commissioners

Utility Department

January 20, 2010

St. Johns River Water Management District
4049 Reid Street
Palatka, Florida, 32177

Attn: Mr. John Wester

Re: St. Johns County Utility Department Application for the Water Conservation Cost Share Program

Dear Mr. Wester,

The St, Johns County Utility Department (SJCUD) is pleased to submit this application for the Water Conservation Cost Share Program. As you know, SJCUD has had a long association with the St. Johns River Water Management District (the District) in pursuit of more effective water conservation practices. We salute the District for developing this very forward thinking Cost Share Program and feel that SJCUD will continue a great partnership with you.

With this application SJCUD is hoping to take another step in this very important endeavor. We propose to deploy up to five hundred remotely monitored smart irrigation controllers with moisture probes within high water using neighborhoods in our service area. We expect to see significant reductions in outdoor water use for those homes that participate.

This effort will be strongly complimented by our very advanced Automated Meter Reading (AMR) program and our Computerized Maintenance Management System (CMMS). Utilizing this state-of-the-art technology will allow us to thoroughly analyze the data from this study and develop a final report that will chart the path for others to follow in the development and refinement of their own water conservation programs.

Thank you for the opportunity to respond to your grant application request. Please contact me if you have any questions.

Sincerely,

William Young
Director of Utilities

Application

Title of project: Reliability and Performance Testing of New Landscape Irrigation Technology (Smart Irrigation Controller with Moisture Sensors)

A. Applicant Type and Information

Indicate the type of project you are applying for:

Project Type (check one)

- ☑ **Reliability and performance testing and new landscape irrigation technology**
- ☐ Automated tracking of historical consumption information
- ☐ Reliability and performance testing of new high-efficiency indoor fixtures
- ☐ "Other" (new and innovative technology and practices

A-1. a) Name of Applicant/Title: Neal S. Shinkre, P.E., MBA / Utility Engineering Manager

A-1. b) Applicant's Organization: St. Johns County Utility Department

A-2. Name, Address, E-mail Address, and Phone Numbers of Project Manager or Contact Person.

(District will send correspondence concerning this application ONLY to this person.)

Name/Title: Neal S. Shinkre, P.E., MBA / Utility Engineering Manager

E-mail Address: nshinkre@co.st-johns.fl.us

Mailing Address: 1205 State Road 16

City and ZIP Code: St. Augustine 32084-8646

Phone: (904) 209-2709 **Fax:** (904) 209-2710

A-3. Name, address and phone numbers of persons with authority to enter into a contractual agreement, if other than project manager or contact person.

If same as A-2 above, check box. ☑

Name/title: _____

E-mail address: _____

Mailing address: _____

City and ZIP code: _____

Phone ( ) _____ Fax ( ) _____

A-4. District permit information

Does the applicant have any District permits? Yes ☑ No ☐

If yes, list all District permits held by the applicant. Attach an additional page if needed.

Permit #	Expiration Date	Permit #	Expiration Date
40-109-84632-11	2/25/2010	40-109-48369-4	11/16/2011
400-109-97248-1	2/25/2010	40-109-107412-1	11/21/2011
42-109-47981-3	3/4/2010	42-109-98071-2	12/14/2011
3-109-123147-1	3/17/2010	400-109-108886-1	12/29/2011
3-109-123148-1	3/23/2010	42-109-108784-1	1/3/2012
42-109-98071-1	4/14/2010	16-109-107976-1	3/20/2012
42-109-48253-3	4/21/2010	400-109-109594-1	5/4/2012
40-109-97669-1	5/13/2010	4-109-107782-1	5/8/2012
40-109-97687-1	6/2/2010	400-109-110996-1	5/17/2012
400-109-92035-2	7/5/2010	42-109-47901-7	5/23/2012
40-109-98458-1	7/8/2010	40-109-97687-2	6/18/2012
40-109-97551-1	8/10/2010	40-109-106697-1	6/22/2012
40-109-63190-2	9/14/2010	40-109-107976-3	7/27/2012
4-109-96535-1	10/11/2010	40-109-107976-2	7/27/2012
40-109-48323-2	10/13/2010	40-109-108981-2	8/10/2012
40-109-100452-1	10/24/2010	40-109-108981-1	8/10/2012
42-109-101236-2	11/1/2010	4-109-111224-1	10/9/2012
42-109-101236-1	11/1/2010	42-109-28441-3	11/19/2012
42-109-21507-2	11/9/2010	40-109-103407-2	2/12/2013
20-109-112666-1	11/30/2010	4-109-103407-1	2/12/2013
16-109-101406-1	12/5/2010	42-109-47408-5	2/22/2013
40-109-102029-1	12/22/2010	40-109-96535-2	3/21/2013
40-109-48323-3	1/13/2011	4-109-105187-1	4/8/2013
42-109-89705-2	3/3/2011	40-109-105834-2	4/11/2013
42-109-104889-1	5/4/2011	40-109-21539-4	4/18/2013
40-109-104776-1	5/11/2011	42-109-115684-1	4/22/2013
400-109-95343-2	6/23/2011	400-109-115204-1	5/7/2013
40-109-103909-1	6/27/2011	40-109-114831-1	6/11/2013
400-109-106044-1	7/14/2011	40-109-63593-5	6/20/2013
40-109-105834-1	7/19/2011	400-109-117583-1	7/25/2013
40-109-104776-2	8/7/2011	40-109-84632-27	10/20/2013
40-109-105592-1	8/7/2011	40-109-115967-1	11/7/2013
40-109-107153-1	11/3/2011	42-109-21263-16	11/21/2013

Permit #	Expiration Date	Permit #	Expiration Date
40-109-117534-1	12/5/2013	40-109-107782-2	9/9/2014
40-109-92681-25	12/5/2013	40-109-21595-5	9/24/2014
40-109-63593-8	3/13/2014	40-109-21539-6	11/20/2014
40-109-63593-7	3/13/2014	40-109-104776-3	12/23/2014
40-109-119692-1	4/30/2014	20-109-1423-3	3/1/2020
400-109-121750-1	8/7/2014	2-109-1198-3	11/9/2024

A-5. Disclosure. *Does any District employee, Governing Board member, contractor, or other affiliate of the applicant have a financial interest in this project, the property associated with this project, or with any party that may profit financially from this project?* Yes ☐ No ☑

If, yes, identify all such parties and describe their interests.

B. Project Information

B-1. Cost-sharing request *(District's share cannot exceed 50% of total project cost.)*

a. Total project cost	$1,180,800.00
b. Total project cost per residential/commercial parcel	$ 2,361.60
c. Amount of cost-share	$ 590,400.00

B-2. Purpose. Explain the purpose(s) of the project. (Do not refer to attachments.) Does the project demonstrate the reliability/performance of several types/brand names of equipment, under distinct geographic conditions? Use appendixes A through C as a guideline.

Executive Summary - Project Purpose: The St. Johns County Utility Department (SJCUD) is proposing to the St. Johns River Water Management District (SJRWMD) a pilot project to field verify the use of smart irrigation controllers with moisture sensors, and remote monitoring to encourage the reduction of water use among those homeowner groups with the highest consumption.

This project will involve the installation of up to 500 remotely monitored smart irrigation controllers with moisture sensors into existing homes and monitored for a period of three years. The new system and turf conditions will be evaluated against previous water use and conditions.

This project will utilize the WaterOptimizer smart irrigation controller, a leading device in the field of remotely monitored smart irrigation controllers which meets the requirements of District Rule 40C-2.042(2), *Florida Administrative Code*. (See Attachment A) The WaterOptimizer when installed in conjunction with one or more moisture sensors will control the irrigation system to water only when necessary. The system is remotely monitored via the internet.

Background: Historically, St. John County has always shown its commitment to water conservation. SJCUD first implemented its aggressive inclining block rate in 2000 (i.e. a volume range where the unit charge is uniform and the unit charge increases with greater volume). Over the past nine years the Utility has created a powerful database of its billing frequency to facilitate analysis of water use patterns in order to optimize its rate structure which rewards conservation.

Some of the tools used by the SJCUD include:

1. Mapping of all water/sewer/reuse utilities in an enterprise GIS Platform.
2. Automated Meter Reading (AMR) program has replaced nearly all of the touch read water meters with meters that transmit via radio transmissions. Staff is able to view real time meter readings through a customized website.
3. Integrating Utility's billing software (Cogsdale) with GIS. This includes geocoding/mapping all customer accounts down to the parcel level. Staff is able to directly import individualized monthly consumption, allowing reports to be generated based on many variables (customer type, customer location, etc).
4. GIS mapping of current and future developments in order to better analyze past and future growth patterns.
5. Implementation of Citywork CMMS (Computerized Maintenance Management System) allowing work crews to receive work assignments in the field. The CMMS is GIS enabled and allows for robust reporting and visualization of routine maintenance activities and reactive/corrective maintenance in problem areas.
6. All of the plants and many of the lift stations are equipped with telemetry. Our SCADA (Supervisory Control and Data Acquisition) system allows plant operators, managers, and engineers to remotely operate various parts of the system. They can also view real time data about the status and overall health of the system.

These are just a few highlights of technology-related items that SJCUD has undertaken in the past few years. The Utility puts a very high priority on information, analysis, and planning – all of which are made possible through the various technology programs that are currently in place. (See Attachment B) Combining this information and technology with significant conservation goals positions the Utility well for even more advanced conservation initiatives.

The following paragraphs describe the XIV task elements in our proposed study as defined by Section V: Attachment A of the SJRWMD Cost Share Program Instructions.

I. Provide an analysis of water customers to determine the initial group or groups of residential or commercial inefficient users. (Optional: This analysis could include a total count of similar properties within the service area besides the project area of 250 to 500 residential or commercial parcels.)

SJCUD will identify inefficient users within the County using the existing County AMR software. Then SJCUD will identify up to 500 existing properties to participate in the subject pilot project. To do this SJCUD will initially screen several areas which exhibit fairly high water use. SJCUD will take advantage of their very advanced mapping tools and advanced customer billing and account information previously described to assist in this task (See Figures 1 and 2). Once the high water use areas are identified, SJCUD will hold special town hall meetings with interested property owners to explain the project and the terms for participation.

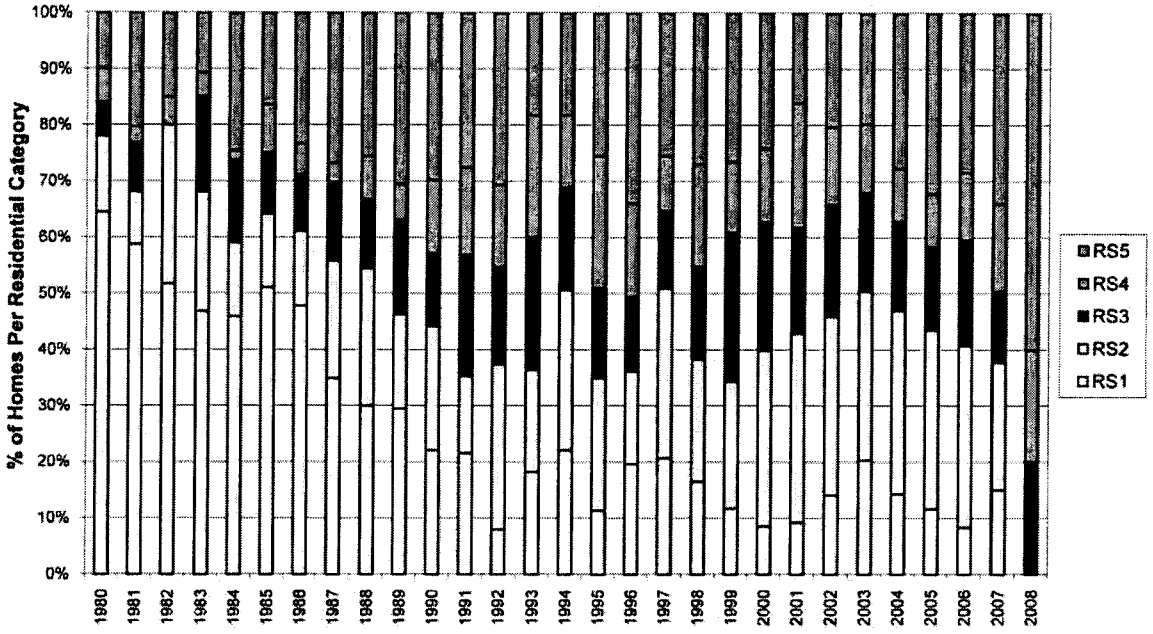


Figure 1
Percent of Mild and Heavy Irrigators by Year Built
For 11,260 Billing Records in per Capita Analysis

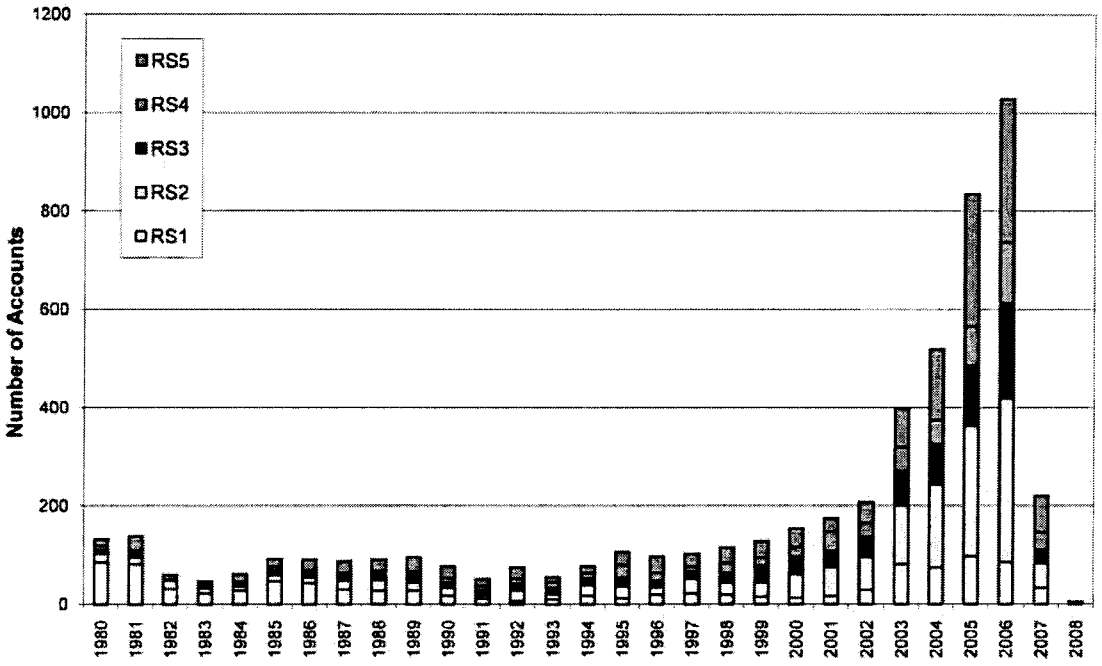


Figure 2
Mild and Heavy Irrigators by Year Built
For 11,260 Billing Records in Per Capita Analysis

II. Identify the homes or establishments that have individual irrigation meters installed. Document the selection process of parcels with or without existing irrigation meters or how the applicant intends to isolate indoor use from outdoor use.

There are no individual irrigation meters within the SJCUD. SJCUD already has methods in place for establishing outdoor water use for all their customer properties which can easily be utilized here. The results of this task will be to establish the outdoor water use on a monthly basis for future comparison. As can be seen in Figure 3 below, SJCUD already has developed very sophisticated analysis of the existing community profile.

Single Family Residential Profile Statistics

Res Class	Ave. Just Value	Average Effective Area (sqft	Average Year	Average Parcel Size (sqft)	Average Parcel Size (acre)	Ave Dwelling Unit / Acre
RS1	$ 104,847	1,439	1983	8,403	0.19	5.2
RS2	$ 144,313	1,877	1993	10,008	0.23	4.4
RS3	$ 179,452	2,235	1997	11,420	0.26	3.8
RS4	$ 233,666	2,587	1998	13,362	0.31	3.3
RS5	$ 459,718	3,421	1996	20,128	0.46	2.2

Single Family Water Use Profiles

				Total Water (Gallons/Day)		Total Indoor		Total Outdoor	
Res Class	Percapita	Indoor per Capita	Outdoor per capita	Gals	% of Total	Gals	% of Total	Gals	% of Total
RS1	90.6	56.4	34.2	288,985	12%	179,948	14%	109,037	10%
RS2	104.9	60.4	44.5	440,899	19%	237,193	18%	203,706	19%
RS3	123.4	70.4	53.0	525,053	22%	299,545	23%	225,507	21%
RS4	124.0	67.5	56.6	540,484	23%	294,010	22%	246,473	23%
RS5	145.4	78.3	67.1	574,823	24%	309,660	23%	265,162	25%
Totals	118.8	67.1	51.6	2,370,242	100%	1,320,357	100%	1,049,886	100%

Single Family Outdoor Use Patterns

		Irrigation Pattern					
		Mild (M) > 1.0 and < 2.0 in/month			Heavy (H) >= 2.0 in/month		
Res Class	% of Mild and Heavy Irrigation users connected to the Public Supply in each Residential Profile	% of Total Customers	% of Total Outdoor Use	Average Irrigation Depth (in/mon)	% of Total Customers	% of Total Outdoor Use	Average Irrigation Depth (in/mon)
RS1	30%	3%	3%	1.41	2%	3%	3.92
RS2	37%	3%	4%	1.45	4%	8%	3.50
RS3	38%	4%	5%	1.48	5%	11%	3.45
RS4	36%	4%	5%	1.45	4%	11%	3.38
RS5	32%	3%	6%	1.45	3%	10%	3.55

Analysis based on 11,260 residential accounts.
Residential accounts derived using the following criteria:
>1000 gallons of monthly water use
Population 05 and 10 > 0
Parcel Area > 0
Effective Area > 0
Year Built > 0

Irrigation depth calculated based on maximum monthly demand minus indoor water use (indoor per capita * population) divided by irrigable area ([parcel area - effective area]*0.7). Basis of irrigable area and mild or heavy irrigation patterns adapted from *Polenchar, et.al, Hyrdograph Seperation of Indoor and Outdoor Billed Water Use in Florida Single Family Residential Sector. FSAWWA Winter 2009 Proceedings* and *Haley and Dukes, Residential Irrigation Water Application Influenced by Soci-Economic Parameter. International Irrigation Show December 2007.*

Figure 3
Single Family Statistics

III. Document the decision to develop or not to develop an equipment operation and maintenance education program for participants, to ensure long-term effective soil moisture sensor operation and/or evapotranspiration-based irrigation controllers.

As part of the project, SJCUD will perform a public education program for equipment operation and maintenance. This will include several elements as follows.

1. We will hold a town hall meeting in selected neighborhoods to gain acceptance of this water conservation pilot program. At this town hall meeting we will describe the benefits of water conservation, how the proposed program will work and proper irrigation practice.
2. After installation of the smart irrigation controller, we will furnish the homeowner a written description of the program and how the equipment works, on a laminated card mounted within the controller.
3. We will establish a hot line phone number for property owners to call with questions and suggestions.

IV. Perform an independent (independent of the company selected or product brand to install the equipment) audit of the parcels to determine suitability for participation in the pilot. (Are the irrigation systems reasonably constructed and properly maintained?)

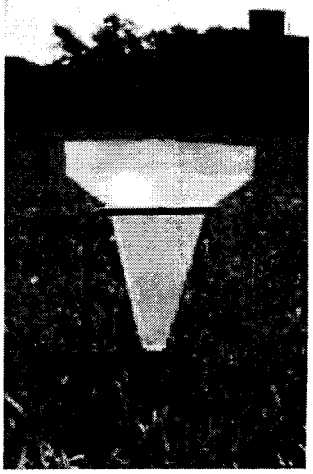
As part of the project, SJCUD will retain the services of a professional independent irrigation contractor to audit the selected home sites and verify their suitability for participation in the project. This independent company will review the information developed in Task I above and prepare a technical memorandum reflecting concurrency or suggested modifications.

V. Utilize 3 years of existing, monthly, historical parcel water use data to serve as a water use baseline.

As part of the analysis SJCUD will utilize three years worth of historical monthly data to serve as a water use baseline. Because of the advanced billing records system at SJCUD this information can be readily captured and displayed in an easily readable format, which also allows for the development of appropriate graphics for ease in analysis. (See Attachment C)

VI. Determine water application uniformity (the water application uniformity is a measure of how evenly the volumes of water are applied from each emitter) for each parcel selected for the pilot project.

SJCUD will determine water application uniformity for the participating project sites. As part of the controller installation, a licensed irrigation contractor will perform an initial evaluation of the integrity of the existing irrigation system. For instance, missing or damaged irrigation heads will be replaced and adjusted for uniform application. On a selected number of properties, catch can measurements will be taken to verify uniformity.

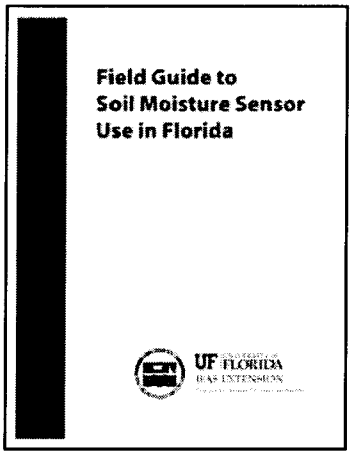


Catch Can

VII. Describe the equipment selection approach for the soil moisture sensor systems or evapotranspiration-based irrigation controllers.

The soil moisture probe equipment selection will be made to provide a probe that is both reliable and cost effective. We expect, as part of this study, to outfit the sites with a variable number of moisture probes, to see if there is a correlation between more moisture probes and increased water efficiency. We expect the vast majority of the properties to be equipped with one moisture probe, and a smaller number with three probes and some with five probes. This will be an interesting feature of the study and allow us to assess the cost effectiveness of multiple moisture probe installations.

Moisture Sensor



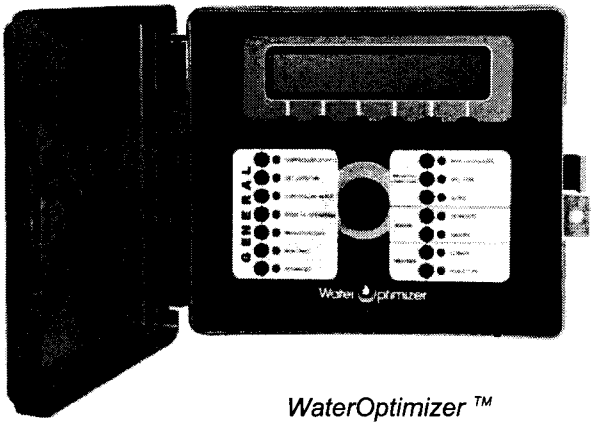
VIII. Describe the equipment installation. Use of the Field Guide to Soil Moisture Sensor Use in Florida (IFAS, 2008) for the installation and maintenance of soil moisture sensors.

The WaterOptimizer will be installed in place of the existing irrigation controller which will allow fairly easy switch over of the existing solenoid wires. The moisture sensor(s) will be installed at a representative location(s) within the landscaped areas. Please see installation diagram (See Attachment D) . For the installation and maintenance of soil moisture sensors, we will reference the *Use of the Field Guide to Soil Moisture Sensor Use in Florida* (IFAS, 2008).

IX. Document owner participation, training, set-and-forget, or investigator run approaches.

The owner's participation will be documented. This will include the initial public education program, as well as ongoing training and troubleshooting as the project goes on. We expect to track via special computer interface all interactions with the client owner and their resolution. At the conclusion of the test period the owner interaction can be categorized by theme, which can be used to guide other large scale deployments of this type of equipment.

X. Document the equipment settings.



WaterOptimizer ™
Control Panel

The WaterOptimizer initial settings will be established in consultation with a local turf and plant expert consistent with the plant and turf types being irrigated. The initial settings will comply with State Law. It is our expectation that moisture probe technology will cause to interrupt when irrigation is not necessary.

XI. Document treatment types, for example: controller-based versus local ordinance versus District's irrigation rule. (Note: This activity must be carefully coordinated with the District to avoid issues with enforcement.)

This study will be using controller-based rules.

Section V: Appendix A (cont.) (Soil moisture sensor and evapotranspiration-based controllers)

XII. Data collection year 1, year 2, year 3:

a. Account-level baseline data from separate irrigation meter
b. Logging of water application
c. Collection of localized weather data
d. Actual soil moisture content
e. Turf grass quality
f. Experimental design and statistical analysis

We expect to set the irrigation controller consistent with State Law and document these settings. The following data will be collected for each year for each home;

b. Account-level baseline data from separate irrigation meter or calculation.
c. Logging of water application.
d. Collection of localized weather data.
e. Actual soil moisture content.
f. Turf grass quality.
g. Experimental design and statistical analysis.

This will be summarized in an easy to read format with appropriate graphics.

XIII. Document weather conditions and any normalization of customer use in the pilot project area. Discuss how the project deals with unique localized weather events in baseline data and monitoring program.

SJCUD has an already established a network of rain gauges to record rainfall amounts throughout the County on a daily basis (See Figure 4). The rain gauges are state-of-the-art.

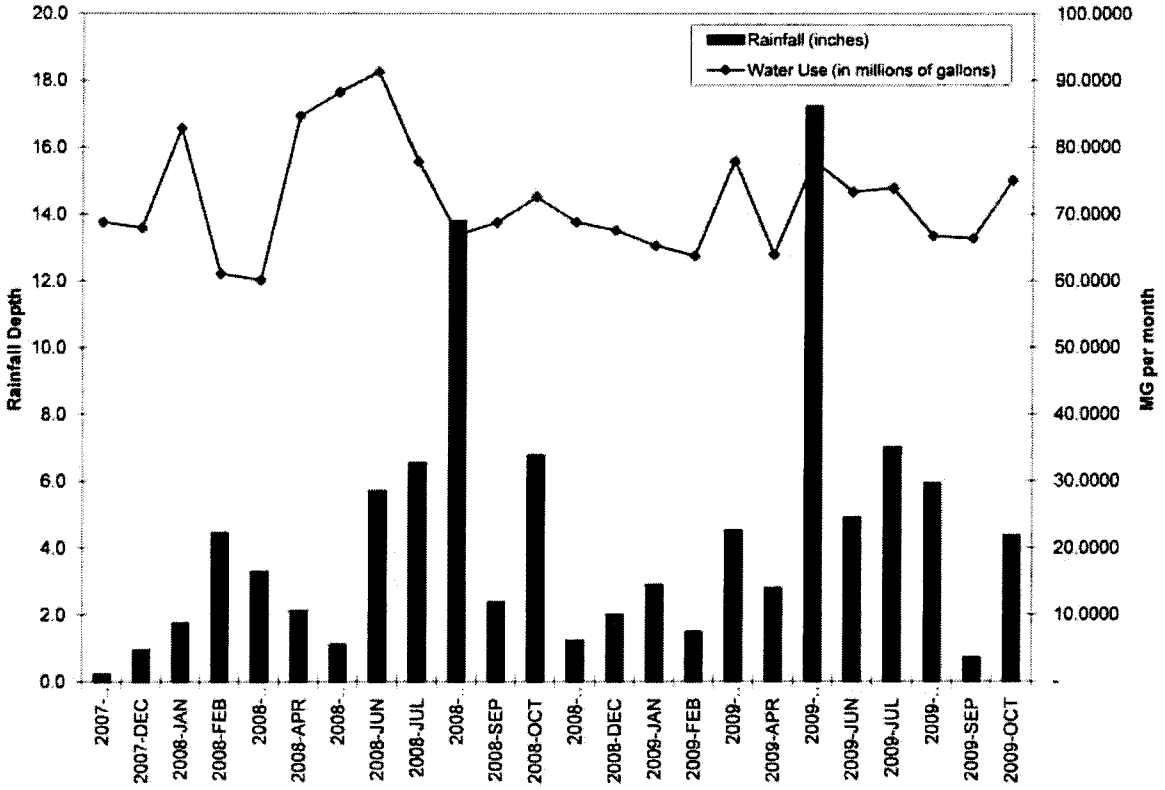


Figure 4
Rainfall and Water Use

XIV. Analyze results in: (1) water savings and turf grass quality of the time-based treatments; (2) District irrigation rule treatment versus soil moisture system treatment or evapotranspiration-based irrigation controllers; and (3) savings among system equipment types.

We will analyze our results as follows:

a. Water savings and turf grass quality.
b. Comparison between district irrigation rule and soil moisture control.
c. Comparison between single moisture probe and multiple moisture probes.

B-3 Project schedule with budget. *Show a project scope. Also include goals with supporting task budgets. (Listing dates, project milestones, key task and associated expenses as expected to be incurred over the proposed timeline.) Also, include benefit/cost ratios and other performance metrics/estimates for each project.*

We propose a three year study period. For demonstrative purposes our schedule and budget charts begin in April of 2010 and end December of 2013.

Sites	Units	Unit Cost	Material Cost	Labor Unit Cost	Labor Cost	Total Cost
Controller	500	$ 380.00	$ 190,000.00	$ 200.00	$ 100,000.00	$ 290,000
Material Valve Cost & Wire 1 Sensor	160	$ 70.00	$ 11,200.00	$ 30.00	$ 4,800.00	$ 16,000
2 Sensors	320	$ 70.00	$ 22,400.00	$ 30.00	$ 9,600.00	$ 32,000
5 Sensors	800	$ 70.00	$ 56,000.00	$ 30.00	$ 24,000.00	$ 80,000
Sleeve	200	$ 20.00	$ 4,000.00	$ 140.00	$ 28,000.00	$ 32,000
Site Assessment	500			$ 100.00	$ 50,000.00	$ 50,000
Association Site Meetings						$ 20,000
Remote Monitoring						$ 100,000
Site Repair						$ 150,000
Periodic Visits						$ 100,000
Report (Quarterly & Final)						$ 75,000
Third Party Evaluations						$ 50,000
Monitoring Access Fee @$8/month per controller(3 years)						$ 144,000
Year 2 and 3 maintenance						$ 41,800
Total						**$ 1,180,800**

B-4. Project location *(address or description):* The installation locations will be within the St. Johns County Utility Division as depicted on the attached proposed neighborhood map (Attachment E).

B-5 County(ies) in which project is located: St. Johns County

B-6 Project Schedule

Projected starting date: month April year 2010 completion date: month March year 2013
(See Attachment F)

(Funds received through this program may be used only for projects installed after a cost-sharing contract has been executed and may not be used to reimburse the cost of existing strategies or strategies already under installation. Cost-sharing contract probably will be executed by March 31, 2010. In general, project construction/implementation must be completed within 12 months of contract execution, monitoring of performance metrics will extend for several years.)

I certify that all information on this form and the attached documents is true and correct.

Signature of the person with authority to enter into a contractual agreement.

Name Michael Sclayman **Title** Utilities Engineering Manager
for Neal Shinkle

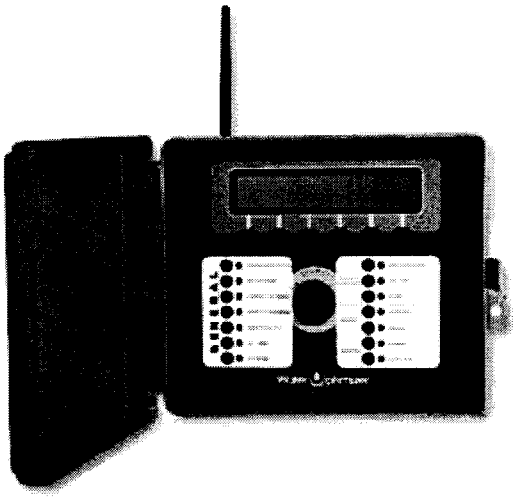
Date 1/28/2010

Attachment A

Water Optimizer, LLC

U.S. & Foreign Patents Pending

Smart Irrigation uses the water that's needed – but only when it's needed. The result – save water, save money and keep your landscape lush.



That's smart irrigation. Real smart!

Product Description

- The WaterOptimizer 300 smart irrigation controller is a twelve (12) zone, stand-alone unit and therefore does not require any additional controllers to operate in soil moisture sensor based mode or weather based mode.

- One, many, or up to twelve (12) soil moisture sensors can be wired to the controller. Depending on how many soil moisture sensors are wired to the controller, the controller can be configured to operate in sensor mode with one soil moisture sensor in each zone, one soil moisture sensor for the entire system, or multiple sensors controlling groups of zones.

- When set to operate in sensor mode, the WaterOptimizer 300 will automatically skip any zones where the soil moisture is within a user-adjustable moisture % range or will only irrigate a zone up to a maximum user-adjustable moisture % setpoint. The user can obtain soil moisture readings for each zone from the WaterOptimizer 300 with the push of a button.

- The WaterOptimizer 300 smart irrigation controller can also operate in a weather based mode, which uses evapo-transpiration (ET) data to compute the appropriate run time for each zone. The irrigation controller computes a moisture balance for each zone every time new ET data is sent to the controller.

4921 Memorial Highway, Suite 300, Tampa, FL 33634 • Phone: 866-880-4030 • Fax: 866-657-3665 • www.water-optimizer.com

- The WaterOptimizer 300 can receive ET data from a variety of sources, including local weather stations, remote weather stations, Weatherbug.com and any other source that broadcasts the ET data electronically. ET data is collected at WaterOptimizer's Network Operations Center (NOC) and sent to the appropriate controller. Each irrigation controller is required to be initially configured during installation to receive ET data from WaterOptimizer's Network Operations Center.

- The following settings can be configured for the weather based mode:

    - Application Rate
    - Application Efficiency
    - Slope
    - Soil Type
    - Climate
    - Plant Type
    - Moisture Balance
    - Root Zone Working Water Storage (RZWWS) (indirectly)

- The user can retrieve each zones moisture balance readings from the WaterOptimizer with the push of a button.

- In the event ET data is not received by the irrigation controller in over 24 hours, the WaterOptimizer irrigation controller automatically returns to the scheduled irrigation program. Once ET data is received, the WaterOptimizer will automatically return to weather base mode.

Product Features

- The WaterOptimizer 300 is also equipped with an automatic "pulse" mode feature, which a will pause irrigation to a zone to prevent runoff (soak cycle). The WaterOptimizer 300 can be operated in automatic sensor based mode, weather based mode, runtime based mode, manual mode, or test mode, each mode with or without pulse mode activated.

- The WaterOptimizer 300 is a professional grade irrigation controller housed in a plastic enclosure suitable for indoor or outdoor installation. The enclosure has a dimensions of 11.4" x 9.25" x 4.5" (L x H x D) and is IP-54 rated (equivalent to NEMA 3).

- The WaterOptimizer 300 is equipped with an internal transformer to power standard 24 VAC solenoids and an irrigation pump or master valve. It includes electronic short circuit protection for all solenoid and moisture sensor connections and is equipped with two (2) 0.25 ampere fuses to protect the 24VAC power supply and the internal digital electronics.

- The WaterOptimizer 300 features a large, easy-to-read, 4 line x 40 character liquid crystal display (LCD) for programming and operation. It is also equipped with 12/24 hour real time clock and calendar. The clock is powered by a replaceable 9V battery during a power outage. All programming and configuration settings are held in non-volatile memory, which is retained for up to five (5) years without battery power or during power outages.

- The WaterOptimizer 300 features four (4) automatic programs with up to four (4) start times per day and user-adjustable runtimes in one (1) minute increments.

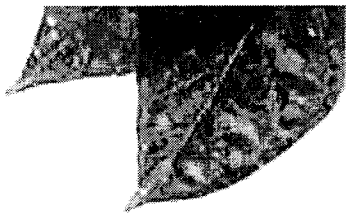
- The WaterOptimizer 300 comes standard with wireless networking and system-wide remote web-based monitoring and control capabilities. The mesh network technology used in the WaterOptimizer 300 allows for complete wireless configuration and control of a large irrigation system.

- The web-based controls allows for a user to log-in to the WaterOptimizer Remote Asset Management (RAM) Web Portal to configure and control one or hundreds of smart irrigation controllers.

- Since no special software is necessary to be installed on a computer, all that is necessary is an Internet connection and a web browser. The WaterOptimizer RAM Web Portal features unique username/password login protection and administrative user policies for security. From the WaterOptimizer RAM Web Portal, a user can setup groups of irrigation controllers and apply policies to those groups to ensure compliance with local municipality or utility ordinances such as limiting or preventing watering on certain days of the week or hours of a day. Commands such as inhibit irrigation controller(s) (inhibit on), inhibit off, force-on irrigation controller(s) can be manually or automatically sent to one controller or groups of controllers based on policy settings.

- The WaterOptimizer RAM Web Portal also features the ability to obtain diagnostic information from each WaterOptimizer 300 smart irrigation controller, such as 24 VAC power failure, moisture sensor failure by zone, program not configured, date/time not set, current day and previous day total watering time and much more. The current soil moisture % in each zone for a specific controller or a group of controllers can be obtained by sending a command from the WaterOptimizer RAM Web Portal. Reporting features including transaction history, controller status logs, moisture sensor value histories are also available via the Web Portal and can be readily exported to Excel or PDF formats.

Water Optimizer LLC
U.S. & Foreign Patents Pending



Technical Specifications

Features & General Specifications

- 12 zones, expandable to 48 zones
- 1 Pump, 1 Master Valve outputs
- 12 Moisture sensors expandable to 48 sensors
- 4 automatic programs
- Station Run Times, 1 minute to 240 minutes.
- 6 Modes of Operation: Runtime mode, Pulse mode, Sensor mode, and Weather mode

Enclosure Dimensions

- Width: 11.4 inches
- Length: 9.25 inches
- Depth: 4.5 inches
- Indoor/Outdoor Installation

Electrical Specifications

- Transformer Input: 110/120 VAC, 60Hz
- Transformer Output: 24 VAC, 1.25 A, (30VA)
- Fuse: 0.25 Amp, 250V
- Station Output: 24VAC, 0.45 amps per station
- Maximum Output: 24VAC, 0.9 amps (includes one Valve, Master Valve and Pump)
- Moisture Sensor Input: 4-20 mA at 24 VDC
- Battery Type: 9-volt battery (alkaline or lithium)
- Backup Power Duration (approximate): 72 hours

Temperature Limit Range

- Operating: 0°C to +50°C (+32°F to +122°F)
- Storage: -20°C to +70°C (-4°F to +158°F)

Radio Specifications

Bandwidth: 900 MHz
Supply Voltage: 3.0 – 3.6 V
Operating Current (Transmit/Receive): 210mA/80mA
Number of Operating Channels: 12

Certifications

- Federal Communication Commission (FCC) Part 15
- Irrigation Association Smart Water Applications Technology (SWAT)

Attachment B

Why St. Johns County Utility?

Background

St. Johns County Utility (SJCUD) is totally committed to water conservation. There is no lip service in this regard; historically the Utility has always shown results. SJCUD first implemented its aggressive inclining block rate in 2000. Over the past nine years the Utility has created a powerful database of its billing frequency to facilitate analysis of water use patterns in order to optimize its rate structure which rewards conservation. Some of the tools used include the following:

1. Mapping of all water/sewer/reuse utilities in an enterprise GIS Platform
2. Automated Meter Reading (AMR) program has replaced nearly all of the touch read water meters with meters that transmit via radio transmissions. Staff is able to view real time meter readings through a customized website.
3. Integrating Utility's billing software (Cogsdale) with GIS. This includes geocoding/mapping all customer accounts down to the parcel level. Staff is able to directly import individualized monthly consumption, allowing reports to be generated based on many variables (customer type, customer location, etc).
4. GIS Mapping of current and future developments in order to better analyze past and future growth patterns.
5. Implementation of Citywork CMMS (Computerized Maintenance Management System) allowing work crews to receive work assignments in the field. The CMMS is GIS enabled and allows for robust reporting and visualization of routine maintenance activities and reactive/corrective maintenance in problem areas.
6. All of the plants and many of the lift stations are equipped with telemetry. Our SCADA (Supervisory Control and Data Acquisition) system allows plant operators, managers, and engineers to remotely operate various parts of the system. They can also view real time data about the status and overall health of the system.

These are just a few highlights of technology-related items that SJCUD has undertaken in the past few years. The Utility puts a very high priority on information, analysis, and planning – all of which are made possible through the various technology programs that are currently in place. Combining this information and technology with significant conservation goals positions the Utility well for even more advanced conservation initiatives.

Automated Meter Reading (AMR) program

The SJCUD implemented a Utility wide AMR program in 2007. The AMR not only allows the Utility to automate meter reading, it greatly expands its ability to analyze and problem solve several areas that impact water conservation. Some of these include leak detection, water use patterns by week, day or hour and instant access to work orders that relate to water conservation.

With the installation of Flex Net automated meter reading system and Meter Data Management (MDM) software the Utility has the ability to identify possible leak conditions. The meter endpoints are programmed at installation with specific increments for possible leak conditions. Weekly, staff queries the MDM and compiles a report of accounts with possible leaks. This is based on the meter registering a specific amount of usage continuously for a 24 hour period. Work orders are generated for each account and field visits are made. The Utility then works with the account holder to determine if there is a leak or if there were other circumstances causing this situation.

Computerized Maintenance Management System (CMMS)

The Utility is currently in the process of implementing a CMMS. A couple of modules have been implemented with an anticipated final implementation date of early 2011. CMMS is a powerful computerized work order management system that allows the Utility to process work orders related to the functionality of its assets. One of the important things to note about the Utility's CMMS software selection is the fact that it uses GIS mapping to access its assets. Since the software works on a GIS platform, the work order management system can be linked to the customer water use and parcel data to perform work orders. Meters, cross-connection control valves, double-check detection valves, fire hydrants and automation flushing devices are all active assets that can be used for work orders. Thresholds can be programmed into the system that would indicate a service call for a particular device, making this system a powerful tool in promoting water conservation. Thresholds and criteria programmed via the customer's database could identify high water users and promote strategic water conservation techniques.

Demand Side of Management

Customer or demand-side measures including conservation and reclaimed water provide the County opportunities for reducing existing and future potable water demands. The SJCUD has developed estimates for the potential reduction in potable water demands that could be realized through the implementation of demand side management measures. Estimates for demand side measures will be performed for four future development conditions.

Utilizing these existing mapping tools and format of billing frequency information, the Utility is in a perfect position to plan and direct water conservation initiatives. Water conservation planning can be accomplished through the better use of historical billing

records, mapping, and work order information. Combining the output of historical billing records, mapping, and work order information allows the SJCUD to plan, monitor, target, and take corrective action as needed to meet water conservation goals. These are critical elements, and their use will aid the Utility in evaluating their performance through today's technology and equipment.

Over the past few months, SJCUD has completed linking its entire customer billing data via its GIS tools to corresponding parcel data. This has allowed the Utility to expand its water consumption usage patterns analysis to several customer categories traditionally not available through existing billing systems. Some of these include lot size, residential/commercial building square footage, County Property appraisers assessed property value, year built, assessed Department of Revenue (DOR), and commercial customer classes including hotels, schools, etc.

With the data available, the SJCUD has been able to identify potential customers for water conservation savings. Both indoor and outdoor use has been targeted for water conservation potential. With this ongoing analysis, the Utility has been better able to segregate customers as more than average indoor and outdoor users. The Utility is not only in a position to implement the appropriate conservation practices, but now has the ability to maximize potential savings. The tables and graphs in **Attachment C** document some of the findings from the demand-side management analysis.

The SJCUD plans to review a number of indoor and outdoor best management practices related to water conservation and intends to adopt a policy that not only maximizes conservation but has a higher probability of effectiveness. The moisture sensor technology, especially the WaterOptimizer™ best fits the Utility's best management practices to research outdoor water conservation potential. Results of this study will allow the Utility to compare water usage from targeted customers before and after the study.

Attachment C

Single Family Residential Profile Statisitcs

Res Class	Ave. Just Value	Average Effective Area (sqft	Average Year	Average Parcel Size (sqft)	Average Parcel Size (acre)	Ave Dwellng Unit / Acre
RS1	$ 104,847	1,439	1983	8,403	0.19	5.2
RS2	$ 144,313	1,877	1993	10,008	0.23	4.4
RS3	$ 179,452	2,235	1997	11,420	0.26	3.8
RS4	$ 233,666	2,587	1998	13,362	0.31	3.3
RS5	$ 459,718	3,421	1996	20,128	0.46	2.2

Single Family Water Use Profiles

				Total Water (Gallons/Day)		Total Indoor		Total Outdoor	
Res Class	Percapita	Indoor per Capita	Outdoor per capita	Gals	% of Total	Gals	% of Total	Gals	% of Total
RS1	90.6	56.4	34.2	288,985	12%	179,948	14%	109,037	10%
RS2	104.9	60.4	44.5	440,899	19%	237,193	18%	203,706	19%
RS3	123.4	70.4	53.0	525,053	22%	299,545	23%	225,507	21%
RS4	124.0	67.5	56.6	540,484	23%	294,010	22%	246,473	23%
RS5	145.4	78.3	67.1	574,823	24%	309,660	23%	265,162	25%
Totals	118.8	67.1	51.6	2,370,242	100%	1,320,357	100%	1,049,886	100%

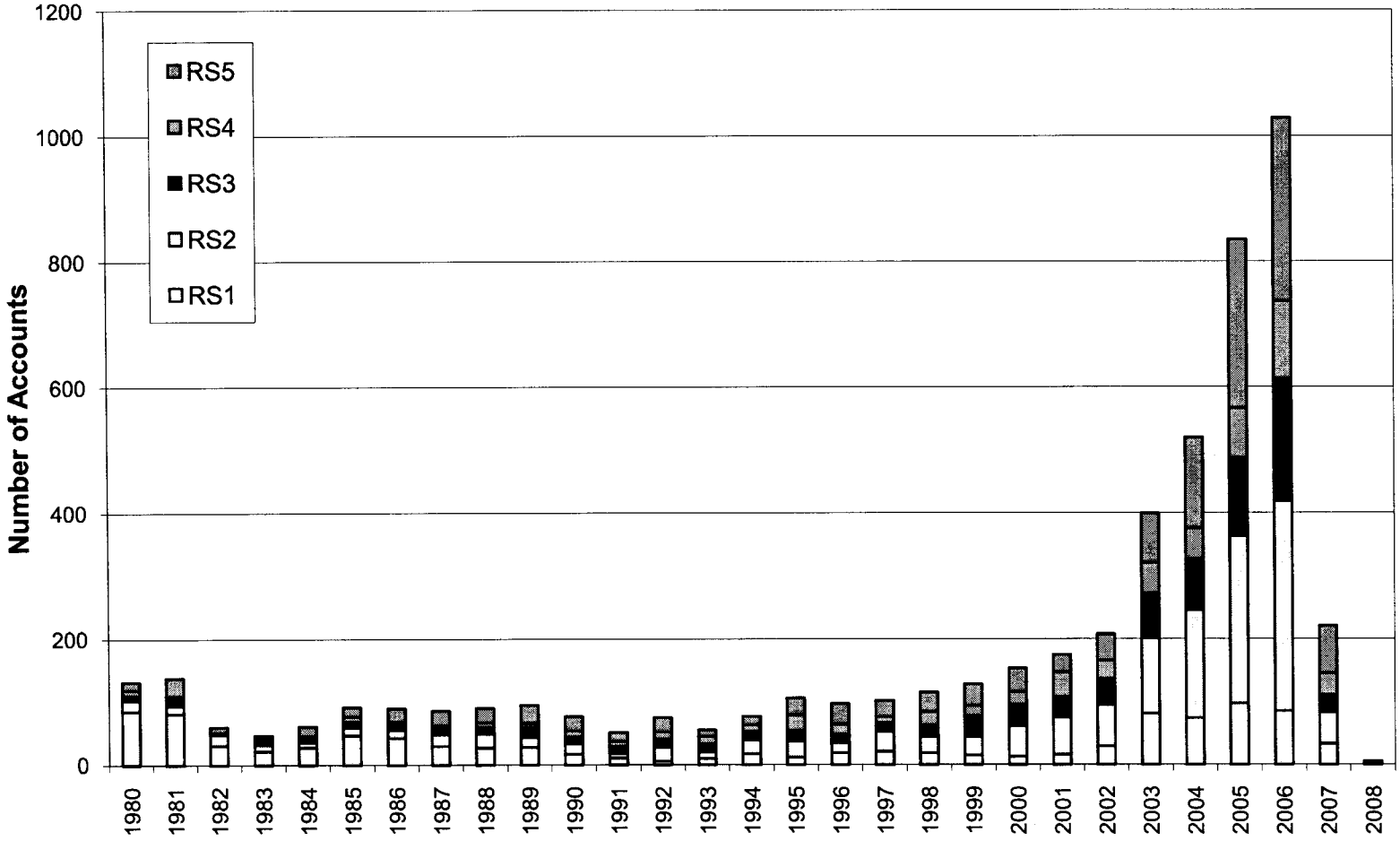
Single Family Outdoor Use Patterns

		Irrigation Pattern					
		Mild (M) > 1.0 and < 2.0 in/month			Heavy (H) >= 2.0 in/month		
Res Class	% of Mild and Heavy Irrigation users connected to the Public Supply in each Residential Profile	% of Total Customers	% of Total Outdoor Use	Average Irrigation Depth (in/mon)	% of Total Customers	% of Total Outdoor Use	Average Irrigation Depth (in/mon)
RS1	30%	3%	3%	1.41	2%	3%	3.92
RS2	37%	3%	4%	1.45	4%	8%	3.50
RS3	38%	4%	5%	1.48	5%	11%	3.45
RS4	36%	4%	5%	1.45	4%	11%	3.38
RS5	32%	3%	6%	1.45	3%	10%	3.55

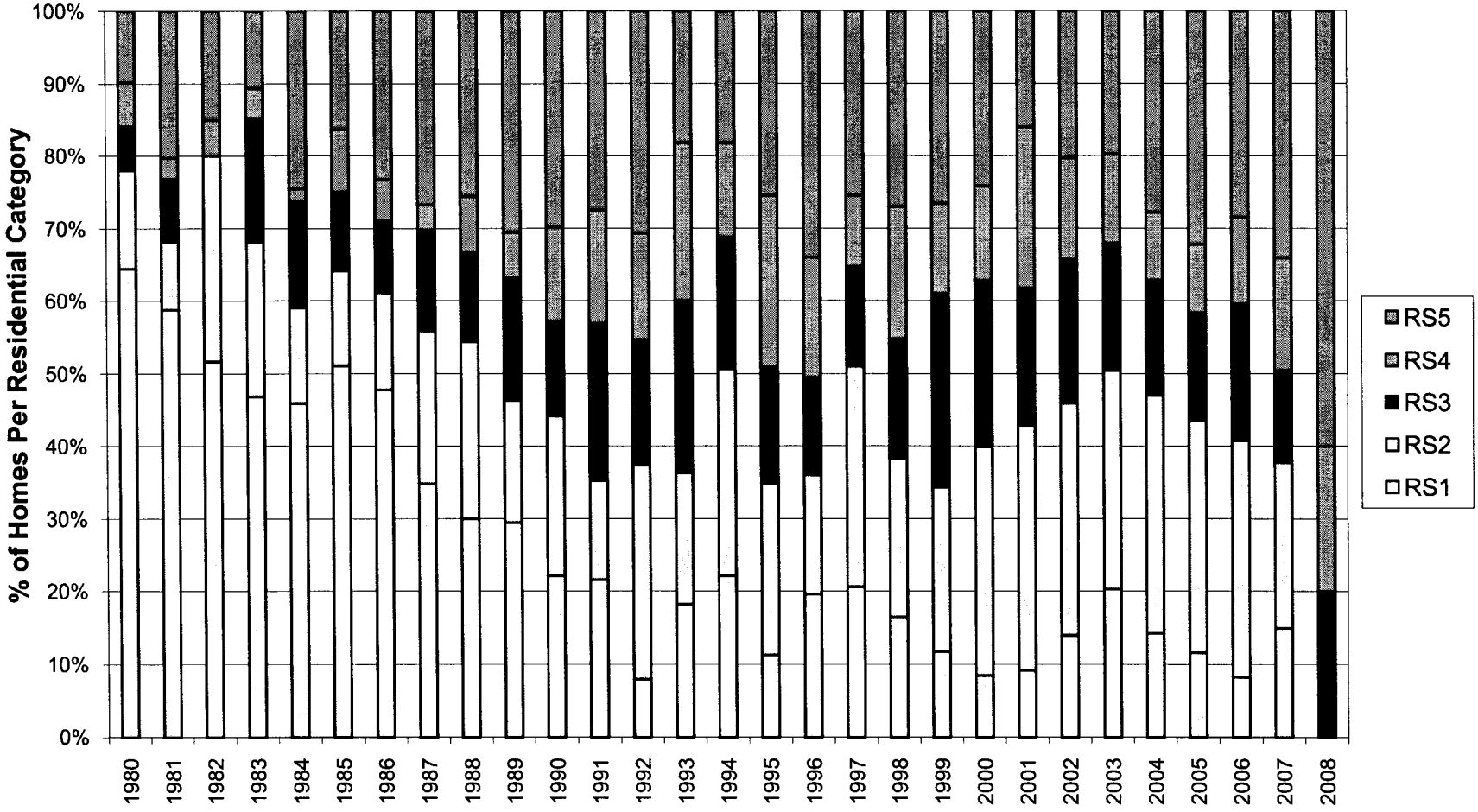
Analysis based on 11,260 residential accounts.
Residential accounts derived using the following criteria:
>1000 gallons of monthly water use
Population 05 and 10 > 0
Parcel Area > 0
Effective Area > 0
Year Built > 0

Irrigation depth calculated based on maximum monthly demand minus indoor water use (indoor per capita * population) divided by irrigable area ([parcel area - effective area]*0.7). Basis of irrigable area and mild or heavy irrigation patterns adapted from *Palenchar, et.al, Hyrdograph Seperation of Indoor and Outdoor Billed Water Use in Florida Single Family Residential Sector. FSAWWA Winter 2009 Proceedings* and *Haley and Dukes, Residential Irrigation Water Application Influenced by Soci-Economic Parameter. International Irrigation Show December 2007.*

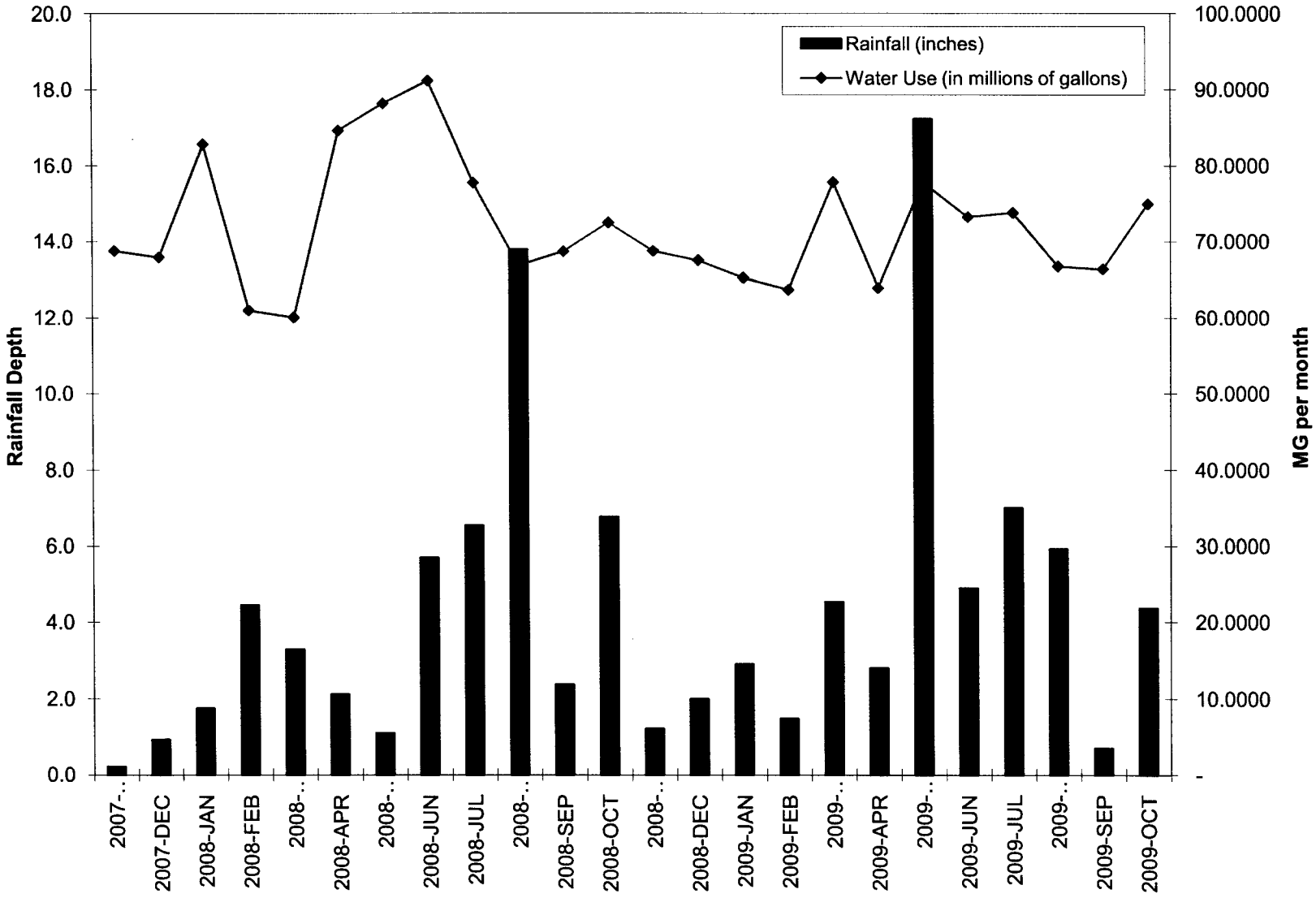
Mild and Heavy Irrigators
by Year Built
for 11,260 Billing Records in Per Capita Analysis



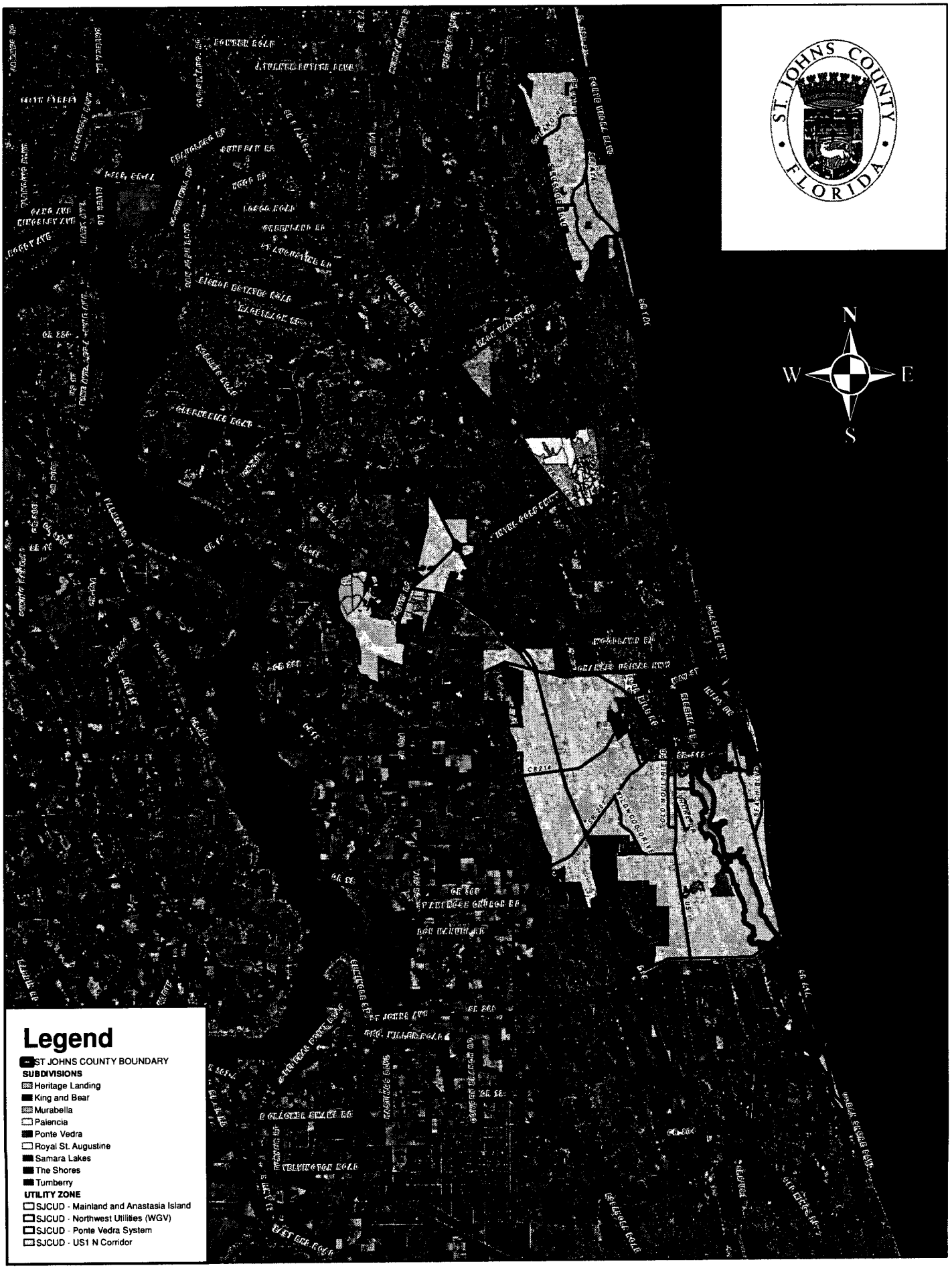
Percent of Mild
and Heavy Irrigators by Year Built
for 11,260 Billing Records in Per Capita Analysis



Rainfall and WaterUse

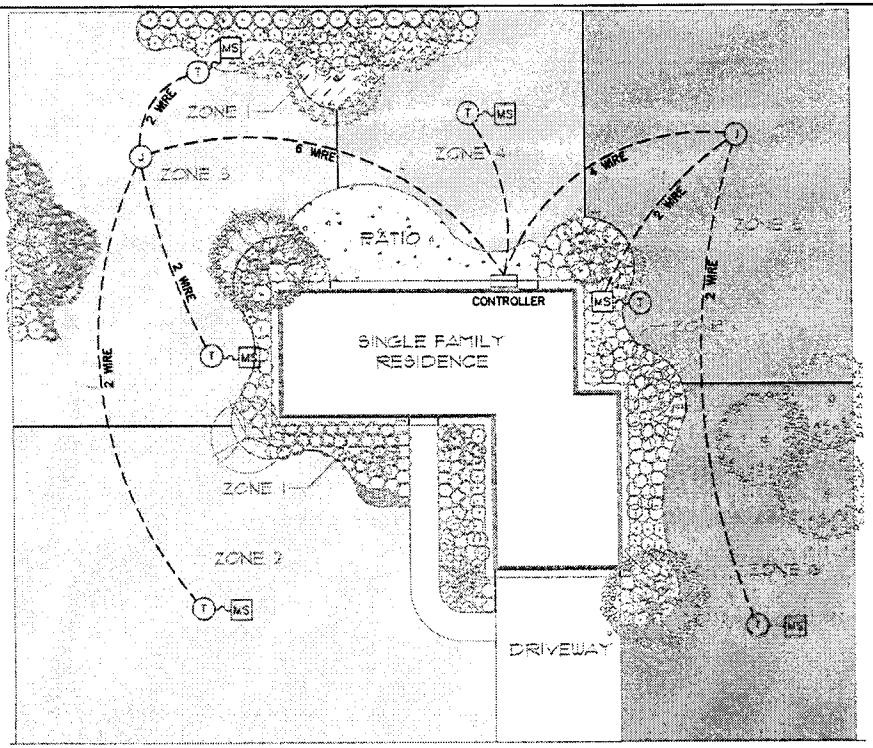


Attachment D



POTENTIAL STUDY LOCATIONS

Attachment E



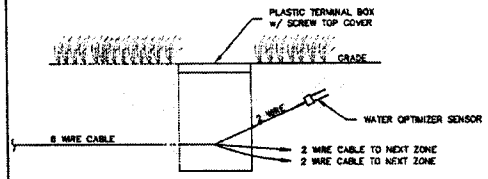
LEGEND

- (J) BELOW GRADE JUNCTION BOX
- (T) BELOW GRADE TERMINAL BOX
- MS WATEROPTIMIZER MOISTURE SENSOR

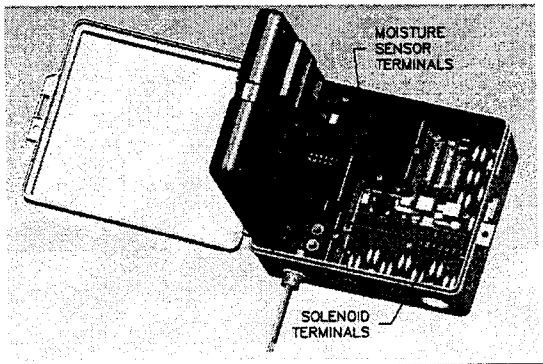
NOTES:

1. PLACE MOISTURE SENSOR IN THE DRIEST LOCATION OF THE ZONE
2. USE MINIMUM 18 AWG TWISTED PAIR WIRES
3. DO NOT CONNECT SHIELD WIRE
4. DO NOT GROUP COMMON (BLACK) WIRES FROM SENSOR. EACH WIRE MUST BE WIRED BACK TO THE CONTROLLER INDEPENDENTLY.

TYPICAL MOISTURE SENSOR LAYOUT



TERMINAL BOX DETAIL



Attaching Controller to Wall

A. Mark on the wall or mounting surface the location of the keyholes❶, centerline to centerline. For wall mounting use the two (2) outer keyholes.

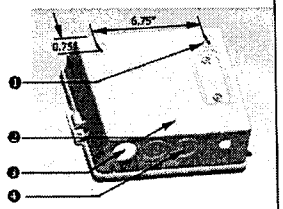
B. Secure appropriate fasteners into the wall or mounting surface at the marked locations.

C. Leave approximately ¼" between the head of the fastener and the wall or mounting surface to allow the controller to hang from the keyholes❶.

D. Hang the controller on the keyholes and from the inside of the controller, secure an appropriate fastener through the lower mounting hole❷.

E. Wire solenoid valves using the 1" through-hole at the bottom of enclosure❸. If connecting moisture sensors, use a 1" drill to drill a 1" through-hole at the bottom of the enclosure❹. Note: Indentation is not a knock-out.

DO NOT ATTEMPT TO KNOCK-OUT HOLE WITH HAMMER.



Connecting Solenoid Valve, Master Valve and Pump

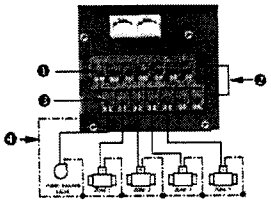
The inside compartment of the controller is equipped with screw terminals for easy connection of the solenoid valves, master valve and/or pump start relay wiring. The screw terminals will accept 12 AWG to 22 AWG wire. Always follow the solenoid valve manufacturer's minimum wire gauge requirements for the size of the wires. Note: Each zone output is rated for maximum of 0.45 AMPS to operate typical irrigation solenoid valves.

A. Strip to expose ½" of the wire conductor end.

B. Loosen the appropriate zone screw terminal by turning the screw counterclockwise and insert the stripped wire around the base of the screw terminal.

C. Tighten the screw terminal by turning the screw clockwise to hold the wire in-place. Lightly tug on each wire to make certain wire is securely connected to the screw terminal.

D. If your system requires a master solenoid valve or pump, connect the master valve/pump start relay wiring to the MS terminal ❸ and the COM terminal❶.



❶ Solenoid valve common (COM) terminal

❷ Solenoid valve zone (S1-S12) terminals

❸ Master solenoid valve/pump start relay (MS) terminal

❹ Solenoid valve common wire

Connecting Moisture Sensors

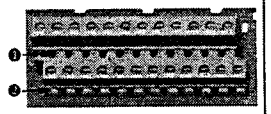
The inside compartment of the controller is equipped with screw terminals for easy connection of the moisture sensor wiring. The screw terminals will accept 16 AWG to 20 AWG wire. For WaterOptimizer Moisture Sensors, the minimum wire gauge wire must be 20 AWG. Note: The moisture sensors operate on a 24 VDC, 4-20mA current loop. Therefore, each moisture sensor must be wired with two (2) wires at the controller.

A. Strip to expose ½" of the wire conductor end.

B. Loosen the appropriate zone screw terminal by turning the screw counterclockwise and insert the stripped wire around the base of the screw terminal.

C. Tighten the screw terminal by turning the screw clockwise to hold the wire in-place. Lightly tug on each wire to make certain wire is securely connected to the screw terminal.

D. Note: If the WaterOptimizer irrigation controller is equipped with three rows of terminals, the third row of terminals (i.e. bottom row) is not used.



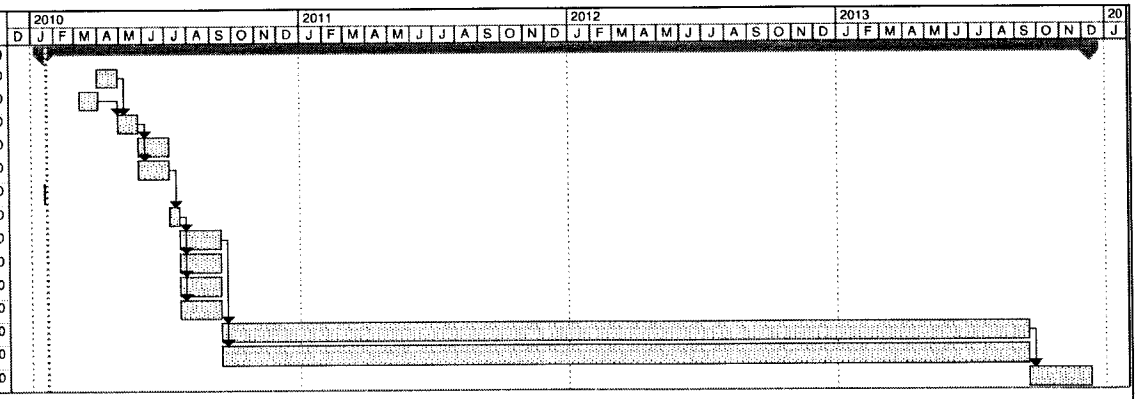
❶ Moisture sensor (-) Return (Black Wire) terminal

❷ Moisture sensor (+) Power (Red Wire) terminal

WaterOptimizer™

Attachment F

ID	Task Name	Duration	Start	Finish	Cost
0	**SJCUD Cost Share**	**1017 days?**	**Tue 1/19/10**	**Wed 12/11/13**	**$1,180,800.00**
1	Analysis of Water Custome	20 days	Thu 4/1/10	Wed 4/28/10	$30,000.00
2	Identify Individual Irrigation	20 days	Mon 3/8/10	Fri 4/2/10	$10,000.00
3	Education Program	20 days	Thu 4/29/10	Wed 5/26/10	$30,000.00
4	Independent Audit	30 days	Thu 5/27/10	Wed 7/7/10	$20,000.00
5	Develop Water Use Baseli	30 days	Thu 5/27/10	Wed 7/7/10	$30,000.00
6	Water Application Uniformi	1 day?	Tue 1/19/10	Tue 1/19/10	$20,000.00
7	Describe Equipment Selec	10 days	Thu 7/8/10	Wed 7/21/10	$5,000.00
8	Describe Equipment Install	40 days	Thu 7/22/10	Wed 9/15/10	$454,000.00
9	Document Owner Participa	40 days	Thu 7/22/10	Wed 9/15/10	$10,000.00
10	Document Equipment Setti	40 days	Thu 7/22/10	Wed 9/15/10	$57,800.00
11	Document Treatment Type	40 days	Thu 7/22/10	Wed 9/15/10	$10,000.00
12	Data Collection	785 days	Thu 9/16/10	Wed 9/18/13	$150,000.00
13	Document Weather Conditi	785 days	Thu 9/16/10	Wed 9/18/13	$10,000.00
14	Analyze Results	60 days	Thu 9/19/13	Wed 12/11/13	$344,000.00



Project: SJCUD Cost Share
Date: Thu 1/21/10

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone