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May 30, 2014

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

Dear Mr. Reidy and Mr. Wade,

75% progress report for Center for ReSource Conservation grant: Commercial Water Audit Program PO# 13000000065

As of May 2014, the CRC's Commercial Water Audit Program has approached its 75% completion benchmark. Below is a summary of progress on the program toward completion of the grant.

To date, we have completed the program design, created the marketing materials, trained a commercial water auditor, partnered with six different water utilities to deliver the program, and performed 22 commercial water audits. The main objective for the rest of the granting period will be analyzing, assessing, and reporting the program impact and outcomes to our partner utilities and to the CWCB. We are on schedule to complete this work by July 31, 2014.

The 75% progress report attached describes our work up through the completion of Task 4, as well as our start toward the completion of Task 5. While we did have to scale back our original goal of completing 375 audit hours, we still felt that the 132 audit hours that we performed were highly successful toward our goal of providing us with the basic information we need in order to create a full-scale, established program. By May of this year we not only had several additional water utilities showing interest in the program, but we had businesses interested in receiving audits in the future. With the program foundation now in place, we are confident that we will be able to continue a successful commercial water audit program into the future.

Thank you for your continuing support of the CRC and our water conservation efforts. Please do not hesitate to contact us if you have any further questions about the attached report.

Respectfully Submitted,

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All information in Deliverables and Deadlines reflect changes specified in previous communication with the CWCB, and therefore are not highlighted as new or proposed.

Task	Deliverables	Deadline	Percent Complete, 5/30/14
Task 1: Develop the Program	3 utilities signed on for program participation in 2013 - 2014 Training agenda Audit database (web tool) Online scheduling tool	8/16/2013	100%
Task 2: Market and Advertise the Program	Requested update from 50% progress report: 180 audit hours scheduled	12/31/2013	100%
Task 3: Hire and Train Program Staff	Audit staff hired and trained	10/31/13	100%
Task 4: Perform Audits	As many audit hours performed as possible by self-imposed deadline; 75% progress report	5/30/2014	100%
Task 5: Data Analysis and Reporting	Customer survey completed Program reports provided to partner utilities and the general public Final report to CWCB	7/31/2014	15%

Detailed Narrative

Below is a detailed narrative describing the project progress to date on the Commercial Audit Program grant. The non-italicized text is the project narrative from the grant; the *italicized* text under each task describes the task progress. Task progress updates have been made under all tasks, with particular focus on Tasks 2 and 4. Three **revisions** are included under Task 4 and 5 in order to reflect the updated Deadlines as specified in the table above.

Task 1: Lay the Groundwork to Expand the Indoor Audit Program to the Commercial Sector – Complete

Task 1 includes everything required so the program is ready to be implemented in new areas, including hiring and training auditors. In Task 1, the program will build heavily off the Colorado WaterWise ICI work. These include:

- Survey existing audit programs focusing on indoor use by commercial entities to understand program details and best management practices.
- Design the program structure and program branding
- Make any changes or updates to the Colorado WaterWise auditing form and prepare the form for use.
- Develop a program proposal for partner utilities
- Solicit utilities for 2013 - 2014 participation and develop agreements with utilities
- 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:

- Utilities signed on for program participation in 2013 - 2014
- A training agenda
- Audit database
- Online scheduling tool

Task 1 was completed November 22, 2013.

This task is 100% complete. Below we discuss the sub-tasks listed in the bullet points above and describe the outcome of each.

We have surveyed existing commercial water audit programs at various utilities across the country including Denver Water, City of Austin (TX), Portland Water Bureau (OR), and others. From surveying these programs we learned several things. One of the most significant lessons was that there are generally two kinds of commercial audit programs: programs that are designed for working at many industries and business types, and programs that are designed for a single industry. The City of Austin, for example, focuses on a single industry, the hotel industry. This kind of focus allows the program to go very in-depth, most likely providing highly significant results in water savings. However this kind of focus also requires a lot of expertise on the part of the auditing group and the audit process is much more involved than with a more general approach. This means that the business being audited has to be significantly more committed, time-wise and money-wise, for the audit to occur. We decided to create a program that can be applied to a broad array of businesses, with a focus on restaurants and hotels, as we believe that it is important to promote conservation to as large of a group of commercial entities as possible. We also want our

program to be appealing to as many utilities as possible and therefore did not want to limit our services to a single industry.

The structure of the program has been designed and is nearly identical to our structure for Slow The Flow (STF) for HOA and commercial groups, with one additional component. For the HOA and commercial STF program we direct potential customers to our website where they can read about what the audit entails, and then they are directed to call our Water Conservation Associate to schedule an appointment. On the scheduled date we send our auditor to perform the audit. Finally, a detailed report is issued to the business that explains their water use and sprinkler system issues. With the indoor commercial water audits, we have similarly built a web page where interested businesses can read about the program, and we direct them to call us to schedule their audit. The additional component is that we ask them to complete a short survey about their business before calling. The link to this survey is on the website. The survey asks for basic location information as well as business type, size, water, electricity and gas billing information and a few focused questions about water use and reasons for the audit. The hope was to gather information from this survey to help us to better serve businesses, as the information gathered would allow us to make educated estimates of the length of time that we would need to complete the audits. The survey also prepares the businesses for the types of questions that we will ask during the audits, such as about their utility rates. Unfortunately, we have not had a very high response rate to this survey. In the future we will need to figure out a different way to entice businesses to fill out the survey before they receive the audit.

Like the STF program, we issue a detailed report to businesses after the audits. These reports include analyses of the building usage, recommendations for water savings, and cost-benefit analyses of the recommendations. Any rebates available to the businesses will also be described and recommended in the report.

Branding of the program has taken a different turn than we had originally envisioned. We originally envisioned creating a unique program name and logo; however after reviewing other commercial audit programs from around the country we learned that very few of the programs had significant, traditional brands. The program websites tended to be very descriptive, informational, and to-the-point. We feel that this lack of more traditional branding makes sense for our goals of communicating directly with commercial establishments. We have decided that similar to most other commercial water conservation programs we will produce material that has a straightforward emphasis on describing the program and its benefits. We also have tried to highlight the potential cost-savings that a business can expect to receive from the program. As you can see on our website, the program is simply called “Indoor Commercial Water Audits” and “Indoor Water Conservation Audits.” As we move forward with the program we will continue to evaluate how well this decision serves our purpose, and if need be, we will seek out a different branding approach.

The Colorado WaterWise auditing form – which we refer to as the commercial audit “tool” – is an excel spreadsheet created by The Brendle Group,

through a partnership with the City of Boulder. The City of Boulder and The Brendle Group have worked with us on specifications of the tool and have listened to our suggestions as they work out the details of the final version of the tool. At this point, we are participating in a pilot program, hosted by The Brendle Group, to test the tool. Due to the challenges of using the tool on a tablet, we are using the tool mostly in the office, and we have designed a paper form where we record the data needed for the tool input and then we enter it into the tool back in the office. The tool has been very helpful with generating useful information and recommendations to provide our customers within the reports.

We are using this tool as our primary medium for collecting information and data during the audit. The tool itself has several worksheets that require different inputs. It uses the input information to come up with a custom report that describes the costs and pay-back period of all possible fixtures and appliances. It also creates a graph to visualize the water savings from the recommended upgrades. Overall, we are happy with the tool. Because we are in direct communication with the creator of the tool, The Brendle Group, we will be able to continue to suggest improvements and report issues as we use it for our work. Finally, the tool has helped us to complete another subtask listed above, that of creating an audit database. The tool has an output page that compiles all of the information that it collects and calculates into a single row in an excel spreadsheet. From this compilation, we can cut and paste the data into a separate excel database that will aggregate the data from all of the audits. Water usage data, collected from the water providers after the audit, will also be compiled into a single spreadsheet and used for analysis further along in this project (Task 5).

Our main proposal to garner interest and support in this program from our partner utilities was presented at our annual meeting at the beginning of November. This presentation got three quick responses from The City of Thornton, Centennial Water & Sanitation District, and Westminster. Later on we received interest from Erie, Broomfield, Golden and The City of Boulder.

We have developed a full auditor training agenda and have trained one auditor, our lead Water Technician. We did hire a consultant (Peter Mayer of Water Demand Management) to help us design and perform the trainings. See Task 3 for further discussion of this task.

As mentioned above, the scheduling for these audits is set up nearly exactly like our scheduling for STF HOA and commercial audits. The only addition is a short survey that each business will be asked to complete before calling in to be scheduled. Our Water Conservation Associate has been trained and is ready to schedule audits and answer questions regarding the program.

All equipment and materials have been purchased for the auditor. We choose equipment and materials based off of other program recommendations and with the help of the hired consultant.

Task 2: Market and Advertise the Program – Complete

In order for a commercial, indoor water-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 commercial customers. Steps involved include:

- Design marketing materials
- Certificate of participation
- Design a commercial, 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

Preliminary work completed by 9/30/13, final request by 11/30/13.

This task is 100% complete, with advertising of the program occurring in 5 participating utility districts. The design of marketing materials, including the website, a brochure and a certificate of participation for the program, are all complete. The link to the website is: <http://conservationcenter.org/water-home/indoor-water-conservation-for-businesses/>. These materials are being used to promote the program along with direct phone calls and direct mail that our water provider partners are supporting. Coordination of marketing efforts is also currently underway, and is an ongoing process. As with our other conservation programs, no single marketing approach works for all situations, and we expect to have to continuously assess and adapt our marketing approach as time goes on and as we add more water providers to our list of partners for this program.

Advertising of the program was individualized for each participating utility. Several chose to send out an introductory letter, and then make a follow-up call. Others went door-to-door to do outreach efforts. Several of the utilities used their internal business development groups to do the outreach, as these groups often have contacts within the business community. Despite the efforts made by all of our participating utilities, as well as our own marketing outreach, we have had a significant challenge generating demand and getting businesses to sign up for the program. A reoccurring challenge within this arena is getting in contact with the appropriate decision-maker within the business. Small businesses often have a manager or the owner available to communicate with at all times, but larger businesses tend to have more management layers, making it more difficult to find the right contact. When able to reach the appropriate contact within a business, we had more success with signing up businesses for the service, especially when the utility had been able to alert them to the program's existence beforehand. The utility's authority was often the most beneficial aspect with convincing the business to accept the free service.

Task 3: Hire and Train Program Staff – Complete

In this task, the CRC will hire and train staff for the program. Staff includes a water conservation technician to perform the audits, and a conservation associate to schedule the audits. Technician training will be 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 trained technician who is capable of performing high-quality commercial audits, and one associate hired and trained to schedule audits. The CRC anticipates that Task 3 will be completed by October 31, 2013.

This task is 100% complete. We have hired and trained a water conservation technician and he has helped to perform the test audits. Training occurred in October and was done in collaboration with a hired consultant. The consultant also helped us to create a set of training materials that can be used to train future auditors. We also have a Water Conservation Associate who has been trained to schedule the audits.

Task 4: Perform Commercial Audits – Complete

Task 4 involves several mini-tasks:

- Record requests for audits
- Contact customers to schedule audits
- Gather water use information from utilities for each customer
- Perform audits on-site with commercial customers
- Collect audit data
- Manage program staff

Task 4's deliverable includes [revision] as many audit hours as the CRC is able to complete, with a maximum limit of 375 hours. The CRC anticipates that this task will be complete by [revision] May 30th, 2014.

This task is complete¹. Due to a late start with generating agreements with water providers we were unable to complete this goal by December 31st, 2013, as originally proposed. After early March of 2014, we realized that we would not be able to complete the task as originally planned, with a total of 375 audit hours performed. Demand was harder to generate than expected, as was getting water providers interested in supporting the program. Once several water providers had shown interest, the follow up process with them was slower than expected, causing lead generation to be slow. Fortunately, once we had several water providers signed up and working with us to recruit businesses for the program, demand finally picked up. To date, we have been able to complete 22 audits, totaling 132 audit hours. Attachment 1 lists the businesses that we have audited, along with the date of each audit and water provider associated with each business. Overall, the audits went smoothly and were received well by the staff that we interacted with. Furthermore, there is still demand for more and we are already planning for continuing the program in the fall of 2014.

Another positive outcome from performing these audits is that we are learning a lot about the water conservation opportunities within the business community. While we have not yet compiled the data from all of the audits, we can see from the preliminary results that significant opportunities exist with faucet aerator, showerhead, toilet, urinal, and pre-rinse spray valve replacements.

¹ It is important to note that the original deliverable of 375 audit hours was not reached, however, with regards to the update to the deliverables on April 7, 2014 (via email) to as many audit hours as possible by May 30, this task is complete.

These fixtures are all relatively easy to replace and inexpensive to purchase, suggesting that there is still a lot of low hanging fruit within the commercial sector with regards to water conservation opportunities.

Task 5: Data Analysis and Reporting - 15% Complete – Due July 31, 2014

The Commercial, Indoor Water-Audit program includes a significant data collection component to aid partner utilities in understanding commercial customers and targeting conservation programs. In Task 5, the CRC will compile and analyze data collected during audits of commercial facilities, 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 targeted commercial 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 information about each business
- Number, type, and flow rate of fixtures found at each business
- Water savings potential from fixture replacements at each business
- Fixture replacements performed on-site at each audit
- In partnership with staff at some partner utilities, rebates applied for by commercial, indoor water-audit customers
- Leaks and other problems found at each business
- 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 commercial, indoor water-audit customers, conducted after audits are completed for the year. The survey will include questions concerning both customer satisfaction and the impact of the program.

Task 5's deliverables include a completed commercial customer survey, a program report provided to each partner utility, and a program report made available to the CWCB and the general public. [revision] The CRC anticipates that Task 5 will be complete by **July 31, 2014**. The final report will also be completed at this time.

This task is 15% complete. We have collected the data about each business as we go along, and therefore have all of the information needed for detailing the number, type and flow rate of fixtures found at each business. The CII Audit Tool that we are using, provided by The Brendle Group, calculates the water savings potential from fixture replacements, and therefore this information is readily available as well. We will still need to compile this data and do some analysis to show the overall impact of the program thus far. We have also

created an online survey, and have sent it out to some of the businesses that received an audit several months ago. We have decided not to perform a phone survey, as listed above, as we felt that offering anonymity would ensure the highest response rate. We are compiling the responses from the survey as they come in.

From the few survey responses that we have received, it appears that the recommendations were well received and followed. The responses to the surveys also indicated that rebates were used to help cover the costs of the fixtures replacements. For the final report, we will provide as much detail as possible about the rebates acquired and other recommendations followed, however, in order to ensure the highest response rate to our survey, we have kept the survey anonymous and therefore will not have information on which business took rebates and/or followed recommendations, unless they report it themselves. This is also a change from the list of data that we had originally thought that we would provide in the final report. All other information will be detailed and analyzed for the final report, due July 31, 2014.