

**Improving Water Efficiency
For the City of Las Animas
by Updating Water Meters**

Submitted by:
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Technical Proposal

Executive Summary

April 27, 2022

City of Las Animas

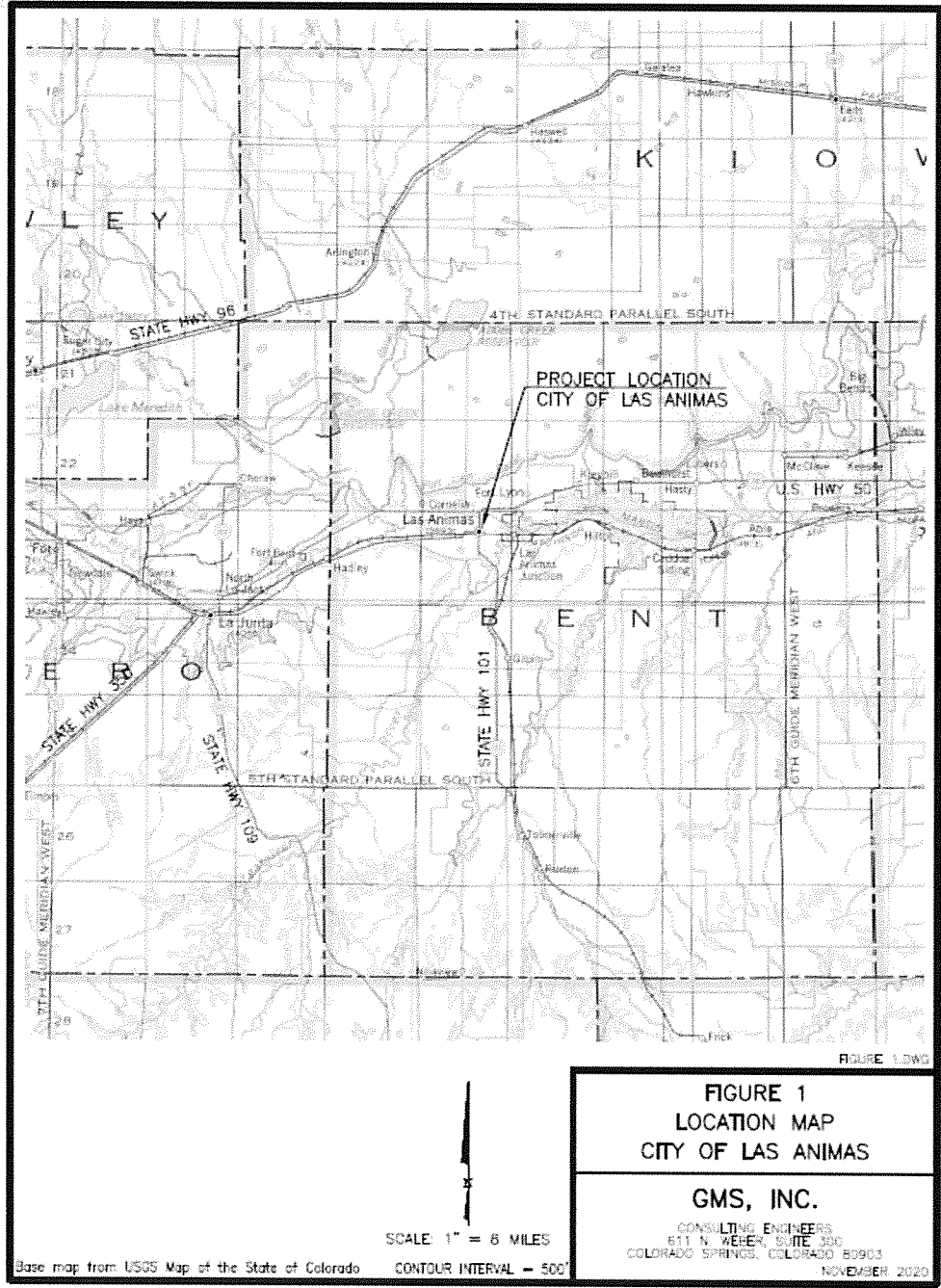
City of Las Animas, Bent County, Colorado

Category A Applicant

The City of Las Animas is located in southeastern Colorado's Arkansas Valley within Bent County. The project contained herein is for the replacement of manually read water meters. The City has been proactively replacing these meters by purchasing new radio read meters annually since 2010 when the City purchased new handhelds and software. The City has approximately 40% of the meters remaining to be replaced. Replacing the existing meters with radio-based devices will result in several benefits including: improved accuracy of water usage reading, reduced man-hours, improved performance of meters, improved efficiency, reduced liability, and improved sustainability. These benefits will help to significantly reduce unaccounted-for-water loss in the system and gain efficiencies in meter reading and billing. The project will be implemented by City staff. This project will take approximately 60 days and will be completed by July 1, 2023.

Project Location

The project location is in the City of Las Animas, located in southeastern Colorado, Bent County. It is situated along Highway 50 approximately 15 miles east of La Junta and approximately 60 miles west of the Kansas State line. The project latitude is 38°4'4.5" N and longitude is 103°13'16.6" W.



Technical Project Description

In 2007 and 2011, Preliminary Engineering Reports (PER) were completed for the City's water system. In these PERs, capital improvements were identified which included four priorities of work which effectively was a 20-year implementation plan. The City has consistently implemented these priorities of work as well as other water system improvements in the last 15 years. These projects included the replacement of water distribution system piping and the installation of second pass reverse osmosis treatment after the existing, initial RO process.

The City owns and operates a public drinking water system providing potable water to 1,383 customers. In late 2009, the City purchased a new radio read meter system and software and has been systematically replacing manual read meters for the last 12 years. In the last 12 years, 54% of the City's meters have been replaced. Due to the limited resources, it has taken a significant time to complete this task without outside funding. The City is now required to address additional water projects, which will require the City to expend even more financial and human resources, one of these projects is the connection to the Arkansas Valley Conduit (AVC), which is a Bureau of Reclamation project. One of the requirements of connection to the AVC is to have unaccounted-for-water no greater than 10%. An important component of reducing water loss is to ensure that all meters are up to date as old meters underread making it difficult to identify areas of water loss. Additionally, manually reading meters is time consuming and inefficient, with the City still manually reading 46% of the water meters on a monthly basis.

Meter improvements consist of a combination of the following components:

- New meter with radio-read head
- New meter pit lid with radio-read hole

This stand-alone project requires minimal engineering and design, nor does it require permits to commence work. Once funded and the contract is executed, the City will complete material acquisition and installation will be completed within 60 days. This project will not begin until after March 31, 2023 and the work will be completed by July 1, 2023.

Evaluation Criteria

Evaluation Criterion A—Project Benefits (35 points)

Benefits to Applicant's Water Delivery System

Replacing the existing meters with radio-based devices will result in a number of benefits:

- *Improved accuracy of water usage reading* – unintended error while recording water usage will be eliminated at the point of reading the meter and manually entering the data for billing purposes. New meters will transmit water usage of each customer on a predetermined schedule, ensuring precisely recorded consumption while identifying anomalies in the system and helping to prevent customer fraud.
- *Reduced man-hours* - the data collection from each customer will automatically occur daily rather than manually meter reading once a month at the customer's location.

Additionally, the system will not require the manual entering of the data for billing purposes.

- *Improved performance of meters* – eliminating the need to open each pit to access the meters reduces potential for meter freezing in the winter months. Smart meters will alert the City of when a meter stops counting or loses efficiency.
- *Improved efficiency* – meter data will be downloaded directly into the water billing software and billing will occur automatically, reducing time and improving accuracy.

Broader Benefits

The primary broader benefit of replacing these 30-year-old deteriorating devices with smart meters is to *improve sustainability*. With smart meters, the water supplier will have the advantage of quickly identifying anomalies in the system to repair leaks and breaks, prevent fraud and replace defective meters. This in turn will reduce water waste, improving sustainability. This grant will enable the City to complete this water meter replacement project.

Evaluation Criterion B—Planning Efforts Supporting the Project (30 points)

Plan Development

The City of Las Animas purchased new software and radio read system in 2010 and has been systematically been replacing its manual read meters by purchasing an allotted amount on an annual basis. In the last 12 years, the City has replaced 56% of the water meters. Although the City has done this without outside assistance, the City has other priorities of work requiring more and more resources. This grant will allow the City to accelerate the replacement of manual read meters and focus on other projects including the planned Reclamation project of the AVC connection.

Support for the Project

Describe to what extent the proposed project is supported by the identified plan. Address the following:

- *Is the project identified specifically in the planning effort?* Yes. The City has made it its priority since 2010 to replace manually read water meters. Each year with the allocated reserves the City has been replacing the water meters with smart water meters. A significant amount of reserves have been utilized to increase efficiency in the City's water system. The City has many infrastructure needs of which includes connection to the Arkansas Valley Conduit, a Reclamation project. This grant will allow the City to finish this water efficiency effort.
- *Explain whether the proposed project implement a goal or address a need or problem identified in the existing planning effort?* The goal of this project is to reduce water loss, improve efficiency of City staff and provide an equitable billing system. There are currently unaccounted-for-water losses, as described in the Technical Description. Installing smart meters, will allow the water system supplier to quickly identify where leakages are occurring and ensure reliable, accurate meter readings and will greatly reduce the time required to manually read meters. The City has replaced close to 60% of the manually read water meters.

- *Explain how the proposed project has been determined as a priority in the existing planning effort as opposed to other potential projects/measures.* The City has been systematically replacing the manually read water meters and has been limited by the limited reserves and the demand of the reserves for other infrastructure projects in the City. The City has programmed replacement and it is within the City’s Capital Improvement Plan. The City will utilize reserves for the match.

Evaluation Criterion C—Implementation and Results (20 points)

This project will be installed by the City staff, the City has an accurate estimate on the approximate timeframe for meter installation.

- No design and engineering are required for this project.
- No permits are required for this project; all work will be completed within the City.
- It is recognized that Reclamation will need to assess if environmental and cultural compliance; however, based on other projects with NEPA and Section 106 requirements manual read meter replacement will not require extensive investigation for compliance.
- It is estimated that this project will be completed within 60 days of contract execution and material acquisition. The work will begin after March 31, 2023 after expected contract execution, and will be completed by July 1, 2023.

Evaluation Criterion D—Nexus to Reclamation (5 points)

This project has a Reclamation nexus through the AVC. Although not yet complete, the AVC will be the most significant water project for the Lower Arkansas Valley. The AVC is underway and construction is to begin at the end of 2022. The City of Las Animas is one of the 39 participants in the AVC and its participation is key as one of the larger communities. The project is within the Arkansas River. It is critical for the City to free reserves by completing this water efficiency project for connection to the AVC. Reclamation is requiring that water efficiency for communities to connect to the AVC is at 10% of unaccounted for water, replacement of meters is one component of achieving this water loss.

Evaluation Criterion E—Presidential and Department of the Interior Priorities (10 points)

Sub-criterion – Climate Change

By replacing aged underreading water meters with smart meters, this project will help prevent, identify and repair unaccounted-for-water losses due to leaks and breakage in the distribution system. Therefore, this project strengthens water supply sustainability to increase resilience to climate change.

Sub-criterion – Disadvantaged or Underserved Communities

One qualifier commonly used to determine if a community is disadvantaged is the *Disadvantaged Community* status through the Colorado Water Resource & Power Development Authority’s State Revolving Fund. The City of Las Animas qualifies based on several factors including the City’s Median Household Income (MHI) being equal to or less than 80% of State MHI; Median Household Value (MHV) being less than 100% of State MHV; and number of jobs

lost in Bent County over the prior 10-year time period. The City’s MHI is \$23,456 in comparison to the Colorado State MHI of \$72,331. Additionally, the City’s MHV is \$56,100 whereas the MHV of the State is \$369,900.

The benefits of this project include: ensuring minimum water loss which will allow for connection to the AVC. Connection to the AVC is important for not only meeting drinking water quality needs but to also for the City to meet its discharge permit requirements. Additionally, this project will free staff to complete other projects in cost effective ways since manual reading of meters will no longer require extensive time.

Budget Proposal

Funding Plan and Letters of Funding Commitment

The total project budget for this meter project is \$224,580. This proposal request is for \$99,990 from the Bureau of Reclamation. The City will provide the matching \$124,590 by utilizing reserves from the City’s Water Enterprise Fund.

Table 1. – Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. City of Las Animas, Water Enterprise Fund reserves	\$124,590
Non-Federal Subtotal	\$124,590
REQUESTED RECLAMATION FUND	\$99,990

Table 2. – Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with requested Federal funding	\$99,990
Costs to be paid by the applicant	\$124,590
Value of third-party contributions	
TOTAL PROJECT COST	\$224,580

Table 3. – Budget – need brand name of unit, quantity and purpose for materials and number & type of workers and their actual pay rate, complying with Fed activities.

Please note: The project will be completed by City staff once the grant is executed. The unit costs have been increased from a current quote to reflect purchase price estimated in 2023.

Budget Item Description	Computation		Quantity Type	Total Cost
	\$/Unit	Quantity		
Salaries and Wages				
Employee 1	\$ 21.58	166	Hours	\$ 3,581.00
Employee 2	\$ 21.58	166	Hours	\$ 3,581.00
Fringe Benefits				
Employee 1-Full-time	\$ 11.25	166	Hours	\$ 1,867.50
Employee 2- Full-time	\$ 11.25	166	Hours	\$ 1,867.50

Budget Item Description	Computation		Quantity Type	Total Cost
Equipment				
All necessary equipment is owned by the City.	\$ -			\$ -
Supplies and Materials				
Radio-Read Meters ¾"	\$ 295.00	606	Each	\$ 178,770.00
Radio-Read Meters 1"	\$ 425.00	17	Each	\$ 7,225.00
Radio-Read Meters 2"	\$ 950.00	9	Each	\$ 8,550.00
Radio-Read Meters 1½"	\$ 775.00	1	Each	\$ 775.00
Radio-Read Meters 4"	\$ 1,879.00	2	Each	\$ 3,758.00
Meter Lid w/Hole	\$ 23.00	635	Each	\$ 14,605.00
TOTAL PROJECT COST				\$ 224,580.00

Budget Narrative

Salaries & Wages

This project will be done using full- and part-time staff currently employed by the City of Las Animas. Listed in this section are the two employees and their rates of pay including withholdings, and the number of hours they will be working on this project. Work includes, but is not limited to, removal of existing water meters and installation of new meters. The total cost column indicates the pay rate for each employee multiplied by the number of hours spent on the project. The combined total cost for salaries and wages is \$7,164.

Fringe Benefits

All three employees and are entitled to fringe benefits. The Las Animas Human Resources Department has determined the rate of fringe benefits to be \$11.25 per hour per person. This rate is multiplied by the combined number of hours of work on the project (166) to equal the total cost of \$3,735.

Equipment

The equipment used for this project is already owned by the City. No additional equipment is required for the completion of this project.

Supplies and Materials

The equipment listed includes the water meters of various sizes and meter lids to be installed in Las Animas’s water system. Items will be purchased by the City. Las Animas already has the data management and billing system compatible with the requested water meters

Contingency

A 20% contingency has been added to the supplies and materials based on recent quote received. This was added due to the inflationary effects on products and services as a result of COVID-19 and Russia’s war on Ukraine. Actual costs will be known after the purchase of the materials which will occur after the contract is executed.

Environmental and Cultural Resources Compliance

The new meter installation project will be fully contained within existing disturbed areas and within existing meter pits, which would most likely classify the project as a Categorical Exclusion (CE) to NEPA. If awarded this grant for this sub project, the City recognizes that Reclamation will complete its own environmental review process and determine the required compliance with NEPA.

It is also recognized that Reclamation will also consider if the project will cause effects to historic properties. The limits of the project are the replacement of meters and will not disturb any historic properties. The existing meters are less than 50 years old; therefore, there is no historical value with the existing meters. As with the NEPA review, the City recognizes that Reclamation may require another Section 106 review.

Required Permits or Approvals

No permits or approvals are required for this project.

Letters of Support

Please see attached.

Official Resolutions

The official resolution will be submitted under separate cover within 30 days.

Conflict of Interest Disclosure

Per the Financial Assistance Interior Regulation (FAIR), 2 CFR §1402.112, the City does not have any known conflicts of interest. If during the award process a conflict arises, the City will inform Reclamation.

Uniform Audit Reporting Statement

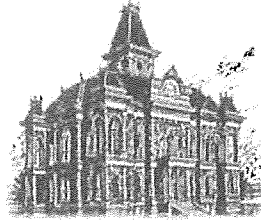
The City recognizes that any organizations expending \$750,000 in U.S. Federal award funds within one year will require a Single Audit report. After the project is complete, the City will determine if a Single Project Audit is required and will complete if necessary.

Certification Regarding Lobbying

This request for funding is less than \$100,000 in Federal funding. No Certification Regarding Lobbying is required.

Unique Entity Identifier

City of Las Animas UEI: JFVCR1C1JZH1



Bent County Board of County Commissioners

April 26, 2022

U.S. Bureau of Reclamation
Water Resources and Planning Office
Attn: Robin Graber
Mail Code: 86-6300, PO Box 25007
Denver, CO 80225

Dear Ms. Graber:

Please accept this letter as Bent County's support of the application of the City of Las Animas for the WaterSMART Small-Scale Water Efficiency Project Grant. The City of Las Animas makes consistent efforts to improve its water system; and has over the years exercised wisdom in identifying needs and leveraging local funding to make these improvements.

The City of Las Animas is the only municipality in Bent County and is home to the majority of the County's residents. Therefore, Bent County is highly interested as a stakeholder in this project. We work in conjunction with the City in numerous projects and efforts.

The City is planning a project for the replacement of the water meters with radio read meters, which would have several efficiency benefits. First, the replacement of meters will ensure accuracy of the meters, allowing the City to better assess any water loss. Second, the City currently reads water meters manually, which is time consuming and is subject to human error. Converting to radio read meters will reduce time, cost and error, and these benefits and cost savings will be passed on to the Customer. Such savings will greatly impact a small community like Las Animas. This proposed upgrade will make the water system more efficient and due to the limited resources available, the City needs assistance to make important upgrades.

The Commissioners thank you for considering this project for funding through the WaterSMART Small-Scale Water Efficiency Project Grant. We believe that the City of Las Animas will utilize the funds well and the project will benefit all residents of Las Animas by lowering operational costs and enabling the community to be waterwise.

Sincerely,

Kim MacDonnell
Bent County Commissioner