

Cooperative Funding Initiative: FY 2013

WATER CONSERVATION

Water conservation projects are those that result in measurable water savings. Projects may be considered for funding if they meet the general Cooperative Funding Initiative criteria and address three elements:

- (1) an **incentive** designed to change water-related habits or hardware
- (2) **education** about the conservation measure and the benefit of it
- (3) **requirements**, where appropriate

This information has been compiled to assist potential cooperators in developing complete and acceptable funding proposals. For additional information, contact the project manager present at the FY 2013 Cooperative Funding Kick-off meeting.

PART I: TYPES OF PROPOSALS

Projects eligible for funding include the following examples. Required elements must be provided in accordance with Part II and in the format described in Part III in order for proposals to be considered complete. Projects not eligible for funding include those that are required by state law or as a result of a legal decision and enforced by local governments.

A. Plumbing replacement projects involve the replacement of plumbing fixtures and devices in pre-1995 structures with newer, water-efficient models consistent with the Florida Plumbing Code and the Energy Policy Act of 1992, which became effective on January 1, 1994. The eligible funding elements include rebates/credits, program information/education, reporting and analysis, and program administration by a consultant. *Toilet replacement* projects typically involve providing a rebate or billing credit as a financial incentive for public supply customers to replace older, high-flow toilets with ultra low-flow or high-efficiency toilet models. High-efficiency toilet models that are rebated must be EPA WaterSense® labeled to be eligible. Potential savings declines could occur if the toilet flappers specific to each toilet model are not replaced appropriately over time. Education is believed to be the best response to this issue as a means of maintaining the savings value of the investment.

Plumbing retrofit projects typically refer to those which encourage the replacement of devices that are relatively inexpensive and easy to install. These may include showerheads and faucet aerators in residential settings and pre-rinse spray valves in restaurants or other establishments with food service. The Energy Policy Act of 2005 requires that all pre-rinse spray valves manufactured on or after January 1, 2006 must have a flow rate of no more than 1.6 gallons per minute, when measured with ASTM Test Method F2324. Projects that

include pre-rinse spray valve retrofits must include method(s) to ensure that low-flow spray valves, which use 1.6 gpm or less, will replace high-flow spray valves, ie., inspection. Projects that include showerhead retrofits must include method(s) to ensure that low-flow showerheads, which use 2.5 gpm or less, will replace high-flow showerheads, ie., an exchange program or inspection. Other plumbing projects may include incentives for the installation of water-efficient clothes washers and dishwashers.

REQUIREMENTS:

- Description of how the project fits into the cooperator's overall conservation plan
- Description of *related* codes/ordinances in place to require water efficiency
- Identification of the numbers and types of customers anticipated to participate, a general marketing plan designed to communicate the project to potential participants, and description of the service area
- Description of the device(s) and/or service(s) offered
- Historical water use (average gpd) of customers by type, and source of water anticipated to be saved (i.e., potable water from supply system, ground water from private wells, etc.)
- Assurance that participants include only those with pre-1995 plumbing fixtures
- Potential water savings and documented methods for determining them
- Life of the resulting savings from the device(s) or service(s)
- Methods for administering the project, providing for 100 percent inspection, evaluating the project, calculating savings using actual water use (pre and post) billing data
- Reported savings will be calculated to be directly related to the project implemented—Factors that may skew savings calculations such as other indoor water uses, seasonal occupancy, frequency and amount of potable water used for irrigation, water restriction changes, main breaks or disruptions, etc. should be accounted for when calculating the water savings based on actual water use billing data
- An educational component of the project that addresses leak detection and proper flapper selection and installation for toilet replacement projects will be included
- Customer surveys distributed to determine the satisfaction with the project
- A timeline of all significant project milestones
- Costs for eligible portions of the project and other funding sources
- The final invoice will be reimbursed once all contracted deliverables have been met

B. Landscape/Irrigation Modification projects may involve evaluations of existing landscape and/or irrigation system evaluations, recommendations for efficiency improvements and a rebate for implementing the recommendations. The projects must target existing irrigation water use and result in measurable savings. Contractors must be certified professionals, with the appropriate certifications,

such as irrigation auditor, from FIS, FNGLA or other recognized certifying agencies in the area(s) targeted by the project. The project elements eligible for funding include rebates/credits, program information/education/marketing, reporting and analysis, code modification and program administration by a consultant. Typical outdoor projects are described below. Other outdoor water conservation projects that can yield measurable savings of existing uses may also be submitted.

1. Efficient irrigation management projects include the distribution of devices, such as rain sensors and soil moisture sensors, which improve the management efficiency of automatic irrigation systems. Rain sensor projects have been implemented with District funding assistance and generally include a rebate or billing credit as an incentive. According to the recently completed District-funded soil moisture sensor research, SMART irrigation technology, such as soil moisture sensors, have the potential to be an effective means to reduce irrigation while maintaining landscape quality. Projects that include soil moisture sensor technology are appropriate for funding, but with specific conditions. In addition to the list of "Requirements" in section 2 below, soil moisture sensor projects will also be required to adhere to the following:
 - A means to measure water savings, such as the installation of irrigation meters on participating homes/establishments; document pre and post sensor irrigation water use
 - Use of the *Field Guide to Soil Moisture Sensor Use in Florida* (IFAS, 2008) for the installation, calibration and maintenance of soil moisture sensors
 - Target customers with high, inefficient irrigation water use
 - Develop an education program for participants to ensure long-term, effective soil moisture sensor operation.

2. Water budgets for irrigation may be considered for funding as a pilot project designed to determine the program's potential effectiveness if widespread, and the most appropriate program methods and administration.

REQUIREMENTS for landscape/irrigation modification projects:

- Description of how the project fits into the cooperator's overall conservation plan
- Description of related codes/ordinances in place to require water efficiency
- For rain sensor and soil moisture sensor installation projects, adopt an ordinance or amend an existing code or ordinance as described in Senate Bill 494, requiring all automatic irrigation systems to use technology that inhibits or interrupts operation of the landscape irrigation system during periods of sufficient moisture
- Identification of the numbers and types of customers anticipated to participate and description of the service area

- Description of the device(s) and/or service(s) offered
- Historical water use (average gpd) of customers by type and source of water anticipated to be saved (i.e., potable water from supply system, groundwater from private wells, etc.)
- Provisions to ensure contracted work is in accordance with accepted best management practices (i.e., requiring contractors are licensed and certified irrigation and landscape professionals)
- Potential water savings and documented methods for determining them
- Life of the resulting savings from the device(s) or service(s)
- Customer surveys distributed to determine the satisfaction with the project
- Methods for administering the project, evaluating the project and timelines
- Costs for eligible portions of the project and other funding sources
- The final invoice will be reimbursed once all contracted deliverables have been met

- C. Landscape demonstration** projects may: 1) demonstrate new technologies or unique practices that significantly reduce water use and/or improve water quality or 2) educate the audience on Florida-Friendly Landscaping™ techniques and other best management practices consistent with the objectives of Florida Yards & Neighborhoods program with the goal of increasing the likelihood that these techniques be implemented, resulting in increased water savings and water quality protection.

Projects will be evaluated for merit, need and available funding. Meeting these criteria does not ensure funding. The following criteria are **required** for projects with budgets exceeding \$5,000:

- Demonstrate the applicant has explored partnerships with other agencies. These may include one or more of the following: utilities, irrigation companies, landscape companies, landscape architects, nurseries, turf producers, manufacturers of the technology, environmental organizations, etc. Partnerships may also include those with other stakeholders including commercial/residential developers, builders, sports/golf facilities, commercial building owners, apartment/condominium owners, hotel owners and others who have significant existing and potential investments in landscaping or in conserving water resources. List those contacted and describe their respective reasons for or against participating in a partnership.
- Demonstrate that the project is consistent with latest science:
 - Demonstrate all phases of the project, from planning and design through maintenance, are consistent with Florida industry (IFAS, FDACS, DEP, etc.) best management practices.
 - Demonstrate all professionals associated with the project, from planning and design phases through maintenance phases, have the appropriate current certifications from organizations such as FNGLA, FIS, IA, FDACS and/or other

associations with industry-recognized water conservation and water quality curricula.

- Justify need for the project and demonstrate that it does not create redundancy with similar sites in proposed area.
- Demonstration site must be open for public access.
- Applicant must propose an education plan that will:
 - Identify the audience targeted and the rationale for choosing that audience.
 - Identify the goals and objectives of the education.
 - Identify the messages that will be conveyed to the target audience.
 - Identify the strategy for reaching the target audience with the selected messages. One required strategy is using the demonstration site as a teaching tool for the target audience. Seeking media promotion of the site is also recommended.
 - Identify the methods planned to implement the strategy. One required method is educational signage. All Florida-friendly demonstration sites must display a "Florida-Friendly Landscaping™" sign clearly visible to site visitors. Other signage communicating the educational message will be required as well and determined based on the goals and objectives of the project. Other methods may include workshops, special events, tours and similar programs.
 - Identify the method of evaluating the success of the education strategy. For Florida-Friendly Landscaping™ demonstration site projects, this evaluation must include follow-up to determine the percentage of people exposed to the demonstration site that incorporate Florida-friendly principles in their landscaping.
- Ensure benefits to District over project life:
 - Estimate the benefits in terms as appropriate (mgd saved, tons of nitrogen loading avoided, people reached, etc.).
 - Provide a plan, approved by District staff and incorporated in the funding agreement, to ensure the project's long-term viability. Maintenance will result in a healthy, attractive landscape with legible signs and current information for the target audience and will demonstrate to the District's project manager annually through reporting, photos and annual site inspections. Written commitments to properly maintain the site are required from those responsible for maintaining the property.
 - Provide a plan, approved by District staff and incorporated in the funding agreement, to communicate to the target audience(s) the benefits of the new technology or unique practice being demonstrated. Communications will result in minimum audience members reached per year, and reports describing the events, audience members reached and surveys sent/results will be provided to the District's project manager annually.

Additional requirements for projects that demonstrate new technologies or unique practices that significantly reduce water use and/or improve water quality:

- Project must demonstrate new technology or unique practice that significantly reduces water use and/or improves water quality and is applicable to common water uses within the District and:
 - Identify all existing information or demonstrations on the new technology or practice(s) within the county the proposed project will be located, within the District's boundaries, and within state boundaries to the extent necessary to avoid redundancy with similar sites in the proposed area.
 - Describe how the demonstration is different from traditional or recommended (BMPs) practices.
 - Estimate the potential benefits when new technology or unique practice is transferred to other areas of the District.
 - The final invoice will be reimbursed once all contracted deliverables have been met.

D. Industrial/Commercial/Institutional (ICI) water conservation programs typically involve an evaluation of ICI facilities, recommendations for efficiency and a financial incentive (rebate) for the implementation of recommendations. Eligible funding elements for ICI conservation include the overall program administration, data collection, analysis and reporting.

REQUIREMENTS:

- Description of how the project fits into the cooperator's overall conservation plan
- Description of *related* codes/ordinances in place to require water efficiency
- Identification of the numbers and types of customers/facilities anticipated to participate, and description of the program area
- Description of the device(s) and/or service(s) offered
- Historical water use (average gpd) of customers by type and source of water anticipated to be saved (i.e., potable water from supply system, ground water from private wells, etc.)
- Historical water use of targeted equipment
- Potential water savings and documented methods for determining them
- Impact to wastewater flows (for significant users, > 25,000 gpd)
- Life of the resulting savings from the device(s) or service(s)
- Methods for administering the project, evaluating the project and timelines
- Costs for eligible portions of the project and other funding sources
- The final invoice will be reimbursed once all contracted deliverables have been met

F. Projects typically ***not eligible for funding*** include those that (1) do not provide any direct benefit to the District; (2) are the responsibility of the cooperator according to a permit or legislation; and (3) are not consistent with District objectives and Governing Board priorities. Examples of such items include:

- Projects that address **operation and maintenance** problems, such as service

meter replacement or leak repairs.

- **Staff time** of the cooperator necessary to complete projects (does not include staff time billed by a consultant)
- **Equipment** such as computers or vehicles for the use of cooperators to accomplish a project.

PART II - DEFINITIONS AND CALCULATIONS

A. WATER USE and WATER SAVINGS

Water Use = the standard amount of water used by a device or historical use of water by a customer type, expressed in gallons per day (gpd).

Water Savings = the amount of traditional, potable quality water supplies that will be saved as a direct result of the project, expressed as an annual average in gallons per day (gpd). The savings reported should be only that amount directly attributable to the device/service.

ULFT = Ultra Low-flow Toilet; using 1.6 gallons per flush (gpf) and meeting current ANSI/ASME standards in accordance with the National Energy Policy Act and Florida Building Code. A ULFU (urinal) uses 1.0 gpf.

HET= High Efficiency Toilet; using 1.28 gpf or less and must be certified under the EPA's WaterSense Program.

A-1 Acceptable data.

Only metered water use data is acceptable. Unless other measured data is provided and documented, the data provided in Table 1, representing a conservative estimation approach must be used to calculate savings. For project elements not represented in Table 1, the cooperators should provide sufficient data and calculation documentation in estimating project savings.

Table A1. Acceptable Data for Estimating Conservation Savings.

Targeted Water Use	Years Manufact.●	Application ‡	Use/Unit [◊]	Avg. Use/Unit	Frequency of use		Service or Device	Use/unit [◊]	Savings GPD*
Toilet	1980-94	Residential	GPF	3.5	5.1	Flushes per person per day	ULFT	1.6	9.7 ¹
	1980-98		GPF	3.5	5.1		HET	1.28	11 ¹
	1980-94	Commercial	NA	NA	NA		ULFT	1.6	16 - 57 ²
Urinal	1980-94	Commercial	GPF	3.0	2.0	Flushes per person per day	ULFU	1.0	4.0 ³
	1980-94		GPF	3.0	2.0		Waterless Urinal	0.0	6.0 ³
Showerhead	1980-94	Residential	GPM	4.0	5.3	Min./person per day	Low-flow Shwrhd	2.5	5.3 ¹
Faucets	1980-94	Residential - Kitchen	GPM	3.0	8.1	Min./person per day	Low-flow Faucet	2.5	2.7 ¹
	1980-94	Residential - Bathroom	GPM	3.0	8.1		Low-flow Faucet	1.5	8.1 ¹
Clothes Washer	1990-98	Residential	GPL	43.0	0.4	Loads/day per person	Efficient machines	27.0	5.9 ¹
Dishwasher	1990-95	Residential	GPL	12.0	0.1	Loads/day per person	Efficient machines	7.0	0.5 ¹
Rain Sensor Device ▼	NA	Residential	GPD	300	1.0	Irrigation Cycles/Day	Automatic Sensor	200	100
Pre-Rinse Spray Valves	1980-2000	Commercial	GPM	3.0	NA	Gallons/min/day	Low-flow spray valve	1.6	100-300 ⁴
Soil Moisture Sensor Devices	NA	Residential	GPD	300	1.0	Irrigation Cycles/Day	Soil Moisture Sensor	100	200 ⁵

Primary Source: Vickers, Amy. Handbook of Water Use and Conservation, 2001.

●Reflects the year the fixture/device was manufactured in relation to the water use per unit. *For example, toilets manufactured from 1980 to 1994 used an average of 3.5 gallons per flush. From 1994- present, toilet water use is 1.6 gallons or less per flush.*

‡ Reflects the application associated with data presented. Some water uses (faucets, for example) may be practically applied to commercial or other applications. Cooperator must research/present use data.

◊Gallons per flush (GPF), Gallons per minute (GPM), Gallons per load (GPL),

*Gallons per person per day, per unit replaced, in gallons per day (GPD)

▼ Source: Ayres Associates. Development of Water Conservation Options for Non-Agricultural Water Users, 2000. Savings GPD is per residential site. Savings must be accordingly adjusted downward for outdoor programs implemented separately.

¹ To calculate gallons per day per household, multiply the Savings GPD in table by the average persons per household.

² GPD savings per toilet replaced: multiply the number of toilets in commercial establishment by savings per toilet in Table A-1. Source: Tampa Bay Water. Potable Water Conservation Best Management Practices for the Tampa Bay

Region, 2004.

Table A-1. Savings per Toilet Replaced

Market Segment	Estimated Savings (gpd/ULF toilet)	Market Segment	Estimated Savings (gpd/ULF toilet)
Wholesale	57	Religious	28
Food Store	48	Manufacturing	23
Restaurant	47	Health Care	21
Retail	37	Office	20
Automotive	36	Hotel/Motel	16

³ The savings per urinal/account is calculated by multiplying the Savings GPD by the number of males per account; (average 11.7 number of males per account for Tampa Bay Water Member Governments), Source: Tampa Bay Water. Potable Water Conservation Best Management Practices for the Tampa Bay Region, 2004.

⁴Source: Tampa Bay Water. Potable Water Conservation Best Management Practices for the Tampa Bay Region, 2004.

⁵ Source: Southwest Florida Water Management District and University of Florida, Institute of Food and Agricultural Sciences. Evaluation of Soil Moisture Based On-Demand Irrigation Controllers, Phase II, 2009. Savings GPD is per residential site.

A-2 Calculation of Savings

The total savings related to the project should be calculated based on the number, types and demographics (persons per household, irrigable area, etc.) of participants. For example, when calculating the total project savings, remember to incorporate the persons per household (pph) as determined by the 2011 Bureau of Economic and Business Research Projections of Florida Population by County, 2010-2040. All such information must be provided as part of the calculation documentation. Where funds are requested from more than one basin, the cooperators must determine and document the savings associated with each affected basin.

Example: Emerald City Toilet & Showerhead Replacement

Emerald City plans to offer rebates for the purchase and installation of low-flow toilets and free low-flow showerheads to its single-family residential and commercial customers with pre-1995 plumbing fixtures. The city plans to offer \$100 toward the replacement of up to 3,500 toilets to single-family customers (maximum two per customer). In addition, up to 800 rebates of \$100 will be offered to commercial participants for toilet replacement. The city will collect and recycle old toilets, inspect 100% of the installed toilets, and provide educational materials to customers about the maintenance of ULFTs, including proper flapper replacement. Free replacement of older high-flow showerheads with low-flow showerheads will be offered to each participant (maximum two per customer), and installed at the time of the toilet inspection. The persons per household (pph) for Emerald City is 2.16 for single-family households. Participant billing data from one-year before installation to one year after installation will be collected, analyzed and included in the final program report. The savings are estimated to be 82,400 gpd, and was estimated as follows:

	# fixtures	#homes/units	Est. Savings (gpd)
Low-Flow Toilet Rebates	3,500	1,750	36,750
Low-Flow Showerheads	3,500	1,750	19,250
Commercial Low-Flow Toilet Rebates	800	N/A	26,400
TOTALS	7,800	3,500	82,400

C. COSTS and COST/BENEFIT

C-1 Project Costs

Total Project Cost = The TOTAL project cost, including all elements that apply, such as:

- Program administration (may include consultant fees)
- Devices/materials (may include advertising materials, but not including staff time or equipment purchased by the cooperator, such as printers or office space)
- Data analysis (may include consultant fees, but not cooperator staff time)
- Reporting (costs of report production)
- Marketing/Education (all print work must be done through an outside vendor to qualify for reimbursement)

Eligible cost = Portion of total project cost eligible for cooperative funding*

* permitting, mapping or other fees assessed by the District are not eligible for cooperative funding

Other Grants Received = portion of eligible cost funded by another agency (other than the District) Examples include, but are not limited to State and Federal Line Items.

District cost = Portion of eligible cost requested of the District

- For multi-year projects, list amount of funds requested in each fiscal year
- Where funds are requested from multiple basins, the costs requested from each basin must be reflective of the benefit achieved in each.
- Where there are multiple cooperators, the District cost should not exceed 50% of the total eligible cost minus third-party cooperators.

Cooperator cost = Portion of the total project cost the cooperator will fund (equal to the difference between the total project cost and the District cost).

- All cooperators must be identified, along with their contribution, as in this example:

Example: Emerald City Toilet Rebate			
	TOTAL	FY13	FY14
Total Project Cost	\$505,000	\$375,000	\$130,000
Eligible Project Cost	\$500,000	\$370,000	\$130,000
Oz School District	\$5,000	\$5,000	\$0
District	\$250,000	\$185,000	\$65,000
Cooperator: Emerald City	\$250,000	\$185,000	\$65,000

C-2 Cost-Benefit

Cost-Benefit = A calculation of the cost to develop the project, amortized at 8%, versus and the benefits of the project over its anticipated life. The calculation enables all types of projects to be compared to each other, as well as other potential uses (investments) of District funds.

Generally, unless acceptable documentation is presented, the confident life of water savings for each conservation measure is:

- Toilets = 20 years
- Faucets = 5 years
- Rain sensors = 5 years
- Plant materials = 5 years
- Showerheads = 5 years
- Irrigation system = 5 years
- Major appliances (assuming mobilization issue is resolved) = 20 years

The following calculation (determining the amortized monthly investment, annualized over the life of the benefit) must be used:

$$(1) [(T/100,000) * c] * 12 = M$$

$$(2) M/365 \text{ days} = X$$

$$(2) X / (Y/1000 \text{ gallons}) = CB$$

Where,

CB = cost/benefit

X = Daily cost

T = Eligible Project Costs

Y = Benefit (i.e., offset, in gpd)

c = monthly investment over life of project:

M = Annual cost

30 year life = \$733.77

10 year life = \$1,213.28

20 year life = \$836.45

5 year life = \$2,027.64

Example: Emerald City Rain Sensor Rebate

Tin Man Utilities, a private system, is requesting funds from the District to provide rebates for the purchase and installation of automatic rain shut-off devices for up to 600 residential and commercial customers. The eligible project costs are estimated to total \$45,000, and the related savings are estimated to be **60,000** gpd. The cost benefit is **\$0.50** per thousand gallons (Kgal) saved.

$$(1) \$0.45 * \$2027.64 = \$932.71 * 12 = \$11,192.52$$

$$(2) \$11,192.52/365 = \$30.66$$

$$(3) [\$30.66/(60,000 \text{ mgd}/1000)] = \mathbf{\$0.51/Kgal \text{ offset}}$$

D. Timeline

A project timeline must be included and contain the significant project milestones and the dates (as opposed to number of months) they are expected to be achieved. Examples of significant project milestones are listed below.

Execute Agreement

Issue Notice To Proceed

Project Implementation

Project Evaluation

Final Report

Final Invoice to District

Project Completion

PART III: PROPOSAL FORMAT GUIDELINES

A. Sample PROJECT DESCRIPTION:

This example is for a fictitious water conservation project to offer incentives for the replacement of existing toilets with low-flow equivalents. It is provided as a guideline for the type of information and format in which proposals should be submitted.

Emerald City Toilet Replacement Project is submitted by Emerald City for funding consideration by the Governing Board in FY 2013. The project consists of the replacement of existing high-flow toilets (pre-1995) with low-flow models. Approximately 8,000 toilet rebates of up to \$100 will be offered to single-family and multi-family customers (maximum two per customer). Single-family customers can replace up to two toilets per household, while multi-family customers represented by an appropriate representative, will be encouraged to replace all toilets at one time.

The goal of this project is to reduce the amount of water used for toilet flushing in residential settings by installing water efficient hardware. All (100 percent) of the toilets will be inspected, and replaced models will be collected and recycled at the City's Waste Management Complex on Flying Monkey Road to be used for road material. One full year of water use data prior to the installation of the toilets and one full year of water use data after toilet installation, will be collected as the raw data for the water saving analysis. It is anticipated that the replaced toilets will save an estimated 26 gallons per household per day.

The estimated cost/benefit ratio calculated at an 8% annual interest rate, over 20 years is \$1.49/1,000 gallons for the project. This cost/benefit ratio is based on the project cost of \$1,129,750, a 20-year life of toilets, and an anticipated savings of 208,000 gpd. In accordance with the agreement, the city will provide actual billing data, ensure 100 percent fixture inspection, conduct a scientifically significant survey to determine customer satisfaction with the low-flow toilets and institute an education program designed to assist customers in long-term maintenance related to water savings, such as selecting replacement parts of their low-flow toilet. This project will also focus on educating ULF toilet users on the proper maintenance necessary to ensure that each toilet remains a water-conserving fixture. An educational portion will provide participants with educational materials on leak detection and proper flapper replacement specific to the make/model of the fixture.

Project advertising will begin by November 1, 2012 and rebate distribution will begin no later than January 1, 2013. It is anticipated that all toilets will be installed by December 31, 2013. A draft final project report, documenting project savings, customer satisfaction, project costs, milestones and other project information will be provided by March 31, 2014. A final project report incorporating District comments will be produced no later than May 1, 2014.

The total estimated cost of the project is \$1,129,750 and the entire amount is eligible for District funding. The District is requested to reimburse Emerald City for up to 50 percent of the eligible project costs, up to a maximum of \$564,875. District funding of the project is requested in FY2013. *[Note: If multi-year funding is requested indicate all years/amounts requested.]*

B. Sample Cooperative Funding Scope of Work

The following is an example of information that should be submitted as supporting documentation, sufficient as to be used as the eventual Scope of Work should the proposal be approved for funding.

EXHIBIT B, SCOPE OF WORK

APPLICANT: Emerald City, Florida
FIN = 59-0001234

PROJECT: Emerald City Toilet Replacement Project

NARRATIVE: This project is for the replacement of existing (pre-1995) high-flow toilets with low-flow toilets (ULFTs). Rebates for the replacement of up to 8,000 toilets by single-family and multi-family customers (up to two per customer) will be offered. Customer education, water savings analysis and customer satisfaction surveys are integral components of the project.

PROJECT INFORMATION

1. TYPE OF PROJECT:

This project is for the replacement of up to 8,000 high-flow toilets with low-flow equivalents, in order to reduce the amount of water used by existing (pre-1995) high-volume toilets.

2. PROJECT OBJECTIVE:

The project, when completed, will serve the following objectives:

- a. To reduce the amount of water used daily by residential customers by encouraging the use of more efficient devices.
- b. To assist Emerald City and the District meet existing and future water demands.
- c. To reduce the amount of fresh water being drawn from the Ruby Slipper Reservoir.

3. PROJECT DESCRIPTION:

- a. A service area map is attached.
- b. The project includes the advertising and administration of up to 8,000 rebates for the purchase and appropriate installation (although installation costs are not subject to rebate) of ULFTs. It is anticipated that 208,000 gpd will be saved with the replacement of 8,000 high-flow toilets with low-flow toilets.
- c. The project will include the verification of appropriate installation of the new toilet, through inspection of 100-percent inspection of the fixtures, and destruction of the original model.
- d. The water savings affects public supply water demand.
 - i. There is a general water use permit number 2099999 issued to the city by the Southwest Florida Water Management District for 4.9 mgd.
 - ii. There are approximately 14,000 potential residential customers with dwelling units built before 1995. Sixty-five percent (9,100) of those are single-family, 25 percent (3,500) are multi-family, and the remaining 10 percent are mobile homes, nursing homes or government housing.

- e. The project is located in the Scarecrow Water Use Caution Area.
- f. This project is consistent with District priorities for cost-effectively reducing water demand. Water supply will be enhanced by providing an alternative fixture to high-volume models, thereby reducing the demand on the regional system and the Ruby Slipper Aquifer.

4. DEMONSTRATION OF NEED:

- a. The project will optimize the management of water and water-related resources by reducing demands on the potable water supply system, and groundwater resources.
- b. The project is identified in the city's Capital Improvement Program on the schedule of planned CIP expenditures.
- c. The project helps Emerald City meet projected water demands from growth and other impacts, and delays the need for more expensive alternative water sources.

5. MEASURABLE BENEFITS:

The amount of water to be saved is approximately 208,000 gallons per day. The estimated cost/benefit ratio for the eligible portion of the project calculated at an 8% annual interest rate over 20 years is \$1.49/1,000 gallons for the project, based on a total eligible project cost of \$1,129,750.

- a. The project is consistent with the Scarecrow WUCA Management Plan.
- b. The long-term benefits that can be derived from this project include:
 - i. A reduction in potable water consumed by Emerald City
 - ii. A reduction in ground-water and surface water removed in the project area

6. DELIVERABLES:

The project deliverables include (1) monthly status reports, (2) a draft final project report, and (3) a final project report.

7. PROJECT COST:

Total project cost is estimated to be \$1,129,750 and all of the costs are eligible for District funding. The District is requested to provide up to 50 percent, or \$564,875 and the city will provide the remaining \$564,875 in FY2013. The city's portion will be paid from the existing enterprise fund receiving its main source of revenue is water charges. The project will be included as a line item in the FY2013 Emerald City budget.

8. PROJECT BUDGET:

	City	District	Total
8,000 toilet rebates @ \$100	\$400,000	\$400,000	\$800,000
Program administration* @ \$40	\$160,000	\$160,000	\$320,000
Education campaign	\$ 4,875	\$ 4,875	\$ 9,750
Total:	\$564,875	\$564,875	\$1,129,750

* Includes inspection, reviewing rebate applications, issuing checks.

9. COMPLETION SCHEDULE:

Execute Agreement with District	November 1, 2012
Project Implementation	January 1, 2013 – December 31, 2013
Project Evaluation	June 2013 – December 2014
Final Report	March 1, 2015
Project Closeout	June 30, 2015

10. IMPLEMENTATION:

The city will hire a qualified consultant through the CCNA process. The District's project manager will be invited to participate in the consultant selection process. The consultant will be responsible for administering the project under the direction of the following key personnel.

11. KEY PERSONNEL:

The city's contact with District staff and project manager will be:
Ray Bolger, Conservation Coordinator
411 Wizard Lane
Emerald City, Florida 33333
(378) 555-0123
rbolger@emeraldcity.gov

12. ADDITIONAL INFORMATION

It is anticipated that the city will keep the District informed of all key activities. The educational program, survey instrument and all reports will be reviewed by the District's project manager.