COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 718
Denver, CO 80203

February 9, 2016

Colorado Mesa University
Attn: Hannah Holm
1100 North Avenue
Grand Junction, CO 81501-3122

RE: Notice to Proceed - WSRA Grant – POGG1 2016-692 Integrated Water Management Planning Framework in the Colorado River Basin

Dear Hannah,

This letter is to inform you that the purchase order to assist in the above WSRA grant project was approved on February 9, 2016. The email attachments will serve as your original documents for your records.

With the executed purchase order, you are now able to proceed with the project and invoice the State of Colorado for costs incurred from March 1, 2016 through November 30, 2017 according to the schedule in Exhibit A.

Please provide the project name, contract number, and basin when corresponding with or invoicing the State of Colorado for your project. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 30 days after review and signed approval by the project manager. I wish you much success in your project.

If you have any questions or concerns regarding the project, please contact me. You can contact Dori Vigil at 303-866-3441 ext. 3250 for invoicing and payment disbursement questions.

Sincerely,

//s//

Chris Sturm
Stream Restoration Coordinator
O 303-866-3441 x3236| **F** 303-866-4474
1313 Sherman St., Rm. 721, Denver, CO 80203
chris.sturm@state.co.us | cwcb.state.co.us

Attachments

STATE OF COLORADO
Department of Natural Resources

ORDER
Number: POGG1 PDAA 20160000000000000692
Date: 02/09/16
Description:
PDAA 2500 WSRA CO BASIN RT INTEGRATED WTR MGMT PLAN FRAMEWRK
Effective Date: 03/01/16 Expiration Date: 11/30/17

BUYER
Buyer:
Email:

VENDOR
COLORADO MESA UNIVERSITY
1100 NORTH AVE
GRAND JUNCTION, CO 81501-3122

Contact: .
Phone: .

**** IMPORTANT ****
The order number and line number must appear on all invoices, packing slips, cartons and correspondence

BILL TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIP TO
COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIPPING INSTRUCTIONS
Delivery/Install Date:
F.O.B:
VENDOR INSTRUCTIONS:

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$43,404.00	☐

Description: PDAA 2500 WSRA CO BASIN RT INTEGRATED WTR MGMT PLAN FRAMEWRK

Service From: 03/01/16 Service To: 11/30/17

TERMS AND CONDITIONS
https://www.colorado.gov/osc/purchase-order-terms-conditions

DOCUMENT TOTAL = $43,404.00

Exhibit A

Statement of Work
Date: 12/01/2015

WATER ACTIVITY NAME
Colorado Basin Roundtable Integrated Water Management Planning Framework

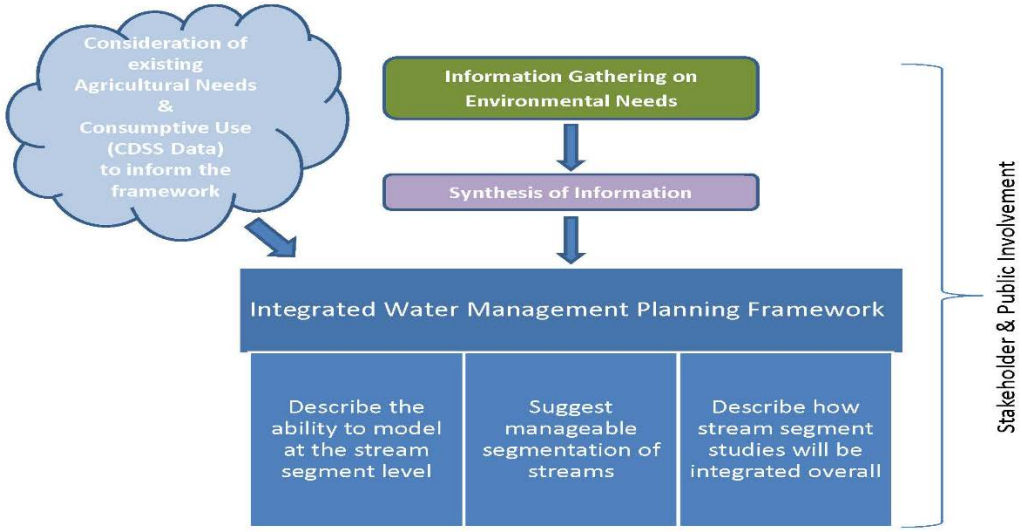
GRANT RECIPIENT
Colorado Mesa University Ruth Powell Hutchins Water Center

FUNDING SOURCE
WSRA Basin Funds – Colorado Basin Roundtable

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 Colorado Basin Roundtable (CBRT) has identified a basin-wide stream management plan (SMP) as a top priority in its Basin Implementation Plan. The CBRT feels that such planning is vital to providing sufficient water for environmental needs among the many competing uses and demands for water, and thereby restoring and protecting ecological processes that connect land and water while ensuring that streams also serve the needs of human populations.

The CBRT views SMPs as comprehensive in the sense that they need to consider both consumptive and non-consumptive uses, which is why we are calling this project an "integrated water management planning framework." Tasks one and two focus on information gathering and synthesis related to environmental needs. This body of work and its integration into a planning framework will be considered during tasks three and four, which involve stakeholder engagement and developing a framework for the creation of integrated water management plans at the sub-basin level. This framework will facilitate the integration of discrete plans into a comprehensive tool that can be applied basin-wide. This graphic describes the overall process for this project:



OBJECTIVES

List the objectives of the project

The objective of this project is to develop an integrated water management planning framework for the watershed area within the purview of the Colorado Basin Roundtable (CBRT). The proposed work will lay the necessary groundwork for entities to develop detailed integrated water management plans (IWMPs) that address local and/or regional needs while also providing information and output that can be used for basin-level planning and management purposes. While this proposal initially focuses on quantifying non-consumptive needs, the CBRT foresees the use of IWMP tools that integrate both consumptive and non-consumptive uses to ensure that all existing and future uses are considered.

TASKS

Provide a detailed description of each task using the following format

TASK 1 – Information Gathering

Description of Task

Complete a targeted review and compilation of existing information relevant to the development of IWMP tools specific to the CBRT study area. This task will focus on the collection of literature, studies, reports and documented management actions and strategies that address or can inform, in whole or in part, one or more of the following questions:

- What flows are adequate to support the life stages of the fish native to the stream segments (i.e., magnitude, frequency and duration);
- What flows are necessary to provide adequate sediment flushing;
- What flows are necessary for channel, floodplain and riparian area maintenance;
- Is the stream healthy (i.e., what do indicators such as macroinvertebrate indices, fish population data, riparian condition assessments, etc. suggest); and
- What is known about the contribution of agricultural return flows as it relates to instream flows?

Method/Procedure

The Ruth Powell Hutchins Water Center (Water Center) at Colorado Mesa University (CMU) will conduct the inventory work. Recognizing that considerable work has been completed to date with regards to literature searches in the study area, the first step will include the assembling and querying of existing inventories from the following sources:

- CBRT Basin Implementation Plan;
- Watershed Flow Evaluation Tool Report;
- CBRT Non-consumptive Needs Assessment;
- Grand County Stream Management Plan; and
- Upper Colorado River Basin Resource Guide (CMU).

Following an initial querying of the existing inventories, the Water Center will complete its information gathering through reviewing the relevant scientific journals and communication with the various watershed groups in the study area; resource management, planning and regulatory agencies; academic institutions; and local governments.

Deliverable

The inventory will be compiled in a database format with identifying attributes that include information source, applicable sub-basin or stream reach(es), and data type. This database will be dynamically linked to the web-based interface "Upper Colorado River Basin Resource Guide", which is currently under construction and resides at the Water Center. This guide includes maps to show spatially what stream reaches have been studied in what ways.

TASK 2 – Information Synthesis

Description of Task

Information collected in Task 1 will be synthesized for the purpose of identifying what is already known, what information gaps exist and where, and what resources and technical expertise will be needed to fill those information gaps. This task will go beyond task 1 by depicting what available data shows about stream health in each stream segment in the basin. This task will be undertaken in tandem with Tasks 3 and 4, recognizing the need to have a basic framework described in order to determine: 1) where existing information is adequate and appropriate and 2) what types of additional information are needed and at what level of detail.

Method/Procedure

From the inventory compilation, a contractor will extract, interpret and categorize information relevant to the five questions posed in Task 1. Results will be displayed and examined spatially to develop a better understanding, at a high scale of resolution, of what is known, how the information interrelates, where key information is lacking, and to determine optimization strategies for additional data collection.

Deliverable

A spatial geodatabase will be developed in GIS format to display results of the analysis.

TASK 3 – Stakeholder Education and Engagement

Description of Task

A stakeholder process will be conducted through the CBRT for the purposes of:

- Refining the objectives and goals of the basin-wide IWMP process;
- Achieving consensus on the recommended tools, how they will be applied, and how results could be used utilized; and
- Establishing priorities for implementation.

As described in Task 2, outcomes from stakeholder discussions will be used to inform work completed in Tasks 2 and 4. Once priorities are established, the CBRT will conduct outreach within the priority sub-basins to solicit interest for developing detailed IWMPs.

Method/Procedure

The CBRT IWMP subcommittee will carry out the planning while the Water Center will provide the facilitation for conducting the stakeholder process. A total of four stakeholder meetings are anticipated. Additional community outreach will be conducted by CMU and the subcommittee as needed.

Deliverable

Four stakeholder meetings and an estimated twelve community-based meetings.

TASK 4 – Develop Framework for Stream Management Planning

Description of Task

The goal of this task is to develop and describe a framework for the creation of IWMPs at the sub-basin level that allows for the integration of discrete plans into a comprehensive tool that can be applied basin-wide. The framework will:

- Establish the underlying goals and objectives as determined at the basin-wide level;
- Suggest a process for refining region-specific goals and objectives;
- Describe data needs, acceptable protocols for data acquisition, tools for data interpretation, and models for developing and testing management scenarios;
- Consider how to integrate systems and models that quantify consumptive uses (e.g., Colorado Decision Support System, West Slope Joint Roundtable Framework Study, etc.) so that both consumptive and non-consumptive uses are considered as part of management modeling; and
- Establish the methods by which sub-basin IWMPs could be integrate for use in basin-wide planning and management.

Method/Procedure

A contractor will be utilized to develop the framework. Some work on data collection protocols and acceptability of modeling tools has already occurred through the CBRT process. The contractor's work will consider those discussions and outcomes while recommending additional, suitable protocols and tools.

Deliverable

Draft and final guidance document that draws on work completed in Tasks 1 through 4 to articulate how to developing IWMPs at the sub-basin level that allows for the integration of discrete plans into a comprehensive tool that can be applied basin-wide.

TASK 5 – Project Management/Administration, including Reporting and Final Deliverable

Description of Task

This task includes contract and fiscal management, solicitation of and management of project consultants, and coordination with the CBRT and its subcommittees involved in project execution.

Method/Procedure

CMU's Water Center will be the fiscal agent and administrative reporting agency for this grant. The Water Center will designate Hannah Holm as the Project Representative. The IWMP Subcommittee of the CBRT will advise on project management elements throughout the term of the project. Hannah's resume and a list of IWMP Subcommittee members is contained in Attachment A.

Deliverable

Twice-yearly progress reports (three estimated) that describe the completion or partial completion of Tasks 1 through 4 including a reporting of any major issues that have arisen and the corrective action taken to address those issues. A final report will be submitted at project completion, summarizing the project, all documents and other deliverables, and how the project was completed.

Applicant Qualifications and Organizational Capacity

The Colorado Basin Roundtable, its IWMP subcommittee and the Water Center will provide strong leadership for this project, with the Roundtable and the subcommittee providing oversight and the Water Center managing the project.

The Colorado Basin Roundtable has a proven ability to successfully guide major collaborative projects to fruition, having successfully solicited and overseen several rounds of the Water and Energy Study and the development of the Watershed Flow Evaluation Tool, as well as the Colorado Basin Implementation Plan. The IWMP subcommittee includes several members that were deeply involved in these earlier efforts. Members have diverse skill sets and perspectives, which will help ensure that the resources and framework developed through this process are relevant and sensitive to the diverse stakeholders in the Colorado Basin.

The Water Center has established itself as a trusted, neutral entity with a strong record of inclusiveness and collaboration with diverse stakeholders in developing programs that address water challenges in western Colorado and the rest of the Upper Colorado River Basin. Water Center staff have worked with the Colorado Basin Roundtable for several years on outreach and education efforts and are familiar with the principal issues and interests in the basin.

Water Center Director Dr. Gigi Richard, a hydrologist and civil engineer with a strong background in GIS, will provide technical oversight for this project. Water Center Coordinator Hannah Holm will conduct most of the day-to-day management of this project and the majority of the literature review and facilitation work. Hannah has significant experience in project management and facilitation, having coordinated the process of establishing the Water Center, as well as its operations since its founding in 2011. The Water Center will also draw on the financial and legal contract management infrastructure of the University, as well as the expertise of

its own staff to ensure that this project is competently administered. Access to assistance from student workers will also facilitate the cost-effective completion of this project.

The Water Center is also well-positioned to make the information generated through this project broadly available to all interested parties. This project will build on and make use of the ongoing effort of the Water Center to establish and maintain a web-based Upper Colorado River Basin Resource Guide to increase access to water-related reports developed and housed by diverse entities across the Upper Colorado River Basin. Working with technology and protocols managed by CMU's library, the basic infrastructure of this guide has already been developed. Task 1 of this project will help populate this guide, and the existing infrastructure of the resource guide will make the contents of the literature database developed for this project easily accessible to all. The information synthesis and guidance documents will also be made available through the through the Resource Guide.

Proposal Effectiveness

Knowledge and stakeholder acceptance/engagement from the myriad water users are key for any IWMP to work in the Colorado Basin. The project team will measure success in achieving its objective to develop an IWMP framework by tracking the successful completion of the deliverables for each task and the degree of stakeholder participation and response to the developing and final framework guidance document, as well as the number of more localized plans that are developed as a result. Participation and response to project reports will be tracked by the applicant.

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.

BUDGET and **SCHEDULE**

task	*target start date*	*target finish date*	*Responsible parties*	*WSRA CBRT funds*	*CWCB CWRP $ (pending)*	*CMU $ in hand*	*In-Kind*	***Total***
Task 1 - lit review/ compilation	Mar-16	Dec-16	Water Center, Watershed Groups, Agencies	10,524	13,482	9,995	5,060	**39,061**
Task 2 - information synthesis	Dec-16	May-17	Contractor		45,000			**45,000**
Task 3 - Facilitation/ outreach - 16 mtgs	Oct-16	Nov-17	Water Center, Roundtable, Subcommittee	12,880			14,720	**27,600**
Task 4 - Develop Framework	Jun-17	Nov-17	Contractor	20,000				**20,000**
Task 5 - Project Management	Mar-16	Nov-17	Water Center, Subcommittee		9,465		9,476	**18,941**
TOTALS				**43,404**	**67,947**	**9,995**	**29,256**	**150,602**

Additional budget detail can be found in Exhibit C.

SCHEDULE

See **Budget and Schedule** above

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.

BUDGET DETAIL BY TASK

	party	*hrs*	*rate*	*total*	*notes*	*CWCB CWRP SMP $*	*CWCB WSRA $*	*CMU $*	*In-Kind*	*Total*
Task 1 - lit review and compilation										
locate, list, notes on sources	CMU	520	40	20,930	Hannah (sal + ben)	8,452	6,982	5,495		**20,930**
locate, list, notes on sources	CMU	300	15	4,500	students			4,500		**4,500**
locate, list, notes on sources	WGs	100	25	2,500	5 watershed grps*20 hrs	2,500				**2,500**
tech oversight & mapping	CMU	220	51	11,132	Gigi (sal + ben)	2,530	3,542		5,060	**11,132**
task 1 total	**CMU**	**1140**		**39,061**		**13,482**	**10,524**	**9,995**	**5,060**	**39,061**
Task 2 - information synthesis	**Cont**			**45,000**		**45,000**				**45,000**
Task 3 - Facilitation/ outreach - 16 mtgs										
prep, facilitation & notes	CMU	320	40	12,880	Hannah		12,880			**12,880**
oversight & participation	comm	400	23	9,200	5 people * 5 hrs * 16				9,200	**9,200**
participation	CBRT	240	23	5,520	20 people*4 mtgs*3 hrs				5,520	**5,520**
task 3 total				**27,600**		-	**12,880**		**14,720**	**27,600**
Task 4 - Develop Framework	**Cont**			**20,000**			**20,000**			**20,000**
Task 5 - Project Management										
3 progress reports + final	CMU	30	40	1,208	Hannah	1,208	-			1,208
12 bi-monthly coord mtgs	CMU	120	40	4,830	Hannah	4,830				4,830
12 bi-monthly coord mtgs	comm	180	23	4,140	5 people * 3 hrs * 12 mtg				4,140	4,140
Contractor selection/ oversight	CMU	60	40	2,415	Hannah	2,415				2,415
Cont selection/ oversight (tech)	CMU	80	51	4,048	Gigi	1,012			3,036	4,048
Cont selection/ oversight	comm	100	23	2,300	5 people * 2 cont * 10 hrs				2,300	2,300
task 5 total				**18,941**		**9,465**	-		**9,476**	**18,941**
	TOTAL			**150,602**		**67,947**	**43,404**	**9,995**	**29,256**	**150,602**

BUDGET DETAIL BY BUDGET CATEGORY

Budget Categories	Total Project Cash	CWCB CWRP SMP Grant (Cash)	Shell Grant (CMU Cash)	CWCB WSRA Grant (Cash)	In-Kind Match	TOTAL Project
Salary & Wages						
Hannah Holm ($35 hr x 1050 hrs)	36,750	14,700	4,778	17,272		36,750
Gigi Richard ($44 hr x 140 hrs)	6,160	3,080		3,080		6,160
Gigi Richard ($44 hr x 160 hrs) Academic Year					7,040	7,040
Students ($15 hr x 300 hrs)	4,500		4,500			4,500
Watershed Groups ($25 hr * 100 hrs)	2,500	2,500				2,500
Co Basin RT committee (5 people x 5 hrs x 16 meet x $23 hr)					9,200	9,200
Co Basin RT committee (5 people x 3 hrs x 12 meet x $23 hr)					4,140	4,140
Co Basin RT committee (5 people x 10 hrs x 2 meet x $23 hr)					2,300	2,300
CO Basin RT members (20 people x 3 hrs x 4 meet x $23 hr)					5,520	5,520
Total Salary & Wages	**49,910**	**20,280**	**9,278**	**20,352**	**28,200**	**78,110**
Fringe Benefits						
Hannah Holm @15%	5,512	2,205	717	2,590		5,512
Gigi Richard @ 15%	924	462	-	462		924
Gigi Richard @ 15%					1,056	1,056
Total Fringe Benefits	**6,436**	**2,667**	**717**	**3,052**	**1,056**	**7,492**
Consultants/Contractors						
Task 2 - Information Synthesis	45,000	45,000				45,000
Task 4 - Develop Framework	20,000			20,000		20,000
Total Consultants/Contractors	**65,000**	**45,000**	**-**	**20,000**	**-**	**65,000**
Total Direct Costs	**121,346**	**67,947**	**9,995**	**43,404**	**29,256**	**150,602**

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Funding Source Percentage Table		
CWCB CWRP SMP Funds	67,947	45%
CWCB WSRA Funds	43,404	29%
Subtotal CWCB Funds	**111,351**	**74%**
Private Grant Funds	9,995	
In Kind Contributions	29,256	
Subtotal Non CWCB Funds	**39,251**	**26%**
Total Project Costs	**150,602**	**100%**