



Recreational and Ecological Enhancement of the San Juan River - Yamaguchi South Town of Pagosa Springs

March 2022 Board Meeting

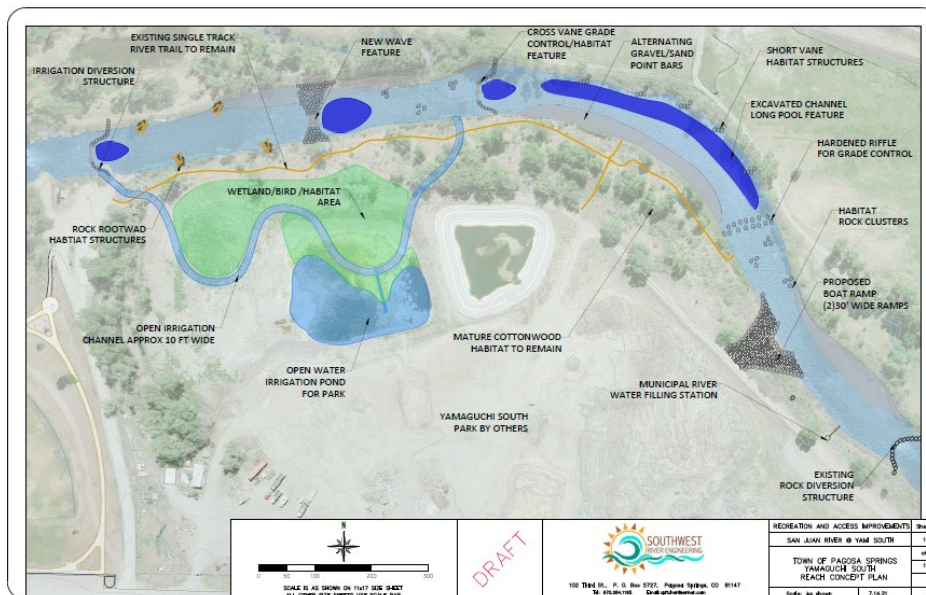
Water Plan Grant Application



L O C A T I O N	
County/Countries:	Archuleta
Drainage Basin:	Southwest

D E T A I L S	
Total Project Cost:	\$664,720
Water Plan Grant Request:	\$332,360
Recommended amount:	\$195,000
Other CWCB Funding:	\$149,562
Other Funding Amount:	\$515,158
Applicant Match:	\$332,360
Project Type(s): Construction and implementation	
Project Category(Categories): Environmental and Recreation	
Measurable Result: 1700 linear feet of restored stream, 4 acres of restored habitat	

The San Juan River forms the “foundational infrastructure” for local recreational and economic tourism-based activities including: boating, fishing, trails, bird watching, etc. While downtown Pagosa Springs currently offers a variety of recreation opportunities, river access is restricted. A CWP grant will be used for installing various new and/or improved river access points (graded/gravel boat ramp, wading/swimming holes), and channel features (sand bars, whitewater wave, riffles and pools) along the banks of Yamaguchi South. These upgrades will enhance recreation options at various river flows, reduce access conflicts, enhance the geomorphology for improved resilience to hydrologic and sediment deposition changes, improve channel and streambank shaping, create diverse aquatic habitat that support cold water trout and native fish populations in the face of drought and climate change, and will also improve the water irrigation system for Yamaguchi Park including a new in-stream rock diversion structure with headgate and an open water delivery ditch to an adjacent wetland pond that would be used for irrigation water storage and wetland pond habitat.



Project objectives include:

1. Enhance the recreational experience for both anglers and river enthusiasts.
2. Improve public access to recreational features.
3. Improve fish habitat quality.
4. Promote sediment movement through this section of the San Juan River.

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan

Water Project Summary

Name of Applicant	Town of Pagosa Springs	Project-01900
Name of Water Project	Recreational and Ecological Enhancement of the San Juan River -Yamaguchi South	
Grant Request Amount		\$332,360.00
Primary Category		\$332,360.00
<i>Watershed Restoration & Recreation</i>		
Total Applicant Match		\$332,360.00
Applicant Cash Match		\$332,360.00
Applicant In-Kind Match		\$0.00
Total Other Sources of Funding		\$664,720.00
Town of Pagosa Springs		\$96,000.00
Pagosa Area Tourism Board		\$22,500.00
Archuleta County		\$30,000.00
SW Water Conservation District		\$10,000.00
Trout Unlimited		\$3,000.00
Friends of the Upper San Juan		\$750.00
Weminuche Audubon Society		\$750.00
The Nature Conservancy		\$3,180.00
SW Basin Roundtable WSRF		\$16,618.00
CWCB WSRF Statewide		\$149,562.00
CWP Grant Request		\$332,360.00
Total Project Cost		\$1,329,440.00

Applicant & Grantee Information

Name of Grantee: Town of Pagosa Springs
Mailing Address: PO Box 1859 Pagosa Springs CO 81147
FEIN: 846,000,707

Organization Contact: James Dickhoff

Position/Title:

Phone: 970-264-4151 x225

Email: jdickhoff@pagosasprings.co.gov

Organization Contact - Alternate: Andrea Phillips

Position/Title: Town Manager

Phone: 9702644151 x236

Email: aphillps@pagosasprings.co.gov

Grant Management Contact: James Dickhoff

Position/Title:

Phone: 970-264-4151 x225

Email: jdickhoff@pagosasprings.co.gov

Grant Management Contact - Alternate: Mandy Eskelston

Position/Title: Water Programs Research Associate
Phone: 970-387-5161

Email: mandy@mountainstudies.org

Description of Grantee/Applicant

No description provided

Type of Eligible Entity

- ☒ Public (Government)
- ☐ Public (District)
- ☐ Public (Municipality)
- ☐ Ditch Company
- ☐ Private Incorporated
- ☐ Private Individual, Partnership, or Sole Proprietor
- ☐ Non-governmental Organization
- ☐ Covered Entity
- ☐ Other

Category of Water Project

- ☐ Agricultural Projects
Developing communications materials that specifically work with and educate the agricultural community on headwater restoration, identifying the state of the science of this type of work to assist agricultural users among others.
- ☐ Conservation & Land Use Planning
Activities and projects that implement long-term strategies for conservation, land use, and drought planning.
- ☐ Engagement & Innovation Activities
Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website.
- ☒ Watershed Restoration & Recreation
Projects that promote watershed health, environmental health, and recreation.
- ☐ 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 and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.

Location of Water Project

Latitude	37.251725
Longitude	107.010138
Lat Long Flag	Precise coordinates: Project coordinates are readily definable and precisely define the location of the project
Water Source	San Juan River
Basins	Southwest
Counties	Archuleta
Districts	29-San Juan River Basin

Water Project Overview

Major Water Use Type	Environmental
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Subcategory Construction

Scheduled Start Date - Design 5/1/2022

Scheduled Start Date - Construction 8/1/2022

Description

The San Juan River forms the “foundational infrastructure” for our local recreational and economic tourism-based activities including: boating, fishing, trails, bird watching, etc. While downtown Pagosa Springs currently offers a variety of recreation opportunities, river access is restricted.

A CWP grant will be used for installing various new and/or improved river access points (graded/gravel boat ramp, wading/swimming holes), channel features (sand bars, whitewater wave, riffles and pools) along the banks of Yamaguchi South to enhance recreation options at various river flows, reduce access conflicts, create geomorphology more resilient to hydrological and sediment deposition changes, install channel and streambank shaping, create diverse aquatic habitat that support cold water trout and native fish populations in the face of drought and climate change, and will also improve the water irrigation system for Yamaguchi Park including a new in-stream rock diversion structure with headgate and an open water delivery ditch to an adjacent wetland pond that would be used for irrigation water storage and wetland pond habitat.

Measurable Results

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive
	Existing Storage Preserved or Enhanced (acre-feet)
	New Storage Created (acre-feet)
1,700	Length of Stream Restored or Protected (linear feet)
	Efficiency Savings (dollars/year)
	Efficiency Savings (acre-feet/year)
4	Area of Restored or Preserved Habitat (acres)
	Quantity of Water Shared through Alternative Transfer Mechanisms or water sharing agreement (acre-feet)
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning
	Number of Coloradans Impacted by Engagement Activity

Water Project Justification

This project is supported by the Upper San Juan Enhancement Partnership (WEP), a stakeholder group formed for the purpose of developing a Stream Management Plan for the Upper San Juan River basin. WEP operates primarily through a steering committee with broad representation of water interests within the basin, including agricultural, municipal, recreation and environmental, as well as local, state and federal government. The WEP steering committee conducts regular outreach to the local community to hear ideas and receive feedback. Earlier this year, WEP completed an Environmental and Recreational Water Supply Needs Assessment (E&R Assessment). Using CWP scenarios, the E&R Assessment identified the potential for trends in historical and future, climate-change driven hydrology to produce increasingly limiting conditions for aquatic life and recreation in the Upper San Juan River, including potential for reduction in the number of days that various types of recreational floating activities can be performed above, below and through the Town of Pagosa Springs. The goal of this project is to improve recreation access and to address some of the issues identified in the E&R Assessment in the portion of the San Juan River that flows through the Town’s Yamaguchi Park area.

Recreation. The existing takeout boat ramp at Yamaguchi South (an extension of the existing Yamaguchi Park) only allows 1-2 vehicles/trailers down to the river and is located in the same site of a municipal water filling station, creating access and parking issues, especially with increasing river use each year. In addition, while downtown Pagosa Springs currently offers a variety of recreation opportunities for residents and visitors to enjoy

the San Juan River via parks, trails, wave features, and swimming/wading areas, modeled hydrological shifts could limit seasonal recreation options and economic industries. Installing various new and/or improved river access points (graded/gravel boat ramp, wading/swimming holes) and channel features (sand bars, whitewater wave, riffles and pools) along the banks of Yamaguchi South would enhance recreation options at various river flows, reduce access conflicts, and create geomorphology more resilient to hydrological and sediment deposition changes.

Environment. The numerous birds, fish, and other wildlife species that rely on the San Juan River require appropriate habitat and refugia to adapt to a changing climate and river systems. The potential for drought to elevate river water temperature, fragment wildlife habitat, and change riparian canopy vegetation could significantly impact wildlife populations as well as the economic and ecosystem services they provide to the community. Channel and streambank shaping, and creation of diverse aquatic habitat would support coldwater trout and native fish populations. Additionally, upland wildlife will benefit from habitat designs that maintain cottonwood groves and wetlands near the river.

Municipal/Irrigation. The Town has up to 3 cfs at any one time that can be diverted from the San Juan River for irrigation water rights for Yamaguchi park. The project includes improvements to the Yamaguchi Park irrigation system, including a new in-stream rock diversion structure with headgate and an open water delivery ditch to an adjacent wetland pond that would be used for irrigation water storage and wetland pond habitat.

Related Studies

“Yamaguchi South Master Plan” (2020)

“Watershed Enhancement Partnership Phase II Report: Non-Consumptive Needs Assessment,” Lotic Hydrological (2020)

Taxpayer Bill of Rights

The Town of Pagosa Springs has “debruced,” which resulted in the Town not being restricted on how much grant funding it can receive.

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: (1) Summarizes the project and how the project was completed. (2) Describes any obstacles encountered, and how these obstacles were overcome. (3) Confirms that all matching commitments have been fulfilled. (4) 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 the Budget & Schedule Exhibit B. 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.



Last Updated: May 2021

Colorado Water Conservation Board
Water Plan Grant - Exhibit A

Statement Of Work	
Date:	October 15, 2021
Name of Grantee:	Town of Pagosa Springs and Upper San Juan Watershed Enhancement Partnership
Name of Water Project:	Recreational and Ecological Enhancement of the San Juan River -Yamaguchi South
Funding Source:	Colorado Water Plan
Water Project Overview:	
<p>The Project consist of the design, engineering, permitting and construction of several features designed to improve river access, enhance recreation options at various river flows, reduce access conflicts, create a geomorphology more resilient to hydrological and sediment deposition changes, and creation of diverse aquatic habitat that support cold water trout and native fish population in the face of drought and climate change. Features include construction of a graded/gravel boat ramp, wading/swimming holes, channel features, including sand bars, riffles and pools and a new water wave.</p>	
Project Objectives:	
<ul style="list-style-type: none">• Enhance the recreational experience for both anglers and river enthusiasts• Improve public access to recreational features• Improve fish habitat quality• Promote sediment movement through this section of the San Juan River	

Tasks
Task 1 - Design, engineering and permitting
Description of Task:
Complete design and engineering and obtain all necessary permits for the construction of the features identified in Task 2
Method/Procedure:



Last Updated: May 2021

Design and engineering plans will be developed for each identified structure. Conduct investigations needed to obtain permits, including:

- Identify the extent of jurisdictional wetlands and other Waters of the U.S. (WUS) associated within the boundaries of the proposed project including impacts and mitigation if required.
- Conduct a biological assessment with the identification of any potential endangered species impacts,
- Determine any potential historic properties, artifacts and associated impacts and mitigation
- Obtain a section 401 water quality certification from the CDPHE
- Complete an alternative analysis for a 404 individual permit if required
- Address any public comments or other governmental agency concerns.
- Obtain a floodplain development permit from the local floodplain administrator

Deliverable:

Final Design/Engineering Plans

Task 2 – Construction

Description of Task:

The following features will be constructed:

1. **Habitat structures**

A variety of fish habitat/channel stability improvement structures are included in the proposed design. All proposed rock habitat structures will be built from existing large rocks (4'-5' average dimension). All structures will be built with adequate foundation rocks below the bed of the channel to protect against vertical scour. A description of each type of habitat structure is presented below:

- *Rock Cross Vane*-This structure is built with large angular rocks place to converge water towards the middle of the river. The objectives of the structures are to: provide cover and holding water for fish, cause a redirection of shear stress away from the bank towards the center of the river, sustain a pool form on the downstream side of the structure, provide vertical grade control, increase the width/depth ratio, improve sediment transport capacity, and provide a natural sorting of gravel on the tail out of the downstream pool. The structure is usually symmetrical in shape and ties into the ordinary high-water elevation on each side of the river.
- *Rock J-hook/Short Vane*-The structure is similar to the rock cross vane except it ties to only one side of the river typically on the outside of a river bend. The objectives of the structures are to: create and sustain cover and holding water for fish, protect the bank from erosion, and create wide long pools that provide spawning habitat for fish. The structure is asymmetrical in shape and ties into the ordinary high-water elevation on one side of the river.
- *Rock Deflectors*-The rock deflector is a series stacked rocks place is in such a way to turn water off the outside of a bank and converge the water on the downstream face of the structure causing a deep scour pool to form. The objectives of the structures are to: provide increased bank stability in high shear stress locations, maintain a wide navigation lane in the center of the river, create cover and holding water for fish, and to create excellent spawning gravels in the downstream eddy below the structure. The structure is usually tied to and elevation equal to or above ordinary high water on one side of the river.
- *Rock Habitat Clusters*-The rock habitat cluster is a series of several rocks clustered together usually located near the center of the river channel. The objectives of these clusters are to: provide in stream holding areas for fish, to create local scour and flow diversity in the middle of the channel. These structure typically are built by placing 4-5 large rocks (50 square feet) in clusters in the exiting river channel.



Last Updated: May 2021

	<ul style="list-style-type: none">• Native Material Revetment/Root Wads-The root wad structure are typically used in combination with a large rock structure to ensure the wood material remains stable during high water events. The objectives of these structures are to: provide shade and cover, detritus, terrestrial insect habitat, enhance the natural look of the river, and provide complexity to the subsurface fish habitat. These structures consist of 5-10 large (1'-3' diameter) cottonwood root balls with approximately 10'-20' of trunk that are partially buried in the riverbank and extend out into the river channel with the root ball to provide the desired habitat.
2.	Boat Ramp/River Access Access to the river will be improved through individual pedestrian trails down to the river bank as well as a new boat ramp that will be available for commercial and private river users. The new river features will be accessed utilizing a new access road, trail system, parking area, and boat ramp. The road and parking area will be constructed by clearing the vegetation and topsoil and placing a crushed rock base and surface material. Road and parking area surface drainage will be collected with swales that flow into a vegetated detention basin and then will eventually drain into the river. The boat ramp extends down into the river with a stacked rock retaining wall on the upstream and downstream side.
3.	Wetland area/Pond improvements An existing pond area will be enhanced with intense riparian and wetland species planting. A strong riparian vegetation community means better cover for terrestrial species that use the river for water and for its riparian forage potential. Dense riparian vegetation encourages deposition of fine-grained sediment for soil building, and also creates backwater areas that are the genesis of obligate wetland communities. Mature riparian vegetation stands, where existing, will remain intact during and after construction. This vegetation is important for streambank stability, terrestrial habitat and visual/aesthetic screening.
4.	Channel shaping structures including riffles and pools The channel shaping proposed involves rearranging on the existing river alluvium to create the desired channel dimensions. All of the proposed channel shaping will occur below the ordinary high-water mark. Channel shaping will encourage the compliment the appropriate spacing of pool riffle sequencing for this reach of the San Juan River.
5.	New whitewater wave The new whitewater structure will have a low flow center ramp constructed of large rocks with concrete grout in the gaps between the rocks. The structures will have side ramps at a slightly higher elevation than the center ramp that will be constructed of large boulders. The feature will create a standing wave desirable by recreational boating enthusiast. The structure will have a pool form immediately downstream. The pool form may be created by excavation of the bedrock. Excavated bedrock will be hauled to an upland disposal area. yards. The low flow ramp will have an elevation drop of 18-24". A fish passage channel will be constructed at a low point adjacent to the ramp.
Method/Procedure:	
See above.	
Deliverable:	
Described constructed features. Final report including photos and/or video of features as built	



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.



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Conservation Board

Department of Natural Resources

Last Updated: May 2021

(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.

**COLORADO**Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board**Water Plan Grant - Exhibit C
Budget and Schedule****Prepared Date:** 10/15/2021**Name of Applicant:** Upper San Juan Watershed Enhancement Partnership & Town of Pagosa Springs**Name of Water Project:** Recreational and Ecological Enhancement of the San Juan River -Yamaguchi South**Project Start Date:** 6/1/2022**Project End Date:** 5/31/2025

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Permitting & Design	6/1/2022	5/31/2025	\$57,500	\$57,500	\$115,000
2	Construction & Materials	6/1/2022	5/31/2025	\$274,860	\$274,860	\$549,720
Total				\$332,360	\$332,360	\$664,720

SIMPLE BUDGET

Task	Description	Target Start Date	Target End Date	CWCB Water Plan Grant Funds
1	Permitting & Design	6/1/2022	5/31/2025	\$ 57,500
2	Construction & Materials	6/1/2022	5/31/2025	\$ 274,860
	TOTAL			\$ 332,360

		Percentage of Project Costs
Total Project Costs	\$ 664,720	
CWCB-Water Plan Grant	\$ 332,360	50.0%
CWCB- Statewide Water Supply Reserve Fund	\$ 149,562	22.5%
CWCB-Basin Water Supply Reserve Fund	\$ 16,618	2.5%
Total CWCB Fund Request	\$ 498,540	75.0%
Cash Match	\$ 166,180	25.0%
In-kind Match		
Total Cash + In-kind	\$ 166,180	25.0%

CWCB Statewide WSRF Funds	CWCB Basin WSRF Funds	Other Funding Cash	Other Funding In- Kind	Total
\$ 25,875	\$ 2,875	\$ 28,750		\$ 115,000
\$ 123,687	\$ 13,743	\$ 137,430		\$ 549,720
\$ 149,562	\$ 16,618	\$ 166,180	\$ -	\$ 664,720



Colorado Water Conservation Board
Water Plan Grant - Detailed Budget Estimate
Fair and Reasonable Estimate

Prepared Date: 10/15/2021
Name of Applicant: Uppeer San Juan Watershed Enhancement Partnership & Town of Pagosa Springs
Name of Water Project: Recreational and Ecological Enhancement of the San Juan River -Yamaguchi South

Permitting & Design

Task 1 - Permitting & Design	
Estimated Cost per Sub-task	Lump sum
Permitting/Wetlands Delineation	\$50,000
Final Design Plans/Bid Process	\$65,000
Task 1 Total	\$115,000

Materials & Construction

Task 2 - Materials & Construction-Yamaguchi South				
Materials Subtasks	Estimated Quantity	Unit	Cost Per Unit	Cost
Habitat Structure				
Large Rocks 4 ft	EA	120	\$200	\$24,000
Root wads	EA	8	\$200	\$1,600
Wave Structure				
Large Rocks 4 ft	EA	190	\$200	\$38,000
Concrete	CY	80	\$200	\$16,000
Boat Ramp/Water Filling Station Irrigation Diversion/Trail Improvements				
Large Rocks 4 ft	EA	140	\$200	\$28,000
Concrete Wet Well/Misc Pipe	LS	1	\$5,000	\$5,000
Steel Headgate Structure w/Gate	LS	1	\$12,000	\$12,000
Class 6 Gravel for Ramp Surface	CY	125	\$28	\$3,500
Trail Material	LF	1500	\$10	\$15,000
Wetland Area/Lagoon Improvements				
Wetland Starter Plans (1 plug/2 sf)	EA	25000	\$1	\$25,000
Flow Control Gates/Misc Pipe	LS	1	\$5,000	\$5,000
			Materials Subtotal	\$173,100
Construction Subtasks				
Habitat Structure				
Place Large Rocks 4 ft	EA	120	\$200	\$24,000
Place Root Wads	EA	8	\$500	\$4,000
Channel Shaping	CY	1500	\$8	\$12,000
Excess Materials Disposal	CY	200	\$10	\$2,000
Wave Structure				
Place Large Rocks 4 ft	AC	190	\$200	\$38,000
Place Concrete	CY	80	\$225	\$18,000
Subgrade Prep with Rock Hammer	CY	40	\$750	\$30,000
Dewatering During Construction	LS	1	\$10,000	\$10,000
Materials Disposal	CY	700	\$10	\$7,000
Boat Ramp/Water Filling Station Irrigation Diversion/Trail Improvements				
Place Large Rocks 4 ft	EA	140	\$200	\$28,000
Installation Concrete Wet Well/Misc Pipe	LS	1	\$3,500	\$3,500
Installation Steel Headgate Structure w/Gate	LS	1	\$3,500	\$3,500
Place Gravel Fines/Weed Barrier for Trail Surface	LF	1500	\$10	\$15,000
Place Gravel for Boat Ramp Surface	CY	125	\$20	\$2,500
Wetland Area/Lagoon Improvements				
Excavate Irrigation Channel	LF	1100	\$15	\$16,500
Wetland Starter Plans (1 plug/2 sf)	CY	2000	\$8	\$16,000
Flow Control Gates/Misc Pipe	SF	25000	\$1	\$25,000
Site Cleanup, Mobilization/Demobilization	LS	1	\$15,000	\$15,000
			Construction Subtotal	\$270,000
Other Direct Costs (Estimated Lump Sum)				
Construction Management (10 weeks)				\$50,000
Contingency (~10%)				\$56,620
			Task 2 Total	\$549,720

Task 1 Subtotal	\$115,000
Task 2 Subtotal	\$549,720
Project Total	\$664,720


Cash Match Sources	Estimated Match Per Year
Town of Pagosa Springs	
Tourism Board	\$7,500
Archuleta County	\$10,000
Southwest Water Conservation District grant program	
Trout Unlimited	
Friends of the Upper San Juan	\$250
The Nature Conservancy	
Weminuche Audobon	\$250
Total Cash Match Funding Estimate	

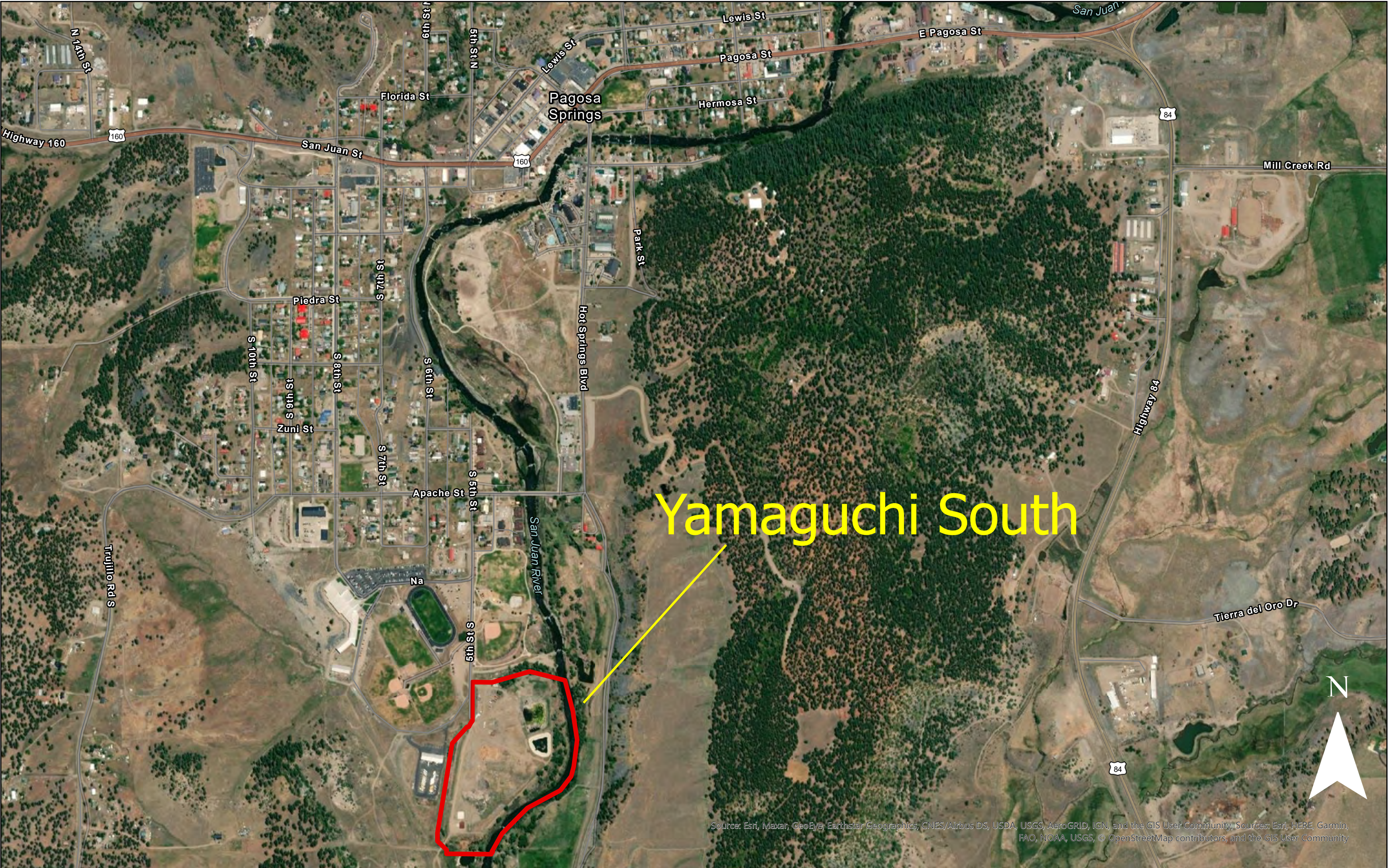
Estimated Total Match (Lump Sum or Over 3 Years)	Match Status
\$96,000	Committed
\$22,500	Requesting 2021
\$30,000	Requesting 2021
\$10,000	Requesting 2021
\$3,000	Committed
\$750	Committed
\$3,180	Committed
\$750	Committed
\$166,180	

Cost Estimates

Preliminary cost estimates for materials and construction of Yamaguchi South projects included in this proposal are detailed below and estimated to total \$664,720. The scope and cost estimates represent only the selected projects of this concept proposal. The Town of Pagosa Springs is developing a broader Yamaguchi Park South Plan, which these projects will complement and support.

Recreation and Access Improvements Concept Plan Preliminary Cost Estimate Yamiguchi South Prepared by Southwest River Engineering 7/21 for Town of Pagosa Springs

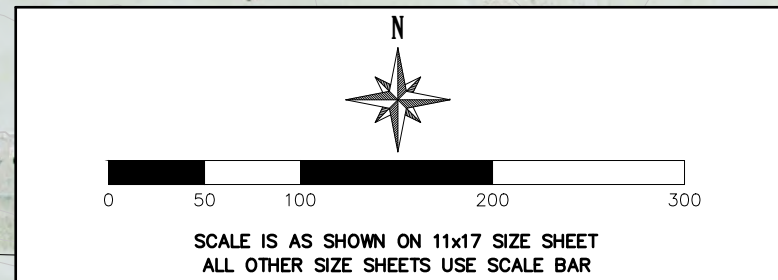
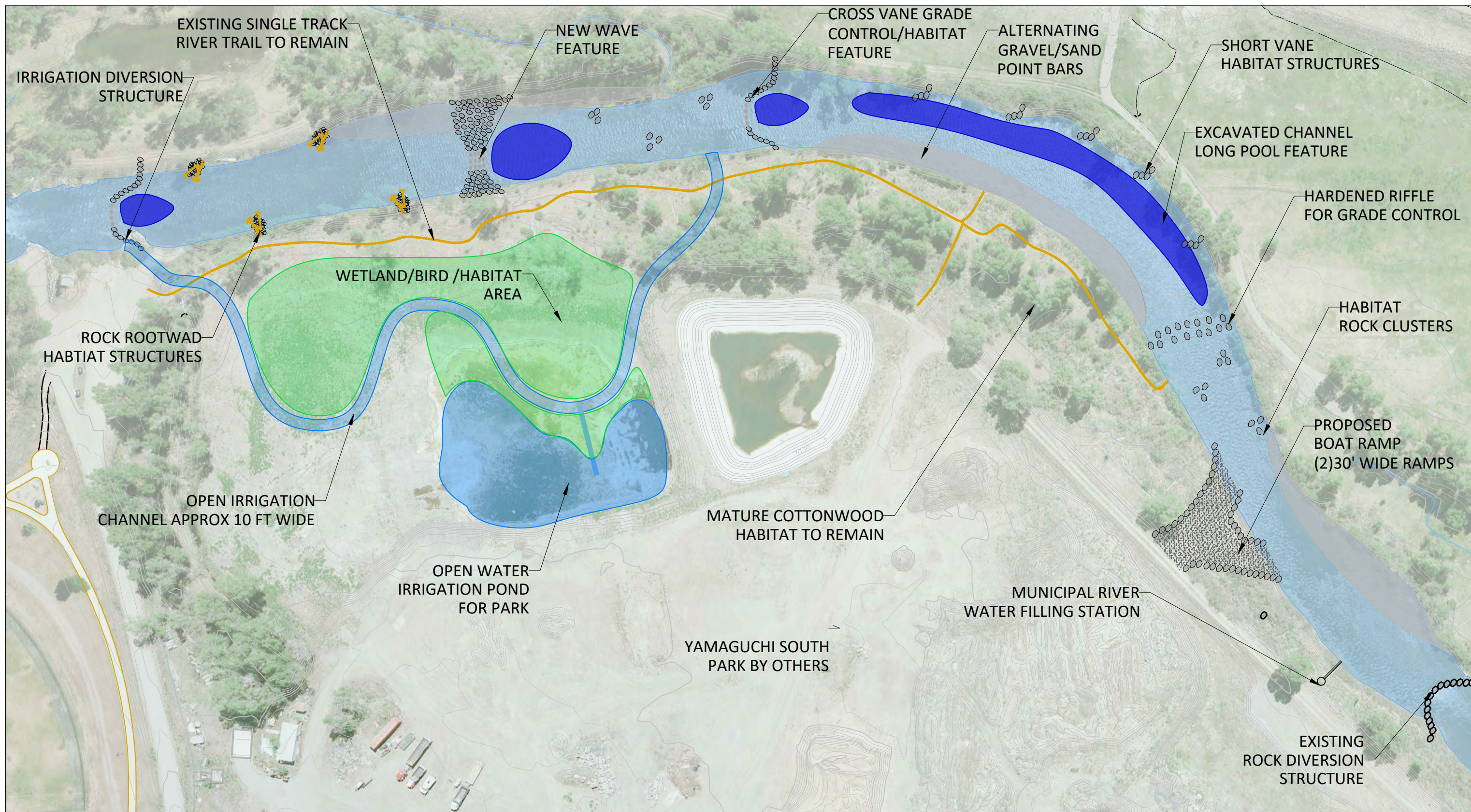
Preliminary Cost Estimate		Estimated quantity	UNIT	Cost per Unit	COST (\$)
	Preliminary Cost Estimate				
	Materials				
	<u>Habitat Structures</u>				
	Large Rocks 4 ft	EA	120	\$200	\$24,000.00
	Root wads	EA	8	\$200	\$1,600.00
	<u>Wave Structure</u>				
	Large Rocks 4 ft	EA	190	\$200	\$38,000.00
	Concrete	CY	80	\$200	\$16,000.00
	<u>Boat Ramp/Water Filling Station/Irrigation Diversion/Trail improvements</u>				
	Large Rocks 4 ft	EA	140	\$200	\$28,000.00
	Concrete Wet Well/Misc Pipe	LS	1	\$5,000.00	\$5,000.00
	Steel Headgate structure w/gate	LS	1	\$12,000.00	\$12,000.00
	Class 6 Gravel for ramp surface	CY	125	\$28.00	\$3,500.00
	Trail Material	LF	1500	\$10.00	\$15,000.00
	<u>Wetland Area/Lagoon Improvements</u>				
	Wetland Starter Plants (1 plug/2 sf)	EA	25000	\$1.00	\$25,000.00
	Flow control gates/Misc Pipe	LS	1	\$5,000.00	\$5,000.00
	Construction				
	Materials subtotal				
	\$173,100.00				
	<u>Habitat Structures</u>				
	Place Large Rocks 4 ft	EA	120	\$200	\$24,000.00
	Place Root Wads	EA	8	\$500	\$4,000.00
	Channel Shaping	CY	1500	\$8	\$12,000.00
	Excess material disposal	CY	200	\$10	\$2,000.00
	<u>Wave Structure</u>				
	Place Large Rocks 4 ft	AC	190	\$200	\$38,000.00
	Place Concrete	CY	80	\$225	\$18,000.00
	Subgrade Prep/with rock hammer	CY	40	\$750	\$30,000.00
	Dewatering during construction	LS	1	\$10,000	\$10,000.00
	Material Disposal	CY	700	\$10	\$7,000.00
	<u>Boat Ramp/Water Filling Station/Irrigation Diversion/Trail improvements</u>				
	Place Large Rocks 4 ft	EA	140	\$200	\$28,000.00
	Installation Concrete Wet Well/Misc Pipe	LS	1	\$3,500	\$3,500.00
	Installation of Steel Headgate structure w/gate	LS	1	\$3,500	\$3,500.00
	Place gravel fines/weed barrier for trail surface	LF	1500	\$10	\$15,000.00
	Place gravel for boat ramp surface	CY	125	\$20	\$2,500.00
	<u>Wetland Area/Lagoon Improvements</u>				
	Excavate irrigation channel	LF	1100	\$15	\$16,500.00
Grade Wetland area	CY	2000	\$8	\$16,000.00	
Plant Wetland Area	SF	25000	\$1.00	\$25,000.00	
Site cleanup, mobilization/demobilization	LS	1	\$15,000	\$15,000.00	
Construction subtotal					
\$270,000.00					
Project Subtotal					
\$443,100.00					
Permitting/wetlands delineation					
\$50,000.00					
Construction Management (10wk)					
\$50,000.00					
Final Design Plans/ Bid Process					
\$65,000.00					
Contingency(20%)					
\$121,620.00					
Total					
\$664,720.00					



Yamaguchi South



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



DRAFT



**SOUTHWEST
RIVER ENGINEERING**

102 Third St., P. O. Box 5727, Pagosa Springs, CO 81147
Tel: 970.264.1195 Email: cpitcher@swriver.com

RECREATION AND ACCESS IMPROVEMENTS		Sheet
SAN JUAN RIVER @ YAMI SOUTH		1
TOWN OF PAGOSA SPRINGS YAMAGUCHI SOUTH REACH CONCEPT PLAN		of
		1
Scale: As shown	7.14.21	

LETTERS OF SUPPORT

Letters of commitment from all contributing entities, regarding matching funds, are currently being gathered and will be submitted as soon as possible. The Upper San Juan Watershed Enhancement Partnership and Town of Pagosa Springs understand letters of commitment are required and must be submitted before contracting with the Colorado Water Conservation Board.

Please find attached letters from the following organizations/partners:

- 1) Southwest Basin Roundtable (letter of committed matching funds & letter of support)
- 2) Friends of the Upper San Juan River (letter of committed matching funds)
- 3) The Nature Conservancy (letter of committed matching funds)
- 4) Town of Pagosa Springs (letter of committed matching funds)
- 5) Trout Unlimited (letter of committed matching funds)
- 6) Weminuche Audubon Society (letter of committed matching funds)
- 7) Pagosa Outside (letter of support)
- 8) Pagosa Wetland Partners (letter of support)

SOUTHWEST BASINS ROUNDTABLE

C/O La Plata Archuleta Water District

PO Box 1377

Ignacio, Colorado 81137

October 29, 2021

Colorado Water Conservation Board
Water Supply Planning Section
WSRF Application
1313 Sherman Street, Room 718
Denver, Colorado 80203


RE: Town of Pagosa Springs and Upper San Juan Watershed Enhancement Partnership
WSRF Grant Request

The Southwest Basins Roundtable approved funding of \$16,618.00 from the Southwest Basins Roundtable account for the Town of Pagosa Springs & Upper San Juan WEP's Recreational and Ecological Enhancement Project- Yamaguchi South. This application was considered fully and approved by the Southwest Basins Roundtable at the October 28, 2021 meeting. There was a quorum of members present at the meeting. We would also like to recommend approval of \$149,562.00 from the Statewide WSRF for this project.

The proposed project meets the Colorado Water Plan's Goals & Objectives F-by enhancing environmental and recreational economic values. It also supports the Southwest Basins Roundtable's Measurable Goals or Outcomes of the BIP D1) Maintain, protect and enhance recreational values and economic values; and E2) Protect, maintain, monitor and improve the condition and natural function of streams.

The completed Grant Application will be forwarded directly to you by the applicant. Please contact the applicant directly or me at 970-563-0320, etolen@laplawd.org, if you have questions or wish to discuss this application in more detail.

Sincerely,



Edward Tolen
Southwest Basins Roundtable Chair

SOUTHWEST BASINS ROUNDTABLE

C/O La Plata Archuleta Water District

PO Box 1377

Ignacio, Colorado 81137

October 29, 2021

Colorado Water Conservation Board
1313 Sherman St., Denver, CO 80203

Re: Colorado Water Plan Grant

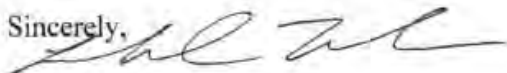
Colorado Water Conservation Board,

The Southwest Basin Roundtable writes this letter to express support for the Upper San Juan Watershed Enhancement Partnership and Town of Pagosa Springs as it requests funding through a Colorado Water Plan grant for constructing new river access points and channel features on the San Juan River. These improvements will enhance recreation options, reduce access conflicts, create geomorphology more resilient to hydrological and sediment deposition changes, and create diverse aquatic habitat that support cold water trout and native fish populations, while supporting the recreation economy of the area.

This project will meet many of the Southwest Basins Roundtable goals identified in its Basin Implementation Plan, including D1-*maintain, protect and enhance recreational values and economic values* and E2-*protect, maintain, monitor and improve the condition and natural function of streams*.

Additionally, the construction of this project would have an educational aspect to it that would provide an outdoor laboratory to the adjacent high school for their aquatic based science program.

Sincerely,



Edward Tolen

Southwest Basins Roundtable Chair

October 14, 2021

SOUTHWEST BASIN ROUNDTABLE
Edward Tolen, First Vice Chair
c/o La Plata Archuleta Water District
P.O. Box 1377
Ignacio, Colorado 81137
970-563-0320

Colorado Water Conservation Board
ATTN: Ben Wade
1313 Sherman St. Room 721
Denver, CO 80203

Dear Southwest Basin Roundtable and Dear CWCB Board Members,

Friends of the Upper San Juan River (FUSJR) supports the Upper San Juan Watershed Enhancement Partnership (WEP) and Town of Pagosa Springs' (Town) proposed project entitled "Recreational and Ecological Enhancement of the San Juan River-Yamaguchi South."

Collaborations between the WEP and the Town have developed concept level designs for projects with recreational and ecological benefits to the San Juan River, within the Yamaguchi South area of downtown Pagosa Springs. Funding to support this project would create various new and/or improved river access points and channel features for the San Juan River; thereby enhancing recreation options at various river flows, reducing access conflicts, create diverse aquatic habitat to support fisheries, and develop a more resilient river facing changing hydrology and temperatures in the future.

FUSJR has committed to providing \$250 each year for three years (2022-2025) for a total of \$750 cash match funds to support this project. FUSJR supports this project because it mirrors our mission to promote environmentally sound, socially beneficial and economically prosperous management of the Upper San Juan River and Pagosa Springs community parks experience through; education, recreation and environmental awareness. Our community will benefit from this project funding, so our organization is 100% supportive.

Sincerely,
Jenny Highum
President
Friends of the Upper San Juan River
fusjr@outlook.com



The Nature Conservancy in Colorado
2424 Spruce Street
Boulder, CO 80302

tel (303) 444-2950
fax (303) 444-2985
nature.org/colorado

November 30, 2021

Colorado Water Conservation Board
ATTN: Ben Wade
1313 Sherman St. Room 721
Denver, CO 80203

Subject: Matching Funds for Recreational and Ecological Enhancement of the San Juan River-Yamaguchi South

Dear CWCB board members,

The purpose of this letter is to confirm matching contributions and support from The Nature Conservancy for the Upper San Juan Watershed Enhancement Partnership (WEP) and Town of Pagosa Springs' (Town) proposed project entitled "Recreational and Ecological Enhancement of the San Juan River-Yamaguchi South."

The Nature Conservancy will **commit \$3,180 in matching cash funds** from our 2021-2022 budget to support this project.

Please contact me should you need further information.

Sincerely,

Diana R Lane

Diana Lane

Director of Sustainable Food and Water Program

diana.lane@nature.org

(720) 766-8638

nature.org/colorado

TOWN OF PAGOSA SPRINGS, COLORADO

RESOLUTION NO. 2021-13

A RESOLUTION SUPPORTING SUBMITTING GRANT APPLICATIONS TO THE COLORADO WATER CONSERVATION BOARD FOR RECREATIONAL AND ECOLOGICAL ENHANCEMENT OF THE SAN JUAN RIVER ADJACENT TO YAMAGUCHI SOUTH PARK

WHEREAS, the Town of Pagosa Springs ("Town") is a home rule municipality duly organized and existing under Article XX of the Colorado Constitution and the Pagosa Springs Home Rule Charter of 2003, as amended; and

WHEREAS, the Town of Pagosa Springs supports the submission of a Colorado Water Conservation Board grant application for the enhancement of the San Juan River adjacent to Yamaguchi Park South, in the total amount of \$498,540 from the following Colorado Water Conservation Board grant programs: \$332,360 in funds from the Colorado Water Conservation Board Water Plan Grant; and \$149,562 in funds from the Colorado Water Conservation Board Water Supply Reserve Fund; and \$16,618 in funds from the Colorado Water Conservation Board Southwest Basin Roundtable Water Supply Reserve Fund; and

WHEREAS, the Town of Pagosa Springs adopted the Yamaguchi South Park Conceptual Master Plan in July of 2021, which included a thorough public engagement and comment process, with such plan indicating recreational and ecological enhancements of the San Juan River adjacent to the Park; and

WHEREAS, the Town's 2018 Comprehensive Plan recognizes *"Access to the San Juan River is important for recreation, economic development and community culture. As the natural environment is critical to the tourism industry, its protection is necessary. Balancing access with preservation of the natural system will assure the environment remains healthy and vibrant"*.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF PAGOSA SPRINGS, COLORADO as follows:

1. The Town Council of the Town of Pagosa Springs strongly supports the submission of the grant applications and will work with numerous community partners to fund the required 25% matching funds.
2. On September 23, 2021, Town Council approved a 2021 budget amendment, allocating the Town's \$96,000 cash match obligation towards the project to be expensed if awarded a grant.
3. If the grants are awarded, the Town Council of the Town of Pagosa Springs strongly supports the completion of the project in coordination with our funding partners.
4. The Town Council of the Town of Pagosa Springs authorizes the expenditure of funds necessary to meet the terms and obligations of any Grant awarded.
5. If the grants are awarded, the Town Council hereby authorizes the Town's Mayor to sign the grant agreements with each funding organization.
6. This resolution to be in full force and effect from and after its passage and approval.

7. Severability. If any part, section, subsection, sentence, clause or phrase of this Resolution is for any reason held to be invalid, such invalidity shall not affect the validity of the remaining provisions.
8. Effective Date. This Resolution shall take effect and be enforced immediately upon its approval by the Council.

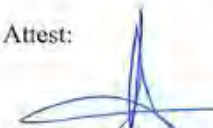
ADOPTED this 23rd day of September, 2021.

TOWN OF PAGOSA SPRINGS, COLORADO

By


Don Volger, Mayor

Attest:


April Hessman, Town Clerk





Five Rivers Chapter

November ,23 2021

SOUTHWEST BASIN ROUNDTABLE
Edward Tolen, First Vice Chair
c/o La Plata Archuleta Water District
P.O. Box 1377
Ignacio, Colorado 81137

Colorado Water Conservation Board
ATTN: Ben Wade
1313 Sherman St. Room 721
Denver, CO 80203

Dear CWCB Board Members,

Five Rivers Trout Unlimited fully supports the Upper San Juan Watershed Enhancement Partnership (WEP) and Town of Pagosa Springs' (Town) proposed project entitled "Recreational and Ecological Enhancement of the San Juan River-Yamaguchi South."

Collaborations between the WEP and the Town have developed concept level designs for projects with recreational and ecological benefits to the San Juan River, within the Yamaguchi South area of downtown Pagosa Springs. Funding to support this project would create various new and/or improved river access points and channel features for the San Juan River; thereby enhancing recreation options at various river flows, reducing access conflicts, create diverse aquatic habitat to support fisheries, and develop a more resilient river facing changing hydrology and temperatures in the future.

The Five Rivers Chapter of Trout Unlimited supports this project and has committed to \$3000 in cash funding toward this project.

Sincerely,

Frank (Buck) Skillen – Five Rivers Trout Unlimited, Board Member
bskillen759@gmail.com



October 14, 2021

Southwest Basin Roundtable
Edward Tolen, First Vice Chair
% LaPlata Archuleta Water District
P.O. Box 1377
Ignacio, CO 81137

Colorado Water Conservation Board
Attn: Ben Wade
1313 Sherman St., Room 721
Denver, CO 80203

Dear Southwest Basin Roundtable and CWCB Board Members,

Two of the natural features which enhance the community of Pagosa Springs are dependent on water. One is the San Juan River which is a centerpoint of the town, contributing to the community water supply, providing recreational opportunities and supporting important riparian habitat for local wildlife. The other is our centrally located wetland areas, a portion of which is supported by an influx of geothermal water. These areas are critical to resident and migratory bird species, other large and small wildlife species, and an array of plants adapted to alkaline and wetland environments.

Recognizing the value of these habitats and with the desire to preserve them, our local Audubon chapter with the closely aligned Pagosa Wetland Partners group, have worked with the Town of Pagosa Springs to identify and evaluate projects to ensure projects have an overall beneficial effect on wetland and riparian fauna and flora. We have conducted tours to promote an awareness and appreciation of these natural areas, which we believe promote goals of the Colorado Water Plan in educating our communities about the importance of healthy watersheds.

Development of the area known as Yamaguchi South will present challenges in finding a balance between providing recreational needs while maintaining healthy wetland and riparian habitats. We believe that our support of this proposal with a matching fund commitment of \$250/year for a 3 year period and this letter of support is an indication of this project achieving this balance and of our desire to work with the Town of Pagosa Springs and Upper San Juan Watershed Partnership to protect these important habitats.

Yours,

Jean Zirnelt, Weminuche Audubon Society President

For the Board of Directors

October 12, 2021

SOUTHWEST BASIN ROUNDTABLE
Edward Tolen, First Vice Chair
c/o La Plata Archuleta Water District
P.O. Box 1377
Ignacio, Colorado 81137

Colorado Water Conservation Board
ATTN: Ben Wade
1313 Sherman St. Room 721
Denver, CO 80203

Dear Southwest Basin Roundtable and Dear CWCB Board Members,

Pagosa Outside strongly supports the Upper San Juan Watershed Enhancement Partnership and Town of Pagosa Springs' proposed project to enhance the San Juan River at Yamaguchi South. A healthy river with ample public access is paramount to the economic and social wellbeing of our community.

The Yamaguchi South project has gone through a robust public planning process directed by the town. The need for recreational, ecological and access improvements within this area of the river corridor were identified by the project consultants who developed the concept plan as well as through public input. (<https://mypagosa.org/yamaguchi-south-planning-project>)

Pagosa Outside is a small family owned business that provides up to 30 well paying, seasonal, local jobs. Our business, employees and guests depend on a healthy and accessible San Juan river. The Yamaguchi South project will have significant ecological and recreational benefits to the centerpiece and lifeblood of our small community and the people who live here.

Sincerely,

A handwritten signature in cursive script that reads "Tobi Rohwer". The signature is written in a light gray color.

Tobi and Alison Rohwer
Owners
Pagosa Outside Adventures
tobi@pagosaoutside.com
970.946.1233

Colorado Water Conservation Board
Water Supply Reserve Fund Grant Application

October 10, 2021

Dear Grant Reviewers:

Pagosa Wetlands Partners is pleased to support the Yamaguchi South Stream Work Grant application. Our mission is to preserve, protect and enhance the Town of Pagosa Springs public wetlands. We accomplish this in large part by advocating for wetland appreciation and conservation through Naturalist tours of our downtown wetlands and by encouraging conservation and responsible development.

Pagosa Wetland Partners currently conduct free educational wetland walking tours upstream of Yamaguchi South for town residents and visitors to raise awareness and bring attention to the importance and benefits of our wetland and riparian habitats. The proposed inclusion of a wetland with native plants offers us the opportunity to extend our Naturalist tours in both content and location. The river improvements will also make for a richer tour experience for all. We look forward to working with all stakeholders to make this project a success.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Knott". The signature is fluid and cursive, with the first name "Barry" written in a larger, more prominent script than the last name "Knott".

Barry Knott
Pagosa Wetland Partners
63 Bennett Court
Pagosa Springs, Colorado 81147

847.707.6431
Barry.knott@gmail.com