

# LCRA WATER CONSERVATION INCENTIVES PROGRAM

—

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## **1.0 Introduction**

### **1.1 Background**

LCRA's firm raw water customers, other stakeholders and the public have identified conservation as a strategy for LCRA to meet its future water supply needs.

Because of the large amount of funds dedicated to the incentives program and the importance of water conservation as a long-term water supply strategy, the LCRA Board of Directors established a Water Conservation Incentives Program Review Committee in June 2011 to provide direction on the incentives program.

The criteria used to select and prioritize conservation measures included in the plan were: cost effectiveness; maturity of technology; certainty and magnitude of water savings; service area match; end user and public acceptability; and customer ability to implement. LCRA expects nearly one-third of the estimated savings included in the plan to come from the implementation of a number of conservation incentives.

To be eligible for an incentive, the recipient must be either a firm water customer of LCRA or an end user with an active retail water account with a provider that is an LCRA firm water customer. The availability of rebates is subject to funding. Current conservation incentive measures are found in Table 3. The cost per acre-foot saved varies by measure and is based on both the LCRA cost for the incentive and the life cycle of the measure, or the period of time a measure continues to save water.

## **1.2 Incentives Program Overview**

### **1.2.1 Residential Rebates**

The Water Conservation Incentives Program Review Committee (Review Committee) approves individual funding amounts for each measure.

- Eligible measures include pool filters and covers, aeration, compost and/or mulch, and soil tests.
- LCRA funding is limited to a set amount for equipment, with the end user responsible for installation and any other costs.
- LCRA's role includes providing technical assistance to firm water customers with program setup; managing vendor contracts; making incentive payments; and evaluating the program.
- The firm water customers' role includes marketing; qualifying end users; issuing vouchers and/or verifying end users for payment; performing follow-up inspections (if required); and providing water-use data to LCRA on program participants (if needed).

### **1.2.2 Residential WaterSmart Rebates**

The Review Committee approves individual funding amounts for each measure and advises on program measures.

- Eligible measures include irrigation system equipment upgrades and modifications, such as rain sensors, soil moisture sensors, pressure-reducing valves, pressure-reducing sprinkler heads and nozzles, pre-approved Water-Sense smart controllers, soil testing, and irrigation system checkups.
- LCRA funding for equipment upgrades and modifications is limited to a set amount for the equipment or labor for a system checkup, with the end user responsible for installation and any other associated costs
- LCRA's role includes providing technical assistance to the firm water customer with program setup; making incentive payments; and evaluating the program.
- The firm water customers' role includes marketing; verifying end users for payment; and providing water-use data to LCRA on program participants as requested.

### **1.2.3 Commercial, Institutional and Industrial (CII) Rebates**

The Review Committee advises on program measures and approves individual funding amounts. Committee approval is required for any rebate over \$25,000 before the funds are released.

- Eligible measures include indoor and outdoor equipment, as listed in the Commercial, Institutional and Industrial (CII) table (Table 3), water audits, efficient conservation equipment, and/or modifications to processes that result in water savings, such as toilet fixtures, commercial ice machines, spray rinse valves and recycling water used in cooling towers.
- LCRA funding is limited to a set amount for equipment or process. The end user is responsible for installation and any other associated costs related to equipment or process incentives. For water audits, the customer must submit an application or scope of work proposal to LCRA for approval prior to the audit to ensure funding.
- LCRA's role includes auditing and providing recommendations for water savings opportunities; qualifying end users and inspecting their work; making incentive payments; and evaluating the program.
- The firm water customers' role includes marketing; qualifying end users; and providing end user water-use information to LCRA.

### **1.2.4 Firm Water Conservation Cost-Share Program**

The Review Committee is responsible for approving the program guidelines and procedures, including setting the evaluation criteria for awarding funds and the amount of funding per project. LCRA staff reviews and recommends proposals, with the Review Committee providing final approval of any funded projects.

- Examples of possible projects include efforts to decrease utility system water loss, such as meter replacement, pressure reduction, and leak detection and repair, as well as demand-side conservation programs with real water savings, such as “smart” irrigation controllers or soil moisture sensors.
- Funding will be in the form of a cost-share grant for the total project.
- LCRA’s role is to review proposals and recommend customer projects.
- The firm water customers’ role is to develop and implement the project; verify water savings; and submit a project completion report.

## **2.0 Residential Rebates**

The maximum rebate amount per residential property is \$600 per year, which includes a 10-year total of 50 percent of the purchase price up to \$450 per pool filter and cover; a yearly total of 50 percent of the purchase price up to \$400 per landscape options (aeration, compost and mulch); a yearly total of 50 percent of the purchase price up to \$600 for WaterSmart Rebates. Rebates will be paid directly to the applicant.

### **2.1 Pool Filters and Covers**

#### **2.1.1 Background**

Water loss due to inefficient equipment and evaporation of pools can be significant. A 16-by-24-foot uncovered pool can lose more than 8,000 gallons to evaporation during the summer months in Central Texas. Pool covers eligible for this rebate include manual, solar ring and mechanical.

Pools with sand and diatomaceous earth filters require more frequent backwashing at a higher rate of flow, resulting in more water use than cartridge filters. Cartridge filters are also more energy efficient and can save up to 20,000 gallons a year.

#### **2.1.2 Overview**

Rebates are available for the purchase of approved pool filters or covers. In order to receive the rebate, the end user must submit a rebate application to LCRA staff along with any itemized receipts for reimbursement within 90 days of the purchase or completion of the installation by a licensed irrigator. The receipt must include the purchase date, vendor name and address, and purchase price.

### **2.2 Compost, Mulch and Aeration**

#### **2.2.1 Background**

Soil amendments help to reduce water loss, soil cracking and weeds, moderate soil temperatures, and prevent soil erosion. Soil amendments include mulch and compost. Mulch can be made from many types of organic matter, including yard waste, plant debris and hardwood. Does not include rock, rubber or Dillo Dirt™. Mulch should be installed at least 2 inches deep and should be added on to (and not removed) a minimum of every two years.

Compost is the result of decayed organic matter, such as yard trimmings or kitchen scraps, and provides nutrients to the soil. It adds beneficial microbes, attracts worms and helps retain moisture in the soil. The beneficial microbes in compost help break down mulch over time into plant-available nutrients, providing a constant food source for plants.

In addition to soil amendments, mechanical aeration improves drainage and compaction, and should be conducted on a yearly basis to improve soil and plant health and water retention ability.

Reference the LCRA Sensible Landscape Guide for details on application of soil, mulch and aeration practices.

### **2.2.2 Overview**

Rebates are available for the purchase of compost, mulch, soil testing and aeration equipment or services. In order to receive the rebate, the end user must submit a rebate application to LCRA staff along with any itemized receipts for reimbursement within 90 days of the purchase or installed by a licensed irrigator. The receipt must include the purchase date, vendor name and address, and purchase price.

## **3.0 Residential WaterSmart Rebates**

### **3.1 Background**

Studies have shown that at least 15 to 20 percent of outdoor landscape irrigation is wasted, often due to irrigation systems that are poorly designed, installed or maintained. In addition, landscape irrigation technology is constantly advancing, and these advances often increase water conservation. The Residential WaterSmart Rebates are designed to encourage end users to invest in irrigation equipment upgrades that will increase the efficiency of their systems. Rebates will be paid directly to the applicant.

It is recommended that participating firm water customers have an irrigation evaluation program in place. The evaluation may serve as the prescreening or preapproval process for the equipment rebate, but it is not required for end users to receive the rebates. Evaluations are a very useful tool, particularly in terms of promoting the availability of the rebates to end users and providing firsthand oversight of the equipment being rebated. When an evaluation program is in place, a participating end user can expect to have an irrigator evaluate the performance of the end user's irrigation system and provide a list of recommendations for equipment upgrades as well as an irrigation schedule that takes into account factors specific to the property, such as plant type, shade coverage and irrigation system efficiency.

### **3.2 Overview**

Rebates are available for the purchase of irrigation equipment that increases the efficiency of residential sprinkler systems. New installations of irrigation systems, as well as irrigation efficiency projects that have been completed before the initial irrigation evaluation, will not qualify.

Eligible equipment items, shown in Table 1, include pressure-reducing spray heads, soil moisture or rain sensors, pressure-reducing valves, preapproved WaterSense smart controllers, and irrigation evaluations. Additional irrigation technologies could be added in the future.

**Table 1. Residential Outdoor and Irrigation Technology Equipment Items and Associated Rebate Amounts**

<b>Irrigation Technology Equipment Items</b>	<b>Rebate Amount</b>
Pressure-reducing heads and nozzles *	50 percent of the cost of nozzles and heads up to \$5 per nozzle or head.
Soil moisture sensor	50 percent of the cost of devices up to \$250
Rain sensors	50 percent of the cost of device up to \$20
Pressure-reducing valves and in-line regulators	50 percent of the cost of pressure-reducing device up to \$100
WaterSense smart controllers **	50 percent the cost of devices up to \$100
Irrigation Evaluation	Total cost, up to \$100.
Soil Test	Up to \$50 for a Texas A&M AgriLife Extension test, or 50% of the cost up to \$125 for a Texas Plant and Soil Lab test

\*To be eligible for the rebate, the end user applying for the rebate must have replaced an entire zone, or multiple zones, with pressure-reducing spray heads or nozzles.

\*\* Approved controllers: Pre-approved WaterSense smart controller.

Upgrades can be made by the homeowner or a licensed irrigator for a partial reimbursement. In order to receive the irrigation evaluation rebate, the end user must submit a rebate application within 90 days of purchase or completion of the service by a licensed irrigator with completed irrigator checklist to LCRA staff along with any evaluation form(s) for reimbursement.

## **4.0 Commercial, Institutional and Industrial (CII) Incentives**

### **4.1 Background**

Rebates are available for the purchase of proven water-efficient technologies installed in eligible commercial, institutional and industrial buildings. The rebate process for CII retrofits is designed to assist end users of LCRA's firm water customers with identification of indoor and outdoor water-saving opportunities. Participants must have a qualified water conservation consultant evaluate the performance of the site's water-using components and receive a list of recommendations for equipment efficiency upgrades. The goal of the rebate is to shorten the payback period associated with CII projects, thus making their implementation more feasible from an economic standpoint. Rebates will be paid directly to the applicant.

### **4.2 Overview**

CII measures and rebate amounts are in Table 2. In addition to rebates for specific equipment items, incentives also are available for process modifications that result in water savings.

Determination of equipment eligible for the CII rebate was based on the following:

- Potential for water savings.
- Cost per acre-foot.
- Estimated return on investment for the customer receiving the rebate.

**Table 2. CII Equipment Items and Associated Rebate Amounts**

<b>CII Equipment Items</b>	<b>Rebate Amount</b>
High-efficiency toilet (1.28 gallons per flush or less)	Up to \$100 per unit
High-efficiency urinal (0.5 gpf or less)	Up to \$100 per unit
High-efficiency spray rinse valve	Up to \$65 per unit
Water-saving technology	50 percent of cost up to \$20,000 per customer
WaterSmart rebate	50 percent of the cost up to \$1,500

LCRA firm water customers with CII uses and the CII end users of LCRA firm water customers are eligible for the rebates. A comprehensive water audit of the facility by a licensed irrigator, plumber, auditor, inspector, or other pre-approved professional is required prior to applying for any water-saving technology rebates to help identify potential water-saving opportunities. When a licensed professional conducts the audit, the participating firm water customer or end user must allow access to the facility, supply water use records, and provide a knowledgeable representative to escort during the evaluation. The CII end user or firm water customer must install or implement water-saving recommendations within three years from the date of the evaluation in order to qualify for the rebate. The amount funded to applicant for the water audit is not combined within the total \$20,000 for water-saving technology rebates.

For process modifications, an applicant will need to provide a written proposal outlining the facility's current process configuration, proposed process configuration(s), amount of water proposed to be saved, project costs and the timeline needed to complete the modifications. At a minimum, the proposal must reflect the schematics outlining the proposed modifications along with a written report.



**Table 3: Summary of LCRA Firm Water Conservation Incentive Measures**

Conservation Measure	Estimated Water Saved per Year (Gallons)	Incentive Per Unit <sup>1</sup>	Projected Upfront Cost per Acre-foot	Life Cycle of Measure (Years)	Annualized Cost per Acre-foot <sup>2</sup>
<b>Residential Outdoor</b>					
<i>WaterSmart Rebate</i>	50 percent of total cost up to \$600 per system. Specific unit amounts include:				
Pressure-reducing heads and nozzles	32,585 per property	50 percent of cost of nozzles and heads up to \$5 per nozzle or head	\$2,514	10	\$326
Pressure-reducing valves (PRV) and in-line regulators		50 percent of cost of devices up to \$100			
Soil moisture sensors		50 percent of cost of devices up to \$250			
Rain sensors		Up to \$20			
Smart controllers		50 percent of cost of devices up to \$100			
Irrigation checkup	50,000 per checkup	Up to \$100. Must be performed by licensed irrigator.	\$100	3	\$185
Pool filter	Up to 20,000 <sup>3</sup>	\$250 for cartridge filter	About \$4,000	5-10	\$400
Pool cover	About 9,500	50 percent of purchase price up to \$50 for manual or solar ring, and 50 percent of purchase price up to \$200 for permanent mechanical pool cover.	\$1,700-\$6,800	5	\$340-\$1,370
Aeration	N/A	\$100 for equipment rental or toward contractor costs.			
Compost and mulch	N/A	50 percent of cost up to \$300 per household. If provided by contractor, must show offset cost to homeowner. No Dillo Dirt™, rock or rubber.			
Soil Testing		Total cost of Texas A&M soil test of \$85 or 50 percent of the cost up to \$125.			

<sup>1</sup> Amounts approved by the LCRA Water Conservation Incentives Program Review Committee.

<sup>2</sup> Project life range for funding calculation of cost share projects is at least 10 years and no more than 20 years.

<sup>3</sup> Savings based on San Antonio Water System pilot study.

**Table 3: Summary of LCRA Firm Water Conservation Incentive Measures (continued)**

Commercial, Institutional and Industrial (CII)					
High-efficiency toilet distribution or rebate	19,000 per unit	Up to \$100 per unit	\$1,671	25	\$119
High-efficiency urinal rebate	19,000 per unit	Up to \$100 per unit	\$1,671	25	\$119
High-efficiency spray rinse valve distribution	50,000 per unit	Up to \$65 per unit	\$424	5	\$98
Water-savings technology (i.e. cooling tower recycling, rainwater harvesting, commercial ice machines)	Will vary by equipment or process	50 percent of cost up to \$20,000 per customer. Must have prior staff approval.	Will vary by equipment or process		
<i>WaterSmart Rebate</i>	50 percent of total cost up to \$1,500 per system. Specific unit amounts include:				
Pressure-reducing heads and nozzles	32,585 per property	50 percent of cost of nozzles and heads up to \$5	\$2,514	10	\$326
Pressure reducing valves (PRV) and in-line regulators		50 percent of cost of devices up to \$100			
Soil moisture sensors		50 percent of cost of devices up to \$900			
Rain sensors		Up to \$20			
WaterSense smart controller		50 percent of cost of devices up to \$100			
Water audit (includes water loss and leak detection)	Depends on size of system and coverage area	Up to \$125/hour for outdoor audit, not to exceed \$2,000; or \$125/hour for combined indoor and outdoor audit, not to exceed \$5,000. Must have staff approval prior to audit.	Will vary by equipment or process	3	Will vary by equipment or process
Aeration	N/A	\$100 for equipment rental or toward contractor costs.			
Compost and mulch	75,122 gallons per acre at a 1 percent increase in O&M	50 percent of cost up to \$400. No Dillo Dirt™, rock or rubber.			
Firm Water Conservation Cost-Share					
(Such as leak detection and repair, effluent)	Will vary by project	Up to \$100,000 per application per fiscal year. Savings formula = water rate * life of project <sup>2</sup> * acre-foot of savings per year.			

## **5.0 Firm Water Conservation Cost-Share Program**

### **5.1 Background**

The LCRA Firm Water Conservation Cost-Share Program provides funding to LCRA firm water customers to help offset the cost of water-efficiency projects and programs established by customers. LCRA firm water customers expressed their support for the program at customer meetings and throughout the 2008 Task Force process, stating that this type of program would help make certain projects attainable that otherwise would not be attainable without a supplemental funding mechanism.

Water efficiency programs encompass conservation and reuse efforts as well as water loss reduction and prevention. LCRA's Firm Water Conservation Cost-Share Program could provide funding for a variety of projects and efforts, including:

1. Water loss reduction efforts:
  - Implementing pressure-reduction measures.
  - Replacing or retrofitting existing water meters with automatic meter reading systems.
  - Reducing flushing amounts due to the elimination of dead-end lines.
  - Distributing system leak detection equipment, including portable and permanent equipment.
2. Efficiency equipment upgrades for irrigation and industrial firm water customers.
3. Recycling and water reuse projects that replace potable or raw water use with condensate or reclaimed water.
4. Demand-side conservation programs with proven water savings (Table 3):
  - Installing or retrofitting water-efficient devices, such as plumbing fixtures and appliances.
  - Encouraging the retrofit of existing landscape irrigation systems to more efficient systems using soil moisture sensors or other technologies.
5. Emerging Technologies Cost-Share Program not based solely on water savings.

Examples of projects that could be funded:

- Conservation analytic software for advanced metering infrastructure, leak detection, water budgeting or social engagement.

See Section 5.3 for more information.

### **5.2 Large Sum Cost-Share Program Overview**

Only LCRA firm water customers are eligible to participate. Cost-share funds awarded will be used only for water efficiency measures that result in concrete water savings. Funds will not be used for planning grants, hiring of consultants, training or workshops.

LCRA will market the availability of the program directly to its firm water customers through its firm water customer meetings and other forms of communications. Similar to the state's efforts with the Clean Water and Drinking Water State Revolving Funds, systems with high water loss will be contacted to encourage improvements.

Applications will be received and reviewed twice a year. Application packages that do not include all required documentation will be deemed ineligible and will not be reviewed by LCRA staff or the Review Committee.

The application package will include the following:

- Statement of work, including time frame.
- Funding proposal and breakdown of project costs and local commitments.
- Project criteria checklist.
- Water-savings calculations (estimated demand reduction) resulting from the completion of the proposed project.

Any eligible application not funded may be resubmitted for the next funding cycle. Applicants can bundle multiple projects into one application; however, the Review Committee has the discretion to recommend awarding an incentive amount no more than \$100,000 per fiscal year, and lower than what is requested. The Review Committee approved the evaluation criteria that assist in the review and evaluation of the proposals. Funding will be awarded based on a combination of factors including:

- Cost effectiveness (LCRA cost per acre-foot of water saved).
- Life expectancy of water savings.
- Certainty of water savings.
- Ability to implement.
- Past performance and/or previous participation.
- Innovation.

**Table 4: Summary of Life of Project Examples**

Project type	Proposed life*	Documentation required	Notes
AMI conversion	10 years	Utility management stated intent to purchase or lease software (provide vendor contract if possible) for at least 5 years and maintain customer portal for at least 10 years	Life based on life of customer portal, not smart meters themselves
Converting irrigated areas from potable to reuse water	15-20 years	Manufacturer/Vendor's equipment life specifications, recommendation from licensed engineer	Up to 20 years allowed if documentation provided
Leak detection surveys, leaking pipeline replacement, line looping to reduce flushing	15-20 years	Manufacturer's equipment life, utility documentation of increased rate of failure in pipelines based on age	Life based on expected life of replaced pipelines/valves etc, up to 20 years allowed if HDPE
Irrigation system equipment upgrades	15 years	Manufacturer/Vendor's equipment life specifications	
Backwash recovery at WTP/WWTP	20 years	Manufacturer/Vendor's equipment life specifications, recommendation from licensed engineer	

LCRA staff will review, evaluate and present qualifying applications to the Review Committee, which will make the final determination for funding awards.

There is a minimum 50 percent cost-share requirement for applicants, which can be made through a combination of local funds and/or in-kind services.

### **5.3 Emerging Technologies Cost-Share Program Overview**

LCRA will market the availability of the program directly to its firm water customers through its firm water customer meetings and other forms of communications.

Applications will be received and reviewed twice a year. Application packages that do not include all required documentation will be deemed ineligible and will not be reviewed by LCRA staff or the Review Committee. The application package will include the following:

- Potential water savings amount and cost savings (if applicable).
- Duration of savings.
- Percentage of population impacted within service area.
- Identification of multiple project benefits, if any (e.g., improves water quality, stormwater control, resiliency of water supply during drought restrictions).
- Evidence of innovation (e.g., not well adopted in region).
- Availability on multiple technology platforms (e.g., mobile, web).
- Replicability (the program can be implemented for other water suppliers).

There is a minimum 20 percent cost-share requirement for applicants applying for up to \$15,000, which can be made through a combination of local funds and/or in-kind services. Customers will supply data to LCRA staff to determine effectiveness of program. The Review Committee can approve higher cost projects for an applicant based on staff recommendations.