

AMI Request for Proposals

The city of Marfa, TX is seeking proposals for the procurement of a full Advanced Metering Infrastructure (AMI) system for its water services. We seek the procurement of water meters, AMI communications equipment, AMI software and implementation services, and the turnkey installation of the metering and network infrastructure.

Marfa has approximately 1,700 water meters. All meters are read manually by city staff and recorded by hand on read sheets. Customers are billed monthly in a single cycle. Readings are imported into the Utility Billing module of Tyler Technologies Incode and hosted a cloud server owned by Tyler.

The primary financial driver for the project is to capture the unbilled water revenue. Approximately 90% of the active water meters in the city are over 5 years old, and we expect to replace most of the meters on this AMI project to increase accuracy of the metering at the service locations.

Additional drivers for the project are:

- i. Operational efficiency
- ii. Decrease the number of days between consumer usage and billing
- iii. Provide better information to customers to help them manage their water usage.
- iv. Support for the city's water conservation programs
- v. Support future advanced billing/rate options.

The vendor will be responsible for complete design of the AMI solution, supply and installation of the AMI network infrastructure, licensing, setup and configuration of the AMI headend application, supply of the AMI-enabled water meters, full installation of all meters in coordination with city staff, and integration of the AMI headend with the city's utility billing system.

The scope of the project is divided into these areas which are described in subsequent sections of this document.

1. AMI network and communications equipment
2. AMI application that consolidates the electric and water readings into one user-accessible system
3. Customer Data Access
4. Purchase of AMI-ready Water Meters
5. Turnkey installation of all meters
6. Project Management of the AMI project.

We are expecting a proposal from you that covers

- A. The AMI application and network equipment required for the project. Please include all required system components, 3rd party requirements and costs. Costs should include one-time pricing for purchase, setup, consulting services and annual support fees. You may include different support tier services, but please be clear about whether the item is required or optional.
- B. Installation and setup costs for the AMI network equipment and connection to the recommended backhaul network.
- C. Unit purchase price for the AMI water meters.
- D. Your typical scope for water meter installation services. Please include unit prices, as appropriate, as well as any other required one-time project costs.

- E. Customer portal to allow Marfa customers access to their consumption data online.
- F. References for cities that have installed the same AMI system for water service and have used your services for meter exchanges. A minimum of two is requested.
- G. Typical project schedule for an equivalent number of meters from contract signing to completion. Please indicate whether you expect the schedule to be impacted by sourcing delays at this time.

In your proposal, please indicate whether you have a purchasing agreement with the state or other agency that covers the pricing and terms as provided by this proposal.

Our goal is to have reliable AMI coverage that provides

- i. >99% success rate of daily register reads reaching the AMI headend, processed and available for the AMI user and billing application within 72 hours of the read timestamp.
- ii. 98% success rate of daily register reads reaching the AMI headend, processed and available for access within 24 hours of the read timestamp.
- iii. 95% success rate of hourly interval reads reaching the AMI headend, processed and available for access within 24 hours of the read timestamp.

All meters should be covered by at least two separate AMI network devices so that the meters will continue communicating to the AMI headend application in the event of failure with one device. A single failure in the network equipment should not prevent the office from having access to the readings from any of the water meters. The vendor will be responsible for designing the AMI system, to include quantity and placement of AMI network equipment, required to meet these requirements.

The network equipment should be ruggedized to handle outdoor installation in MARFA to the manufacturer's warranty. We expect that each network point should have city-provided power so that the equipment does not rely solely on solar/battery. A minimum of 24-hour battery backup for the AMI network equipment in case of power outage is required. Please provide warranty information for all equipment that you have proposed for this project.

Backhaul communications to the AMI headend application can be either fiber network, if available at the designated location for the AMI network equipment, or via cellular communications. Please provide an overall design for the AMI system, including your network equipment and communications to the AMI headend application. Please specify if additional services from 3rd party providers are required for communications as proposed.

Installation of the network equipment should be included in your proposal. This includes installation of the equipment at your designed location, connection to the backhaul network and configuration of the devices.

An AMI headend application is expected to consolidate information from all AMI meters for both services. Our preference is for a cloud-based application that is managed and supported by the vendor, to include maintaining data integrity, data security, communications with the City's AMI equipment, and routine updates for functionality and security.

This AMI headend application should have an intuitive interface that provides access by City staff for viewing AMI data from individual meters, and for basic analytics, such as meters not communicating, consumption thresholds, consumption on inactive meters, consumption by meter, etc. From the application, the user should be able to ping individual meters, get readings on-demand, and issue remote disconnect commands to the meters that are outfitted with that option.

In addition to basic data access, we want the ability to generate custom queries/reports on our AMI data. Please provide your options, including cost and functionality, if you have different products/tiers for data analytics.

The headend system should manage routine functions with the AMI devices in the field, so that it can recognize and respond to newly installed equipment and recognize when devices are not communicating to the headend. The system should maintain logs to assist the city and vendor with troubleshooting communication and provisioning problems.

Water meters should have the ability to be configured to be read at 15-minute intervals, configurable up to 60-minute intervals.

Data within the AMI/MDM headend application should be retained for these periods:

Meter	Data Type	Retention
Water	Interval (up to 60 minutes)	25 months
Water	Daily Register Read	5 years
Water	Meter Alarms	25 months

The AMI application must be integrated with the City's utility billing application, which is Tyler's Incode (onsite installation), and your costs for this service should be included in your proposal (one-time and recurring support fees). The cost for Tyler Technologies will be handled separately with that vendor. These integration functions are required:

- At least daily update of the meter data within the AMI headend for normal business functions such as installation of new meters at a service point, addition of service points and locations changing between active and inactive status. These updates should occur automatically at least once daily, although immediate update of the AMI for status changes and meter exchange is preferred. Please describe your integration with Incode as implemented on other projects.
- Billing integration so that the AMI will receive a request for billing reads from the utility billing module and respond to the request with the requested readings for the list of meters and data items. This integration should support the ability to configure a tolerance in days so that the AMI can provide readings for a meter within a configurable number of days if the requested reading date is not available.
- Integration with a customer portal to display consumption history.
- Demand reset for all meters that is coordinated with the start of the billing cycle.

The AMI headend should have configurable security roles for Administrator, meter service crew, customer service and view only. The City expects to have approximately 4 named users. Please provide your pricing model for licensing, to include any upfront and recurring maintenance fees.

Your services during the project phase should include setup and configuration of the application and integration with the utility billing module, setup of communication with the AMI network and meters, set up of user accounts and roles, and training for City staff. Please provide your options for annual maintenance of the application, including different tiers of support, as applicable.

The City of Marfa has these estimated quantities and sizes of water meters:

Meter Size	Quantity
¾"	1600
1"	15
2"	16
4"	5

We expect to replace 90-100% of the water meters on this project, with a possibility of retrofitting up to 10% of meters that they City has installed in the last few years with an electronic register and AMI communications. Please give us pricing and specifications for the different meter types and sizes, and any installation cost difference by type for the same size meter, i.e. if type A ¾" meter is more expensive to install than the type B ¾" meter. Also include warranty information and guaranteed flow rate specifications.

All meters must support two-way communications with the AMI. Please describe what commands from the AMI are accepted and the parameter values that are changeable via the network. The water meter should have the ability to be read via a mobile collection device to support troubleshooting, update configuration, capture missed reads and to gather reads if the network is unavailable. When installed, the water meters must also maintain the ability to be read manually by the City staff and the consumer.

The AMI endpoint for each water meter must have the ability to store 60 days of hourly interval reads and a daily register read in the event that communications to the AMI network has been lost.

Please provide information on the expected and guaranteed battery life for the AMI devices for the water meters.

Please indicate any alarms, alerts or events that can be sensed and communicated back to the AMI from the meter, such as tampering, leak detection, backflow detection, low pressure, etc. The AMI endpoint device should detect and report low battery to the AMI system, and also detect and log stopped meters.

With each shipment of water meters, the City should receive an electronic file containing the meter information that can be uploaded to the City's Tyler Incode utility billing system.

- i. Serial Number
- ii. Meter size
- iii. Manufacturer
- iv. Manufacture date

The vendor will be responsible for installing the water meters at the end-point service locations, including the water meter communications module and antenna, as needed. As part of the service, the vendor will be responsible for working with the City of Marfa billing staff so that exchanges are coordinated with the billing calendar, and data files are provided to update the utility billing system daily as meter exchanges are performed. We expect the vendor will use their own work order system to manage these installations and work with the city to develop the file specifications to download the list of meters to exchange and upload a file to the Incode Utility Billing module for each day's exchanges.

The vendor and City staff will develop a timeline for installing the AMI meters, and this is expected to be done in general, by reading routes. For installation, the vendor is expected to follow a standard installation procedure, as agreed to by the vendor and City.

Exchange of commercial meters will be coordinated closely with the City and we will assign a resource to accompany your installers when they are working these installations. For other installations, the vendor is expected to work independently on the meter exchanges.

The installation services should cover these minimum steps and we will work with you during the project to define the exact procedure based on your experience.

- a) Pick up meters for the installation period from the City (daily or weekly). The city will have a checkout process to identify the quantity of meters and serial numbers of the meters taken from stock.
- b) Go to the service location and knock on the door to announce that meter exchanges will be done.
- c) Water Meters
 - a. Confirm the legacy meter number matches the meter number provided by the data file for that service location.
 - b. Hydra vac out meter box for access to existing meter.
 - c. Record the out meter reading for the legacy meter
 - d. Capture an image of the legacy meter face so that the meter number and reading is legible
 - e. Replace meter with the new meter and communications module. The gaskets on the supply and delivery side should also be replaced.
 - f. Capture an image of the newly installed meter so that the meter number and reading is legible.
 - g. Install the antenna (if needed) on the box lid. If the lid is broken, then replace the lid with a vendor-provided lid and record this action in your work order system.
 - h. Capture an image of the closed box with lid replaced.
 - i. Collect GPS coordinates to sub-meter accuracy.

Please provide your pricing schedule for installation of water meters and include the total services provided for that unit price. If any other services typical with installations of AMI water meters are charged as an additional cost, then please include these on your price sheet.

At the end of the installations, the City requests a complete list of all meters and network equipment installed with the GPS locations

The vendor will provide project management for the AMI project with Marfa for coordination of all activities required for successful implementation of the AMI system, installation of the infrastructure and meter equipment, integration with the utility billing system and training on use of the AMI application and communications. The city expects the chosen vendor will be fully engaged from beginning to end of the project and will be accountable to successfully deliver a fully functional AMI system that meets the performance criteria in the contract.

The scope, timeline and budget for the project will be set at time of contract signing between the City of Marfa and the vendor. Both parties are expected to give best-efforts to meet these items and will actively work for successful completion.

During the course of the project, the vendor is expected to lead status meetings at agreed-upon intervals based on the activity level of the project (weekly, bi-weekly). Status reports should be provided as an output of each meeting, to include an update of the timeline for delivery and installation of all equipment.

The City expects the selection and project evaluation process to follow the schedule noted here.

TIMELINE

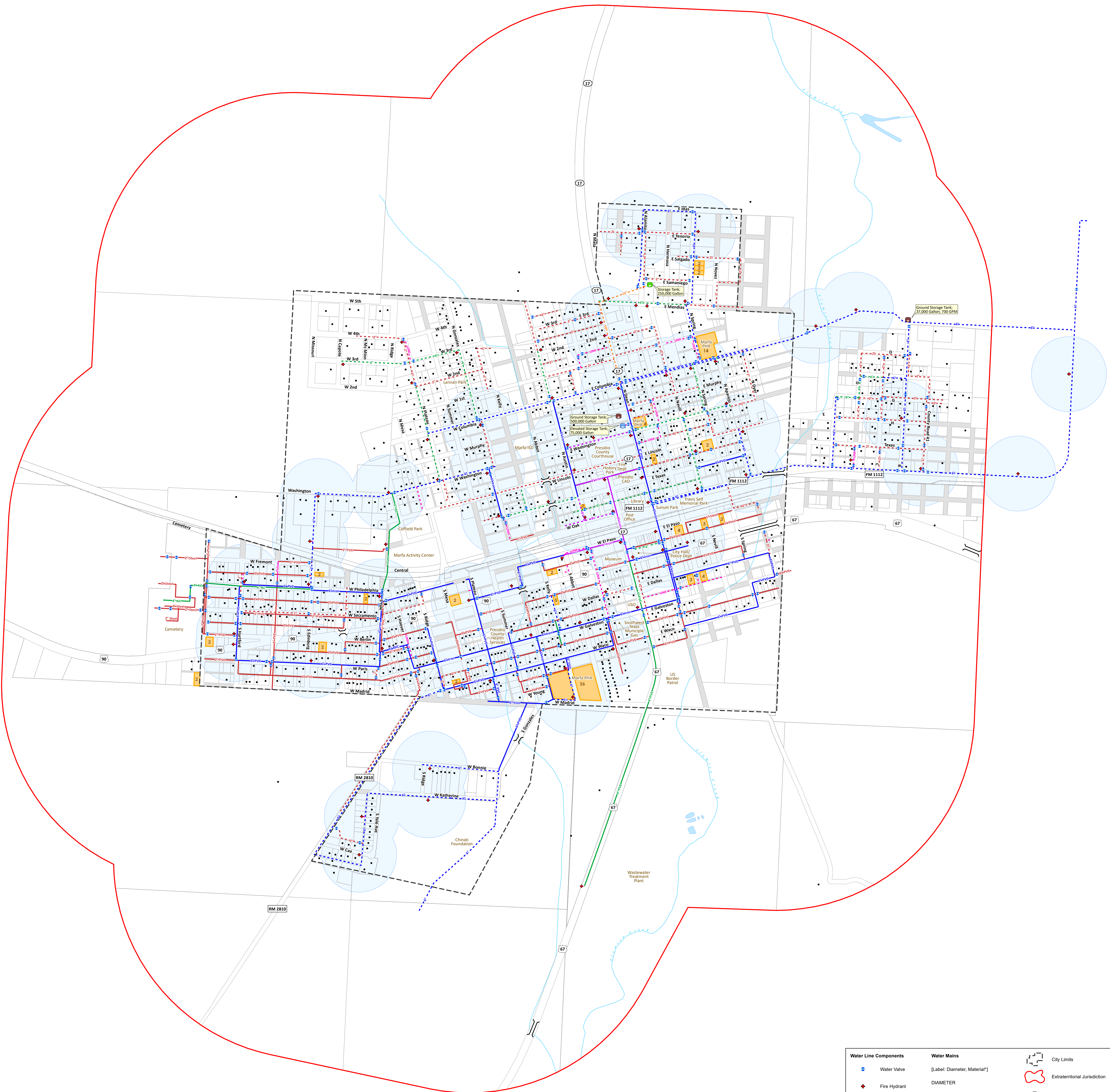
February 13, 2024	City approves RFP
February 20, 2024	RFP notice is sent to newspaper
February 22, 2024	RFP is advertised in newspaper and online
February 27, 2024	RFP is advertised a second time
March 22, 2024	Question submissions are due at 3:00 p.m. CST via email
March 29, 2024	Responses due at 2:00 pm CST at City Hall
March 29, 2024	Public Proposal openings at 2:00 p.m. CST at City Hall
April 1-5, 2024	Possible in-person interviews with proposers
April 9, 2024	Marfa City Council selects AMI firm
TBD	Final scope and firm pricing are determined
TBD	City of Marfa executes contract with AMI firm
TBD	Project Implementation begins
TBD	Substantial Completion of Project

A map of the City's water system is included in Appendix A.

Questions may be directed to:

Mandy Roane, City Manager
mroane@cityofmarfa.com
432.295.3323

Appendix A



Water Line Components	Water Mains	Other Features
Water Valve	[Label: Diameter, Material]	City Limits
Fire Hydrant	DIAMETER	Extrateritorial Jurisdiction
Ground Storage Tank	2" and Smaller Main	House
Elevated Storage Tank	4" Main	Multi-family Complex
Storage Tank	6" Main	[Label: Total Units]
Fire Protection Zone	8" Main	Parcels
	10" Main	Unbuilt Right of Way
	Unknown	Railroad
	Material Determined	Bridge
	Material Unknown	Stream
		Lake or Pond

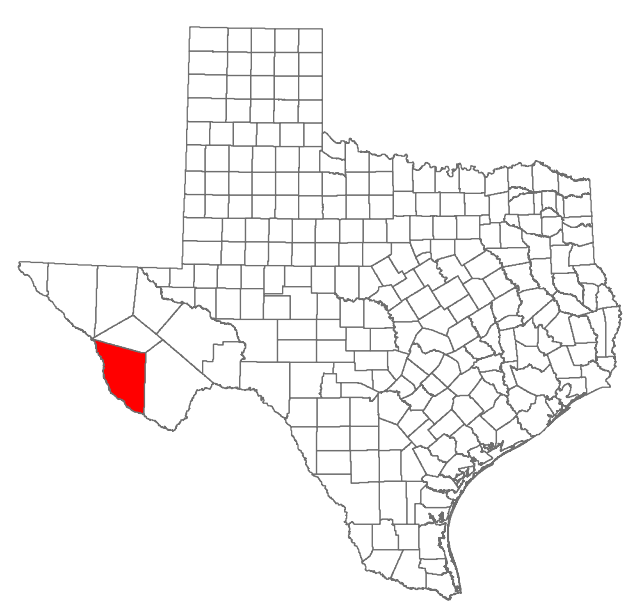
*Abbreviations of water main material: AC = Asbestos Cement Pipe; PVC = Polyvinyl Chloride Pipe; UNK = Unknown



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additions, edits, & georectification performed by Grantworks, Inc.



Presidio County, Texas

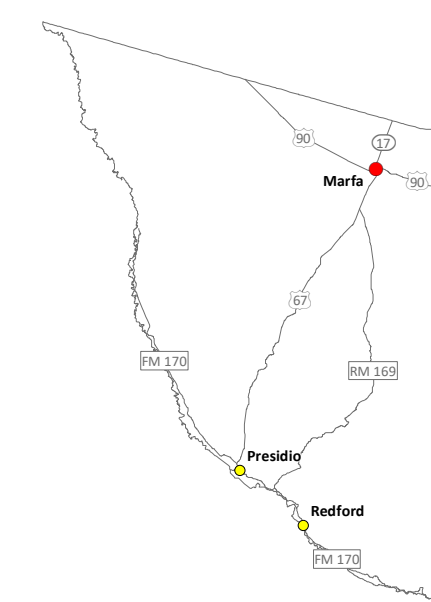
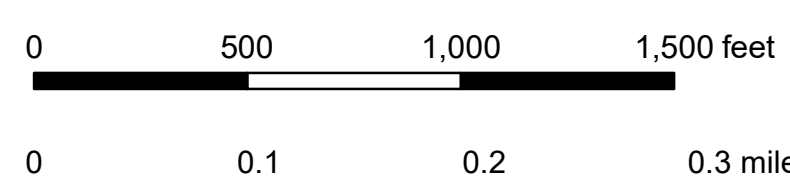
Texas State Plane Zone 4
Texas South Central
Projection: Lambert Conformal Conic
GCS North American 1983
Datum: D North American 1983

City of Marfa Presidio County, Texas Map 5A Existing Water System 2017

November 2017



1 inch = 450 feet



Presidio County

Disclaimer
The maps and documents included in this planning study are to be used for comprehensive planning purposes only as reference material provided for laypersons, whether they are public officials or members of the general public. Recommendations for infrastructure improvements in this study, which are derived from engineering studies, or project cost estimates prepared by an engineer, are cited as such. Under no circumstances should material contained within this study regarding improvements to the City's infrastructure be construed as a detailed engineering plan, specification, engineering design, or any other type of document intended for the purpose of specific public work construction. The municipality and/or governing agency is responsible for obtaining the services of a licensed professional engineer to perform engineering design services for the construction of public works projects as required by The Texas Engineering Practice Act.

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