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CONSERVATION

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Kevin Reidy and Genoveva Deheza  
Office of Water Conservation and Drought Planning Section  
Colorado Water Conservation Board  
1313 Sherman St, Room 721  
Denver, CO 80203

Dear Mr. Reidy and Mrs. Deheza,

Status report for Center for ReSource Conservation Slow the Flow Indoor Audit Program  
PO# OE PDA 10000000115

As of August, 2010, the CRC's Indoor Water Audit Program has approached its 50% of completion benchmark. Below is a synopsis of successes and challenges encountered on the project to date.

Overall, the project has gone fairly smoothly. We began performing indoor water audits on July 15<sup>th</sup>, 2010, and have completed 49 audits through August 31<sup>st</sup>, 2010. Tasks one and three under the grant are fully complete, and we have made significant progress on tasks two and four.

Program development, hiring and training all went well, and the project is within budget. We have been able to do some parts of the program better than we had intended; for example, we have incorporated an in-depth water use calculator into both our homeowner education and data collection efforts.

There has been one challenge that will slow the implementation of this project. Demand for indoor water audits came in weaker than we had planned. Through August 31<sup>st</sup>, 2010, we have received 111 requests for indoor audits, or slightly less than 50% of the requests that we need to perform 225 audits. We had originally planned to have all requests in by October 1<sup>st</sup>, 2010. At this point, we do not believe that we will hit that deadline.

For this reason, we would like to request a timeline extension for the grant. The timeline would extend the completion date of the grant from December 31<sup>st</sup>, 2010 to March 31<sup>st</sup>, 2011.

All other aspects of the grant are going well. We believe that the program funded by the grant continues to fulfill the Board's desire to increase the breadth and depth of conservation efforts at the local level by funding the start-up of a self-sustaining indoor water audit program.

In the pages that follow we have included a revised timeline for the project and a detailed narrative describing progress under each task. We thank you for your support of the project.

Respectfully Submitted,

Jeff Woodward  
Center for ReSource Conservation  
Water Division Director

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## Progress Summary and Proposed Timeline Revision

Task	Deliverables	Original Deadline	Revised Deadline	Percent Complete, 8/31/2010
Task 1: Develop the Program	Audit database and online scheduling system. Complete training agenda.	7/15/2010	7/15/2010	100%
Task 2: Market and Advertise the Program	225 indoor water audit requests.	10/1/2010	1/31/2011	50%
Task 3: Hire and Train Program Staff	Audit staff hired and trained.	7/22/2010	7/22/2010	100%
Task 4: Perform Audits	225 indoor audits performed.	11/15/2010	3/15/2011	22%
Task 5: Data Analysis and Reporting	Customer survey completed. Program reports provided to partner utilities and the general public.	12/15/2010	3/31/2011	5%

The CRC anticipates providing the CWCB with the 50% progress report by September 21<sup>st</sup>, 2010 after Task 3 is complete, and the 75% progress report by December 31<sup>st</sup>, 2010. The CRC will provide the final report to the CWCB by March 31<sup>st</sup>, 2010.

### Detailed Narrative

A detailed account of project progress follows. Non-italicized text is the project narrative from the original grant. Italicized text under each task describes task progress.

#### Task 1: Develop the Indoor Audit Program - *Complete*

Task 1 includes everything required for the program to bring it from an idea into a program that is ready to be advertised and ready to hire and train an auditor. These include:

- Develop auditor training agenda and presentations
- Perform test audits to test procedures and systems
- Build a database for audit information
- Create scheduling systems for audits
- Purchase equipment and materials for the auditor

Task 1 includes the following deliverables:

- A training agenda

- Audit database
- Online scheduling tool

The CRC anticipates Task 1 will be completed by July 15<sup>th</sup>, 2010.

*The development of the program has gone well. We have developed audit procedures, an auditor training and presentations, a data collection system, and an online scheduling system.*

*For the data collection system, we elected to build an indoor water calculator spreadsheet for each house that we audit. This system allows for in-depth analysis of each home's water usage at the time of the audit, and it allows us to write scripts that automatically populate a centralized database from the individual audit files. The calculator is based off of a similar calculator developed by the staff of Aurora Water. While this system took more time to build than we originally planned, we are quite happy with the result.*

*Creating the training agenda and scheduling systems went smoothly. We used the online product provided by Appointment-Plus as the backbone of the online scheduling system. The training agenda required some work, and we consulted with a Master Plumber (Bo DeAngelo of the Automatic Company) for advice.*

*All deliverables on this task are complete.*

## **Task 2: Market and Advertise the Program – In Progress**

In order for an indoor audit program to be successful, potential participants need to be aware of and excited by the program. In task 2, the CRC will develop marketing materials for the program and will work with partner utilities to advertise the program to their customers. Steps involved include:

- Design marketing materials
- Design an indoor water audit section of the CRC's website
- Coordination between the CRC and partner utilities to facilitate advertising
- Advertising of the program by partner utilities to their customers

Task 2 includes a deliverable of 225 audit requests. While the bulk of the work for Task 2 will occur in May through July of 2010, the CRC anticipates final completion of the task by October 1<sup>st</sup>, 2010; some utilities may do a final round of marketing in the early fall of 2010.

*Parts of this take have gone well, and parts have gone poorly. Working with partner utilities, we have successfully developed marketing materials, and designed an indoor water audit page on the CRC's website ([http://www.conservaioncenter.org/w\\_indoor.htm](http://www.conservaioncenter.org/w_indoor.htm)). The major utility partner in the program, the City of Thornton, has completed several rounds of marketing, including promoting the program as part of both a water bill insert and an all-city mailer.*

*Through August 31<sup>st</sup>, 2010, we have received 111 indoor audit requests, or about 50% of the deliverable. We have also realized that we will need slightly more than 225 audit requests in order to perform 225 audits; there is always a percentage of people who request an audit but are unable to schedule one for a variety of reasons.*

*At this time, we do not believe that we will be able to complete the deliverable of 225 audit request by October 1. A lack of sufficient requests is the major delay that will hold up the completion of this project, and is the reason for the requested grant extension. The extension will allow for more rounds of marketing from partner utilities, which will result in more audit requests. We currently have a small but steady stream of requests each week.*

### **Task 3: Hire and Train Program Staff - Complete**

In this task, the CRC will hire and train staff for the program. These staffers include a water conservation technician to perform the audits and a conservation associate to schedule the audits. Technician training will be one to three days long. CRC staff will conduct most of the training, but the CRC may bring in outside experts to assist with certain topics.

Task 3's deliverables include one staffer who is trained and capable of performing high-quality irrigation audits and one staffer hired and trained to schedule audits. The CRC anticipates that Task 3 will be completed by July 22<sup>nd</sup>, 2010.

*Task three is complete and has gone smoothly. The CRC has hired one staffer to perform indoor water audits, and one staffer to schedule them. The auditor, who works 25 hours a week, has a background in industrial systems and processes and is currently working on a Masters in Electrical Engineering at the University of Colorado.*

*Training for the auditor went smoothly. We worked with a Master Plumber, who helped teach some of the training sessions. Training lasted 2.5 days and included classroom time, field time, a written exam and a practical exam. Our auditor passed the exam.*

*All deliverables for this task are complete.*

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### **Task 4: Perform Audits – In Progress**

Task 4 involves several mini-tasks:

- Recording requests for audits
- Contacting customers to schedule audits
- Gathering water use information from utilities for each customer
- Performing audits on-site with customers
- Collecting audit data
- Managing program staff

Task 4's deliverable includes 225 completed indoor water audits. The CRC anticipates that this task will be complete by November 15<sup>th</sup>, 2010.

*We are in the process of completing this task. As of August 31<sup>st</sup>, 2010, we have completed 49 audits, or roughly 22% of the deliverable. We do not anticipate completing this deliverable by November 15<sup>th</sup> because of a lack of audit requests, as described above.*

*Overall, this task is going fairly smoothly. Our audit procedures have worked well in practice. We have been able to complete audits within the scheduled time frame, and including all planned steps.*

*We have had two minor issues with this task. There has been a somewhat higher no-show rate for indoor audits than we see for sprinkler inspections. We are tweaking our scheduling system to incorporate more reminder notifications for indoor audit customers to reduce the likelihood of no shows.*

*We have also had trouble accessing water records for some customers whose water is metered through their HOA. In these cases, the water utility only has information for the HOA as a whole, and the customers must request individual household information from the HOA. We are working to notify these customers that they need their water use history beforehand. We have also adjusted our calculator to deal with houses for which we have no water use history.*

### **Task 5: Data Analysis and Reporting – In Progress**

The Slow the Flow Indoor Water Audit program includes a significant data collection component to aid partner utilities in understanding the customers and targeting conservation programs. In Task 5, the CRC will compile and analyze data collected during audits, perform a customer feedback survey, and write program reports based on this data. The CRC anticipates providing one report to each partner utility containing data from their customers for each year that the program is performed and one general report containing all data collected during the program. The CRC will make the general report available to the water conservation community and will make efforts to present its findings.

The CRC anticipates that the data collected and analyzed will include the following:

- Basic demographic data about each home
- Number, type, and flow rate of fixtures found at each home
- Water savings potential from fixture replacements at each home
- Fixture replacements performed on-site at each audit
- In partnership with staff at some partner utilities, rebates applied for by indoor water audit customers
- Leaks and other problems found at each home
- At the end of the first year of the program, results of a follow-up survey of audit customers

The follow-up survey will consist of a phone survey of indoor audit customers conducted after audits are completed for the year. The survey will include customer satisfaction questions and questions related to the impact of the program.

Task 5's deliverables include a completed customer survey, a program report provided to each partner utility, and a program report made available to the CWCB and the general public. The CRC anticipates that Task 5 will be complete by December 15<sup>th</sup>, 2010.

*We have not started significant work on Task 5 at this time. We have designed our data collection systems to collect relevant data for all reporting purposes, and are actively collecting this data at each audit. We will begin work on other parts of Task 5 once Tasks 1-4 are complete.*