

TITLE PAGE

WaterSMART: Water and Energy Efficiency Grant Program

PROJECT TITLE:

Fort Shaw Irrigation District
Irrigation Water Efficiency and Management Project

APPLICANT:

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, Montana 59443

PROJECT MANAGER

Lee Signalness, FSID Board Chair
Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, Montana 59443
406-264-5751 - Office
406-836-1731 - Cell
406-264-5701 - Fax
fsid@3rivers.net – FSID office email
funinsun@3rivers.net – board chair email

SUBMITTED: November 2, 2021

TABLE OF CONTENTS

SF-424 - Application cover page
 SF-424C - Budget Information - Construction
 SF-424D - Assurances – Construction

Title Page	1
Table of Contents	2
Technical Proposal and Evaluation Criteria (limited to 50 pages)	3
- Executive Summary	3
- Project Location	4
- Technical Project Description	5
- Evaluation Criteria	11
- Performance Measures	31
Project Budget	32
- Funding Plan and Letters of Commitment	32
- Budget Proposal	33
- Budget Narrative	34
Required Permits or Approvals	35
Letters of Project Support	35
Official Resolution	36
Fort Shaw Irrigation District Commitment Letter	37
Tribune newspaper article about Sun River teamwork	38

Attachments:

- #1 - Fort Shaw Irrigation District grant application
- #2 - Project Letters of Support
- #3 - Reclamation Report on Proposed Rehabilitation and Betterment – 1982
- #4 - USGS Sun River Flow Comparison – 2021 to 2012
- #5 - Big Coulee Flow & Sediment Study - 2008
- #6 - Sun River Watershed Water Quality Monitoring Project – 2008
- #7 - USGS Sun River Flow & Temperature Charts – 2020 & 2021
- #8 - Fort Shaw Irrigation District Water Plan - 2021
- #9 - Sun River Watershed Group Strategic Plan - 2019
- #10 - Sun River Special Study; 2012
- #11 - Sun River Water Quality Planning Area & TMDL - 2004
- #12 - SRWG Water Quality Restoration Plan (WRP) - 2013
- #13 - Montana State Water Plan -2015
- #14 - Missouri Basin Headwaters Study - 2021

TECHNICAL PROPOSAL & EVALUATION CRITERIA

(1) Executive Summary

- **Date:** November 2, 2021
- **Applicant:** Fort Shaw Irrigation District
- **City:** Fort Shaw
- **County:** Cascade
- **State:** Montana

- **Category:** Applicant is "A"; irrigation district

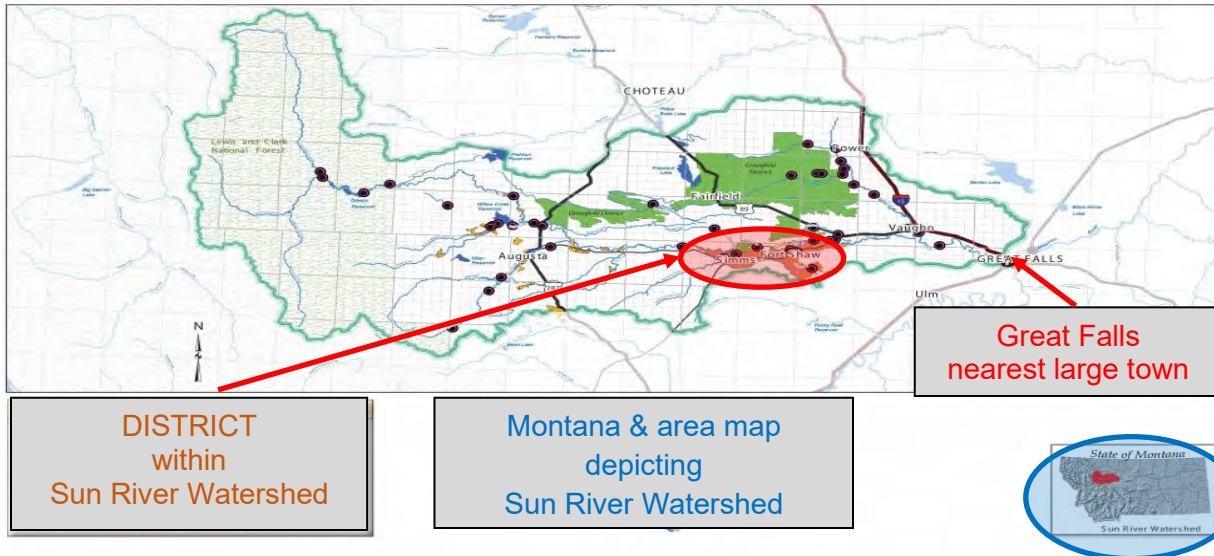
- **Project summary:** The Fort Shaw Irrigation District (FSID or District) is proposing this project to provide immediate water savings of 5,725 acre-feet/year by replacing +100-year-old irrigation conveyance systems with PVC piped conveyance structure; install additional flow monitoring units; and water tracking computer software to improve water management. This project is another step for the District to upgrade its aging Bureau of Reclamation (BoR) facility that has many needs. The project proposal will take the most antiquated and wasteful delivery systems and upgrade them to improve water efficiency while improving instream flows in the Sun River. The monitoring/management component will ensure the District maximizes the use of this very limited resource in this drainage. The water savings will be 13.6 additional cfs (5,725_acre-feet) over the irrigation season to the Sun River, which has gone dry below the District's headworks on numerous occasions over the past ten years. **Grant funds will be used** to complete NEPA/NHPA, final engineering design & oversight, buy & bury 7,700 feet of PVC pipe/accessories to replace very leaky open canal delivery system, buy & install 8 flow monitoring units and acquire a new water tracking computer software. Not only are the water savings quantifiable, but they are sustainable since this involves a thoughtful overhaul of District infrastructure and operations. This will also enable the District and Sun River to realize drought resiliency by ensuring water supply reliability simply through water savings and enhanced water management efficiency.

- **Project length:** two years
- **Estimated completion:** July 31, 2024

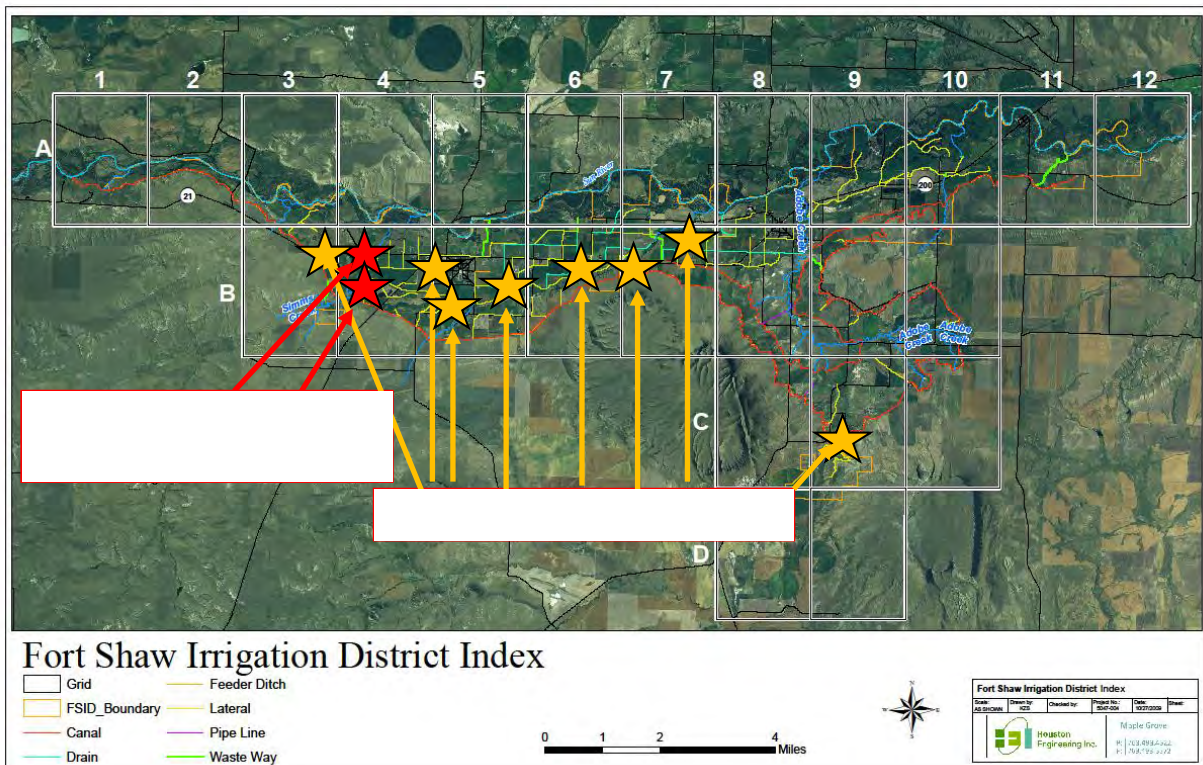
- **Proposed project located on a Federal facility:** Yes

(2) Project Location

This irrigation water conservation and management project is located in Cascade County, Montana; 20 miles northwest of Great Falls. Since there are several locations to this project, the District office is identified as the primary location at: [latitude 47.506520°N](#) and [longitude 11.811111°W](#).



Fort Shaw Irrigation District's map – Proposed Project Locations



(3) Technical Project Description The technical project description should describe the work in detail, including specific activities that will be accomplished. This description shall have sufficient detail to permit a comprehensive evaluation of the proposal.

Brief background: The District was originally completed in 1908 with a small rehabilitation program completed in 1961. The District's diverted water is used for the irrigation of agricultural crops (wheat, barley, alfalfa and grass) on more than 13,000 acres on 177 small farms growing small grains and alfalfa. Water is supplied to the project from the Sun River to the Fort Shaw Canal, utilizing a rock overflow dam as a diversion structure. The water flows from the river by gravity through the main canal and into the distribution system. The Fort Shaw canal is 16 miles in length and distribution laterals total 85 miles in length. The canal capacity is 225 cfs. As the water diverted from the Sun River makes its way across the project, project inefficiencies (15% operational wastes) and major seeps in the canals (39% seepage) for total loss of 54% have an estimated total District efficiency of only 46% as described below from a **1982 BoR study AND attachment #3.**

This seepage is readily noticed in the boggy and high salinity areas around the District as shown in aerial picture to the right. This loss of delivery water impacts the farmers, fisheries, wildlife and recreation in the area.



This **1982 BoR Study, described below and attachment #3,** identified many areas in immediate need of repair to enhance the District's efficiencies.

The Fort Shaw Division is old and the distribution system facilities need a program of canal and lateral lining, and replacement of obsolete facilities. Unlined canals and laterals and deteriorated facilities have resulted in excessive canal and lateral leakage, poor service to water users, high groundwater conditions, and high operation and maintenance costs.

An important part of the [1982 BoR report, described below and attachment #3](#), listed the opportunity to improve delivery system by converting open ditches to pipelines to improve water management. (See example below of ditch considered for pipeline).

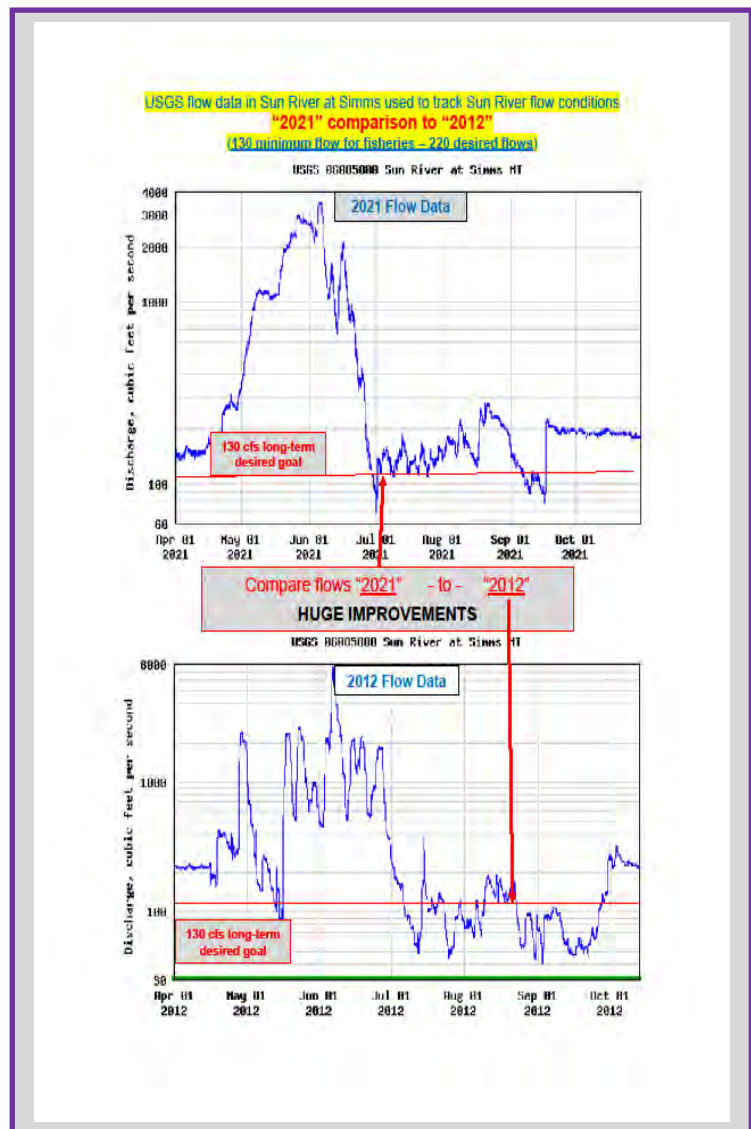


C. Proposed Program

As a result of studies conducted by the Bureau of Reclamation, a Rehabilitation and Betterment Program is proposed which would include the following major items:

2. Approximately 12 miles of open earth laterals would be replaced with concrete or polyvinyl-chloride (PVC) pipe.

Since the District has limited funds, past attempts to incorporate 1982 study ideas did not take place. But the District finally started in 1997 installing some improvements described in the study. By obtaining assistance from local, state and federal grants and in-kind help, the District started an ambitious water conservation and management program. This included automation of the headworks, automated water measurement devices at eleven key locations, many flumes to manual measure flows, canal lining, a siphon to eliminate five miles of canal, over 28,000 feet conversion of open ditches to pipe, landowner education, district board education and district staff education programs. The result has been a savings of 20,000 acre-feet of water annually that has been utilized to improve Sun River flows (see charts to right and attachment #4 showing improved Sun River flows) and sustain the district to meet the demands of its producers in the ongoing droughts of this region.



Water shortages in the District are still frequent primarily because of infrastructure bottlenecks that cause many farmers to be shorted during the crucial crop growing season. Although the District continues to experience drought related water shortages, teamwork in the Sun River Watershed has reduced the frequency of that problem. Converting more open ditches to closed pipe systems will assist the District in fulfilling many on-farm and Sun River in-stream flow shortages/demands.

This project, the Fort Shaw Irrigation District Irrigation Water Conservation and Management, has multiple benefits and achieves several objectives that are crucial to the long-term sustainability of the District thereby helping to ensure efficient and cost-effective water deliveries for future generations. The majority of District's infrastructure is over 100 years old and well beyond its design lifespan (see picture below). The District Board of Commissioners are faced with many challenges of replacing and modernizing the District's infrastructure and water operations for future generations while keeping it affordable for today's producers. The objectives and outcome of this proposed project will facilitate a better future for this irrigation district AND the Sun River.

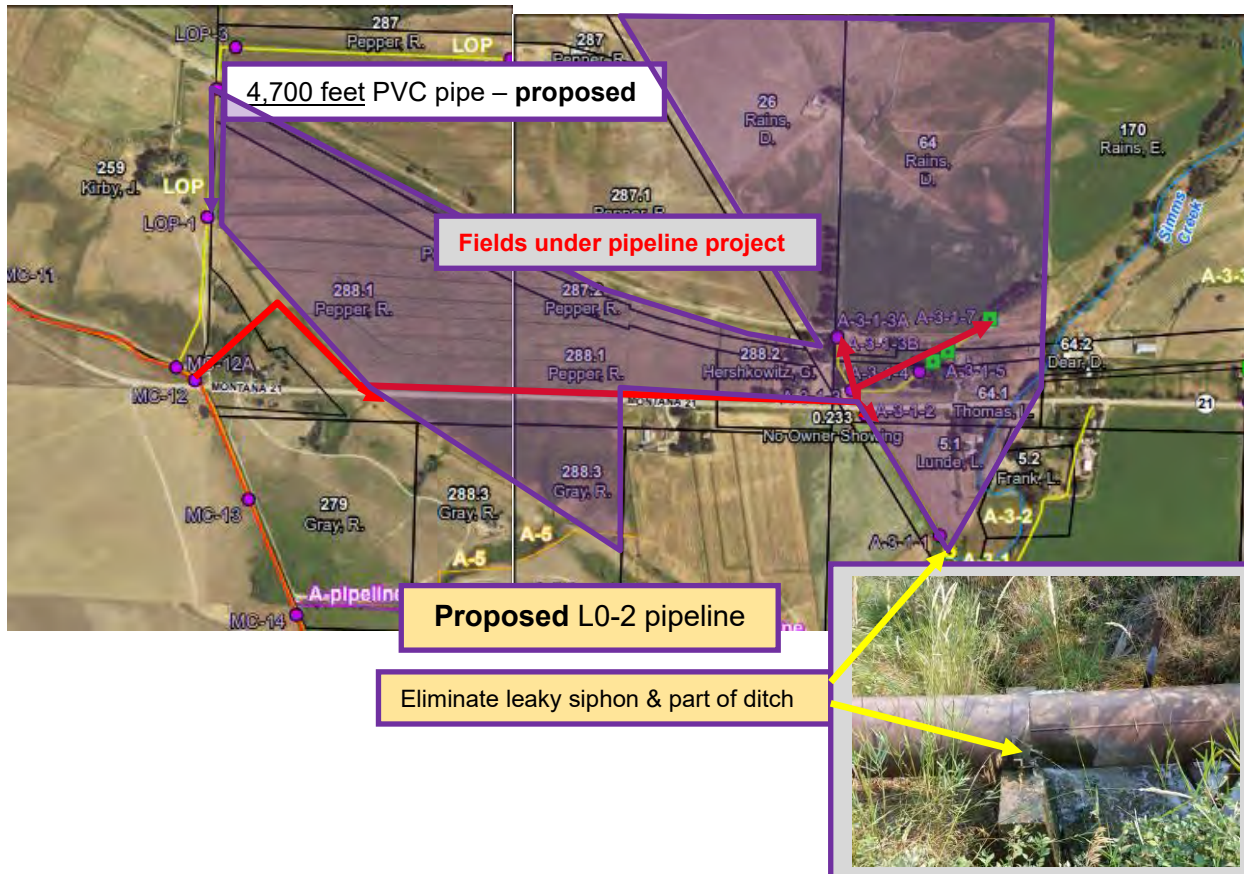
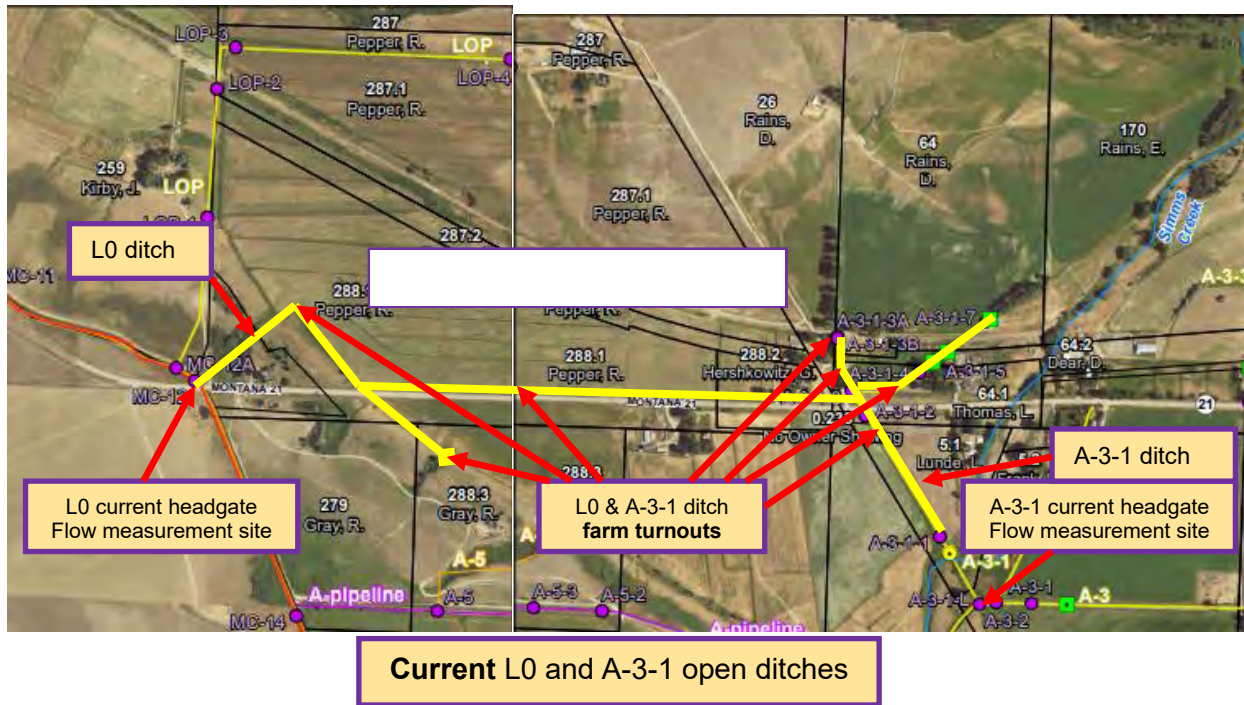


Old headgate with old slide unit AND without any gate

The overall goal of this project is to conserve water and improve the irrigation water management of the District to benefit all District water users and the Sun River. *This will be accomplished by burying 7,700 feet of PVC pipe/accessories to replace very leaky open canal delivery system, acquire/install eight (8) flow monitoring units to track water efficiency, and acquire a new water tracking computer software.*

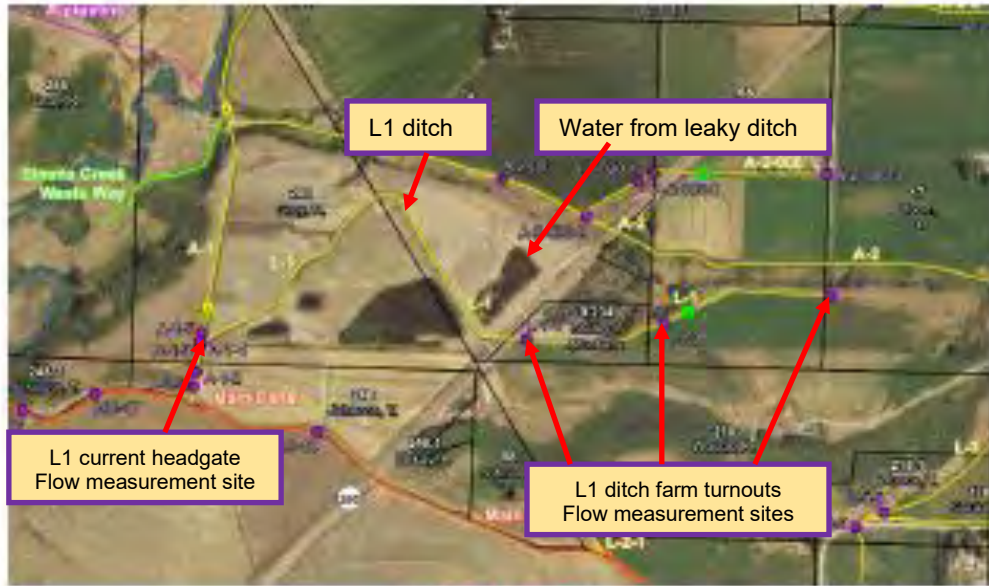
This will be accomplished, with District staff: 1) bury pipe using District equipment to dig trench, lay bedding material, bury 7,700 feet of PVC pipe and accessories and compact dirt over pipe; 2) buy eight (8) monitoring units including six (6) precast flumes and two (2) electronic flow monitoring units with District staff installing flumes and contracted services installing the electronic flow monitoring units and 3) contracted services to acquire and install computer software to better track water utilization throughout the District. All of this work will help better manage water deliveries throughout the District so losses will be minimized by the District in water short years, conserving water for the basin to allow more water for fisheries and drinking. Water savings were calculated by monitoring flows from canals/ditches, current deliveries to individual water users and wastewater throughout the District to come up with proposed water savings.

**Pipeline project #1:
L0/A-3-1 Ditch Conversion to Pipeline**

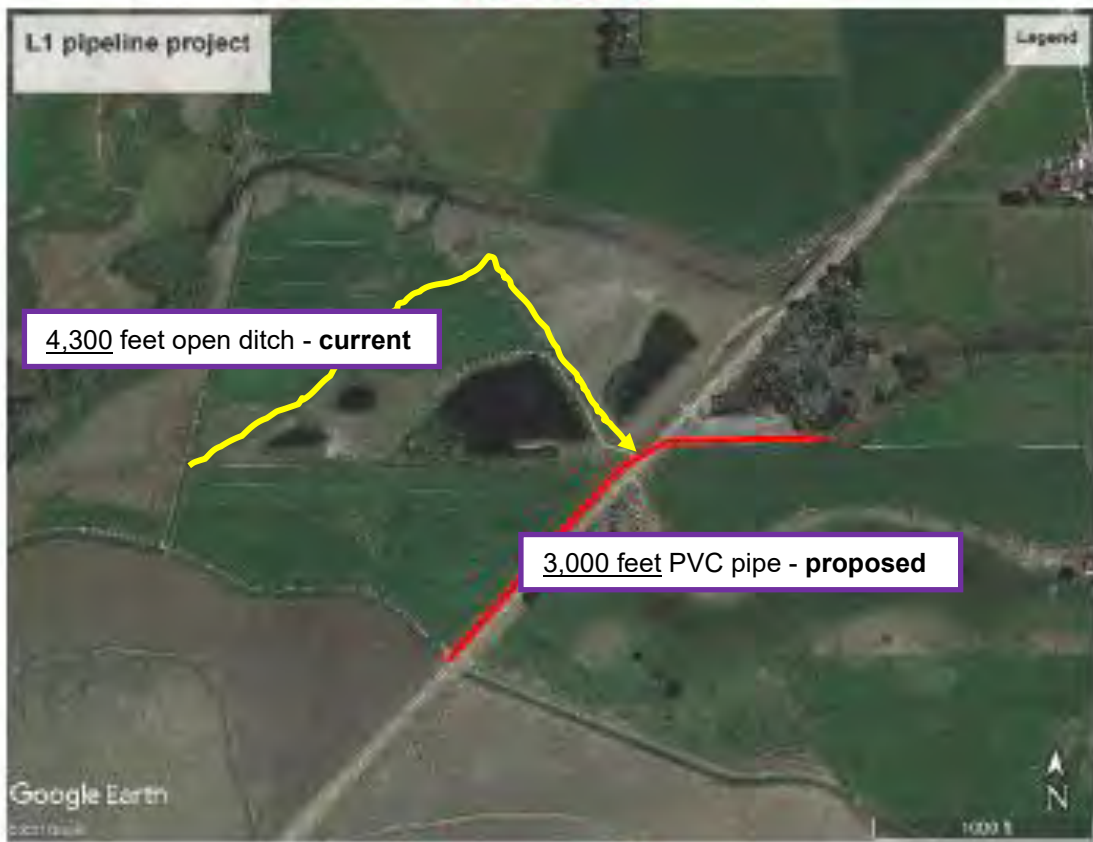


Pipeline project #2:

L1 Conversion to Pipeline



Current L1 layout



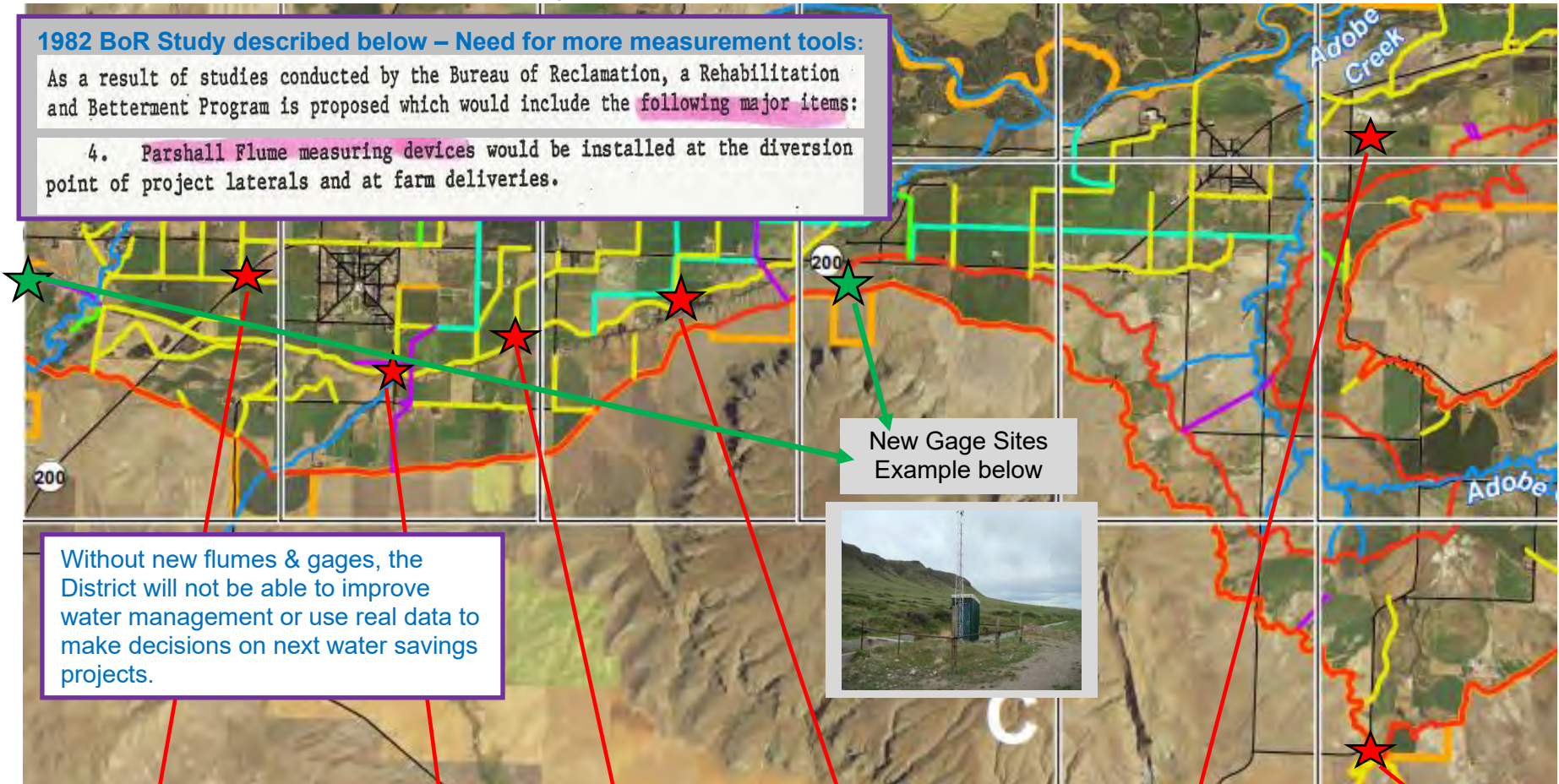
Proposed L1 layout

6 New Canal/Ditch Flumes and 2 New Measurement Devices

1982 BoR Study described below – Need for more measurement tools:

As a result of studies conducted by the Bureau of Reclamation, a Rehabilitation and Betterment Program is proposed which would include the following major items:

4. Parshall Flume measuring devices would be installed at the diversion point of project laterals and at farm deliveries.



New Gage Sites
Example below



Without new flumes & gages, the District will not be able to improve water management or use real data to make decisions on next water savings projects.



A-3-5



A-2-1



A-2-3



A-2-7



K-Ditch



Colony

(4) Evaluation Criteria

Evaluation Criterion A — Quantifiable Water Savings

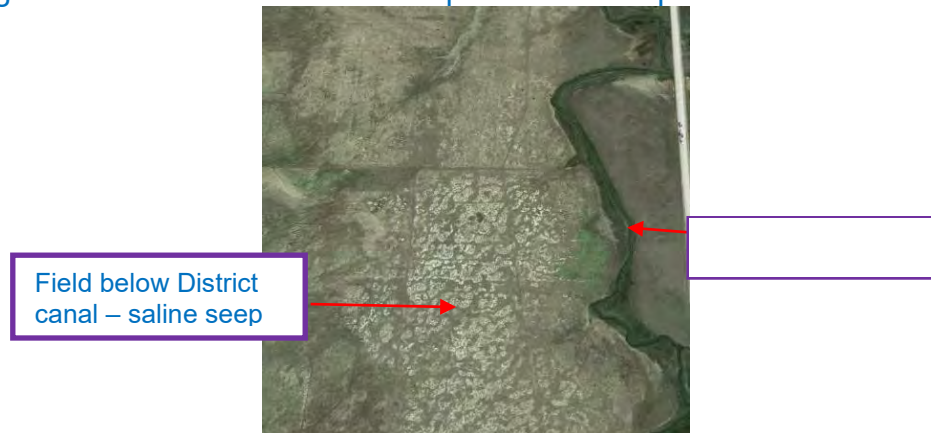
1. Describe the amount of estimated water saved. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.

5,725 acre-feet per year of water will be conserved as a direct result of this project. Other expected water savings through improved water management are not quantifiable at this time so will not be used in describing estimated water savings. Even though gages and software are not part of known savings, they are a key part to effective long-term water management.

2. Describe the current losses. Please explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?

a. *Explain where current losses are going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground)?*

The 5,725 acre-feet per year water losses to be conserved currently seeps back into the ground; or evaporates from the pot holes seeps into; or drains into short-lived streams that dry up at the end of irrigation season. Below aerial picture shows ground water caused saline seep areas that impact the land AND stream.



Aerial view of saline seep problem

b. *If known, please explain how current losses are being used. For example, are current losses returning to the system for use by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use?*

- 54,000 acre-feet diverted from Sun River
 - 20,000 acre-feet delivered to farms
 - 34,000 acre-feet spills, seepage, evaporation, and transportation losses
- 15,000 acre-feet operational spills into Sun River thru tributaries with water quality problems including nutrients & conductivity.
- 19,000 delivery losses from evaporation and seeps into ground water that makes land unusable as shown above in saline seep picture.

- The [below Figure 4 chart and attachment #5, pages 10 & 11](#) that documents operational spills compiled during a 2008 special study of the District's waste into the Sun River. Substantial amounts of water contaminated with saline seep are what is "dumped" into the Sun River. This information shows the importance to reduce seeps and waste throughout the District.

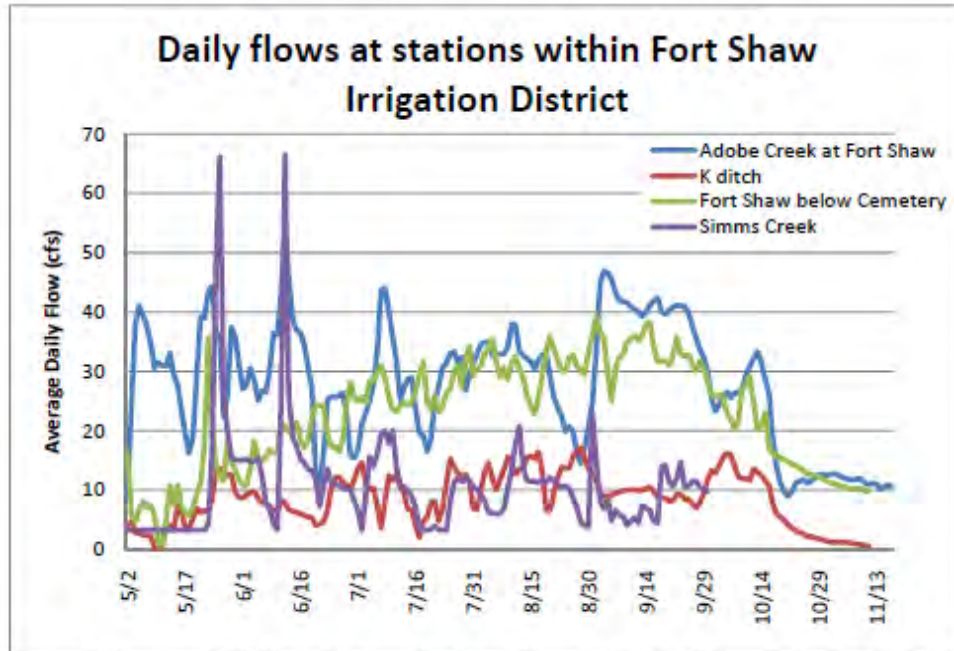


Figure 4. Average daily flows for monitoring stations in the Fort Shaw Irrigation District, based on 2008 monitoring.

[See below Figure 6 chart and attachment #6, page 8](#) shows high level of conductivity (from saline seeps) in the Sun River tributary, Adobe Creek.

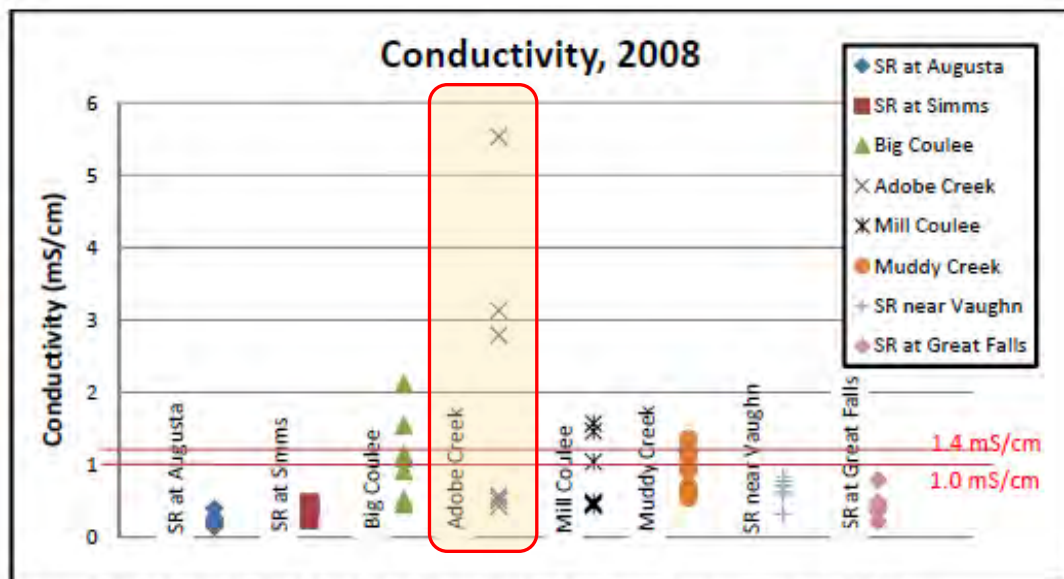


Figure 6. Conductivity (mS/cm), Sun River Watershed monitoring project, 2008.

- c. Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?

There are NO known benefits of the current losses. Ground water seepage makes land unusable, seepage into streams causes water quality issues and evaporation does not help local uses/needs. See below picture of saline seep that is not healthy to the adjacent stream.

Saline seep damage:
land is no longer
usable and salinity
seeps into creek
causing water quality
problems



3. Describe the support/documentation of estimated water savings. Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations. Note: projects that do not provide sufficient supporting detail/calculations may not receive credit under this section. Please be sure to consider the questions associated with your project type (listed below) when determining the estimated water savings, along with the necessary support needed for a full review of your proposal. *In addition, please note that the use of visual observations alone to calculate water savings, without additional documentation/data, are not sufficient to receive credit under this section. Further, the water savings must be the result of reducing or eliminating a current, ongoing loss, not the result of an expected future loss.*

Water deliveries 2016 thru 2021 into two (2) open ditches are 6,308 acre-feet diverted with only 617 acre-feet reaching 355.7 irrigated acres. Result with proposed pipeline projects: 5,725 acre-feet conserved.

Pipeline project #1:

- 4,900 acre-feet, measured 2016 thru 2021 at headgate (shown on page 8) by propeller flow meter, is diverted into current open ditch.
- 383.3 acre-feet, measured at seven (7) farm turnouts (shown on page 8) by same meter, is delivered to 282.4 acres. Average deliveries to turnouts A-3-1 #1 = 8.0 ac/ft; A-3-1 #2 = 83.8 ac/ft; A-3-1 #2 = 27.40 ac/ft; A-3-1 #3 = 24.13 ac/ft; MC #12A = 106.25 ac/ft; MC #12 = 14.0 ac/ft; and A-1 #s 1-5 = 119.76 ac/ft
- 4,517 acre-feet currently lost in delivery system will be conserved with new pipeline.

Pipeline project #2:

- 1,408 acre-feet, measured 2016 thru 2021 at headgate (shown on page 9) by propeller flow meter, is diverted into open ditch.
- 233.7 acre-feet, measured at three (3) farm turnouts (shown on page 9) by same

meter, is delivered to 73.3 acres. Average deliveries to turnouts L1-1-1 = 147 acre-feet; L1-1-2 = 32.0 acre-feet; and L1-1-3 = 54.7 acre-feet.

- 1,208 acre-feet currently lost in delivery system will be conserved with new pipeline.

4. Please address the following questions according to the type of infrastructure improvement you are proposing for funding.

(1) **Canal Lining/Piping**: Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage.

Applicants proposing lining/piping projects should address the following:

a. How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

The open canal/concrete structures will be replaced with two (2) pipelines with the estimated annual water savings calculated using last five (5) years data:

At main canal turnouts in acre-feet = 6,308

At field turnouts in acre-feet = 617

Calculated average loss = 5,725

6,308 acre-feet of water over the irrigation season is measured by District staff with propellor gage units as it enters pipeline projects #1 and #2, part of the District delivery system. District staff then measures with same propellor gage units only 617 acre-feet at farm turnouts to track actual water delivered to the 10 farm units covering 355.7 acres. This is an annual loss of 5,725_acre-feet for the combined pipeline projects. The District maintains each irrigation season daily delivery records documenting the daily water usage.

b. How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.

The canal seepage losses have been determined as identified in section (1) (a) above with actual daily measurements using a McCometer propellor flowmeter unit, entering these ditches and then measuring with same flowmeter at farm turnouts the actual water delivered to the farm unit. The difference between water entering the system to what was delivered to farm units equal open ditch loss.

b. What are the expected post-project seepage/leakage losses and how were these estimates determined (e.g., can data specific to the type of material being used in the project be provided)?

No post-project seepage/losses will need to be estimated since this will be a closed PVC pipe system. All water entering this section of the system/pipe will be delivered to the farm units.

- d. *What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?*

No annual transit loss will exist since this will be a closed pipe system. All water entering the system/pipe will be delivered to the farm units.

- e. *How will actual canal loss seepage reductions be verified?*

Pre-project canal losses already measured will be verified by post-project measuring water entering the pipelines to each farm unit/turnout.

- f. *Include a detailed description of the materials being used.*

Materials to be used will be PVC pipe with necessary tees and elbows to get from each ditch delivery system entry point headgate to each farm unit turnout. A gravel bedding material will be compacted under and beside the PVC pipe.

(2) Municipal Metering: NOT APPLICABLE

- (3) Irrigation Flow Measurement:** *Irrigation flow measurement improvements can provide water savings when improved measurement accuracy results in reduced spills and over-deliveries to irrigators. Applicants proposing municipal metering projects should address the following:*

- a. *How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.*

District determined average annual water savings estimates by taking past 5-years average of water diverted into each delivery system, subtracting water delivered to farm units. Calculations shown below are same as described on page 13.

Pipeline project #1:

- 4,900 acre-feet, measured 2016 thru 2021 at headgate (shown on page 8) by propeller flow meter, is diverted into current open ditch.
- 383.3 acre-feet, measured at seven (7) farm turnouts (shown on page 8) by same meter, is delivered to 282.4 acres. Average deliveries to turnouts A-3-1 #1 = 8.0 ac/ft; A-3-1 #2 = 83.8 ac/ft; A-3-1 #2 = 27.40 ac/ft; A-3-1 #3 = 24.13 ac/ft; MC #12A = 106.25 ac/ft; MC #12 = 14.0 ac/ft; and A-1 #s 1-5 = 119.76 ac/ft
- 4,517 acre-feet currently lost in delivery system will be conserved with new pipeline.

Pipeline project #2:

- 1,408 acre-feet, measured 2016 thru 2021 at headgate (shown on page 9) by propeller flow meter, is diverted into open ditch.
- 233.7 acre-feet, measured at three (3) farm turnouts (shown on page 9) by same meter, is delivered to 73.3 acres. Average deliveries to turnouts L1-1-1 = 147 acre-feet; L1-1-2 = 32.0 acre-feet; and L1-1-3 = 54.7 acre-feet.
- 1,208 acre-feet currently lost in delivery system will be conserved with new pipeline.

- b. *Have current operational losses been determined? If water savings are based on a reduction of spills, please provide support for the amount of water currently being lost to spills.*

The project calculations were NOT determined from operational spills since majority of water loss is seeps. The District does compile operational losses by measuring flows at key spill sites but not part of this project. The below figure 4 chart and attachment #5, pages 10 & 11 shows one year spill data. These gages are now automated gages so District can track conditions at any time.

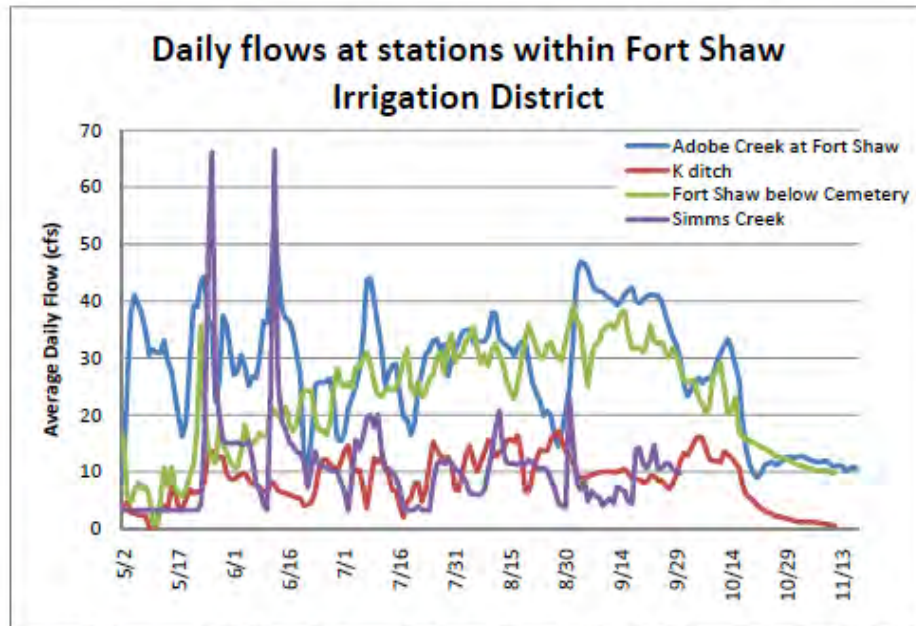
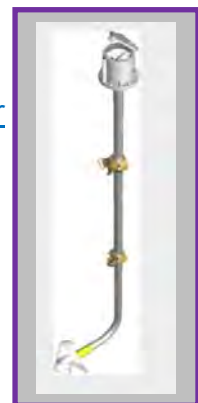


Figure 4. Average daily flows for monitoring stations in the Fort Shaw Irrigation District, based on 2008 monitoring.

- c. Are flows currently measured at proposed sites and if so what is the accuracy of existing devices? How has the existing measurement accuracy been established?

YES, flows are currently measured at project sites as well as sites throughout the District. The accuracy of the McCrometer propellor flowmeter unit, shown on right, have been proven to be very accurate across the United States. Each year, the District's three (3) units' accuracies are verified prior to the irrigation season by comparing each unit to the other. If difference exists, that flowmeter is sent back to manufacturer for recalibration.



- d. Provide detailed descriptions of all proposed flow measurement devices, including accuracy and the basis for the accuracy.

The District's three (3) propellor flowmeter units were calibrated by the manufacturer and verified once received by the District. The units are used in conjunction with pipe to measure flows as they enter ditches and farm units. The District also utilizes flow monitoring gages installed and calibrated by M.E.T. to measure canal and operation spills at key locations to track flows throughout the District. The Montana Reclamation's monitoring program ties into this system.

- e. *Will annual farm delivery volumes be reduced by more efficient and timely deliveries? If so, how has this reduction been estimated?*

Annual on-farm delivery volumes are not expected to change because of this specific project – only the delivery system will see a water savings. However, proposed on-farm projects led by NRCS and the Sun River Watershed Group (SRWG) are expected to improve irrigation efficiency on some farms. By comparing each specific farm unit pre and post project deliveries, amount of efficiency improvements will be documented.

- f. *How will actual water savings be verified upon completion of the project?*

As described in the above (3) a., the actual water savings will be verified by comparing pre and post project flow data from each pipeline project.

(4) Turf Removal: *NOT APPLICABLE*

(5) Smart Irrigation Controllers, Controllers with Rain Sensor Shutoff, Drip Irrigation and High-Efficiency Nozzles: *NOT APPLICABLE*

(6) High-Efficiency Indoor Appliances and Fixtures: *NOT APPLICABLE*

(7) Commercial Cooling Systems: *NOT APPLICABLE*

Evaluation Criterion B—Renewable Energy - *NOT APPLICABLE*

Evaluation Criterion C—Sustainability Benefits

Enhancing drought resiliency. *In addition to the separate WaterSMART Environmental Water Resources Projects NOFO, this NOFO places a priority on projects that enhance drought resiliency, through this section and other sections above, consistent with the SECURE Water Act. Please provide information regarding how the project will enhance drought resilience by benefitting the water supply and ecosystem, including the following:*

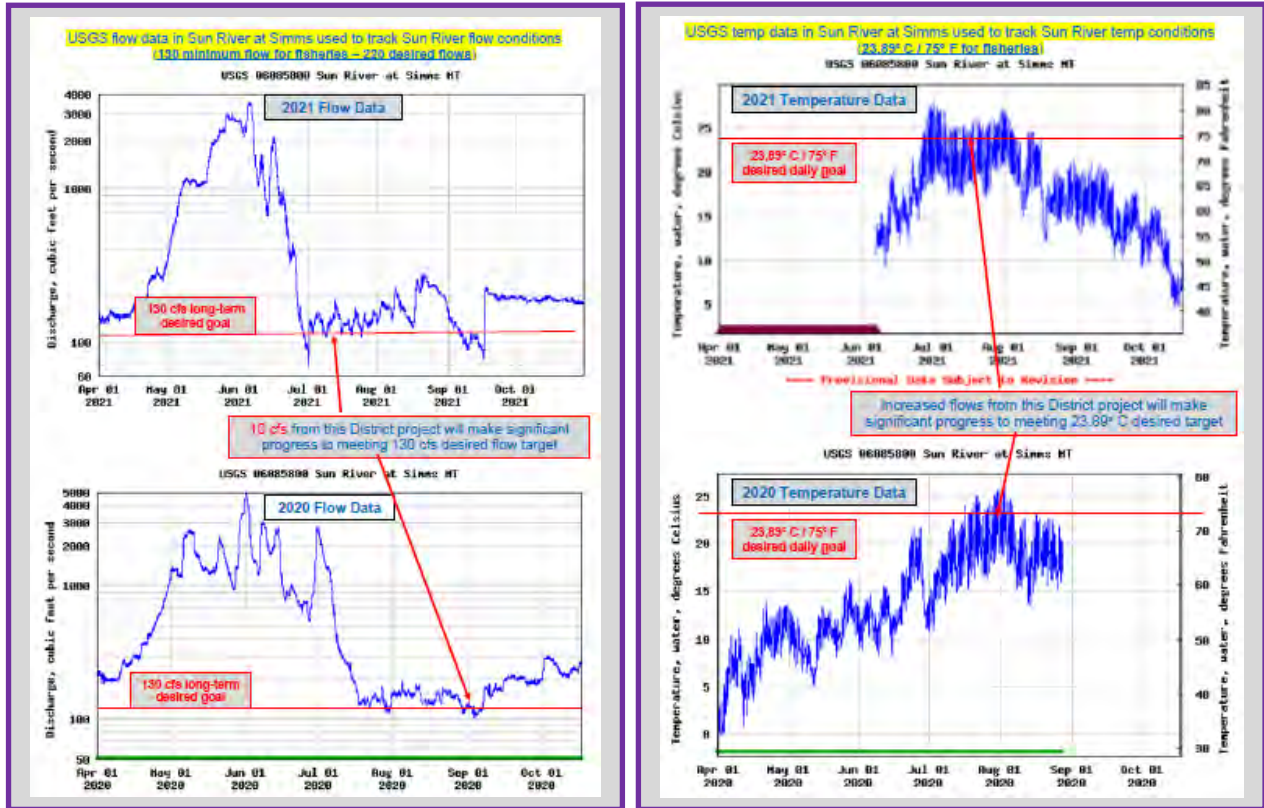
- *Does the project seek to improve ecological resiliency to climate change?*

Yes, the project will improve ecological resiliency by reducing water demands like this project will do - enabling the District and watershed to survive during frequent drought years. This project goal when combined with other watershed projects is intended to ensure almost every drop of water is used for its intended purpose. This project's request to install eight (8) more gages will help the District better track water. The water conserved will fill a huge need of instream flow shortages so the river system will better handle drought caused by climate change.

- *Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits (e.g., maintaining water temperatures or water levels).*

Yes, water will remain in the system for longer periods of time by diverting less water from the river to begin with. See Sun River flow & temp charts on next page and attachment #7, depicting USGS flow and temp data and how small amounts of water

conserved by proposed projects will help meet desired instream flow levels which will improve fish habitat and improve water temperatures during summer months.



- Will the project benefit species (e.g., federally threatened or endangered, a federally recognized candidate species, a state listed species, or a species of particular recreational, or economic importance)? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).

There are no threatened or endangered species that will benefit from the project BUT the Rainbow and Brown trout in the Sun River will benefit in a big way. Trout are very important to recreational activities in the watershed and without finding more water to remain in the river the trout habitat and numbers will continue to decline.

- Please describe any other ecosystem benefits as a direct result of the project.

The other ecosystem benefits will include bird/waterfowl populations that depend upon a healthy river system and the wetlands that are adjacent to the river.

- Will the project directly result in more efficient management of the water supply? For example, will the project provide greater flexibility to water managers, resulting in a more efficient use of water supplies?

Yes, the project will enable more efficient management of the water supply by reducing waste that actually causes more harm than good; will also ensure the water

makes it to the fields at the right time especially during water shortages caused by infrastructure bottlenecks; and will ensure people are paying for the exact amount of water used to irrigated crops. The proposed new gage units are essential for the District to become more efficient.

Addressing a specific water and/or energy sustainability concern(s). *Will the project address a specific sustainability concern? Please address the following:*

- *Explain and provide detail of the specific issue(s) in the area that is impacting water sustainability, such as shortages due to drought and/or climate change, increased demand, or reduced deliveries.*

The Sun River has on frequent occasions entered a drought condition that has caused irrigators in the entire Sun River Watershed to shut down earlier than normal. The SRWG's water management evaluation helped define shortages and options on how to find win-win solutions for both the river and irrigated agriculture. The **instream shortages are shown on the above chart on page 18 and attachment #7.**

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.* NOT APPLICABLE FOR THIS PROJECT

- *Please describe how the project will directly address the concern(s) stated above. For example, if experiencing shortages due to drought or climate change, how will the project directly address and confront the shortages?*

This specific project will reduce impacts to the river during drought conditions by conserving water that will improve instream flows every year. During drought years, the instream flows frequently dip below desired levels because of more demands than available supplies. But this project will help improve sharing water between all water users including the fish. At least all water users can say they are trying to increase water availability with projects like this one. Even the fisheries proponents are supporting projects like this when win-win solutions are found.

- *Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*

The water conserved will help reduce diversions from the river allowing more water to remain in the river which will benefit fisheries and adjacent wetlands.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

The mechanism that will be used to put conserved water to the intended use is by the District not diverting as much water. Flow gages measuring the water diverted into the District's canal and water in the river will be the true test if this project is working as intended.

- *Indicate the quantity of conserved water that will be used for the intended purpose(s).*

The quantity of water conserved will be 5,725 acre-feet.

Other project benefits. *Please provide a detailed explanation of the project benefits and their significance. These benefits may include, but are not limited to, the following:*

- (1) **Combating the Climate Crisis:** *E.O. 14008: Tackling the Climate Crisis at Home and Abroad, focuses on increasing resilience to climate change and supporting climate resilient development. For additional information on the impacts of climate change throughout the western United States, see:*

<https://www.usbr.gov/climate/secure/docs/2021secure/2021SECUREReport.pdf>.

Please describe how the project will:

- *Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

This project will address impacts of climate change and combat the climate crisis by reducing the daily demands the District places on the watershed AND through more accurate water accounting and water management. These tools are the best way to make sure water is going where it is supposed to and to reduce waste that causes serious water quality problems.

The replacement of inefficient infrastructure by replacing open ditches with pipelines will also ensure seepage and waste is kept at a minimum. Although this project will not “make” more water it will ensure the District makes the most efficient use of the limited amount of water in the watershed to meet the needs of its water users, other irrigation projects and the Sun River.

- *Does this proposed project strengthen water supply sustainability to increase resilience to climate change?*

The Sun River Watershed water rights are over three times average available water supply in the watershed using Montana water right records. The water conflict for this limited water supply becomes even more heightened in drought years which have been fairly frequent in the past ten years. Over the past several decades, the snowmelt and in-turn water runoff has been coming off sooner due to climate change making it less available for the irrigators and aquatic life. Any water savings like this project that is beneficial for the District and the river need to be installed as soon as possible to help prevent water wars from reoccurring.

This gradual but noticeable change in runoff timing and amounts has been documented through a study conducted by the SRWG.

- *Will the proposed project establish and utilize a renewable energy source?* NO.
- *Will the project result in lower greenhouse gas emissions?* NO.

(2) Disadvantaged or Underserved Communities: *E.O. 14008 and E.O. 13985 support environmental and economic justice by investing in underserved and disadvantaged communities and addressing the climate-related impacts to these communities, including impacts to public health, safety, and economic opportunities. Please describe how the project supports these Executive Orders, including:*

- a. *Does the proposed project directly serve and/or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, new renewable energy sources, or economic growth opportunities. - NOT APPLICABLE*
- b. *If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the disadvantaged community definition in Section 1015 of the Cooperative Watershed Act, which is defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the State, or the applicable state criteria for determining disadvantaged status. - NOT APPLICABLE*
- c. *If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life. - NOT APPLICABLE*

(3) Tribal Benefits: *The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum "Tribal Consultation and Strengthening Nation-to-Nation Relationships" asserts the importance of honoring the Federal government's commitments to Tribal Nations. Please address the following, if applicable:*

- a. *Does the proposed project directly serve and/or benefit a Tribe? Will the project increase water supply sustainability for an Indian Tribe? Will the project provide renewable energy for an Indian Tribe? - NOT APPLICABLE*
- b. *Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities? - NOT APPLICABLE*

(4) Other Benefits: *Will the project address water and/or energy sustainability in other ways not described above? For example:*

- a. *Will the project assist States and water users in complying with interstate compacts? - NOT APPLICABLE*

b. *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

Yes, the project will help resolve competition between multiple water users. The water conserved by this project and the many other cooperative efforts will help reduce conflict and improve teamwork so there are more win-win solutions for all sectors including agriculture, environment and recreation.

c. *Will the project benefit a larger initiative to address sustainability?*

YES, this project will benefit a larger initiative called the Sun River Watershed. The SRWG effort has MANY projects that are pulling together people from all walks of life to find win-win solutions to complex natural resource issues. TEAMWORK is what this effort is all about which has kept people at the table for over 30 years, resulting in many quantifiable water quality and quantity projects that lead to several state and national awards/recognitions.

d. *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?*

YES, this project will definitely prevent water-related crisis/conflicts throughout the basin. Just go back 30 years before the SRWG's team effort started, that the District is a major player, to find people/groups spending lots of money fighting over the limited amount of water in the basin. And, early on in the SRWG's effort there were MANY threats of resolving the water conflicts behind the sheds or with firearms. Although there will always be minor issues to be resolved the many efforts the SRWG is involved with have and will continue to prevent the conflicts this basin endured for many future decades.

Evaluation Criterion D—Complementing On-Farm Irrigation Improvements

If the proposed project will complement an on-farm improvement eligible for NRCS assistance, please address the following:

- *Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*

The SRWG and NRCS are actively working on MANY on-farm projects that complement the many projects the District is pursuing. The following responses to the questions will only be a small part of this united effort. The collaboration that has been going on for 30 years has been the key to many positive outcomes for the local farmers/ranchers, the District, all those who use or enjoy the natural resources in the Sun River Watershed.

- *Provide a detailed description of the on-farm efficiency improvements.*

The SRWG is working with the local three (3) NRCS field offices to better understand on-farm needs. The primary tool for improving on-farm efficiencies is conversion from flood to pivot irrigation. With so many projects being considered, NRCS and SRWG are exploring special Farm Bill funding opportunities such as TIP and RCPP.

- *Have the farmers requested technical or financial assistance from NRCS for the on-farm efficiency projects, or do they plan to in the future?*

Yes, the local farmers have requested NRCS assistance. Many are and/or have received assistance to accomplish projects that benefit the District and Sun River Watershed. Unfortunately, there are not enough funds for the many on-farm project requests so many farmers are pursuing personal financing options.

- *If available, provide documentation that the on-farm projects are eligible for NRCS assistance, that such assistance has or will be requested, and the number or percentage of farms that plan to participate in available NRCS programs.*

The District is unable to provide documentation for proposed on-farm assistance since NRCS is unable to pass on personal project information. The District is aware, through conversations with local farmers, of possible projects but with so much competition there is hesitancy to give the District written documentation.

- *Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*

The District is unable to obtain letters of intent from local farmers because their project is not receiving funds from this grant and with so much competition there is hesitancy to give the District written documentation.

- *Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*

- *Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how? For example, installation of a pressurized pipe through WaterSMART can help support efficient on-farm irrigation practices, such as drip-irrigation.*

The District project will complement several on-farm projects that are converting to pivots by ensuring reliable water supply so their pumps will not shut off during critical times of the irrigation season. Even those farmers not pursuing NRCS support, irrigation water management (IWM) works best when everyone is using the same reliable data for tracking on-farm water deliveries.

OR

- *Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how? UNKNOWN*
- *Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.*
 - *Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.*

No estimate of water savings was calculated because NRCS and/or the farmers are not providing documentation to estimate on-farm water savings.

This WaterSMART grant will help expedite the on-farm improvements by guaranteeing a consistent flow to each farm turnout. Some farmers are currently reluctant to install water conservation/irrigation improvements when they cannot depend upon consistent/even flows delivered to new pivots.

- *Please provide a map of your water service area boundaries. If your project is selected for funding under this NOFO, this information will help NRCS identify the irrigated lands that may be approved for NRCS funding and technical assistance to complement funded WaterSMART projects. NONE AVAILABLE.*

Evaluation Criterion E:--Planning and Implementation

Subcriterion E.1— Project Planning

Does the applicant have a Water Conservation Plan and/or System Optimization Review (SOR) in place? Does the project address an adaptation strategy identified in a completed WaterSMART Basin Study? Please self-certify or provide copies of these plans where appropriate to verify that such a plan is in place. Including a specific excerpt or a link to the planning document may also be considered where appropriate.

Provide the following information regarding project planning:

- (1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Drought Contingency Plan or other planning efforts done to determine the priority of this project in relation to other potential projects.*

2021 Fort Shaw Irrigation District Water Management and Water Conservation Plan described in part below and attachment #8. The plan is a management tool to conserve water, prioritize projects, improve water quality in the Sun River, improve the agricultural economy, and fulfill the water conservation planning requirements stipulated in the Reclamation Reform Act of 1982.

V. WATER MANAGEMENT PROBLEMS and OPPORTUNITIES. The following are problems and opportunities identified by the FSID board and staff.

B. Water Delivery/Losses

Problem: Main canals and laterals experience significant losses due to seepage that reduces FSID's ability to deliver consistent and sufficient water to water users. Seepage also causes loss of productive farmland and impacts water quality in the Sun River and tributaries.

Opportunity: Install pipelines on open canals and laterals that have highest seepage rates to improve water delivery efficiency, return farmland back into production and improve water quality in the Sun River and tributaries.

The District plan in attachment #8, page 18 contains an implementation table in part shown on next page with the two (2) pipelines, eight (8) gage and software projects to be accomplished in 2022 and 2023.

Fort Shaw Irrigation District Workplan – segments pulled from full workplan

SHORT-TERM PROJECTS								
	2021	2022	2023	2024	2025	2026	unknown	
A-drop & CD – radio gage units	-----	\$14,600	-----	-----	-----	-----	Grant \$	MET contract
A-2-9 check replace @ Boyles	-----	\$2,000	-----	-----	-----	-----	-----	New check
New weir @ Klicks for gage	-----	\$2,000	-----	-----	-----	-----	estimate	New weir
Gage fix near Murrays/Klicks	-----	\$1,500	-----	-----	-----	-----	estimate	MET repair
Conrad W/W - turnout	-----	\$2,000	-----	-----	-----	-----	-----	T/O only
New canal flumes (6)	-----	\$42,000	-----	-----	-----	-----	Grant \$	Precast metal
WATERS accounting program	-----	\$10,000	-----	-----	-----	-----	Grant \$	Like GID new
LONG-TERM PROJECTS								
	2021	2022	2023	2024	2025	2026	unknown	
Siphon replacement	-----	-----	-----	-----	-----	-----	\$1million	Crude estimate
Headworks, river-side repair	-----	-----	-----	\$20,000	-----	-----	-----	Crude estimate
C-D split – concrete repair	-----	-----	-----	\$20,000	-----	-----	-----	Crude estimate
Sequest waste, concrete repair	-----	-----	-----	-----	\$20,000	-----	-----	Crude estimate
L4 pipeline Kick & Bloom, resolve pressure issue	-----	***	-----	-----	-----	-----	Booster pump	Landowner cost
L1 - @ eastside turnout - pipe	-----	-----	*****	-----	-----	-----	Grant \$	3000'x12"/10c
L0 - @ Greens, back to Gray	-----	-----	*****	-----	-----	-----	Grant \$	4700'x12"/10c
D-canal straighten @ Reifers	-----	-----	-----	-----	***	-----	Grant \$	740'x18"/30cfs
Misc pipelines (LaRocque)	-----	-----	-----	-----	-----	\$20,000	-----	They requested
Simms Cr A3 flume fix	-----	-----	-----	-----	-----	-----	-----	Needed?
D-canal pipe (D11-S Birdtail)	-----	-----	-----	-----	-----	-----	Grant \$?? size
Bridge replace – main canal	-----	-----	-----	-----	-----	-----	\$10,000	Crude estimate

(2) Describe how the project conforms to and meets the goals of any applicable planning efforts and identify any aspect of the project that implements a feature of an existing water plan(s).

This project applies to several planning efforts including:

1) **2019 SRWG Strategic Plan**, [shown in-part below and contained in attachment #9](#) addresses water quality and instream flow issues. SRWG works to find win-win solutions to these complex issues. The Water Management component of the SRWG plan also includes need for drought management.

SRWG STREAMFLOW STRATEGIC OBJECTIVES

- Formalize reservoir adaptive management and winter flows in the Sun River
- **Optimize reliability of irrigation water delivery and maintain Sun River flows**
- Sustain and improve snow and streamflow data, reliability, and incorporation into water management decisions watershed
- Improve communication among water users, irrigation districts, agencies, and the SRWG to improve flow management
- **Plan for extended or more frequent drought**

2) **2012 SRWG Sun River Special Study** funded by Reclamation also fits the District's project as prioritized [see below and attachment #9, page 27.](#)

SRWG Special Study Report – page 27

The Fort Shaw Irrigation District had been working with the Sun River Watershed Group for 15 years to conserve water for the benefit of all users while at the same time improving their ability to deliver water to District producers. Over the years, FSID had implemented a variety of infrastructure improvements but was finding, through experience, that **projects which converted open ditch delivery systems to pipelines were producing the most benefit**. These types of projects are logical choices for the District to pursue because estimated conveyance efficiencies of the open ditches on FSID were found to be only about 46 percent (Reclamation, 1982). After assessing the system as a whole, FSID and the SRWG targeted the L and the D system ditches as a top priority for future improvement. While the Special Study was in progress, the FSID and SRWG pursued an available opportunity to fund and implement this project.

3) **2004 Sun River Water Quality Restoration Plan and TMDL**. This project fits the water quality needs in this plan by improving instream and return flows. See [below and attachment #11, page 31 describing conditions.](#)

4.1 Existing Flow Conditions

Flow alteration in the Sun River watershed is primarily associated with the diversion of water for irrigation (Figure 4-1). **Irrigation returns flows from surface and groundwater pathways impact water quality in many areas of the watershed.** Much of the water from Gibson Reservoir is **diverted for use on the Greenfields Bench and Fort Shaw irrigation districts.**

4) [2013 SRWG's Water Quality Restoration Plan \(WRP\)](#). This project fits the WRP through improvements in instream flows and water quality by reducing salinity loads. [See below and attachment #12, for instream flow needs.](#)

Achieve Fish, Wildlife and Parks' wetted perimeter discharge requirements for survival of aquatic communities (drought minimum – 100 cfs above Elk Creek, drought minimum – 130 cfs below Elk Creek, and non-drought minimum – 220 cfs for all).

5) [2015 Montana State Water Plan](#) Executive Summary describes the importance of water in Montana and how irrigation plays an important role in what needs to be done to protect all water users. [Below and attachment #13 describes key points that are important to the District.](#)

- Be better prepared to endure droughts in watersheds across the state.
- Support the implementation of water conservation incentives and measures that are adaptable to the needs of local conditions, individual watersheds and municipalities.

For copy of full copy of state water plan, go to: [State Water Plan — Montana DNRC \(mt.gov\)](#)

(3) *If applicable, provide a detailed description of how a project is addressing an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes)*

[2021 Missouri Headwaters Basin Study](#) – Summary Report. This study produced by Montana in cooperation with BoR looks at water issues at a larger scale that includes the Sun River. Key issues addressed including climate change and water shortages. The climate change warning is most severe along the Rocky Mountain Front so this amplifies the seriousness the District and SRWG are dealing with to ensure long-term survival of ALL water users. [See below and attachment #14 for key points affecting the Sun River brought up in the study.](#)

WATER SUPPLY - Projected future warming will shift spring snowmelt toward earlier in the year, causing a shift in the timing of peak streamflow with increasing winter and early spring runoff and decreasing runoff later in the spring and summer. **The shift in seasonal runoff will be most pronounced along the Rocky Mountains.**

Strategies considered in the Sun River basin include modifying existing infrastructure associated with the Greenfields Irrigation District (GID) and Fort Shaw Irrigation District (FSID) to reduce irrigation water shortages and improve the ability to meet instream flow requirements.

Subcriterion E.2— Readiness to Proceed

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.

- *Identify and provide a summary description of the major tasks necessary to complete the project. Note: please do not repeat the more detailed technical project description provided in Section D.2.2.4.; this section should focus on a summary of the major tasks to be accomplished as part of the project.*

Task 1 - Reclamation complete NEPA and NHPA. WHEN: July – August 2022
 - Reclamation or contractor, with District staff complete compliance work.

Task 2 – Reclamation, contracted engineer and District staff complete engineering, review and certification of design. WHEN: July – August 2022
 - Reclamation, contracted engineer and District staff will work closely on final designs of project to meet all state and federal requirements.

Task 3 – Advertise and award for materials and contracted services. WHEN: September – October 2022
 - District manager and clerical staff will advertise for all materials and contracted services that exceed state law minimum and award after thorough review.

Task 4 – Install pipelines. WHEN: November 2022 - June 2024
 - District manager will oversee construction laborers and equipment operators to install new pipelines that replaces open ditches.
 - Contracted engineer will assist with project oversight.

Task 5 – Install flumes, gages & software. WHEN: Nov 2022 - November 2023
 - District manager will oversee installation of new flumes, gages and software.
 - Contracted services will assist with projects.

Task 6 - Reporting, compliance review and monitoring WHEN: July 2022 - July 2024
 - District manager and clerical staff will accomplish all grant reporting and billing.

- *Describe any permits that will be required, along with the process for obtaining such permits. NONE REQUIRED.*
- *Identify and describe any engineering or design work performed specifically in support of the proposed project.*

District has accomplished initial design with final engineer design to be accomplished after District is awarded this grant and prior to construction beginning. Engineer will oversee construction phases of this project.

- *Describe any new policies or administrative actions required to implement the project. NONE.*
- *Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: complete environmental and cultural compliance; mobilization; begin construction/installation; construction/installation (50% complete); and construction/installation (100% complete)*

Specifically, the District will:

Task 1 - Reclamation complete NEPA and NHPA. July - Oct 2022

- Reclamation with District staff assistance will complete a detailed environmental and historic compliance review for the proposed project.

Task 2 - Final engineering, review and certification of design Oct - Nov 2022

- Reclamation and District staff will work closely with contracted engineer on final designs of project to meet all state and federal requirements

Task 3 – Advertise & award of materials & contracted services. Sept – Oct 2022

- District manager and clerical staff will advertise for all materials and contracted services that exceed state law minimum and award after thorough review.

Task 4 - Install 7,700 feet of PVC pipe Nov 2022 - June 2024

- District 3-person crew work with equipment operators to dig trench, place bedding material, lay pipe, and pack bedding material around pipe.
- District excavator digs trench, place bedding material and help pack material.
- District dozer fills in trench.
- District 3-person crew hook headgates, farm turnouts, and vents to PVC pipe
- District manager and engineer oversee construction phase

Task 5 – Install flumes, gages & software Nov 2022 - Nov 2023

- District Manager will oversee new flumes, gages and software installation.
- District staff will install flumes and gages.
- Contracted services will assist with project.

Task 6 - Reporting, compliance review and monitoring July 2022 - July 2024

- District manager bid materials, get permits, track funds, and file reports
- District test system for successful installation.
- District staff monitors water quantity and quality for two years to track results.

Results - Better water management for the District and water savings of approximately 5,725 acre-feet per year, improving water quantity in the Sun River.

Evaluation Criterion F—Collaboration

• *Please describe how the project promotes and encourages collaboration. Consider the following:*

• *Is there widespread support for the project? Please provide specific details regarding any support and/or partners involved in the project. What is the extent of their involvement in the process?*

Yes, there is wide-spread support for this project. Attached letters of support for the project are from SRWG, seven (7) businesses and 20 District water users. The SRWG includes several state & federal agencies, irrigation projects, businesses, environmental groups, which are key partners and supporters of this project also since it fits into the bigger watershed effort. The businesses are supporters because of the economic benefit to keep the District going. The water users support this project and willing financial contributors through water fees to ensure they receive a sufficiently amount of reliable water deliveries for their financial benefit.

• What is the significance of the collaboration/support?

When the SRWG was formed 30 years ago the area was in turmoil with irrigators fighting irrigators and irrigators fighting recreationists over the limited supply of this very important resource. Through hard-work and MANY meetings, the SRWG partners now work on solutions rather than pollution. To keep this team effort moving forward, the SRWG is pursuing water conservation projects like this one to reduce the annual water demands so the extra water can be shared for in-stream flows and be available during drought years for irrigation.

And the project will help divert a water related crisis in this watershed. Even though the SRWG has brought people together to solve local problems through local solutions there is a long way to go. Getting this segment of the river to above 130 cfs is just the first step in meeting the water demands as shown on [page 18 and attachment #6 for past Sun River flow data](#). This data shows improvements over past several years but if there is going to be a healthy fishery, the flow in the river must be raised to at least 130 cfs. This and many other projects being pursued will help reach that goal and reduce the chance of a fragile relationship between water users and recreationists from failing.

- Will this project increase the possibility/likelihood of future water conservation improvements by other water users?

Yes, there is the possibility of future water conservation improvements by other water users if this project is completed. There are several other partners in the watershed working right now to put together beneficial water conservation projects. These partners seeing first-hand what is achievable with projects like this one is encouraging to them to pursue funding to complete their own projects.

- Please attach any relevant supporting documents (e.g., letters of support or memorandum of understanding).

The Sun River Watershed is where the basin study was developed for this adaptation strategy. In 2009, Reclamation, in consultation with the SWRG, initiated the Sun River Special Study. The Special Study is an inventory and analysis of proposed measures that could be implemented to improve streamflow in the Sun River while maintaining or improving irrigated agriculture production. The study identifies a procedure by which water savings can be allocated between improved streamflow in the Sun River and irrigation needs. Although the purpose of the Special Study was not to fund projects, it does identify steps that can be taken towards implementing projects. This study was completed in September 2012.

This project will help implement the adaptation strategy by completing a true win-win project that improves irrigation efficiency for the District while allowing water savings to remain in the Sun River.

The adaptation strategy and this proposed WaterSMART grant will address the imbalance between water supply and demand by sharing the limited water supply between agriculture purposes and [instream flows as shown on page 18 and attachment #6](#).

The District was one of 15 partners who participated in this Basin Study. The District committed hundreds of in-kind manhours to assist develop the baseline data, possible projects, project evaluations and possible solutions. Since that strategy was developed the District has already spent over \$500,000 of in-kind resources implementing projects to help meet the Basin Study objectives of finding win-win solutions to water shortages.

This project will result in further collaboration among Basin partners by showing the District is serious to finding win-win solutions to the complex water shortage issues. The SRWG and District continue to work together and with other partners to implement other beneficial projects as reported during a recent watershed tour. Projects funded by Coke-Cola and BoR were highlighted in this tour.

See positive Tribune newspaper tour coverage on [attachment #10, page 43](#).

Evaluation Criterion G: Additional Non-Federal Funding

$$\frac{\text{Non-Federal Funding} = \$200,058}{\text{Total Project Cost} = \$399,558} = 50\%$$

Evaluation Criterion H: Nexus to Reclamation

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider the following:

- Does the applicant have a water service, repayment, or O&M contract with Reclamation?

YES, the District has a contract with Reclamation

- If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?

NOT APPLICABLE

- Will the proposed work benefit a Reclamation project area or activity?

YES, the proposed work will benefit a Reclamation project area.

- Is the applicant a Tribe?

NO, the applicant is not a Tribe

(5) Performance Measures

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project (e.g., water saved or better managed, energy generated or saved).

All Water and Energy Efficiency Grants applicants are required to propose a “performance measure” (a method of quantifying the actual benefits of their project once it is completed). A provision will be included in all assistance agreements with Water and Energy Efficiency Grants recipients describing the performance measure and requiring the recipient to quantify the actual project benefits in their final report to Reclamation

upon completion of the project. If information regarding project benefits is not available immediately upon completion of the project, the financial assistance agreement may be modified to remain open until such information is available and until a Final Report is submitted. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of Water and Energy Efficiency Grants.

Performance measures to document project benefits include the District comparing water delivered through the system after installing pipelines and tracking USGS flows in the Sun River at Simms, which is below District diversion point, for two years to compare prior and post data changes that will occur after pipelines installed. Estimated water savings of approximately 5,725 acre/feet annually will benefit the reliability of water for the irrigation district while improving water quantity for all other uses in the basin.

Pre-project: Flow measurements have already been taken to identify potential savings.

Post-project: Gages on the Sun River, on the ditches, at each farm unit turnout, and with wastewater will help the District track all water savings.

Estimated water savings of approximately 5,725 acre/feet annually benefiting the reliability of water for the irrigation district while improving the water quality and quantity for all other uses in the basin.

PROJECT BUDGET

(1) Funding plan and letters of commitment -

Describe how the non-Federal share of project costs will be obtained.

Please identify the sources of the non-Federal cost-share contribution for the project, including:

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)*

District contributions to this project are \$200,058 labor and equipment in-kind services.

- District funds and resources will be ready to begin July 2022.
- District has all of the equipment and manpower to accomplish project
- See page 33 for District Letter of Commitment

- *Any costs that will be contributed by the applicant - NONE*

- *Any third-party in-kind costs (i.e., goods and services provided by a third party) - NONE*

- *Any cash requested or received from other non-Federal entities - NONE*

- *Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied. - NONE*

In addition, please identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. For each cost, describe:

- *The project expenditure and amount - NONE*

- *The date of cost incurrence - NONE*

- *How the expenditure benefits the project - NONE*

(2) Budget Proposal

The total project cost (Total Project Cost), is the sum of all allowable items of costs, including all required cost sharing and voluntary committed cost sharing, including third-party contributions, that are necessary to complete the project

Table 1.—Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$ 199,500
Costs to be paid by the applicant	\$ 200,058
Value of third-party contributions	- 0 -
TOTAL PROJECT COST	\$ 399,558

Table 2. – Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION			District-RECIPIENT MATCH	RECLAMATION GRANT FUNDING
	\$/Unit	Quantity	Unit Price		
SALARIES AND WAGES					
District Manager	Hours	240	\$35.00	\$8,400	\$0
District Equipment Operator	Hours	940	\$30.00	\$28,200	\$0
District Construction Laborers – 3	Hours	3,000	\$27.44	\$82,320	\$0
District Truck Driver	Hours	120	\$23.00	\$2,846	\$0
District Secretary	Hours	200	\$18.00	\$3,600	\$0
FRINGE BENEFITS - NONE					
TRAVEL – NONE INCLUDED					
EQUIPMENT (no operator)					
Kamatsu 170 Excavator	Hours	960	\$59.47	\$57,091	\$0
Case 590 Backhoe/Loader	Hours	120	\$38.21	\$4,585	\$0
Ford End Dump Truck	Hours	120	\$12.50	\$1,500	\$0
Bomag Compactor	Hours	420	\$26.56	\$11,155	\$0
SUPPLIES and MATERIALS					
Redi-Mix Concrete, w/travel	CY	12	\$150.00	\$0	\$1,800
Pit Run Gravel	CY	400	\$6.50	\$0	\$2,600
12" PVC pipe	LF	7,700	\$15.00	\$0	\$115,500
Flumes	Each	6	\$7,000	\$0	\$42,000
Electronic gage units	Each	2	\$7,300	\$0	\$14,600
"WATERS" accounting software	Each	1	\$10,000	\$0	\$10,000
CONTRACTUAL/CONSTRUCTION					
NEPA - USBR	LS	1	\$3,000	\$0	\$3,000
NHPA - USBR	LS	1	\$5,000	\$0	\$5,000
Engineer design & oversight	LS	1	\$8,000	\$0	\$8,000
OTHER					
Water quantity & quality monitoring	Hours	20	\$18.00	\$360	\$0
THIRD-PARTY CONTRIBUTIONS - NONE					
TOTAL DIRECT COSTS				\$200,058	\$199,500
INDIRECT COSTS - NONE					
TOTAL GRANT FUNDS REQUESTED ---->					\$ 199,500
TOTAL ESTIMATED PROJECT COST ---->					\$ 399,558

(3) Budget Narrative

Salaries & Wages

- District manager,
 - \$35/hour for all work
 - 200 hours for project crew oversight
 - 40 hours assisting BoR in compliance review, bidding, and reporting
- District secretary,
 - \$18/hour for all work
 - 200 hours assisting reporting, bidding and contracting
- District construction laborers – 3-person crew
 - \$27.44/hour (average for 3) for pipe installation and flume installation
 - 3,000 total hours to dig trench, pack, lay pipe & flume, & refill
- District equipment operator
 - \$30/hour for pipe installation and loading bedding material
 - 940 total hours to dig trench & install flumes
- District truck driver
 - \$23.72/hour for pipe installation
 - 120 total hours to deliver bedding material

Fringe Benefits - NONE

Travel - NONE

Equipment

- District excavator dig trench, lay pipe, bedding material, help backfill, dig canal
 - \$59.47/hour per Corps worksheet #H25KM003
 - 960 hours for all tasks
- District dump truck to haul bedding material to the trench and flume project
 - \$12.50/hour
 - 120 hours for all tasks
- District backhoe/loader to load bedding material into truck
 - \$38.21/hour per Corps worksheet #L50CS008
 - 120 hours for all tasks
- District Bomag compactor –
 - 420 hours @ \$26.56/hour - rate per Corps worksheet #C10BO013
 - compacting soil around pipe and before pouring concrete

Materials & Supplies

- All materials below are for construction purposes and were estimated by acquiring quotes from local distributors
 - Concrete for pipe joints@ \$150.00/yard x 12 yards (GRANT) = \$ 1,800
 - Gravel for pipe bedding@ \$6.50/yard x 400 yards ..(GRANT) = \$ 2,600
 - PVC 12" pipe @ \$15.00/foot x 7,700 feet.....(GRANT) = \$115,500
 - Flumes – 6 precast @ \$7,000 each (GRANT) = \$ 42,000
 - Electronic gage equipment – 2 @7,300(GRANT) = \$ 14,600
 - “WATERS” computer software – 1 @ \$10,000 each .(GRANT) = \$ 10,000

Contractual

- District will contract with BoR or private for:

- NEPA(GRANT) = \$ 3,000
- NHPA(GRANT) = \$ 5,000
- Engineer design and project inspection(GRANT) = \$ 8,000

Third-Party In-Kind Contributions – NONE

Environmental and Regulatory Compliance Costs

- Part of BoR or private contractual costs listed above

Other Expenses

- District staff
 - \$18/hour for all work
 - 20 hours monitoring water quality & quantity= \$ 360

Indirect Costs - NONE

Contingency Costs - NONE

Total costs

- Entire project = \$399,588
- Non-federal cost-share indirect in-kind = \$200,058
- **Federal cost-share= \$199,500**

Required Permits or Approvals

No permits required for project. District has installed several projects converting open ditches to buried pipelines with permits only required when crossing a stream or wetlands.

Letters of Support and Letters of Partnership

Attachment #3 provides project Letters of Support from: Sun River Watershed Group that describes the importance of teamwork; seven (7) businesses that depend upon the District and its water users for a significant part of their business income; and 20 water users of all sizes of operation that depend upon the District remaining healthy for their livelihood. If it not been for a busy fall farming season, the District staff would have been able to obtain supports letters from almost every water user.

Official Resolution

The District contributions to this project are \$200,000 in-kind services of labor and equipment to complete the project within two years. See below for signed board resolution.

RESOLUTION

**Fort Shaw Irrigation District
Board of Commissioners
Fort Shaw, MT 59443**

**RESOLUTION SPONSORING
BUREAU OF RECLAMATION 2021 GRANT
FOR WATER AND ENERGY EFFICIENCY**

WHEREAS, Fort Shaw Irrigation District's infrastructure is in dire need of immediate and long-term improvements to deal with the long-term drought conditions, and

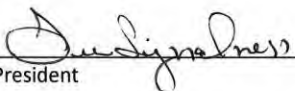
WHEREAS, Fort Shaw Irrigation District's overall infrastructure is in need of many improvements to improve its water management for this and future generations, therefore

BE IT RESOLVED, the Fort Shaw Irrigation District's Board of Commissioners has reviewed and authorizes the board's president to pursue a Bureau of Reclamation 2021 Water and Efficiency grant; and

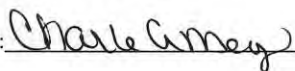
BE IT FURTHER RESOLVED, the Fort Shaw Irrigation District's Board of Commissioners will work with Reclamation staff to meet established deadlines; and

BE IT FURTHER RESOLVED, the Fort Shaw Irrigation District's Board of Commissioners by the authority given to it by the State of Montana is committing \$200,000 of in-kind resources, including heavy equipment, labor to operate equipment, labor to install pipe, and personal to manage the grant to complete the project by September 30, 2024.

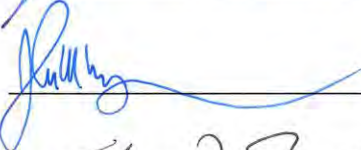
Dated this 15th day of October, 2021.




President

Attest: 







District Letter of Commitment

FORT SHAW IRRIGATION DISTRICT
P O BOX 154
FORT SHAW, MT 59443
406-264-5751

October 15, 2021

Bureau of Reclamation
Denver, CO 80225

RE: Letter of Commitment


Dear Bureau of Reclamation:

The Fort Shaw Irrigation District is writing this Letter of Commitment for the 2021 Reclamation WaterSMART grant application. We will commit \$200,000 of in-kind resources to this water and energy efficiency grant.

The in-kind resources will be sufficient to accomplish the project before the agreed upon completion date AND it includes our construction crew and equipment to install gages, turnouts and pipelines.

Call me at 406-836-1731 if have any questions concerning this project.

Sincerely,


Lee Signalness, President
Fort Shaw Irrigation District

Sun River Watershed Tour Great Falls Tribune

Outdoors

Billings Gazette
THURSDAY
NOVEMBER 27, 2014

WYOMING OUTDOORS: Giving thanks for another great year Page 9

D ■ Field guide, 2 ■ Gear Junkie, 2 ■ Your Shots, 9

GET THE LATEST NEWS AND UPDATES AT BILLINGSGAZETTE.COM

COLLABORATIVE EFFORT HELPS IRRIGATORS AND FISHERY



Increasing water flows in the Sun River hasn't been an easy process, but by working with irrigators to make changes in consumption, more water now remains in the river.

LESSONS FROM THE SUN

Story and Photos
By BRETT FRENCH
french@billingsgazette.com

When the light hits the water just right, the Sun River looks like a shallow flow of smooth molten gold bubbling over rounded cobble.

"Water is gold," claimed Rich Boyle, of the Fort Shaw Irrigation District, which draws its water from the Sun River. "Gold is irrelevant. You can live without gold. You can't live without water."

As proof of that statement, Boyle's district has partnered with Trout Unlimited, the Coca-Cola Co. and landowners to pull off a considerable conservation of the Sun River's liquid gold. Over five years more than 6 miles of irrigation pipeline was installed to replace canals, leaving about 50 more cubic feet per second flow in the river. About 2,000 feet of lined irrigation canal was built, diverting another 80 cfs of water. Sprinkler systems that use 3 cfs have replaced the old flood irrigation method that drew 20 cfs.

The result: With a water right of 263 cfs, the irrigation district has been able to cut back to 215 cfs on a system that was first built in 1908 — a year in which Wilbur Wright demonstrated the wonderment of controlled flight in France.

Increasing flows

All told, the irrigation's water conservation project cost about \$970,000. "It's all about teamwork," said Alan

Rollo, of the Sun River Watershed Group. "In the old days... there was no mandate to keep any water in the Sun River."

But now, the different groups have found a way for everyone to benefit.

Laura Ziemer, senior counsel and water policy adviser for Trout Unlimited in Montana, points to a water flow gauge installed next to a bridge near the small town of Simms as a measure of the effort's success. Water flows in the river used to drop dramatically as the irrigation season kicked in, sometimes reducing the river to only 30 or 50 cfs. This despite the fact that Montana Fish, Wildlife and Parks has a water right of 130 cfs for the Sun River below Elk Creek. That flow is considered the minimum to keep the river's fish alive.

This summer, although featuring a better snowpack than usual, the Sun River dropped below 80 cfs only once in early July before rising back up and staying at or above the 31 year median flow for much of the rest of the summer.

Mountain stream

The Sun River's headwaters are born in the snowmelt of the Bob Marshall Wilderness high in the dramatic mountains that create the Rocky Mountain Front. Gibson Reservoir stores the spring runoff while the Sun River Diversion Dam splits the flow to nourish fields for separate irrigation districts downstream. At the mouth of the 130-mile long river, the Sun joins the Missouri River at Great Falls.

Please see Water, D3



Alan Rollo of the Sun River Watershed Group, talks about how lining a canal in the Fort Shaw Irrigation District has saved water.



Trout Unlimited's Laura Ziemer has been integral in working to help irrigators so that more water can be returned to the Sun River's fishery.



7140 Canyon Blvd.
7170 Canyon Blvd.
7180 Canyon Blvd.
7190 Canyon Blvd.
7200 Canyon Blvd.
7210 Canyon Blvd.
7220 Canyon Blvd.
7230 Canyon Blvd.
7240 Canyon Blvd.
7250 Canyon Blvd.
7260 Canyon Blvd.
7270 Canyon Blvd.
7280 Canyon Blvd.
7290 Canyon Blvd.
7300 Canyon Blvd.
7310 Canyon Blvd.
7320 Canyon Blvd.
7330 Canyon Blvd.
7340 Canyon Blvd.
7350 Canyon Blvd.
7360 Canyon Blvd.
7370 Canyon Blvd.
7380 Canyon Blvd.
7390 Canyon Blvd.
7400 Canyon Blvd.
7410 Canyon Blvd.
7420 Canyon Blvd.
7430 Canyon Blvd.
7440 Canyon Blvd.
7450 Canyon Blvd.
7460 Canyon Blvd.
7470 Canyon Blvd.
7480 Canyon Blvd.
7490 Canyon Blvd.
7500 Canyon Blvd.
7510 Canyon Blvd.
7520 Canyon Blvd.
7530 Canyon Blvd.
7540 Canyon Blvd.
7550 Canyon Blvd.
7560 Canyon Blvd.
7570 Canyon Blvd.
7580 Canyon Blvd.
7590 Canyon Blvd.
7600 Canyon Blvd.
7610 Canyon Blvd.
7620 Canyon Blvd.
7630 Canyon Blvd.
7640 Canyon Blvd.
7650 Canyon Blvd.
7660 Canyon Blvd.
7670 Canyon Blvd.
7680 Canyon Blvd.
7690 Canyon Blvd.
7700 Canyon Blvd.
7710 Canyon Blvd.
7720 Canyon Blvd.
7730 Canyon Blvd.
7740 Canyon Blvd.
7750 Canyon Blvd.
7760 Canyon Blvd.
7770 Canyon Blvd.
7780 Canyon Blvd.
7790 Canyon Blvd.
7800 Canyon Blvd.
7810 Canyon Blvd.
7820 Canyon Blvd.
7830 Canyon Blvd.
7840 Canyon Blvd.
7850 Canyon Blvd.
7860 Canyon Blvd.
7870 Canyon Blvd.
7880 Canyon Blvd.
7890 Canyon Blvd.
7900 Canyon Blvd.
7910 Canyon Blvd.
7920 Canyon Blvd.
7930 Canyon Blvd.
7940 Canyon Blvd.
7950 Canyon Blvd.
7960 Canyon Blvd.
7970 Canyon Blvd.
7980 Canyon Blvd.
7990 Canyon Blvd.
8000 Canyon Blvd.



October 26, 2021

US Bureau of Reclamation
Mr. Josh German
WaterSMART Water and Energy Efficiency Grants
Program Coordinator

RE: Support for Fort Shaw Irrigation District WaterSMART WEEG Proposal

Mr. German:

The Sun River Watershed Group (SRWG) has worked with Fort Shaw Irrigation District on several water efficiency improvement projects in recent decades, and we would like to express support for their proposed 2022 WaterSMART Water and Energy Efficiency proposal.

The Sun River watershed includes a network of irrigation infrastructure that has been in place since authorization of Reclamation's Sun River Project in 1906. After over a century of operation, much of this infrastructure needs repair or replacement, and new technology exists that can increase efficiency of irrigation water conveyance and result in water savings. SRWG applauds Fort Shaw Irrigation District's efforts in water savings through improved infrastructure, technology, and communication presented in their current WEEG proposal.

The combination of piping an aged, leaky ditch; adding flow monitoring devices; and upgrading water delivery software will minimize water loss during conveyance and improve communication about water distribution and use. Accurately tracking water distribution and modernizing water order infrastructure will help PSID better manage water deliveries and minimize losses.

SRWG recognizes the value of PSID's project, not just as an improvement to Fort Shaw's irrigation infrastructure, but as part of a greater effort across the watershed to improve water savings through better technology, communication and infrastructure upgrades. SRWG and Greenfields Irrigation District are likewise working on water efficiency projects, and the aggregate effect of projects by all these partners will result not only greater cumulative water savings, but when combined, the savings from all of these projects have the potential to greatly improve seasonal flows in the Sun River and its tributaries for the benefit of fish and wildlife habitat.

Thank you for considering this worthwhile project.

A handwritten signature in cursive script that reads "Tracy Wendt".

Tracy Wendt, Executive Director
Sun River Watershed Group

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,

Glen Birky
XB Trailer Sales
6 Gen Court
Great Falls, MT
59404

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,

Sean P. Hoven
Hoven Equipment Company
Great Falls, Mt. 59405

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,

Robert Curtis
Curtis Service Center

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,

A handwritten signature in black ink, appearing to read "Cash". The signature is fluid and cursive, with a large loop at the end.

WRS

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,


Lapke Const.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely,

Karl Binky (KIB Homes LLC)

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As a representative of a local business, I understand the necessity of agriculture to all communities in the Sun River Valley. A large percentage of local businesses are either agricultural-based or benefit from being in an agricultural-based community. Local income and purchase of local products allows the local businesses and other groups the opportunity to thrive in these local communities.

The local economy relies on the sustainability of agriculture and in many instances this agriculture relies on irrigation. Without irrigation, many farmers and ranchers would lose the income necessary to allow small communities the opportunity to exist. There would be a decline in profits for farmers, ranchers and local businesses and a communities would be unable to survive without agriculture.

Therefore, I am in full support of any efforts made to improve the Fort Shaw Irrigation District's infrastructure project.

Sincerely, *Samy's Fire*

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

Glen Birky
PO Box 178
Fort Shaw, MT
59443

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

Patricia Johnson (LaRoque)

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely, 

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script that reads "Kyle Thomas". The signature is written in dark ink and is positioned below the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynn L. L. L.", is positioned to the right of the word "Sincerely,". The signature is written in a cursive, flowing style.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

Rich Boyle

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

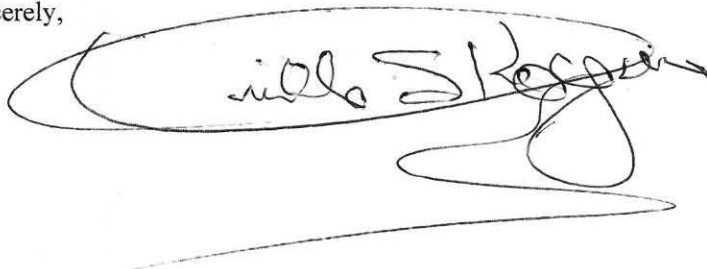
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Stegeman". The signature is enclosed within a large, hand-drawn oval. Below the oval, there is a long, horizontal, slightly wavy line that extends to the right, possibly representing a flourish or a separator line.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

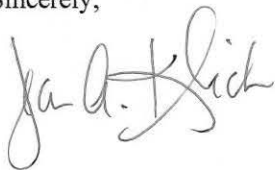
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. A. Dick".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,



October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script that reads "Robert A. Gray". The signature is written in black ink and is positioned below the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to read "M. J. [unclear]", is written below the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script that reads "Richard J. Eisenzimer". The signature is written in dark ink and is positioned to the right of the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script that reads "Barbara Pepper". The signature is written in dark ink and is positioned below the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to read "John G. [unclear]", is written in a cursive style.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

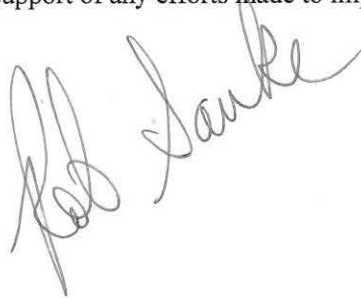
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script, appearing to read "Rob Sanke". The signature is written in dark ink and is positioned to the right of the word "Sincerely,".

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

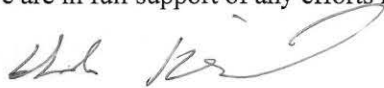
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in black ink, appearing to be "Sh. K.", written over a horizontal line.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

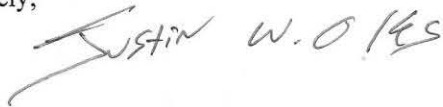
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

Justin W. Oles

I W Cattle Co.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,




April 6, 2010

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

As an irrigator in the Fort Shaw Irrigation District, I rely heavily on your system to supply me with precious irrigation water. I feel it is important to both the agriculture lifestyle as well as my survival in this community that your system be maintained. Without proper maintenance, a failure of the system could result in loss of water during an irrigation season. The outcome from loss of water would be devastating and include loss of crops and/or hay ground and, in the end, loss of income for an unspecified period of time. Of late, the economy has been hard for many and it would be financially beneficial to repair and/or rehabilitate facilities prior to failure.

Therefore, I am in full support of any efforts made to improve the FSID infrastructure. The overall system is extremely important to those of us in the FSID as well as to the communities in this area that rely on a healthy agriculture economy. I do not think many folks could financially survive a summer without irrigation water.

Sincerely,

 William Const.

October 17, 2021

Fort Shaw Irrigation District
P.O. Box 154
Fort Shaw, MT 59443

To Whom It May Concern,

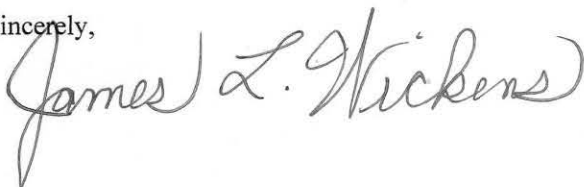
We would like to go record for supporting the Fort Shaw Irrigation District's grant application for the infrastructure improvement project. Water is an irreplaceable resource that needs to be protected and conserved; therefore, pushing proper water conservation and management to the forefront of many entities and groups' priority lists has been necessary. Water shortages and over-allocation of the available Sun River water has not gone unnoticed by those of us who rely on this water for the benefit of important issues such as irrigation.

Conserving water wherever possible is ideal and Fort Shaw Irrigation District's desire to improve their infrastructure is a good step in the right direction. This project will help improve water management which will in turn allow more of this valuable resource to become available for all water uses.

This project will not only directly benefit Fort Shaw Irrigation District and irrigators but will also benefit many other entities in the long run.

Therefore, we are in full support of any efforts made to improve the District's infrastructure.

Sincerely,

A handwritten signature in cursive script that reads "James L. Wickens". The signature is written in dark ink and is positioned below the word "Sincerely,".