

## **Exhibit A**

### **Statement of Work**

**WATER ACTIVITY NAME** – Small Acreage Irrigation Audit Program – Grand Valley

**GRANT RECIPIENT** – Mesa Conservation District

**FUNDING SOURCE** – Colorado Basin Roundtable WSRA

#### **INTRODUCTION AND BACKGROUND**

Provide a brief description of the project. (Please limit to no more than 200 words; this will be used to inform reviewers and the public about your proposal)

The natural resource concern that the *Small Acreage Irrigation Audit Program* is proposing to address is that of (irrigation) water and its management among small acreage owners. During the 1990s and 2000s The Grand Valley experienced unprecedented population growth. One of the more obvious impacts of this growth has been the sale and subdivision of larger commercial farms, particularly in the Grand Valley area. These smaller parcels of agricultural land – usually 40 acres or less in size – have often been purchased by individuals not familiar with western states irrigation. Many of these new irrigators have struggled with the subtleties inherent in the art of setting gates or moving a side-roll. Their irrigation efforts can create problems for themselves and their community, often without their knowledge. This program is designed to close that knowledge gap for small acreage irrigators and improve irrigation water management among this growing demographic.

Excess irrigation is also the primary cause of mosquito outbreaks with the Mesa district and each year the local Mosquito Control District is dedicated to preventative and reactive measures to control mosquitoes that spawn in irrigation water. Eliminating water ponding in fields goes a long way towards reducing mosquito breeding grounds.

#### **OBJECTIVES**

The primary objective of the program is to encourage good irrigation water management (IWM) among small acreage irrigators. The benefits of good IWM among this demographic are: reduction or elimination of water waste; improved quality of life within the Mesa district due to the reduction in mosquito breeding sites; and to eliminate this group's contribution to local water quality concerns such as weeds, nutrient loading to waterways, and salt and selenium percolation.

The concept of developing a set length and irrigation interval that manages soil moisture to best meet crop needs will be the underlying outreach principle within each assessment visit.

The benefit of improved IWM for the landowner is both a cost savings (less fertilizer and less pesticide required) as well as a productivity boost (better nutrient uptake and less weed competition). These benefits will be the primary incentives to encourage good irrigation water management among assessed irrigators.

Where applicable small acreage irrigators will also be introduced to USDA cost-share programs that may allow them to improve their irrigation system to be more efficient and require less of their time.

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### TASKS

Provide a detailed description of each task using the following format

1. Hiring and training small acreage irrigation auditor
2. Advertising small acreage irrigation audits program
3. Performing small acreage irrigation audits
4. Evaluation of impacts

#### **TASK 1 – Hiring and training of small acreage irrigation auditor**

##### Description of Task

Mesa Conservation District has budgeted for a full-time auditor to be trained and supervised by Mesa Conservation District and its partners. This auditor will be carefully chosen for their self-sufficiency, rapport with small acreage managers, and experience with Grand Valley irrigation<sup>1</sup>. Additionally the project budget also includes funds for visit travel and reporting. Equipment training and technical support for audit visits will be provided by CSU Extension<sup>2</sup>.

##### Method/Procedure

Audit materials have been developed for furrow and side-roll systems<sup>3</sup>. These materials will be the basis of training the auditor and their on-farm assessments. These tools were developed using audit algorithms pioneered by the Irrigation Training and Research Center (Cal Poly Technical University: [www.itrc.org](http://www.itrc.org)) and the Irrigation Association ([www.irrigation.org](http://www.irrigation.org)). A certified contract landscape auditor who already works the Grand Valley Area (Ardith Blessinger: [blessing@aol.com](mailto:blessing@aol.com)) will be referred all enquiries that relate to lawn or garden irrigation concerns<sup>4</sup>.

##### Deliverable

A well organized, well trained small acreage auditor with the skill set to effectively implement the proposed small acreage irrigation audit program with furrow and/or side-roll irrigators.

#### **TASK 2 – Advertising Small Acreage Irrigation Audit Program**

##### Description of Task

The pilot audit program used advertising in the Grand Junction Daily Sentinel that was very successful in soliciting a response from the public. The budget includes funds to advertise in the Sentinel again starting with irrigation water becoming available in early April 2011 and finishing once all funds are spent or the end of the

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<sup>1</sup> The 2010 pilot identified a number of potential candidates.

<sup>2</sup> CSU Extension piloted the program in 2010.

<sup>3</sup> Developed as part of the 2010 pilot by CSU Extension

<sup>4</sup> Conservation District or CSU Extension staff will not be available to assist irrigators of medical marijuana.

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2011 irrigation season – whichever comes first. An attempt will be made to utilize community and commercial radio to broaden awareness of the program as well.

### Method/Procedure

The Grant administrators will use the contracted Sentinel advertising rate established by the pilot program in 2010 to advertise weekly in the Grand Junction Sentinel. Contact will be made with the local radio stations to setup public service announcements and interviews.

### Deliverable

A well informed public within the Grand Valley of what is offered by the *Small Acreage Irrigation Audit Program* and the period of its availability.

## **TASK 3 – Performing small acreage irrigation audits**

### Description of Task

The hired auditor will be trained in the furrow and side-roll audit procedures developed by CSU Extension and Mesa Conservation District with the 2010 pilot and will be available to provide audit visits from when (trash free) water first arrives at the head-gate in April 2011 until all funds are spent or the end of the 2011 irrigation season – whichever comes first. Audits of approximately one to four hours in length will be offered to agricultural irrigators on small acreages (typically 40 acres or less).

Audits will ideally be available weekdays from 6am until 7pm though not necessarily for all hours in between, since most small acreage irrigators manage water first thing in the morning or in the evening after work. The auditor will also be responsible for collecting and processing soil and water samples as well as providing a timely report with analysis and recommendations to the irrigator. Follow up visits, or first visits after July 4<sup>th</sup> weekend, will be charged at \$50 per visit.

### Method/Procedure

Audit visits will be arranged to occur when at least one field is being irrigated – for furrow systems this would ideally be after water has fully advanced to the waste ditch. Each visit will include a pre-check of soil type to determine water holding capacity of the root zone. In addition to measuring for distribution uniformity and irrigation efficiencies, the auditor will collect soil and water samples to check nutrient and salinity levels are not inhibiting yield potential. Additionally the irrigator will be interviewed on set-length, irrigation interval, and general seasonal scheduling. All of this information will be incorporated into the report that provides an in-depth evaluation of irrigation water management (IWM).

Follow up visits would be available at \$50 per visit for folks that feel they need help implementing recommendations made in the report. This may include a visit from USDA-NRCS staff to discuss irrigation system improvements and cost-share options available.

### Deliverable

A comprehensive assessment of an audited small acreage owner's irrigation system and IWM. Follow through includes a timely report detailing audit findings and recommendations to improve IWM and/or the irrigation system.

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### **TASK 4 – Evaluation of Impacts**

#### Description of Task

After completion of field work all irrigators who were audited will be contacted to solicit feedback on the program. Primary concerns will be: was the program well delivered?; was something of use learned?; has the new knowledge helped with managing your irrigation?; would you recommend this program to your neighbors? This information will be used to inform continuation of the program in 2012.

#### Method/Procedure

Irrigators who were audited will be contacted by phone by the grant administrators to solicit feedback. Based on the 2010 pilot program at least half of those audited responded with all respondents providing non-negative feedback with most noting they would recommend the program to neighbors. The 2011 program would be aiming to at least replicate these results.

#### Deliverable

An accurate assessment of the impact of the program including a list of lessons learned and recommendations for improving the program in 2012.

### **REPORTING AND FINAL DELIVERABLE**

**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 statement 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.

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### BUDGET

Provide a detailed budget by task including number of hours and rates for labor and unit costs for other direct costs (i.e. mileage, \$/unit of material for construction, etc.). A detailed and perfectly balanced budget that shows all costs is required for the State's contracting and purchase order processes. Sample budget tables are provided below. Please note that these budget tables are examples and will need to be adapted to fit each individual application. Tasks should correspond to the tasks described above.

Budget Table 1: Labor Costs

Personnel:	Months	Fringe		Total Costs
Rate:	\$18/hr			
Tasks 1,3,4	15 weeks	25%		
Total Hours:	450 hours			
Cost:	\$8,100	\$2,025		\$10,125

Budget Table 2: Complete Project Costs

Item:	Labor	Advertising	Soil/Water Samples	Equipment/Supplies	Mileage	Total
Units:	450 hours	13 weeks	10 visits/wk		100 mi/wk	Without
Unit Cost:	\$18/hr	\$300/wk	\$50/visit		\$0.50/mi	\$match
Task 1 – Hire/Train	\$675			\$510 (equip)	\$50	
Task 2 – Advertise		\$6,500 \$398				
Task 3 – Audits	\$8,775		\$6,500	\$435 (reports)	\$650	
Task 4 – Evaluate	\$675				\$50	
Total Units:	15 weeks				1,500 mi	
<b>Total Cost:</b>	\$10,125	\$6,898	\$6,500	\$925	\$750	<b>\$25,238</b>

Budget Table 3: Cash Match and Project Request

Cash Contributions	Agency / Company	Total
	Grand River Mosquito Control District	\$7,000
	Grand Valley Irrigation Company	\$500
	Grand Valley Water Users Association	\$509
<b>Total Project Cost:</b>		<b>\$25,238</b>
Total In-kind:		\$8,000
Sub-Total:	\$25,238 - \$8,000	\$17,238
Indirect:	Mesa Cons. District Indirect (6%)	\$1,035
<b>Total Funds Requested:</b>	\$14,240 + \$855	<b>\$18,273</b>

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### SCHEDULE

Provide a project schedule including key milestones for each task and the completion dates or time period from the Notice to Proceed (NTP). This dating method allows flexibility in the event of potential delays from the procurement process. Sample schedules are provided below. Please note that these schedules are examples and will need to be adapted to fit each individual application.

**Note:** While funds becoming available is contingent on CWCB board approval in March 2011, the December 2010 to March 2011 component of the program could proceed without funding prior to March 2011. If funding is denied by the CWCB board, a stripped down version of the program would proceed using cash match and in-kind resources.

	Dec 2010	Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Remainder of 2011 Irrigation Season.
<b>1. Hire Auditor</b>							
Form Hiring Committee							
Auditor Search							
Interviews and Hiring							
Training Auditor							
<b>2. Advertise Program</b>							
<b>3. Perform Assessments</b>							
<b>4. Evaluation</b>							
Follow up with assessed irrigators							
Report writing							

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### PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. 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 help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

**Signature of Applicant:**



**Print Applicant's Name:** Joyce Foraker

**Project Title:** Small Acreage Irrigation Audit Program – Grand Valley

### Return this application to:

Mr. Todd Doherty  
Intrastate Water Management and Development Section  
COLORADO WATER CONSERVATION BOARD  
1580 Logan Street, Suite 200  
Denver, CO 80203

To submit applications by Email, send to: [todd.doherty@state.co.us](mailto:todd.doherty@state.co.us)

To submit applications by Fax, send to: (303) 894-2578