# WaterSMART Water Marketing Strategy Grant Application

### In Support of:

Western Slope Demand Management Water Marketing Strategy Evaluation, Colorado

Colorado River Water Conservation District Glenwood Springs, Colorado, Garfield County

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#### D.2.2.1. Technical Proposal and Evaluation Criteria

Project Timeline: 3 years (Start: January 1, 2019 / End: December 31, 2021)

Executive Summary: This project grant proposal supports a Western Slope Demand Management Water Marketing Strategy Evaluation in Colorado. The strategy for developing the framework includes using refined CRSS and StateMod linked Colorado hydrologic models to answer various Colorado River system risk questions associated with potential demand management program scenarios. Questions include but are not limited to risk of Lake Powell falling below critical levels, compact administration and increasing compact curtailment scenarios, stress test periods of hydrology, basin specific impacts of compact curtailment, availability of water, etc. Risk study scenarios will inform and provide the foundation for an Economic Impact Study that evaluates economic, social, community, and environmental impacts (positive and/or negative) on West Slope Colorado communities. This information will assist in researching different potential market approaches that avoid or mitigate community impacts and assess potential costs associated with implementing the water market. All of the above activities will be conducted through an open and transparent public education and input process that includes the development of diverse stakeholder work groups where input can be gathered and then shared with the public via regular public presentations, webinars, and program updates to West Slope and Front Range Colorado water users and Upper and Lower basin states. This critical work and information will not duplicate the efforts of the State of Colorado, the UCRC, or other WaterSMART water marketing projects (e.g. Grand Valley Water Users Process or City of Grand Junction municipal WaterSMART project) but feed into those processes and help facilitate the development of a framework for a temporary, voluntary and compensated demand management program that protects water users and local communities which rely on those water supplies.

Relationship to a Reclamation Project, Facility, or Activity: The Western Slope of Colorado is home to many Reclamation projects, facilities and activities and as such, all will benefit from the proposed Water Marketing Strategy. The Aspinall Unit of the Colorado River Storage Project (CRSP) includes Blue Mesa, Morrow Point and Crystal Reservoirs (all with important hydropower plants). It is the largest water storage project (with multiple beneficiaries and uses) and Blue Mesa Reservoir is the largest reservoir in the state of Colorado. The Aspinall Unit is an important facility in the Drought Response Operations Agreement, a key component of the Drought Contingency Plan (DCP). This is the same plan that also calls for the investigation of an Upper Colorado River Basin Demand Management Program (the basis of this proposal). CRSP "participating projects" located in western Colorado, include the Bostwick Park, Paonia, Smith Fork, Dallas Creek, Dolores, Florida, Mancos, Silt and Pine River Projects. Other significant, non-CRSP federal irrigation projects, include Fruitgrowers Reservoir, Uncompander Project, Grand Valley Project and Dolores Project. Overall, it is estimated that Reclamation provides more than 30% of the water supply to western Colorado agricultural producers.

In particular, two large Reclamation projects on the west slope would benefit from the proposed water marketing strategy grant request:

• Grand Valley Project: Supplemental water is provided to over 30,000 acres of land along the Colorado River in the vicinity of Grand Junction. The project works include a diversion dam, a power plant, two pumping plants, two canal systems totaling 90.1 miles, 166 miles of laterals, and 113 miles of drains. Beneficiaries include: Grand Valley Water Users

Association, Mesa County Irrigation District, Orchard Mesa Irrigation District, Palisade Irrigation District.

• Uncompahgre Project: This large project is operated by Uncompahgre Valley Water Users Association and serves lands surround the town of Montrose and extend 34 miles along both sides of the Uncompahgre River to Delta, Colorado. Project features include Taylor Park Dam and Reservoir, Gunnison Tunnel, 7 diversion dams, 128 miles of main canals, 438 miles of laterals, and 216 miles of drains. The systems divert water from the Uncompahgre and Gunnison Rivers to serve over 76,000 acres of project land.

Additionally, Reclamation is very involved in multiple Colorado River Basin Salinity Control Projects (CRBSCP) including many Title II salt control units in western Colorado (Grand Valley, Lower Gunnison, McElmo Creek, Meeker Dome, and Paradox Valley). Reclamation has identified, the Lower Gunnison River Basin as its highest priority. The Salinity Control Act specifies that approximately \$10MM per year be directed to control private irrigation induced impacts in the region via non-reimbursable infrastructure investments. The water marketing strategy has the potential to benefit all of the above mentioned Reclamation Projects by addressing quality and quantity issues.

#### **Background Data**

The Western Slope of Colorado covers roughly 40% of the state and has a reported population of 572,585 (2016). In 2012, there were approximately 791,000 irrigated acres in the region, as reported by the Division of Water Resources with 90% of these acres growing forage crops. Of these forage crops, over 78% of the irrigated acres were producing grass pasture and approximately 12% of the irrigated acres growing alfalfa; the 10% balance of irrigated areas feature specialist and vegetable row crops. The agricultural economy is estimated to represent roughly 3% of the total West Slope economy. The largest generator of agricultural revenue on the Western Slope is the livestock industry.

To support these uses, over approximately 2.0 MAF of Colorado River water is consumed per year, with over 85% consumed by senior agricultural water right holders, with the balance of inbasin uses being used by municipal, industrial sectors. Additionally, approximately 550,000 KAF per year of water are exported out of the basin to the Front Range of Colorado by trans-mountain diversions (TMDs). The bulk of these TMDs are via Reclamation facilities (Colorado-Big Thompson, Frying Pan-Arkansas) with the remaining exports by private municipal systems (Denver, Aurora and Colorado Springs). These depletions (timing, amount and location) affect the risk being evaluated and analyzed in this proposal.

#### Project Location

The water marketing strategy is primarily focused on the Western Slope of Colorado from the headwaters of the Continental Divide north, west, and south to the Colorado state lines. It encompasses about 40% of the land area of the state of Colorado and is within the boundaries represented by the Colorado River Water Conservation District (River District, 29,000 square miles) and Southwestern Water Conservation District (10,100 square miles; See Project Map in Appendix A). Collectively, the Districts are charged with protecting, developing, and conserving water within the following counties; Moffat, Routt, Grand, Summit, Eagle, Pitkin, Gunnison, Delta, Mesa, Garfield, Rio Blanco, Ouray, Montrose, Saguache, Hinsdale, Archuleta, Dolores, La Plata, Montezuma, San Juan, San Miquel, and parts of Mineral County. Watersheds in Colorado covered by this proposal include the Yampa, White, Green, Colorado, Gunnison, San Miguel, San Juan and

Dolores River Basins in western Colorado. The project latitude is approximately 39° 07'15.49"N and the longitude is 107° 52'49.42"W.

#### **Project Description and Milestones**

#### I. Develop Hydrologic Demand Management Risk Study Scoping Scenarios

Water Marketing Strategy Met: Scoping and Planning Activities

Task 1 – Colorado River Risk Study, Phase III

Answer Colorado River system risk questions to inform decision making by Western Slope and State-wide Colorado River water users about the impacts of various potential demand management scenarios (Note: See study report link for activities accomplished since January 1, 2019 and for which the River District will be seeking reimbursement through the WaterSMART:

https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/

- Sub-task 1a. Compare the risk profile of Lake Powell falling below critical levels under the current level of development (held static) and a future level of development (held static). This analysis utilizes the CRSS model, with input from Colorado's StateMod model and assumes that both the Lower Basin Drought Contingency Plan and the Upper Basin Drought Response Operations are operational.
- **Sub-task 1b.** Refinement of linked StateMod model provided by the Colorado Water Conservation Board (CWCB) for Compact Administration Modeling.
  - **1.b.i.** Quantify water rights with pre-compact appropriation date but post-compact administration dates. Determine depletions associated with these rights both West Slope wide and within individual basins. Compare and evaluate appropriation date compared to administrative date basin by basin to determine impact of varying general adjudication dates between basins.
  - **1.b.ii.** Evaluate and devise mechanism for splitting and administering calls separately between in-basin water rights and trans-mountain water rights (Rationale: StateMod has no mechanism for administering one set of water rights within a basin differently than balance of the water rights within the basin).
- **Sub-task 1c.** Evaluate the impact of increasing levels of post-compact water right curtailment under varying levels of annual consumptive use reduction (100k AF, 300k AF, 600k AF, full curtailment) using several different hypothetical administrative protocols using StateMod model enhancements from Task 2 above.
  - **1.c.i.** Hypothetical administrative protocol Priority administration on a basin-wide basis (water right priorities assumed to be based on administrative number).
  - **1.bc.ii.** Hypothetical administrative protocol Each basin contributes an amount in the same proportion as that basin's depletions are to the total State-wide Colorado River depletions (within each basin the contribution would then be made in order of priority). **1.bc.iii.** Hypothetical administrative protocol Annual curtailment of post-compact trans-mountain water rights is split on a pro-rata basis between the East and West Slope of Colorado.

Milestone/Deliverable Task 1: Interim and final power point presentation(s) and summary report clearly documenting study procedures, assumptions, limitations, and results.

#### Task 2 – Risk Study, Phase IV.

Continue to build on previous phases of the Risk Study to inform West Slope and State-wide

Colorado River water users about the potential need for, and impacts of various demand management scenarios. This task will include significant coordination with West Slope water users, trans-mountain water users (Front Range Water Council), and the Colorado Water Conservation Board. Final scoping will be determined in conjunction with stakeholder groups. Anticipated sub-tasks include:

- **Sub-task 2a.** Utilizing CRSS and "stress test" period hydrology, evaluate the frequency and volume that Lake Powell might fall below various critical elevations, or fall below several assumed Lower Basin compact non-depletion obligations.
- **Sub-task 2b.** Continued refinement of the linked StateMod model to validate the results of various curtailment scenarios and gain State-wide consensus on the validity of the StateMod modelling platform.
- **Sub-task 2c.** Utilizing StateMod, refine and expand on Phase III curtailment scenarios. This will include in-depth analysis of specific water rights, or groups of water rights, and their geographic location impacted by various curtailment scenarios.
- **Sub-task 2d.** Continue to refine the linkage between CRSS and StateMod in coordination with Upper and Lower Colorado Region Reclamation personnel.
- Milestone/Deliverable Task 2: Interim and final power point presentation(s) and summary report clearly documenting study procedures, assumptions, limitations, and results.

#### Task 3 – Public outreach and input related to Risk Study findings

Water Marketing Strategy Met: Outreach and Partnership Building

Sub-task 3a. Conduct bi-weekly check-ins with study management committee

**Sub-task 3b.** Conduct 10 webinars for basin-wide technical team members to review data and seek input.

**Sub-task 3c.** Present findings to the public at the following events, including but not limited to, each of the 4 sub-basins as requested, River District, Southwestern, and Colorado Water Conservation Board Meetings, West Slope 4 Basin Roundtable Meetings, East Slope Joint Roundtable Meeting and Colorado River District Annual Seminar.

Milestone/Deliverables: Interim and final power point presentation(s), webinars, public meeting announcements, records of input and questions from public, final study reports which is to be incorporated into the Water Marketing Strategy Document.

#### II. WESTERN SLOPE DEMAND MANAGEMENT INPUT PROCESS

Task 4 – Western Slope, Colorado, Demand Management Stakeholder Task Force Process Water Marketing Strategy Met: Outreach and Partnership Building, Scoping and Planning Activities, Water Marketing Strategy Document

**Sub-task 4a.** Establish Stakeholder group comprised of water users from all water user sectors (i.e. Agriculture, Industry, Urban, environmental and recreational) and diverse geographic and growing type and hire facilitator.

**Sub-task 4b**. Conduct educational and outreach Stakeholder meetings to educate the public and gather input into a potential West Slope Demand Management Program. Summarize and refine stakeholder input gathered through iterative process with stakeholders informed by stakeholders input, risk study (See, Section I above) and economic impact study (See, III below).

Sub-task 4c. Prepare Demand Management Framework based upon public input and incorporate into WaterSMART Water Marketing Framework Document consistent with content requirements which will be utilized to inform and provide input to demand

management study efforts by the State of Colorado and the Upper Colorado River Commission.

Milestone/Deliverable: 8 Stakeholder meetings, summary of public input, webinars and/or presentations, Water Marketing Strategy Framework Document.

### III. EVALUATE ECONOMIC IMPACT OF DEMAND MANAGEMENT ON COLORADO WEST SLOPE COMMUNITIES

Water Marketing Strategies Met: Outreach and Partnership Building, Scoping and Planning Activities, Water Marketing Strategy Document

#### Task 5 – Develop and implement a robust process for community input.

Water Marketing Strategy Met: Outreach and Partnership Building and Development of Water Marketing Document

**Sub-task 5a.** Organize basin economic work groups composed of technical stakeholders from diverse economic sectors in order to inform economic impact analyses.

**Sub-task 5b.** Conduct one pre-workshop conference call and two half-day baseline economic data gathering workshops in each of the four West Slope Colorado basins.

Sub-task 5c. Have on-going communication with committee members.

**Sub-task 5d.** Conduct two half-day preliminary finding workshops in each basin based upon demand management scenarios and review findings and solicit input in order to validate the analytical framework.

Milestone/Deliverables: Outreach plan including process, list of key stakeholders, and documentation of input received and incorporation in WaterSMART Water Marketing Strategy Document consistent with requirements.

# Task 6 – Establish Economic Baseline: Gather economic data and develop a detailed descriptions of current West Slope economic conditions and trends to guide the development of the economic framework.

Water Marketing Strategy Met: Scoping & Planning Activities and Development of Water Marketing Document

**Sub-task 6a**. Collect economic and water use data and analyze trends at the county level throughout the study area.

**Sub-task 6b**. Develop recommendations for the break-down of the study area into smaller components for the purpose of the economic baseline and subsequent development of the economic framework and evaluation.

**Milestone/Deliverable:** Narrative profile of economic and water use baseline for Western Slope study area and each sub-area.

#### Task 7 – Develop framework for economic analysis

#### Water Marketing Strategies Met: Scoping & Planning Activities

**Sub-task 7a**. Work with the study team to obtain any necessary hydrologic analyses, modeling, and results to assist in developing and specifying framework.

**Sub-task 7b**. Utilize IMPLAN economic modeling software to translate direct changes in water availability into economic terms, evaluate "backward" linkages, estimate "forward" linkages, and describe potential social impacts.

**Milestone/Deliverables:** Draft report documenting economic and community/social effects framework including economic assumptions and estimated economic relationships specific to each sub-area.

### Task 8 – Evaluate range of demand management scenarios and direct and secondary economic effects.

Water Marketing Strategy Met: Scoping & Planning Activities

**Sub-task 8a**. Work with study team to discuss elements and water use reduction goals for the demand management scenarios as analyzed in Phase III and IV of risk study

**Sub-task 8b**. Evaluate the effects (sub-regional level) of each of the demand management scenario using the framework developed in Task 9. Include recommendations regarding potential compensation necessary to obtain participation in the voluntary measures and the potential need for mitigation.

**Milestone/Deliverables:** Selected scenarios to be evaluated, and interim and final evaluation report that can be incorporated into WaterSMART Water Marketing Strategy Document consistent with content requirements.

#### Task 9 – Develop Water Marketing Strategy Framework Document

Water Marketing Strategy Met: Development of Water Marketing Strategy Document

**Sub-task 9a.** Incorporate planning and scoping activity findings from the hydrologic risk and economic studies into the Water Marketing Strategy document as the foundation to support development of a framework for a potential water marketing strategy (i.e. Upper Basin Demand Management Program in Colorado).

**Sub-task 9b**. Description of the legal framework for implementing a potential demand management as a water marketing strategy in Colorado.

Sub-task 9c. Discuss the framework under which the water marketing activities may be monitored.

**Sub-task 9d**. Describe the process for obtaining stakeholder support and input into the development of the water marketing strategy.

**Deliverable**: Water Marketing Strategy Document consistent with WaterSMART content requirements.

#### Task 10 – WaterSMART Grant project management

**Sub-task 10a.** Grant project coordination, management, communication, and financial review and tracking of expenditures and match obligations consistent with 2 CFR Part 200. **Sub-task 10b.** Submit SF 425 Federal financial reports and interim performance reports as required (minimum semi-annual basis) pursuant to Section F.3 guidelines in the FOA.

**Sub-task 10c.** Submit final project report that covers entire period of performance along with water marketing strategy document consistent with instruction identified in Section F.3.3 of the FOA.

**Deliverable:** Semi-annual and financial progress reports, project performance reports, budget summaries, supporting documentation and financial tracking, final report, Water Strategy Document.

- **E.1.** Evaluation Criteria
- **E.1.1.** Evaluation Criterion A—Water Marketing Benefits (40 points)
- Explain whether the water market/water marketing strategy project will address a specific water supply shortfall and describe the extent of benefits to different sectors, including agricultural, municipal/industrial, tribal and environmental sectors, including:
  - Will the water marketing strategy project address a specific water supply shortfall? Yes. This water marketing strategy project addresses identified water supply shortfalls in the Upper Colorado River Basin that have been widely studied (Colorado River Water Supply and Demand Study <a href="https://www.usbr.gov/lc/region/programs/crbstudy.html">https://www.usbr.gov/lc/region/programs/crbstudy.html</a>, USBR, 2012). For the entire Colorado River Basin, there was a projected long term average deficit of 3.2 Million Acre-Feet as of 2060. This volumetric shortage is associated with declining supplies and increasing demands for water. These impacts are attributed to a protracted warming and drying trend, commonly associated with climate change, and robust population growth.
  - O What is the nature and severity of the shortfall, and which sectors are affected? Lake Powell serves as the storage "bucket" for the Upper Division States under the 1922 Colorado River Compact. By design, Lake Powell helps to ensure that obligations under the Compact can be met. However, in recent years, reservoir levels at Lake Powell have fallen to near critical levels. In fact, in 2005, the active storage pool fell to 37% of capacity threatening to encroach upon power pool levels. Although it has since rebounded, low reservoir levels persist due to the effects of near-record 19 year drought and the long term trend of poor inflow is projected to persist under climate change scenarios. This has the potential to affect all sectors of water use for greater than 40 million people in all seven basin states.
  - O How and to what extent will the water market/water marketing strategy activities, once implemented, address the shortfall? This water marketing strategy project will provide critical information which will assist in the development of a framework to assist in the evaluation of risk and the development of market parameters and rules which will enable the water users to identify that they can securely participate in a potential demand management program in Colorado that is voluntary, compensated, temporary, protects water rights, evaluates legal constraints, and avoids or mitigates actions that may negatively or unfairly affect Colorado communities, especially those in the headwaters of western Colorado.
  - o Will the water market/water marketing strategy activities benefit multiple sectors (e.g., agricultural, municipal, tribal, and environmental) and/or types of water uses (e.g., hydropower generation, municipal, recreation, and irrigation)? If so, to what extent, and which sectors and water user will benefit? This water marketing strategy proposal will benefit all sectors of communities and all water users including agriculture, municipal, environmental, recreational, and industrial sectors, and is very much tied to continued hydropower generation at Lake Powell which provides critical resources for federal irrigation infrastructure improvements in western Colorado. This proposal is actively seeking detailed community input from these identified economic sectors as the River District moves forward with public input processes that will inform and feed into the State of Colorado Demand Management work groups and eventually the Upper Colorado River Commission Demand Management planning efforts. This proposal provides critical data that will allow water users to make informed decisions and provide clear recommendations to the State of Colorado and the UCRC about

potential positive and/or negative impacts associated with Demand Management.

- Explain how and to what extent the proposed water market/water marketing strategy
  activities will improve water supply reliability in general in the area upon
  implementation of the strategy (address all that apply):
  - o Reducing the likelihood of conflicts over water There currently exists uncertainty, both within Colorado (Eastern Slope and Western Slope) and between Upper Basin and Lower Basin states regarding implementation of demand management program. This proposal seeks to develop critical data necessary for informing public discussions in an open and transparent process that can be shared within Colorado and with Upper and Lower Basin States. Additionally, this proposal seeks to develop a positive cultural consensus among water users toward involvement in program which is currently viewed as threatening and/or potentially injurious to water users.
  - o Increasing resiliency to drought Yes, this water marketing strategy proposal through Tasks 1-3 Hydrologic Risk Study (Phase III and IV) directly addresses the issue of decreasing risk associated with an uncertain hydrologic future and increasing the ability and resiliency of Western Slope communities and the State of Colorado to respond to frequent drought and meet Compact Compliance obligations.
  - Sustaining agricultural communities Yes, this project seeks to provide input into and evaluation of economic, social, cultural, and environmental impacts (positive or negative) to agricultural communities in western Colorado via the Economic Impact Study proposed in Tasks 5-8. It is the intent of this project to utilize the data produced through the Risk Study and the Economic Impact Study to develop a framework and rules for a carefully guided demand management water market which is protective of existing agricultural communities.
  - O Demonstrating a water marketing approach that is innovative and which may be applied by others This water marketing approach is innovative in that previous studies related to demand management have focused on impacts from long-term or permanent fallowing of agricultural lands. This study effort is focused on temporary or split season fallowing. This project will also look at secondary economic impacts and will take into account the variation in western slope communities. It is the intent of this program to openly share and communicate the findings throughout the four states of the Upper Division in order to assist all four states in their study and development of a demand management water market.
  - o Providing instream flows for species, recreation or water quality objectives Implementation of a potential Demand Management program in Colorado will likely have benefits to instream flows, recreation and water-quality and will be summarized in the Economic Impact Study (Tasks 7-8).
- Explain the extent to which the water market/water marketing strategy activities will be ready to proceed upon completion of the strategy, addressing each of the following:
  - O Describe your plans and timeline for implementing the strategy upon its completion. The Colorado River District (CRD) timeline for implementation of a demand management water marketing strategy is largely dependent upon the efforts of the Upper Colorado River Commission (UCRC) and the State of Colorado (State). Our plan is to engage with a wide variety of agricultural, recreational, environmental, municipal and industrial water users on the West Slope in order to address cultural, political, social and economic impacts and

concerns associated with the establishment of a water market. Our intent is to create and facilitate a grassroots organization of western slope water users in order to assist them in the evaluation of risk and the development of market parameters and rules which will enable the water users to identify that they can securely participate in an upper basin demand management market based program while protecting their water rights, livelihood and communities. This effort, in combination with the ongoing risk study and secondary economic impact study will allow our water users to create the parameters and even very detailed proposed rules to introduce into the state and UCRC discussion. We anticipate being able to create these deliverables in 18-24 months, largely dependent upon the timing and progress of the State and UCRC discussions. See also Project Timeline.

- Are there complex issues, including issues of law or policy, that would need to be resolved before the strategy could be implemented? It is anticipated that a fairly complex regulatory framework will need to be established within the State of Colorado in order to address the market based aspects of any demand management market program. Such markets likely will be supervised and implemented by the Colorado Water Conservation Board (CWCB) with assistance and leadership from the State Engineer, River District and the Southwestern Water Conservation District. This program is an effort to assist in the proactive creation of a proposed regulatory framework which will enable such a program to be implemented.
- been completed, including work on any of the three required project components (See also links to supporting work in Section D.2.2.8): A significant amount of work has been completed to date that facilitates our current level of understanding of a potential demand management program and water marketing framework/strategy. The work proposed in this grant request originated as part of the Colorado Water Plan (CWP) process as part of the Roundtable process. The four West Slope Roundtables requested a tool(s) to facilitate and inform their understanding of West Slope Colorado River system water supplies and intrabasin discussion on demand management should low levels at Lake Powell persist. In response, the River District and Southwestern proposed a Colorado River Risk Study. Each District and each Roundtable and the Colorado Water Conservation Board have shared in the costs. This important work continues today as the River District completes Phase III of the Risk Study and anticipates additional future work under Phase IV.

Work completed to date can be found using the following link: <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>

# E.1.2. Evaluation Criterion B—Level of Stakeholder Support and Involvement (30 points)

- Identify stakeholders in the planning area who have committed to be involved in the planning process.
  - O Describe their commitment, e.g., will they contribute funding or in-kind services or otherwise engage in the planning process? The following stakeholder groups are committed to the water marketing strategy framework development and include the Colorado River District, Southwestern Water Conservation District, Upper Gunnison River Water Conservancy District, Grand Valley Water Users Association, Uncompandere Valley Water Users Association, Tri-State Generation, Colorado Water Conservation Board and Nature Conservancy. In addition, other stakeholders are

- currently being sought to represent each of the four sub-basins and the various economic sectors as part of the Economic Work Study and Demand Management Work Groups. In total, \$323,000 of in-kind and cash match has been contributed by the above entities in support of the proposed project.
- O Please explain whether the proposed project is supported by a diverse set of stakeholders (appropriate given the types of interested stakeholders within the watershed and the scale, type and complexity of the proposed strategy).

  Yes, please see the above list of stakeholders. In addition, please see the following link for a list of individuals and/or entities currently being contacted regarding participation in the Economic Study Work Groups: <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>
- Describe stakeholders in the planning area who have expressed their support for the planning process, whether or not they have committed to participate.

  The above listed entities have expressed support for the project by making a cash contribution (Total \$222,000) via a 2019 Water Bank Work Group Cost Share Agreement being managed by the Colorado River District (Link): <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>
- Is there opposition to the proposed strategy? There is no direct or formal opposition to the potential demand management program, however, there is significant political, cultural and socio-economic concern on the West Slope regarding the implementation of a guided demand management market. These concerns arise largely out of a perception that western slope agriculture and communities may be targeted by wealthier or higher population urban areas which are dependent upon Colorado River water but which are located outside of the basin. Our proposal addresses these concerns in a multi-faceted and transparent public approach which should, diminish the potential for the development of formal opposition. The Risk Study and grassroots stakeholder engagement process allows water users to understand and quantify their risks and evaluate the advisability of participating in a demand management market. The secondary economic impact study allows us to assist water users and the communities which depend upon them, to evaluate and understand the potential economic effects of participating in such a program and allows them to envision and create strategies which mitigate any potential downside and maximize potential economic benefits of such a program.
- Do any separate planning efforts express support for the proposed water market/water marketing activities? Or, will the proposed water marketing strategy complement other ongoing or recent planning efforts within the area? The proposed water marketing activities will utilize the framework developed through the UCRC Drought Contingency Plans. The proposed activities will also utilize and further the work of the Grand Valley Water Users Association and the City of Grand Junction in their conserved consumptive use water marketing efforts sponsored by WaterSmart. The Colorado River Water Conservation District proposed grant activities further complement and feed into the efforts of both the State of Colorado and the UCRC as they study how to develop a functional demand management water market.
- Please describe any relevant planning efforts, including who is undertaking these efforts and whether they support or are complemented by the proposed water marketing strategy. Please see response included with question below.

• Describe what efforts that you will undertake to ensure participation by a diverse array of stakeholders in developing the water marketing strategy.

With respect to Task 1-3: We have and will continue to engage the leadership and membership of all four west slope roundtables soliciting and receiving the input and participation of literally hundreds of water users from all sectors of water use. We have and will continue to engage in extensive outreach to the Front Range trans mountain diverters and water users through the joint front range basin round table and through consulting with technical and political leaders on the Front Range Water Council.

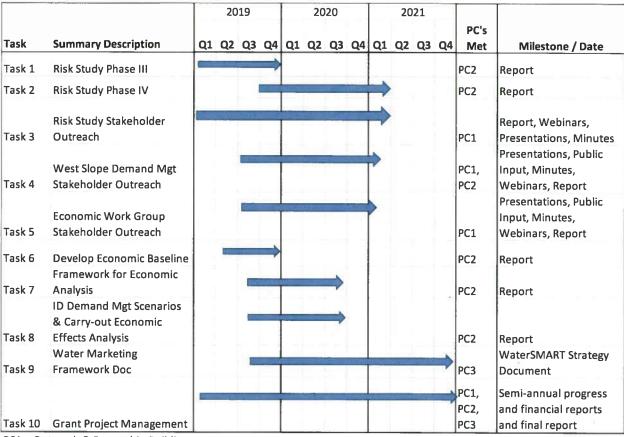
With respect to Task 4: We have identified stakeholder and community leaders and secured preliminary commitments throughout the 15 county CRD region. The agricultural stakeholders have been identified from upper and lower Yampa, White, Colorado mainstem, Upper Gunnison, Lower Gunnison, North Fork of the Gunnison, and the upper and lower Uncompangre. These agricultural representatives cover high country grass producers, row croppers and fruit farmers. The industrial stakeholders represent industries such as power generation and mining. The urban water providers include both large municipal areas such as the Grand Valley and more rural mountainous areas. Environmental organizations have been contacted and indicated their willingness and commitment to participate. We envision a series of four to eight facilitated meetings. The initial meetings will provide education and information with the intent of making sure that all participants have a similar understanding of the issues facing Colorado River water users and familiarity with common language and phraseology. The later meetings will focus on creating and critiquing potential market parameters and regulations with the intent of proactively injecting those rules into the broader State and UCRC processes in order to assure protection and buy in from our water users. It is intended that this process will be somewhat iterative with the State process being run by the CWCB and will feed these proposals into that process which will in turn feed into a broader UCRC process thus avoiding duplication or complication to other on-going efforts.

With respect to tasks 5-8, we have initiated a significant targeted outreach to community leaders, business owners and community members to solicit and incorporate grassroots input on potential economic effects of reduced agricultural production caused by a voluntary, temporary compensated demand management program. Members of the Water Bank Workgroup who are sponsoring this work with the Colorado River Water Conservation District include: The Nature Conservancy, Tri-State Generation and Transmission Co., South Western Water Conservation District, Grand Valley Water Users Association, Upper Gunnison Water Conservation District and the Uncompander Valley Water Users Association. Please see the following link for an example of the diverse make-up of the Economic Work Groups: <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>

## E.1.3. Evaluation Criterion C—Ability to Meet Program Requirements (20 points)

• Describe how the three required project components of a water marketing strategy grant will be addressed within the required timeframe. Project planning, scoping and

analyses (Phases I and II of the Hydrologic Risk Study) were completed at the end of 2018 and have provided a strong foundation for continued work. Phase III of the Risk Study will take place concurrently with a robust and transparent outreach and partnership building processes. At the conclusion of the above processes, detailed reports will be compiled and a water marketing strategy framework document will be prepared. Please refer also to the Project Timeline and Milestone table below and the detailed Project Proposal Budget (Tables 2 and 3).



PC1 = Outreach & Partnerhip Building

Describe the availability and quality of existing data and models applicable to the proposed water marketing strategy. The River District has been working with and improving the CRSS and StateMod models beginning with Phase I of the Risk Study. Model input, output and evaluation have been discussed and evaluation with technical experts in Colorado and have been accepted by the State of Colorado Water Conservation Board. In addition, the River District through the Colorado Water Bank Work group has carried out various technical studies informing Colorado's understand of issues around water banking. Please see link to various studies: <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>

• Identify staff with appropriate technical expertise and describe their qualifications.

Describe any plans to request additional technical assistance from Reclamation, or by contract. There are no plans to request technical assistance from Reclamation, but the River District will seek Reclamation participation in the various project

PC 2 = Scoping & Planning

PC 3 = Development of Water Marketing Strategy Document

management/steering committees for this project. River District staff expertise and qualifications include:

- -Andy Mueller, River District general manager and former practicing water attorney (Twenty-four years of natural resource law practice, J.D., Policy, Legal, Outreach)
- -Peter Fleming, River District General Counsel and water attorney (J.D., Twenty-seven years of water and governmental law practice, Policy, Legal, Outreach)
- -John Currier, River District Chief Engineer, P.E. (Hydrologic Engineer, Modeling, Policy, Outreach)
- **-Dave Kanzer,** Deputy Chief Engineer, P.E. (Geologic Engineer, Policy, Outreach, Water Resources and Water Quality, Agricultural Conservation)
- -Audrey Turner, Administrative Chief (B.A. Business, Outreach and Management)
- -Ian Phillips, Senior Accountant (Certified Public Accountant, Financial Management)
- -Sonja Chavez, Water Resource Specialist (B.A. Environmental Biology, M.A. Limnology, Project Management, Agricultural Conservation, Policy, Water Resources, Water Quality)
- -Alesha Frederick, Business Support Specialist (B.A. Business, Communications, Contracting)
- -Zane Kessler, Communications Director (B.A. Political Science, Communications, Policy)
- -Jim Pokrandt, Community Affairs Director (B.A. Journalism, Communication, Public Relations, Outreach)

Pilot activities part of the project? Not applicable.

## E.1.4. Evaluation Criterion D—Department of the Interior Priorities (10 Points)

- 1. Creating a conservation stewardship legacy second only to Teddy Roosevelt
  - a. **Utilize science to identify best practices** This project uses scientific data and analyses (Hydrologic Risk Study Analyses) and economic modeling (work of BBC) to make informed decisions around water resource utilization and potential impacts to communities under curtailment scenarios.
  - b. Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity This project evaluates risk to DOI water storage facilities (eg. Aspinall Unit and Lake Powell) through Risk Study Analyses and informed decision making.
  - c. Foster relationships with conservation organizations By welcoming all stakeholders to the table and having an open and transparent public education and outreach process, this project hopes to avoid or mitigate any potential negative impacts to water users. All stakeholder outreach includes outreach to nonconsumptive water user community represented by environmental organizations such as The Nature Conservancy (partner in the economic impact study) and Trout Unlimited and recreation interest groups such as American Rivers and American Whitewater.
- 2. Utilizing our natural resources
  - a. Ensure American Energy is available This project evaluates hydrologic risk scenarios for Lake Powell and provides critical information related to the risk of

- Lake Powell falling below hydropower pool level which impacts energy security, public health and safety, and Colorado River Compact delivery obligations.
- b. Be a better neighbor with those closest to our resources by improving dialogue and relationships This project is being undertaken in order to develop a common platform of understanding and facilitate dialogue with stakeholders within Colorado and upper and lower basin states.
- c. **Expand the lines of communication** This project has a robust and transparent public outreach and educational component specifically for the purpose of expanding communication among all stakeholders.
- 3. Striking a regulatory balance
  - a. Reduce the administrative and regulatory burden imposed on U.S. industry and the public Stakeholders on the western slope of Colorado are invested in this process because they want to have input into any potential demand program that can avoid or mitigate any potential negative impacts to Colorado communities rather than have that regulatory burden imposed upon them. The intent of this effort is to set up a guided market which incentivizes voluntary compensated participation in order to avoid heavy handed unilateral government action.
  - b. Ensure that Endangered Species Act decisions are based on strong science and thorough analysis This project will evaluate the impacts of a potential demand management program on endangered species (e.g. Aspinall Unit EIS Re-Operations for Colorado River Endangered Fish Species, 2011).
- 4. *Modernizing our infrastructure* Not applicable.

#### D.2.2.5. Project Budget

#### 1.) Funding Plan and Letters of Commitment

How will non-federal cost share be obtained? Non-federal cost share has been obtained through Colorado River District General Fund contributions and constituent/stakeholder cash contributions from the Southwestern Water Conservation District, Uncompandere Valley Water Users Association, Upper Gunnison Water Conservancy District, Grand Valley Water Users Association, Tri-State Generation, and Nature Conservancy.

- Amount of Funding Commitment = \$361,344 (River District \$167,344; Third Party \$194,000)
- Date the funds will be available to the applicant? All funds currently available.
- Any time constraints on the availability of funds? No time constraints.
- •Any other contingencies associated with the funding commitment? No.

Commitment Letters - Letters of third-party funding commitment provided within 30 days of this grant closing date (i.e. August 31, 2019).

#### **Sources of Funding**

- **Applicant** General fund revenue from mill levy.
- Cost contributed by applicant (Total \$167,344) Economic Impact Study (\$28k); Risk Study (\$73.7k); Demand Management Facilitator (\$11k); Supplies/Materials/Food (\$4k); Travel & Meal Expenses (\$12.6k); Technical Assistance, Outreach and Education, Project Oversight, Report Development by General Manager (\$37.9k)
- Third-party in-kind contributions Third party in-kind contributions may include basin specific technical assistance into economic impact or hydrologic risk study, but will not be tracked or claimed as part of the project.
- Any cash received from other non-federal entities (\$194,000) Cash contributions are available through a 2019 Cost Share Agreement with project partners. Funds managed by the River District.
- Any pending funding requests (e.g. grants or loans) that have not yet been approved? No.

#### 2.) Budget Proposal

Table 2. – Total Project Cost

| SOURCE  | 1    | AMOUNT  |  |  |
|---|------|---------|--|--|
| Costs to be reimbursed with the requested Federal funding | \$   | 315,721 |  |  |
| Costs to be paid by the applicant                         | \$   | 167,344 |  |  |
| Value of third-party contributions                        | \$   | 194,000 |  |  |
| TOTAL   | : \$ | 677,065 |  |  |

Table 3. - Project Budget Proposal

|                           | COMPUTATION |       |          |                  |    |          |                 |                |
|---------------------------|-------------|-------|----------|------------------|----|----------|-----------------|----------------|
| BUDGET ITEM DESCRIPTION   | \$          | /Unit | Quantity | Quantity<br>Type | то | TAL COST | WaterSMART 2019 | Match          |
| Salaries and Wages (Base) |             |       |          |                  |    |          |                 | STEWN TO STATE |
| Andy Mueller, General     |             |       |          |                  |    |          |                 |                |
| Manager                   | \$          | 96.75 | 392      | Hours            | \$ | 37,926   | \$ -            | \$ 37,926      |

| Sonja Chavez, Water Resource<br>Specialist | <b>\$</b> | 46.22  | 536          | Hours  | \$ | 24,774    | \$   | 24,774    |        |         |
|--|-----------|--------|--------------|--------|----|-----------|------|-----------|--------|---------|
| Audrey Turner, Administrative              |           | ==27   |              |        |    |           |      |           |        |         |
| Chief                                      | \$        | 67.57  | 150          | Hours  | \$ | 10,136    | \$   | 10,136    |        |         |
| Peter Fleming, General Counsel             | \$        | 112.82 | 132          | Hours  | \$ | 14,892    | \$   | 14,892    |        |         |
| John Currier, Chief Engineer               | \$        | 83.09  | 462          | Hours  | \$ | 38,388    | \$   | 38,388    |        | ="10"=1 |
| Ian Phillips, Senior Accountant            | \$        | 50.40  | 144          | Hours  | \$ | 7,258     | \$   | 7,258     |        |         |
| Dave Kanzer, Deputy Chief                  |           |        |              |        |    |           |      |           |        |         |
| Engineer                                   | \$        | 68.16  | 176          | Hours  | \$ | 11,996    | \$   | 11,996    |        |         |
| Alesha Frederick, Business                 |           |        |              |        |    |           |      |           |        |         |
| Support Specialist                         | \$        | 34.50  | 144          | Hours  | \$ | 4,968     | \$   | 4,968     |        |         |
| Zane Kessler, Communications               |           |        |              |        |    |           |      |           |        |         |
| Director                                   | \$        | 46.96  | 144          | Hours  | \$ | 6,762     | \$   | 6,762     |        | TALL    |
| Jim Pokrandt, Director                     |           |        |              |        |    |           |      |           |        |         |
| Community Affairs                          | \$        | 55.40  | 176          | Hours  | \$ | 9,750     | \$   | 9,750     |        |         |
| Subtotal:                                  |           |        | 2,456        |        | \$ | 166,850   | \$   | 128,924   | \$     | 37,926  |
|  |           |        |              |        |    |           |      |           |        |         |
| Fringe Benefits                            |           |        |              |        |    |           | LV L |           |        |         |
| Andy Mueller, General                      |           |        |              |        |    |           |      |           | N. R.  |         |
| Manager                                    | \$        | 47.87  | 392          | Hours  | \$ | 18,765.04 | \$   | 18,765.04 |        |         |
| Sonja Chavez, Water Resource               |           |        | - 1          |        |    |           |      |           |        |         |
| Specialist                                 | \$        | 20.53  | 536          | Hours  | \$ | 11,004.08 | \$   | 11,004.08 |        |         |
| Audrey Turner, Administrative              |           | 26.06  | 450          |        |    |           |      |           |        |         |
| Chief                                      | \$        | 36.86  | 150          | Hours  | \$ | 5,529.00  | \$   | 5,529.00  |        |         |
| Peter Fleming, General Counsel             | \$        | 51.23  | 132          | Hours  | \$ | 6,762.36  | \$   | 6,762.36  |        |         |
| John Currier, Chief Engineer               | \$        | 44.66  | 462          | Hours  | \$ | 20,632.92 | \$ : | 20,632.92 |        |         |
| Ian Phillips, Senior Accountant            | \$        | 29.99  | 144          | Hours  | \$ | 4,318.56  | \$   | 4,318.56  |        |         |
| Dave Kanzer, Deputy Chief<br>Engineer      | \$        | 38.87  | 176          | Hours  | \$ | 6,841.12  | \$   | 6,841.12  |        |         |
| Alesha Frederick, Business                 |           |        |              |        |    |           |      |           | in the |         |
| Support Specialist                         | \$        | 16.86  | 144          | Hours  | \$ | 2,427.84  | \$   | 2,427.84  |        |         |
| Zane Kessler, Communications               |           |        |              |        |    |           |      |           |        |         |
| Director                                   | \$        | 27.33  | 144          | Hours  | \$ | 3,935.52  | \$   | 3,935.52  |        |         |
| Jim Pokrandt, Community                    | -         |        | T - T        | 110013 | 7  | 3,333.32  | 7    | 3,333.32  |        |         |
| Affairs Director                           | \$        | 31.71  | 176          | Hours  | \$ | 5,580.96  | \$   | 5,580.96  |        |         |
| Subtotal:                                  |           |        | 2,456        |        | \$ | 85,797    |      | 35,797.40 | \$     | ERLE    |
| 00000011                                   |           |        | 2,430        |        | 7  | 03,737    | 7    | 33,131.40 | 7      |         |
| Travel & Meals                             |           |        | PART TO SAIL |        |    | mind the  |      |           |        |         |
| Mileage: Demand                            |           |        |              |        |    |           |      |           |        | 1446    |
| Management Work Group                      |           |        |              |        |    |           |      |           | No.    |         |
| Related Meetings                           | \$        | 0.55   | 2500         | miles  | \$ | 1,375     |      |           | \$     | 1,375   |
| Mileage: Economic Impact                   |           |        |              |        |    |           |      |           | TE U   | TEN EN  |
| Study Meetings                             | \$        | 0.55   | 2000         | miles  | \$ | 1,100     |      |           | \$     | 1,100   |
| Mileage: Community Outreach                |           |        |              |        |    |           | 1 70 |           |        |         |
| and Education                              | \$        | 0.55   | 2500         | miles  | \$ | 1,375     |      |           | \$     | 1,375   |

Section E. Application Review Information

| Lodging: 20 Events x avg 2  |       |            |      |        |            |          |     |         |           |
|---|-------|------------|------|--------|------------|----------|-----|---------|-----------|
| rooms/event   | \$    | 150.00     | 40   | nights | \$         | 6,000    |     |         | \$ 6,000  |
| Meals: 7 staff x 10 mtgs/events   | \$    | 40.00      | 70   | days   | \$         | 2,800    |     |         | \$ 2,800  |
| Subtotal:   |       |            |      |        | \$         | 12,650   | \$  |         | \$ 12,650 |
| Supplies and Materials  |       |            |      |        |            |          |     |         |           |
| Public meeting space rental, food and beverages, media equipment, printing expenses (4 Basin x 2 meeting/each basin x \$500 each event) | \$    | 500.00     | 8    | events | \$         | 4,000.00 | \$  |         | \$ 4,000  |
| Subtotal:   |       |            |      |        | \$         | 4,000.00 |     |         | \$ 4,000  |
|   |       |            |      |        | 1          | .,       | MIT |         |           |
| Contractual   |       |            |      |        | Will Ji    | 1/5/45   | 177 |         |           |
| Phase III & IV Hydrologic Risk<br>Study Analyses  |       | LS         | 1    |        | \$         | 163,768  | \$  | 90,000  | \$ 73,768 |
| Demand Management Work<br>Groups: Professional meeting<br>facilitator   | \$    | 125.00     | 176  | Hours  | \$         | 22,000   | \$  | 11,000  | \$ 11,000 |
| Economic Impact of Upper<br>Basin Demand Management<br>Study  |       | LS         | 1    |        | \$         | 222,000  | \$  |         | \$222,000 |
| Subtotal:   |       | 13         |      |        | \$         | 407,768  | \$  | 101,000 | \$306,768 |
| 230000  |       |            |      |        | <b>  •</b> |          | 7   | 101,000 | 7300,700  |
| TOTAL   | DIREC | T COSTS    | 100  |        | \$         | 677,065  | \$  | 315,721 | \$361,344 |
| TOTAL ESTIMA  | TED F | PROJECT CO | OSTS |        | \$         | 677,065  | \$  | 315,721 | \$361,344 |

3.) Budget Narrative: Because of the urgency related to Drought Contingency and Demand Management Planning efforts in the Colorado River Basin in 2018, the Colorado River District immediately began working on efforts described in this grant proposal while waiting for the WaterSMART Water Marketing funding proposal to open. The River District maintains a highly skilled staff with technical expertise in hydrologic engineering and modeling, policy, legal, contractual, communications, water resources, water quality, agriculture, etc. The River District has been using internal staff, contractual consultants, and skilled facilitators to carry out this important project, and therefore we are requesting reimbursement from WaterSMART for activities completed in direct support of this project, beginning January 1, 2019. All expenses can be verified with supporting documentation. Additional detailed information is provided below.

**Table 4. River District Support** 

| River District Staff | Activity          | Hours | Grand Total<br>(Salary + Fringe) | Loaded Rate<br>(Salary + Fringe) |
|----------------------|-------------------|-------|----------------------------------|----------------------------------|
|                      | Project Oversight | 72    | \$ 10,413                        | \$ 144.62                        |

Section E. Application Review Information

| APPRINCIPLE  | GRAND TOTAL:                                      | 2456       | \$       | 252,647          |          |                  |
|--|---|------------|----------|------------------|----------|------------------|
|  | Subtotal:   | 176        | \$       | 15,331           | 27174    |                  |
| Community Relations  | Communications                                    | 176        | \$       | 15,331           | \$       | 87.11            |
| Jim Pokrandt, Director   | Stakeholder Outreach /                            |            |          | -,               |          |                  |
|  | Subtotal:   | 144        | \$       | 7,396            | т        | 52.50            |
| Alesha Frederick,<br>Business Support<br>Specialist  | Stakeholder Outreach / Communications             | 144        | \$       | 7,396            | \$       | 51.36            |
|  | Subtotal:   | 144        | \$       | 11,576           |          |                  |
| lan Phillips, Senior<br>Accountant   | Project Mgt: Accountant                           | 144        | \$       | 11,576           | \$       | 80.39            |
|  | Subtotal:   | 144        | \$       | 10,698           |          |                  |
| Zane Kessler, Director of Communications   | Stakeholder Outreach /<br>Communications / Policy | 144        | \$       | 10,698           | \$       | 74.29            |
|  | Subtotal:   | 176        | \$       | 18,837           |          |                  |
| Dave Kanzer, Deputy<br>Chief Engineer  | TA Risk Study, Ag Issues,<br>Hydrology, Policy    | 176        | \$       | 18,837           | \$       | 107.03           |
|  | Subtotal:   | 462        | \$       | 59,021           | <b>*</b> | 127,73           |
| John Currier, Chief<br>Engineer  | Hydrology<br>Outreach Risk Study                  | 232<br>130 | \$<br>\$ | 29,638<br>16,608 | \$<br>\$ | 127.75<br>127.75 |
|  | Management<br>TA Risk Study, Policy,              | 100        | \$       | 12,775           | \$       | 127.75           |
| SO TO A STATE OF THE STATE OF T | Subtotal: Risk Study Project                      | 132        | \$       | 21,655           |          |                  |
| Peter Fleming, General<br>Counsel  | Outreach / Policy/ Legal                          | 132        | \$       | 21,655           | \$       | 164.05           |
| Dotor Floring Consul   | Subtotal:   | 150        | \$       | 15,665           |          |                  |
| Admininstrative Chief  | Stakeholder Outreach                              | 100        | \$       | 10,443           | \$       | 104.43           |
| Audrey Turner  | Project Oversight                                 | 50         | \$       | 5,222            | \$       | 104.43           |
|  | Subtotal:   | 536        | \$       | 35,778           |          |                  |
| Sonja Chavez, Water Resource Specialist  | TA Risk & Econ Study, Ag<br>Issues, Policy        | 176        | \$       | 11,748           | \$       | 66.75            |
|  | Grant Project<br>Management                       | 360        | \$       | 24,030           | \$       | 66.75            |
|  | Subtotal:   | 392        | \$       | 56,691           |          | j.               |
| anager   | Outreach and Education                            | 144        | \$       | 20,825           | \$       | 144.62           |
| Manager  | Policy, Legal                                     | 176        | \$       | 25,453           | \$       | 144.62           |

• TRAVEL & Meals - To be paid for by River District and will serve as in-kind match. Estimated expenses are as follows:

Purpose of trips: Public Work Group or Technical Assistance Meetings

Estimated # Trips: 40 Task Force/Work Group or other Meetings (State Colorado CWCB, River District Work Group Meetings, Other (TBD - Examples: Steamboat Springs (230 mi), Glenwood Springs (0), Cortez (626), Montrose (284), Grand Junction (176),

Denver (316). Federal mileage rate currently \$0.55/mile. Roundtrip mileage calculation from office headquarters in Glenwood Springs.

Length of Stays: Overnight (1 night). Average Hotel stay approximately \$150.

Meal per diem: Average \$40/day.

**Number of staff members**: 2-5 (will vary by event/activity)

- **EQUIPMENT** Not applicable. Not proposing reimbursement for equipment purchases or rentals.
- MATERIALS AND SUPPLIES Not proposing reimbursement for materials, supplies, food, room rentals, etc. Estimating that primary work group input meetings (8 total) will cost approximately \$500/each.
- CONTRACTUAL

**Hydrologic Risk Study:** Hydros – The Colorado River District is under an existing contract with Hydros for the proposed Risk Study work.

| Phase III – Risk Study   | Carron (PI)<br>(\$220/hr) | Adams<br>(\$147/hr) | Daugherty<br>(\$135/hr) | Budget Estimate<br>Total |
|--|---------------------------|---------------------|-------------------------|--------------------------|
| Task 1a. Develop baseline information  | 20                        | 40                  | 40                      | \$15,560                 |
| Task 1b. StateMod Refinement   | 24                        | 80                  | 40                      | \$22,232                 |
| Task 1c. Evaluate compact curtailment risk under various scenarios   | 60                        | 140                 | 104                     | \$47,420                 |
| Final reporting and meetings   | 80                        | 80                  | 40                      | \$34,440                 |
| Travel Expenses (LS – mileage, meals, hotel, etc.)   |                           |                     |                         | \$4,000                  |
| SUBTOTAL:  | 184                       | 340                 | 224                     | \$123,652                |
| Phase IV – Risk Study  | Carron (PI)<br>(\$225/hr) | Adams<br>(\$153/hr) | Mander<br>(\$135/hr)    | Budget Estimate<br>Total |
|  |                           |                     |                         |                          |
| Task 2a. CRSS "Stress Test"<br>Scenarios   | 40                        | 80                  | 40                      | \$27,075                 |
|  | 20                        | 40                  | 20                      | \$27,075                 |
| Scenarios Task 2b. Continue StateMod   |                           |                     |                         |                          |
| Task 2b. Continue StateMod Refinement for curtailment scenarios Task 2c. Water rights & geographic locations impacts under curtailment   | 20                        | 40                  | 20                      | \$13,320                 |
| Scenarios Task 2b. Continue StateMod Refinement for curtailment scenarios Task 2c. Water rights & geographic locations impacts under curtailment scenarios Task 2d. Continue refinement of                 | 20                        | 40                  | 20                      | \$13,320<br>\$23,580     |
| Task 2b. Continue StateMod Refinement for curtailment scenarios Task 2c. Water rights & geographic locations impacts under curtailment scenarios Task 2d. Continue refinement of CRSS and StateMod linkage | 20 40 20                  | 40 60 25            | 20 40 20                | \$13,320<br>\$23,580     |

• **Economic Study:** BBC Research & Consulting – The Colorado River District is under an existing contract with BBC for the Economic Study.

| Task                             | Team<br>Hours | Professional Fees | Direct<br>Expense | Total Cost |
|----------------------------------|---------------|-------------------|-------------------|------------|
| Task 5. Community<br>Involvement | 558           | \$77,440          | \$11,620          | \$89,060   |
| Task 6. Economic Baseline        | 220           | \$33,900          | \$0               | \$33,900   |

| Task 7. Framework<br>Development | 308   | \$50,760  | \$2,300  | \$53,060  |
|----------------------------------|-------|-----------|----------|-----------|
| Task 8. Evaluation/Final Report  | 184   | \$32,760  | \$1,300  | \$34,060  |
| Totals:                          | 1,270 | \$194,860 | \$15,220 | \$210,080 |

| BBC                               | Hourly<br>Rate | ERO<br>Resources       | Hourly<br>Rate | Headwater<br>Corporation | Hourly<br>Rate | Local<br>Facilitators | Hourly<br>Rate |
|-----------------------------------|----------------|------------------------|----------------|--------------------------|----------------|-----------------------|----------------|
| Managing<br>Director<br>(Jeavons) | \$200          | Powers                 | \$160          | Oamek                    | \$195          | Holm                  | \$120          |
| Senior<br>Associate<br>(Verdone)  | \$155          | Mangle                 | \$150          |                          |                | Beaugh                | \$120          |
| Research<br>Associate             | \$125          | Shenk                  | \$120          |                          |                | Seltzer               | \$120          |
| Data<br>Visualist                 | \$95           | Graphics<br>Specialist | \$105          |                          |                | Roggensack            | \$175          |
|                                   |                | Admin Staff            | \$65           |                          |                |                       |                |

- **e.) THIRD-PARTY IN-KIND CONTRIBUTIONS:** There are no third-party "in-kind" contributions or services claimed or included as part of this project.
- f.) ENVIRONMENTAL AND REGULATORY COMPLIANCE COSTS: Not applicable.
- **g.) OTHER EXPENSES:** Not applicable.
- h.) INDIRECT COSTS: The Colorado River District is not seeking reimbursement of indirect costs.

#### D.2.2.6. Environmental and Cultural Resource Compliance (Not applicable)

#### D.2.2.7. Required Permits or Approvals (Not applicable)

#### D.2.2.8. Existing Analysis Contributing to the Water Marketing Strategy

The following study reports have contributed to the Water Marketing Strategy development (website link): <a href="https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/">https://www.coloradoriverdistrict.org/2019-watersmart-water-marketing-docs/</a>

- Joint Four West Slope Roundtable Colorado River Risk Study Discussion Guide (June 2019)
- Colorado River Risk Study Phase III Update (June 20, 2019)
- Colorado River Risk Study: Executive Summary (August 2018)
- Colorado River Risk Study: Phase 1 Summary Report (Updated August 1, 2018)
- Colorado River Risk Study: Phase II Task 1 Report (May 17, 2018)
- Colorado River Risk Study: Phase II Task 2 Report (Updated August 1, 2018)
- Colorado Water Bank Work Group Technical Studies

#### **D.2.2.9 Letters of Support**

There are no "letters of support" submitted with this application. There will be letters of "financial commitment" as evidence of partner support for the project that will be submitted by August 31, 2019.

**D.2.2.10 Official Resolution** – Please see Appendix B.

