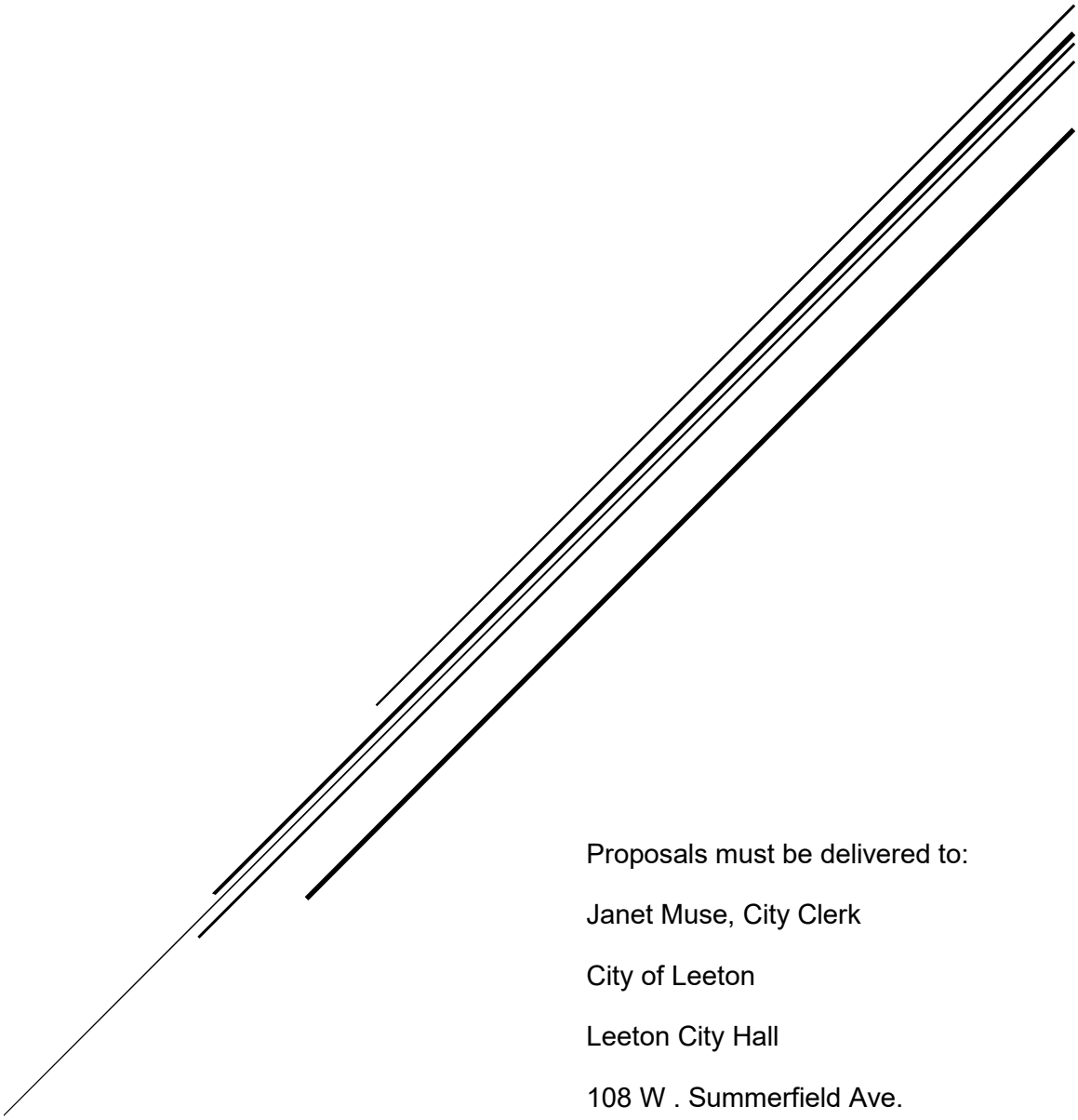
PUBLIC WATER UTILITY
REQUEST FOR PROPOSAL

Cellular-Based Advanced Metering Infrastructure Solution

Project Number :

Proposed By:

Date:



Proposals must be delivered to:

Janet Muse, City Clerk

City of Leeton

Leeton City Hall

108 W . Summerfield Ave.

Leeton, MO 64761

Proposal Due: 01/06/2026

1 Contents

2 Invitation to Submit Proposals

Sealed Proposals are requested & will be received by the City of Leeton for "Furnishing a Cellular-Based AMI (Advanced Metering Infrastructure) Solution." Sealed Proposals will be accepted at the Leeton City Hall, City of Leeton 1/6/2026 until *1:*00 p.m., local time. Proposals received after this time will be returned unopened.

Each Proposal shall be submitted in a sealed envelope addressed to *City of Leeton* & clearly marked "RFP for Cellular-Based AMI Solution."

City of Leeton reserves the right to reject any or all Proposals & to award a contract to any vendor deemed to be in the best interests of the *City of Leeton.*

All requests for information, clarification, or related inquiries shall be submitted via email to City of Leeton at cityofleeton@gmail.com a minimum of one week prior to the proposed RFP opening date. Requests received after this date will go unanswered. All answers & clarifications shall be shared with all vendors.

RFP Schedule:

Date	Milestone
12/02/2025	*RFP Distributed to Potential Vendors*
1/06/2026	***RFP Deadline for Submittal, 1pm***
1/06/2026	***RFP Bid Opening, 2pm***
1/14/2026	***RFP Award***

3 Introduction & Background

The City of Leeton is soliciting proposals for a Cellular-Based AMI (Advanced Metering Infrastructure) Solution capable of capturing granular water meter data, streamlining operations, & improving subsequent billing processes to provide an enhanced level of customer service to its customers.

The City of Leeton's *mission is* to provide the most economical & reliable service available to its customers. As a forward-looking, high-quality service provider, the City of Leeton understands the value of technology & believes the selected Cellular-Based AMI Solution will be a key tool in achieving this vision. As a critical information technology asset, the Cellular-Based AMI Solution is expected to provide the City of Leeton with real-time visibility into its operations, which will drastically improve the City of

Leeton's customer experience through improved billing accuracy, faster customer service response times, & reliable meter data availability as well as empower the City of Leeton's customers with the information they need to control usage, costs, & achieve conservation goals.

4 Scope of Work

The Cellular-Based AMI Solution issued through this RFP must meet all the current and future needs, including:

- Deployment of LTE-M endpoints with Encoder UI-1203 compatibility.
- Plug-and-play installation for pit and wall-mount units.
- Secure data transmission over AT&T's cellular network.
- Integration with Master Meter's Encore Meter Data Management (MDM) system.

The Cellular-Based AMI Solution utilizes AT&T's robust LTE-M network to offer utilities a future-proof, cellular-based AMI solution. Designed to minimize infrastructure investment and ensure rapid deployment, enhanced reliability, and seamless integration with existing systems.

The Prospective Bidder shall prepare and submit a propagation study to read all meter locations in the system as part of the technical proposal. The Proposer may request from the City of Leeton an Excel database containing the service addresses for water accounts, with approximate latitude and longitude for each property or site. The latitude and longitude are the parcel centroid. Not all services may be on this list, and some locations may have multiple meters. The Prospective Bidder shall assume at least one meter at each property.

5 Technical Requirements

5.1 Device Specifications

5.1.1 **Compatibility:** Encoder (UI-1203) protocol, supporting most water meter encoded protocols

5.1.2 **Design:** Available in pit and wall-mount configurations with industry-standard connections (Nicor, Itron, or bare wire).

5.1.3 **Data Transmission:** at least once (1) a day, data securely transmission of 15-minute meter readings and alarms to the SaaS MDM (Meter Data Management) software.

5.1.4 **Activation:** Magnet activation for seamless commissioning.

5.1.5 **Network:** Operates on AT&T's network infrastructure, using LTE-M technology & operate on selected LTE bands of 2, 4, and 12.

5.1.6 **Durability:** Designed to withstand harsh environmental conditions.

5.1.7 **Extended Lifetime:** At least full 20-year (10 years full /10 years prorated) warranty at a good coverage area with once (1) a day transmission.

5.1.8 **Remote update:** Support remote unit firmware update over the air (FUOTA).

5.1.9 **Two-Way AMI:** Two-way communication for advanced operational capabilities.

5.1.10 **Network Redundancy:** Leveraging AT&T's coverage of 98% of the U.S.

5.1.11 **Real-Time Monitoring:** Time-synchronized daily reads with up to 15-minute resolution.

6 Benefits

6.1 **Minimal Infrastructure:** No need for utility-owned AMI infrastructure, reducing costs.

6.2 **Proven Technology:** Robust LTE-M cellular network with IoT-specific optimizations.

6.3 **High Reliability:** Certified & compatible with the latest FCC and cellular carriers' certifications.

6.4 **Flexibility:** Adaptable to full AMI or hybrid deployments.

6.5 **Security:** Data is secured via VPN and carrier FCC-licensed frequencies.

6.6 **Customer Empowerment:** Real-time insights via My Water Advisor.

6.7 **Leak Detection & Analytics:** Enhanced reporting to reduce non-revenue water (NRW).

7 Software Applications

7.1 Host Software Overview

The host software MDM (Meter Data Management), shall have the essential capability of supplying the following features to the end user:

- It employs a thin-client (browser-based) architecture wherein the database is centralized, and the host application requires no local installation but is accessed through any Internet browser.
- It shall be hosted via Microsoft's Azure or Amazon Web Cloud services.
- Utilize a standard file layout format to interface with the utility's CIS for both on-cycle and off-cycle meter readings.
- Interface with third-party applications such as work order systems via a standard interface (e.g., web services, file import/export).
- A customizable reporting engine that provides key reports on advanced usage analysis is included within the application: district metering, consumption reporting, troubleshooting, leak report, tamper report, reverse flow report, and non-billable report. A list of all reports and a brief description of each report included within the application are provided in the Reporting Section.
- A customizable dashboard that provides key performance indicators (KPIs) to allow for proactive monitoring of system health and performance. Provides an AI-driven priority alarm configuration capable of sending information directly to key utility personnel (via email or SMS) based on predefined triggers and thresholds.
- Able to export data to Microsoft Excel, PDF, CSV, and Word applications.
- Designed to hold two (2) years of history for direct access, with an option for secondary direct access storage and reporting of older usage history; availability up to 10 years.
- Provides export of key data for third-party meter data management or customer web presentment.
- Provides embedded mapping tool that enables visual interpretation and analysis of data within the fixed network system to reveal relationship patterns and usage trends. The map-based interface component provides viewing, selecting, managing, and reporting options on all assets the system manages.
- Can store up to ten (10) years of once daily reads of AMI data for immediate real-time access and must provide this data within the data repository, reporting, and customer web presentment environments.
- Display data graphically and in tabular form to utility users and customers.
- Allow the data repository and web presentment application not to impact the performance of the operational AMI data collection system.
- Allow the data repository to provide custom reporting and data analysis.
- Provide a method for the utility to load customized reports without vendor assistance.
- Provide a method of performing and managing District Metered Area (DMA) analysis.

- Regarding the management of DMA/DMZ, the MDM shall have the capability of converting visual zones from the GIS module into a standard report type for later studies and collaboration (e.g., XLS format)
- Be able to support network meters, deduct meters, and compound meters.
- Store additional data formats other than consumption data for long-term reporting and analysis.
- Allow the vendor to promptly demonstrate all required and offered features of the utility data repository via live onsite or remote use of the actual system if requested.
- Provide consumption analysis of daily, monthly, and yearly data.
- Provide alarm notifications for leaks and reverse flow events for water utility customers.
- Provide a consumer web portal for utility customers to view consumption data and configure leak and/or reverse flow alerts.
- Contain a customer self-enrollment process.
- Allow the customer to configure consumption thresholds based on daily water budget values and receive alerts when that consumption has been exceeded.
- Be able to deliver alerts via email.
- Provide a list of standard consumption, leak, and related meter alarm reports.

7.2 General Mapping Component Features (Geographical Informational System - GIS):

The GIS mapping software capabilities shall meet the following specifications:

- The GIS mapping module shall be integrated (embedded) within the MDM itself
- Be a highly interactive (drag-and-drop) mapping interface.
- Auto-zoom to map display result set.
- Ability to display endpoints, base stations, connectivity levels, and other system components on the same map interface.
- Ability to display other maps managed by the utility, such as pipe distribution networks, laterals, etc.
- Via an import function (.shp or .kmz), be capable of displaying ESRI-based water meter assets.
- Polygon selection capabilities for all entities displayed on the map
- Ability to send selected items from the mapping component directly to the customer service screen for display.
- Ability to create groups from map queries and polygon selections and automatically calculate and export to an Excel file the total and individual endpoint consumption
- Ability to view all endpoints, base stations (if using an Allegro Cellular AMI and Allegro Licensed AMI Hybrid system) if needed, and compatible leak monitoring devices contained within the fixed network software on a map.
- Ability to display endpoint based on unique device attributes such as continuous/intermittent leak, major/minor backflow, no consumption, inactive status, etc.
- Ability to query and display endpoint based on conditions such as owned, data pending, last heard time, inactive with usage, etc.

- Ability to add date or value ranges and tolerances to specific queries, such as inactive usage, zero consumption, etc.
- Ability to generate queries based on specialized conditions such as soft or virtual disconnects.
- Ability to auto-generate (geocode) map coordinates for above assets (requires complete service address information or additional GPS hardware).
- Ability to display all relevant dashboard KPI items on a map.
- Ability to display groups of endpoints on a map, either from a specialized search, by predefined group indicators or by list upload.
- Ability to generate result queries to display on a map from events and alert lists.
- Ability to create customized queries to display endpoints based on attributes and save them for future use.
- Ability to publish defined map queries for other map component uses (administrative rights required).
- Ability to layer multiple map queries onto a standard base map.
- Ability to print maps, including any attributes and/or endpoints that are displayed.
- Ability to export any endpoint or attributes displayed on the map to MS Excel (XLS), .CSV, or PDF formats.

7.3 Host Software – High-Level Requirements

The selected MDM shall provide all the control needed in the water meter network and be capable of network management, meter communications, reporting, database configuration, and alarm monitoring. It must comply with prevailing industry standards and shall be hosted within Microsoft Azure and/or Amazon Web Services (AWS) cloud computing services.

The host software shall be able to interface with handheld, touch read, AMR mobile, and fixed network meter reading software to enable a hybrid meter reading approach. The MDM shall also be compatible with any future reading systems that Master Meter will deploy for at least 15 years.

Additionally, the MDM shall interface to the utility's CIS/billing software via either file import/export capabilities; the meter reading data communicated to the CIS system will be provided in an ASCII flat file format.

7.4 Meter Data Management – Detailed Requirements

Meter data management software shall help manage the key water metering infrastructure, including meter inventory, meter reading, and consumption history.

Specifically, the selected MDM software shall provide:

- An hourly time-synchronized meter reading from all water meters for monthly billing purposes.
- 24-hour usage/consumption readings are delivered daily to resolve customer billing disputes and improve customer service.
- Ability to define, add, change, and delete an unlimited number of meters and meter types.
- Ability to identify a meter by type, size, serial number, electronic ID, manufacturer, location, tested date, and install date.

- Ability to enter meter reading data through data entry screens, handheld devices, or wireless automated meter reading systems by Master Meter or others.
- Ability to automatically calculate consumption upon entering or importing meter readings, including the ability to edit readings.
- Ability to automatically truncate, round, or add zeroes to meter readings.
- Ability to allow concurrent meter reading data entry of one route while processing billing for another.
- Ability to maintain meter readings and dates independent of customer or account changes.
- Ability to enter a meter change without interruption of the billing cycle or final billing.
- Ability to generate work orders based on meter readings, exception reports, and/or actions entered along with meter readings.
- Ability to include meter location notes to communicate the location of the meter at the service location to the meter reader.
- Ability to view the history of an installation at a service location.
- Ability to record unlimited notes for a meter.
- Ability to define meter reading types, such as manual, radio read, etc., and differentiate between actual and estimated readings.
- Ability to automatically identify roll-over readings based on meter setup.
- Flexible high/low feature allows the user to set a range of parameters that estimates the “normal” consumption range for comparison to actual read to screen for variables such as high/low consumption, no reading, zero consumption, etc.
- Ability to change out meters at any time. Where meters have been changed out and the ability to show separate individual meter readings and consumption to show total consumption and billing amount on the same bill.
- Ability to change meter reading sequence without changing the customer account number.
- Ability to graphically display consumption history for an account.
- Ability to display average monthly consumption for an account or all accounts graphically and numerically.
- Ability to maintain reading instructions or location notes, print the instructions/notes on meter reading sheets, and provide this information in the meter reading interface.
- Provide a method of displaying and utilizing temperature and precipitation data synchronized with the consumption data in the system for data analysis purposes.
- The ability for the user to flag individual accounts for which zero consumption is not considered to be an exception. This would cause the account not to show on a Reading Exception Report.
- The ability to search for meters using the following criteria: Meter Serial Number, Meter Electronic Number, Reading Device, Endpoints, Hours Since Last Read, Service Type, Route-Site Name, Meter Interface Status, Only Meters with Alarms, including Removed Meters.
- Ability to import and export route/site data through custom interfaces that are configurable by the user.
- Ability to set up, configure, and review DMA/DMZ Leak Zones.
- Ability to search for meter testing results using Meter Serial Number, Meter Electronic Number, and a Testing Date Range.

- Ability to track mobile devices using GPS and a mapping product.
- Ability to report all meter readings uploaded to the system within a given time for a specific meter.
- Ability to generate a Manual Reading Worksheet based on the criteria: Route, Cycle, Service Type, Last Read Date, Location Number, and Location Status.
- Ability to generate a Meter Reading Report showing the most recent reading in the system using the following criteria: Reading Date, Meter Serial Number, Meter Electronic Number, Reading Device, Service Type, Route-Site Name, and Include Allegro Enabled Meters.
- Ability to generate a Consumption Report showing individual and combined usage using the following criteria: Reading Date, Meter Serial Number, Meter Electronic Number, Reading Device, Service Type, Route-Site Name, and Include Allegro Enabled Meters.
- Ability to generate an Inactive Location with Usage Report using the following criteria: Reading Date, Meter Serial Number, Meter Electronic Number, Reading Device, Service Type, Route-Site Name, and Include RF Meters Only.
- Ability to generate Reading Exception Reports showing anything that is out of the ordinary, such as a reading that has not changed since the last reading cycle (stopped meter), a reading that is missing (unread meter), or an alert like “leak” or “cut wire” using the following criteria: Reading Date, Reading Device, Service Type, Route-Site Name, Alarm Type.
- Ability to generate a meter list from the system using a Meter Query & Report option with the following criteria: Meter Serial, Meter Readings, Purchased Date, First/Last Installed Date, Last Tested Date, Scrapped, Removed Meters, and/or DMA leak zone Service Meters, Service Type, Street Address, Electronic Meter Type, Physical Meter Type, Meter Size, Meter Manufacturer, Check Valves installed, or Meters with No GPS Coordinates on file. Using these criteria, the following report formats are available: Meter Listing showing one Meter per line, Meter Detailed Report showing most information on file, and Meter Count Report.
- Ability to generate a Meter Change Report using the following criteria: Change Out Start and End Dates, Service Type, and Route.
- Ability to generate System Health Reports showing Meters assigned to multiple Locations, Meters not assigned to a Leak Zone, and Locations with multiple Meters assigned to them, using the following criteria: Service Type, Route, Include Scrapped Meters, Include Subtraction Meters, Included Removed Meters.
- Ability to generate a Meter Test Required Report showing which meters need to be retested and certified, based on age or accumulated usage using the following criteria: Electronic Meter Type
- Ability to generate a Quarterly Meter Test Report showing the information required for your state’s public service commission, including the number of metered and no-metered services by customer class, Test Year, Meter Test Program, Approval Agency, Test Quarter, Sample Method Plan, Date Submitted, Meters to be tested this year, Meters actually tested this year, and Meters remaining to be tested this year.
- Ability to Setup and Manage Route Information using the following information: Route or Site Description, Route Number, Current Assigned Device, Current Status, Export Only Meters with Alarms for Route, Change Status on Export, Billing Import, and Export File Format (Bridge), Billing File Name, Service Types, Documents Assigned to Route, and Meters Assigned to Route.

- Ability to Audit Route Status Changes using the following information: Changed Date, Changed From, Changed To, Device Assigned, Deleted (Y/N).
- Ability to Specify what information will be shown on the screen of meter reading devices.
- Ability to Set up and Manage DMA Leak Zone Information using the following information: DMA Leak Zone Name, Monitoring Period in Minutes, Minutes Between Monitoring Periods, Days to Retain DMA History Records, Time and Date to Begin Saving Readings, Deviation For Low Use Warning, Deviation For High Use Warning, Deviation For Possible Leak Warning, Fixed Network Processing Time Allowance and Zone Color.
- Ability to export a file for outsourced (3rd party) bill printing via a file export function.

7.5 MDM Embedded Work Order Management

Creation and maintenance of work orders shall include assigning, printing, managing, and closing work orders for any reason. Work order types include (but are not limited to) new accounts, closing accounts, disconnections, and meter re-reads. The system shall also allow for the entry of follow-up dates on work orders.

The selected MDM will also provide:

- Ability to generate work orders based on meter readings, exception reports, and/or actions entered along with meter readings.
- Ability to dispatch and receive completed work orders via the Internet.
- Ability to track the current location of field workers.
- Ability to define, add, change, and delete unlimited work order types.
- Ability to provide automated updates upon completion of a work order.
- A history of all work orders related to a service address remains with the service address record.
- Ability to automatically update customer, location, meter, and account information upon work order completion.
- Ability to print or email work orders based on user-defined selection criteria.

7.6 Interfacing with 3rd Party (External to MDM) Billing Systems

The selected MDM shall be highly flexible and can interface with most 3rd party billing systems.

Note regarding **Communication/Interfacing Channels**: the billing-MDM integration software application will occur provided the billing software supports ASCII or flat file formats (e.g., **CSV comma-separated values**). The selected MDM shall inherently support ACII and flat file formats at **no extra charge**.

A list of key capabilities is identified below:

- Supports different meter units-of-measure by rate code (10's, 100's 1,000's).
- Exception reporting for meter readings out of range (no reading, high reading, etc.).
- Simultaneous export and import of data.
- Supports multiple export/import file types.

7.7 System Reports

The reading system software must provide the ability to create and modify system reports. Standard reports shall include but not be limited to the following:

- **Reading Master Report.** Master list showing Customer Name, Service Address, Meter ID, Previous Reading, and High Read Limit.
- **Reading Exception Report.** A list showing all readings that failed the high/low limit test, zero usage test, or unread meter.
- **Meter Alert Report.** A report designed to list problem meters. Problems reported should include Leak Alarms, Back Flow, or Tamper.
- **Orphan Read Report.** A listing of radio readings received but not found in the reading route.

7.8 Consumer Web Portal

The MDM network software suite shall have a data repository and consumer web portal option available, which is a cloud-based data management and analytics package capable of providing long-term data storage, web presentment for utilities and consumers alike, and advanced consumption analysis and reporting.

The application shall be able to supply the following features to the end user:

- For fixed-based systems, provide minimum hourly data to both utility users and utility customers.
- Provide a method for the utility ‘s customers to view their consumption information through a customer web portal.
- Provide the ability for utility customers to view and manage multiple meters and/or multiple accounts.
- Provide a method to ensure complete integration into the utility’s existing website to establish a consistent look and feel (header, footer, color, etc.).
- Provide a method for the utility’s customers to set water budgets and alert them if they exceed their budget.
- Ability to provide down to 15-minute interval leak and theft monitoring and alerts via email to utility customers. The endpoint themselves can generate these alerts, or, if an endpoint option is not available, by the data repository system being managed by the MDM.
- Allow the utility’s customers to configure their system to receive alerts and configure the time at which alerts are sent.
- Display synthesized data to the customer.
- Enable users to display consumption information in both graphical and tabular formats.
- Provide a method to allow utility customers to compare their consumption against utility-created, predefined groups.
- Allow utility customers to set multi-level communications for leak, reverse flow, and consumption alerts: in-app notifications, e-mails, or SMS.
- Provide a method to export data in Adobe PDF and MS Excel formats.
- Provide daily water budget analysis.

- Provide the ability to allow customers to manage or change their email addresses for paperless billing.
- Allow customers to access their account history, including monthly consumption, current month compared to the previous month, and historical consumption for comparison.
- Allow customers to have a full-page electronic copy of their utility bill.

7.9 Acceptable Software Compatibility

In the interest of standardization, the following software applications are acceptable to the utility, provided they fully comply with all the above software specifications and meet every listed requirement in the bid package:

1. **Master Meter's Harmony Encore MDM**
2. **Master Meter's Maestro Technician App**
3. **Master Meter's My Water Advisor**
4. **APPROVED EQUALS** of the above items 1 through 3

Training and Support

7.10 The vendor shall train the City of Leeton employees (operators and administrators). The price shall include all travel-related expenses. Training shall consist of a minimum of twelve hours, occurring only Monday through Thursday, of on-site instruction on the operation procedures for the AMI system. Complying with the minimum period specified above will not relieve the Prospective Bidder of providing sufficient service to place the AMI system in satisfactory operation.

7.11 At a minimum, the training must cover the use of the Network Infrastructure equipment (if applicable), error coding, uploading, and downloading data from the reading devices from the AMI system software, and AMI system software interfacing with the existing billing system

7.12 The vendor's training program shall be described, highlighting how it addresses each of the following components:

- 7.12.1 AMI system operation, including obtaining readings, transferring data between the MDMS and compatible CIS, creating reports, diagnosing issues, definitions, and recommendations for resolving alerts/alarms, customer account processes, meter change-out, etc.
- 7.12.2 Meter reading database management
- 7.12.3 Field diagnostics and maintenance

7.13 The vendor shall train all appropriate Utility staff to enable staff to operate and maintain the system effectively, and proficiency will be determined according to the Customer Acceptance Plan to be defined prior to contract signing.

7.14 Training must be accompanied by workbooks and training materials, with additional supporting materials composed and provided as requested by City of Leeton staff.

7.15 The training schedule shall be coordinated with the City of Leeton. The training on operation of the AMI system shall not occur until after the software has been installed and the billing interface file has been written, tested, and is working successfully to transfer meter reading data to the billing system.

7.16 Vendor shall include recommendations and requirements for AMI system preventative maintenance, back up, archiving, etc.

7.17 Respondent must provide telephone, online, and on-site support, as needed from the effective date of the AMI system contract until the date of customer acceptance of the pilot phase of installation, at no additional cost to the City of Leeton. Until customer acceptance has occurred, no maintenance or support contract/agreement will be made effective.

7.18 The respondent must provide telephone, online, and on-site support, as needed, for 20 years from the expiration of the initial support period, as shall be outlined in the End User License Agreement.

8 Project Management and Schedule

8.1 The selected Bidder shall provide project management for their Scope of Work as detailed herein. The Project Manager shall be required to coordinate activities with the Owner and Owner's representative.

8.2 The Vendor shall provide their proposed statement of work and project management responsibility documentation, which includes system installation, configuration, and testing.

8.3 The Vendor shall submit a project schedule that includes securing an FCC license (if required), network delivery, installation, configuration (including transfer file with billing system), meter and AMI endpoint delivery, system testing, and training.

8.4 The Vendor shall work cooperatively with the City of Leeton project managers and project team members and maintain responsiveness to action items and issues resolution tasks assigned through the project management team as part of the implementation plan.

9 Acronyms and Definitions

Term	Definition
AMR	Automated Meter Reading
AMI	Advanced Metering Infrastructure
Endpoint	Network component responsible for interfacing with the meter to collect data & transmit via RF to Network Infrastructure
Base Station	Responsible for serving as the data collection point & communication coordinator between the Endpoints, Repeaters, & the HES for an Allegro AMI Licensed or Hybrid AMI Solution
HES (Head End System)	Cloud-hosted data aggregation point responsible for interfacing the user facing Meter Data Management application with the AMI Network
MDM	Meter Data Management software responsible for aggregating & reporting on meter data provided by the AMI
FUOTA	Firmware Upgrade Over The Air

10 Acceptable Endpoints for Cellular-Based AMI Solution

In the interest of standardization, the following Cellular AMI Solution is acceptable for use by the City of Leeton provided they fully comply with the above specifications and meet all requirements in the bid package:

1. MASTER METER ALLEGRO CELLULAR AMI

RESIDENTIAL MULT-JET (5/8" – 2")

COLD WATER METER SPECIFICATION

City of Leeton

GENERAL

Except as otherwise modified or supplemented herein, the latest revision of AWWA Standard C-708 for Cold Water Meters - Multi-jet Type shall govern the materials, design, manufacture and testing of all meters furnished under this specification or a product approved as equal by the Director or his appointed agent.

AWWA Standard C708 is considered by the City of Leeton to be minimum requirements and shall be supplemented herein to ensure the quality required by the utilities department.

Meters shall be manufactured by a company with a minimum of twenty-five (25) years experience in manufacturing of water meters. All water meters shall be assembled and tested within the Continental United States of America. Manufacturer shall be doing business as (d.b.a.) a registered corporation in one of the United States.

Bids will be accepted only from those companies who are actively engaged in the manufacturer of a complete line of water meters of various types, (i.e. multi-jet type, turbine and compound).

Meters shall be bid with connections. Cold water meters 2" and smaller shall be magnetically driven, multi-jet, velocity type.

The water utilities department reserves the right to request a sample meter to study prior to awarding bids.

METER MAIN CASE

For small meters 5/8" – 1", the main case shall be a solid case with removable bottom plate. For Intermediate size meters 1 ½" or 2", the main case shall be designed for easy removal of the chamber assembly without disturbing the connections to the pipeline. The main case will be manufactured of cast unleaded bronze containing a nominal copper content of 86%. The main case shall be constructed in such a way that it will withstand internal pressure and external stress to eliminate distortion, cracking, or breaking that could cause leakage or possible damage to other components or interfere with the proper operation of the meter in general.

Removable bottom plates shall be manufactured of epoxy-coated cast iron. If removable covers are used, they shall be constructed of waterworks bronze containing a nominal copper content of 86%. Bottom or cover plates, if applicable, shall be attached to the main case with stainless steel or silicon bronze bolts.

All external bolts, nuts and washers shall be of bronze, stainless steel or other non-corrosive metal.

Main case connection for 5/8 inch, 3/4 inch and 1-inch meters shall be spuds having external water meter threads with dimension as indicated by AWWA Standards. One and one-half inch (1-1/2") meters and two inch (2") meters shall have 2-bolt oval flanges.

The meter serial number shall be imprinted permanently on the main case as well as clearly on the register lid if so equipped.

The register box and lid (if provided) shall be made of a suitable synthetic polymer.

The size, model number of the meter and direction of the flow through the meter shall be imprinted permanently on the outer case of all meters.

All meter cases shall be machine finished, with no sharp edges. Standard bronze cases shall be manufactured of a copper alloy with a nominal copper content of 86%.

All meter cases shall include a calibration port located under the register shroud or on an external boss in the main case if protected by an acceptable tamper device.

METER REGISTERS

The register shall be a factory-sealed, IP-68 rated, solid-state electronic encoder featuring a high-resolution LCD display. It shall utilize magnetic field sensing to digitally replicate mechanical register output, eliminating all moving parts and mechanical gearing. The register shall support programmable units of measure including U.S. gallons, cubic feet, or cubic meters, and configurable resolution multipliers ranging from 0.01 to 100.

It shall provide advanced diagnostic indicators including flow direction, instantaneous rate of flow, leak detection, and totalization. The housing shall consist of a tempered, scratch-resistant glass lens, stainless steel enclosure, and a wrap-around elastomeric gasket to ensure long-term protection against moisture and particulate intrusion.

The register shall be universally compatible with bayonet-style mounts and support connectivity to AMR/AMI systems via 2- or 3-wire terminal screws, epoxy-sealed leads, or industry-standard connectors such as Nicor and Itron, with optional pit coil integration.

The register shall be removable without compromising its environmental seal and shall carry a 10-year warranty against fogging, condensation, and moisture ingress. Tamper-resistant mounting is required.

MEASURING CHAMBER

The measuring chamber shall be made of a suitable synthetic polymer material, which equals or exceeds AWWA Standards. It shall be secured in a position in the main case in such a manner that slight distortion of the main case will not affect sensitivity or registration of the meter.

The measuring chamber shall be of the velocity type and designed as to allow the flow of water to pass through precise, converging orifices causing the impeller to rotate thereby

providing a synchronous relationship between the impeller velocity and the water registered that passed through the chamber.

The measuring chamber shall be constructed in such a manner as to facilitate easy removal from the maincase.

As an indication of longevity of service, the performance of the measuring chamber shall be guaranteed to meet the new meter standards of AWWA manual M-6 as follows:

5/8"	5 years or 750,000 gallons
3/4"	5 years or 750,000 gallons
1"	5 years or 1,100,000 gallons
1.5"	5 years or 1,600,000 gallons
2"	5 years or 2,100,000 gallons

To ensure longevity of service, the performance of the measuring chamber shall be guaranteed to meet the repaired meter standards of AWWA manual M-6 as follows:

5/8"	20 years or 2,500,000 gallons
3/4"	20 years or 2,500,000 gallons
1"	20 years or 3,250,000 gallons
1.5"	20 years or 5,600,000 gallons
2"	20 years or 10,400,000 gallons

The measuring chamber shall be covered for this period by written warranty as required or mentioned elsewhere in these specifications.

MAGNETIC COUPLINGS

There shall be no stuffing box. The motion of the multi-vaned rotor shall be transmitted to the sealed register through the use of a direct magnetic coupling. Magnets shall be a permanent magnet material to avoid accidental demagnetization.

STRAINERS

All meters must be provided with a corrosion resistant strainer that is easily removed from the meter

CHANGE GEARS

Change gears are not acceptable. All register of particular registration and meter size shall be identical and completely interchangeable.

ACCURACY AND HEAD LOSS TESTS

Meters shall conform to current AWWA test flow, head loss and accuracy standards.

PRESSURE CAPABILITY

Meters shall operate up to a working pressure of one hundred fifty (150) pounds per square inch and to a temperature of 105 degrees Fahrenheit (with short excursions to a maximum of 120 degrees Fahrenheit), without leakage or damage to any parts. The accuracy shall not be affected when operating at this pressure due to possible distortion and severe dimensional changes.

WARRANTY REQUIREMENTS

The manufacturer's meter guarantee will be required with this bid and shall cover the meter main case's pressure integrity for a period not less than twenty-five (25) years according to the meter serial number.

Bidder must include with his bid, a copy of descriptive literature for the meters including typical accuracy and head loss.

ACCEPTABLE METERS

In the interest of standardization, the following meter lines are acceptable for use by the City of Leeton provided they fully comply with the above specifications and meet all requirements in the bid package:

MASTER METER

APPROVED EQUAL

All meters not listed above shall pre-qualify. In order to pre-qualify, the manufacturer shall send necessary drawings and technical data to the City of Leeton Water Department and complete a minimum of one year in equivalent field testing. Any exceptions to the specifications shall be pre-qualified by the above method.

Construction of the meters manufactured under this specification will have that design and manufacturing location verified by meeting the NSF61 Standard as certified by an ANSI-recognized organization.

BIDDERS RESPONSIBILITY TO THIS SPECIFICATION

It is the responsibility of each bidder to carefully examine these specifications and the bid documents and become familiar with the requirements set forth herein. In addition, it is the responsibility of each bidder to submit all necessary information concerning their product to the City of Leeton. Failure to do so could result in your bid being declared as non-responsive.