

**AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY
PROJECT, PHASE I**

**Funding Opportunity Title: WaterSMART Grants: Small Scale Water
Efficiency Projects**

Funding Opportunity Number: R21AS00300

Applicant:

**Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Colorado 81082**

Project Manager:

**Mr. Steve Kastner, General Manager
Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Colorado 81082
Email: prwcd@yahoo.com
Phone: (719) 846-7285 (office)
Phone: (719) 242-7227 (cell)**

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Technical Proposal Section

Executive Summary

Date: March 05, 2021

Applicant Name: Purgatoire River Water Conservancy District

County: Las Animas

State: Colorado

The Purgatoire River Water Conservancy District (“PRWCD”) is a Category A applicant.

The PRWCD’s “AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I” project is located within Las Animas County, Colorado and within the PRWCD’s boundaries. The three specific project locations are at the Purgatoire River diversion headgates of the Enlarged Southside Ditch, the Model Canal and the Hoehne Ditch.

The work proposed to be carried out under this proposed project is to replace aged steel manually operated river diversion headgates with automated water control headgates. The new headgates will be capable of maintaining consistent rates of diversion and be able to be remotely adjusted and controlled.

PRWCD’s local partners are the Enlarged Southside Ditch Company, the Model Land and Irrigation Company, the Hoehne Ditch Company and the Purgatoire River –Spanish Peaks Soil Conservation District.

Expected benefits and water management issues related to the proposed project are to maximize water use efficiency under these three ditches which is one of the underlying tenets of the Trinidad Project, reduce required manpower to operate these three diversion structures, provide for more timely diversion rate changes, ensure PRWCD’s compliance obligations to downstream water rights and to the Arkansas River Compact, and to maximize available Trinidad Project water supplies to the PRWCD.

The project’s proposed starting date is February 2022. The project’s estimated completion date is December 2022.

None of the three specific project locations are located on federal property.

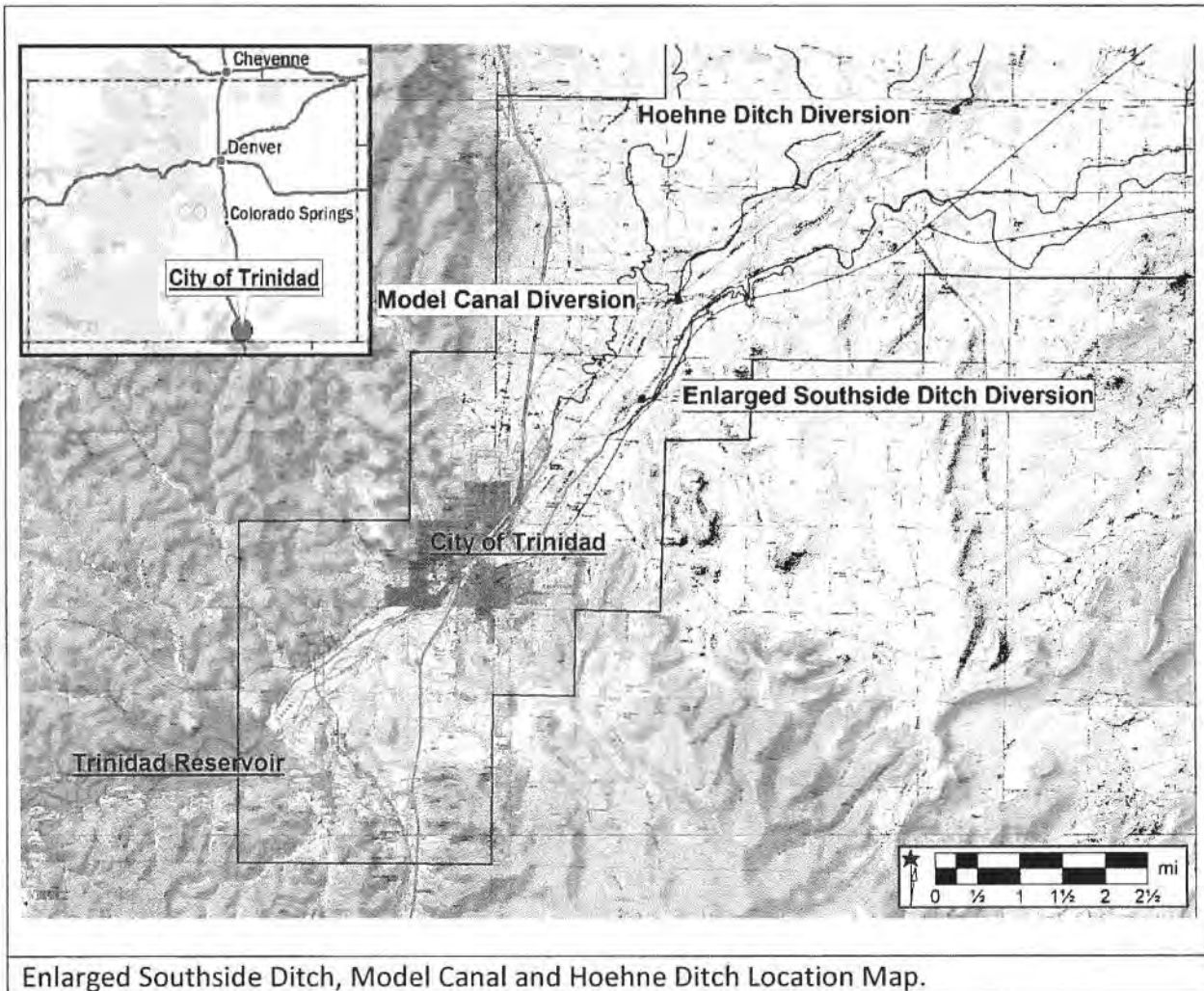
Project Locations

The Purgatoire River headgates of the Enlarged Southside Ditch, Model Canal and the Hoehne Ditch are all located within Las Animas County, Colorado and are approximately 2, 4 and 7 miles northeast of the City of Trinidad, Colorado, respectively.

The specific latitude and longitude of these three locations are included in the following table.

PRWCD's "AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I" Locations		
	Latitude	Longitude
Enlarged Southside Ditch Headgate	37° 11.9' North	104° 28.3' West
Model Canal Headgate	37° 12.9' North	104° 27.9' West
Hoehne Ditch Headgate	37° 14.9' North	104° 24.3' West

A project area location map is additionally included below.



Enlarged Southside Ditch, Model Canal and Hoehne Ditch Location Map.

Project Description

The PRWCD's "AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I" project consists of replacing the existing manually operated Purgatoire River diversion headgates of the Enlarged Southside Ditch, the Model Canal and the Hoehne Ditch with new automated control and measuring headgates. Specific technical information for each of these three project locations follows.

Enlarged Southside Ditch Headgate Replacement

The Enlarged Southside Ditch Company has water rights allowing it to divert a maximum of approximately 150 cubic feet per second of water through the Enlarged Southside Ditch. Operational use of the ditch however can be successful with flows as low as 20 cubic feet per second. The ditch can irrigate with a full water supply up to 6,000 acres of land although available water supplies often limit the irrigated area to 3,500 acres.

The Enlarged Southside Ditch Purgatoire River headgate facility consists of a concrete diversion dam and headgate headwall. One existing radial gate of approximately 3 feet tall by 10 feet wide is attached to down-ditch side of this headwall. Under the proposed project this existing opening will be resized by placement of additional concrete within the current opening to result in two new opening dimensions sized to fit two Rubicon gates of 4.5 feet wide by 3 feet tall each. These two new gates will be attached to the river side exterior of the existing headwall covering the newly sized openings. The existing radial gates on the down-ditch side of the headwall will be left in place for redundancy.

The two new Rubicon gates will have a total rated flow rate capacity of at least 150 cubic feet per second each. This new installation will continue to allow the Enlarged Southside Ditch to fully utilize its full water rights entitlement as these rights are determined available in the future.

Model Canal Headgate Replacement

The Model Land & Irrigation Company has water rights to divert up to 200 cubic feet per second of water through its Model Canal. Typical diversion rates are 10-50 cubic feet per second. The canal can irrigate with a full water supply up to 7,000 acres of land. Typical water supplies however only permit lesser amounts of irrigation. Typical irrigated area under the Model Canal currently consists of approximately 3,000 acres.

The Model Canal Purgatoire River headgate facility consists of a concrete diversion dam and headgate headwall. Two steel slide gates, each approximately 6 feet tall and 6 feet wide are currently mounted to this headwall. As such, the proposed project purpose is to replace one of the two existing headgates with a new Rubicon Slipmeter gate. This new gate will allow for the measurement and control of all typical operational flows into the Model Canal. The new

headgate will be attached directly to the existing headwall. No pre-installation concrete construction work is anticipated for this installation. The quoted flow rate capacity of one Rubicon Slipmeter gate of 5 feet by 5 feet is 150 cubic feet per second. The second Model Canal headgate will remain unchanged and will continue to only be used as needed for the diversion of flows higher than normal operational flows and flows greater than the new Rubicon Slipmeter gate is sized to accommodate.

Hoehne Ditch Headgate Replacement

The Hoehne Ditch has water rights allowing it to divert a maximum of 24 cubic feet per second of water. The ditch typically irrigates with a full water supply up to 1,200 acres of land.

The Hoehne Ditch Purgatoire River headgate facility consists of a concrete diversion dam spanning the full width of the Purgatoire River and headgate headwall. Waters are diverted through this headgate and after a 20-foot distance enter into a 36-inch diameter pipeline. Under the proposed project a Rubicon Slipmeter gate will be installed on the existing entrance frame of this pipeline. This gate size is proposed to be 36 inches by 36 inches. No pre-installation concrete construction work is anticipated for this installation. The existing river headgate facility will be left in place for redundancy.

The new Rubicon Slipmeter gate will have a rated flow rate capacity of 55 cubic feet per second each. Typical diversion rates into the Hoehne Ditch are 20 – 25 cubic feet per second. This new installation will continue to allow the Hoehne Ditch to fully utilize its full water rights entitlement as these rights are determined available in the future.

Security Fencing

Chain linked security fencing designed to provide protection for the Rubicon control pedestal at each of the three ditch project sites is also part of the overall project. Six-foot-tall chain link fencing approximately 15 feet square at each of the three sites with an access gate and locking capabilities is being proposed as a project component.

Evaluation Criteria

A. Project Benefits

- Describe the expected benefits and outcomes of implementing the proposed project.

The expected benefits and outcomes related to this project are to:

- This infrastructure **modernization** will maximize diversion and water use efficiency under these three ditches which is one of the underlying tenets of the Trinidad Project by providing for more timely river diversion changes and for providing for more

- consistent diversion rates for greater water use efficiency under these three ditch systems.
- Remote and automated control over these three diversion structures will **reduce required manpower** time and cost to operate these three diversion structures.
- Remote and automated control over these three diversion structures will also provide for more timely ditch diversion rate changes which will result in **reductions in administrative conflicts** within and external to the PRWCD and ensure **PRWCD's and Reclamation's required compliance obligations** to downstream Purgatoire River and Arkansas River water rights and the Arkansas River Compact as part of the Trinidad Project.
- Remote and automated control over these three diversion structures will **maximize Trinidad Project water supplies** to which the PRWCD is entitled by reducing the volumes of river water that unnecessarily pass these three structures due to a lack of timely diversion adjustments.
- This Phase I of the project will additionally begin to benefit the **City of Trinidad** and the **State of Colorado Parks & Wildlife** in allowing the local state water commissioner to more precisely allocate certain Model Canal waters owned by these two entities back to the Purgatoire River following independent measurement for exchange into Trinidad Reservoir for these water's ultimate **municipal, wildlife and recreational uses**.
- What are the benefits to the applicant's water supply delivery system?
 - The benefits to the PRWCD will be for the more efficient allocation and greater capture of its entitled Purgatoire River water supplies by reducing waters wasted by the three individual ditch systems involved in this project by more quickly being able to react to changing river flow conditions.
 - The benefits internal to the three individual ditch systems involved in this proposed project are for more stable and constant river diversion rates by utilizing the automated control features of the Rubicon headgates. A more stable ditch diversion rate allows for maximum efficiency and equitability of water distribution within each ditch system.
- If other benefits are expected explain those as well. Consider the following:
 - Extent to which the proposed project improves overall water supply reliability

The project will improve the overall water supply reliability to the PRWCD member ditches by reducing water loss out of the PRWCD boundaries that could otherwise have

been captured or diverted by the subject three PRWCD ditches thus increasing the overall water supply of the Trinidad Project.

The water supply reliability will improve within the three subject ditches as the new automated headgates will better be able to maintain constant flow rates thus allowing for more accurate deliveries of share waters within these individual ditch systems.

- The expected geographic scope benefits from the proposed project (e.g., local, sub-basin, basin).

The expected geographic scope of benefits from the project will be locally within the three-ditch systems subject of this proposed project due to increased constancy of diversion rates and resulting greater efficiency of allocations within the ditch systems. The project scope will also have a sub-basin impact in allowing the PRWCD to maximize its Trinidad Project water entitlements within the Purgatoire River basin. The project will also impact the greater Arkansas River basin area in helping to ensure compliance with the Arkansas River Compact and other downstream water rights on the Purgatoire and Arkansas Rivers.

- Extent to which the proposed project will increase collaboration and information sharing among water managers in the region

Increased water supplies and more stable diversion flows will ease the administrative burden upon the PRWCD, the three individual ditch companies, the City of Trinidad and the Colorado Parks & Wildlife all of which have an interest in at least one of the three subject ditch companies or the waters thereof and additionally the officials of the Colorado Division of Water Resources with whom the PRWCD is in daily contact during the irrigation season. More stable diversion rates and remote real time access to this diversion information will informationally benefit all of the above parties in their decision-making processes regarding the distribution of the subject waters amongst the above parties and in administrative compliance with the underlying water right decrees.

- Any anticipated positive impacts/benefits to local sectors and economies (e.g., agriculture, environment, recreation, tourism)

The proposed project is anticipated to provide greater water supplies and efficiencies to the three subject local ditch systems. This impact will provide for stronger local agricultural economy. Benefits will also begin to be derived by more accurate administration and greater water supplies of the City of Trinidad's and the State of Colorado Parks & Wildlife's changed shares of the Model Canal. The waters of these changed water rights are utilized for municipal, wildlife and recreational uses at Trinidad Reservoir. In addition to being utilized for irrigation water storage, Trinidad Reservoir

also provides for municipal water storage, fishery, boating recreation and is a tourism draw for such activities.

- Extent to which the project will complement work done in coordination with NRCS in the area (e.g., with a direct connection to the district’s water supply).

The PRWCD and the local NRCS offices share a common building in Trinidad Colorado. The two agencies work closely together along with the Farm Service Agency. Information is exchanged between these three agencies on a continuous basis. The PRWCD is composed of ten individual irrigation ditch companies or owners. The NRCS provides technical assistance and funding matches to the local farmers under these PRWCD ditches for irrigation improvement projects such as on-farm pipelines, farm lateral linings and center pivot sprinkler head stabilization ponds construction. The proposed PRWCD project will only lead to greater ditch water supplies and greater stability of flows in the three subject ditches which will increase the designed efficiency benefits of existing and future NRCS on-farm projects within the PRWCD.

- Describe any on-farm efficiency work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs.
Water users within the PRWCD ditch companies provide the local NRCS with a continuous stream of on-farm efficiency project requests. In an effort to continue overall irrigation efficiency within the PRWCD, several irrigators have installed center pivot irrigation systems. Four years ago, there were zero such systems in the PRWCD. Today there are nearly twenty sprinklers. The NRCS office is providing the technical assistance to these PRWCD irrigators for the installation and operation of these systems.

The PRWCD irrigators and the local NRCS are also currently active in the conversion of open earth on-farm ditch laterals with on-farm piping to reduce on-farm ditch transit losses and to allow for greater irrigated areas.

B. Planning Efforts Supporting the Project

Describe how your project is supported by an existing planning effort.

The proposed project is identified and supported in two overall planning studies or documents as related in whole or in part to the PRWCD and the **Trinidad Project**.

The first of these planning efforts are the underlying **Reclamation studies** from the 1960s supporting construction and development of the Trinidad Project. Conclusions of these studies are incorporated within Reclamations Operating Principles for the Trinidad Projects and were

that to justify the cost benefit ratios of the Trinidad Project, a portion of the project would have to consist of infrastructure and irrigation efficiency improvements within the individual privately owned member ditch systems of the project. Examples of the recommended efficiency improvements consisted of infrastructure improvements such as ditch or canal linings, more efficient allocation of water within the PRWCD between the ditch companies, more efficient diversion works and closer management of on-going irrigation water requirements. Efforts to increase the overall Trinidad Project efficiency are detailed items discussed at every annual and decennial mandatory review of the Trinidad Project. These review efforts have been historically led by **Reclamation** being the principal planning entity for the Trinidad Project.

The second of these planning efforts is a current effort being conducted by the **Purgatoire River Partnership (PWP)**. The PWP is a local non-profit entity. The PWP supports and seeks to coordinate local efforts and brings local stakeholders together on issues related to the Purgatoire River. The PWP recently completed a **river assessment report** for the Purgatoire River (“Purgatoire River Assessment” 2019-2020). The drafting of this river assessment report was funded by **Reclamation** along with the **Colorado Water Conservation Board, Arkansas Basin Roundtable Water Supply Reserve Account, City of Trinidad and the Coalitions & Collaboratives**. The PRWCD is a local stakeholder and contributing entity to the PWP. Issues covered in this report are minimizing flood risks through river modifications, restoration of riparian and aquatic habitat, improved recreational opportunities, education, safety, and security (headgates, jetty jacks), management of winter flow releases and preservation of water rights and agricultural heritage. Three of the above six topics covered in the above river assessment are directly related to the operations of the PRWCD and its member ditches.

- Does the proposed project implement a goal or address a need or problem identified in the existing planning effort?

The proposed project seeks in part to implement Reclamations conclusions in its original Trinidad Project studies to improve PRWCD ditch system efficiencies. The proposed project will increase Trinidad Project water supplies and increase the reliability of these supplies as discussed previously.

The proposed project also seeks to implement the goals of the PWP river assessment report of the preservation and continuation of the water rights of the PRWCD ditches and of the local agricultural economy and heritage.

- Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.

The PRWCD has determined the proposed project to be a priority in its planning efforts based on the cost of this project relative to available local and grant funding opportunities, the proposed project is essentially a shovel ready project once necessary funding has been

confirmed, there is existing PRWCD board and local ditch company support of the proposed project, the proposed project involves the latest water measuring and control technology, and once completed, the proposed project will provide for immediate benefits.

C. Project Implementation

Applicants that describe a detailed plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates) will receive the most points under this criterion.

- Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.

The implementation plan for the proposed project consists of the following tasks:

- * Ordering the specified and quoted Rubicon headgates for the three subject ditches, a total of four gates. The schedule for ordering the headgates is subject to confirmation of any grant approval by Reclamation and the grant parameter that no work can commence prior to February 2022. As the headgate costs are the majority of the costs of the proposed project, ordering of the headgates will likely have to wait until this February 2022 date.
- * Once ordered an expected delivery date will be available. Installation of the new headgates can most easily take place in two time periods during 2022. The first being February through March. This two-month time period being a low flow river period prior to the beginning of the PRWCD irrigation season which begins in April. The second available time period is the October-December time period. This period being after the irrigation season concludes and during a low flow river period. If the delivery date follows shortly after any ordering date it is possible that the one or more of the new headgates could be installed prior to April 2022, else installation will most beneficially wait until the October – December period. Current information from the gate supplier indicates a 16-week lead time on orders such that the October – December installation period appears most likely.
- * Once the headgates are delivered, implementation will consist of preparing the headgate project sites of each of the three subject ditch companies. This phase will consist of removing any trash or debris from the site and removing or moving any built-up sediments from in front of the gate locations. Typically for the three subject ditch or canal headgate locations for this proposed project there is only minimal sediment accumulations. The time period for this work will be less than one week once work commences.

- * Following the site preparation work, the existing headgates will be removed by the ditch companies if needed (it is anticipated that this will only be necessary for the Model Canal). The existing radial gate at the Enlarged Southside Ditch is located on the down-ditch side of the existing headgate works and will be left in place for redundancy. The existing gate on the Hoehne Ditch will also be removed at this time. The time period for this headgate removal work will be less than one week once work commences.
- * Following or corresponding with this existing headgate removal work will be any necessary construction work. Construction work is only anticipated as being necessary at the Enlarged Southside Ditch headgate works location. This construction work will consist of dividing up the existing headgate wall opening into two equal smaller openings so as to correspond with the size specifications of the Rubicon gates for this installation. No specific construction work is anticipated at the Model Canal or the Hoehne Ditch project sites as installation of the new Rubicon headgates at these two sites is anticipated to consist of attaching the new headgates to the existing diversion works. The time period for this construction work at the Enlarged Southside Canal is anticipated to be one week once work commences.
- * Following removal of any existing headgates and completion of any needed construction work, the new Rubicon gates will be installed by Rubicon technicians and ditch company personnel. Installation of the new gates and commissioning of the gates may take one week each.
- * Once the gates are installed, construction of the specified security fencing surrounding the on-site Rubicon control panels and other related equipment will occur. It is currently expected that a local fencing contractor will be utilized for this project task. Once this work commences it is anticipated to take two weeks.

The timeline completion of the proposed project is expected by the end of December 2022.

- Describe any permits that will be required, along with the process for obtaining such permits.

The proposed project is not anticipated to require any permits. The proposed project is an irrigation related project and consists of replacing existing ditch or canal river headgates with updated and improved headgates. Being an irrigation project on private properties owned or controlled by the three subject ditch companies with no significant construction aspects, no permitting requirements have been identified.

Application Review Information

- Identify and describe any engineering or design work performed specifically in support of the proposed project.

The specifications and any design work required for this proposed project has been supplied by Rubicon within their quote specifications following field visits to the three project sites and design review. These quotes and specifications are attached to this grant application for the three subject ditches.

- Describe any new policies or administrative actions required to implement the project.

No new PRWCD or subject ditch company policies are required to implement the project. The project will be conducted with the cooperation and oversight of the local Colorado Division of Water Resources personnel to ensure compliance with that agency's administrative requirements and obligations.

- Describe the timeline for completion of environmental and cultural resource compliance. Was the timeline for completion of environmental and cultural resource compliance discussed with the local Reclamation office?

In conversation with Reclamation personnel at the Denver Technical Service Center office, it is understood that any required NEPA or other environment and cultural compliance requirements will be conducted by Reclamation staff for this specific grant funding opportunity.

Evaluation Criterion D— Nexus to Reclamation

- Is the proposed project connected to a Reclamation project or activity?

Yes, the Trinidad Project is a combined Reclamation and Corps of Engineers project. The PRWCD is the entity contractually responsible for repayment of the irrigation related construction costs of the Trinidad Project to the Department of Interior (Reclamation). The Trinidad Project construction was completed in 1978. Reclamation oversees the irrigation, municipal, fishery, recreation, stock water and domestic water uses of the project. The Corps of Engineers manages the daily operations, maintenance and replacement of the Trinidad Dam and related facilities and additionally manages the flood control aspects of the dam and reservoir. The PRWCD is additionally obligated to pay for the irrigation related portion of these O&M&R costs to the Corps of Engineers. Reclamation provided the original studies for the Trinidad Project in the 1950s and 1960s. Reclamation drafted the Trinidad Project Operating Criteria which govern PRWCD's internal water allocation operations. The PRWCD and Reclamation are signatories to this document. Reclamation also drafted the Trinidad Project Operating Principles which principally govern the external relation of the Trinidad Project with non-project entities. Reclamation, PRWCD, Corps of Engineers, State of Kansas and the Arkansas River Compact Administration are signatories to this document. Increased irrigation related efficiencies are an expressed aspect and goal of the design of the Trinidad Project pursuant to the above Reclamation documents. By the proposed

project subject of this grant application, the PRWCD is pursuing those stated Reclamation design objectives.

- Does the applicant receive Reclamation project water?

The PRWCD, its member ditch companies, the City of Trinidad and the Colorado Parks & Wildlife own all of the waters and water rights associated with the Trinidad Project. There are technically no Reclamation owned “project waters” associated with the Trinidad Project.

- Is the project on Reclamation project lands or involving Reclamation facilities?

The project is located at the headgates of the three subject ditch companies. The three project sites are located on private lands.

- Is the project in the same basin as a Reclamation project or activity?

Yes, the Purgatoire River basin of Colorado.

- Will the proposed work contribute water to a basin where a Reclamation project is located?

Yes, the Purgatoire River basin of Colorado.

- Will the project benefit any tribe(s)?

No, there are no tribes within the region.

Project Budget

Funding Plan and Letters of Commitment

The PRWCD is proposing a budget for the proposed project. This budget anticipates that 50% of the required funding will be provided by non-Federal entities. This non-Federal funding is proposed as listed in the table below.

Funding Plan Table			
Entity	Cash	In-Kind	Total
PRWCD (applicant)	\$50,000	\$511	\$50,511
Spanish Peaks - Purgatoire River Conservation District	\$5,000	\$0	\$5,000
Enlarged Southside Ditch Company	\$6,877	\$500	\$7,377
Model Land & Irrigation Company	\$6,140	\$500	\$6,640
Hoehne Ditch Company	\$4,294	\$500	\$4,794
Total	\$72,311	\$2,011	\$74,322

The PRWCD cash contribution will be provided from its general fund budget. The PRWCD general fund budget for 2021 presently has this \$50,000 amount allocated for this grant cost share purpose. If not required in 2021, this budget line item will likewise be funded for at least this same amount in 2022. Ditch company assessments, property tax revenues and water storage charges are the principal sources of PRWCD revenues.

Letters of commitment from the Spanish Peaks - Purgatoire River Conservation District, the Enlarged Southside Ditch Company, the Model Land & Irrigation Company and the Hoehne Ditch Company are attached to this application.

Budget Proposal

The total cost of the proposed project is budgeted to be \$148,644. Total project costs are provided in the following table.

Total Project Costs Table	
Source	Amount
Costs to be reimbursed with the requested Federal funding	\$74,322
Costs to be paid by the applicant	\$50,511
Value of third-party contributions	\$23,811
Total Project Cost	\$148,644

A detailed budget of the proposed project is included in the following table.

Purgatoire River Water Conservancy District - Automated Water Control Gates - Water Efficiency Project, Phase I - Budget					
Project Tasks	Enlarged Southside Ditch Headgate	Model Canal Headgate	Hoehne Ditch Headgate	Non-Ditch Specific	Total
1. Pre-Headgate Installation Site Preparation	Yes	Yes	Yes	-	-
2. Pre-Headgate Installation Construction	Yes	Yes	Yes	-	-
3. Purchase/Install Water Control Headgate	Yes	Yes	Yes	-	-
4. Purchase/Install Protective Security Fencing	Yes	Yes	Yes	-	-
Costs					
1. Site(s) Preparation Including Backhoe	\$500	\$500	\$500	\$0	\$1,500
2. Remove Existing Headgate and Construction	\$5,000	\$1,000	\$500	\$0	\$6,500
3. Purchase/Install/Commission Water Control Gate(s)	\$46,200	\$44,000	\$29,720	\$0	\$119,920
4. Purchase/Install Protective Security Fencing	\$2,000	\$2,000	\$2,000	\$0	\$6,000
5. Construction Management	\$0	\$0	\$0	\$2,500	\$2,500
6. Grant Administration	\$0	\$0	\$0	\$2,500	\$2,500
Subtotal	\$53,700	\$48,000	\$32,220	\$5,000	\$138,920
7. Regulatory Compliance (costs covered by Reclamation)	\$0	\$0	\$0	\$0	\$0
8. Contingencies (7%)	\$0	\$0	\$0	\$9,724	\$9,724
Total	\$53,700	\$48,000	\$32,220	\$14,724	\$148,644

Purgatoire River Water Conservancy District
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Funding					
Grants					
1. Bureau of Reclamation (Water Smart Grant)	\$0	\$0	\$0	\$74,322	\$74,322
Funding Grant Subtotal	\$0	\$0	\$0	\$74,322	\$74,322
Cash					
2. Purgatoire River Water Conservancy District	-	-	-	\$50,000	\$50,000
3. Spanish Peaks-Purgatoire River Conservation District	-	-	-	\$5,000	\$5,000
4. Enlarged Southside Ditch Company	\$6,877	-	-	-	\$6,877
5. Model Land & Irrigation Company	-	\$6,140	-	-	\$6,140
6. Hoehne Ditch Company	-	-	\$4,294	-	\$4,294
Funding Cash Subtotal	\$6,877	\$6,140	\$4,294	\$55,000	\$72,311
In-Kind					
7. PRWCD - Construction Management				\$511	\$511
8. PRWCD - Grant Administration				\$0	\$0
9. Pre-Construction Site Preparation Including Backhoe	-	-	-	\$0	\$0
10. Enlarged Southside Ditch Company	\$500	-	-	-	\$500
11. Model Land & Irrigation Company	-	\$500	-	-	\$500
12. Hoehne Ditch Company	-	-	\$500	-	\$500
Funding In-Kind Subtotal	\$500	\$500	\$500	\$511	\$2,011
Funding Total					
Totals	\$7,377	\$6,640	\$4,794	\$129,833	\$148,644

Project Funding Percentages	
Reclamation	50%
Local Sources	50%

2/27/2021

Budget Narrative

A description of the budgeted costs of the proposed project follows.

Cost Item No. 1 is for site preparation of the three project sites. These costs include a general clean up of the sites, trash and debris removal and any necessary sediment removal (backhoe work). These costs have been estimated at \$500 per site and are to be provided as in-kind funding by the individual ditch or canal companies using their own equipment and labor.

Cost Item No. 2 is for removing the existing headgates from the Model Canal and Hoehne Ditch diversion works. This cost is budgeted for \$1,500 and may involve a third-party contractor. This cost item also includes the costs for pre-headgate installation construction costs at the Enlarged Southside Ditch diversion works to re-size the existing diversion works opening geometry to allow for installation of two Rubicon headgates. This construction work will either be accomplished by ditch company personnel or by a separate contractor.

Cost Item No. 3 is for the purchase costs, the installation costs and the commissioning costs for the specified Rubicon headgates. These costs are the specified quotes from Rubicon following inspection by field personnel and design personnel. In addition to these quoted costs either a backhoe or a track hoe will be required for installation of these gates. This equipment costs will either be provided directly from the individual ditch companies or may need to be rented depending on the size of equipment required. The potential rental cost for a track hoe would be borne in the proposed budget by the contingency line item as needed.

Cost Item No. 4 is for installation of protective security fencing surrounding the Rubicon control device and other necessary equipment. This fencing is anticipated to be supplied and installed by a local contractor. Budget estimates for these fencing costs were derived by recent experience with similar fencing on another PRWCD member ditch headgate project.

Cost Item No. 5 is for project/construction management. The project manager for the proposed project will be Steve Kastner, General Manager of the PRWCD. Project management costs by the general manager for the proposed project are estimated to be \$2,500 with \$511 of this amount currently being proposed as in-kind services by the PRWCD. The \$2,500 amount is equivalent to approximately 1/3 of a month (50 hours) of salary.

Cost Item No. 6 is for project grant administration. Project grant administration including cost accounting for the subject ditch companies, for PRWCD and for any involved contractors, financial reporting and progress reports to Reclamation all are to be provided by both the general manager and the PRWCD office manager. Grant administration for this project is estimated to cost \$2,500. The office manager hourly salary is \$22 per hour. The salary of the general manager is as stated above.

No specific additional travel costs or extra fringe benefits or equipment costs not already described have been identified in this budget proposal.

Applicant and third-party in-kind costs or contributions have been identified in the proposed budget.

Environmental and Cultural Resources Compliance

The proposed project consists of replacing existing headgates on the three subject ditches with new more efficient headgates. All three project sites are located on private property. No significant environmental or cultural resources are known to exist as these three project sites. Conversation with Reclamation personnel indicate that for the size of the proposed grant being requested that any regulatory compliance costs will be funded by Reclamation directly.

Required Permits or Approvals

No specific governmental permits or approvals have been identified as part of the scoping of this proposed project. All project sites are located on private property with the property owners or property easement owners being third parties to this grant application.

Letters of Project Support

By their letters of financial support for the proposed project, the Spanish Peaks-Purgatoire River Conservation District, the Enlarged Southside Ditch Company, the Model Land & Irrigation Company and the Hoehne Ditch Company confirm their support for the proposed project.

Official Resolution of the PRWCD

An official resolution of the PRWCD board is attached to this application material. This resolution confirms the justification for the need of this proposed project, collaboration with Reclamation and confirms a commitment by the PRWCD to provide the budgeted contributions.

Appendix A – Letters of Commitment

.....

Model Land & Irrigation, Co.
13747 HWY 350
TRINIDAD, CO 81082
(719) 846-9458

Model Land & Irrigation, Co.

March 1, 2021

Mr. Steve Kastner, General Manager
Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Co 81082

RE: Purgatoire River Water Conservancy District's "AUTOMATED WATER CONTROL GATES
- WATER EFFICIENCY PROJECT, PHASE I"

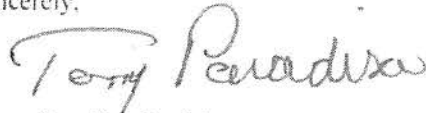
Dear Mr.Kastner:

By this letter of commitment, The Model Land & Irrigation Company commits to provide \$6,140.00 of cash funding in support of the Purgatoire River Water Conservancy District's AUTOMATED WATER CONTROL GATES - WATER EFFICIENCY PROJECT, PHASE I" project.

This amount of funding will be available to the Purgatoire River Water Conservancy District from the Model Land & Irrigation Company beginning January 2022 and until December 2022.

This specific funding is to be used for the installation of a new automated headgate on the headgate works of the Model Canal.

Sincerely,



Tony Paradisa, President
The Model Land & Irrigation Company

.....

ENLARGED SOUTHSIDE IRRIGATION DITCH CO.
P. O. BOX 981
TRINIDAD, CO 81082

March 1, 2021

Mr. Steve Kastner, General Manager
Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Colorado 81082

Re: Purgatoire River Water Conservancy District's "AUTOMATED WATER CONTROL GATES -
WATER EFFICIENCY PROJECT, PHASE I"


Dear Mr. Kastner:

By this letter of commitment, the Enlarged Southside Ditch Company commits to provide **\$6,877.00** of cash funding in support of the Purgatoire River Water Conservancy District's AUTOMATED WATER CONTROL GATES - WATER EFFICIENCY PROJECT, PHASE I" project.

This amount of funding will be available to the Purgatoire River Water Conservancy District from the Enlarged Southside Ditch Company beginning January 2022 and until December 2022.

This specific funding is to be used for the installation of two new automated headgates on the headgate works of the Enlarged Southside Ditch.

Sincerely,


Mr. Jeremy Yoder, President
Enlarged Southside Ditch Company

Hoehne Ditch Company
44065 County Road 40.0
Trinidad, CO 81082

March 1, 2021

Mr. Steve Kastner, General Manager
Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Colorado 81082

Re: Purgatoire River Water Conservancy District's "AUTOMATED WATER CONTROL
GATES – WATER EFFICIENCY PROJECT, PHASE I"

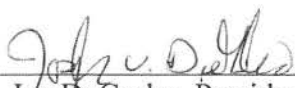
Dear Mr. Kastner:

By this letter of commitment, the Hoehne Ditch Company commits to provide **\$4,294.00** of cash funding in support of the Purgatoire River Water Conservancy District's AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I" project.

This amount of funding will be available to the Purgatoire River Water Conservancy District from the Hoehne Ditch Company beginning January 2022 and until December 2022.

This specific funding is to be used for the installation of a new automated headgate on the headgate works of the Hoehne Ditch.

Sincerely,



Mr. Joe DeGarbo, President
Hoehne Ditch Company

Spanish Peaks-Purgatoire River Conservation District
3590 East Main Street
Trinidad, CO 81082

March 1, 2021

Mr. Steve Kastner, General Manager
Purgatoire River Water Conservancy District
3590 East Main Street, Suite 3
Trinidad, Colorado 81082

Re: Purgatoire River Water Conservancy District's "AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I"


Dear Mr. Kastner:

By this letter of commitment, the Spanish Peaks-Purgatoire River Soil Conservation District commits to provide **\$5,000.00** of cash funding in support of the Purgatoire River Water Conservancy District's AUTOMATED WATER CONTROL GATES – WATER EFFICIENCY PROJECT, PHASE I" project.

This amount of funding will be available to the Purgatoire River Water Conservancy District from the Spanish Peaks-Purgatoire River Soil Conservation District beginning January 2022 and until December 2022.

This specific funding is to be used for the installation of new automated headgates on the river diversion works of member ditches within the Purgatoire River Water Conservancy District.

Sincerely,



, President

Spanish Peaks-Purgatoire River Soil Conservation District

Appendix B – Official Resolution - PRWCD

PURGATOIRE RIVER WATER CONSERVANCY DISTRICT

3590 East Main Street, Suite 3
Trinidad, Colorado 81082

(719) 846-7285

**RESOLUTION FOR APPLICATION FOR WATERSMART SMALL SCALE
WATER EFFICENCY GRANT OPPORTUNITIES AND FOR FINANCIAL SUPPORT
OF SUCH OPPORTUNITIES FOR THE PURGATOIRE RIVER WATER
CONSERVANCY DISTRICT’S “AUTOMATED WATER CONTROL GATES - WATER
EFFICIENCY PROJECT, PHASE I**

WHEREAS, the Purgatoire River Water Conservancy District and its member ditch companies and owners need to be as efficient as possible with the limited water resources of the Purgatoire River, and

WHEREAS, the Purgatoire River Water Conservancy District and its member ditch companies and owners seek to install automated headgates on its river diversion headgates in order to maximize water use efficiency, reduce required manpower and maximize Trinidad Project water project supplies, and

WHEREAS, the Trinidad Project is a United States Bureau of Reclamation associated multi-purpose water project, and

WHEREAS, supplemental funding beyond those resources available from the Purgatoire River Water Conservancy District and its member ditch companies and owners for funding of this project is necessary, and

WHEREAS, United States Bureau of Reclamation WaterSMART grants can provide supplemental funding for such water efficiency projects,

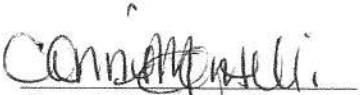
NOW, THEREFORE, BE IT RESOLVED by the Purgatoire River Water Conservancy District that for the purpose of maximizing water use efficiency, reducing required manpower and maximizing Trinidad Project water supplies, it is hereby authorized that an application be submitted pursuant to the Bureau of Reclamation’s **WaterSMART Grants: Small-Scale Water Efficiency Grants Funding Opportunity Number R21AS00257** grant program for the installation of automated headgates under the Purgatoire River Water Conservancy District’s Automated Water Control Gates – Water Efficiency Project, Phase I. If selected for such a grant, the Purgatoire River Water Conservancy District is financially capable and agrees to provide in-kind and cash funding towards this project as detailed in the grant application and will work closely with the Bureau of Reclamation to successfully complete this Phase I of the project.

ADOPTED, this 4th day of March, 2021


David Philpott, Board President PRWCD

SEAL:

ATTEST:


Connie Mantelli, Secretary

Appendix C – Rubicon Headgates and Technical Recommendations



RUBICON™

QUOTATION

Date: March 26, 2020
To: Steve Kastner
Company: Purgatoire River Water Conservancy District (PRWCD)

Phone: (719)246-7285
eMail: prwcd@yahoo.com
Project: Selected Checks and Diversions in PRWCD
Quote #: Q501117
Valid For: 60 days

Shipping terms: FOB Modesto, CA
Billing terms: Net 30 days (see Payment Terms for details)
Prepared by: Eric Umbreit

Rubicon Water

Rubicon Systems America, Inc.

Fort Collins

1501 S. Lemay Avenue
Suite 101
Fort Collins, CO 80524
toll free 1-877-440-6080
phone 970-482-3200
fax 970-482-3222
email inquiry@rubiconwater.com

Modesto

2318 Tenaya Drive
Modesto, CA 95354

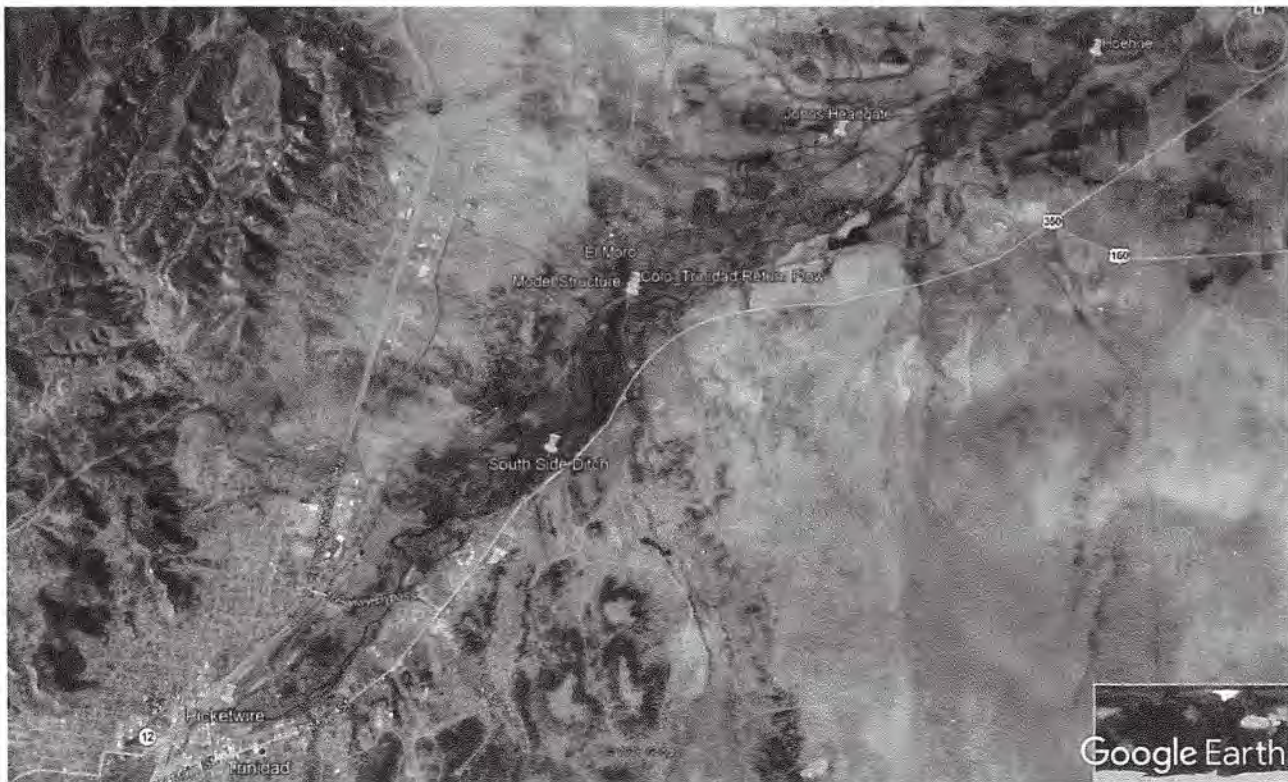
Imperial

415 W Aten Road
Imperial, CA 92251

www.rubiconwater.com

Thank you for your time to meet review several diversion structures within the Purgatoire River Water Conservancy District. I very much appreciated the time you spent with me, as well as for your interest. It is with pleasure that Rubicon Water submits this summary and quotation for the various structures visited.

This proposal has been prepared on the basis of discussions with you and by field verification at each site. Here is a Google Earth overview of the locations visited (see image below). The proposal will address each location separately.



Picketwire

Location Summary: The Picketwire location is located just north of downtown Trinidad. The structure currently has a 'short' (10' wide by 45" tall) radial gate that is currently manually operated. The location passes 0-40 CFS Maximum. Water comes from Trinidad Lake via open conveyance approximately 3.5 miles from the Picketwire location. Trash off the river is an issue and trash diversion structures are in place to help control the situation. PRWCD would like to control and measure the flow of the water through the canal.

Photos are below:



Picketwire Upstream



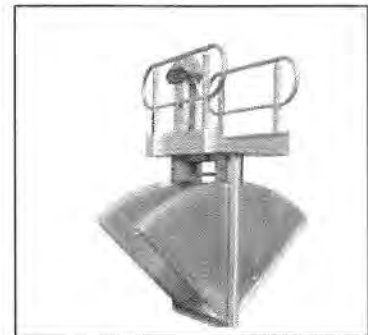
Picketwire Downstream

Observations/Recommendation Summary:

Rubicon FlumeGate: A Rubicon FlumeGate™ would work well in this location.

An overview of the FlumeGate:

The FlumeGate™ is a combined flow measurement and overshot (handles trash issues well) control gate designed for open channel applications. Accurate flow measurement, precise motor control, power supply and radio telecommunications are fully integrated in a single device. The FlumeGate calculates flow from the gate's own measurements of upstream water level, downstream water level and gate position. The FlumeGate automatically controls the flow of water by varying the gate position based on a desired set-point and control objectives such as "constant flow".

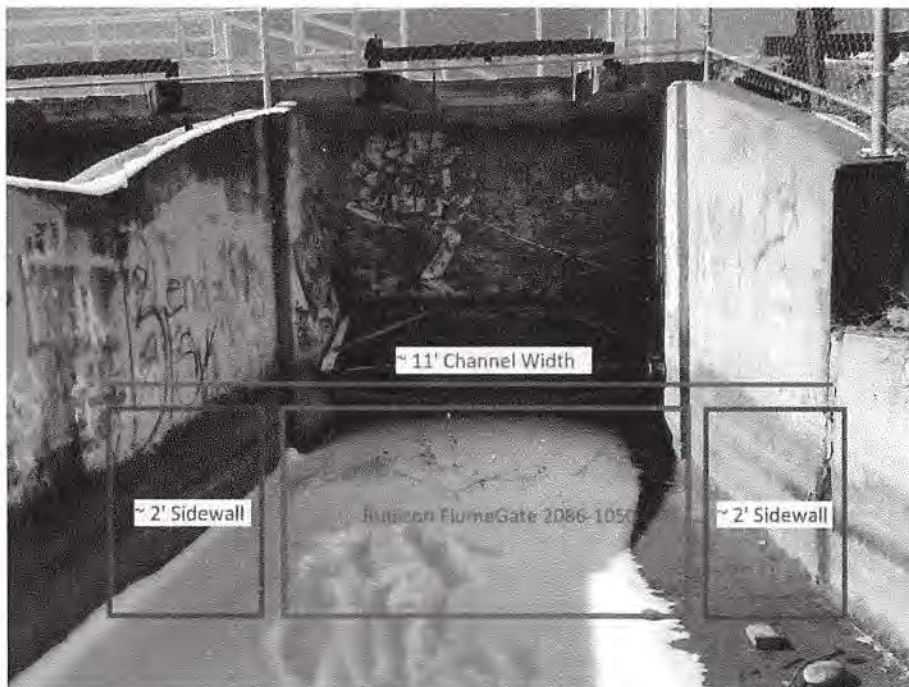


Rubicon FlumeGate

A Data Sheet for the FlumeGate is attached.

There was discussion as to where best situate an automated gate. Three different locations were considered:

- **Upstream** - (in front of current radial gate) - After review and discussion, this location was rejected due to the existing trash diversion structures, as they would have to be removed to install a new gate.
- **'Far' Downstream** - There is an existing structure about 300 feet down from the radial gate structure. It was considered that this may be a good place to install a gate, but due to the large amount of trees, this may impact the potential for the solar panels and communication options. For that reason, this location was rejected.
- **Downstream** - (Backside of radial gate) - There is a long concrete 'chute' on the backside of the existing radial gate that is the recommended sited for an overshot Rubicon FlumeGate™. This site does not suffer from any of the issues listed in the two potential locations above. The only civil works required would be the installation of two small wing-walls on either side of the gate. If silt is an issue, the addition of a small manually operated slide gate on one of the wing walls to flush the silt may be an option. Please see diagrammed photo below:



Here is specific recommendation and costing for the Picketwire location:

Picketwire Pricing:

Qty	Product Number	Description	Each (\$)	Total (\$)
1	FGB-1980-1077	Rubicon FlumeGate, designed for nominal frame width of 7' and gate fully closed checking height of 3.5'. Max fully submerged flow is 67 CFS, max freeflow is 96 CFS. Fully integrated solution.	\$36,825	\$36,825
1	N/A	Gate Installation and Commissioning	\$1,500	\$1,500
1	*Optional*	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual fee, 1st year is included. (per gate--See information below)	\$1,750	\$1,750
TOTAL, excluding taxes				\$40,075

**Optional SCADAConnect Live™
Cloud-Based Gate Monitoring and Control**

If remote gate access is desired, Rubicon offers a cloud-based application that allows operators to monitor and control most all functions of gate operation. This application is called SCADAConnect Live and is not required; all gates can function from the local pedestal unit supplied with all gates. (See Photo)

SCADAConnect Live works via cellular modem, so sufficient cell signal is required--a quick audit of cell service during the visit indicates that this should generally not be an issue.

Pricing for SCADAConnect Live is a one-time setup fee of \$1000 per location and \$750 per year annually to cover cell and server costs. A data sheet is attached.



Rubicon Control Pedestal - included with All Gates

South Side Ditch

The next location of interest is the South Side Ditch, which is located approximately 3 miles Northeast of Trinidad. Water to the South Side Ditch is currently diverted via a short/wide radial gate and usually runs at 90-100 CFS with a maximum of 150 CFS. The goal at this location is to remotely control the flow, as the customer/farmer for the diverted water is about 10 miles away; remote operation would provide an excellent convenience and time savings.

South Side Ditch



Observations/Recommendation Summary:

Rubicon SlipGate: Due to the existing "squatty" radial gate (10 feet wide by 3 feet tall), side-by-side Rubicon SlipGates (in front of the radial gate) would work well in this location. A concrete pier (installed by PRWCD) would need to be poured between the two gates for installation.



Here is an overview of the SlipGate (Data Sheet attached):

- The SlipGate is a solar-operated automated undershot slide gate (water flows under) with integrated drive system, power supply, pedestal, control system and wireless communications. Each gate can be controlled locally via a keypad and LCD display on the pedestal or can be connected to a SCADA network. The SlipGate comes factory calibrated and configured.
- The SlipGate features Rubicon's standard interlocking slide-in frames, meaning it can be quickly installed into new and existing structures - even in the wet. Typical install times are two hours for frames and three hours for gates, including commissioning.
- The SlipGate is designed to reduce or avoid the costs associated with modifying civil structures and so the slide-in frame can be mounted in a number of ways depending on the structure in which it is installed. The most common are side (or culvert) mount which means installing within a channel/culvert or face mount at the head of lateral or offtake / turnout.
- The SlipGate pedestal (which provides the power and control and communications equipment) is not attached to the SlipGate but needs to be installed on a concrete or drive-in steel footing at a short distance from the gate but the length of the cable used must not exceed 10m (30ft).
- Level measurement is not part of the SlipGate itself but Rubicon's standard MicronLevel Ultrasonic level sensors (purchased as an optional extra) can be mounted upstream and downstream and connected to the SlipGate's pedestal to provide level measurements to the pedestal or SCADA system in order to calculate flow using the orifice equation in the software.

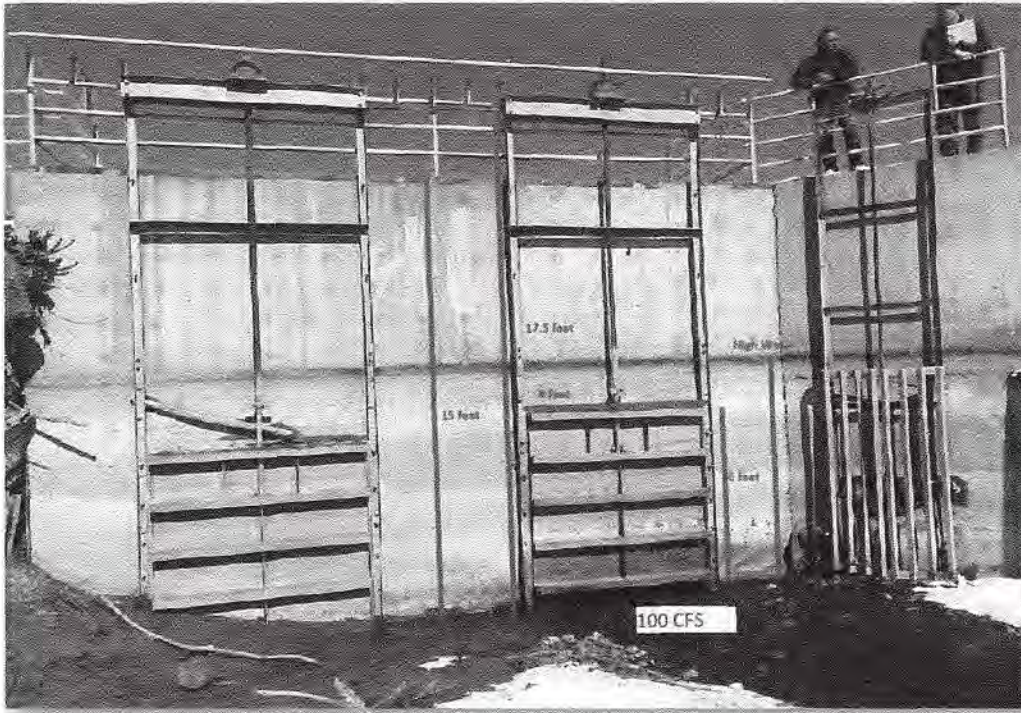
In addition, should the PRWCD wish to measure the flow of the water, we also offer a "sister" product to the SlipGate (called the SlipMeter™) which will allow you to measure the water flow on a real-time and cumulative basis. Let me know if this may be of interest to you—I have attached a Product Data sheet.

With that, here is the installed pricing for the SlipGates for the South Side Ditch location:

Qty	Product Number	Description	Each (\$) USD	Total (USD\$) FOB Modesto, CA USA
2	SG-1180-0915	4.5' x 3' Rubicon SlipGate with 51.3" External Frame Width and 38.4" Checking Height (Gate Fully Closed). Fully contained solution.	\$19,600	\$39,200
2	N/A	Installation labor, startup, commissioning, training (per gate)	\$1,500	\$3,000
OPTIONAL ITEMS				
	Optional OpenAir Sensors	Rubicon ultrasonic sensors, to measure upstream and downstream levels (2 per gate)	\$650	\$1,300
	Optional Mounting Boom	Sensor Mounting Boom, for downstream sensor (1 per gate)	\$950	\$950
	Optional SCADA ConnectLive	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual licensing fee; 1st year is included. (per gate)	\$1,750	\$1,750
TOTAL, excluding taxes			\$42,200 - \$46,200 USD	

Model Structure

The Model Structure is located about 4 miles NE of Trinidad and approximately 1.5 miles from the South Side Ditch Structure. The site has two 6' slide gates in place; one is rarely used. The location passes approximately 100 CFS maximum. Here is a photo of the site with dimensions:



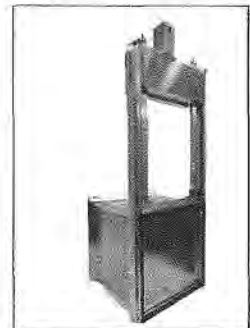
The goal at this location is to control and meter the flow.

Observations/Recommendation Summary:

Rubicon SlipMeter: Rubicon's SlipMeter™ would be an excellent selection for the site.

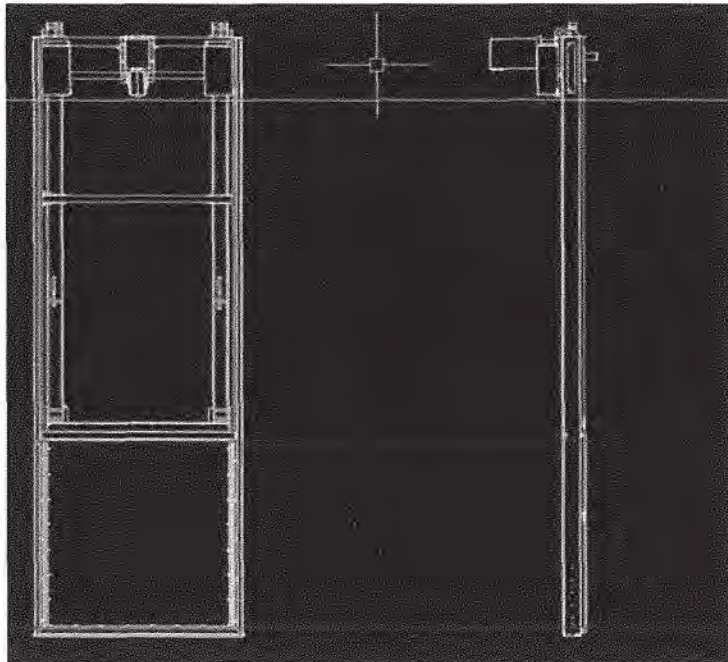
Here is an overview of the SlipMeter:

The SlipMeter™ is a *combined flow meter and control gate* designed to automate customer service points / turnouts and offtakes / lateral headings. Accurate flow measurement, precise motor control, power supply and radio telecommunications are fully integrated in a single device. The acoustic array flow measurement technology captures the full velocity distribution in the conduit or box. The SlipMeter measures flows even in turbulent conditions. Instantaneous flow rate and total volume passed are calculated, providing a precise account of water usage. The device can be managed and monitored on-site or operated remotely when connected to a SCADA network such as Rubicon's SCADAConnect system. It can automatically control the flow of water by varying the gate position based on a desired set-point or on irrigation demand. The SlipMeter pedestal (the housing for the power and control and communications equipment) is not attached to the SlipMeter but needs to be installed on a concrete or drive-in steel footing at a short distance from the gate but the length of the cable used must not exceed 30ft.



Due to the size of the gate and the height of the structure, our engineering team was contacted regarding the gate recommendation / installation and was able to suggest a 'standard' (not custom) Rubicon SlipMeter with the following observations:

- A 5'x5' SlipMeter could be used with a shroud to mount gate in front of existing slide gate, enabling more control and a 'fail-safe' backup.
- The existing obvert would be matched with new gate obvert.
- If the obvert exactly matched the top of gate measurement from the survey, this would mean ~2 inches of concrete would need to be removed from the top of concrete, if the existing obvert is lower, more concrete would need to be removed.
 - The actuation of the gate would be close to the top of the concrete, but is still close to the standard maximum height for this standard gate (see below image, yellow line is existing top of concrete).
 - Potentially the gate could be mounted higher than matching existing obverts, flow capacity likely not an issue.
- Estimated increase in head loss by narrowing the orifice to suit the 1500x1500 gate is ~2 inches, but this should not be an issue.



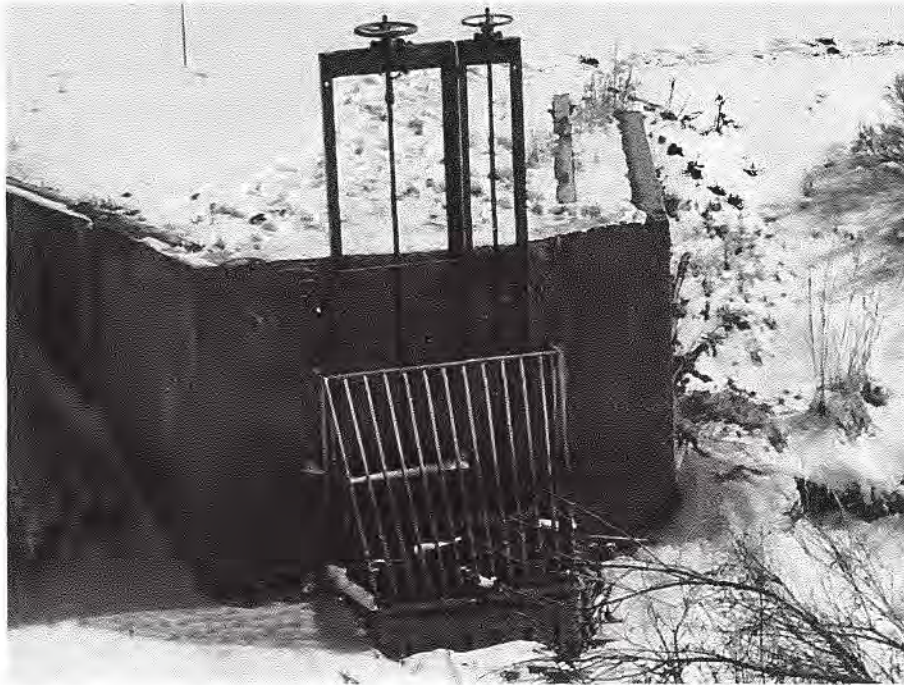
As mentioned earlier, this gate can be operated via the local Remote Terminal Unit (RTU) or could be tied into Rubicon's SCADAConnect Live web-based portal which would allow remote monitoring and control via desktop computer or handheld device, such as a web-enabled phone or tablet. Cell phone signal at the site appears to be more than adequate. In the future, should PRQCD elect to build a SCADA network, the cellular modems can easily be swapped with the appropriate radios.

On the following page is the recommendation for the Model site:

Qty	Product Number	Description	Each (\$)	Total (\$)
1	SMB-1500-4200	Rubicon 60" x 60" SlipMeter with a maximum headwall height of 15', maximum flow rate of 150 CFS, with partial-full level sensor. Fully contained solution.	\$37,950	\$37,950
1	N/A	Installation Shroud	\$1,300	\$1,300
2	N/A	Gate/Shroud Installation and Commissioning	\$1,500	\$3,000
1	*Optional*	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual licensing fee; 1st year is included. (per gate)	\$1,750	\$1,750
TOTAL, excluding taxes:				\$44,000

Colorado State Parks / Trinidad Return Flow

The Colorado State Parks / Trinidad Return Flow is located near the Model Structure. There are currently two small slide gates (8" and 24") in the structure. The inlet to the gate(s) is situated in a 3' deep stilling basin which sits out approximately 32" from the headwall. Flow rate is generally 5-6 CFS with a maximum of 13 CFS. The objective at this structure is to measure and control the flow.



Observations/Recommendation Summary:

Rubicon SlipMeter: Rubicon's SlipMeter™ would be the selection for the site. However, in order to install this gate, the concrete stilling basin would likely need to be reworked (expanded) in order to accommodate the inlet shroud that houses the ultrasonic flow measurement sensors.

Here is the pricing for the location:

Qty	Product Number	Description	Each (\$)	Total (\$)
1	SMB-600-3000	Rubicon 24" x 24" SlipMeter with a maximum headwall height of 10', maximum flow rate of 25 CFS, with partial-full level sensor. Fully contained solution.	\$19,690	\$19,690
1	N/A	Installation Shroud	\$1,200	\$1,200
2	N/A	Gate/Shroud Installation and Commissioning	\$1,500	\$3,000
1	*Optional*	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual licensing fee; 1st year is included. (per gate)	\$1,750	\$1,750
TOTAL, excluding taxes:				\$25,640

Johns Headgate

The Johns Headgate site is located approximately 6 miles NE of Trinidad. The current gate is rectangular (64"x74") and passes 0 - 40 CFS maximum. Freefall conditions exist at the back of the gate.

Here is a photo of the location:



Again, due to the tall headwall and unusual gate shape, Rubicon's engineering staff reviewed the location and recommended the following:

Observations/Recommendation Summary:

- Recommended Gates: 5' x 5' (1500 x 1500 mm) gate size with shroud
 - SGA 1500-4200-FC (SlipGate-Control only)
 - SMB 1500-4200-FC (SlipMeter-Measurement & Control) - See comments below regarding the use of a SlipMeter
- Install as low as possible, assumed 5 inches above existing floor.
- Mounting shroud required
- Estimated increase in head loss by narrowing the orifice (from current) to suit the 1500x1500 gate is <2 inch, so effect would be minimal
- Using a SlipMeter at this site is likely to have some accuracy degradation:
 - Flowing part full
 - Protruding into the water way will exacerbate A-symmetrical flow through a part full meter box
- A SlipMeter here isn't preferred.
- Consider the option of the SlipGate as the actuation, and if possible, bring back the flow rate calculation from the downstream flume for control

Pricing for the Johns Headgate location is as follows:

Qty	Product Number	Description	Each (\$)*	Total (\$)*
1	SG-1500-4200-FC (RECOMMENDED)	5' x 5' Rubicon SlipGate with 70" External Frame Width and 166" Checking Height (Gate Fully Closed). Fully contained solution.	\$24,070	\$24,070
1	SMB-1500-4200	Rubicon 60" x 60" SlipMeter with a maximum headwall height of 15', maximum flow rate of 150 CFS, with partial-full level sensor. Fully contained solution.	\$37,950	\$37,950
1	NA	Installation Shroud	\$1,300	\$1,300
2	N/A	Gate/Shroud Installation and Commissioning	\$1,500	\$3,000
1	*Optional*	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual licensing fee; 1st year is included. (per gate)	\$1,750	\$1,750
TOTAL, excluding taxes:				\$30,120 - \$44,000

Hoehne Structure

The Hoehne Structure is located about 7.5 miles NE of Trinidad. It is located in a pit and exits into a 36" pipe. There currently is a 42" slide gate installed. The goal at this location is to remotely control and measure the flow. Range of flows at this location is 0-30 CFS maximum.



Hoehne Pit Exterior



Hoehne Pit Interior

Pricing for the Hoehne location is as follows:

Qty	Product Number	Description	Each (\$)*	Total (\$)*
1	SMB-900-3000	Rubicon 36" x 36" SlipMeter with a maximum headwall height of 10', maximum flow rate of 55 CFS, with partial-full level sensor. Fully contained solution.	\$26,470	\$26,470
1	N/A	Gate Installation and Commissioning	\$1,500	\$1,500
1	*Optional*	SCADAConnect Live –Web based control and monitoring solution (\$1000 one-time charge for modem and setup) with a \$750 annual licensing fee; 1st year is included. (per gate)	\$1,750	\$1,750
TOTAL Hoehne Site:				\$29,720

Scalability

All Rubicon gates and products are designed to be scalable and work together as the District's automation grows. Many districts start with a SCADAConnect Live system and then grow to implementing a District-hosted SCADA server and private radio system at their location as additional gates are added.

Assumptions and Clarifications

- **Pricing, Shipping and Timing** - All Pricing given is FOB Modesto, CA and excludes taxes. The expected lead-time will be 16 weeks into Modesto, CA from date of order. It is possible that Rubicon may have some gates in US-based inventory that could reduce this lead time.
- **Gate Install and Commissioning** - Pricing includes supply of all frame mounting hardware, supervision of gate installation, field wiring, and gate commissioning. This price does not include the provision of cranes or other lifting equipment.

Installation Labor

Installation labor is priced as quoted.

Services during installation include:

- Site visits by a Rubicon certified Field Technician. The visits will involve supervising the lifting of the meter into the frame if needed, installation of pedestal, wiring of monitoring pedestal to meter, commissioning and training in the operation and maintenance of the meter.

Exclusions:

- Civil works to structures to fit above meters and gates.
- Provision of concrete footing to mount control pedestals (SlipMeters and SlipGates).
- Supply and operation of crane for install of meters and gates.
- Dewatering of site for installation:
 - It is expected that the site will be dry and clean for installation of external frames. If the Rubicon Technician finds that there is water on the site the day of the scheduled external frame installation, the client will pay for the additional day of labor lost.
- Prices exclude all taxes.

Payment Terms

Payments are to be made as follows:

- Net 30 days.
- Spare parts will be invoiced 100% when shipped.
- In the event that frames and meter/gate hardware are shipped separately, payment is to be made as follows:
 - 30% of the total price within thirty days of shipment of the frames.
 - 70% of the total price within thirty days of the delivery of the meter/gate hardware.

All payments are to be made by check to Rubicon Systems America Inc.

Warranty

Rubicon Water warrants the hardware offered in this quotation to be free of defects in material and workmanship for a period of twelve months from the date of commissioning.

Warranty on spare parts is twelve months from delivery. Rubicon Water Standard Terms of Sale applies to this Quotation and is appended to the end of this quotation.

Delivery

All hardware will be delivered by road transport to customer worksite, whereupon immediate unloading will be the responsibility of customer. Rubicon will not be responsible for any damage that may occur at customer worksite.

It is anticipated that the gates and associated hardware will be delivered to customer within 16 weeks upon receipt of a Purchase Order but will be confirmed by email once the order has been received.

The Next Step:

To accept this quotation and begin the procurement process, please sign here and return:

Customer:

Authorized Signature

Date

Authorized By:



North American General Manager

Attachments

- Rubicon’s Terms and Conditions
- FlumeGate Data Sheet
- SlipGate Data Sheet
- SlipMeter Data Sheet
- SCADAConnect Live Data Sheet

**Appendix D – Application for Federal Financial
Assistance – Form SF-424**

Appendix E – Budget Information Form SF-424C

Appendix F – Assurances Form SF-424D

Appendix G – Unique Entity Identifier and System Award Management

UPDATE: New User Account Created in the U.S. Government's System for Award Management (SAM)

From: notification@sam.gov (notification@sam.gov)

To: prwcd@yahoo.com

Date: Tuesday, February 16, 2021, 12:00 PM MST

This email was sent by an automated administrator. Please do not reply to this message.

Dear Steve Kastner,

Thank you for creating a user account in the U.S. Government's System for Award Management (SAM). You do NOT need this username to log in.

Your username is: prwcdSteve

Your account is already active in SAM. You may now register your entities, request data access, or manage other users' roles. If you need a new role assigned, request the role from the entity's Administrator.

Contact our supporting Federal Service Desk at <http://www.fsd.gov>, or by telephone at 866-606-8220 (toll free) or 334-206-7828 (internationally) for FREE help.

Thank you,
The System for Award Management (SAM) Administrator
<https://sam.gov/SAM>