



100% Completion Report  
Colorado Water Conservation Board (CWCB)  
Green Legacies Grant  
PO # OE PDA14000000106  
Landscape/Irrigation Evaluation and Reporting  
September 8, 2016

This report marks the completion of the last of all nine tasks outlined in the grant. Work on the Landscape and Irrigation Evaluations and Reporting Project is therefore 100% complete and our associated Tasks, Goals, Projections and Methodology Recap, Outcomes Achieved, Findings and Challenges, Lessons Learned and Opportunities and Implementation Plans are provided below.

Homeowners were the target audience for the services described herein, specifically homeowners with existing landscapes, so that effective comparisons can later be made regarding changes in water use, thereby providing another source of reliable data to CWCB and others, to assist in statewide evaluation of the impacts of water conservation programs.

### **TASKS, GOALS, PROJECTIONS AND METHODOLOGY RECAP**

#### **TASKS**

##### **Task 1: Recruit and Train Two Evaluators**

Two CSU Master Gardeners were recruited and prepared to assist with the evaluations, however scheduling and weather constraints were such that early evaluations were handled by Moorhead and Firth. In order to improve availability, consistency and response time, a select number of Water Returns Service Partners were used as Specialty Consultants in different disciplines (i.e. horticulture, irrigation, soils, turf and design) to assist with many of the later consultations, under the direction of Linda Firth (Firth) and Steve Moorhead (Moorhead).

##### **Task 2: Survey Class Attendees and Select Recipients for Onsite Consultations**

Spring and Fall 2014/2015 Homeowner Training Classes were completed and Onsite Consultation recipients selected in Security Water District, Donala Water District and the City of Fountain.

##### **Tasks 3: Design and Test Reporting Formats**

Standardized forms were created, field tested and updated for Onsite Consultations, Irrigation Evaluations and Landscape Improvement Design services (templates attached).

##### **Task 4: Meetings with Water Returns Client Partners to Determine Level of Assistance.**

Client Partner leadership from Security Water District, Donala Water District and the City of Fountain were actively involved in developing and implementing the criteria for selecting homeowners for designated levels of assistance with their landscapes, as explained further under Methodology below.

##### **Task 5: Schedule and Conduct Onsite Consultations.**

Onsite Consultations were completed for selected homeowners attending Spring and Fall training in 2014/2015. Most homeowners attending the Fall 2015 training opted to receive their consultations in Spring/Summer 2016, which are included in this report.

Task 6: Fifty-Percent Completion Report – submitted December 31, 2014

Task 7: Schedule, Conduct and Report on "Further Assistance" Activities

These services have been completed for those homeowners choosing to share or cover the cost of the services themselves, as explained further under Methodology below. Our Specialty Consultants played a significant role here, under the direction of Firth and Moorhead.

Task 8: Seventy-Five-Percent Completion Report - submitted June 20, 2015

Task 9: Final Report is hereby submitted.

## METHODOLOGY

The methodology described below incorporated essential broad-based training to all homeowners within the participating communities and a tiered level of additional services to qualified homeowners, while simultaneously collecting and recording data as a basis for later measurement of results.

Training and Classroom Survey (attached)

Homeowner training covered different topics (attached) that are annually reviewed, updated and expanded. During the training attendees were asked to complete a survey, designed to assess both their need for assistance and their commitment to create and maintain a sustainable landscape. At the conclusion of each class a drawing was held, awarding 10 of the attendees a free Onsite Consultation, courtesy of their sponsor Partner Community.

Online Survey (attached)

Onsite Consultation winners were emailed the link to an Online Survey shortly after the class, soliciting their preferred times to meet, as well as some key information about their landscape and irrigation system and the questions/subjects they'd like to cover during the visit.

On-Site Consultation (worksheet attached)

While there were a few elements of information we routinely gathered during these consultations for our purposes (i.e. soil type, root depth, microclimates, irrigation system pressure and coverage, etc), the bulk of the time was spent answering homeowner questions and sharing pointers, tips and other available resources.

Further Assistance (Additional Services)

Information gathered from the Onsite Consultations and preceding Classroom and Online Surveys were then used to make recommendations to the host Client Partner Community regarding which properties and homeowners would be good candidates with whom to split the cost of one of the following Additional Services:

- Comprehensive 2-hour detailed evaluation of the home's landscape or irrigations system, with a report of findings and recommendations (worksheet attached).
- 3-hour small group Coaching Session, working with up to five homeowners per session to sketch out design ideas and outline a plan of action for their projects.
- Professionally designed landscape and/or irrigation plan, incorporating the Seven Principles of Xeriscape and the homeowner's answers to design questions (sample questions attached).

Having the homeowner share the cost of these Additional Services is intended to further demonstrate the customer's commitment to making changes to their landscape. Some homeowners desired to get started immediately, so they opted to pay Water Returns directly for the services above. In some cases, these homeowners also contracted with Water Returns to assist them with contractor negotiations and project oversight, using Water Returns' Request for Proposal, Service Agreement and Inspection Checklists, which protect the interests of the homeowner and clearly spell out performance and product standards.

## GOALS AND PROJECTIONS

The stated goals for this grant were 1) to promote sustainable landscaping and efficient irrigation through both training and hands-on technical assistance in the form of 60 on-site consultations and in depth landscape/irrigation evaluations, and 2) to structure the evaluations and the resulting implementations so that they provide reliable monitoring information.

Initially, the Onsite Consultations were projected to generate sufficient qualified candidates for Further Assistance with significant landscape and/or irrigation improvements that could be used for long term monitoring, providing on the ground, real time comparisons between pre- and post-improvement water use. As explained further in the following sections, the actual number of qualified candidates for significant conversion projects were less than hoped for. Whether this deficit was the result of income/time/energy constraints or simple lack of interest cannot be stated with confidence; we suspect, however, some combination of these factors. However, in the process, we discovered the opportunity for simpler and more affordable improvements that can be applied by a greater number of homeowners, with significant water savings. In any case, participation remained high and we are confident the training was beneficial, if not measureable.

## OUTCOMES ACHIEVED

- Registered 321 homeowners for training, with an average of approximately 80% or 257 attending.
- Awarded 57 Onsite Consultations, with 42 being completed and the balance of the homeowners either being unreachable, unavailable or declining the service.
- Provided Additional Services to 9 homeowners whom chose to pay for the services themselves immediately.
- Qualified at least 6 more homeowners for Further Assistance on significant renovation projects outside the time constraints of this grant, with even more being qualified for the simpler and more affordable improvements explained further under Lessons Learned and Opportunities below.
- Served as an integral part of implementing Water Conservation Plans for the City of Fountain, Security Water District and Donala Water District.

## FINDINGS AND CHALLENGES

### TRAINING

Our Partner Communities and their customers expressed great appreciation for Water Returns training on many occasions. The classes were consistently well-attended and interest in Onsite Consultations strong. Since the Classroom Surveys were a bit cumbersome and cut into the time for training, we will likely gather the data through the online registration process in the future.

### ONSITE CONSULTATIONS

While the Onsite Consultations by design yield a limited data framework for monitoring behavioral changes, they are well suited for outreach and public education (readily shown as technical assistance for HB 1051 reporting), as well as creating informed advocates for sustainable landscape practices and their sponsor water providers, and providing information generally enlightening and helpful in determining candidates for Additional Services.

### FURTHER ASSISTANCE

Interest in Further Assistance for Additional Services was strong, with the exception of Coaching Sessions, which received no expressed interest. Unfortunately, the majority of homeowners were not found qualified (lacking finances, time, ability and/or motivation) to undertake significant landscape renovations, even when considering the possibility of further financial assistance from their sponsor Partner Communities, which represented varying demographics. However, it is expected a number of these homeowners will qualify for the simpler and more affordable improvements explained further under Lessons Learned and Opportunities below.

### TRUST

Although a growing number of green industry contractors are adopting sustainable landscape practices as part of their core values and skill sets, there remains an inherent obstacle of trust with consumers regarding advice received from paid service providers, as well as the decades-old mistrust of government in any form.

## LESSONS LEARNED AND OPPORTUNITIES

Given the obstacle of trust, having a qualified and trusted non-profit third party involved, who understands the industry and represents the homeowner's interests, appeared valuable to advancing the property owner's application of sustainable landscape practices, especially with regard to residential properties. Additionally, holding the training in the water provider's venue helped build trust in the governmental entity.

For many homeowners, classroom instruction addresses only part of their need for assistance with making water conscious changes to their landscape. Having an experienced resource for onsite evaluation, coaching and assistance is critical to converting their knowledge into a successful project.

Most homes with existing landscapes have excessive amounts of sod and poor soils, with homeowners that lack the finances, time, ability and/or motivation to undertake major renovations to their landscape and irrigation system, especially in one phase. Therefore, there is a great need for training and services that enable the majority of homeowners to make simple and affordable water-saving modifications, at the same time offering more advanced assistance to those interested and able to take advantage of them. Accordingly, Water Returns has begun evolving and expanding its training and onsite services to include:

- Sod to Native Grass Conversion
- Soil Enrichment Techniques
- Irrigation Equipment Repairs and Efficiency Upgrades
- Spray to Drip Irrigation Conversions in Planting Beds
- Selection and Placement of Xeric Plants by Hydrozones and Microclimates
- Irrigation Controller Management
- Installation of Rain Barrels
- Phased Project Implementation
- Effective Use of Wood Mulches
- Professionally Produced Landscape/Irrigation plan - a great investment for purposes of soliciting contractor and supplier proposals, as well as keeping the overall design intent on track over the phases of implementation, which is a necessity for most homeowners.

Programs offering sponsored training and services like those described above provide a cost-effective option for water providers, especially smaller ones, to fulfill HB1051 Water Conservation Plan Implementation reporting, as well as offering their customers meaningful resources to better manage their water consumption and costs.

Beyond residential applications, there is a growing demand for Water Returns to serve as owner representative for landscape installation and modification projects; facilitating the design, contract negotiation and project management process on behalf of owners associations, commercial properties and businesses. Recognizing this demand, Donala Water District has offered to share the cost of Water Returns partnership for a selected number of these types of customers. A key ingredient to growing this segment, especially with owners associations and their management companies, is clarifying Water Returns' role as a unique ally and extension of their capabilities.

## IMPLEMENTATION PLANS

The need for reliable data regarding the benefits of water conservation programs is glaring. Water providers still lack sufficient facts upon which to depend for decision making about water planning in the coming decades. Findings from this study have provided information essential to targeting the application of further resources to gain the greatest impact, in order to advance sustainable landscapes and water use practices.

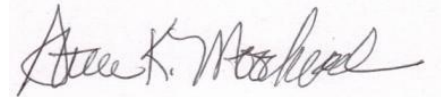
Homeowners attending our training have already agreed to sign a waiver, allowing their water provider and Water Returns to monitor and measure water use changes resulting from implementation of modifications made under Water Returns' direction. Because the projects will be subject to Water Returns' and the Client Partners' oversight, from initial assessment to project completion, and required to meet Water Returns' criteria (based on

Colorado Waterwise Council's Best Management Practices), many variables will be eliminated and the corresponding data will provide a reliable report of water savings directly attributable to the implementation of sustainable landscape and irrigation practices.

This grant enabled Water Returns to design and test the skill sets, standards, protocols and administrative infrastructure needed to extend the reach, capabilities and benefits of its services, thereby better serving our Partner water providers in becoming leaders in water conservation. Our intent is to leverage this infrastructure and the trust and experience we have gained, in order to assist homeowners (and other property owners and managers) implement the useful information provided by Water Returns, resulting in greater reductions in water use, reliable monitoring information and a self-sustaining source of support for Colorado water users.

Perhaps one of the more important and useful insights gained was a basic understanding of who the most receptive audiences are for what services. Rather than taking a shotgun approach to consumer education, we began to target those groups that are most likely to yield measureable savings, e.g., the aforementioned owners' groups and homeowners interested in smaller but productive measures. Tailored programs for specific needs, combined with onsite hands-on assistance appear to make a difference in implementation. We submit that Water Returns is uniquely positioned to offer this combination, thereby augmenting the service capacity of the water provider in areas that produce meaningful results.

Respectfully submitted.

A handwritten signature in black ink, appearing to read "Steven K. Moorhead", is written over a light pink rectangular background.

Steven K. Moorhead



It is our pleasure to invite you to attend the  
next class in our Sustainable Landscape Series as our guest

**Preparing Your Landscape For Winter**  
...and planning for Spring

Learn how to prepare your landscape for winter, with pointers about  
pruning, aerating, fertilizing, winterizing your irrigation system and winter watering.  
Find out about "Lasagna Gardening" and how to plan for next spring's project!

*Attendees will have a chance to win a free 1-hour home landscape or irrigation consultation!*

**Reservations Are Required By September 28, 2016** (See Instructions on Reverse Side)





## Preparing Your Landscape For Winter...and planning for Spring

Security Water & Sanitation District Offices  
Wednesday October 5th at 6:00—8:00pm (Incl Light Dinner)  
231 Security Blvd, Security, CO 80911  
719-392-3475 / [info@securitywsd.com](mailto:info@securitywsd.com)  
Online Registration: <http://tinyurl.com/hoka6ff>

Fill out the form below and mail, email or return it to us in person...

— OR —

Reserve your seat using the online link above **no later than September 28, 2016**

Name		Address	
Phone		Email	







## Preparing for Your Landscape Consultation

### \*Required Question(s)

\* 1. Please enter the information indicated below.

First Name:

Last Name:

Home Phone:

Email Address:   
emailaddress@xyz.com

Address 1:

Address 2:

City:

State/Province (US/Canada):

Postal Code:

\* 2. In general, over the next 30 days, with at least 3 days advance notice, would conducting your consultation sometime between 9a - 1p on a weekday or Saturday work for you? (we'll ask about exceptions and specific dates and times in a subsequent question)

- ☐ Yes
- ☐ No; please enter your generally preferred days and time periods in "other" below.
- ☐ Other

\* 3. Over the next 30 days, what specific dates or times would be an exception to the availability you indicated in the preceding question; in other words, when you would not be available during those times? If there are no exceptions, please indicate by stating "none".

350 characters left.

\* 4. What specific questions and/or subjects would you like us to address during your consultation?

350 characters left.

\* 5. Do you have an automated irrigation system currently in place?

- ☐ Yes
- ☐ No

\* 6. Which one of the following best describes your current situation and intention re: your landscape over the next one or more years?

- ☐ You have an existing landscape, to which you are considering making physical changes in order to reduce its water use and/or appearance.
- ☐ You have an existing landscape, to which you are not likely to make physical changes in the near future, but would like to improve its soil conditions, irrigation efficiency or plant/turf health.
- ☐ You plan to install a completely new landscape.
- ☐ Other

\* 7. Do you live in a community with watering restrictions, whether mandatory or voluntary?

- ☐ Yes; please explain the restrictions in "other" below.
- ☐ No
- ☐ Other

\* 8. Which of the following best describes the ongoing maintenance of your landscape?

- ☐ You do it yourself, or its done by a family member, friend or neighbor.
- ☐ You pay a maintenance contractor or other party to do it for you.
- ☐ Other

9. Do you have anything else you'd like to ask or add re: your upcoming consultation?

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Finish





## CWCB Case Study Survey

(Revised September 10, 2014)

Date: \_\_\_\_\_

Name: \_\_\_\_\_

Water Provider: \_\_\_\_\_

Water Returns has been awarded a grant by the Colorado Water Conservation Board (CWCB) to conduct a case study that will track and report the benefits of sustainable landscape practices implemented on single family homes. If you are interested in making such changes to your landscape and being part of this study, please complete this short survey to help us determine your qualification for participation and potential financial assistance by your water provider.

1. Why are you interested in having an onsite consultation? (Just a short answer will do)

\_\_\_\_\_

2. About how much time do you currently spend on your landscape per week during the spring and summer?

\_\_\_\_\_

3. How much time would you LIKE to spend on your landscape per week during spring and summer?

\_\_\_\_\_

4. If your utility provider offers to pay a portion of the cost for a detailed irrigation evaluation, small group coaching session or landscape plan for your home, would you be willing to pay between \$75 and \$200 for your share of the cost for one of these services? (circle one)

Yes                      Not Right Now                      Need More Info

5. Would you be willing to let us check up on how you've implemented our recommendations?

Yes                      No

6. Would you be willing to let us review your actual water use over several irrigation seasons?

Yes                      No

7. How long do you expect to live in your current home?

\_\_\_\_\_



## Hosted Training Event Model

(Revised March 15, 2016)

### Available Topics <sup>(1)</sup>

- Assessment, Planning & Implementation
- Water in Colorado
- Landscape Design Principles
- Irrigation Design Principles
- Care and Maintenance Practices
- Seasonal Landscape Topics – Spring, Summer, Fall
- Small Group Coaching Session
- Sod, Soil & Sprinklers – choose & change wisely

### Provided by Water Returns

- Instructor
- Instructional Power Point
- Handouts, Name Tags and Training Aids
- Online Registration for 10 <sup>(2)</sup>
- Box Lunch or Continental Breakfast for 10 <sup>(3)</sup>
- Event Management and Registration Services
- Digital Promotional Flyer
- Workshop Signage <sup>(4)</sup>

### Provided by Partner-Host

- Host Group Fee <sup>(5)</sup>
- Additional Per Head Fee (if applicable) <sup>(2)</sup>
- Venue <sup>(6)</sup>
- Promotion <sup>(7)</sup>
- Door Prizes <sup>(8)</sup>
- Event Coordinator <sup>(9)</sup>

- (1) All classes are 90 minutes, except for the small group coaching sessions, which are 3 hours with a maximum 5:1 student to coach ratio. See Water Returns Training Portfolio for further description of training topics.
- (2) Up to 30 additional registrants are allowed (total of 40) for 90-minute classes, subject to venue capacity, with a supplemental per head fee of \$20, 25 or 30 respectively, for Strategic, Primary or Associate Partners, paid within 15 days after event.
- (3) Host may choose (up until the RSVP deadline) to provide meals for attendees, subject to Water Returns' specifications, and if so receive a \$7 discount per head.
- (4) 2 bandit signs and 1 poster board sign.
- (5) Host Group Fee is \$390, 430 or 480 respectively, for Strategic, Primary or Associate Partners and must be paid no later than RSVP deadline.
- (6) Subject to Water Returns' specifications and approval
- (7) Using Host's existing communication channels, in accordance with timeline provided by Water Returns
- (8) At least one Water Returns 1-hr On-Site Consultation for every 10 attendees at the cost shown in A La Carte Service Options for Strategic, Primary or Associate Partners, paid within 15 days after event.
- (9) Event Coordinator will assist Water Returns Event Manager with venue set-up, sign-in/registration, meal service, attendee assistance and other related services.

A Green Legacies [non-profit] Sustainable Program

5975 Nora Point #203, Colorado Springs, CO 80919 | 719.534.9960 | [info@waterreturns.org](mailto:info@waterreturns.org)



Date:

Client:

Re: Landscape Design Survey –  
[address]

[first name]...

On behalf of Green Legacies and Water Returns, I can tell you we are excited about helping you design the sustainable landscape of your dreams for your home! As we've discussed, Water Returns doesn't actually do the landscape design or installation ourselves, but rather facilitates those services for our Client Partners, using either our Service Partners or other contractors, with the understanding they are to apply generally accepted sustainable landscape practices.

Besides creating a landscape design that is water-wise and attractive that can help promote sustainable landscape practices, we want to also incorporate your interests and lifestyle into its design. So, if you can take a little time to consider and answer the following questions, it will get us started in the right direction. I encourage you to approach this from the perspective of what you would ultimately like the yard to include, regardless of how soon you are able to implement all of its elements. If needed, we can help you break the plan into phases that work with your budget and desired timing and that way you have a road map to guide your efforts along the way.

1. Do you plan on doing the maintenance of your yard yourself, or hiring a grounds maintenance company to do so?
2. Do you anticipate hosting social events often and if so, how many people do you expect to have in the yard at one time?
3. Would you like to incorporate a play area in the rear yard and if so, for how many children and what ages?
4. Do you prefer a formal or informal landscape design?
5. Are there any specific views you want to maintain or screen?
6. We would like to limit turf areas to no more than 30% of the total landscapable area, since these areas are generally the biggest water users. Do you have a preference re: the amount of turf?
7. Would you like to incorporate any specific access points and pedestrian traffic ways (e.g. gates, stepping stones)? If so, please describe what type and where.
8. Are there any particular trees, shrubs, ornamental grasses or mulches (wood or rock) that you particularly like or dislike? We typically use primarily low or medium water use plants.
9. Would you like the design for the front or rear yard to address any of the following (or other) elements: water feature, hot tub, shade structure (e.g. gazebo), patio, perennials, landscape lighting, etc?
10. Will you be keeping any pets in the yard?
11. Would you like flower and/or vegetable gardens incorporated into the design?

If you could provide your answers to these questions by [date], it would be helpful in preparation for the meeting with the designer [date].

Thanks...  
Steve

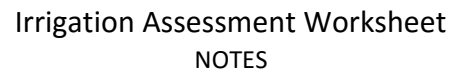
Steven K. Moorhead  
Program Developer

A Green Legacies [non-profit] Sustainable Program

5975 Nora Point #203, Colorado Springs, CO 80919 | 719.534.9960 | [info@waterreturns.org](mailto:info@waterreturns.org)

Controller #:

Controller #:

Irrigation Assessment Worksheet - Template - 051916





## On-Site Consultation Worksheet

Date:

Name:

Address:

Phone:

Partner Level:

Comp/Pay:

Consultant(s):

Prelim Observations & Issues (as time permits)											
Landscape						Irrigation					
	Front	Left*	Right*	Back	Note#	Irrigation	Front	Left*	Right*	Back	Note#
Soil Type / Root Depth						Backflow & Pressure					
Grade/Drainage						Uniformity of Sprinkler Type by Zone					
Turf/Trees/Shrubs						Condition of Sprinkler Heads					
Ground Cover/Mulch/Weeds						Gaps in Coverage/Overspray					
Microclimate						Hydrozone					
NOTES:						NOTES:					