

SWSI Conservation Level Analysis- Scope of Work

CWCB Project Manager: Kevin Reidy **Consultant Leader:**

Total Cost: \$24,999

1) Introduction and Purpose

The purpose of this scope of work is two-fold; first, to determine at what level of water conservation Colorado water utilities have presently achieved; second, to reassess the classification used in SWSI I (levels 1-5) and the conservation measures within each category. The reported levels must be analyzed for validity in order to ensure the best water conservation baseline data is incorporated into the Colorado statewide water supply planning initiative.

2) Project Description

CWCB staff will work with the consultant to analyze the results of the 2004 and 2007 Drought and Water Supply Assessment (DWSA) surveys, the SWSI I and SWSI II reports, relevant CWCB approved water conservation plans and the findings of the forthcoming Basin Needs Decision Support System (BNDSS) water provider survey. By examining these varied data sets spanning the last 5 years, the CWCB will gain insight into current water conservation efforts of participating Utilities, the consistency of and the discrepancies between self-reported conservation efforts and whether or not the conservation levels should be refined to strengthen the usefulness of this conservation assessment tool.

3) Scope of Work

Task 3.1: Analysis of 2004 & 2007 DWSA surveys, SWSI I & II reports, CWCB approved Water Conservation Plans and the BNDSS survey

3.11: The consultant will analyze the 2004 & 2007 DWSA survey results, SWSI I & II reports, CWCB approved Water Conservation Plans and the BNDSS survey results recording the self-reported water conservation efforts of the participating utilities.

3.12: Using the analysis of 3.11, the consultant will catalogue current conservation activities, estimated savings associated with current conservation activities pulled from existing conservation plans and the BMP guidebook.

Task 3.2: Analysis of the SWSI I conservation levels

3.21: The consultant will examine how the conservation levels were created in SWSI I and what assumptions were behind those levels, specifically looking at savings potential and cost per acre foot. Particular attention will be paid to the savings potential of passive conservation to verify if these are valid or not.

Task 3.3: Development of new conservation level framework

3.31: Based on Tasks 3.1 and 3.2, the consultant will develop a new conservation level framework using the work being completed through the Colorado Best Practices Guidebook as a guide.

3.32: The consultant will re-order the levels of all relevant utilities, illustrating discrepancies between SWSI I and the new order.

4) Deliverables

- 4.1 Tabulation of current conservation levels of providers as they appear in the DWSA surveys, conservation plans, and the BNDSS survey compared to those of SWSI I
- 4.2 Assessment of conservation levels as they appeared in SWSI I
- 4.3 A new conservation level assessment framework with associated water savings of each level.

5) Project administration

The Project will be under the direction of the CWCB. The consultant will make oral and written briefings to the CWCB and any advisory committees. The Consultant will also:

- 5.1 Prepare monthly status reports for the CWCB to be written and delivered at monthly meetings
- 5.2 Compile and report on all related meetings and analysis
- 5.3 Prepare presentations at the January CWCB Board of Directors meeting and the March 2010 IBCC meeting.

6) Project Schedule and Performance Objectives

The project and all components must be completed by February 15, 2010 to ensure that the CWCB meets necessary deadlines related to ongoing work with the IBCC process. As a result the following general benchmarks are recommended.

- 6.1 Contract Award by December 1, 2009
- 6.2 Draft report complete by January 15, 2010
- 6.3 Final deliverables by February 15, 2010

The consultant will only be able to invoice the CWCB on a monthly basis and only for completed tasks.



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November 23, 2009

Ms. Genevieve Deheza, Chief
Office of Water Conservation and Drought Planning
Colorado Water Conservation Board (CWCBC)
1313 Sherman St., Room 721
Denver, Colorado 80203

Re: Revised Proposal to Provide Professional Services Related to SWSI Conservation Level Analysis

Dear Ms. Deheza:

Please find herein, Great Western Institute's (GWI) proposal to provide professional services related to the above Scope of Work developed recently by the CWCBC. The Scope of Work involves various tasks designed to characterize the effectiveness of water conservation measures and programs currently conducted by Colorado's water utilities and special districts. Of great importance is that this project will be used to re-assess the water conservation classifications developed and used in the Statewide Water Supply Initiative (SWSI) based on the review and evaluation of the best available data collected by the CWCBC over the past eight years. Also vital to the project will be the evaluation of potential water savings that can be realized based on the new classifications and a review of existing water conservation plans on file with the CWCBC.

Scope and Schedule

The specific Scope of Work developed for this project is attached for reference. The project schedule is also included in the Scope.

This proposal presents how GWI will approach conducting the Scope, as well as our estimated costs for project execution. We fully realize that the project must be completed by February 15, 2010. We plan to work closely with the Office of Water Conservation and Drought Planning (Office) staff to ensure that this project deadline is achieved.

Approach

The project consists of five tasks as follows (parentheses indicate the task as defined in the attached Scope of Work):

- Collect and analyze data from past CWCBC projects and Water Conservation Plans currently on file with the Office (Task 3.1);
- Analyze SWSI Phase I and II water conservation evaluations (Task 3.2);
- Develop a new framework for evaluating and characterizing ongoing water conservation conducted by Colorado's water utilities and special districts (Task 3.3);
- Prepare a project report (Task 4); and
- Conduct project administration (Task 5).

Each of these tasks is described below.

Task 3.1

Critical to maintaining the project schedule will be the efficient and timely collection of raw data from its sources as per this scope item. GWI has the raw data from the 2004 Drought and Water Supply Assessment (DWSA). We will require the raw data from CDM (SWSI I and II) and Aquacraft Water Consultants (2007 DWSA) by the end of November to achieve the project schedule. We require that these data are provided in an organized, electronic database structure (e.g., MS Excel) that can be sorted and arranged. We may also require that any surveys or data collection efforts be fully documented such that we can understand and analyze the data received.

In addition, GWI will need to obtain those Water Conservation Plans currently on file with the CWCB from the CWCB, along with any summary analyses that the Office has performed to date. The Plans should be provided in PDF format; whereas data analyses will be provided in MS Excel format.

We believe at this time that the results of the Basin Needs Decision Support System (BNDSS) data collection will not be available in time to be included in this project.

Once the data has been obtained, it will be reviewed and analyzed to support the objectives and goals identified by the CWCB. Of particular import will be the determination of individual water provider past and current water conservation programs and behaviors. Key questions that will be answered, based on the data review, will include:

- Who has what type of plans (e.g., water conservation plans, drought plans)?
- What measures and programs are in place (not what measures and programs are planned to be in place)?
- What measures and programs did water providers identify as the most effective?
- What are the discrepancies between what is thought to “work” (i.e., creates meaningful water conservation) and what actually works and what water providers have sought to implement?

In addition, GWI will catalogue current conservation activities and estimated water savings based on a review of water conservation plans currently on file with the CWCB. Key information that will be retrieved and summarized from the water conservation plans on file will include:

- Identification of past water conservation measures and programs;
- Identification of past water conservation savings associated with these measures and programs;
- Identification of new water conservation measures and programs chosen by the water planning entity to implement;

- The cost of implementation; and
- The expected amount of water savings related to plan implementation.

These data will be used to estimate current and potential water conservation savings that relate to ongoing water conservation in Colorado.

Note that the analysis described in Task 3 will likely have challenges related to certain limitations. Limitations are expected to exist since there are some inconsistencies between which municipal water providers contributed to each of the relevant studies conducted by the CWCB; there are inconsistencies between water conservation plans on file with the CWCB; and water conservation savings claimed by some water providers in their water conservation plans are unfounded or not based on the current state of the science.

The results of the data analyses conducted under this task will include a description of those limitations identified through the process of data interpretation and evaluation. GWI will also pay particular attention to the quantification of potential water savings due to “passive” water conservation measures and programs that water providers have and continue to implement.

Task 3.2

GWI will review the SWSI reports and raw data; as well as conduct informal interviews with the SWSI Project Team, to the extent possible; to determine how the SWSI water conservation levels documented in Tables 8-1 and 8-2 of the SWSI Phase I Report were developed. This effort will include reviewing data collected to document the water conservation programs implemented in all 64 counties across the state.

Under this task, GWI will also assess how the savings potential and costs per acre foot listed in Table 8-1 were established by the SWSI Team.

Task 3.3

GWI will work closely with the Office and the project advisory committee (AKA, the Front Range water committee) to develop a new framework for characterizing and evaluate local water conservation efforts being conducted by municipal water providers. The new framework will be created based in part on the Colorado Best Practices (BP) Guidebook currently being developed by the Colorado WaterWise Council.

As the new classification framework is created, GWI will benchmark a select few non-Colorado water utilities to determine the efficacy of the framework for differentiating and characterizing the effectiveness of various municipal water conservation programs. Once the new framework has been established, GWI will apply it to the counties and the utilities with data available to characterize ongoing water conservation programs.

Consistency with and discrepancies between the new framework and that used in SWSI will be identified and discussed.

Task 4

GWI will develop a written report summarizing the various tasks performed. We will create tabulations comparing and contrasting the information presented in each of the data sources for each relevant municipal water provider, and where possible, for each relevant county. It is anticipated that inadequate data exists to represent countywide water conservation measures and programs; however, an effort will be made nonetheless to discuss the options for performing such assessments and the shortcomings therein.

The report will also discuss the development and application of the new classification framework; as well as consistencies with and discrepancies between the new framework and the one included in SWSI. Finally, the report will estimate current and potential future water savings associated with each of the new classification levels.

A draft report will be developed for CWCB review and comment. Once comments have been received, a final report will be created and delivered. Two hardcopies of the draft and final report along with an electronic copy of the reports will be prepared for Office staff.

Task 5

GWI will prepare monthly status reports and invoices for CWCB review and approval. GWI will also prepare and deliver a presentation to the CWCB Board at its January meeting to be held in Denver.

Estimated Project Costs

Based on the Scope of Work, schedule and approach presented herein, it is estimated that GWI will complete the project for not more than \$24,940 including all labor and expenses. A breakdown of the estimated project costs is provided in the table below.

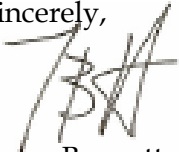
GWI will invoice the CWCB monthly for only those hours and expenses incurred to complete the scope of work.

<i>Task</i>	<i>Estimated Cost</i>
Task 3.1	\$ 8,900
Task 3.2	1,760
Task 3.3	9,020
Task 4	3,720
Task 5	1,540
	\$ 24,940

Ms. G. Deheza
November 23, 2009
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GW I greatly appreciates the opportunity to submit this proposal to the Office for consideration. As you know, our relationship with the Office and CWCB is of vital importance to our organization and we hope that this project continues our mutually beneficial relationship into the future. Please do not contact me with any questions that you may have regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tracy Bouvette', with a stylized, cursive script.

Tracy Bouvette
Executive Director