

Telemetry #3

Telemetry #2

Fort Sumner

84

FORT SUMNER IRRIGATION DISTRICT CANAL FLOW TELEMETRY AND AUTOMATIC HEAD GATE PROJECT

Small Scale Water Efficiency Projects
Water SMART Funding Opportunity # BOR DO 19 F005

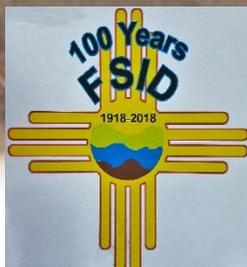
Submitted by:

Fort Sumner Irrigation District
PO Box 374
611 N 4th St
Fort Sumner NM 88119

Office:
575 355 2630
Manager:
Wade Holdeman
575 512 6604
fsid.mgr@gmail.com

Wilson Head Gate

Telemetry #1



Title Page	
Table of Contents	1
Technical Proposal and Evaluation Criteria	
Executive Summary	2
Background Data	3
Project Location Map w/Lat & Long	4
Technical Project Description	5
Evaluation Criteria	6
Project Budget	
Budget Proposal	7
Budget Narrative	8
Environment and Cultural Resources Compliance	9
Letters of Project Support	
Natural Resources & Conservation Service	10
New Mexico Interstate Stream Commission	11
Official Resolution	12
Automatic Gate Site & Photos/Description of Problem	13

Technical Proposal and Evaluation Criteria

Executive Summary:

Date: April 24, 2019

Applicant name: Fort Sumner Irrigation District

City: Fort Sumner

County: DeBaca

State: New Mexico

Executive Summary:

Fort Sumner Irrigation District (FSID) believes we can help the U.S. Department of the Interior's effort and intent to stretch and secure water supplies for future generations by leveraging our State funds with the help of WaterSmart funds. We believe we have a project that will modernize some of our delivery system to stretch water supplies in times of scarcity and help avoid conflicts over water. This project will also be in accord with section 4 of the October 19, 2019 Presidential Memorandum on Promoting the Reliable Supply and Delivery of Water to the West, by improving the use of technology for real-time monitoring for increased reliability and management of water deliveries. We have a project that falls into this category that we have had in the planning process for the last 2+ years. FSID is also supported in the DeBaca County Comprehensive Plan 2016. It states that it supports the District in ongoing efforts to upgrade its monitoring and record keeping capabilities including installing telemetry technology. And along with that support they also assist the District in utilizing State & Federal funds to the fullest extent for infrastructure improvements and planning. Our research for this project has produced a collection of specific plans of products and components that are readily available to professionals in the field of telemetry and irrigation automation. This includes telemetry connected to water flow measurement equipment to be installed in conjunction with an automatic head gate actuator. This will provide a constant flow of water on a major lateral and the data collected will help make water management decisions.

We have budgeted a portion of our Capital Improvement funding to be utilized for this project which will be available by the end of our irrigation season, October 31st. We could feasibly begin the project the first of November and have it completed by the following March.

The locations that the equipment will be placed for this project will be on FSID property or on FSID right of ways. None will be located on Federal facility.

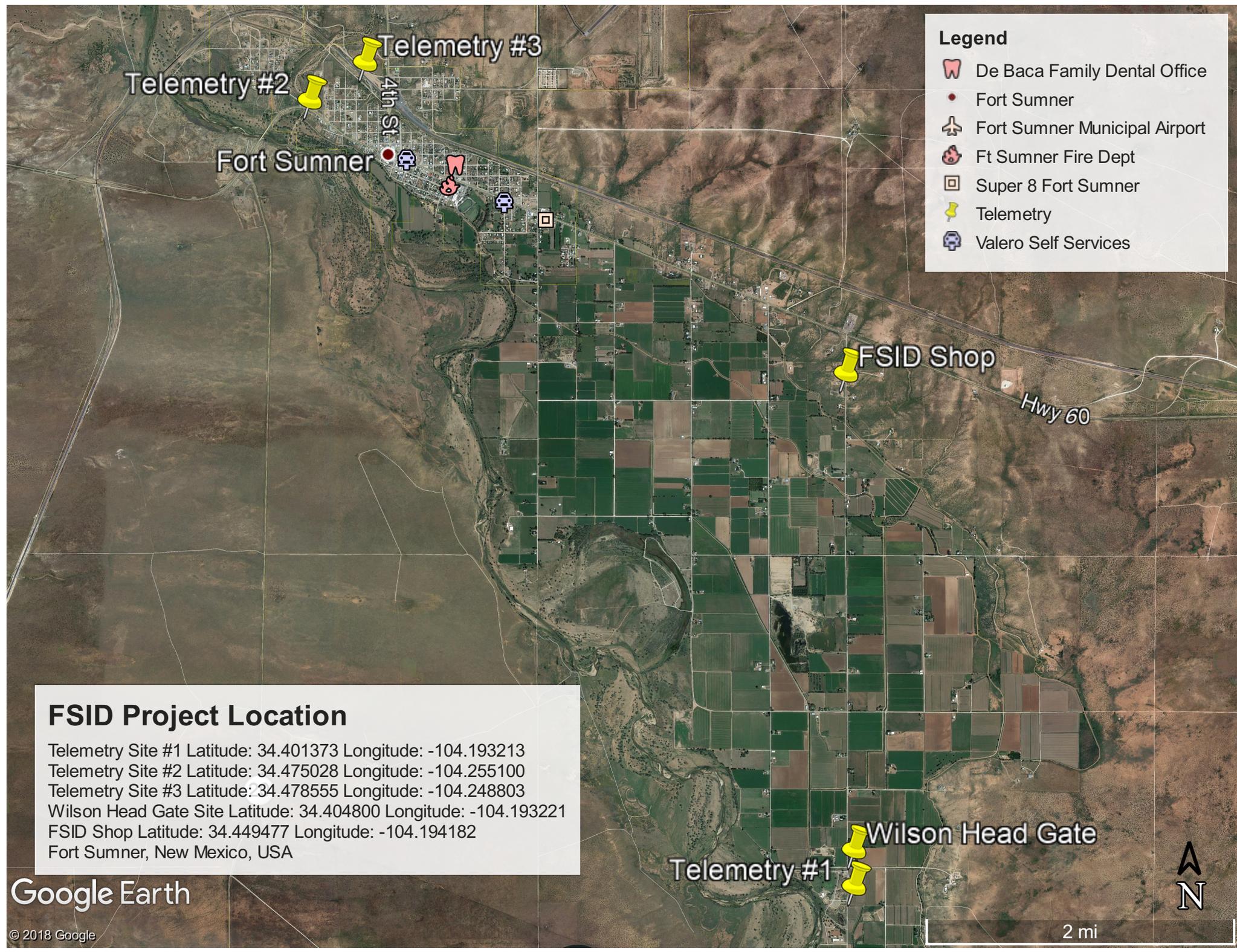
ATTACHMENT 3

BACKGROUND DATA

The Fort Sumner Irrigation District (FSID) provides irrigation water to approximately 6,700 acres, which is compiled of 220 producers. The Pecos River provides the main source of water. FSID's principal structures are the Diversion Dam and Pumping Plant, the Main and High Line Canals, several laterals, and several large drains. The majority of production is alfalfa with a small percentage of various types of other forage crops. Rainfall is insignificant and crop production requires irrigation. The seasonal rainfall average is between thirteen and fifteen inches, but is erratic.

The Fort Sumner Irrigation District (FSID) holds a senior water right for not more than 100 cubic feet per second from the natural flow of the Pecos River. The district's water passes through Sumner Dam. Water is released from the Sumner Lake to the district in amounts equal to the natural flow of the river as determined by the Office of the State Engineer, but not exceeding 100 cubic feet per second. Water is diverted from the Pecos River by the Fort Sumner Diversion Dam, approximately 3 miles north of Fort Sumner, and is carried to the land through a main canal and distribution system, which was rehabilitated and enlarged with the assistance of Reclamation (1951). The dam is a concrete gravity-type with an overflow weir, designed to raise the water surface 11 feet. The overflow section is 650 feet long. The dam is 150 feet downstream from the remnants of a damaged diversion dam that it replaces. The dam also has 2 sluice radial gates and canal headworks structures. The Main Canal is over 16 miles long (approximately ½ concrete lined and ½ dirt ditch) and has an initial capacity of 100 cubic feet per second. The High Line Canal is over 6 miles long (concrete lined) and has a capacity of 20 cubic feet per second. The pumping plant is located northwest of Fort Sumner, lifts 20 cubic feet per second of water from the Main Canal, and delivers it to the High Line Canal. In addition, the Fort Sumner Irrigation District has installed a small pumping plant near the southern end of the district, which lifts drainage return flows back into the lateral system.

Most recently, the Fort Sumner Irrigation District is working with the Bureau of Reclamation to provide water for the endangered species, the Bluntnose Shiner. The District is in the final year of a Forbearance Contract (11 year contract), in which FSID forbears their water and allows the Bureau to utilize that water as they see fit for the Shiner. Generally, the Bureau stores the water in Sumner Lake and releases it, as needed to maintain specific levels of water in the Pecos River.



Legend

-  De Baca Family Dental Office
-  Fort Sumner
-  Fort Sumner Municipal Airport
-  Ft Sumner Fire Dept
-  Super 8 Fort Sumner
-  Telemetry
-  Valero Self Services

FSID Project Location

Telemetry Site #1 Latitude: 34.401373 Longitude: -104.193213
 Telemetry Site #2 Latitude: 34.475028 Longitude: -104.255100
 Telemetry Site #3 Latitude: 34.478555 Longitude: -104.248803
 Wilson Head Gate Site Latitude: 34.404800 Longitude: -104.193221
 FSID Shop Latitude: 34.449477 Longitude: -104.194182
 Fort Sumner, New Mexico, USA

Google Earth

© 2018 Google

2 mi



Technical Project Description:

The project will give ditch riders and water manager near real-time measurements of water flows at key points in our canal and lateral system. The telemetry equipment will transmit the data from the water flow measurement devices to the FSID shop location. The receiver will send the data to the internet using special software. The system will have the capability to send an alert to the operators cell phone if the flows get outside of a preset perimeter. This will substantially decrease the response time where the problem occurred. The telemetry system will provide near real-time flow amounts so better decision making will occur concerning delivery of water in a more efficient manner. The other component of the system will be the automatic head gate controller. It will work in conjunction with the telemetry to adjust flows in the Wilson lateral. The problem we need to mitigate is as surges and then lower flows of water come down the canal the lateral either over or under waters. This causes a problem with producers wanting to keep a field dry for harvest. There are also times of under watering. Some fields are quite sandy. This causes a problem getting enough water to the section of field being irrigated. There are times that the progress of the irrigation is reversed and the water recedes. Once the problem is detected we may have lost up to half a day of watering time. This problem will be reduced to a minimum if not completely reconciled. The telemetry will also serve as a back-up monitor to warn of over or under flows if there is a failure of the automatic gate.

Mitigating this situation should have a measurable effect in the total watering time for the Wilson lateral. We conceivably should be able to convert watering time into a quantity of water that is saved by using this system. This result will only be more profound as dryer cycles of weather occur causing shortages of water.

FSID has already budgeted state funding for Infrastructure and Capital improvements for the 50% cost share required. We will be able to start securing a contractor and proceed with the project in a timely manner. It will be approximately four weeks to acquire the equipment and an additional 4 to 6 weeks to do the install. This would make it reasonable that we could have the project in operation by the start of 2020 water season in March.

ATTACHMENT 6

E.1.1. Evaluation Criterion A—Project Benefits (35 points)

Up to 35 points may be awarded based upon evaluation of the benefits that are expected to result from implementing the proposed project. This criterion considers a variety of project benefits, including the significance of the anticipated water management benefits and the public benefits of the project. This criterion prioritizes projects that modernize existing infrastructure in order to address water reliability concerns, including making water available for multiple beneficial uses and resolving water related conflict in the region.

• Describe the expected benefits and outcomes of implementing the proposed project. What are the benefits to the applicant's water supply delivery system?

• Currently the Fort Sumner Irrigation District (FSID) relies on manual measurements and past operational experience to determine flows to make daily water movement and delivery decisions. After installing real time remote measurement equipment, system operators will be able to operate in a more efficient manner by having real time flow amounts. This will enable less experienced operators to deliver water in a more consistently, and will accomplish two things; (1) make better use of water in times of shortages and (2) increase efficiency on a daily basis due to less waste of water and time. In addition, this would demonstrate the benefits of continuing to increase the use of available technology for increased flexibility of operation for future conditions. This will allow FSID to continue to be productive in the face of climate change and seasonal fluctuations of water supply.

The implementation of automatic controlled head gates will address the problem of inconsistent flows, which is problematic. This includes overwatering and overflowing ditches, as well as under delivering water resulting in greatly increased watering times, and leads to crop stress in times of reduced water supply. Fluctuation is a result of normal operations in other parts of the system.

The following scenario based on previous incidents, exemplifies these problems:

The system operator (Ditch Rider) starts water delivery to a producer. The producer's irrigator sets the checks in their ditch and expects it to take 10 to 12 hours before a change is required. Typically, he may leave and return half way through the expected time to check on the water until finished. The assumption would be that everything is ok for at least 5 – 6 hours. The ditch rider checks the water flows, and all looks good. He then goes to attend water changes in another part of the system. Shortly after the irrigator and the ditch rider leave, a surge of water from a previous water delivery change in the system reaches the lateral and over flows the ditch for a period of time, which wets a portion of a producers field that he needed to keep dry for harvest. As that water recedes it dwindles to a lower than desired level, due to an over delivery in the system upstream. This condition may continue until the irrigator or ditch rider returns, hours later. Once the problem is detected, and corrected, it may take several hours to return to normal. The result is the field watering progress has actually receded and the time until progress is again being made could be 8 to 12 hours.

This scenario will be mitigated with an automatically controlled head gate to do real time adjustments for a consistent flow. The telemetry element of this project will be a real-time confirmation that the water flows are as expected. A software alarm can be set to notify by text

messaging, the ditch rider and/or manager, of flows outside a preset perimeter for a timely intervention of a problem.

If other benefits are expected explain those as well. Consider the following:

Extent to which the proposed project improves overall water supply reliability

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

- In addition to the benefits to our producers, there are other potential benefits to State and Federal agencies.

The Interstate Stream Commission (ISC) maintains gages in the Main Drain and the Lower Drain of the FSID system. These gages measure return flows to the river. Presently the telemetry signals from these gages are relayed across almost half the state of New Mexico by a radio repeater system that is often unreliable. The result is the data from the gages is historical but not reliable enough for real-time decision making.

ISC also operates a well field near the district for supplemental flows to the river to help meet ESA flows. The telemetry and monitor system for the well field uses the same type radio system as the Lower and Main Drain gages.

FSID and ISC have been in meetings to attempt a collaboration to allow FSID to host ISC data directly to the web instead of the current path the radio signal must take. At the last meeting in a preliminary discussion it appeared it may be feasible as there are several options on protocol to be used for this type of data transfer. FSID is plans on installing equipment that will be compatible with equipment already in use to facilitate the collaboration. Please note ISC letter of support **Attachment 11**.

The return flows and supplemental pumping affect the decisions of the Bureau of Reclamation (BOR) on water release flows needed on the river to meet ESA flows that are required by the 2017 Biological Opinion.

The result of this cooperation would be more timely and accurate decision making to increase water efficiency and savings especially in times of shortage and changes in weather patterns.

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

- Besides the above benefits, FSID can be a role model to smaller districts and acequias by showing how technology can benefit water conservation.

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

- Some economic predictions are a continual decline of economics and population in DeBaca County. The water for agriculture is the backbone of the local economic scene. Infrastructure maintenance and improvements have a ripple effect into the future for a positive economic impact. Without the backbone of our local agriculture, our community could become near ghost town as seen in other communities in our region. This would also impact local amenities that are beneficial to other economic sectors such as tourism.

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

work that is currently being completed or is anticipated to be completed in the future using NRCS assistance through EQIP or other programs.

- Farm producers in our area work closely with NRCS to upgrade on-farm infrastructure, some of which is used collectively by the farmers and the district. This cooperation needs to be supported by the district doing our part with ongoing planning and improvements. The district has been informed by our local NRCS office that our district being awarded WaterSMART funding will benefit local producers by opening up more options for EQIP funds. EQIP funding is being utilized in some cases to re-level fields and change grades or even direction of flow for an overall increased efficiency of irrigation. This may be combined with new concrete lined ditches and/or pipelines to improve and maintain irrigation water delivery systems. Please note NRCS letter of support **Attachment 10**.

E.1.2. Evaluation Criterion B—Planning Efforts Supporting the Project (35 points)

Up to 35 points may be awarded based on the extent to which the proposed on-the-ground project is supported by an applicant's existing water management plan, water conservation plan, System Optimization Review (SOR), or identified as part of another planning effort led by the applicant. This criterion prioritizes projects that are identified through local planning efforts and meet local needs.

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

- FSID is supported in the DeBaca County Comprehensive Plan 2016. It states that it supports the District in ongoing efforts to upgrade its monitoring and record keeping capabilities including installing telemetry technology. (I-15, I,I-16, VII-7) Along with this they also support the District in utilizing State & Federal funds to the fullest extent for infrastructure improvements and planning. (I-10, I-15, VII-7)
- The ISC is currently working with the (BOR) on a multi-year Pecos Basin Study. Although the Study is currently in draft form, it is expected to be finalized and published at the end of 2019. In FSID's preview copy the Study lists telemetry as one of the goals in FSID's list of improvements.

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

- The FSID Board discussed the plan in meetings during summer and fall of 2017. An Infrastructure Capital Improvement Plan Resolution 2017-4 was adopted at the May 2017 to include automatic gates that we filed with the State of New Mexico Department of Finance.

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

- This project is the first step for FSID to bring telemetry and automation to the district. It appears to be the best solution to possible threats of litigation, which result from a lack of control of surplus water.

This project could also be a viable step in making FSID systems return flow data more readily available to those making decisions for ESA river flows. This will be accomplished by FSID using equipment installed for our project, and also used in delivering drain flow data to ISC via the

internet. This will save the state installing more radio repeater equipment to increase the reliability of the system currently in use. This option would make the system more reliable but still not provide near real time data reports.

Please note: on-farm improvements themselves are not eligible activities for funding under this FOA. This criterion is intended to focus on how the WaterSMART Grant project will complement ongoing or future on-farm improvements. NRCS will have a separate application process for the on-farm components of selected projects that may be undertaken in the future, separate of the WaterSMART Grant project.

E.1.3. Evaluation Criterion C—Project Implementation (10points)

Up to 10 points may be awarded based upon the extent to which the applicant is capable of proceeding with the proposed project upon entering into a financial assistance agreement. 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. Please also see Section C.3.3. Length of Projects.

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

- This project is expected to be completed within 3 months after the project begins. Once funds are awarded, FSID will proceed with an RFP (request for proposal) and secure a contractor to provide equipment and installation.

Equipment delivery would typically be expected within 4 weeks of order. The Installation of the telemetry and gate automation controls would take 4 - 6 weeks. So it is feasible that the majority of the installation would take place during the non-irrigation season, Nov 1st to Feb 28th. (a 12 week period)

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

- No special permits are expected to be required for this project as all installations will be on FSID property or right of ways. We would only expect to do a normal 811 call before digging post holes for telemetry antenna mounting.

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

- The contractor will be responsible for any specific engineering required for the project. The project consists of typical installations that would require minimal site-specific design.

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

- Our current policies will not change. There will be a need for training of employees on how to implement and operate new equipment on the canal and lateral.

Describe how the environmental compliance estimate was developed. Have the compliance costs been discussed with the local Reclamation office?

A basic outline with location and scope of work was submitted to USBR Albuquerque office for review. They responded with the following: Based on the information currently provided, we anticipate \$1,000.00 for this proposed project's environmental compliance review and documentation. We will continue to work with them on all compliance issues

E.1.4. Evaluation Criterion D— Nexus to Reclamation (10 points)

Up to 10 points may be awarded based on the extent that the proposal demonstrates a nexus between the proposed project and a Reclamation project or activity. Describe the nexus between the proposed project and a Reclamation project or activity, including:

-

Is the proposed project connected to a Reclamation project or activity? If so, how? Please consider the following:

-

Does the applicant receive Reclamation project water?

- The Districts water right is the natural flow of the Pecos river up to 100 cfs. The district strives to cooperate with Reclamation in their responsibility to deliver ESA water to critical habitat below the district.

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

- Reclamation funded a major rehabilitation project in the early 1950's. This loan is in the final years of repayment. At this time Reclamation holds title to the district but FSID operates as an independent entity.

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

- Yes, the district is located in the Lower Pecos Basin along with Carlsbad Irrigation District and an area of Pecos Bluntnose Shiner critical habitat located below FSID. The shiner is listed as an endangered species.

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

- The project will have a positive effect on FSID system drain return flows. The automatic flow control gates provide a measure of water conservation due to the consistent delivery of water. The near real-time return flow data will assist Reclamations decision making for ESA flows.

Will the project benefit any tribe(s)?

- No, the project will not benefit any tribe.

E.1.5. Evaluation Criterion E— Department of the Interior Priorities (10 points)

Up to 10 points may be awarded based on the extent that the proposal demonstrates that the project supports the Department of the Interior priorities. Please address those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the Priorities listed, and whether the connection to the priority(ies) is well supported in the proposal.

1. Creating a conservation stewardship legacy second only to Teddy Roosevelt

a. Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment;

- The technologies of this project will empower us to manage our water resources in a more efficient manner, we are optimistic that this will lead to, “better practices” unconceived at this time.

b. Examine land use planning processes and land use designations that govern public use and access;

c. Revise and streamline the environmental and regulatory review process while maintaining environmental standards.

d. Review DOI water storage, transportation, and distribution systems to identify opportunities to resolve conflicts and expand capacity;

e. Foster relationships with conservation organizations advocating for balanced stewardship and use of public lands;

f. Identify and implement initiatives to expand access to DOI lands for hunting and fishing;

g. Shift the balance towards providing greater public access to public lands over restrictions to access.

- the above b. through g. don't fit our project or operation

2. Utilizing our natural resources

a. Ensure American Energy is available to meet our security and economic needs;

- FSID has an aging water powered pump for lifting irrigation water to a higher elevation ditch. This is an example of home-grown energy. Likely the telemetry system we are to install will be expanded to monitor the pumping plant. This will reduce problems or be an early warning system to reduce downtime and repairs.

b. Ensure access to mineral resources, especially the critical and rare earth minerals needed for scientific, technological, or military applications;

- Not applicable

c. Refocus timber programs to embrace the entire 'healthy forests' lifecycle;

- Not applicable

d. Manage competition for grazing resources.

3. Restoring trust with local communities

a. Be a better neighbor with those closest to our resources by improving dialogue and relationships with persons and entities bordering our lands;

- We work closely on a daily basis with stewards of the land. As we are an example of improving our infrastructure to better serve them, it has a trickle-down effect for improvements in individual operations.

b. Expand the lines of communication with Governors, state natural resource offices, Fish and Wildlife offices, water authorities, county commissioners, Tribes, and local communities.

- By installing telemetry, which is compatible with that of the state we are increasing the ability to partner in making data available to Federal (USBR, FWS), State (ISC, OSE), and the

public. This will provide better access to data for decision-making and transparency. In addition, this project will be a springboard for more co-operation with NRCS to greater benefits for the local community.

4. Striking a regulatory balance

- a. *Reduce the administrative and regulatory burden imposed on U.S. industry and the public;*
- b. *Ensure that Endangered Species Act decisions are based on strong science and thorough analysis.*

- The possibility of making near real-time data of water flows available to those responsible for ESA is a perfect fit for this point. This will be a project that will enhance the infrastructure already in place. It will make quicker and more precise decisions a possibility.

5. Modernizing our infrastructure

- a. *Support the White House Public/Private Partnership Initiative to modernize U.S. infrastructure;*

- The installation of a radio transmitter that connects to a device that measures water flow and then delivers real-time data to a radio receiver that connects to a computer which in turn puts the data on the world wide web, is definitely a modernization. Currently, there is a person looking at a staff gauge and writing it on a piece of paper and then it just sits there.

- b. *Remove impediments to infrastructure development and facilitate private sector efforts to construct infrastructure projects serving American needs;*

- We are attempting to move forward from the mindset of; “this is the way we have always done it.” This point also will be facilitated with working together with NRCS for the good of private interests that enhance conservation methods.

- c. *Prioritize DOI infrastructure needs to highlight:*

1. *Construction of infrastructure;*

- This project is an example of new infrastructure to fill DOI objectives.

2. *Cyclical maintenance;*

- With new methods of collecting, storing, and analyzing data, we will be better able to pinpoint and prioritize rehabilitation projects in problem areas of our crumbling infrastructure.

3. *Deferred maintenance.*

- In relation to above point, the data will also help make better decisions as to what proposed needs can be deferred without causing a catastrophic failure.

Attachment 7

Budget Proposal

<u>Item</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Ext Price</u>
Remote Site 1 Water Flow Monitoring (use existing flume and stilling well)			
ICTech RTU	1	\$1295	\$1295
Antenna, cable	1	\$100	\$100
Solar Panel, bracket	1	\$250	\$250
Solar Regulator	1	\$75	\$75
35AH Battery	1	\$100	\$100
Sutron SDR recorder	1	\$1400	\$1400
Float, pulley, beaded cable, wt	1	\$500	\$500
Instrument shelter	1	\$1300	\$1300
Installation labor	30	\$65	<u>\$1950</u>
Subtotal	1		\$6870

Remote Sites 2 & 3 Water Flow Monitoring

ICTech RTU	1	\$1295	\$1295
Antenna, cable	1	\$100	\$100
Solar Panel, bracket	2	\$500	\$1000
Solar Regulator	1	\$75	\$75
80AH Battery	1	\$249	\$249
Greyline AVFM w/mtg band	1	\$4500	\$4500
Instrument shelter	1	\$1300	\$1300
Installation labor	30	\$65	<u>\$1950</u>
Subtotal	1		\$10469

Gate Control

Watch Technologies Gate			
Actuator with position sensor	1	\$5500	\$5500
Additional solar panel	1	\$500	\$500
Additional 80AH batteries	4	\$250	\$1000
Battery Enclosure	1	\$500	\$500
Installation labor	30	\$65	<u>\$1950</u>
Subtotal			\$9450

Office

ICTech Radio/Modem	1	\$1295	\$1295
Antenna, cable	1	\$400	\$400
Vista SCADA software	1	\$1500	\$1500
Win911 Alarm software	1	\$3000	\$3000
Installation labor	30	\$65	<u>\$1950</u>
Total			\$8145
		Total -	\$45403

{+ estimated 10% overage \$4540.30 (this includes \$1000 for environmental compliance review and documentation)}

Total Budget **\$49943.30**

Funding Source: **\$24,971.65 requested from WaterSMART**
\$24,971.65 from State Funds (Matching)

Attachment 8

Budget Narrative

FSID's Telemetry and Automatic Control Gates project has a simple budget. The estimate for this project is primarily the equipment and the installation costs. We have estimated a 10% overage to cover the environmental compliance review and documentation and any other contingencies.

Due to the simple nature of this budget there are no line items for Salaries and Wages, Fringe Benefits or Travel.

The estimated hours for compliance with reporting requirements will be minimal because the project is estimated to be completed within 3 months of the start date. We also are partnering with Eastern Plains Council of Governments for assistance in meeting all the reporting requirements. They have the expertise and experience to help us get this accomplished in a timely manner.

The total price of the components and installation is \$45403.00. This is broken down to individual components in the Budget Proposal.

The USBR recommended budgeting approximately \$1000 for the environmental compliance review. The actual amount will come out of the amount we have budgeted for contingencies.

The amount budgeted for contingencies is \$4540

This gives an estimated Total Project Budget of \$49943.

The amount that the WaterSMART Grant would cover is \$24,971

The amount of matching funds we will cover with our State funds is \$24,971

Attachment 9

Environment and Cultural Resources Compliance Required Permits and Approvals

To comply with Environment and Cultural Resources requirements we sent a basic outline with location and scope of work to USBR Albuquerque office for review. They responded with the following:

Based on the information currently provided, we anticipate ~\$1,000 for this proposed project's environmental compliance review and documentation.

We have budgeted for this contingency and will continue to work with USBR for compliance.

No special permits are expected to be required for this project as all installations will be on FSID property or right of ways. We would only expect to do a normal 811 call before digging post holes for telemetry antenna mounting.



United States Department of Agriculture

Natural Resources Conservation Service
New Mexico Team 5
PO Box 210
Fort Sumner, New Mexico 89119-0210
Web site: www.nm.nrcs.usda.gov

Phone: Fort Sumner (575) 355-2448 ext. 3
Estancia (505) 384-2272 ext. 3
Mountainair (505) 847-2941 ext. 3
Santa Rosa (575) 472-5401 ext. 3

March 1, 2019

To Whom it May Concern:

It is my understanding that Fort Sumner Irrigation District is applying for funds through the WaterSMART program. One of the criteria for these funds is that the proposed projects complement work being done by NRCS in the area.

There are currently numerous projects planned and contracted by NRCS utilizing EQIP (Environmental Quality Incentives Program) funding to increase irrigation efficiency at the farm/field level within the Fort Sumner Irrigation District service area. Examples include Land Leveling, Irrigation Ditch Lining, Irrigation Pipeline, and Structures for Water Control. Increasing irrigation efficiency and reducing on-farm use of water are priorities of NRCS. As a matter of fact, an EQIP local watershed proposal (Arroyo de Anil Yeso Creek) has been developed and selected for funding specifically to address projects which will increase irrigation efficiency in the Fort Sumner area.

Each of the projects NRCS works on has been limited to the portion of the irrigation system located on the farm. The conveyance system which provides water to the farm has not been addressed with NRCS funding. Utilizing Water SMART funds to improve efficiency or to monitor irrigation water delivery in the conveyance system would directly enhance the work NRCS is doing on-farm.

Please let me know if you have any additional questions.

Thanks,

Wayne Sleep
NRCS Soil Conservationist
Fort Sumner, NM Field Office

NEW MEXICO INTERSTATE STREAM COMMISSION

COMMISSION MEMBERS

MARK SANCHEZ, Chairman, Albuquerque
TOPPER THORPE, Vice Chairman, Cliff
JOHN R. D'ANTONIO JR., P.E., Secretary
BLANE SANCHEZ, Isleta
CAROLYN HOLLIFIELD, Roswell
SAMUEL GONZALES, Aztec
FRANKLIN McCASLAND, Tucumcari
JACK KING, Alto



BATAAN MEMORIAL BUILDING, ROOM 101
POST OFFICE BOX 25102
SANTA FE, NEW MEXICO 87504-5102
(505) 827-6160
FAX: (505) 827-6188

April 22, 2019

RE: Fort Sumner Irrigation District's WaterSMART Grant Application

Dear WaterSMART Grants Coordinator,

The New Mexico Interstate Stream Commission (NMISC) supports the Fort Sumner Irrigation District's (FSID) efforts to obtain funding under the U.S. Bureau of Reclamation's Small Scale Water Efficiency Grant program. These funds would provide significant assistance towards greater efficiency and optimization of district water operations to the benefit of FSID water users and Pecos Basin water management in general.

In addition, FSID is currently working collaboratively with NMISC's Pecos Bureau to lay the groundwork for possible sharing of infrastructure in support of real time data access in the Fort Sumner area. Again, this partnership would benefit both FSID operations, and state and federal water management efforts.

We are encouraged by FSID's initiative to pursue this funding, as well as state funding which they have already secured, and hope you will give their application serious consideration. I'd be happy to provide any further information as necessary.

Sincerely,

A handwritten signature in black ink, appearing to read "Hannah Riseley-White".

Hannah Riseley-White
Pecos Basin Manager
Hannah.Riseley-White@state.nm.us
505-827-4029

Official Resolution

Fort Sumner Irrigation District

RESOLUTION G2019-1

WaterSMART Grant: Small-Scale Efficiency Projects

WHEREAS, the Fort Sumner Irrigation District is in receipt of the U.S. Bureau of Reclamation Funding Opportunity Announcement BOR-DO-19-F005, WaterSMART Grant: Small-Scale Efficiency Project; and

WHEREAS, the Fort Sumner Irrigation District has legal authority to enter into a grant agreement with the U.S. Bureau of Reclamation; and

WHEREAS, the Board of Directors of the Fort Sumner Irrigation District supports the application submitted; and

WHEREAS, the Fort Sumner Irrigation District is capable of providing the amount of funding and/or in-kind contributions specified in the funding plan; and

WHEREAS, the Fort Sumner Irrigation District will work with the U.S. Bureau of Reclamation to meet established deadlines for entering into a cooperative agreement; and

WHEREAS, receiving financial assistance through a WaterSMART Grant does not subject the Fort Sumner Irrigation District to the discretionary provisions of the Reclamation Reform Act of 1982;

NOW, THEREFORE, BE IT HEREBY RESOLVED by the Board of Directors that the Fort Sumner Irrigation District is committed to the financial and legal obligations associated with receipt of WaterSMART Grant financial assistance.

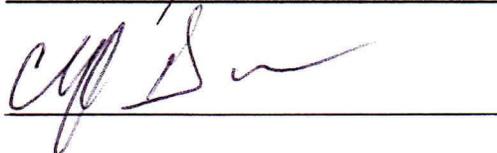
DULY ADOPTED during the special meeting of the Board of Directors this 23rd day of April, 2019.

BOARD OF DIRECTORS









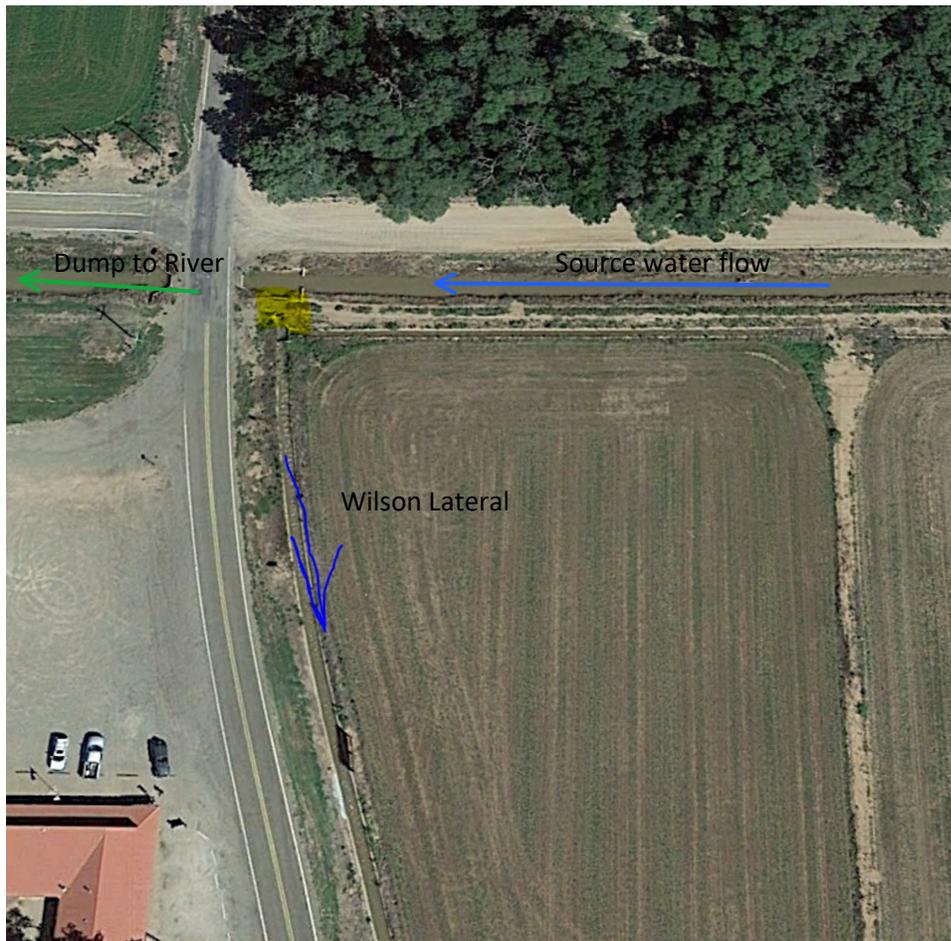
ATTEST:



Manager

13 Wilson Auto Gate Site

Wednesday, May 3, 2017 3:13 PM



Blue arrow indicates the Wilson lateral
Yellow highlight is area of proposed gate install

The situation we have is a lateral (the Wilson) that is hard to control as we have potential for a lot of fluctuation of head pressure in the ditch that feeds it. We have a hard time not getting water on some farms that want to stay dry, and still get maximum water to farms lower in the valley.





The view to the east / upstream that feeds the Wilson lateral



The inlet to the gate that we would replace with an automatic
Looking south



The view looking north at the gate to replace with automatic
The ditch is 39" wide 41" deep at the gate



The flow in the canal that feeds the Wilson could possibly peak at 80 cfs, this would only be when we had excess water we are dumping back to the drain and then to the river. Normal operation we would attempt to only send the amount (plus losses) that we need to satisfy users on the Wilson down the feeder canal. The bottom end of the feeder canal dumps into the drain and back to the river.

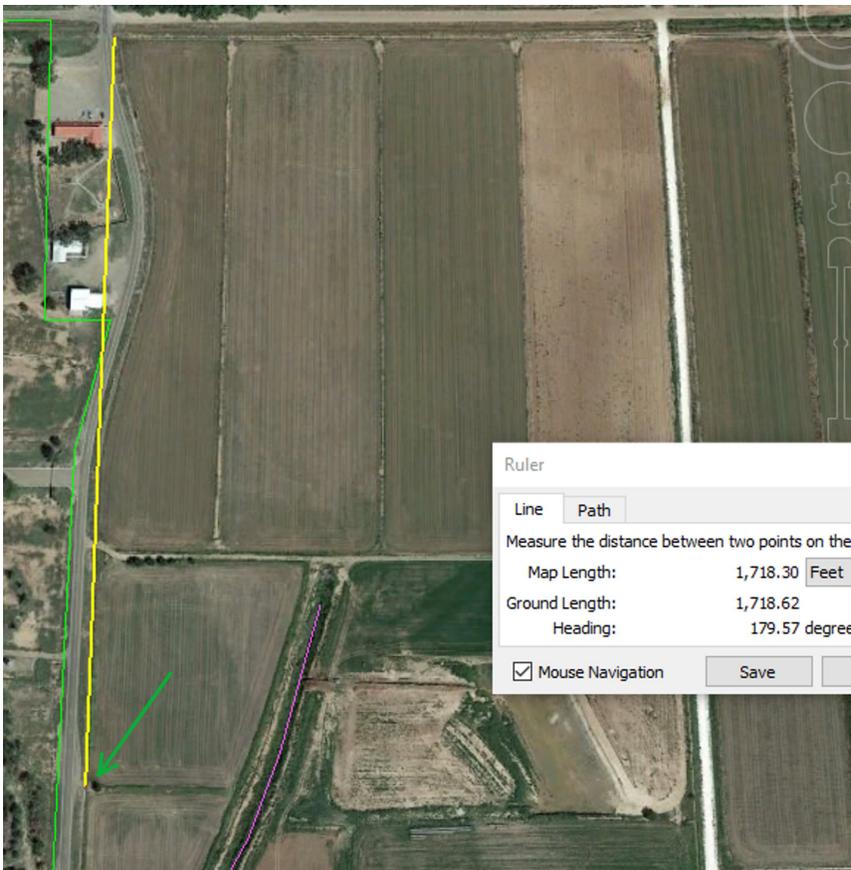
The max amount of flow needed for the Wilson would be 25 cfs. This flow is only used for delivery to fields on the top end with reduced amounts toward the lower end due to restrictions in the lateral.

=====

Preferably we will just add gate adjust mechanism to existing gate, alternately I think that we could move the gate location back the 10' to the throat of the trough. I would like to re-do that and put in a head wall there to improve the structure and prevent future water leaks.



1718 feet from gate location to where we currently measure water depth
I think we could reference a closer location and probably it would work better



Ruler

Line Path

Measure the distance between two points on the map

Map Length:	1,718.30	Feet
Ground Length:	1,718.62	
Heading:	179.57	degrees

Mouse Navigation Save