

NOTICE OF REQUEST FOR PROPOSALS
Advanced Metering Infrastructure (AMI)
Water Meters
RFP #21-01-AMI
December 23, 2021

The City of Ovilla, Texas (“Ovilla” or the “City”) is requesting proposals for Advanced Metering Infrastructure (AMI) Water Meters. The City of Ovilla currently operates a water distribution system within approximately 6 square miles that serves an estimated 1230 water metered accounts, with the probability to add an additional 400 water meters through developments in the near future. The City of Ovilla now uses City employees who conduct manual meter readings. In some instances, residential properties are constructed with dual water meters for irrigation and domestic use. The Scope of Services and Service Description for which interested firms may submit proposals are set forth herein.

To improve customer service, mitigate non-revenue water loss, and improve workforce and asset management, the City of Ovilla is implementing a cellular Advanced Metering Infrastructure (AMI) water meter system. The AMI system shall provide multiple daily readings for each meter to the City.

For the purposes of this RFP, the City will consider vendors that provide cellular AMI solutions to achieve the best ultimate solution for the customers and enhance operational efficiency. The City ***will not*** consider Automatic Meter Reading systems (AMR); or Migratable systems. When the project is complete, the City will operate a fully functional and scalable cellular AMI system.

If your company would be interested in submitting proposals for the Advanced Metering Infrastructure (AMI) Water Meters as described in the following proposal packet, please submit one (1) complete copy, and one (1) electronic copy (flash drive) of your proposal **prior to 1:00 P.M., January 24, 2022**. Facsimile and/or email proposals will not be accepted. Proposals should be sent to:

Bobbie Jo Taylor
City Secretary
City of Ovilla
105 South Cockrell Hill Road
Ovilla, Texas 75154

MARK ENVELOPE: “RFP #21-01-AMI—WATER METERS”

Late proposals will not be accepted. Each firm is responsible for Ensuring responses to this RFP have been delivered by the date, time and location specified.

QUESTIONS REGARDING PROPOSAL SPECIFICATIONS: All questions regarding this request should be submitted in writing to the City Secretary. Questions and answers will be distributed to all known RFP specification holders. Please direct all questions regarding this request for qualifications to:

James Kuykendall
Public Works Director
City of Ovilla
105 South Cockrell Hill Road
Ovilla, Texas 75154
Telephone: 972.617.7262
E-mail: jkuykendall@cityofovilla.org

Questions regarding this request for qualification must be received **no later than 1:00 P.M., January 17, 2022.**
Questions will not be accepted after this time.

BID OPENING: 2:00 P.M., JANUARY 24, 2022

Ovilla City Hall
City Council Chambers
105 S. Cockrell Hill Rd.
Ovilla Texas 75154

EXISTING INFRASTRUCTURE INFORMATION

City records indicate the following meter sizes and approximate quantities regarding existing water meters:

Meter Size	Quantity
¾"	863
1 1/2"	2
1"	353
2"	9

PROPOSED PROJECT DESCRIPTION AND PREFERENCES

The purpose of this project is to increase the operational efficiency of the City water distribution system by implementing a cellular AMI system that enables wireless communications between utility systems and the metering endpoints. Project implementation should include upgrades to the City's water customers with a fully functional and scalable AMI water meter system. The Vendor that is ultimately selected for this project shall provide, at minimum, the following in their respective responses:

- The system must use Ultrasonic Meters with no moving parts that meet American Water Works Association (AWWA) standards. Mechanical Meters will not be given consideration.
- The AMI system must utilize meter agnostic endpoints to be affixed to meter. In other words, meter registers with integrated radio systems will not be considered.
- The system selected shall have a 20-year operational life span with a 20-year accuracy and battery warranty with at least 10 years of replacement at no cost and an additional 10-years warranty prorated for each year thereafter (commonly referred to as 10/10).
- System software must be cable of providing individual account reports, leak detection, tamper alarms, and reverse flow alarms.
- Ability to view specific meter information including meter id, consumption data, lat/Ing location data, and images of meters installed in the field.
- A Customer Portal that will allow customers to view their monthly water usage and other account information.
- Ability to capture consumption and other meter data through alternative communication technology including, Bluetooth, and Wi-Fi.
- **No ongoing fees (i.e., software, licensing, network communications, future updates etc.)**

RESPONSE INSTRUCTIONS

1 Requirements

Submitted specifications must concisely set forth full, accurate, and complete information required by this RFP including any attachments.

- 1.1** An electronic copy (pdf) of the proposal including all specified forms and attachments shall be submitted by flash drive. (Please place the flash drive in an envelope with the proposal and seal. Unsealed documents and/or electronic copies will not be considered)
- 1.2** Clear, concise, and specific information should be submitted in response to the RFP.
- 1.3** Responses shall include a cover letter, title page, and table of contents.
- 1.4** Responses shall include a comprehensive pricing proposal submitted under separate cover.

2 Response Format and Content

All vendors must follow the format requirements. Although this contract may not be awarded to the lowest bidder, vendors should provide a project cost or estimated cost for this project in response to this RFP. At its sole discretion, the City of Ovilla will determine the bidder who provides the best value based on the evaluation criteria provided herein.

The Response shall be organized as follows:

- Cover Letter
- Title Page
- Table of Contents
- Section 1 Vendor Information
- Section 2A System Information – Proposal Summary
- Section 2B System Information - Detailed
- Section 3 Installation and Maintenance
- Section 4 Performance Guarantee and Warranty
- Section 5 Project Management
- Section 6 Estimated Project Costs

When possible, include graphic(s) or photos of the proposed solution elements.

3 Vendor Information

Provide the following information:

- 3.1** State the Name of Vendor, Office Address, Contact Name, Contact Title, Email, and Phone Number.
- 3.2** Has your organization (and the manufacturer's organization) ever failed to complete a contract or defaulted on a contract? If yes, provide a detailed explanation.
- 3.3** Provide the following information for at least three (3) references on similar projects: City name; address; telephone number; name of project manager; and number of meters deployed in similar project.

4 AMI System Information

Provide a detailed description of the proposed system, including an executive summary of your proposal and product information. At a minimum, address the following information in this section:

4.1 Meters

- 4.1.1 Provide the specifications of the meter, clearly answering, is the meter an AMI compatible meter? Is the meter Ultrasonic?
- 4.1.2 Can the water flow rate be measured by the proposed water meter?
- 4.1.3 Can the water temperature be measured by the proposed water meter?
- 4.1.4 How long has the model (meter) proposed for implementation been in use? What was the first date of manufacture and implementation?

4.2 Cellular Network AMI System Specifications

- 4.2.1 It is the intent of the enclosed specifications to provide the City of Ovilla with a Cellular Network Advanced Metering Infrastructure (AMI) System that will work with all major water meters, with an expected reading accuracy of 98% or more for all meters in the system.
- 4.2.2 The City will not consider technology that has not been field-tested. The proposal shall be for new equipment. No used, rebuilt, or refurbished equipment will be considered.
- 4.2.3 When the project is completed, the City will own and operate a functional and upgradeable Cellular Network AMI System capable of utilizing several types of meters and meter manufacturers.
- 4.2.4 The System shall be two-way and utilize leading technology and an open architecture to ensure compatibility with all identified meter types.
- 4.2.5 The Network shall be cellular LTE-M, or NB-IoT.
- 4.2.6 Data Collectors, Base Stations, or Repeaters shall not be permitted in the system.
- 4.2.7 All AMI retrieved meter readings will be in a format compatible with the vendor-supplied software for the Cellular Network system. The software will prepare and format the meter reading data for the printing of selected management reports and the transfer of the meter reading data to the billing software for customer invoicing.
- 4.2.8 The AMI system must be capable of supporting cellular remote disconnect valves. AMI data and valve control must both be available in one MDMS.

4.3 The Cellular Network AMI System shall provide, at minimum, the following:

- 4.3.1 Provide for automatic, routine operation of the AMI System, including diagnostic procedures on all hardware, and logging of all known alerts, alarms, and exceptions.

- 4.3.2 Provide the ability to view specific account information.
- 4.3.3 Automatically process the readings and add them to the AMI database.
- 4.3.4 The AMI System software shall be capable of providing individual account reports, flagging large usage, system status, detailed history for specific accounts, battery strength, and tamper alarms.
- 4.3.5 Allow for the addition of distribution system leak detection.

4.4 AMI System Description

Confirm compliance with each of the remaining sections of this Request for Proposals. If there are any exceptions, please list them clearly in the proposal.

- 4.4.1 Provide a detailed description of the proposed Cellular Network AMI System. Include a full system architecture diagram. Include a description of your system in response to each of the following sections.

4.5 AMI Hardware

- 4.5.1 CELLULAR NETWORK – The design of the endpoint must support multiple networks to provide failover communication paths to ensure optimal reliability. Endpoints that rely upon a single network communication path are not acceptable.
- 4.5.2 ENDPOINTS – Manufacturers shall provide a fully potted endpoint that can be deployed in an indoor, outdoor, or submersible (pit) application. Endpoints shall be programmed in the factory and available for connectivity to a compatible absolute encoder register. The endpoint shall also be available in an endpoint-only configuration for field splicing, or with a submersible inline connector. Endpoint must be designed to be installed underneath a plastic or composite pit lid or through a standard 2” hole in a plastic or composite pit lid.
- 4.5.3 CONFIGURATIONS – Endpoints may be started using wake on consumption or through on-premises communication. In addition, the endpoint must support an optional installation message using the mobile application to confirm that the endpoint was successfully installed.
- 4.5.4 ENDPOINT TRANSMISSION - The standard endpoint radio frequency operation shall incorporate an AES256 encrypted two-way radio frequency transmission of the metering data, requiring no auxiliary communication necessary to trigger the transmission of the standard metering data. Endpoint must store a minimum of 30 days of time-synchronized hourly interval data. Additionally, the endpoint should communicate with the cellular network 1 time per day. Endpoints must be remotely configurable through the MDMS to alter wake-up times, wake-up intervals, and read intervals. In the unforeseen event that the communication system is unavailable for a period of time, readings continue to be captured and stored and returned to the utility upon system restoration.
- 4.5.5 ENVIRONMENTAL - The endpoint shall, at a minimum, be able to withstand temperatures between -40° F to +140°F. In addition, the endpoint shall be fully potted to withstand harsh environments.
- 4.5.6 POWER SOURCE – The endpoints must utilize a non-replaceable D-sized Lithium thionyl chloride battery with Gold Cap capacitor. Batteries should be fully encapsulated for protection from harsh conditions.

- 4.5.7 WARRANTY – The endpoints must be covered under warranty against defects in material and workmanship for a period of time that meets or exceeds the industry standard of 20 years after shipment from the manufacturer. Under the warranty, the manufacturer shall agree to repair or replace a non-performing product at no cost during the first ten (10) years and at a prorated price during the last ten (10) years of the warranty.
- 4.5.8 WIRE TAMPER DETECTION - The endpoint must utilize a three-wire conductor cable, allowing monitoring of the integrity of its connection to the meter encoder. It will also indicate a tamper alert status within the endpoint transmission signal if either a short or open-circuit condition is sensed in the three-wire connection.
- 4.5.9 ANALYTICS MODE – The endpoint must have the ability to be remotely configured to capture down to 2 min interval data for a predetermined time up to 24 hours.
- 4.5.10 MOBILE BACK-UP – The endpoint must support a mobile message in addition to the cellular communication to support installation, troubleshooting, and a backup method of data collection including Bluetooth.
- 4.5.11 TWO-WAY COMMUNICATION - The endpoint will be capable of two-way communications with the MDMS system, which allows for over-the-air endpoint firmware upgrades, endpoint clock synchronization, and supports a residential meter with and remote shut off valve.
- 4.5.12 ENCODER COMPATIBILITY - A single endpoint shall be available which is fully programmed and capable of being used in conjunction with the Badger Meter HR- E, HRE LCD, ADE®, Elster InVISION and ScanCoder® encoders and evoQ4 meter (encoder output); Hersey® Translator; Master Meter® Octave® Ultrasonic meter encoder output; Metron-Farnier Hawkeye; Mueller Systems 420 Solid State Register (SSR) LCD; Neptune® ProRead, E-Coder® and ARB-V®; and Sensus® Electronic Register encoder (ECR); Sensus ICE and Diehl Hydrus 2.0 EXT protocol.

4.6 Server Specifications

- 4.6.1 Managed Hosting Solutions are required, locally hosted data shall not be considered.
- 4.6.2 The Host Server shall act as the central collection point for the data within the system. All data hosting and delivery will be cloud-based and is the responsibility of the submitter to set up the software, hardware, and hosting systems per the City requirements. The server collects data from all of the Collectors and stores the gathered data in a secure database. Once data is stored and analyzed on the server, the data shall be available for display via a web-based graphical interface.
- 4.6.3 The Submitter shall offer a Perpetual License for the Host Software. The Host Software solution shall utilize a secure web-based application user interface and shall be accessible to the Utility on a continuous basis. The Submitter shall explain the host software security.
- 4.6.4 The Submitter shall provide a managed hosting service, where the Submitter shall own and manage the server hardware and software including monitoring to ensure the server continues to work effectively, provides backup services, installation of security patches, and various levels of technical support. The Submitter hosted solution shall utilize a secure web-based application.

4.7 AMI Software

Confirm compliance with each of the following sections. If there are any exceptions, please list them clearly in the proposal.

- 4.7.1 Software must be provided to perform the following functions: The manufacturer will fully host and manage the MDMS software. The MDMS software will be hosted on a web-based network platform where any PC connected to the internet, using a compatible web browser with the user's assigned credentials, will be able to access the system. MDMS software shall be provided on a dynamic service that supports additional data needs and processing power as required.
- 4.7.2 DASHBOARD - The MDMS software provides easy-to-use dashboard modules to enable users to perform the following functions, including:
- System health – the percentage of valid reads within past 24 hours.
 - Alarms – user-defined system alarms, including alarm subscription by users.
 - Top accounts by usage – displays top water users in the system.
 - Water usage - Group/route usage over 24 hours, 7 days, or 30 days.
 - Account Watchlist – defined by individual utility user, displays those priority accounts they want to track.
 - What is new – describes new features added since the last software update.
 - Technical support – provides contact information and WebEx link for technical support system water usage – compares total system consumption week over week.
 - Valve Control Overview - Overview of all deployed valves state, queued and failed commands.
- 4.7.3 MAPPING - The MDMS Software provides an intuitive mapping platform that provides a terrain and satellite mode. Each account must be geo-located at the time of installation and represented on the map. The map data must be filtered by the following data points though map reporting.
- Valve Position
 - Battery levels
 - Meter Size
 - Meter Alarms
 - Communication loss
 - Firmware version
 - Installer
 - Route/Group/Cycle
- 4.7.4 DISTRICT METERING ANALYTICS – The MDMS software platform shall allow the utility to define an unlimited number of metering zones. Using time-synced data, the MDMS should be capable of determining non-revenue water.
- 4.7.5 CONSUMER PORTAL – The software shall provide a consumer engagement portal that includes online access with easy-to-understand consumption graphs, configurable email and text alerts, and a smartphone application to allow the utility customer access to their usage information. The system should also have the ability to export the consumer's usage information in a standard CSV format report.
- 4.7.6 REPORTING CAPABILITIES - Reports and tables generated by the software will have the ability to easily select and compile particular data for printing or exporting in CSV format. The software will allow a utility to search the database to easily locate specific customer information and readings.

Historic customer reading information will be converted to consumption and allow graphical display for printing or data file exporting. Each user must be able to build custom reports with selected headers, timeframes, and data points. Each report must be able to be subscribed to and sent via email per the subscriber's configuration.

- 4.7.7 SECURITY – The MDMS and consumer engagement software shall maintain ISO27001 security certification and SOC2 reports to ensure data security and be hosted at a secure data warehouse with similar security certifications. All data at rest within and outside of the MDMS software must be encrypted and actively monitored through 3rd party security vendor. To keep ahead of the latest security threats, a third-party vendor must be utilized to conduct regular penetration testing to maintain data and system security. All system passwords must be stored in a non-reversible cryptographic hash format with multiple rounds.

4.8 Interface to Billing System

- **The current Utility Billing Software is AVR. The City does expect to upgrade the Utility Billing Software to Fundview in the near future.**

- 4.8.1 The AMI system supplier shall provide the appropriate software to automatically transfer appropriate data to the billing and Customer Information System (CIS) in a standard, nonproprietary format (e.g., Cellular field ASCII) compatible with County's existing formats. Each record provided to the CIS shall contain at a minimum: account number, CTU ID number, route number, meter ID number, meter readings, date, and time for each meter reading, and tamper indications.

4.9 AMI Transmission System

- 4.9.1 What type of data transmission is supported by the proposed system (e.g., one-way, two way, both, scheduled reads, unscheduled reads, etc.)?
- 4.9.2 What is the memory capacity for this infrastructure?
- 4.9.3 Describe the system's expansion capability.
- 4.9.4 Is the system able to withstand extreme weather shifts? Is it waterproof?

4.10 Data Management

- 4.10.1 Provide a description of the data management system the endpoint communicates with.
- 4.10.2 Describe the security features.
- 4.10.3 Does the system have the ability to capture and report data such as flow rates (continuous, excessive, inactive, no flow, backflow); water temperature rates; pressure; turbidity? Describe any other features that might exist. Include a list of available alarms and reports.
- 4.10.4 Are the reports configurable to Excel or Access format?
- 4.10.5 Can the reports be programmed to defined groups/parameters?
- 4.10.6 Are the alarms and reports from the endpoints configurable?

- 4.10.7 Are the alarms and reports from the meter configurable?
- 4.10.8 Is the system capable of two-way communication?
- 4.10.9 Does the system have a remote field application? If yes, describe the system and its capabilities.
- 4.10.10 Does the system have the ability to address the meters to be configured into the City Water Model?
Answer Yes or No.

4.11 Customer Portal

- 4.11.1 Describe in detail the Vendor's customer service portal option. Include all available features and options.
- 4.11.2 Does this system offer consumers comparisons with like households or within their neighborhoods?
- 4.11.3 Does this system offer usage alerts?

4.12 Provide information about any additional benefits

5 Installation, Training and Maintenance

Provide the following information:

- 5.1.1 Is your system easily installed and maintained by utility workers? Is an outside installer recommended? Please describe ease of ongoing maintenance/system needs.
- 5.1.2 How are installations and activations logged? Does your process/system require an external work order management system?
- 5.1.3 Describe all training necessary for your proposed solution, including estimated hours of training
- 5.1.4 Describe the option for ongoing support. How do you handle questions and problems after the project has closed?
- 5.1.5 Please provide a project timeline and description outlining the steps of implementing your proposed solution.
- 5.1.6 Please Provide Information on how the installation of the proposed AMI system will be installed.

6 Performance Guarantee and Warranty

- 6.1.1 Provide the following information: Describe in detail the performance guarantee and warranty the Vendor will provide for the system and for each component part. This should include product warranties for meters, infrastructure, and related components. Insert copies of any warranty information here.

7 Project Management

9 RFP EVALUATION CRITERIA

- 9.1.1 The response will be evaluated by a committee which will consist from Utility and Staff Representatives of the City of Ovilla. The committee will evaluate each response using the criteria included in these instructions and addenda, if included. An evaluation criterion is deemed to include any unstated “sub criterion” that might logically be included within scope of the state criteria.
- 9.1.2 Interviews. After reviewing the responses, the committee may request interviews. The City reserves the right to evaluate firms without requesting interviews.

See Ranking Criterion Matrix on last page below.

9.1.3 **Ranking Criteria.** Each response will be ranked on a 100-point scale using the criteria below. The points will be awarded relative to all responses for each of the criteria:

	Criteria	Points
1.	Total lifetime cost to the municipality to acquire the bidder's goods or services of installed (1227) water meters	25
2.	Total lifetime cost to the municipality to acquire bidder's goods or services for the additional 300 meters	25
3.	Quality of the bidder's goods or services to interface with the City and Customer Portals	25
4.	Extent to which the goods or services meet utility requirements and regulatory requirements of the A.W.W.A.	25
	Total	100