

LEGAL NOTICE

The Town of Haw River (the "Town") invites interested firms to submit a sealed Request for Qualifications (RFQ) for the following:

SERVICES FOR WATER METER SYSTEM REPLACEMENT PROJECT NO. 2024-001

Interested parties may submit Qualifications for an Advanced Metering Infrastructure (AMI) Full-Service Implementation and Maintenance Program to improve the process of collecting monthly water utility meter data to enhance the level of service offered to customers.

The AMI Full-Service Program will be implemented system wide in a short time frame, in order to maximize the benefits of the system. Interested parties are to submit qualifications for a turnkey deployment of approximately 1000 water metered accounts, followed by an ongoing maintenance program with field labor that includes meters, network, AMI endpoints, and software maintenance as well as full-service data hosting and delivery to the Town.

The requirements for Qualifications including instructions, requirements, and formatting for the RFQ may be secured at the Town of Haw River, 403 East Main Street, Haw River, NC, 27258 or by email to stencer@townofhawriver.com and rbrewer@townofhawriver.com.

Firms interested in being considered for selection should respond by submitting one original and three copies of the RFQ in a sealed envelope marked "**Water Meter System Replacement**" to Town Manager Sean Tencer, Town of Haw River, 403 East Main Street, Haw River, NC 27406. Responses received after the specified due date and time will not be considered.

Town Manager Sean Tencer, Town of Haw River

TO BE ADVERTISED: May 2, 2024, and May 9, 2024

RFO Scope of Work for Town of Haw River Meter Replacement Project

I. Overview of Project

- a. Interested parties to submit Qualifications for an Advanced Metering Infrastructure (AMI) Full-Service Implementation and Maintenance Program to improve the process of collecting monthly water utility meter data and subsequent billing to enhance the level of service offered to its customers.
- b. The AMI Full-Service Program will be implemented system wide in a short time frame, to maximize the benefits of the system. Interested parties are to submit qualifications for a turnkey deployment of approximately 1000 water metered accounts, followed by an ongoing maintenance program that includes meters, network, AMI endpoints, and software maintenance as well as full-service data hosting and delivery to the Town.
- c. The submitter shall be the single point of responsibility for all components of the Full-Service Program included but not limited to services, equipment, hardware, software, and warranties. No third party or subcontractor shall provide the Full-Service Program.
- d. The Full-Service Program shall run for a term of 15 years.
 - i. Provide and perform the initial replacement of all existing water meters.
 - ii. Provide and install radio transponder endpoints with two-way licensed communications at 450-470 MHz frequency.
 - iii. Install a fixed based data collection system to collect readings and information from AMI modules and transmit to a hosted server.
 - iv. Install all hardware and software that will receive meter readings, prepare reports, and interface with the Utility's billing system.
 - v. Provide equipment, training, and implementation to migrate from the current system to the fixed base Full-Service Program.
 - vi. Secure hosting of meter readings that can be accessed by the Utility at any time.
 - vii. A Maintenance Program that provides replacement of failed components including field labor and resources required for repair or replacement.

viii. Daily monitoring of AMI System to include the following:

- Ensure that software is performing as expected.
- Confirm that there are no issues with the AMI Network Data Collectors and/or Communications Backhaul.
- Identify critical and severe end-customer consumption events.
- Daily email notification of consumption events

e. **Submitters are encouraged to carefully review all the materials contained herein and prepare their Qualifications accordingly.** The detailed requirements set forth below will be used to score the Qualifications and failure of the Submitter to provide the information requested for a specific requirement may render their Qualifications as non-responsive and may result in being rejected.

f. Submitters shall carefully study and compare the information and documents presented in this Request for Qualifications to ensure there are no conflicts, shall examine the site and local conditions, if applicable, and shall at once report to the Contact Person any errors, inconsistencies or ambiguities discovered.

g. The Town shall not be liable for any costs incurred by a submitter in preparing or producing its Qualifications or for any Services provided before execution of an Agreement.

h. All terms and conditions outlined in this Request for Qualifications and any associated Addenda, shall become a part of the Agreement entered between the Town and the Successful Submitter.

i. Submitters shall submit all questions about the meaning or intent of the Request for Qualifications to the Contact Person in **written format only**. It will be at the Town's discretion whether questions received after the date for "deadlines for questions" as noted in the Event Timeline will or will not be answered. Interpretations or clarifications considered necessary in response to such questions will be issued by a written Addendum. **Only questions answered by formal written Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect.**

i. Questions submitted shall not constitute formal protest of the specifications or of this Request for Qualifications

ii. All inquiries pertaining to this Request for Qualifications are to be directed to:

- Robert Brewer, Public Works Director –

- j. Submitters should review and become familiar with the Event Timeline. The dates and times of each activity within the Timeline may be subject to change. It is the responsibility of the Submitter to check for any changes. All changes to the Timeline will be made through an addendum to this Request for Qualifications.

k. Timeline:

EVENT	DATE	TIME
Issue Request for Qualifications	April 23, 2024	5:00 pm
Deadline for Questions	May 13, 2024	5:00 pm
Qualifications Due Date and Time	May 17, 2024	5:00 pm
Oral Presentations (if applicable) (subject to change)	May 23, 2024	5:00 pm
Approval of Selection and Award (subject to change)	June 3, 2024	6:00 pm

- l. SEALED Qualifications are to be submitted on or before May 17th, at 5:00pm to: Town of Haw River, 403 East Main Street, Haw River, NC, 27258. Mailing address: Town of Haw River, PO Box 103, Haw River, NC 27258
- m. Four (4) copies of the qualifications shall be submitted, sealed, and mailed or delivered to be received no later than the above Qualification Due Date and Time.
- n. The outside of the mailing package must be marked with the following information:
 - i. The words “SEALED QUALIFICATIONS ENCLOSED - AMI Maintenance Program.”
 - ii. Name of the entity submitting the Qualifications
 - iii. If the mailing package is not marked and opened in error, the Qualifications may be rejected.
- o. The Town assumes no responsibility for a Qualification received after the due date and time, or at any location other than that specified herein, whether due to mail delays, courier mistakes, mishandling, inclement weather, or any other reason. **Qualifications received after the due date and time shall be returned unopened. There will be no exceptions to this policy.**

II. Submittal Format

To aid in the scoring of the Qualifications, provide the following information in the format as noted. This information will be used as the foundation for scoring the Qualifications. Qualifications are to be submitted in 8½” x 11” size, typed, three (3) hole punched and fastened with a paper clip or binder clip. Lengthy narratives are discouraged; presentations should be brief and concise and not include extraneous or unnecessarily elaborate promotional material. **The qualifications should not exceed 30 pages in length, excluding appendices.**

Submitters should use the following outline in organizing the contents of their qualifications:

- a. Title Page
- b. Introduction - introduce the firm and briefly state the understanding of the services to be provided and why they should be awarded the contract.
- c. Submitter History:
 - i. Include company contact name, address, e-mail, and phone number of project manager.
 - ii. The Submitter shall have a proven project manager to ensure successful Full-Service Program installation. Project managers shall be experienced in managing the design, installation, and optimization of systems. Project management experience shall include system integration and training support.
 - iii. The asset management experience and capabilities shall be detailed; preference will be given to long-term asset management experience. Provide a listing of references of similar project scope and complexity with customer contact information, so that the Town can verify experience.
 - iv. Provide details outlining the ability to service the long-term asset management program from within the state of North Carolina, including local offices and service centers as well as the local offices and service centers of technology partners.
 - v. The Town requires the submitter to be qualified, certified and capable of providing Asset Maintenance Programs. To meet this requirement the submitter shall submit evidence of ISO 9001 certification to provide Asset Maintenance Programs for municipal and industrial water distribution systems.

- vi. The submitter shall also be a **Licensed contractor** in the State and provide evidence.
- vii. If submitter plans to affix any equipment or hardware on Town assets, the submitter shall provide **engineering licensing** evidence of their capability to provide Engineering, Engineering Certifications, Permitting, Welding & Drawings to mount to City owned assets.
- viii. As part of the asset maintenance program, the submitter shall also have the capability to regularly perform visual inspections of elevated assets using drone technology where AMI antenna and equipment are installed. The submitter shall have a Part 107 certification and follow a Drone Compliance Program. The proposer shall provide proof of insurance coverage and documentation to support the Safety Training Program that is in place.

d. Financial Stability:

- i. Provide a summary detailing years in business, number of customers, financial strength, corporate structure, and reporting. Demonstrate the ability to self-finance the initial meter infrastructure for up to five (5) years by providing three (3) references with contact information. No third-party financing references shall be allowed.
- ii. The Submitter must also be able to delay the first payment of the project for one (1) year or until final completion of the initial installation and testing of the AMI network is complete.
- iii. Submitted is to complete a financial analysis which will detail the expected financial benefits that the Town can expect to realize. The Submitter shall project the analysis for a 15-year period. All assumptions used in the financial analysis must be clearly explained.
- iv. Systems that cannot provide an on-demand read and operate a remote shutoff valve from $\frac{3}{4}$ " to 2" shall NOT be allowed.
- v. Systems that are NOT capable of reading water, electric and gas meters under the same network shall NOT be allowed.

e. Full-Service Program Capabilities:

- i. Include a summary of the Submitters capabilities in accordance with the required maintenance program services.
- ii. Include product descriptions for the proposed AMI system components and software capabilities.
- iii. Include product descriptions for the proposed meter components and capabilities.
- iv. Proposals for AMR/Drive-by, Hybrid AMI/AMR, Cellular, Mesh or Systems with Repeaters shall NOT be allowed.
- v. Systems that cannot provide an on-demand read and operate a remote shutoff valve from ¾” to 2” shall NOT be allowed.
- vi. Systems that are NOT capable of reading water, electric and gas meters under the same network shall NOT be allowed.

f. References

- i. Include a list of at least three (3) references for similar asset management projects.

III. Maintenance Program

The Submitter shall provide a maintenance program that, at the option of the Town is renewable on an annual basis. The maintenance program will provide for the operation and long-term maintenance of the AMI Full-Service Program. The operational component of the Maintenance Program will include:

- a. All costs for operating, maintaining, and updating the backhaul communications system from the data collectors to the hosted software.
 - i. The Submitter will repair or replace any failed component of the data collectors, including but not limited to the battery, power supply, solar panel, communications boards, and firmware upgrades. Should the communications protocol from the cellular company require updating, it will be at no additional installation costs to the Town. All labor shall be included.

- ii. Ongoing hosting costs. This will include managing the data, server replacement, and back-office operations, such as backups, software upgrades, and installation of software patches.
 - iii. Software upgrades: The Submitter will provide updates to the AMI software upon release by the manufacturer. Submitter will validate proper installation of the upgrade and the integration into the Town's billing systems.
 - Submitter will provide on-site training, within 15 days of the upgrade, to Utility staff on the operation of the software, highlighting any changes or enhancements in the new version of the software.
 - Submitters will provide unlimited on-line and telephone support to address any questions or issues in the use of the software.
 - iv. The field repairs or replacement of any failed component of the AMI system, for performance reasons including water meters, endpoints, data collection units and software. The maintenance will include replacement hardware and labor to remove, repair and reinstall the failed component(s). The costs will be a lump sum amount that will safeguard the utility in the event of a higher-than-expected failure rate of any of the metering system components.
 - v. Back-office IT operations include backups, disaster recovery and server replacement.
- b. System Performance: The Submitter will provide the following level of service to meet or exceed the following criteria:
- i. The Full-Service Program will deliver at least one billing read from 98.5% of meters over a three (3) day period. Billing reads are defined as readings available to be used for calculation of utility bill.
 - ii. The submitter will be required to take any action to remedy any issue(s) that hamper the AMI Full-Service Program from meeting the above criteria. The proposer must have the financial strength to be able to support this requirement for a period of at least 15 years.
- c. Daily Monitoring with notifications to identify critical and severe end-customer

consumption events.

- i. Key utility personnel shall be notified via email, Monday through Sunday, of critical and severe end customer consumption water events.
 - ii. Email notification of consumption events shall contain: Customer Account #, type of event, meter description, and description of event severity in gallons, percentage, duration, etc. as applicable.
 - iii. Daily reports of MTU's with Read Rate Events that have not communicated for at least one (1) day; Open Work Orders for field maintenance, Active MTUs, DCUs (total number of collectors in the system), number of remote disconnect valves installed, and number of service points / accounts in the AMI system.
- d. Subcontractors: Submitter will provide a list of subcontractors that will be used to execute the project. Each subcontractor will be identified by name and shall provide the following information: years in business, outline of similar experience and capabilities.
 - e. Wages: All contractors and subcontractors shall pay the appropriate wage rate (when applicable) to all craftsmen, tradesmen, laborers, and mechanics that work on the project.

IV. Fixed Network Advanced Metering Infrastructure (AMI) System Specifications

- a. It is the intent of the enclosed specifications to provide the city with a Fixed Network Advanced Metering Infrastructure (AMI) System that will work with water meters with an expected reading accuracy of 98% over a three-day period or more for all meters in the system.
- b. The Town 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.
- c. When the project is completed, the Town will own and operate a functional and upgradeable Fixed Network AMI System capable of utilizing several types of meters and meter manufacturers.
- d. The System shall be two-way and utilize leading technology and an open architecture to ensure compatibility with all identified meter types. The system shall operate in the 450- 470MHz range.
- e. The System shall be two-way providing on-demand reads and shall be able to

operate a 3/4", 1", 1-1/2" and 2" shut-off valve remotely.

- f. To protect all utility infrastructure of the Town, the system shall be capable of reading water, gas, and electric meters under the same network.
- g. The Fixed Network shall consist of a series of data collector units (DCU) located strategically throughout the Town's service area. The locations shall be determined by the Fixed Network AMI System vendor as part of the bid. The network shall be designed with redundancy where a high level of MTU's can communicate with at least 2 DCUs. The degree of redundancy shall be stated in the bid. The DCU units will be powered using either AC/battery or solar/battery to retrieve meter readings and relay them to a hosted server. The DCU units, as well as the corresponding MTU units, must operate on a licensed frequency that is the exclusive property of the City. The DCU's shall be capable of simultaneously obtaining reads from electric and water meters as standard.
- h. Repeaters shall not be permitted in the system.
- i. All Fixed Network AMI retrieved meter readings will be in a format compatible with the vendor-supplied software for the Fixed 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. All aspects of the interface between the AMI and the billing software shall be the responsibility of the AMI vendor. The Fixed Network AMI System shall provide, at minimum, the following:
 - i. Provide automatic, routine operation of the AMI System, including diagnostic procedures on all hardware, and logging of all known alerts, alarms, and exceptions.
 - ii. Provide the ability to view specific account information.
 - iii. Process the readings and add them to the AMI database.
 - iv. 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.
 - v. Shall be compatible with a distribution leak detection system, pressure monitoring sensors and sanitary sewer overflow sensors.
 - vi. Enable provision of enhanced products and services to customers, such as internet-based information access.
 - vii. Shall be compatible with a remote shutoff valve for water meters from 3/4" to 2" size.

viii. Provide daily notifications of events.

V. AMI System Description

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

Water Meter Transmission Unit (MTU)

- **Housing:** The MTUs will be housed in a molded plastic housing, hermetically sealed and resistant to rain, moisture and temperature changes from -30 to +70 degrees C. The enclosure must house the complete unit, which includes electronics, battery compartment, antenna and wire connections.
- **Battery Life:** The MTUs shall have a permanently installed non- field replaceable battery with twenty (20) year life cycle expectancy.
- **Maintenance:** The MTUs shall be maintenance free. After initial installation, MTU will continue to operate at optimal levels for the entire life of the product.
- **Read Interval:** The MTUs shall contain a radio that transmits a brief message containing the MTU identification number and port number, the meter reading, and tamper flags at programmed intervals. The two-way water MTUs shall provide top-of-the-hour, time synchronized hourly reads (and, for short durations, fifteen (15) minute reads) to meet high interval reading requirements. The read interval shall be reconfigured over the air from the host server.
- **Diagnostic Information:** MTUs shall provide diagnostic information, such as battery voltage, and tamper flags with every transmitted reading.
- **Meter Compatibility/Ports:** MTUs shall be compatible with

multiple makes and models of meters and shall be offered as single or dual-port units. Proposer shall submit a list of current compatible makes and models of water meters.

- **Installation:** MTUs shall be easily installed and provide appropriate provisions to avoid installer mistakes in installation, connection to meters, and programming. The MTUs shall be configured with a Field Programmer that will take the operator through a series of simple steps. Each step shall include error checking and verification, where appropriate. The Field Programmer shall communicate with the MTUs to confirm proper configuration and wiring. The Field Programmer shall also have the ability to initiate communication between an MTU and a DCU to ensure successful communication. A confirmation message shall be received by the Field Programmer approximately one minute after initiation.

- **FCC Regulation:** All equipment must comply with current Federal Communications Commission (FCC) requirements, which include proper labeling of any system components and compliance with Part 90 of the FCC regulations. The vendor must have supporting documentation available upon request to verify compliance. The system proposed by the vendor must operate on a dedicated, licensed frequency to prevent erroneous reading errors. The Vendor must obtain said license on behalf of the Town including all fees.

- **Labeling:** The MTUs shall be labeled with the Manufacturer's name, ID number, date of manufacture, and required FCC labeling.

- **Warranty:** The MTUs shall be guaranteed for the entire life of the project (15 years).

c. Field Programmer / Handheld

- i. The Field Programmer / Handheld unit shall be designed to operate in a harsh reading environment, resistant to dust and moisture, and be able to withstand temperature extremes from -20 degrees F to +140 degrees F. The Programmer shall contain its own software for programming and be provided with easy instructions for operation. Main and back-up batteries must be readily available from local suppliers. Units shall be provided with any needed communications software, adapters, chargers, or accessories. All software shall be licensed to the City.

d. Data Collector Units (DCUs)

- i. **The Fixed Network** shall consist of a series of Data Collector Units (DCUs) located strategically throughout the Town distribution system. DCUs must operate in temperature extreme ranges of -40° to 85° C.
- ii. **Power Supply:** The DCUs units shall be powered using either AC/battery or solar/battery to retrieve meter readings and relay them to a centralized location at Town offices.
- iii. **Memory Capacity:** Each DCU shall have the capacity to store approximately 30 days' worth of meter readings.
- iv. **Diagnostic Information:** The DCUs shall measure and record battery strength, Radio Frequency (RF) signal strength and time and date stamp each inbound transmission. These records will be included with each transmission.
- v. **Transmission Security:** Data transmission between MTUs and the DCUs shall be in a proprietary format and not easily deciphered by outside sources.
- vi. **DCU Planned Network:** The DCU locations shall be determined by the Fixed Network AMI vendor as part of the bid, based on a propagation study performed by the Fixed Network AMI vendor. The propagation study shall be based on a network where a minimum of 90% of MTU's for meter service addresses shall communicate with at least two (2) DCU's without the need for any repeaters. The network shall show DCU antenna heights; except Town assets, placed on poles not to exceed a height of 30 feet.
- vii. **Monopoles, Site Acquisition / Site Leases for DCU Planned Network:** Based on the certified propagation study, should any DCU Antenna require a height above 30ft (after the identified customer sites have been used), the costs for the purchase, installation, site acquisition and/or site leases for Monopoles, over the 15-year program shall be the responsibility of the Submitter.
- viii. **Mounting:** DCUs shall be capable of being mounted on roofs, utility poles, towers, etc., to collect readings from all meters in the coverage area. No special tower construction will be allowed. The submitter shall provide a wind load certification for any AMI hardware installed on assets that will affect the structural integrity because of the additional loading. Submitter shall include the costs for Project Management, Professional Services, Engineering, Engineering Certifications, Permitting, Welding & Drawings to mount to Town owned assets.
- i. **Mounting:** DCUs shall be capable of being mounted on roofs, utility poles, towers, etc., to collect readings from all meters in the coverage area. No special tower construction will be allowed. Submitter shall provide a wind load certification for any AMI hardware installed on assets that will affect the structural integrity as a result of the additional loading.

- ix. **DCU Network Redundancy:** Redundancy will be incorporated into the DCU placement process to accelerate the reading process and ensure all meters provide a reading. Each DCU, installed at a minimum height of 30 feet, will be able to read at least one (1) square mile of coverage and support not less than one thousand (1,000) MTU units. Each meter shall communicate directly with a minimum of two data collectors. No cellular, mesh or repeaters shall be allowed.
 - x. **Installation:** DCUs shall be automatically recognized and installed onto the System network. DCU behaviors, including connection time, alarm message handling, alternative connection numbers, etc. shall be configurable, over the network.
 - xi. **Scalability:** DCU units may be added to the Fixed Network AMI System at any time without need for system reconfiguration.
 - xii. **Electrical Isolation:** All DCU electronics shall be electrically isolated and protected against static discharge and indirect lightning strikes.
 - xiii. **Maintenance:** After being installed, DCUs shall require little to no maintenance for the life of the unit.
 - xiv. **WAN Technology:** DCUs shall be easily configured to utilize a variety of WAN technologies to communicate to the head end computer. DCUs shall have optional backhaul communication methods such as cellular, Wi-Fi, Ethernet, IP, and fiber optic and shall be easily upgraded from one WAN technology to another.
 - xv. **Warranty:** The DCUs shall be guaranteed for the entire life of the project (15 years).
- e. Server Specifications
- i. Managed Hosting Solutions are required, locally hosted data will not be considered.
 - ii. 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 Town requirements. The server collects data from all 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.
 - iii. 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 Town on a continuous basis. The Submitter shall explain the host software security.

iv. 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, provide backup services, installation of security patches and various levels of technical support. The Submitter hosted solution shall utilize a secure web-based application.

f. AMI Software

i. Software must be provided to perform the following functions:

- The software must be web browser-based and shall have defined applications with standard interfaces to allow for existing and planned software applications.
- Manage the database of meter readings and other related information about the meters and the AMI system.
- Interface with Town's Customer Information System (CIS) and other information systems. If the applications identified above are distinct and separate, Supplier shall respond to this subsection for each application.

ii. The Software must be capable of handling the multiple utility reads simultaneously. The successful vendor shall install access to the hosted server at the Town facilities and ensure the system can be accessed by all necessary departments. At a minimum, the AMI software will provide the following pieces of data:

- Customer account number.
- Customer address.
- Meter serial number.
- Date of system integration.
- System meter read history.
- MTU I.D. number.
- Customer consumption data.

iii. In addition to the required data noted above, as held within the meter reading software itself, the AMI vendor must support an interface with the Town billing system. Town will provide an input/output file format to the successful vendor. A license to use said software will be issued to the Town upon delivery of AMI server.

iv. Any Supplier-supplied database used to store and manage meter readings should be non-proprietary, ODBC-compliant, SQL-compliant, or provided by a standard commercial database supplier.

v. The fixed network software solution must offer:

- Rate information
- Customer information
- Service point information
- Meter data
- Tamper data
- Event data

vi. The solution must be able to store and archive multiple types of data for each individual endpoint including but not restricted to:

- Rate information
- Customer information
- Service point information
- Meter data
- Tamper data
- Event data
- Store/archive a minimum 24 months of data. All data must be easily retrievable.
- Accessible by a rich client or Web-browser based interface for the purposes of system administration and diagnostic troubleshooting.
- Be designed as a robust and scalable data repository to leverage best practices of data warehousing. The database should support scalability and have a highly flexible data structure to allow new data elements to be created without changes in table structures.

g. Customer Portal

i. The solution must include a customer web portal which includes:

- Customer login/authentication
- Web based customer dashboard with:
 - i. AMI data presentment
 - ii. Bill-to-date
 - iii. Bill analysis
- Analysis module for customers to see how their homes compare to similar homes.
- Customer alerts
- Proactive water conservation reports

h. Interface to Billing System

i. 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., fixed field ASCII) compatible with City existing formats. Each record provided to the CIS shall contain at a minimum: account number, MTU ID number, route number, meter ID number, meter readings, date and time for each meter reading, and tamper indications. All aspects of the interface to the billing and CIS are the responsibility of the proposer.

- i. Electronic Work Order Management System (WOMS)
 - i. The WOMS shall have the ability to track and provide information on all AMI system assets including MTU's and meters from commissioning to decommissioning.
 - ii. The Town shall have the ability to integrate into the WOMS to obtain preventative and corrective information for the management and maintenance of the AMI system.
 - iii. The WOMS shall be capable of inventory management of all AMI system assets stored at the Town for future use.
- j. Water Capabilities (Performance)
 - i. Water meter endpoints shall provide 4 transmissions per day with a 20-year battery warranty. Hourly readings shall be included in the 4 daily transmissions.
 - ii. Water meter endpoints shall store hourly readings, and each transmission contains between 6 to 12 prior readings. This allows the system database to backfill any readings from transmissions that may be missed.
- k. Water Capabilities
 - i. **Read Interval:** The solution shall be capable of collecting data in intervals of 15 or 30 minutes as well as hourly reads.
 - ii. **Leak Detection:** The system shall monitor water consumption through the meter and indicate when there is an abnormal increase in water consumption, suggesting a leak within the customer's premises. The software must also provide meter reading management reports, usage analysis reports (leak detection, tamper detection and backflow conditions), and system management diagnostics.
 - iii. **No Flow Detection:** The system (either through reports or alarms from the MTU) shall indicate when there is an extended period of no flow or a minimum flow through the meter.
 - iv. **High Flow Detection:** The system shall provide a report of accounts with

abnormally high consumption during any billing period, suggesting a continuous flow condition.

- v. **Constant Consumption:** The system shall provide a constant consumption report to identify locations which a potential leak had occurred by monitoring for constant usage or continuous flow with consecutive reads.
- vi. **Time Synchronization:** The system shall provide time synchronized meter reads that allow the Town to obtain a snapshot of water consumption. Describe how the system maintains time synchronization across the network. All MTUs on the network must maintain time synchronization within 30 seconds of each other.

l. AMI Compatible Acoustic Leak Detection System

- i. The system shall be capable of utilizing acoustic data loggers that connect magnetically to water distribution mains to be upgraded at a later date.

m. AMI Back-up

- i. System shall have back-up capabilities and procedures to ensure that system and consumption data is not corrupted or lost.

n. AMI System Diagnostics

- i. System diagnostics shall be collected at all levels and transferred on to the host server where several types of diagnostic reports shall be produced. Such reports shall indicate problems ranging from battery voltage to failure to recognize proper communication with the meter.

o. AMI System Maintenance

- i. In addition to warranty periods, vendors are required to supply information on required or optional maintenance programs beyond the warranty period for both hardware and software. Features of those programs shall also be included with any additional charges such as hourly rate for on-site and/or remote support. The location of and procedures for obtaining such support shall be stated.

p. AMI Training

- i. The Town requires training of all appropriate staff sufficient to enable them to effectively operate and maintain the system. To be effective, the Town requires that training curriculum be provided in advance, that course workbooks and materials accompany training, and that experienced instructors provide training.
- ii. During the 15-year time period a yearly refresher for all new employees will be trained.

VI. Water Meter specifications

- a. The residential and light commercial meters will comply with the following specifications:
 - i. All meters shall meet or exceed the latest version of the American Water Works Association (AWWA) Standard C715 for cold water meters.
 - ii. All materials used in the construction of the main cases shall have sufficient dimensional stability to retain operating clearances at working temperature up to 105 degrees Fahrenheit.
 - iii. The meter serial number shall be stamped on the main case of the meter.
 - iv. The meter main case shall be cast from NSF/ANSI 61 certified material. The serial number should be displayed in a permanent location on the meter or register. Meter markings shall indicate size, model, direction of flow, and NSF 61 certification. Plastic or polymer bodied meters are NOT acceptable. Plastic or polymer threads are NOT acceptable.
 - v. The meter electronic register enclosure shall be constructed of a durable engineered composite designed to last the life of the meter. The meter shall provide a fully potted wire connection for use with AMI devices.
 - vi. The standard, advanced, and enhanced communication protocol for the water meter absolute encoder register shall be fully compatible and available for use with the selected AMI system and software.
 - vii. The AWWA C715 solid-state meters must feature fully potted electronics and battery and an IP68 rating for submersion in flooded meter pits.
 - viii. All meters shall be 100% factory tested for accuracy and have the factory test results provided with each meter.
 - ix. Meters shall be pressure tested to ensure against leakage.
 - x. Meters shall be guaranteed accuracy for the 15-year period of the agreement.
 - xi. All electrical components and batteries will be guaranteed for the 15-year period of the agreement.
- b. The commercial meters will comply with the following specifications:
 - i. Shall meet or exceed all requirements of ANSI/AWWA Standard C715 for cold-water meters. Each meter assembly shall be performance tested to ensure

compliance.

- ii. The meter main case shall be stainless steel, bronze or epoxy coated ductile iron or epoxy coated fabricated steel composition.
- iii. The meter package shall meet or exceed all requirements of NSF/ANSI Standard 61, Annex F and G.
- iv. All meters shall be 100% factory tested for accuracy and have the factory test results provided with each meter.
- v. Meters shall be pressure tested to ensure against leakage.
- vi. Meters shall be guaranteed accuracy for the 15-year period of the agreement.
- vii. All electrical components and batteries will be guaranteed for the 15-year period of the agreement.

VII. Meter Site Surveys

- a. Submitters will conduct a meter site survey (MSS) for all outside meter pit locations and accessible indoor locations prior to installation. The MSS information captured and accessible to the Town shall include but not be limited to address, expected meter SN, verified Meter SN, physical location and photo of Meter, GPS location, meter pit lid and/or side of road marked, type meter enclosure, pit/vault composition, lid composition, pit ring style and diameter condition / dimensions, valve position, meter size, meter type, meter reading, meter manufacturer, type connections, meter lay length, meter setting, additional parts needed, bypass, bypass metered, bypass size, bypass meter S/N, strainer, depth of meter top to top of pit, Is meter fully accessible?

VIII. Meter Lid Survey

- a. Submitters will conduct a meter lid survey for all outside meter pit locations. The meter lid survey information captured and accessible to the Town shall include but not be limited to verified address, physical location of meter, lid composition, model#, or part# of lid, shape of lid, top of lid dimensions, bottom of lid dimensions, pit ring style and diameter, and traffic rated lid.

IX. Continuity Plan

- a. The submitter shall be responsible for fully executing on the full length of the Asset Management Program regardless of their relationship (future) with the meter manufacturer or AMI system provider chosen at the time of project execution. The proposer shall submit a plan for continuity of the Asset Management Program should the relationship with the chosen water meter manufacturing partner or AMI system provider be severed.

X. Modification / Withdrawal of Qualifications

- a. Submitters have the right to modify or withdraw their qualifications without cause or without liability whatsoever at any time prior to the stipulated submittal date and time. Such requests must be made to the Town in writing. Modified or withdrawn qualifications may be resubmitted in accordance with the instructions in this Request for Qualifications prior to the stipulated submittal date and time.
- b. No Qualifications shall be modified or withdrawn by the Submitter after the Submittal Date.

XI. Clarifications

- a. Before contract award, the Town reserves the right to seek clarification from the Submitter with whom the Town is contemplating an award to properly score their Qualifications. Failure to provide the requested information may result in not making such an award to the Submitter.

XII. Negotiations and Contract Award

- a. The Town reserves the right to finalize the negotiations at any point and reserves the right to award a contract based on what is deemed to be in the best interest of the Town. The Town shall issue a Notice of Intent to Award, if any, to the Successful Submitter, however, no contract shall be formed between Successful Submitter and the Town until the Town signs the contractual Agreement.

XIII. Minimum Insurance Requirements

- a. Qualifications are to submit a copy of their certificate(s) of insurance evidencing policies and limits of insurance that they currently have in force. If this document is not submitted, the Qualifications may be rejected.
- b. If, upon Notice of Intent to Award, the Successful Submitter does not currently have the policies and limits specified below, they shall have ten (10) calendar days to provide the Town with certificate(s) of insurance evidencing that they have procured such and policies and limits.
- c. Submitter shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or sub-contractors. The coverage's, limits or endorsements required herein protect the primary interests of the Town, and these coverage's, limits or endorsements shall in no way be required to be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the Submitter against any loss exposures, whether as a result of the Project or otherwise.

The requirements contained herein, as well as the Town's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Submitter under this contract.

XIV. Commercial General Liability

- a. The insurance carrier must possess an AM Best rating of A- or Better. Coverage must be afforded under a per occurrence form policy for limits not less than \$2,000,000 each occurrence, \$2,000,000 products / completed operations each occurrence, \$2,000,000 personal and advertising injury liability, \$2,000,000 each occurrence and \$10,000 medical expense. Additionally, all firms shall provide a detailed certificate that indicates they carry Pollution Liability Insurance in the amount of no less than \$2,000,000 of coverage.
- b. ***Submitter's insurance coverage shall be primary insurance*** as respects to the Town, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the Town, its officials, employees, or volunteers shall be in excess of Submitter's insurance and shall be non-contributory.

XV. Automobile Liability

- a. Coverage must be afforded including coverage for all owned vehicles, hired and non-owned vehicles for bodily injury, and property damage of not less than \$2,000,000 combined single limit each accident. In the event the submitter does not own vehicles, Submitter shall maintain coverage for hired & non-owned auto liability, which may be satisfied by way of endorsement to the commercial general liability policy or separate business auto liability policy.
- b. **Submitter's insurance coverage shall be primary insurance** as respects to the Town, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the Town, its officials, employees, or volunteers shall be in excess of Submitter's insurance and shall be non-contributory.

XVI. Safety & Health Program

- a. Submitter shall provide a description of their Safety & Health Program. It shall address the company's safety standards and policy, confirming they are trained for safety in the workplace and the field per all OSHA and applicable standards. The proposing company SHALL submit a full copy of their Safety & Health Program. If the Program is too large/lengthy to include as a document with the response, please provide/submit it on an external USB flash drive.

- b. The submitter shall adhere to standards of Personal Protective Equipment (PPE) designated by the Town.

See attached sheet for specification compliance and scoring criteria.

XVII. See attached sheet for scoring criteria.

Town of Haw River Specification Compliance and Exceptions

Exception Page

Specification Section Identifier	Submitter shall indicate any specifications that they cannot fully comply. The Town reserves the right to reject any proposal who cannot meet one or more of the required specifications.

Town of Haw River Meter Replacement Project

Design-Build Selection Rating Form

Project Number: _____ Proposer Firm: _____
 Project Bid Date: _____ City, State, Zip: _____

Selection Criteria	Value	Score
Primary Firm Qualifications (Maximum 15 points)		
The firm's overall understanding of Meter AMI Asset Management Program	0 – 4	
Experience of the primary firm in the municipal water industry	0 – 3	
Provide documentation of Licensed state contractor and engineering capabilities	0 – 3	
Proximity to the Town of primary firm & tech partner facilities & resources	0 – 3	
Proven track record with performing services for the city	0 – 2	
Key Technology Qualifications (Maximum 40 points)		
All proposed meters meet AWWA standards and are NSF/ANSI 61 certified	0 – 5	
The AMI solution shall be meter agnostic	0 – 5	
The AMI Solution shall be able to read Water, Gas and Electric under the same network.	0 - 10	
The AMI solution shall have two levels of redundancy using fixed based collectors only. No hybrid AMI/AMR, repeaters, cellular or mesh-based systems are allowed	0 - 10	
The AMI radio transponder endpoints shall be two-way licensed communication in the 450-470 MHz frequency that is the exclusive property of the Town. The two-way communication shall provide on-demand reads, over-the-air updates and operate remote shutoff valves from ¾" to 2".	0 - 10	
Project Team Qualifications (Maximum 15 points)		
Ability of the project designer to achieve the Town's vision and meet overall project requirements	0 – 3	
Experience of project manager to manage scope, budget, schedule & quality	0 – 5	
Experience of the Technology Partners in product delivery, including references	0 – 5	
Experience of the Meter and AMI deployment team in project delivery	0 - 2	
Maintenance Program Qualifications (Maximum 20 points)		
Provide documentation of ISO 9001 certification for asset management	0 – 5	
Capability to meet all requirements of the meter asset management program	0 – 5	
Experience of the firm and technology partners with asset management projects including reference contacts	0 – 5	
Experience with asset management projects in the State of North Carolina	0 – 5	
Financial Stability (Maximum 10 points)		
Overall financial strength of the primary firm	0 – 2	
Proven capability of the primary firm to provide project spread payment for the initial meter infrastructure up to 5 years	0 – 2	
Able to self-finance and delay the first payment of the project for one (1) year	0 – 2	
Financial analysis of expected project benefits to be realized over 15 years period	0 – 2	
Provide Certificate(s) of Insurance demonstrating all specified requirements	0 - 2	
	TOTAL	

Notes on Reverse: Evaluation Date: Name: Signature:

RFQ REQUIREMENT INFORMATION

Section II Submittal Format:

- **Submitter History part v:** states that any company responding to the RFP must provide documentation of their ISO9001 Certification for Asset Maintenance Programs.
 - **ISO9001 Certification:**
 - **Response:** The ISO9001 Certification is an international standard that specifies requirements for a quality management system. Typically the ISO9001 certification ensures the company responding to the RFP has experience manufacturing products. We are specifically looking for a company that has the experience certified by ISO9001 to provide asset maintenance services for an AMI program.

- **Financial Stability part i:** states that no third-party financing references shall be allowed.
 - **No Third Party Financing**
 - **Response:** The purpose of this requirement is to ensure that the company responding to the RFP can demonstrate their financial ability to self-finance (i.e., Invest in your recommended solution) the initial meter infrastructure for up to 5 years. This will demonstrate the willingness of the Submitter to invest in the solution they are providing.

- **Financial Stability part ii** states that the Submitter must be able to delay the first payment of the project for 1 year or until final completion of the initial installation and testing of the AMI network is complete.
 - **Delay of first payment**
 - **Response:** The purpose of this requirement is to ensure that the company responding to the RFP is financially stable as well as providing the Town time to offset the project cost with increased revenue from the new meter installations. This will demonstrate the willingness of the Submitter to invest in the solution they are providing.

- **Financial Stability part iii** states that the Submitter is to complete financial analysis, which will detail the expected financial benefits the Town can expect to realize in a 15 year period.
 - **Financial Analysis**
 - **Response:** The purpose of this requirement is for the Town to understand the financial benefit and justification for the project. These are projections of the cost benefit of implementing an AMI program. This will help the Utility in determining if the project will pay for itself over time.

RFQ REQUIREMENT INFORMATION

- **Full Service Program Capabilities part iv** states proposals for AMR/Drive-by, Hybrid AMI/AMR, Cellular, Mesh, systems with Repeaters, shall NOT be allowed.
 - **No AMR/Drive-by, Hybrid AMI/AMR, Cellular, Mesh, systems with Repeaters**
 - **Response:** The purpose of this requirement is to ensure the Submitter responding to the RFP is providing the AMI solution that we deem best.
- **Full Service Program Capabilities part v** states that Systems that cannot provide an on-demand read and operate a remote shutoff valve from ¾” to 2” shall NOT be allowed.
 - **On Demand Read and Remote Shutoff Valves**
 - **Response:** The purpose of this requirement is to ensure the Submitter is truly providing an AMI solution with full two-way communication that can request on-demand data and command functions including but not limited to operating a remote shut off valve of various sizes that is compatible with any water meter regardless of manufacturer.
- **Full-Service Program Capabilities part vi** states that Systems that are not capable of reading water, gas and electric meters under the same network shall NOT be allowed.
 - **Capable of reading water, gas and electric meters**
 - **Response:** The purpose of this requirement is to ensure the Submitter responding to the RFP is providing an AMI solution that will allow us to protect the infrastructure of all of our utilities. This will also provide us with the footprint to grow as our needs grow for Smart Infrastructure Solutions (SIS).
- **References part I**, states the Submitter must include a list of at least three references of similar asset management projects.
 - **References of Similar Asset Management Projects**
 - **Response:** The purpose of this requirement is to ensure the Submitter can provide three credible references that can validate success of its’ asset management projects.

RFQ REQUIREMENT INFORMATION

Section IV: Fixed Network Advanced Metering Infrastructure (AMI) System Specifications

- **Fixed Network Advanced Metering Infrastructure (AMI) System Specifications part d:** states the System shall be two-way utilize leading technology and an open architecture to ensure compatibility with all identified meter types. System shall operate in the 450-470 MHz range.
 - **System shall operate in the 450-470 MHz range.**
 - **Response:** The purpose of this requirement is to ensure the Submitter provides an AMI solution that can initiate and receive data from the metering infrastructure while allowing an open network for different metering manufacturers to participate. The requirement for the system to operate in the 450-470 MHz range and be licensed is because of the strong signal penetration which is ideal for smart utility metering by providing better propagation and lower network costs. The licensed frequency must be owned by the Town.

- **Fixed Network Advanced Metering Infrastructure (AMI) System Specifications part h:** states Repeaters shall NOT be permitted in the system.
 - **Repeaters shall NOT be permitted in the system.**
 - **Response:** The purpose of this requirement is to ensure the Submitter is providing an AMI solution that does not include repeaters. Repeaters are devices that extend the signal range in an AMI network. Repeaters add additional hardware, increased network costs and maintenance that we do not want to be responsible for.

- **Fixed Network Advanced Metering Infrastructure (AMI) System Specifications part v:** states to allow for the addition of distribution system leak detection, pressure monitoring, sanitary sewer overflow and methane detection.
 - **addition of distribution system leak detection, pressure monitoring, sanitary sewer overflow and methane detection**
 - **Response:** The purpose of this requirement is to ensure the Submitter designs an AMI solution that is completely scalable and compatible with different manufacturers.

Under Section VI:

- **Meter Specifications part iv:** states the meter main-case shall be bronze or stainless steel and cast from NSF/ANSI 61 certified material. The serial number should be displayed in a permanent location on the meter or register. Meter markings shall indicate size, model, direction of flow, and NSF 61 certification. Plastic or polymer bodied meters are NOT acceptable.
 - **Plastic or polymer bodied meters are NOT acceptable.**
 - **Response:** The purpose of this requirement is to ensure the Submitter designs an AMI solution that consists of meters that meet the NSF/ANSI 61 certified material. Plastic or polymer bodied meters can cause potential warranty issues if threads are stripped during installation.

RFQ REQUIREMENT INFORMATION

- **Meter Specifications part viii:** states all water meters are required to communicate hourly meter data with information codes at least every hour under warranty from the manufacturer without affecting battery life.
 - **hourly meter data with information codes at least every hour under warranty**
 - **Response:** The purpose of this requirement is to ensure the Submitter designs an AMI solution that communicates hourly data to the Utility without jeopardizing battery life. This will allow the Utility to take advantage of the full warranty from the manufacturer.

Under Section VII:

- **Meter Site Surveys part a:** states that Submitters will conduct a meter site survey (MSS) for all outside pit location and accessible indoor locations prior to installation.
 - **Meter Site Survey**
 - **Response:** The purpose of this requirement is to ensure the Submitter gathers all appropriate and pertinent information regarding each meter site and the installation prior to placing orders for product and equipment. We want to make sure the project is done correctly the first time.

Under Section VIII:

- **Meter Lid Survey part a:** states that Submitters will conduct a meter lid survey (if applicable) for all outside meter pit locations.
 - **Meter Lid Survey**
 - **Response:** The purpose of this requirement is to ensure the Submitter gathers all appropriate information regarding meter lid type/size as well as any other pertinent information required for purchasing and installing the replacement lid. This will ensure the proper installation of the MTU either under the lid, through the lid, or whether the lid should be replaced.

Under Section XIV:

- **Health & Safety Program part a:** states that Submitters shall provide a description of their Health and Safety Program.
 - **Health and Safety Program**
 - **Response:** The purpose of this requirement is to ensure the Submitter is trained for safety in the workplace and field per all OSHA and applicable standards.