

**Water Supply Reserve Account – Grant and Loan Program  
Water Activity Summary Sheet  
Agenda Item 32.j**

**Applicant:** Douglas County Water Resource Authority (DCWRA)

**Water Activity Name:** Rotary Sprinkler Nozzle Retrofit

**Water Activity Purpose:** Consumptive Project

**County:** Douglas County

**Drainage Basin:** Metro Basin Roundtable

**Water Source:** South Platte, Denver Basin Aquifer

**Amount Requested:** \$250,000 (Statewide Account)

**Matching Funds:** \$87,500 (Applicant and participating utilities for 35% match)

<b>Staff Recommendation</b>
Staff recommends approval of up to \$250,000 from the statewide account, contingent upon the additional needs to demonstrate that large-scale sprinkler retrofits are feasible and can save a significant amount of water.

**Water Activity Summary:**

Rotary Sprinkler Nozzles are thirty percent more efficient in outdoor irrigation activities than traditional spray nozzles commonly in use in the project area. This project proposes to retrofit 1,000 homes with existing spray heads with rotary sprinkler nozzles to reduce water used by the project participants. Accompanying public outreach will create interest in the retrofit project, and this interest can be used to encourage more widespread adoption over time of retrofits as effective, comfortable water resource conservation practices in the project area. High school students will be hired to perform the 1,000 retrofits as part of a summer jobs program in the Memorial Day to Labor Day timeframe over the summer of 2011. Their work will be supervised by adults experienced in this type of work. Not only will the rotary sprinkler nozzles be retrofitted, but they will also be aimed to avoid over-spraying and watering sidewalks. Irrigation controllers will be reset to reflect the proper application rates of the rotary sprinkler nozzles. Impact metrics will be collected to assure proper installation of the rotary sprinkler nozzles. Members of DCWRA are water providers who can read the meters of the yards receiving the retrofits, and measure and confirm actual water saved through this retrofit program. The retrofit program is expected to reduce annual water demands by 59 AF. A pilot program of fifty yards is being conducted over the August and September 2010 time frame to learn of issues associated with this type of retrofit program, as well as developing and honing the appropriate impact metrics to be collected and shared as part of this program. The pilot program includes partnerships between DCWRA, Douglas County School District's School to Work Alliance Program, Arapahoe/Douglas Works Workforce Center, and the Water Division of the Center for Resource Conservation. Funding for the pilot program comes from Arapahoe/Douglas Works and DCWRA. WSRA funding will be used to purchase rotary sprinkler nozzles, pay high school students to perform retrofits, pay adults to schedule the retrofits and supervise the work of the high school students, collection of impact metrics, administrative oversight of the program, and public outreach to create excitement throughout the region for the retrofit program, and encourage widespread adoption over time of rotary sprinkler nozzles in the project area.

As stated in the scope of work, the study has five main objectives:

1. Install (retrofit) +/- 20,000 rotary sprinkler nozzles in 1,000 yards.
2. Outreach to the public to create excitement about the jobs available to high school students, and the water and money saved by retrofitting rotary sprinkler nozzles in the region so as to promote a groundswell of voluntary retrofits over and above the program.
3. Collect impact metrics to affirm the reduction in water demands because of the retrofit project.
4. Share this information with other water entities around the State of Colorado.

### *Threshold and Evaluation Criteria*

The application meets all four Threshold Criteria.

The application articulates how the project meets each of the Evaluation Criteria. This water activity does an outstanding job of meeting the following Evaluation Criteria:

#### Tier 1: Promoting Collaboration/Cooperation & Meeting Water Management Goals & Identified Water Needs:

SMWSA is made up of 13 individual water providers working collaboratively to foster long-term reliable water Cooperation and Collaboration - Nineteen water interests are members of DCWRA, including special district water providers, municipalities, and Douglas County government. The rotary sprinkler nozzle retrofits, and the accompanying outreach, benefit the implementation efforts of the state approved conservation plans. Practices concerning the wise use of water can be shared with all the basins across the State.

The project area has been identified by SWSI and the roundtable process as having the greatest need to close the gap between available supplies and future needs in Colorado. Reducing demand through the efficient use of water resources can be a part of closing this gap, while making incremental supplies available is a prime component of closing the gap.

Tier 2: Facilitating Water Activity Implementation: Without this funding, the water activity will not take place in a meaningful way. There are 107,000 existing homes in the project area. DCWRA can afford to fund retrofits 50 for homes in one year, but not widespread adoption. With the public outreach effort that will accompany the retrofit project, the applicant hopes to show conclusively that the retrofits save both financial and natural resources in the project area, so that the effort can expand to reach all of the families within the region within the next twelve years.

### *Funding Overview*

Douglas County Water Resource Authority is requesting up to \$250,000 from the Statewide account, and is providing approximately 35% match to that amount, totaling \$87,500.

### **Discussion:**

Water Supply Planning Section staff coordinated with the Office of Water Conservation and Drought Planning in reviewing this application. While there is significant support for this project among staff, three themes emerged that warrant staff recommendation for conditional approval. First there was concern regarding the use of high school students to install the sprinkler heads. Staff would like to see a report regarding how effective high school students were at installing the retrofits during the course of the pilot. Retrofits are scheduled to be complete by September 30<sup>th</sup> and a customer satisfaction survey will then be conducted. Second, staff would like further detail regarding the evaluation methodology for assessing the impact of the retrofit program. Lastly, support from specific utilities is requested. After talking to the applicant, it was indicated that more detail could be provided by the September board meeting and subsequently on these issues should there be conditional approval.

### **Issues/Additional Needs:**

- The applicant needs to provide further detail regarding the evaluation of water savings. Funds will not be released until a more detailed evaluation plan is accepted by CWCB staff.
- The applicant needs to demonstrate specific support by its member utilities.
- The applicant needs to indicate what lessons from the initial 50-home pilot it will utilize, and provide copies of the customer satisfaction report once that is completed.
- The applicant needs to work with CWCB staff in designing a training program for the high school students. Should the designed training module be significantly more expensive, adjustments to the budget may have to be made to reduce the number of retrofitted homes. Funds will not be released until a detailed training plan is accepted by CWCB staff.

- Please provide additional detail regarding the ability to install the correct-sized sprinklers.
- Conservation Plans – Project participants that deliver over 2,000 AF of water annually are required to have an approved Water Conservation Plan. Each of the covered entity members of the SMWSA has a conservation plan except for Eastern Cherry Creek Valley Water & Sanitation (ECCV). Prior to execution of a State WSRA contract, all “covered entities” participating in the project will be required to have a CWCB-approved Water Conservation Plan in place. ECCV has made significant progress on its conservation plan, but has not submitted a plan with all of the necessary elements at the time of writing this summary sheet. The will be working with Veva Deheza, of the CWCB Office of Water Conservation and Drought Planning, on the plan.

#### **Staff Recommendation:**

Staff recommends conditionally approving up to \$250,000 from the statewide account. Release of funds will be contingent on meeting the items listed in the issues/additional needs section of this summary sheet.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below:

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.