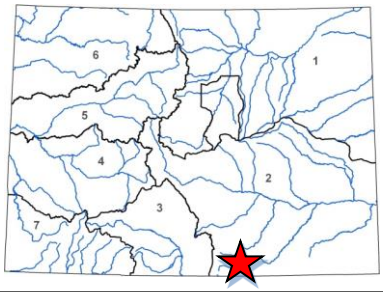
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

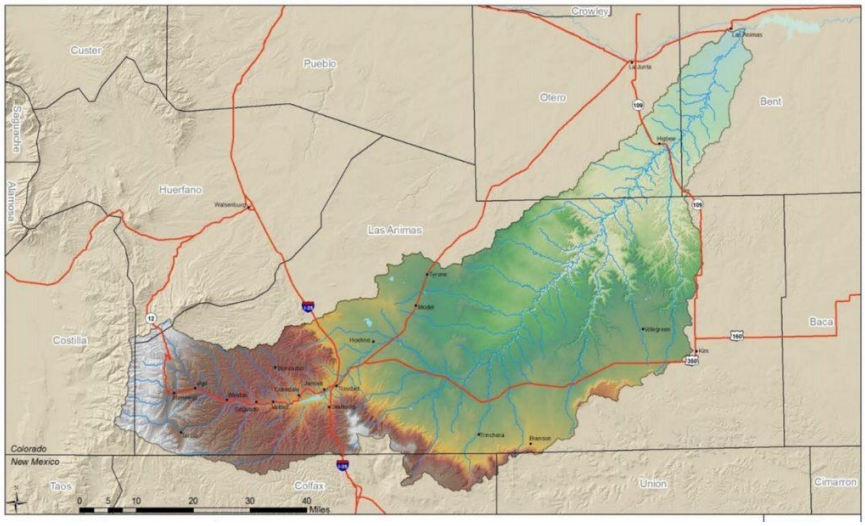
Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project
Purgatoire Watershed Partnership
September 2021 Board Meeting

Water Plan Grant Application



LOCATION	
County/Counties:	Las Animas
Drainage Basin:	Arkansas

DETAILS	
Total Project Cost:	$1,469,839
Water Plan Grant Request:	$773,762
Recommended amount:	$696,077
Other CWCB Funding:	$0
Other Funding Amount:	$662,513
Applicant Match:	$33,564
Project Type(s): Construction, Other	
Project Category(Categories): Engagement & Innovation, Agricultural, Environment and Recreation	
Measurable Result: Stream restored / protected, efficiency savings, area of restored or preserved habitat, education and outreach	



The Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project will be conducted on the Purgatoire River in downtown Trinidad, Colorado and will address multiple water user needs (agricultural, municipal, ecological, and recreational) and watershed concerns. The project was developed over the last 2 years through extensive stakeholder collaboration and discussion which includes 11 diverse partners representing municipal, agricultural, recreational, and local businesses.

Project Objectives include:

- Improve agricultural water delivery systems to increase functionality and efficiency to address water supply needs. Including installation of an erosion/flood protection wall and associated safety components, a debris/boater bumper diversion device to enhance headgate functionality and ensure boater safety, a diversion dam cap to level the dam surface and enable irrigators to fully access their water right, installation of an automated headgate, and installation of ditch lining.
- Design and install fish passage into diversion dam
- Design and install boat passage into diversion dam
- Protect and stabilize riverbanks and reduce erosion
- Remove invasive species and restore native vegetation
- Improve in-stream aquatic conditions and habitat for fish
- Ensure/reinforce the structural integrity of the dam to accommodate additional uses
- Conduct critical education and outreach through youth and adult education.

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Water Plan Grant Application

Instructions

To receive funding for a Water Plan Grant, applicant must demonstrate how the project, activity, or process (collectively referred to as "project") funded by the CWCB will help meet the measurable objectives and critical actions in the Water Plan. Grant guidelines are available on the CWCB website.

If you have questions, please contact CWCB at (303) 866-3441 or email the following staff to assist you with applications in the following areas:

Water Storage & Supply Projects	Matthew.Stearns@state.co.us
Conservation, Land Use Planning	Kevin.Reidy@state.co.us
Engagement & Innovation Activities	Ben.Wade@state.co.us
Agricultural Projects	Alexander.Funk@state.co.us
Water Sharing & ATM Projects	Alexander.Funk@state.co.us
Environmental & Recreation Projects	Chris.Sturm@state.co.us

FINAL SUBMISSION: Submit all application materials in one email to *waterplan.grants@state.co.us* in the original file formats [Application (word); Statement of Work (word); Budget/Schedule (excel)]. Please do not combine documents. In the subject line, please include the funding category and name of the project.

Water Project Summary

Name of Applicant	Purgatoire Watershed Partnership
Name of Water Project	Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project
CWP Grant Request Amount	$773,762
Other Funding Sources: BOR WaterSMART Phase II Grant	$144,585.60
Other Funding Sources: BOR WaterSMART Phase I Grant	$67,360.00
Other Funding Sources: Cash Match All Other Partners	$61,000.00
Other Funding Sources: EQIP-WSI Grant	$300,000.00
Other Funding Sources: All Partner InKind	$89,568.48
Applicant Funding Contribution	$33,563.60
Total Project Cost	$1,469,839.00

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Applicant & Grantee Information
Name of Grantee(s) Purgatoire Watershed Partnership
Mailing Address: 3590 E Main St, Trinidad, CO 81082
FEIN: 461757863
Organization Contact: Julie Knudson
Position/Title: Executive Director/Watershed Coordinator
Email: jknudson@purgatoirepartners.org
Phone: 970-420-1915
Grant Management Contact: Same as above
Position/Title
Email
Phone
Name of Applicant (if different than grantee): Same as above
Mailing Address
Position/Title
Email
Phone

Description of Grantee/Applicant
Provide a brief description of the grantee's organization (100 words or less).
The Purgatoire Watershed Partnership (PWP) is a non-profit 501(c)(3) environmental conservation organization based in Trinidad, Colorado working throughout the Purgatoire River watershed focusing on the restoration, protection, and enhancement of all aspects of the watershed. PWP serves all members of the Purgatoire River watershed, which include a wide diversity of stakeholders ranging from multi-generational rural farming and ranching families to new transplants from large cities such as Denver or Austin, Texas. As well as working together with these diverse individual stakeholders, the PWP works in collaboration with a host of local and regional organizations and entities for the protection and betterment of the watershed.

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Type of Eligible Entity (check one)	
	Public (Government): Municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): Authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
	Non-governmental organizations (NGO): Organization that is not part of the government and is non-profit in nature.
	Covered Entity: As defined in Section 37-60-126 Colorado Revised Statutes.

	Type of Water Project (check all that apply)
	Study
X	Construction
X	Other

	Category of Water Project (check the primary category that applies and include relevant tasks)	
	Water Storage & Supply - Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity, multi-beneficial projects, water sharing agreements, Alternative Transfer Methods, and those projects identified in basin implementation plans to address the water supply and demand gap. *Applicable Exhibit A Task(s):* ***Note:*** *For Water Sharing Agreements or ATM Projects - please include the supplemental application available on the CWCB's website.*	
	Conservation and Land Use Planning - Activities and projects that implement long-term strategies for conservation, land use, water efficiency, and drought planning. *Applicable Exhibit A Task(s):*	
X	Engagement & Innovation - Activities and projects that support water education, outreach, and innovation efforts. *Applicable Exhibit A Task(s):*	
X	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. *Applicable Exhibit A Task(s):*	
X	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. *Applicable Exhibit A Task(s):*	
	Other	Explain:

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Location of Water Project	
Please provide the general county and coordinates of the proposed project below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.	
County/Counties	Las Animas County, Colorado
Latitude	37.172682 degrees North
Longitude	104.505673 degrees West

Water Project Overview
Please provide a summary of the proposed water project (200 words or less). Include a description of the project and what the CWP Grant funding will be used for specifically (e.g., studies, permitting process, construction). Provide a description of the water supply source to be utilized or the water body affected by the project, where applicable. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, and area of habitat improvements, where applicable. If this project addresses multiple purposes or spans multiple basins, please explain. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, Other Funding Sources/Amounts and Schedule.
The Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project will be conducted on the Purgatoire River in downtown Trinidad, Colorado and will address multiple water user needs (agricultural, municipal, ecological, and recreational) and watershed concerns. This project will improve agricultural water delivery systems to increase functionality and efficiency to address water supply needs, install fish passage and boat passage into diversion dam, protect and stabilize riverbanks and reduce erosion, remove invasive species and restore native vegetation, improve in-stream aquatic conditions and habitat for fish, and ensure/reinforce the structural integrity of the dam to accommodate additional uses. Specific agricultural infrastructure improvements include installation of an erosion/flood protection wall and associated safety components, a debris/boater bumper diversion device to enhance headgate functionality and ensure boater safety, a diversion dam cap to level the dam surface and enable irrigators to fully access their water right, installation of an automated headgate, installation of ditch lining, and conducting structural integrity improvements to the dam. Our project will also serve as a critical educational tool for years to come to teach kids and adults about how water operates in our watershed and how multiple water uses can co-exist and work together to serve us all.

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Measurable Results		
To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:		
	New Storage Created (acre-feet)	
See Efficiency Savings section below	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive.	
	Existing Storage Preserved or Enhanced (acre-feet)	
5,280 or 9,195 linear feet	Length of Stream Restored or Protected (linear feet). *Overall, project is taking place within an 0.5 mile stretch of river, with both sides of river being addressed = 5,280 feet. However, multiple restoration/protection activities are occurring within this 0.5 mile stretch = 9,195 feet (including upstream erosion wall [100 feet], downstream fish passage/erosion protection wall [175 feet], ditch lining [1000 feet], 5 fish habitat structures [spread over 0.5 mile or 2,640 feet], and 5,280 feet of woody invasive species removal/native reveg [both sides of river x 0.5 mile or 2,640 feet of river]).*	
See explanation at right	Efficiency Savings (indicate acre-feet/year OR dollars/year). *It is estimated that we will see the following agricultural water savings benefits from this project including: (1) an additional 1,050 acre-feet of water delivered annually to irrigators through installation of the diversion dam cap, (2) an additional 180 acre-feet of water available annually to irrigators through installation of the 'debris rack', (3) an additional 2,329 acre-feet of water available annually to irrigators through water delivery automation, (4) an estimated 10-20% water savings through ditch lining, and (5) on-farm irrigation efficiencies improving 10-15% through improved water delivery.*	
11.52 acres	Area of Restored or Preserved Habitat (acres). (*2.42 terrestrial acres restored through invasive spp removal/native reveg, plus new fish habitat structures across 1.2 aquatic acres, plus fish gaining access to 7.9 acres of new aquatic habitat through fish passage installation [3.25 miles of new habitat x 5280 feet x 20 feet wide river = 343,200 sq feet])*	
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement	
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
1900 Coloradans	Number of Coloradans Impacted by Engagement Activity (through annual youth outdoor educational programming [60 kids/year], plus kids/adult outreach and educational engagement through annual riverside talks/tours [30/year] and educational signage [100/year]; calculated over the next 10 years)	
	Other	Explain:

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Water Project Justification

Provide a description of how this water project supports the goals of Colorado's Water Plan, the Analysis and Technical Update to the Water Plan, and the applicable Roundtable Basin Implementation Plan and Education Action Plan. The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).

The proposed water project shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan Framework for State of Colorado Support for a Water Project (CWP, Section 9.4, pp. 9-43 to 9-44;)

Our water project supports the overarching goals/objectives of the Colorado Water Plan through:

1) Supply-Demand Gap – *We are significantly improving water efficiency through agricultural infrastructure improvements including installation of a diversion dam cap to ensure water rights holders can access their full water right, installation of an improved debris/boater safety device to keep debris out of the headgate that will significantly reduce the amount of time the headgate is stuck open or closed while stuck debris is dealt with, installation of an automated headgate, and installation of ditch lining. We believe we will see significant estimated water savings including: (1) an additional 1,050 acre-feet of water delivered annually to irrigators through installation of the diversion dam cap, (2) an additional 180 acre-feet of water available annually to irrigators through installation of the 'debris rack', (3) an additional 2,329 acre-feet of water available annually to irrigators through water delivery automation, (4) an estimated 10-20% water savings through ditch lining, and (5) on-farm irrigation efficiencies improving 10-15% as a result of more reliable water delivery.*
4) Agriculture – *Our project not only consists of multiple project components focused on improving agricultural water conservation and efficiency , but also is significantly supporting the sustainability of agriculture and our local communities through these significant agricultural improvements.*
6) Watershed Health, Environment, and Recreation – *Our project clearly addresses watershed health and the environment through improvements in aquatic fish habitat, installation of fish passage, improvement of water quality through reduction of sediment loads in the river improving water quality (through installation of erosion wall, fish habitat structures also protecting eroding river banks) and removal of woody invasive species and native revegetation efforts.*
7) Funding – *Obviously we are applying to this CWCB grant opportunity to secure funding to implement a critical project that will help address other goals, but we also feel that it is important to note that we are accomplishing this project through multiple other funding avenues as significant matching support, none of which comes from other CWCB programs.*
8) Education, Outreach, and Innovation – *This is an incredibly collaborative and diverse project addressing multiple water user needs that we feel is not only a testament to the significant amount of education and outreach and encouragement of stakeholders to collaborate that the Purgatoire Watershed Partnership has conducted to date, but will also be a critical educational tool around multiple water uses coming together in one project, and as an inspiration to other water users to show that a collaborative multi-use project can be successful. We will be actively working with PEPO around outreach and education regionally, as well as conducting youth and adult education and outreach efforts locally around this project.*

Our project aligns with Key Statewide Results of the Analysis and Technical Update to the Water Plan through:

AGRICULTURAL
• Agriculture currently experiences gaps, and gaps may increase in the future if climate conditions are hotter (which increases irrigation water demand) and supplies diminish (due to drier hydrology). – *Our project works to improve agricultural water savings and efficiency, which will be particularly noticeable under hotter conditions and drought conditions.*
• Gaps under the Adaptive Innovation scenario are significantly less than Hot Growth despite similar assumptions related to future climate conditions, which demonstrates the potential benefits of higher

system efficiencies and emerging technologies that could reduce consumptive use; however, in return flow driven systems, conservation in one area could impact water supplies downstream, so thoughtful approaches are necessary. – *We feel that our project not only helps improve local agricultural water use efficiencies and water savings as well as reliability, but by improving the accuracy of water flow through measures such as our automated headgate installation, ditch lining, and diversion dam cap, we feel this will also ensure more accurate water delivery to water users downstream both in-state and to Kansas.*

ENVIRONMENTAL AND RECREATIONAL

• Climate change and its impact on streamflow will be a primary driver of risk to E&R assets. – *In particular, by installing these in-stream fish habitat structures we are creating additional areas of refuge for fish when streamflow levels are low. Additionally, by installing fish passage we are allowing fish access to an additional 3.25 miles of cooler water above the diversion dam that will better allow them to weather warmer and drier conditions.*

• Projected future stream flow hydrographs in most locations across the state show earlier peaks and potentially drier conditions in the late summer months under scenarios with climate change. – *See above for fish and aquatic life benefits*

• Drier conditions in late summer months could increase risk to coldwater and warmwater fish due to higher water temperatures and reduced habitat. The degree of increased risk is related to the level of stream flow decline. – *See above for fish and aquatic life benefits*

In Chapter 6.2 of the Colorado Water Plan, a summary table (Table 6.2-1, page 6-17) provides an overview of our 2015 Arkansas Basin BIP goals/measureable outcomes/activities. Our project aligns with these as follows:

B. Meet Colorado's Agricultural Needs
- Focusing on agricultural economy – *by improving agricultural infrastructure and efficiency*
- Improving agricultural efficiencies
- Conducting the goals while protecting private property rights – *project includes security fencing to protect private property*

C. Meet Colorado's Environmental and Recreational Water Needs
- Protect wetlands and riparian areas – *project includes protecting and restoring riparian areas*
- Protect recreation – *project includes protecting and enhancing recreation through improving fish habitat and fish passage for fishing opportunities, and installing boat passage for enhanced recreation opportunities*

D. Protect and Restore Watershed Health
- Including one or more goals/activities associated with watershed health – *Our project includes removal of woody invasive species in the project area and restoring native vegetation as needed; as well we are improving in-stream river health for fish by installing fish habitat structures.*

E. Balance All Needs and Reduce Conflict/Multi Purpose Storage
- Protect private property rights/water rights – *We are better protecting water rights by installing agricultural infrastructure components that will help irrigators secure their full water right, while being very careful with project design to ensure that private property and water rights are protected*
- Multi-purpose focus – *we are addressing multiple water user needs through this project*
- Modernize water infrastructure – *we are modernizing water agricultural infrastructure*

F. Comply with Interstate Compacts, Agreements, and Manage the Risk Associated with These
- Include one or more goals associated with this – *By removing woody invasive species from the riparian corridor in this area we are enhancing the ability of the Purgatoire River to deliver its required amount of water to Kansas via that Compact, and as well our improvements in agricultural water efficiency and delivery will also better ensure water delivery of every possible drop to Kansas.*

G. Continue Participation, Education, Outreach and Communications
- Include one or more goals associated with this – *We will be working closely with PEPO to outreach and communicate our project accomplishments at the regional level. Additionally, at the local level*

we will be using our project as a critical educational tool for years to come to teach kids and adults about how water operates in our watershed and how multiple water uses can co-exist and work together to serve us all (through annual youth outdoor educational programming, kids/adult outreach and educational engagement through annual riverside talks/tours, and educational signage).

H. Meet Colorado's Water Quality Management Needs

- Include one or more goals/activities on water quality – *We will be installing an erosion control wall which will reduce riverbank erosion and sediment in the river; as well strategic placement of the fish habitat structures will further reduce bank erosion and sediment contributions.*

Our Arkansas Basin Roundtable is currently going through a Basin Implementation Plan Update (in progress). One portion of the update that is complete is the 2020 Arkansas Basin Roundtable Revised Goals & Actions.

Our project aligns with the following Arkansas Basin Roundtable Revised Goals & Actions:

MUNICIPAL & INDUSTRIAL GOALS

4. Develop collaborative solutions between municipal, agricultural, and E&R users of water, particularly in drought conditions.
    a. Recognize relationship with Ag goals and renewed focus on broadening partnerships.

AGRICULTURAL GOALS

1. Support projects within and outside the Basin that will help meet the Arkansas Basin Agriculture water supply gap, maintain existing supplies, better manage vulnerable supplies, and maximize utilization of water users' entitlements.
2. Sustain a productive agricultural economy in the Basin that sustains viable rural, agricultural-based communities.
    b. Support efforts that maximize productivity while making the most efficient use of ag water supplies.
5. Sustain recreation and environmental activities that depend on habitat and open space associated with farm and ranch land.
    b. Look at current multi-purpose projects and identify successful strategies that support both ag and E&R values.

ENVIRONMENT & RECREATION GOALS

1. Support projects and programs within and outside the Basin that protect Arkansas Basin E&R water supply needs and collaborate with municipal and ag users to enhance E&R values.
2. Maintain or improve native fish populations, restore habitat for fish species, and maintain or improve recreational fishing opportunities.
    a. Continue to support the preservation of native fish species.
    e. Support the maintenance of current access areas for fishing to protect riparian habitat and help identify opportunities for additional public access to fishing areas (our project area is a very popular fishing spot)
3. Maintain, or improve boating opportunities, including rafting, kayaking, and other non-motorized and motorized boating.
    b. Support the maintenance of current access areas for boating, including safety considerations.
    c. Help identify opportunities for additional public access to instream and flatwater boating areas.
4. Maintain or improve aquatic, riparian, and avian habitat (including wetlands) that would support environmental features and recreational opportunities.
    a. For all Ag and M&I projects, consider the opportunities to E&R and look for multiple benefits.
    b. Support the maintenance, improvement, and/or restoration of these habitats.

WATERSHED HEALTH GOALS

1. Maintain, improve, or restore critical water supply watersheds that could affect Arkansas Basin water uses and environmental and recreational values.
b. Promote watershed health and water quality as shared values to all Arkansas Basin water users.

Our project conforms well with the Colorado's Water Plan Framework for State of Colorado Support for a Water Project including:

1) Commitment to Collaboration: Our project was developed over the last 2 years through extensive stakeholder collaboration and discussion and multiple opportunities for input. Our project includes 11 diverse partners representing municipal, agricultural, recreational, and local businesses, and is also supported by multiple partners and stakeholders not formally listed on this grant application. The 11 formal project partners on our project who have written Letters of Support/Commitment include Purgatoire Watershed Partnership, Baca Ditch Company, Picketwire Ditch Company, Purgatoire River Water Conservancy District, Trout Unlimited Local Chapter – Purgatoire River Anglers, Purgatoire River Run Company (recreational boating business), City of Trinidad, Downtown Trinidad Development Group, Purgatoire Watershed Weed Management Collaborative/Spanish Peaks-Purgatoire River Conservation District, Colorado Parks & Wildlife, and Coalitions & Collaboratives. The Arkansas Basin Roundtable is also providing a Letter of Support, and we consider the US Bureau of Reclamation as a partner on this grant as well as they are providing significant funding and support for this project. Our project also addresses multiple water user needs, as is described in other sections of this grant application.

2) Project Addresses Identified Water Gaps: Our project is listed in the Master Needs List in our new updated Basin Implementation Plan project list
3) Committed to Sustainability: Including maximizing available water resources by maximizing water savings of these resources, being very careful to ensure care of the environment and no negative impacts, IMPROVING economic and social impacts on agricultural and rural communities, and IMPROVING environmental and recreational assets and opportunities.
4) Committed to Fiscal and Technical Feasibility: We have an overwhelming amount of cash match for this project, with a significant amount of local investment and contribution. We also feel that we are leveraging our cash match from other federal grants to maximum use, and we are not using any CWCB match in this project. We have significant expertise amongst our partners for technical and legal advice, and we are ready to proceed for our project.

Coordination with our Education Action Plan

We are working closely with PEPO to conduct educational aspects of this project, and as per discussion with PEPO we will also be sharing our progress with them so they can share it on their new Facebook page, and we will be giving project tours for all who are interested from around the region.

Related Studies

Please provide a list of any related studies, including if the water project is complementary to or assists in the implementation of other CWCB programs.

The Purgatoire Watershed Partnership recently completed a Purgatoire River Assessment effort, which included significant stakeholder engagement and participation, and included an assessment of river health, a hydrologic/hydraulic modeling study to assess the potential flood impacts to local infrastructure, an assessment of fish habitat/population status and potential/needs for further improvements including further development of the local trout fishery, and an assessment of other needs within the river stretch including agricultural infrastructure, erosion control, recreation and safety, and jetty jack removal/mitigation needs as determined by stakeholders (funded in part by CWCB, and BOR). This project emerged as a priority out of those collaborative stakeholder engagement efforts.

Additionally, the Purgatoire Watershed Partnership is currently working closely with project partners on spearheading a potential Stream Management Planning effort (funded by CWCB) on the Purgatoire River, and this multi-use project has also risen to the top as a priority through current outreach and engagement efforts being conducted through this Stream Management Planning effort (Stream Management Planning efforts are already working, even though we aren't even in the official Stream Management Plan Phase 2 yet!). We also see the implementation of this new project as a critically important outreach and engagement tool as part of our SMP efforts, showing what can be accomplished for multiple water users when they agree to work together.

Previous CWCB Grants, Loans or Other Funding

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order; 6) Percentage of other CWCB funding for your overall project.

1A) Applicant Name: Purgatoire Watershed Partnership
3) Approving Roundtable: Arkansas Basin Roundtable
2 & 5) Grants/Water Activity and Contract Number/Purchase Order Number: see below

The Purgatoire Watershed Partnership has been awarded the following grant awards from CWCB that the current Director (Julie Knudson) is familiar with, having taken over the position in Fall 2018

- CWCB Colorado Healthy Rivers Fund Grant – PDAA 500 (Completed 2018)
- CWCB WSRF Grant - Trinidad River Walk Improvement Project - POGG1,PDAA,201900002101 (Completed August 2020)
- CWCB Colorado Watershed Restoration Program Grant - Purgatoire River Stream Management Plan Phase 1 - POGG1,PDAA,202000003097 (In progress)

Prior to 2018, it appears that other CWCB grants were applied for by Purgatoire Watershed Partnership but it is unclear in the historic records which of these grant applications were awarded.

1B) Applicant Name: Coalitions & Collaboratives
Additionally, Coalitions & Collaboratives was awarded a CWCB Watershed Program Grant in 2018 for the project - Purgatoire Watershed Assessment, Planning, and Capacity Building – on Purgatoire Watershed Partnership's behalf.

4) Unknown
6) We are using no other CWCB funding for this overall project other than what is requested in this current grant application.

Taxpayer Bill of Rights

The Taxpayer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect your application.

Last Updated: May 2021

We have no relevant TABOR issues.

Submittal Checklist	
	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.
	Statement of Work(1)
	Budget & Schedule(1)
	Engineer's statement of probable cost (projects over $100,000)
	Letters of Matching and/or Pending 3rd Party Commitments(1)
	Map (if applicable)(1)
	Photos/Drawings/Reports
	Letters of Support (Optional) –
	Certificate of Insurance (General, Auto, & Workers' Comp.) (2)
	Certificate of Good Standing with Colorado Secretary of State(2)
	W-9(2)
	Independent Contractor Form(2) (If applicant is individual, not company/organization)
Water Sharing Agreements and Alternative Transfer Methods ONLY	
	Water Sharing Agreements and Alternative Transfer Methods Supplemental Application(1)

(1) Required with application.
(2) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

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Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	**6/30/2021**
Name of Grantee:	**Purgatoire Watershed Partnership**
Name of Water Project:	**Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project**
Funding Source:	**CWCB Water Plan Grant for requested funds**

Water Project Overview:

The Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project will be conducted on the Purgatoire River in downtown Trinidad, Colorado and will address multiple water user needs (agricultural, municipal, ecological, and recreational) and watershed concerns. This project will improve agricultural water delivery systems to increase functionality and efficiency to address water supply needs, install fish passage and boat passage into diversion dam, protect and stabilize riverbanks and reduce erosion, remove invasive species and restore native vegetation, improve in-stream aquatic conditions and habitat for fish, and ensure/reinforce the structural integrity of the dam to accommodate additional uses. Specific agricultural infrastructure improvements include installation of an erosion/flood protection wall and associated safety components, a debris/boater bumper diversion device to enhance headgate functionality and ensure boater safety, a diversion dam cap to level the dam surface and enable irrigators to fully access their water right, installation of an automated headgate, installation of ditch lining, and conducting structural integrity improvements to the dam. Our project will also serve as a critical educational tool for years to come to teach kids and adults about how water operates in our watershed and how multiple water uses can co-exist and work together to serve us all.

Our project was developed over the last 2 years through extensive stakeholder collaboration and discussion and multiple opportunities for input. Our project includes 11 diverse partners representing municipal, agricultural, recreational, and local businesses, and is also supported by multiple partners and stakeholders not formally listed on this grant application. The 11 formal project partners on our project who have written Letters of Support/Commitment include Purgatoire Watershed Partnership, Baca Ditch Company, Picketwire Ditch Company, Purgatoire River Water Conservancy District, Trout Unlimited Local Chapter – Purgatoire River Anglers, Purgatoire River Run Company (recreational boating business), City of Trinidad, Downtown Trinidad Development Group, Purgatoire Watershed Weed Management Collaborative/Spanish Peaks-Purgatoire River Conservation District, Colorado Parks & Wildlife, and Coalitions & Collaboratives. The Arkansas Basin Roundtable is also providing a Letter of Support, and we consider the US Bureau of Reclamation as a partner on this grant as well as they are providing significant funding and support for this project. Our project also addresses multiple water user needs, as is described in other sections of this grant application.

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Project Objectives:

Our Project Objectives include:

- Improve agricultural water delivery systems to increase functionality and efficiency to address water supply needs including installation of an erosion/flood protection wall and associated safety components, a debris/boater bumper diversion device to enhance headgate functionality and ensure boater safety, a diversion dam cap to level the dam surface and enable irrigators to fully access their water right, installation of an automated headgate, and installation of ditch lining.
- Design and install fish passage into diversion dam
- Design and install boat passage into diversion dam
- Protect and stabilize riverbanks and reduce erosion
- Remove invasive species and restore native vegetation
- Improve in-stream aquatic conditions and habitat for fish
- Ensure/reinforce the structural integrity of the dam to accommodate additional uses
- Conduct critical education and outreach through youth and adult education. We feel our project will serve as a critical educational tool for years to come to teach kids and adults about how water operates in our watershed and how multiple water uses can co-exist and work together to serve us all.

Tasks

Task 1 – Overall Watershed Coordinator Project Coordination & Oversight, and Education & Outreach Efforts

Description of Task:

The Executive Director/Watershed Coordinator of the Purgatoire Watershed Partnership will conduct all partner and contractor coordination, hiring, and oversight for all tasks in this project, as well as spearheading all project education and outreach.

Method/Procedure:

Last Updated: May 2021

The Executive Director/Watershed Coordinator of the Purgatoire Watershed Partnership will conduct all partner and contractor coordination, hiring, and oversight for all tasks in this project through partner and contractor meetings, emails, and regular group phone calls for all to check in and ensure that everyone is on the same page.

In addition, the Coordinator will work closely with PEPO to provide education and outreach regionally to all stakeholders in the basin interested in our project, as well as coordinate locally with a host of youth and adult stakeholders to provide education and outreach about the critical importance of this project in itself, as well as to share the importance of collaboration and the possibility that diverse water users can work together for the benefit of all.

Deliverable:

Successfully completed project, including a final report reporting all accomplishments, lessons learned, and all activities conducted in support of this project.

Tasks

Task 2 – Project Design

Description of Task:

This task consists of multiple sub-tasks including:

1) BOAT PASSAGE DESIGN
2) FISH PASSAGE STRUCTURAL DESIGN
3) EROSION PROTECTION WALL EXTENSION DESIGN
4) TRASH DIVERSION STRUCTURE / BOATER BUMPER DESIGN
5) AUTOMATED HEADGATE INSTALL AND SECURITY FENCING DESIGN
6) DIVERSION DAM RECONSTRUCTION DESIGN
7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS DESIGN
8) CANAL LINING DESIGN
9) IN-STREAM FISH HABITAT STRUCTURE DESIGN

Last Updated: May 2021

Method/Procedure:
1) BOAT PASSAGE DESIGN Design of boat passage into diversion dam to significantly enhance recreational opportunities as well as boater safety 2) FISH PASSAGE STRUCTURAL DESIGN Design of fish passage into diversion dam to allow passage of all sport fish at a minimum, and hopefully all fishes including natives, working closely with CPW providing input and oversight 3) EROSION PROTECTION WALL EXTENSION DESIGN Design erosion/flood protection wall and associated safety features to reduce bank erosion and sedimentation into river, protect critical headgate infrastructure, as well ensure public safety 4) TRASH DIVERSION STRUCTURE / BOATER BUMPER DESIGN Design trash/debris /boater bumper device to eliminate constant debris and trash gathering in headgate causing significant downtime of headgate, as well as to ensure boater safety and keep them away from headgate 5) AUTOMATED HEADGATE INSTALLATION & SECURITY FENCING DESIGN Design for automated headgate installation to significantly increase water efficiency, and design security fencing to protect investment 6) DIVERSION DAM RECONSTRUCTION DESIGN Design diversion dam cap to level dam surface and ensure irrigators are able to access their full water right, which is currently impossible at lower flows 7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS DESIGN Design diversion dam structural integrity improvements to ensure dam integrity for agricultural purposes as well as for new uses 8) CANAL LINING DESIGN Design canal lining for first section of earthen ditch to reduce water losses 9) IN-STREAM FISH HABITAT STRUCTURE DESIGN Design in-stream fish habitat structures to provide critical aquatic habitat and refuge, as well as help reduce bank erosion and help 'bump' water flows towards headgate
Deliverable:
Successful designs completed and approved for the following items: 1) BOAT PASSAGE DESIGN 2) FISH PASSAGE STRUCTURAL DESIGN 3) EROSION PROTECTION WALL EXTENSION DESIGN 4) TRASH DIVERSION STRUCTURE / BOATER BUMPER DESIGN 5) AUTOMATED HEADGATE SECURITY FENCING DESIGN 6) DIVERSION DAM RECONSTRUCTION DESIGN 7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS DESIGN 8) CANAL LINING DESIGN 9) IN-STREAM FISH HABITAT STRUCTURE DESIGN

Tasks
Task 3 – Project Construction
Description of Task:

Last Updated: May 2021

This task consists of multiple sub-tasks including:

1) BOAT PASSAGE CONSTRUCTION
2) FISH PASSAGE CONSTRUCTION
3) EROSION PROTECTION WALL EXTENSION CONSTRUCTION
4) TRASH DIVERSION STRUCTURE / BOATER BUMPER CONSTRUCTION
5) AUTOMATED HEADGATE INSTALL AND SECURITY FENCING CONSTRUCTION
6) DIVERSION DAM RECONSTRUCTION
7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS CONSTRUCTION
8) CANAL LINING CONSTRUCTION
9) IN-STREAM FISH HABITAT STRUCTURE CONSTRUCTION
10) RIPARIAN WOODY INVASIVE SPECIES CONTROL AND NATIVE REVEGETATION
11) PROJECT MONITORING

Method/Procedure:

1) BOAT PASSAGE CONSTRUCTION – successfully install per design
2) FISH PASSAGE CONSTRUCTION – successfully install per design
3) EROSION PROTECTION WALL EXTENSION CONSTRUCTION – successfully install per design
4) TRASH DIVERSION STRUCTURE / BOATER BUMPER CONSTRUCTION – successfully install per design
5) AUTOMATED HEADGATE INSTALL AND SECURITY FENCING CONSTRUCTION – successfully install per design
6) DIVERSION DAM RECONSTRUCTION – successfully conduct diversion dam reconstruction per design
7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS CONSTRUCTION – successfully conduct dam structural integrity improvements per design
8) CANAL LINING CONSTRUCTION – successfully install canal lining per design
9) IN-STREAM FISH HABITAT STRUCTURE CONSTRUCTION – successfully install per design
10) RIPARIAN WOODY INVASIVE SPECIES CONTROL AND NATIVE REVEGETATION – successfully conduct woody invasive species removal and revegetation
11) PROJECT MONITORING – work with CPW in particular to conduct pre and post fish monitoring, as well as other vegetative monitoring

Deliverable:

Successful construction and implementation of the following items:

1) BOAT PASSAGE CONSTRUCTION
2) FISH PASSAGE CONSTRUCTION
3) EROSION PROTECTION WALL EXTENSION CONSTRUCTION
4) TRASH DIVERSION STRUCTURE / BOATER BUMPER CONSTRUCTION
5) AUTOMATED HEADGATE INSTALL AND SECURITY FENCING CONSTRUCTION
6) DIVERSION DAM RECONSTRUCTION
7) DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS CONSTRUCTION
8) CANAL LINING CONSTRUCTION
9) IN-STREAM FISH HABITAT STRUCTURE CONSTRUCTION
10) RIPARIAN WOODY INVASIVE SPECIES CONTROL AND NATIVE REVEGETATION
11) PROJECT MONITORING

Last Updated: May 2021

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status 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 Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:
(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit C. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.
(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be

submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.
(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.
(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

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Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Exhibit C
Budget and Schedule

Prepared Date: 6/28/2021

Name of Applicant: Purgatoire Watershed Partnership

Name of Water Project: Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project

Project Start Date: 11/15/2021

Project End Date: 11/15/2026

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request to CWCB	Cash Match	In-Kind Match	Total
1	Overall Watershed Coordinator Project Coordination & Oversight, and Education & Outreach Efforts	11/15/2021	11/15/2026	$18,040.00	$18,360.00	$0.00	$36,400
2	Project Design (See Details - Engineering Tab)	3/1/2021	11/15/2026	$80,805.00	$67,360.00	$864.00	$149,029
3	Project Construction (See Details - Construction Tab)	11/15/2021	11/15/2026	$674,916.61	$502,220.40	$107,273.00	$1,284,410
			Total	$773,762	$587,940	$108,137	$1,469,839

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Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: 7/1/2021
Name of Applicant: Purgatoire Watershed Partnership
Name of Water Project: Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project

Engineering

	Water Consultants				Subcontracts			Project Total	CWCB Funds	Matching Funds
Sub-task	Senior Principal Engineer	Senior Water Resources Engineer/ Consultant	Water Resources Engineer		Survey	Fish Passage Design				
	$ 220	$ 150	$ 125	**Subtotal**	Lump sum	Lump Sum	**Subtotal**			
	Estimated Hours				Estimated Cost per Task and subcontractor					
FISH AND BOAT PASSAGE DESIGN TOTAL								**$76,685**	**$45,885**	**$30,800**
Site Visit	8	8	8	**$ 3,960**			**$ -**	**$3,960**		
Concept Development	2	1	20	**$ 3,090**			**$ -**	**$3,090**		
Schematic Design (For Permit Apps)					$ 5,200	$ 10,000	**$ 15,200**	**$15,200**		
Drafting-Preliminary Site Grading	2	2	25	**$ 3,865**				**$3,865**		
1D Floodplain Modeling		2	30	**$ 4,050**				**$4,050**		
3D Modeling (Fish Passage)	2	20	40	**$ 8,440**				**$8,440**		
Modeling Software Cost	-	-	-	**$ 6,600**						
Drafting - Detail Development	1	2	20	**$ 3,020**				**$3,020**		
Design Development	5	5	30	**$ 5,600**		$ 3,000	**$ 3,000**	**$8,600**		
Permitting				**$ -**			**$ -**	**-**		
Floodplain Development Permit		3	20	**$ 2,950**				**$2,950**		
Army Corps of Engineers*		3	25	**$ 3,575**				**$3,575**		
Preparation of Construction Documents (bid docs	2	5	20	**$ 3,690**			**$ -**	**$3,690**		
Project Management	10	5	55	**$ 9,825**			**$ -**	**$9,825**		
	Design Engineer	CAD Tech	Reimburseables							
	$ 165.00	$ 90.00	Estimated							
FISH PASSAGE STRUCTURAL DESIGN										
Design and Construction Documents	24	24	$ 300.00	**$ 6,420**				**$ 6,420**		
IRRIGATION INFRASTRUCTURE DESIGN										
	Design Engineer	CAD Tech	Reimburseables							
	$ 165.00	$ 90.00	Estimated							
EROSION PROTECTION WALL EXTENSION										
Design and Construction Documents	16	24	$ 300.00	**$ 5,100**				**$ 5,100**	**$ -**	**$ 5,100**
TRASH DIVERSION STRUCTURE / BOATER BUMPER										
Design and Construction Documents	32	10	$ 400.00	**$ 6,580**				**$ 6,580**	**$ -**	**$ 6,580**
AUTOMATED HEADGATE SECURITY FENCING										
Design and Construction Documents	12	4	$ 300.00	**$ 2,640**				**$ 2,640**	**$ -**	**$ 2,640**
DIVERSION DAM RECONSTRUCTION										
Schematic Design	12			**$ 1,980**	Survey			**$ 1,980**	**$ 1,980**	**$ -**
Design Development	70	40	$ 800.00	**$ 15,950**	$ 3,530		**$ 3,530**	**$ 19,480**	**$ 9,240**	**$ 10,240**
Preparation of Construction Documents (bid docs	24	24		**$ 6,120**				**$ 6,120**	**$ 6,120**	**$ -**
Coordination with other designers	12			**$ 1,980**				**$ 1,980**	**$ 1,980**	**$ -**
DIVERSION DAM STRUCTURAL INTEGRITY IMPROVEMENTS										
Schematic Design	12			**$ 1,980**				**$ 1,980**	**$ 1,980**	**$ -**
Design Development	24	32	$ 300.00	**$ 7,140**				**$ 7,140**	**$ 7,140**	**$ -**
Preparation of Construction Documents (bid docs	8	8		**$ 2,040**				**$ 2,040**	**$ 2,040**	**$ -**
CANAL LINING					Survey					
Design Development	8	0	$ 300.00	**$ 1,620**	$ 1,500		**$ 1,500**	**$ 3,120**	**$ 3,120**	**$ -**
Preparation of Construction Documents (bid docs	8			**$ 1,320**				**$ 1,320**	**$ 1,320**	**$ -**
IN-STREAM FISH HABITAT STRUCTURE DESIGN										
In-Stream Fish Habitat Structure Design										
Engineering/Design Work	LS			**$ 12,000**				**$ 12,000**	**$ -**	**$ 12,000**
ALL INKIND PARTNER INPUT & OVERSIGHT										
CPW								**$ 864**	**$ -**	**$ 864**

** Assumes this project will operate under ACOE NWP.*

TOTAL	**$149,029.00**	**$80,805.00**	**$68,224.00**

Cash Match = White
InKind Match = Green

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Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: 7/1/2021
Name of Applicant: Purgatoire Watershed Partnership
Name of Water Project: Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project

EXAMPLE C: Construction

Task - Construction

	Unit	Quantity	Unit Cost	Total Cost	TOTAL	CWCB Funds	Matching Funds
Stream Grading					$ 70,923	$ 70,923	$ -
Stream Diversion (Work Zone Isolation)	LS	All Req'd	$ 15,000	$ 15,000			
Excavate and Grade Native Alluvium	CY	929	$ 22	$ 20,438			
Unclassified Hauloff	CY	929	$ 20	$ 18,580			
Survey Stake-Out/Grade Check	LS	All Req'd	$ 3,780	$ 3,780			
Furnish 3' Boulders	CY	120	$ 50	$ 6,000			
Install 3' Boulders	CY	120	$ 55	$ 6,600			
Furnish & Install Bedding Material	CY	18	$ 30	$ 525			
Boater Passage					$ 29,264	$ 29,264	$ -
Work Zone Isolation	LS	All Req'd	$ 5,000	$ 5,000			
Concrete Removal	LS	All Req'd	$ 5,000	$ 5,000			
Furnish & Install Concrete Grout, Including Rebar & Marine Epoxy	CY	12	$ 272	$ 3,264			
Furnish and Install Scour Protection (Armoring)	TON	280	$ 50	$ 14,000			
Removal of Channel Debris	Contingent Sum	All Req'd	$ 2,000	$ 2,000			
Subtotal				$ 100,187			
Estimated Other Hard Costs					$ 18,379	$ 18,379	$ -
Subcontractor Payment and Performance Bond		0.02		$ 1,503			
Contractor Contingency @ GMP		0.03		$ 3,006			
General Conditions including Organization		0.04		$ 4,007			
Insurance		0.01		$ 1,027			
Payment and Performance Bond		0.01		$ 751			
Fee		0.03		$ 3,006			
Sales Tax		0.05		$ 5,079			
Subtotal Estimate Hard Costs				$ 18,379			
Estimated Total Construction Costs (ETCC)				$ 118,566			
Estimated Soft Costs					$ 21,046	$ 21,046	$ -
Pre Funding Costs		0.00					
Permits		0.01		$ 652.11			
Testing and Inspections		0.03		$ 3,556.99			
Equipment (Owner Furnished)		0.03		$ 3,556.99			
Furnishings (Owner Furnished)		0.01		$ 1,126.38			
Architectural and Engineering Design		0.04		$ 4,742.65			
Legal/ Marketing Fees		0.01		$ 1,482.08			
Operational Start-Up Costs		0.00		$ -			
Owner Contingency		0.05		$ 5,928.32			
Subtotal Estimated Soft Costs				$ 21,045.52			
Estimated Total Project Costs				$ 139,612			
Fish Passage / Ladder Structure					$ 23,000	$ -	$ 23,000
Once we have completed the design phase of fish passage and have a final cost, we will apply for additional funds as needed to support fish passage construction							
Erosion/Flood Protection Wall, Platform & Safety Railing					$ 88,932	$ 44,932	$ 44,000
Labor Costs							
Forming, Steel Tying, Concrete Placing Crew	Cubic Yards	85	$565.00	$48,025.00			
Laborers	Hours	80	$52.00	$4,160.00			
Foreman w/ Truck	Hours	80	$90.00	$7,200.00			
Superintendent	Hours	20	$80.00	$1,600.00			
Subcontract - Materials Testing	Each	3	$ 300.00	$ 900.00			
Materials & Supplies							

Reinforcing Steel - Grade 60	Pounds	4620	$	1.15	$5,313.00		
Reinforcing Steel - Grade 60, Epoxy coated	Pounds	620	$	1.48	$917.60		
Concrete - 4000 psi, ready-mix	Cubic Yards	85	$	155.00	$13,175.00		
Safety Railing	Lineal Feet	110	$	12.00	$1,320.00		
Equipment							
Generator and Power Tools	Hours	80	$	15.00	$1,200.00		
Skid Steer Loader	Hours	12	$	35.00	$420.00		
Dry Prime Pump	Hours	24	$	35.00	$840.00		
Subcontract - Pumper Truck							
-2 Trips mobilization, pumping and demobilization	Hours	16	$	226.00	$3,616.00		
-Pumping	Cubic Yards	49	$	5.00	$245.00		
Debris & Boater Bumper for Headgate Protection & Boater Safety						**$ 17,194**	**$ 11,194**	**$ 6,000**
Labor Costs							
Track Hoe Operator	Hours	16.0		$73.00	$1,168.00		
Loader Operator	Hours	16.0		$73.00	$1,168.00		
Laborers	Hours	48.0		$52.00	$2,496.00		
Foreman w/ Truck	Hours	24.0		$90.00	$2,160.00		
Subcontract Core Drilling	Lineal Feet	12.0		$58.50	$702.00		
Materials & Supplies							
Galvanized Guardrail	Lineal Feet	60	$	15.00	$900.00		
Structural Steel	Pounds	2500	$	1.50	$3,750.00		
5/8x12 Wedge Anchor Bolts	Each	30	$	5.00	$150.00		
Catwalk	Square Feet	60	$	25.00	$1,500.00		
Equipment							
Track Hoe	Hours	16		$125.00	$2,000.00		
Track Loader	Hours	16		$75.00	$1,200.00		
Diversion Dam Levelling Cap						**$ 302,120**	**$ 255,609.20**	**$ 46,510.80**
Labor							
Subcontract - Surveying	LS	1		$5,760.00	$5,760.00		
Laborers	Hours	80		$52.00	$4,160.00		
Trackhoe Operator	Hours	80		$73.00	$5,840.00		
Skid Steer Operator	Hours	80		$54.00	$4,320.00		
Truck Driver	Hours	40		$73.00	$2,920.00		
Forming, Steel Tying, Concrete Placing Crew	Cubic Yard	160		$565.00	$90,400.00		
Foreman w/Truck	Hours	80		$90.00	$7,200.00		
Superintendent	Hours	30		$80.00	$2,400.00		
Subcontract Core Drilling	Lineal Feet	1200		$58.50	$70,200.00		
Materials & Supplies							
Reinforcing Steel - Grade 60, Epoxy coated	Pounds	14160		$1.50	$21,240.00		
Concrete - 4000 psi, ready-mix	Cubic Yards	160		$200.00	$32,000.00		
Bonding Agent	Gallons	32		$10.00	$320.00		
Equipment							
Trackhoe w/Breaker	Hours	80		$125.00	$10,000.00		
Skid Steer Loader	Hours	80		$35.00	$2,800.00		
Track Loader	Hours	40		$75.00	$3,000.00		
Tandem Dump Truck	Hours	40		$65.00	$2,600.00		
Subcontract - Pumper Truck							
- Mobilization, pumping and demoblization	Hours	160		$226.00	$36,160.00		
- Pumping	Cubic Yards	160		$5.00	$800.00		
Diversion Dam Structural Integrity Improvements						**$ 162,255**	**$ 162,255**	**$ -**
Labor							
Laborers	Hours	160		$52.00	$8,320.00		
Trackhoe Operator	Hours	80		$73.00	$5,840.00		
Loader Operator	Hours	80		$54.00	$4,320.00		
Truck Driver	Hours	80		$73.00	$5,840.00		
Forming, Steel Tying, Concrete Placing Crew	Cubic Yard	85		$565.00	$48,025.00		
Foreman w/Truck	Hours	160		$90.00	$14,400.00		
Superintendent	Hours	40		$80.00	$3,200.00		
Materials & Supplies							
Reinforcing Steel - Grade 60, Epoxy coated	Poumds	6800		$1.50	$10,200.00		
Concrete - 4000 psi, ready-mix	Cubic Yards	102		$200.00	$20,400.00		
4" Drain Pipe	Lineal Feet	40		$8.00	$320.00		
Sand Slurry	Cubic Yards	20		$95.00	$1,900.00		
Equipment							
Trackhoe	Hours	80		$125.00	$10,000.00		
Track Loader	Hours	80		$75.00	$6,000.00		
Tandem Dump Truck	Hours	40		$65.00	$2,600.00		
Subcontract - Pumper Truck							
- Mobilization, pumping and demoblization	Hours	80		$226.00	$18,080.00		
- Pumping	Cubic Yards	102		$5.00	$510.00		

Grout Pump	Cubic Yards	20	$10.00	$200.00			
Injection Port Core Drilling	Lineal Feet	30	$70.00	$2,100.00			
Concrete Canal Lining - Diversion to Measuring Flume, 1000 lineal feet					**$ 251,580**	**$ 1,580**	**$ 250,000**
Gunite Option							
Labor Costs							
Backhoe Operator	Hours	160	$73.00	$11,680.00			
Loader Operator	Hours	160	$54.00	$8,640.00			
Laborers	Hours	640	$52.00	$33,280.00			
Gunite Applicator	Hours	80	$73.00	$5,840.00			
Gunite Finishers	Hours	160	$54.00	$8,640.00			
Foreman w/ Truck	Hours	160	$90.00	$14,400.00			
Superintendent	Hours	40	$80.00	$3,200.00			
Subcontract - Materials Testing	Each	20	$ 300.00	$ 6,000			
Materials & Supplies							
Reinforcing Steel - Mesh	Square Feet	21200	$ 4.00	$84,800.00			
Gunite Mix	Cubic Yards	340	$ 155.00	$52,700.00			
Equipment							
Mini Excavator	Hours	160	$75.00	$12,000.00			
Skid Steer Loader	Hours	160	$ 35.00	$5,600.00			
Gunite Pump and Compressor	Hours	80	$ 60.00	$4,800.00			
Automated Diversion Headgate & Fencing							
Automated Headgate Purchase	LS	1	$40,000.00	$40,000.00	**$40,000.00**	**$0.00**	**$40,000.00**
Automated Headgate Install/Construction	LS	1	$12,000.00	$12,000.00	**$12,000.00**	**$5,000.00**	**$7,000.00**
Security Fencing	LS	1	$4,500.00	$4,500.00	**$4,500.00**	**$0.00**	**$4,500.00**
In-Stream Fish Habitat Structures					**$24,471.00**	**$7,471.00**	**$17,000.00**
Labor Costs							
Labor and Oversight	Hours	85	$75.00	$ 6,375			
Materials & Supplies							
Rock	Tons	336	$36.00	$ 12,096			
Equipment							
In-Stream Heavy Equipment	Hourly	80	$75.00	$ 6,000			
MOBILIZATION COSTS					**$26,023.41**	**$11,128.41**	**$14,895.00**
2% of $1,301,170.42 (Total Construction Cost)							
PROJECT MANAGEMENT QA/QC							
Jobsite Obervations	240	$ 6,600.00	**$ 46,200**		**$ 46,200**	**$ 25,575**	**$ 20,625**
Reporting	32		**$ 5,280**		**$ 5,280**	**$ 5,280**	**$ -**
Testing	LS		**$ 8,000**		**$ 5,280**	**$ 5,280**	**$ -**
Riparian Vegetation Restoration - Woody Invasive Species Management & Native Revegetation							
MHYC Work Force					**$ 8,300**		**$ 8,300**
Native revegetation materials					**$ 5,000**		**$ 5,000**
Purgatoire River Vegetation Management Crew					**$ 14,144**		**$ 14,144**
Partner INKIND Equipment and Labor					**$ 26,144**		**$ 26,144**
Pre and Post Project Monitoring					**$ 10,604.80**	**$ -**	**$ 10,604.80**
ALL INKIND PARTNER INPUT & OVERSIGHT							
Purgatoire River Run Company					**$ 2,283**	**$ -**	**$ 2,283**
All Other Partners					**$ 54,097.28**	**$ -**	**$ 54,097.28**
ENVIRONMENTAL & REGULATORY COMPLIANCE ADDITIONAL FUNDS					**$15,389.60**	**$0.00**	**$15,389.60**
Environmental & Regulatory Compliance Additional Funds Available Through BOR							
Phase II Funding Match	LS		$ 15,389.60				
TOTAL					**$1,284,409.71**	**$674,916.61**	**$609,493.68**

Cash Match = White
InKind Match = Green

Purgatoire Watershed Partnership ● 3590 East Main Street, Trinidad, CO 81082 ● 970-420-1915

June 30, 2021

Colorado Water Conservation Board
Department of Natural Resources
Attn: Mr. Chris Sturm and Mr. Alex Funk
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Purgatoire Watershed Partnership Colorado Water Plan Grant Application 2021

Dear Mr. Sturm and Mr. Funk,

This letter addresses the Letters of Support and Commitment submitted (or on file) as part of this project package.

The following Letters of Support/Commitment are being directly submitted as part of this project package:

- Letter of Support/Commitment from Colorado Parks & Wildlife (*included)*
- Letter of Support/Commitment from Purgatoire River Run Company (*included)*
- Letter of Support from Trout Unlimited Local Chapter – Purgatoire River Anglers (*included)*
- Letter of Support/Commitment from Purgatoire Watershed Partnership (*included)*
- Letter of Support from the Arkansas Basin Roundtable (*in progress – will be submitted shortly)*
- Letter of Support from the Baca-Picketwire Diversion Dam irrigators (*in progress – will be submitted shortly)*

In addition, the following Letters of Support/Commitment were secured from multiple project partners as part of our recent matching BOR WaterSMART Phase II grant application, and these letters (formalizing the support, cash match, and/or in-kind match being provided by these partners for this project) are on file and available for submission if needed:

- Letter of Support from the Arkansas Basin Roundtable
- Letter of Support/Commitment from the Baca Ditch Company
- Letter of Support/Commitment from the Picketwire Ditch Company
- Letter of Support/Commitment from the Purgatoire River Water Conservancy District
- Letter of Support from Colorado Parks & Wildlife
- Letter of Support/Commitment from Trout Unlimited Local Chapter – Purgatoire River Anglers
- Letter of Support/Commitment from Purgatoire Watershed Partnership

Purgatoire Watershed Partnership ● 3590 East Main Street, Trinidad, CO 81082 ● 970-420-1915

- Letter of Support/Commitment from the City of Trinidad
- Letter of Support/Commitment from Downtown Trinidad Development Group
- Letter of Support/Commitment from Coalitions & Collaboratives
- Letter of Support/Commitment from the Purgatoire Watershed Weed Management Collaborative/Spanish Peaks-Purgatoire River Water Conservancy District

Please let us know if you need any additional information.

Sincerely,

Julie Knudson
Executive Director/Watershed Coordinator
Purgatoire Watershed Partnership

COLORADO
Parks and Wildlife
Department of Natural Resources

Southeast Aquatic Section
4255 Sinton Road
Colorado Springs, CO 80907
P 719.227.5224 | F 719-227-5264

June 30, 2021

Colorado Water Conservation Board Grant Committee,

Colorado Parks and Wildlife (CPW) would like to offer strong support for the Baca-Picketwire diversion improvements and the grant they are seeking from the Colorado Water Conservation Board Water Plan Grant program. We are encouraged and fully support that they are seeking to incorporate fish passage into their project.

Incorporating fish passage into the project will provide an additional 3.25 miles of fish habitat upstream to the base of Trinidad Lake. The Purgatoire River at this location is what we consider a transition zone from more cold-water fish such as trout to more warm-water native fish downstream. The current structure prevents any upstream passage of fish.

As part of their reproductive strategy, trout migrate long distances upstream to spawn and as water temperatures rise they will also move to higher elevations. Dams such as the existing structure prevent these migrations and can lead to mortality if water temperatures rise much above 70°F.

It is quite rare to hear of a diversion owner that is so passionate about doing the right thing to protect our natural environment by incorporating fish passage into their intake structure.

My staff and I are committed to offer our expert advice and consultation during the design phase of this project and our staff time to monitor the ability of fish to pass through the structure as an in-kind match to this grant. We estimate the value of our design consultation to be $864.

We are also committed to monitoring the fishery for three years post construction to evaluate which species and what sizes of fish are able to navigate the new structure. We estimate the value of this monitoring effort to be $6,180. The combined total in-kind match comes to $7,044 (see table below).

Again, we fully support this project and hope the grant evaluation committee will appreciate the importance of fish passage and commit to fully funding their project.

Regards,

Joshua B. Nehring
Senior Aquatic Biologist

Design Consultation

Description	Staff	Hours	Hourly Rate	Total
Fish Passage Design Review	Fish Biologist	12.00	$ 38.00	$ 456.00
Fish Passage Design Review	Senior Fish Biologist	8.00	$ 51.00	$ 408.00
			Total	$ 864.00

Annual Fish Passage Monitoring

Description	Staff	Hours	Hourly Rate	Total
Evaluate/Monitor Fish	Fish Biologist	16.00	$ 38.00	$ 608.00
Evaluate/Monitor Fish	District Wildlife Manager	16.00	$ 38.00	$ 608.00
Evaluate/Monitor Fish	Fish Technician	16.00	$ 20.00	$ 320.00
Evaluate/Monitor Fish	Fish Technician	16.00	$ 20.00	$ 320.00
Evaluate/Monitor Fish	Senior Fish Biologist	4.00	$ 51.00	$ 204.00
			Annual Total	$ 2,060.00
			3 Year Total	$ 6,180.00
			Grand Total	**$ 7,044.00**

Purgatoire River Run Company
319 W. Main Street Trinidad, CO 81082

June 24, 2021

Colorado Water Conservation Board
Department of Natural Resources
Attn: Mr. Chris Sturm
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Purgatoire Watershed Partnership Colorado Water Plan Grant 2021 application

Dear Mr. Sturm,

Our company, The Purgatoire River Run Company, strongly supports Purgatoire Watershed Partnership's grant application to the Colorado Water Plan 2021 funding program for the Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project. The Purgatoire River Run Company is an outdoor water recreation company based in Trinidad, Colorado and specializing in guided inner tube trips down the Purgatoire River through downtown Trinidad. We have been in business for three years and serve a wide variety of clients ranging from longtime locals to their family and friends to an increasing number of recreation tourists who are beginning to discover the wonders and opportunities of the Trinidad area and our watershed.

We are very excited to support this project which will provide increased opportunities for recreation on our river through downtown Trinidad, as well as significantly improve boater safety for all ages. We feel this project will also directly result in increased recreational tourism in and around Trinidad, which will be a direct economic benefit to our business as well as many other shops and restaurants in the area. Specifically, we are excited to see boater passage installed into the Baca-Picketwire Diversion Dam as it will allow boaters to have safe passage over the dam during the normal boating season (May to September), as currently it is very dangerous to try to float over the dam. We also expect that this new feature will draw a large number of new boaters of all ages excited to just 'run the boat passage' over and over again on a hot summer day. We feel that the Purgatoire River is an incredible asset in our community but currently there are only limited water recreation opportunities. Installing this boat passage right in the middle of downtown Trinidad will *significantly* increase safe and fun water play opportunities for local residents, families, and visitors of all ages.

Again, we are very excited to be a partner on this grant and look forward to the opportunity to implement this project that not only serves recreational interests, but also provides agricultural, municipal, and environmental benefits! We will be providing $2,283.20 of In-Kind Labor Match for this project.

Sincerely,

Brad Kirby
Owner, Purgatoire River Run Company

Purgatoire Watershed Partnership ● 3590 East Main Street, Trinidad, CO 81082 ● 970-420-1915

June 30, 2021

Colorado Water Conservation Board
Department of Natural Resources
Attn: Mr. Chris Sturm and Mr. Alex Funk
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Purgatoire Watershed Partnership Colorado Water Plan Grant Application 2021

Dear Mr. Sturm and Mr. Funk,

The Purgatoire Watershed Partnership provides this Letter of Commitment for the Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project being submitted for funding to the 2021 Colorado Water Plan Grant Fund.

The Purgatoire Watershed Partnership and its volunteers – through the Purgatoire Watershed Outdoor Stewardship Program - commit to in-kind labor match and equipment/materials towards pre and post monitoring efforts for this project for a total of $3,424.80 in volunteer labor over 5 years (120 hours x $28.54/hour at the 2021 volunteer rate) and an estimated $1000 worth of donated/provided monitoring equipment/materials (e.g. cameras, clipboards, in-stream field gear for helping with fish monitoring, etc), for a total in-kind match of $4,424.80.

Sincerely,

Julie Knudson
Executive Director/Watershed Coordinator
Purgatoire Watershed Partnership

June 25, 2021

Colorado Water Conservation Board
Department of Natural Resources
Attn: Mr. Chris Sturm
1313 Sherman Street, Room 718
Denver, CO 80203

RE: Purgatoire Watershed Partnership Colorado Water Plan Grant 2021 application

Dear Mr. Sturm,

The Trout Unlimited Local Chapter/Purgatoire River Anglers submits this Letter in strong support of the Purgatoire River Baca-Picketwire Diversion Dam Multi-Use Restoration Project being submitted in this grant application by the Purgatoire Watershed Partnership.

Trout Unlimited is very excited to support this project that will significantly and directly benefit native and sport fish in the Purgatoire River through improving aquatic conditions and fish habitat and providing fish passage. As well, this project will help protect and stabilize the riverbanks and reduce erosion, remove woody invasive species for improved wildlife habitat and overall river health, improve water delivery functionality and efficiency for irrigators, improve public safety, and support and enhance recreational opportunities through fishing (as well as through boater passage). Trout Unlimited sees this as an important collaborative project bringing together a diverse set of partners/water users (agricultural, municipal, environmental, and recreational) who are working together for mutual benefit on this project.

Sincerely,

Howard Lackey
President, Purgatoire River Anglers