Exhibit A – Wauchula AMI RFP Technical Specification

PREPARED FOR

City of Wauchula

DATE
July 8, 2024

CONFIDENTIAL/PROPRIETARY: This document contains trade secrets and/or proprietary, commercial, or financial information not generally available to the public. It is considered privileged and proprietary to Quanta Technology LLC and is submitted with the understanding that its contents are specifically exempted from disclosure under the Freedom of Information Act [5 USC Section 552 (b) (4)] and, except as required by applicable law, shall not be disclosed by the recipient (whether it be Government [local, state, federal, or foreign], private industry, or non-profit organization) and shall not be duplicated, used, or disclosed, in whole or in part, for any purpose except to the extent provided in the contract.

VERSION HISTORY:

Version	Date	Description
1.0	7/8/2024	RFP Submission Copy

Contents

List of Figures

List of Tables

1 OVERVIEW

1.1 Introduction

The City of Wauchula ("City") is seeking a managed services provider ("Supplier") to deploy a successful, cost-effective, two-way-communication advanced metering infrastructure (AMI) managed-services program for their electric and water system. The City shall, in its sole discretion, select the successful Proposer. The City is not obligated to select a Supplier and move forward with the project.

The City and key stakeholders want to advance and update the utility infrastructure to provide more detailed usage data to customers, advance notifications of leaks, timely notifications of outages, and improve operational performance in meter-to-cash billing, system water/energy balance, and meter data management. The City and stakeholders want to leverage as much of the benefit-creation capabilities of the AMI system technology as possible and desire additional functionality beyond simply providing automated meter readings. Please refer to Section 2, "AMI Program Objectives and Desired Features," for a list of outcomes and expectations for the deployment.

The City does not possess the resources required to deploy or operate an on-site AMI system. Therefore, a managed services approach for installing and operating the system is in its best interest, given resource and staffing constraints. The City recognizes that ongoing fees for managing the program accompany managed services. The City anticipates financing field-deployed network communications and meter hardware on its own, augmented with Florida Department of Environmental Protection (DEP) funds, and moving directly to a managed services model for all other system components. The City is also interested in considering the inclusion of non-meter field network equipment management as a managed service.

The City retained Quanta Technology as the owner's engineer (OE) to assist with selecting a Supplier best equipped to provide a managed AMI service, considering the objectives, constraints, and preferences detailed in this RFP. The OE provides detailed technical expertise during the Supplier selection process and system deployment and supports integrating the Supplier's AMI system with the City's existing IT systems (working with the Supplier to resolve problems if they arise). Additionally, the OE will 1) serve as an advisor to the Supplier relative to customer outreach and education, 2) support the City in the negotiation of a contract with the Supplier, and 3), as directed by the City, serve in a project support and advisory role to the City's project manager in tracking the project deployment schedule and costs. The City expects the Supplier to work seamlessly with the OE and the City during the project.

The City anticipates entering a contract with a single Supplier with primary systems integration and ultimate managed services responsibilities. However, the City recognizes that it is highly likely that such a Supplier will work with service providers as subcontractors in some specific project areas, such as field deployment. The City is solution-independent and focused on procuring a time-tested hardware and software suite with a proven, successful track record.

Table 1-1 summarizes the six core service areas the City anticipates will be required for a successful deployment.

Table 1-1. Anticipated Core and Optional Services

Supplier Services	Core or Optional	Service Description
Customer engagement consultant	Core	The Supplier will guide and support the City's customer communication strategy, particularly in areas related to the proposed technology and its community benefits. The supplier will also help the City address any community concerns.
AMI system deployment	Core	The Supplier will provide all meters, associated hardware, software, and telecommunications systems to the City and integrate AMI software with the City's existing customer systems (as described in this RFP).
Installation service provider	Core	The Supplier will provide the labor required for and perform 1) field replacement of all meters, 2) meter pit remediation, 3) maintenance/retention of meter change records, and 4) installation and commissioning of telecommunication devices.
Meter data management (MDM) functionality	Core	The Supplier will provide MDM-lite functionality per the RFP.
AMI solution suite training	Core	The Supplier will train key City staff on using/deploying the AMI platform elements that require user interaction, most notably customer service, operations, and data extraction/analytics.
Managed services administration	Core	The Supplier will provide long-term administration of the overarching AMI platform and associated software suite, including options and costs associated with ad-hoc or on-demand analytical services or data mining.

As previously noted, the City will engage in a contractual relationship with a Supplier who will be accountable to the City for the reliable integration of all hardware and software that is part of the managed services. The Supplier will integrate and be accountable for all subcontractors required (if any) to perform the services listed in Table 1-1 as part of their proposed solution. The Supplier can engage subcontractors in certain project areas, such as field deployment. However, there will be a single Supplier contract with sole responsibility for all project phases, including the provision of long-term managed services.

The following sub-sections are intended to provide information about 1) City systems and specific technical considerations germane to solution design, 2) the identified program objectives and desired features of the solution, 3) expectations for outsourcing, and 4) a description of the proposed meter system test fixture to provide proof-of-concept level acceptance of the product by the City and key stakeholders. Please see Section 3, "Supplier Scope of Services," of this RFP for guidance related to the specific scope expectations for the Supplier. Please see Section 23 of this RFP for guidance on the City's pricing expectations.

The City expects to complete the configuration, integration, testing, and training of the Supplier's AMI application software within 5 months of contract signing (does not include meter installations)

1.2 Description of Wauchula Electric and Water Meters

This section provides an overview of the City's existing meters and its requirements for AMI meters.

The City is a rural central Florida community in Hardee county located approximately 70 miles southeast of Tampa and operates a municipal utility system providing electric and water services to approximately 6,000 accounts in an area covering approximately 3 square miles. The service territory is mostly suburban residential, with a mix of 96% residential, and 4% commercial. Section 26 provides location data and maps of the existing City water service area and assets. Files that include the services addresses shown in this section are available as part of the bid package. The latest summary of installed water meters is shown below, with a slight rounding up of meter quantities.

1.2.1 Installed Electric Meters

The latest summary of installed electric meters is shown in Table 1-2 with a slight rounding up of meter quantities.

Table 1-2: Approximate Electric Meter Summary

Meter Form	Number
2S CL200	2,592
2S CL320	32
3S CL20	4
4S CL20	16
9S CL20	52
12S CL200	32
16S CL320	100
25S CL200	4
46S CL20	56
Total	**2,888**

1.2.2 Installed Water Meters

The latest summary of installed water meters is shown in Table 1-3 , with a slight rounding up of meter quantities.

Table 1-3. Approximate Water Meter Summary

Meter Size	Qty
5/8 x 3/4 in.	2,400
1 in.	250
1.5 in.	36
2 in.	85
3 in.	7
4 in.	8
Total	**2,786**

The City's water meter population is comprised primarily of Neptune, Master Meter, and Precision Meters with a smaller quantity of Badger and Sensus meters. The City also has ~500 newer Kamstrup FlowIQ 2100 and 3101 ultrasonic meters. Table 1-4 and Table 1-5 show meter age as a percentage of all meters.

Table 1-4. Electric Meter Age Distribution

Age Category	Percentage
0-4 years	19%
5-9 years	23%
10-14 years	54%
15-19 years	3.8%
20+ years	0.2%

Table 1-5: Water Meter Age Distribution

Age Category	Percentage
0-4 years	47%
5-9 years	23%
10-14 years	7%
15-19 years	11%
20+ years	12%

1.2.3 Meter Retrofits

The City intends to retrofit approximately 500 Kamstrup FlowIQ model 2100 and 3101 ultrasonic meters that are newer meters in good working condition.

1.2.4 Water Delivery and Storage Retrofits

The City would like pricing options for both retrofitting and replacing the below system boundary metering points (see Table 1-6), for AMI.

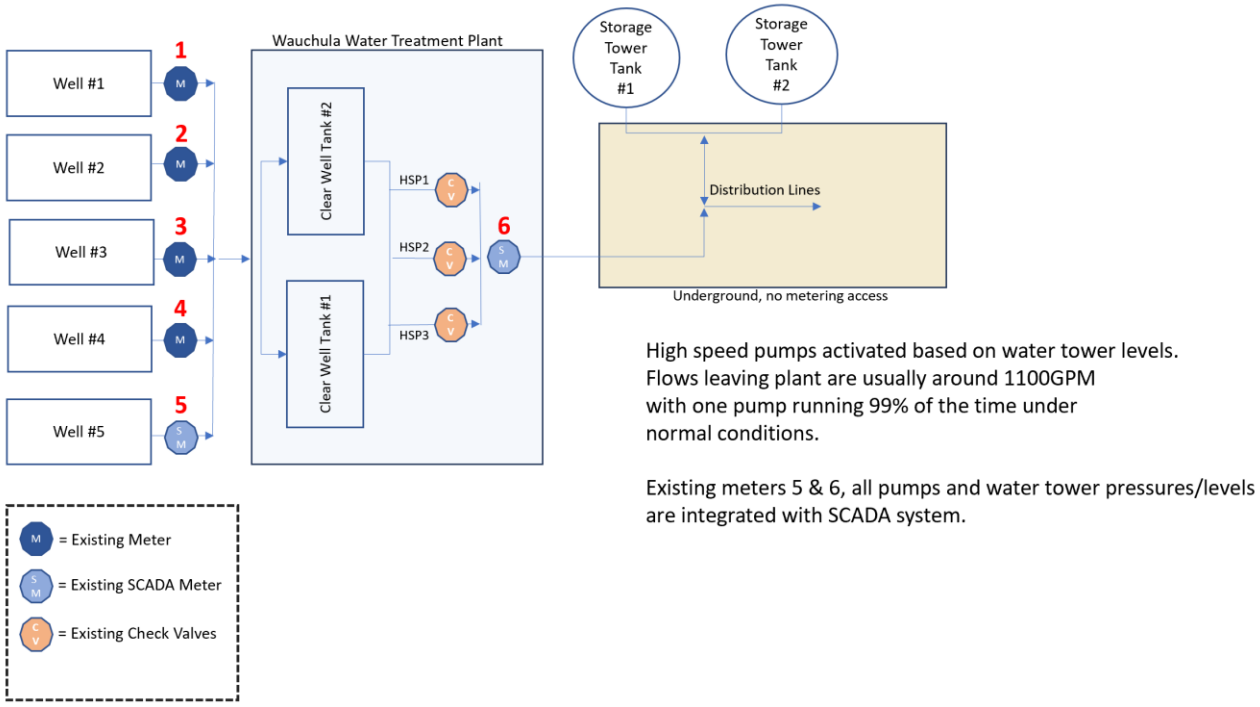


Figure 1-1. Water Delivery and Storage Overview

Table 1-6. System Boundary Point Meter Retrofits

#	Location	LAT	LONG	Line Size	Manufacture Serial Number
1	Well Head #1	27.548408	-81.801730	6-inch	Water Specialties 902296
2	Well Head #2	27.548229	-81.501539	6-inch	Water Specialties 20121600-06
3	Well Head #3	27.547403	-81.801132	10-inch	Water Specialties 902298-10
4	Well Head #4	27.548748	-81.801420	12-inch	Water Specialties 20083006-12
5	Well Head #5	27.550425	-81.809231	12-inch	Krohne C102929
6	Meter #6 Outflow Meter	27.548666	-81.801328	10-inch	Krohne C10-1542

1.2.5 Other Meter Considerations

1.2.5.1 *Water Module Battery Life*

The Proposer must clearly articulate the impact on battery life in various usage scenarios including effects of extracting interval data from water meters, firmware upgrade frequency, maintenance activities, and on-demand command processing. A battery life of 20 years is required for normal usage (see Table 9-1). Only these off normal instances such are more frequent firmware upgrades, etc. might be allowable.

1.2.5.2 *Remote Disconnect*

The AMI system shall support both electric and water meter remote disconnect capability. Every residential electric meter shall include a remote disconnect switch. The water disconnect option is being considered by the City for strategic locations in limited quantities. Proposer should provide remote disconnect capability pricing for 12 residential 5/8x3/4 inch meters in pricing exhibit C if capability is available.

1.3 Wauchula Field Conditions

The City completed a field audit of 556 sites conducted by an experienced water installer (field auditor) over 20 working days. A standard questionnaire was used in the auditor's work order management system (WOMS), whereby site pictures and field results were recorded. Table 1-8 contains the questionnaire used along with results.

1.3.1 Site Selection

Sites were selected with an overall age distribution of approximately 56% older meters (>10 years) and approximately 44% new meters (<10 years) and representative sampling across meter sizes in line with the City's meter population. Table 1-7 shows the number of selected sites.

Table 1-7. Site Selection Sites

Count of METER NO#	Column Labels						
Row Labels	a. 0-4 yrs	b. 5-9 yrs	c. 10-14 yrs	d. 15-19 yrs	e. 20+ yrs	No Install Date	Grand Total
ELECTRIC	**47**	**85**	**112**	**35**	**2**	**1**	**282**
12s	3	4			1		8
16s	4	28					32
2S	35	28	111	35	1		210
46s	2	12				1	15
4s			1				1
9s	3	13					16
WATER	**70**	**44**	**22**	**44**	**60**	**43**	**283**
1	10	6	10	7	10	5	48
1.5	1	1	1	2	1	1	7
2	7	5			4	2	18
3	1		1				2
4	1		1				2
5/8x3/4	50	32	9	35	45	35	206
Grand Total	**117**	**129**	**134**	**79**	**62**	**44**	**565**

1.3.2 Audit Results

The audit results are captured in Table 1-8 below. The following general observations were noted:

a. Most locations were able to be found with about 96% of locations readily accessible. However, the service territory does have some rural locations that are more challenging to locate the meter.
b. The vast majority of sites (90+%) will require some type of remediation, at a minimum vacuuming out the pit to remove sand.
c. A significant number of electric meters (20+%) will have unreadable or blank displays. In addition, several water meters had condensation under the glass making them difficult to read or unreadable.

Table 1-8: Field Audit Results

Water Audit Questions				
#	**Item to Note**	**Condition**	**Count**	**Percentage**
1	Are there any access issues or challenges?	No	269	96.07%
		Yes: Cannot Locate	7	2.5%
		Yes: Locked Gate	4	1.43%
		Total	280	100.00%
2	Is the service on a hardscape?	No: Landscape	256	91.43%
		Yes - Asphalt	1	0.36%
		Yes - Concrete	12	4.29%
		No access	11	3.93%
		Total	280	100.00%
3	Note lid type.	Composite	198	70.71%
		Metal	7	2.50%
		Concrete	64	22.86%
		No access	11	3.93%
		Total	280	100.00%
4	Is there any remediation required at site? (multi-selection allowed therefore overlap of categories)	Yes: Meter was buried (sand)	250	92.9%
		Yes: Meter Box Reset Needed	41	15.2%
		Yes: Corrosion Noted	68	25.3%
		Yes: Lid Damage	20	7.4%
		Yes: Box Damage	14	5.2%
		Yes: Limited Space	3	1.1%
		Yes: Root intrusion	3	1.1%
5	Note Single or Dual Meter Configuration	Single Meter in Box	250	89.29%
		Dual Meter in Box	17	6.07%
		Three Meter in Box	2	0.71%
		No access	11	3.93%
		Total	280	100.00%
6	Note Plumbing pipe (City Side, Customer Side)	City=PVC Cust=PVC	183	65.36%
		City=Galvanized Cust=Galvanized	10	3.57%
		City=Galvanized Cust=Not Visible	2	0.71%
		City=Galvanized Cust=PVC	2	0.71%
		City=Not Visible Cust=Galvanized	1	0.36%
		City=Not Visible Cust=Not Visible	44	15.71%
		City=Not Visible Cust=Poly/PEX	2	0.71%
		City=Not Visible Cust=PVC	8	2.86%
		City=Poly/PEX Cust=Not Visible	1	0.36%
		City=PVC Cust=Galvanized	2	0.71%
		City=PVC Cust=Not Visible	11	3.39%
		City=PVC Cust=Poly/PEX	3	1.07%
		No access	11	3.93%
		Total	280	100.00%
7	Are the meter dials readable after a simple wipe?	Yes	259	92.50%
		No	10	3.57%
		No access	11	3.96%
		Total	280	100.00%
		No	266	95.00%

Water Audit Questions				
#	Item to Note	Condition	Count	Percentage
8	Is there a leak and if so which side of the meter?	Utility side	3	1.07%
		No access	11	3.93%
		Total	280	100.00%
9	Does the meter pit have a curb stop? Or other isolation valve?	Yes	268	95.71%
		Unknown	1	0.36%
		No access	11	3.93%
		Total	280	100.00%
10	Is the meter set on a yoke?	Yes	245	87.50%
		No	24	8.57%
		No access	11	3.93%
		Total	280	100%

Electric Audit Questions				
#	Item to Note	Condition	Count	Percentage
1	Are there any access issues or challenges?	No	255	92.39%
		Yes: Cannot Locate	8	2.90%
		Yes: Locked Gate	13	4.71%
		Total	276	100.00%
2	Is the tamper seal on the meter broken?	No	207	75.00%
		Yes	48	17.39%
		No access	21	7.61%
		Total	276	100.00%
3	Does the meter have a locking ring?	Yes	236	85.51%
		No	19	6.88%
		No access	21	7.61%
		Total	276	100.00%
4	Does the meter base have any signs of damage?	No	255	92.39%
		No access	21	7.61%
		Total	276	100.00%
5	Are the meter dials or LCD display visually readable?	Yes	192	69.57%
		No	63	22.83%
		No access	21	7.61%
		Total	276	100.00%

1.3.3 Field Conditions and Challenges

The City's field conditions vary, with pockets of significant challenges and numerous meter pits shifted, buried in sand or below grade. The City seeks to remedy these conditions as part of the project deployment as estimated below.

Remediation	Estimated Percentage
Meter box repositioning or replacement	50%
Meter lid replacement	100%
Curb stop replacement	50%
Yoke replacement	100%
Pit Vacuuming	100%

1.4 Description of Wauchula Back Office Systems

This section provides an overview of the City's back-office systems as they exist today and how they are envisioned after AMI implementation.

1.4.1 Installed Back Office Systems "As Is"

Figure 1-2 and Table 1-9 depict the City's current systems.

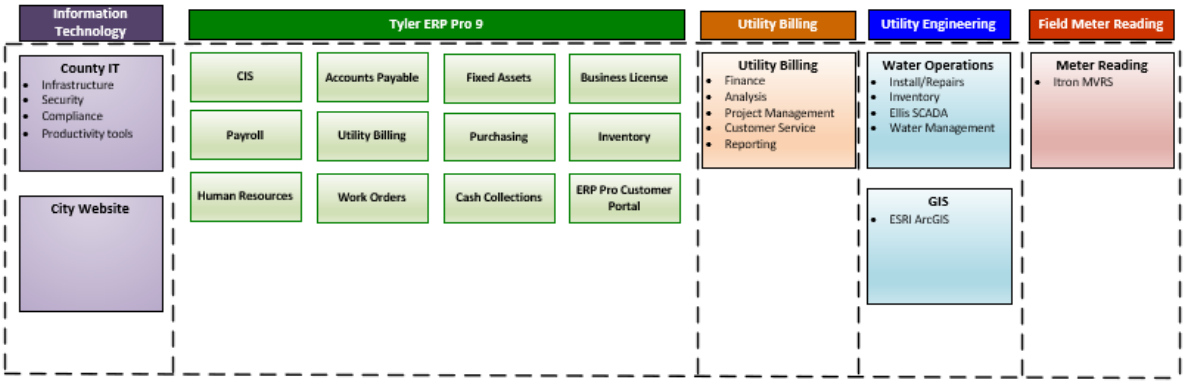


Figure 1-2. Wauchula Major Departments and Current Systems

Table 1-9. Currently Installed Back Office Systems and the Associated Suppliers

System	Supplier	Supplier Location
Tyler ERP Pro 9	Tyler Systems	
GIS	ESRI ArcGIS	Redlands, CA
SCADA (Water Treatment)	Ellis Automated SCADA	Palm Beach, FL
Water Reading	Itron MVRS	

The City's account billing (water and electric combined) is organized into five billing cycle periods as shown in Table 1-10 below. The cycles are made up of 500-750 accounts. The routes are geographically grouped with the exception of Cycle 3 and 4, the business routes, which are spread throughout the City. Approximately 99% of the electric and 50% of the water is read via AMR with the remaining accounts being read manually.

Once a cycle is fully visited, an export is done, where high/low validation is performed. Missing or irregular reads are re-dispatched if needed. Figure 1-3 shows the current metering-related City IT systems data flow diagram.

Table 1-10: Billing Cycle Overview

Cycle	Routes	No of Accounts	Billed	Notes
1	1 - 4	640	13th of month	
2	5 - 8	771	17th of month	Largest cycle, ~750 accounts
3	12	169	23rd of month	Business accounts
4	13-14	423	23rd of month	Business accounts
5	9 - 11	899	last day of month	

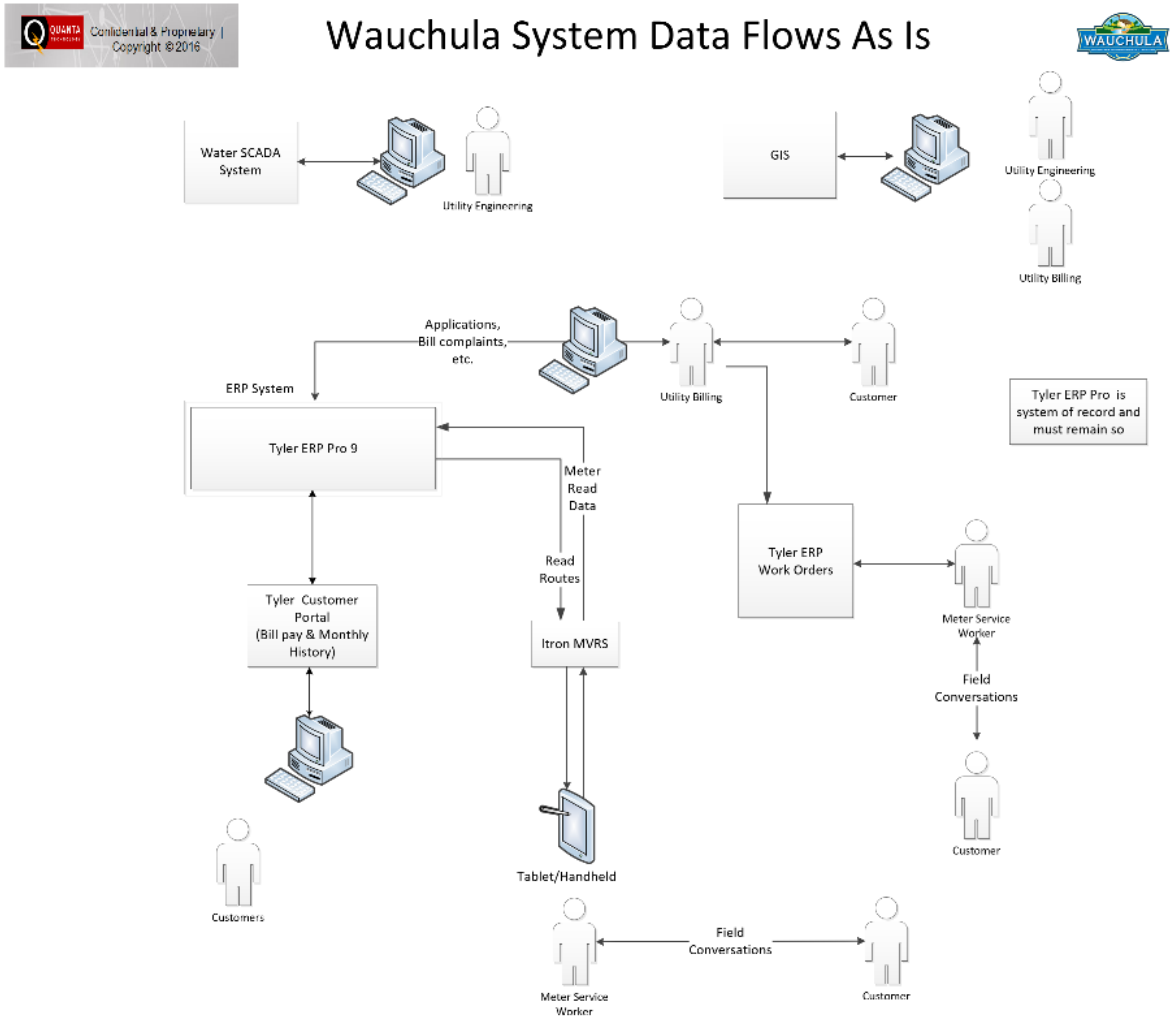


Figure 1-3. Wauchula System Data Flows (As-Is)

1.4.2 AMI Enabled Back Office Systems "As Will Be"

The City uses Tyler ERP Pro 9 as the primary enterprise and customer information system (CIS). The Supplier must have enough command over the needed systems integration steps to ensure maximum viability of the City's existing systems while maintaining flexibility for the future. A detailed system integration functional specification submittal will be required, and the Supplier must work with the City to develop this functional specification.

Please note that the City uses the Tyler ERP Pro customer portal. The Supplier must integrate with this portal and provide the end user a seamless, City-branded experience. Figure 1-4 shows the metering-

related City IT systems data flow diagram as envisioned after the AMI deployment. The Proposer may provide alternative flows that may be deemed beneficial.

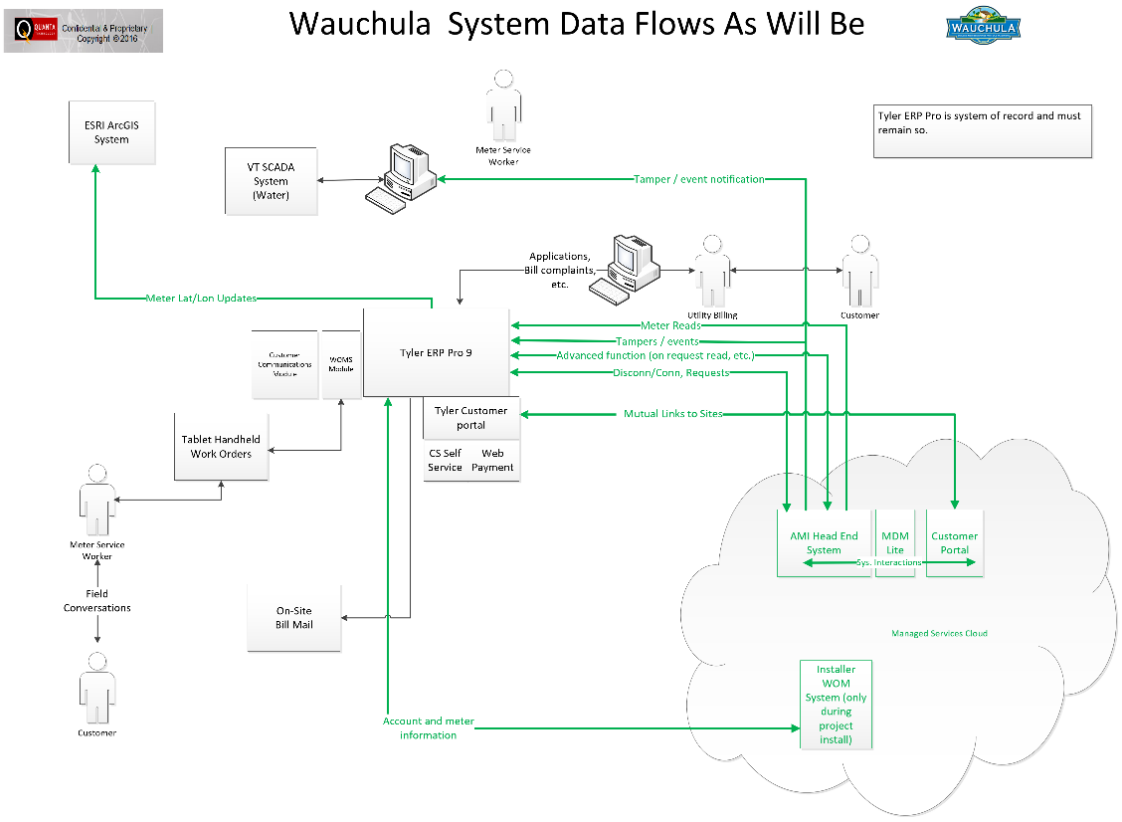


Figure 1-4. Wauchula System Data Flows After AMI Deployment (as Planned)

1.5 Communications Network

The City expects the AMI system to have two-way communication for electric and water meters and other smart grid field devices. City-owned property should be considered the location for non-meter AMI system network communication components. Information on property locations is included in Section 25. The overall system is expected to include communication devices that can have their firmware upgraded remotely with no field visits required.

1.6 Distribution System Overview

The electric distribution system serves power to the entire City limits (~2.3 sq miles) and extends into unincorporated Hardee County for a total of ~10 sq miles. Wauchula operates one substation and purchases its bulk power supply from Florida Power and Light (FPL) and purchases transmission services from Duke Energy Florida (DEF) and FPL. They have 3 distribution supply feeders: North Feeder (512 customers), West Feeder (1038 customers) and East Feeder (1037 customers). They have 1 electrical connection to the FPL power system and employ 8 reclosers (single phase, 3 phase). The system transmission is from FPL and Duke. The system is predominately overhead distribution with limited underground distribution lines throughout the Wauchula service territory.

The City is interested in adding distribution automation features in the future and would like information from proposers on how their system supports this functionality. The City does not currently plan to incorporate streetlights into the system but is open to suggestions from Proposers regarding this functionality. The AMI system shall offer optional interfaces to support load control (LC) including HVAC Compressors, Hot Water Heaters, and pool pumps.

1.7 AMI Managed Services

The City intends to implement its AMI system in a managed services (software as a service) environment to avoid incremental staffing requirements. The City will operate and maintain the AMI system's field-deployed physical assets. However, besides desktop computers, all AMI computational infrastructure will be located at the Supplier's managed services facility. Additionally, the City would like pricing for the Proposer to manage non-meter field communications assets (NaaS).

2 AMI PROGRAM OBJECTIVES AND DESIRED FEATURES

In response to this RFP, the Proposer will propose a cost-effective solution that achieves the objectives in Table 2-1, balancing cost and reliability with priorities relative to features and objectives. ***The City will not pay for a heavily customized solution that achieves all the objectives and features below. Rather, the City seeks a reliable, time-tested platform that provides as many features as possible at a reasonable price.***

It should be noted that Table 2-1 is a broad overview and not an exhaustive list. The specific Proposer's detailed requirements for this RFP are included in this document starting with Section 5.

Table 2-1. AMI Objectives and Example Outcomes

AMI Solution Objective	Example Outcome(s)
Proven & reliable system implementation	The City plans to implement a stable AMI system that has proven successful in multiple similar projects. First-generation and other unproven equipment and software are not acceptable.
Cost-effective and practical solution	Communication system should be the most cost-effective and practical solution for the City. Consideration should be given to on-going maintenance requirements to limit burden on staff. The solution must support multiple water and electricity meter suppliers and utilize, to the extent practical, existing communication assets (fiber optic, etc.). Repeaters and Meter subcomponents (radio, LED display, meter canopy, disconnect) should have an excellent performance history and be backed by an industry-standard warranty.
Adaptability and flexibility	The platform should be flexible and receptive to future technologies like fiber-based backhaul. Proprietary interfaces should be minimized to facilitate easy integration with other present and future applications.
Improved customer service	The City would like to empower its customer service representatives with improved ability to manage complaints by leveraging features such as On-request reads, water leak detection, an easy-to-use portal to understand billing questions for electric and water usage, remote connect & disconnect of accounts, and automated outage text messaging or emails to communicate outages. Customer service representatives should be able to compare costs across multiple retail rate options and offer alternatives to customers that reflect savings opportunities.
Improved billing cycle turnaround	Customers currently receive bills for actual consumption occurring 30 days before the bill. The cycle should improve with an interface between the AMI platform and the billing system; AMI and CIS/billing integration should retain the City's existing retail rate structure.

AMI Solution Objective	Example Outcome(s)
Reduced meter reading costs	The AMI implementation will collect detailed interval data and registers to support billing in a manner compatible with the City's existing billing system.
Providing customers access	Customers will have a user-friendly web portal providing access to near real-time data and simple graphics that are easy to use.
Strategically designed to support optional alternative rate or load management programs	Opt-in programs for time-of-use or critical peak pricing, or load management (e.g., communicating thermostat setpoint adjustments) that are enabled by careful selection of flexible technology
KPI tracking for distribution system performance and proactive repair/replacement	Water meter leak detection, daily access to water consumption, stopped meters, reduction of truck rolls, commodity theft, etc.
Limited or controlled risk of planned obsolescence and shorter (maximum 10 years) meter replacement cycles	Unforeseen large capital expenditures associated with ownership are avoided/eliminated because managed services adequately protect the City and its customers from short-duration replacement cycles for hardware and software.
Support for bidirectional meters	System should support the City's net metering program, which utilizes bidirectional meters to credit customers for energy sent back to the grid from rooftop solar installations. Net metering is not sufficient to satisfy the need to separately identify delivered and received energy. It is anticipated that all AMI electric meters will have the ability to meter delivered and received energy via separate registers – not net.
Full acceptance of the AMI solution by the community	The City will invest heavily in customer education and outreach regarding adopting a new AMI system and explaining its benefits. While customer concerns will be addressed and ongoing education will be available to the public, an opt-out option will not be provided.

2.1 Anticipated AMI Benefits

The City has identified the following AMI benefits and goals:

- Implement a state-of-the-art AMI system that addresses the City's current requirements as well as enabling longer-term smart grid capabilities.
- Engage, educate, and obtain buy-in from internal and external stakeholders for this AMI project implementation.
- Use of bi-directional metering to enable expanded use of solar or other renewables
- Improve customer satisfaction with customer web portal features such as:
  - Detailed views into electric and water usage during the month on at least an hourly granularity
  - Future flexible payment options including bill date selection, different rates (TOU, demand, etc.), pre-pay, and levelized billing

  - Customer alerts and notifications based on budget and/or electric consumption targets
  - Ability to schedule power re-connect/disconnect
- Promote environmental responsibility by reducing truck rolls and enabling remote resolution to address customer concerns
- Improve overall conservation with features such as:
  - Providing customer electricity and water detailed usage information to identify high electric or water usage in shorter time frames before they become critical.
  - Identify water leaks in shorter time frames.
  - Identify system losses with system water balance analysis.
  - Enhance the City's operational performance through revenue recovery and protection with tamper detection and energy and water diversion sensing capabilities.
- Improve the City's operational efficiencies through increased situational awareness of electric and water systems.
- Improve the City outage response and restoration speed with detailed knowledge about the location and extent of outages in near-real-time.
- Improve operational efficiencies, expense, and environmental impacts of truck rolls using remote connect/disconnect electric meters (and potentially water meters) to support remote turn on/off (for both non-pay and move-in/out.

2.2 Proposed Project Implementation Schedule

The City estimates the deployment period to be approximately 17 months, broken down as follows:

1. **Pre-deployment:** This stage assumes 3 months for system integrations and deployment readiness activities. Field installations will not be permitted at any scale before the successful completion of the FSAT, whereby all system integrations are validated.
2. **Limited Deployment:** A one-month limited deployment will validate billing operations. Field installations will be allowed on a limited scale, while billing is evaluated through parallel testing during this period. However, full-scale mass deployment will not be permitted until billing operations are validated throughout the limited deployment period.
3. **Mass Deployment:** A 12-month deployment period is assumed for electric and water meter installations and associated field remediation efforts (meter boxes, pits, etc.)
4. **System Acceptance:** A 1-month test period is designated for final system acceptance of a fully deployed system.

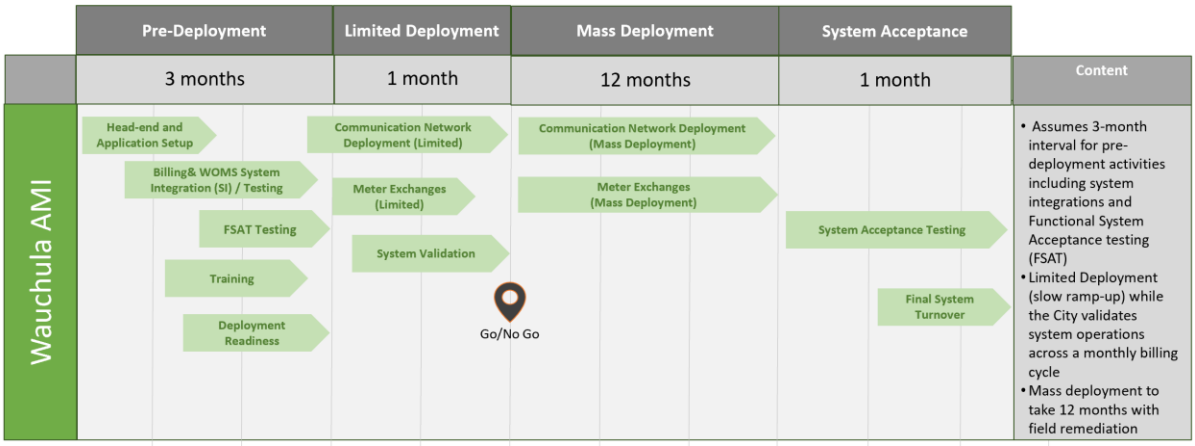


Figure 2-1. Project Implementation Timeline

3 SUPPLIER SCOPE OF SERVICES

The City does not intend to explicitly prescribe a scope of services for the successful Proposer. In partnership with the OE, the City will review each qualified proposed solution and compare features, benefits, and other factors as detailed in Section 4. The City anticipates a general phased framework for implementing the managed services, reflecting a partnership between the City and the Supplier. The City offers a generic time sequence (see Section 21) and recognizes that stakeholder outreach and education activities would be executed as a parallel process at inception and throughout the deployment. Proposers are encouraged to propose alternative sequencing or phases that have been successful in other deployments as part of their proposal.

Please note that OE will perform various duties through all stages of the AMI deployment. At various times throughout the process, OE will be asked to present to the City Commission or other public meetings (potentially in concert with key City staff) to discuss the project and may request information or materials from the Supplier. The Supplier should make itself available during key milestone periods or propose what it believes is a reasonable level of engagement as the deployment progresses. The City's goal is to ensure adequate and specific communication with all parties that have a vested interest in the program's success.

4 RFP PROCESSES

4.1 Response Sections

All correspondence during the proposal process will be conducted as noted in Table 4-1, and supported by DemandStar, City's procurement system. The Proposer's responses will be electronically submitted via the City's response template. Responses must be in an electronic word-searchable format unless the proposal contains information designated as confidential, in which case the unredacted proposal may be submitted as a paper printout, per the instructions in the accompanying proposer terms document. If a paper version is submitted, a redacted, electronic version must still be submitted in word-searchable format. As noted in the proposer terms document included with this RFP, all proposal submissions are public records under Florida's public records law (Section 119.011(12), Florida Statutes). Redactions must be limited to confidential or exempt information as allowed under Florida and Federal law. Broad-based redactions inconsistent with the statutes will result in bid disqualification.

A pre-bid meeting will be held to review the RFP and submission guidelines (see Table 4-1 for details). Proposers are highly encouraged to attend this meeting to ensure compliance with RFP requirements. Proposer questions will be e-mailed to scamacho@cityofwauchula.com and subsequent responses will be provided via a secure SharePoint site along with any supplemental files or information provided.

The Proposer must comply with the accompanying proposer terms (included with this RFP). Clarifications or exceptions not identified in the RFP for specific requirements are to be noted in the "Clarifications and Assumptions" section within the City's supplied proposer response template.

Proposers must use the proposer response template included with this RFP. **When an RFP requirement indicates that a price is to be provided, that price and all other pricing must be included in the provided "Exhibit C - Wauchula AMI RFP Pricing Worksheet.xlsx" Microsoft Excel file.** Pricing in other areas, attachments, or references will not be accepted, as all pricing must be included in the provided spreadsheet.

This document defines the requirements and the Proposer's compliance (yes or no). A "yes" reply indicates complete compliance. An area is included to support the Proposer's comments. Many of the requirements are strictly submittals. For such requirements, compliance should be marked as "yes," and a numerical corresponding reference number (e.g., Attachment 1) should be provided. Any response not fully compliant with the requirement should be marked as "no" with clarifications from the Proposer included in the Proposer comments column. "Yes" may only be indicated when there is total compliance without clarification, assumptions, etc. The City will disregard any comments next to a "yes" response and consider the Proposer fully compliant with the requirement regardless.

A "No" response in the requirements tables is not an immediate disqualifier. However, **failure to offer certain features, components, or services identified in Section 5, Mandatory Requirements, may result in disqualification.** The selection process will result in a recommendation to the Wauchula City Commission. The Commission has the final say and the right to accept or reject any or all proposals.

The City's proposer response template (**Exhibit B – Wauchula AMI RFP Technical Response Template.docx**) contains the following sections:

1. **Cover Letter:** Proposers are to provide a one-page cover letter summarizing why the City should select the Proposer for this deployment.
2. **Proposer Overview and Project Personnel:** Proposers should provide the information requested via Table 6-1 to allow the City to evaluate the firm's financial stability.
3. **Technical Solution:** Proposers should provide a succinct and easy-to-understand synopsis of the proposed hardware and software solution and the Proposer's vision for successful systems integration and ongoing managed services administration. The technical information detailed in part of the template includes 1) proposed meters, 2) physical interconnection, 3) communications backbone (including available options), 4) required communications studies to ensure appropriate coverage, 5) a summary of all software programs required to achieve the City's desired AMI objectives (i.e., web-based customer portal, MDM Lite, etc.), and 6) a summary of the Proposers' plan to integrate proposed products with existing City systems in a manner that minimizes the risk of failure and burden to City staff. The disclosure of attributes of the proposed system (as defined in the technical requirements throughout this document) is critical. This section should be limited to 20 pages since most technical and pricing information will be in the Proposer's RFP table submittals.
4. **Cutover Plan:** The Supplier must be able to support the required system integrations while having the Tyler billing system remain functional during the system's rollout. The Proposer should provide the information required in Table 14-1 on how the Proposer will support this need and ensure a smooth transition to full AMI billing operations with meters being removed and replaced daily.

5. **Mandatory Requirements:** Responses to the mandatory requirements listed in Section 5 must be noted within the "Mandatory Requirements" section of the City's proposer response template. Failure to comply with these requirements may result in disqualification.

6. **Completed Tables in the Proposer Response Template (Exhibit B – Wauchula AMI RFP Technical Response Template.docx) and Pricing Included in the City's Pricing Excel Worksheet (Exhibit C – Wauchula AMI RFP Pricing Worksheet.xlsx):** The City will evaluate the proposed AMI functionality as described in this RFP, which is consistent with the proposer terms document attached. Proposers should maintain the tabular structures as they are critical to the City's proposal evaluation approach. As such, the Proposer's proposal must comply with the completion of these tables without modifications.

4.2 Evaluation Process

Please note that because the City seeks a cost-effective state-of-the-art AMI solution that supports its needs, it may not select the lowest-priced qualified proposal.

The City Manager will create a selection evaluation committee (SEC) to evaluate all submitted proposals. Based on criteria established by the selection committee, up to four qualified proposals

will be selected for additional detailed evaluation. Qualified proposals will be evaluated by a panel of evaluators who will use objective factors to assign points to the Proposer's responses in several categories, including technical solutions, commercial fit, and pricing. Points will be weighted according to the importance of each requirement. Proposers may be required to attend in-person interviews and/or engage in oral presentations to clarify their proposals. The evaluation panel may choose to visit one or more references provided by the highest-scoring Proposer(s) before making the final selection.

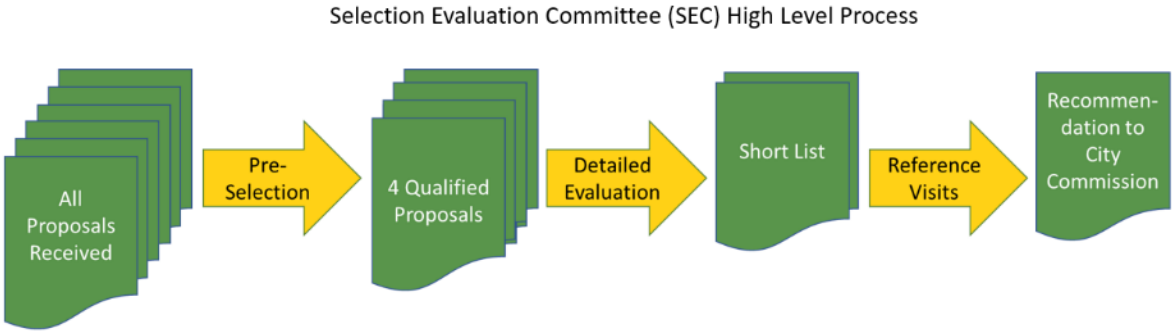


Figure 4-1. Evaluation Process

4.3 RFP Schedule

The estimated overall Bid Cycle is shown below.

Figure 4-2 presents a tentative RFP schedule. The City reserves the right to adjust the schedule for any reason or no reason. The City may issue an email as appropriate to inform all respondents of such changes in the RFP schedule. It is the Proposers' responsibility to ensure that the City has correct email addresses, that messages from the City are not misdirected to spam filters, and that they have personnel available to monitor and read the City's messages. **Proposals must be received through the DemandStar System no later than 3 PM Eastern on Tuesday August 27, 2024.**

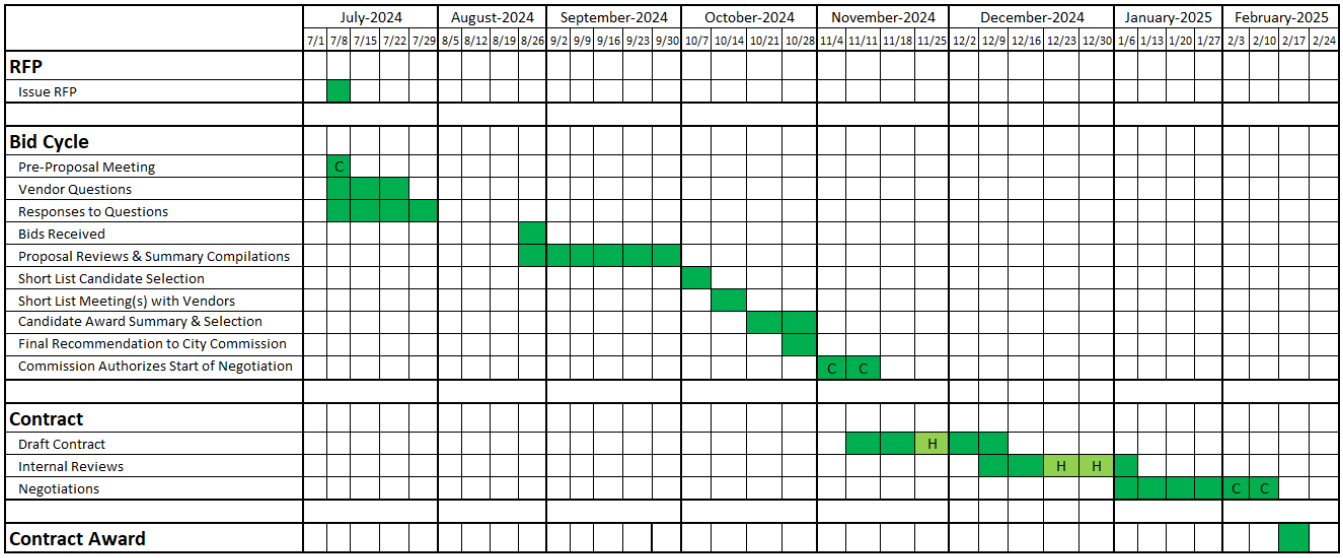
Table 4-1. Key RFP Dates

Activity	Description	Method	Date
RFP bid posted and proposer questions period start	RFP posted. Initial questions from Proposers are allowed.	DemandStar	7/9/2024 (by 12PM EDT)
Pre-bid meeting	Pre-bid meeting to review bid-package	Virtual attendance, see RFP for additional details.	7/11/2024 (2PM EDT)
Deadline for final questions	No further questions from Proposers are allowed.	Proposers will receive an email notification notifying them that the question period is closed.	7/23/2024 (5PM EDT)

Activity	Description	Method	Date
Responses to proposer questions	The City provides question responses as soon as reasonably possible.	The City will post responses to questions via RFP addendums posted in DemandStar. Proposers will receive notification of responses. All Proposers will see all questions and responses.	7/30/2024 (by 5PM EDT)
Bid return deadline	RFP responses due	Via DemandStar (submittal time stamp shall be conclusive as to the timeliness of filing)	8/27/2024 (by 3PM)
Bid opening		The bids will be publicly opened at 3 PM Eastern on 7/16/2024 at City Hall.	8/27/2024 (at 3PM)

The estimated overall Bid Cycle is shown below.

Figure 4-2. Tentative RFP Schedule



C= Indicates City Commission Workshop/Meetings
H= Holiday Week

5 MANDATORY REQUIREMENTS

The requirements listed in Table 5-1 are considered mandatory. Failure to comply with any of the below requirements may result in disqualification.

Table 5-1. Mandatory Requirements

Rqmt. #	Requirement	Comply		Comments / Clarifications
		YES	NO	
M.5.1	No proposal shall be accepted from, nor will any contract be awarded to, any Supplier who is in arrears to the City upon any debt, fee, tax, or contract, or who is a defaulter, as surety or otherwise, upon any obligation to the City, or who is otherwise determined to be irresponsible or unreliable by the City.			
M.5.2	All Suppliers, including the Suppliers' subcontractors, must be qualified and licensed under the laws, rules, and regulations of the State of Florida to perform the work required by these contract documents.			
M.5.3	Failure to properly complete the proposal and required forms and requested data shall result in disqualification, including: • File formats that are not word searchable via commonly available desktop software (i.e., MS Office, Adobe Acrobat, etc.). • Failure to use the proposal forms furnished by the City. • Failure to provide signatures as requested by authorized representatives on proposal form(s).			

Rqmt. #	Requirement	Comply		Comments / Clarifications
		YES	NO	
M.5.4	Submittal issues such as: • Evidence or suspicion of collusion among Proposers. • Unauthorized alteration of proposal forms. • Violation of the City's purchasing rules, Florida statutory requirements, or the requirements of this RFP.			
M5.5	The Supplier shall satisfactorily complete all Standard submittal forms.			
M.5.6	The proposed solution must include a managed software as a service (SaaS) offering with a minimum of a 10-year contract period.			
M.5.7	The proposed solution must include a managed network (NaaS) with a minimum 10-year contract period as a service offering.			
M.5.8	The Supplier must have five or more US customers using software as a service/network as a service during the last 5 years.			
M.5.9	The Supplier's system must support remote firmware upgrades on each type of endpoint device and have successfully executed this capability previously in a production environment.			
M.5.10	The proposed solution must support remote meter reads without needing site visits or drive-by activity.			
M.5.11	The proposed solution must support a customer portal with the ability to display quantities and required alerts (see Table 13-5)			
M.5.12	The Supplier must provide a system test fixture (see Table 12-1) as part of the proposed solution.			

Rqmt. #	Requirement	Comply		Comments / Clarifications
		YES	NO	
M.5.13	The Supplier's proposed solution must include field installation services for both electric and water accounts along with any required water meter pit remediation.			
M.5.14	The proposed solution must interface with the City's Tyler ERP Pro system in such a manner as to provide an equivalent set of billing inputs with minimal disruption to existing City processes.			
M.5.15	All network and field devices (including metering endpoints) associated with the Supplier's system must not interfere with the City's lift station radios or SCADA system. SCADA system for electric uses cellular routers that are 4G LTE and is IP-based utilizing bands B2, B4, B5, B12, B13, B14, B77, and B71. SCADA system for WWTP / WTP is protected with some being cellular based and some internet based. The guarded SCADA frequency range for the WWTP / WTP is 2400 HZ.			
M.5.16	The City strongly desires a single Supplier contract with sole responsibility for all project phases, including the provision of long-term managed services. It is a mandatory requirement that the technology owner/developer be the contract signatory on the long-term managed services agreement. Please include a sample managed services agreement as supplemental information supporting this mandatory requirement.			

Rqmt. #	Requirement	Comply		Comments / Clarifications
		YES	NO	
M.5.17	The Supplier of the managed services offering and the ongoing year-over-year support for the system must be the technology provider of the AMI software systems.			
M.5.18	The Supplier of all software integrations to City systems must be the technology provider of the AMI software systems. The technology owner/developer must supply a project manager / prime resource to support and oversee the entire system integration effort including statement of work, design, development, FSAT testing, and acceptance. Please elaborate on the team structure being proposed for software integrations.			
M.5.19	The technology Supplier shall provide initial training and ensure ongoing training is available for the system's life.			

6 PROPOSER INFORMATION

6.1 Company Information

The Proposer shall detail the company information.

Table 6-1. Company Information

Rqmt. #	Requirement Description		Comply		Comments / Clarifications
			YES	NO	
6.1.1	Proposer Co. Name				
6.1.2	Office Address				
6.1.3	Contact Name				
6.1.4	Contact Title				
6.1.5	Contact email				
6.1.6	Contact Phone #				
6.1.7	Proposer Financial Information				

6.2 References

Please provide references for the Proposer's managed services for similar municipal utility deployments, including the information requested in Table 6-2. Please indicate all experience in the US Southeast or Florida where managed services are provided. If the system covers water-only areas, please indicate this fact.

When completing Table 6-2, the Proposer shall supply information for a minimum of one reference of a project (completed in the last 3 years) that meets each of the following criteria:

- **AMI –Electric & Water Solution:** AMI deployment, including water-only or electric and water with two or more water-only areas within the overall territory.
- **AMI – with Customer Portal:** AMI deployment, including use of Tyler's ERP Pro Customer Portal. Proposer to describe the functionality in use.
- **AMI – with Tyler ERP Pro**: AMI deployment successfully integrated with a Tyler ERP Pro system. Proposer to describe the functionality in use.

References that meet more than one of the above criteria would be especially valuable.

Table 6-2. References

Rqmt. #	Rqmt. or Project Description	Utility Name	Utility in FL?	Contact Name and Title	Contact Phone #	Contact Email	Start/Completion Date	Number of Meters		Project Description
								Electric	Water	
6.2.1										
6.2.2										
6.2.3										
6.2.4										
6.2.5										
6.2.6										
6.2.7										
6.2.8										
6.2.9										
6.2.10										
6.2.11	Identify any failed or defaulted projects in the last 5 years.	Description								
6.2.12	Identify any claims or judgments outstanding against your company or sub-suppliers.	Description								

6.3 Customer Site Visits

As part of the proposal process, the City may visit the shortlisted Proposers' references to better understand the system's capability and performance. Please provide references for Proposer managed services for similar municipal utility deployments in Table 6-2. Support for Customer Site Visits should be noted in Table 6-3 below.

Table 6-3. Customer Site Visits

Rqmt. #	Requirement Description	Comply?		Comments / Clarifications
		YES	NO	
6.3.1	The Proposer shall recommend up to three customers for site visits. Preference will be given to utilities of similar size, scope, and proximity to the City.			
6.3.2	The Proposer shall work with at least two customers to arrange an on-site (or virtual) demonstration of systems and discuss utility processes, issues, etc. The City prefers that the Proposer not attend these on-site customer visits beyond simple introductions at the start of a meeting.			

7 CUSTOMER ENGAGEMENT

Having a customer engagement plan and process is critical for successful project implementation. Table 7-1 details items for customer engagement. If the Proposer has additional ideas for customer engagement or marketing, please include them as part of its Customer Engagement response.

Table 7-1. Customer Engagement

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
7.1	The Proposer shall describe its experience with and approach to developing customer engagement plans.			
7.2	The Supplier must support at least 1 day on-site for the City's "AMI Day" meeting with residents.			
7.3	The Supplier must support 1 day on-site for a City Commission Meeting.			
7.4	The Supplier's installer must print advance notification customer communication materials, such as postcards. The content of these mailers will be developed in collaboration with the City. The Supplier must manage the timing and mailing of these materials to provide at least 14 days of notice to customers before installation.			
7.5	The Supplier must print door hangers that installers will distribute at residential locations during successful and attempted installations. The content of these door hangers will be developed in collaboration with the City.			
7.6	The Proposer shall provide recommendations for additional marketing material based on its experience.			
7.7	The Proposer shall describe other options for customer engagement, if applicable.			

8 AMI ELECTRIC METERS

8.1 General Features

Table 8-1 presents the general requirements for the electric meters for the AMI deployment.

Table 8-1. General Features

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.1.1	Define the meter manufacturer (by form if different manufacturers).			
8.1.2	Primary single-phase meter as offered shall have been in production for more than a year at time of proposal. Proposer shall provide number of units shipped in the last 12 months.			
8.1.3	Single-phase meters shall be available from at least two different manufacturers. Identify which manufacturers' meters and models are supported.			
8.1.4	Meters shall be solid-state ANSI compliant with a configurable minimum six-digit (not including identifiers) scrolling LCD display for residential meters, six digits for commercial meters.			
8.1.5	Meters shall include an integrated "under the glass" communications module compatible with the AMI system.			
8.1.6	Meter manufacturer shall supply a sample nameplate for each meter form for the City's approval prior to meter shipment. Specific nameplate colors or meter numbering shall be available for each form and class if requested by the City.			
8.1.7	All meters including the communications module shall be tested at the factory and shipped with the test report.			
8.1.8	Meters shall ship from the factory pre-programmed. The program shall be approved by the City.			
8.1.9	All three-phase meters shall be available with an optional ANSI C12.18 compliant optical port for local reading and programming.			

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.1.10	Single-phase and 12S meters shall include a port for configuration and reading. There should be a means to remotely disable and enable the port.			
8.1.11	Meter shall support over the air and local F/W updates for both meter and communications related firmware. Meter shall have F/W rollback capability. Proposer shall describe this functionality. Meter shall continue to meter during firmware update.			
8.1.12	Single-phase meters shall include a 200A bi-stable latching disconnect switch matching the rating of the meter.			
8.1.13	Disconnect switch can be remotely operated via AMI system, RF tool, or optical port. Switch shall not connect if there is load side voltage. Meter shall provide an alarm in this case.			
8.1.14	Meter shall be able to be programmed to perform a self-read, as well as a demand reset at a specific time and day of the month.			
8.1.15	Proposer shall describe the meter losses during normal operation.			
8.1.16	Meter shall use nonvolatile memory for storing data.			
8.1.17	Meter shall support voltage monitoring and profiling. Proposer to describe these voltage measurement capabilities.			
8.1.18	Mechanical demand reset mechanism shall be provided as an option.			
8.1.19	Does the meter manufacturer require a first article customer approval process? If so, describe that process.			

8.2 Ratings and Standards

Table 8-2 presents the ratings and standard requirements for the electric meters for the AMI deployment.

Table 8-2. Ratings and Standards

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.2.1	All meters shall comply with the current versions of the following ANSI industry standards: ANSI C12.1, C12.10, C12.19, C12.20, and C37.90.1.			
8.2.2	Meters shall comply with UL 2735. If this requires a higher cost meter than what would otherwise be needed to meet this specification, Proposer may also quote a non-UL-listed option in addition to the UL-listed meter.			
8.2.3	Meters shall comply with IEC 61000-4-4 and C62.45.			
8.2.4	Meters shall comply with applicable FCC standards.			
8.2.5	Temperature range. -40 to +85 degrees C.			
8.2.6	Frequency: 60Hz.			
8.2.7	ANSI C12.20 accuracy class 0.5 or better for residential meters, class 0.2 for commercial meters.			

8.3 Metered Quantities

Table 8-3 presents the energy and power metering quantity requirements for the electric meters for the AMI deployment. Quantities that are available at the meter but not available to the head-end over the AMI network are not to be considered when identifying compliance.

Note that not all of these quantities are required on all meters at initial deployment. Consideration will be given to solutions that offer lower-cost meters that can be upgraded over the air as needed. In that case, Proposer shall identify the cost of the upgrades and any limitations around these upgrades, such as loss of data in the meter or disruption of metering functionality during the upgrade.

Table 8-3. Metered Quantities

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.3.1	Energy: Wh, VAh or VARh (delivered, received, sum, net)			
8.3.2	Max demand: W, VA, VAR. (Specify if demand is rolling or block)			
8.3.3	Current (commercial meters only), Voltage, Power factor, Watts, Vars			
8.3.4	Time of use: min 4 seasons, 4 rates, 4 switch points for energy quantities required. If proposing non-TOU meters, describe how the system can calculate TOU billing determinants from interval data.			
8.3.5	Interval data: min 4 channel 35 days, 15 min intervals - configurable to 5, 15, 30, or 60 min intervals			

8.4 Electric Meter AMI System Functionality

Table 8-4 presents the AMI system functionality requirements for the electric meters for the AMI deployment.

Table 8-4. Electric Meter AMI System Functionality

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.4.1	Meter shall support system functionality described in the specification. Advanced metering functionality that is not available to the head-end over the AMI network is not to be considered when identifying compliance.			
8.4.2	Meter shall be able to receive encrypted messages via the physical port, the AMI system, and if available, an RF tool as part of the AMI system.			
8.4.3	All supplied integrated meter types shall support auto registration to the AMI system. Proposer shall describe diagnostics information provided by the meter upon meter installation. Proposer is asked to describe the process used during installation.			
8.4.4	Meter shall support time synchronization via the AMI system and locally.			
8.4.5	Meter shall support a method for local verification that it has successfully joined the AMI network.			
8.4.6	Meter shall include a mechanism to send an outage message after a user-definable interval when it has lost power. (Note that the state of Florida considers any interruption longer than 1 minute to be a sustained outage.) Proposer shall describe this functionality.			
8.4.7	Meter shall support remote meter configuration by way of the AMI network and RF field tool. Proposer shall describe the parameters that are programmable.			
8.4.8	Supplier shall provide the City with a file per meter shipment identifying all attributes for each electric meter shipped for installation into the Head End System.			
8.4.9	Describe the transmission of electricity meter data up to the head-end. Discuss frequency of reading and interval data transmission as well as events and alarms.			

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.4.10	System shall provide the ability to identify which phase (A,B,C) each meter is associated with.			

8.5 Electric Meter Alarms & Events

Table 8-5 presents the alarm and event requirements for the electric meters for the AMI deployment.

Table 8-5. Meter Alarms and Events

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
8.5.1	Provide a list of all meter events and alarms. Events and alarms shall be available and resettable via the AMI network, RF tool, and optical port if the meter is so equipped.			
8.5.2	Reverse Energy: The meter shall detect reverse power flow on an integrated meter programmed or operating as a non-net energy integrated meter or non-bidirectional integrated energy meter.			
8.5.3	Meter shall alarm on tilt.			
8.5.4	Meter shall alarm on tilt/outage combination indicative of meter removal from socket.			
8.5.5	Meter shall alarm on attempted magnetic tamper.			
8.5.6	Meter shall alarm if voltage is outside of set limits.			
8.5.7	For three-phase meters: The meter shall monitor per phase voltages, currents, and phase angles to detect incorrect polarity or incorrect phase sequencing.			
8.5.8	Specify additional meter alarms or functionality in the meter that the City may utilize.			

9 AMI WATER METERS AND MODULES

Table 9-1 presents the water meter and AMI module requirements for the AMI deployment.

Table 9-1. AMI Water Meters and Modules

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
9.1	A 20-year battery life is required for all battery-powered field devices. Please note that this section applies not just to water meters: If your architecture includes other battery-powered devices, such as repeaters. 1. Describe all conditions on the 20-year warranty. 2. Provide the reading frequency that the battery life warranty is based on and other battery-life-impacting activities such as firmware updates, LP interval length, frequency of on-request reads, and (if available) remote disconnect/reconnect. 3. For the water meter communications module battery warranty, state the approach taken for a failed battery (replace module, module, register, etc.). 4. If module only, state the assumption for this, such as if there will be cut wires and splice in a new module. (Cut wires and splicing *are not* preferred. A module that connects to the meter register with a waterproof inductive coupling or a highly water-resistant connection such as a Nicor *is* preferred.)			
9.2	Water meter bodies should be warranted for a minimum of 10 years for full replacement with a 5-to-10-year period starting in year 11, where the warranty declines on a prorated basis.			
9.3	The Proposer will provide the material of the proposed meter body (e.g., brass, poly, etc.).			
9.4	The Proposer shall provide displacement and non-displacement (e.g., electromagnetic, ultrasonic) metering options in the pricing sheet.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
9.5	Battery life and status information must be transmitted to the head-end. Describe the battery life information transmitted by the water module, including the transmission frequency.			
9.6	Water meter nameplates should be customizable. Describe how meter/module labels or nameplates can be customized for the City as part of this project.			
9.7	AMI modules shall also be labeled with the manufacturer's name, ID number, date of manufacture, and any required FCC labeling.			
9.8	The City has six bulk metering points in its water system. The Supplier shall provide an appropriate bulk metering solution for water balance computations, invoice validation, and net leak detection, but not for billing. The solution shall provide appropriate scaling or translation to result in a metered quantity delivered to the head end system. Proposer shall provide pricing for the proposed solution in the pricing sheet.			
9.9	The City has approximately 500 newer Kamstrup FlowIQ 2100 and 3101 ultrasonic meters with the iTron cable/plug that it would like to retrofit with an AMI communication module. Proposer to provide a solution to allow these meters to be read by the proposed AMI system. Provide what quantities and features your proposed AMI solution can retrieve from the meter.			
9.10	Residential meters shall be available from at least two different manufacturers. Identify which manufacturers' meters are supported.			
9.11	The meter/module must be capable of accepting a tamper seal.			
9.12	The module's firmware must be remotely upgradable from the head-end system and handheld devices. Describe all remote firmware and configuration capabilities of the water modules. Describe the process to affect these updates.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
9.13	Modules shall support 60-minute interval recording periods. Describe the duration of interval data (in months and days) that can be stored.			
9.14	On-request reads from the head-end to the water meter must be possible. Describe on-request water read functionality and time for data to be returned to the head-end.			
9.15	On-request reads shall obtain an up-to-the-minute reading from the meter. If this requirement is not met, state where the reading is obtained (e.g., communication module, data concentrator, etc.) and the maximum age of the reading under normal operating conditions.			
9.16	Describe the approach to starting to read for meter and register changes or how old meter reads are handled if new registers start at zero.			
9.17	The module shall support the collection of register interval data from all meters.			
9.18	The module shall support the collection of water pressure and temperature readings from meters/devices that provide it.			
9.19	Water meters and modules shall transmit digital register reads rather than pulse counts.			
9.20	Water meters/modules must provide leak detection. Describe this detection capability.			
9.21	Water modules shall be readable by the head-end system and the Supplier-recommended handheld devices.			
9.22	Water modules shall be synced to within 30 seconds of system time. Interval data must be time-stamped. Elapsed time is not acceptable.			
9.23	Water modules shall transmit a cut wire occurrence.			
9.24	Describe all water disconnect/reconnect capabilities available, including meter sizes on which this feature is available, whether the valve is integral to the meter or separate,			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	impact on box size, and flow control options provided (e.g., on, off, restricted flow)			
9.25	Describe the network topology for water meters—star connection, pt-to-pt, mesh through meter, etc.			
9.26	Does the meter manufacturer require a first-article customer approval process? If so, describe that process.			
9.27	Describe all data transmitted from water modules, including register data, interval data, events (be specific), and alarms (be specific).			
9.28	Describe all backflow indication/prevention capabilities of the proposed water meters.			
9.29	Describe the data encryption provided by water modules.			
9.30	Describe the module antenna configuration and how through-the-lid mounting is accomplished.			
9.31	Describe the module battery replacement process, if any.			
9.32	Describe the minimum clearance needed between the top of the meter and the bottom of the box lid.			
9.33	Describe the transmission of water data up to the head-end. Discuss the frequency of reading and interval data transmission, as well as events and alarms.			
9.34	List all water meters that the Proposer's module is compatible with and specifically identify the proposed meters for this proposal.			
9.35	Provide the operating temperature range in degrees Fahrenheit for the water module.			
9.36	Specify additional alarms or functionality in the module that the City may use.			
9.37	Provide expected meter body lifetime per supported meter.			

10 NON-METER DEVICES

The capabilities implied by the requirements in Table 10-1 are related to the AMI infrastructure and in support of possible plans by the City to support water balance, pressure, other sensory applications, etc., that may not be implemented in the early stages of the AMI conversion. However, these capabilities are of significant interest to the City.

Table 10-1. Non-Meter Devices

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
10.1	State the manufacturer of non-metering devices (e.g., pressure detection, leak detection, gateway devices) if different from the Proposer.			
10.2	Describe the data collection method offered (e.g., point-to-multipoint transceiver). Please provide the functionality of these devices and the installed base of each device type.			
10.3	Describe how the functionality of each non-metering device is supported at the system level.			
10.4	Indicate whether the devices UL Listed.			
10.5	System must support a load control device/solution that is minimally capable of interrupting one 30-amp device. This includes A/C units, hot water heaters, and pool pumps. Describe this functionality and the numbers of LC devices per premise that can be controlled.			
10.6	Describe the electrical characteristics of LC devices including their amperage interrupt capability, tamper detection, etc.			
10.7	LC functionality shall include a cold load pickup strategy such as randomization over a defined time frame. Describe this and other load management functions offered.			
10.8	For a specified load control device, describe any customer override capabilities for LC actions and how the system is made aware of and processes those actions.			
10.9	Describe the extent to which non-metering devices have been incorporated into the AMI head-end system.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
10.10	Describe any pricing level interaction capability from customer to the City including demand response, CPP, etc.			
10.11	Describe any programmable controllable thermostat capabilities provided by the AMI system.			
10.12	Describe any Home Area Network devices and support, and the network technology/protocols used to communicate with these devices. If your solution relies on Zigbee to communicate with HAN devices, indicate whether the residential meters proposed include Zigbee capability or if a special meter or gateway would be required.			
10.13	Describe the proposer's support for smart streetlight controllers at both the system and hardware levels, including visibility and availability of energy and power quality data from streetlight controllers in the AMI head-end. Provide a list of streetlights (manufacturer and model) that can be retrofitted with proposer's streetlight module.			
10.14	Identify all distribution automation devices supported (e.g., FCI, transformer monitor, cap bank controllers, or recloser interface), protocol used (DNP 5/IEC 61850, etc.), and how these operate on the proposer's system.			
10.15	Provide the operating temperature range in degrees Fahrenheit for each non-metering device offered.			
10.16	Describe the communications approach from the AMI system to each non-meter device supported and discuss how or whether these devices participate in overall AMI system communications in roles such as repeaters, etc.			
10.17	Describe the number of proposed non-meter devices, the purpose of each, and the expected maintenance activities required by the City for each.			

11 COMMUNICATIONS

The requirements in Table 11-1 are related to AMI communications. The City assumes the Proposer will offer an RF-based or cellular solution.

Table 11-1. Communications

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
11.1	Based on facility location data supplied by the City, the Proposer shall provide an RF coverage plan and maps that demonstrate adequate communication to all devices to address all requirements in this proposal specification. Device types must be visually different (i.e., by color, shape, etc.) in the Proposer's RF coverage plan.			
11.2	The Supplier shall provide a cellular endpoint-based option for the AMI solution and total ownership cost over 10 years.			
11.3	The Supplier shall provide a non-cellular endpoint-based option with collector/radio for the AMI solution and total cost of ownership over 10 years.			
11.4	Based on the proposed network design, all meters must have a redundant communication path that will automatically be used if their normal communication path fails or is unavailable. Explain how this is achieved.			
11.5	Identify the type of network topology used (e.g., mesh, point-to-multipoint), frequencies used, and transmit power.			
11.6	Network transceiver and/or network repeater devices may be required. The Proposer shall state any such requirement for its system and include pricing for the proposed devices. All devices required beyond this number to ensure acceptable system performance shall be provided free of charge by the Supplier to the City, including installation.			
11.7	Describe the Proposer's backhaul plan.			
11.8	The Supplier shall provide as-built network installation location information in shapefiles capable of being loaded into a GIS system.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
11.9	Describe the remote firmware update process, including typical circumstances requiring an upgrade (firmware bug, feature enhancement, etc.). Include all remotely upgradable devices. If devices are not remotely upgradable, describe how local updates are performed.			
11.10	Describe the process ensuring no metering data loss during a firmware update.			
11.11	Network components combined (meters and communications devices) shall be able to retain at least 30 days of data. Describe how this is accomplished. Note that this is a storage requirement for the deployed network and metering equipment. Further longer-term system-level retention requirements are included below.			
11.12	The network must provide 100% coverage with two-way communication for every meter and device.			
11.13	The Supplier must submit network design and planned equipment locations, mounting details, and power requirements to the City for approval before installation. Identify all supporting work to be performed by the City.			
11.14	The Proposer must confirm that it understands that the Supplier is responsible for all site RF surveys when/if they are needed.			
11.15	The Supplier will participate in and lead, if appropriate, any design and/or status reviews during network and meter deployment.			
11.16	All network communication equipment shall comply with all applicable FCC regulations.			
11.17	All outdoor enclosures shall meet NEMA 4 and be lockable. Door-open contacts shall be included that will cause an alarm at the head-end system.			
11.18	Describe the radiation exposure for each piece of network equipment, including meters for installers and customers.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
11.19	Describe all network equipment battery backup requirements or recommendations. For equipment with a backup power source, state how long the device will remain operational without A/C power (assuming a continuous outage).			
11.20	Any network device, other than water meters, must be able to automatically recharge the battery when operating using A/C power.			
11.21	A network battery life span of at least 5 years is required. The Proposer shall define the battery maintenance cycle for their solution. Network equipment must send battery status and low battery alarm information to the head-end system.			
11.22	Describe all equipment with solar and battery powering options.			
11.23	List the installation/mounting options available for each type of network device.			
11.24	The Supplier shall be responsible for programming network communication equipment before field installation.			
11.25	If the Proposer's system is based on a point-to-multi-point (star) configuration, discuss how bandwidth problems can be mitigated by forcing blocks of meters to register to an assigned take-out point rather than all meters preferentially seeking a single take-out point.			
11.26	Describe any communications settings available to allow prioritization of various packet types such as DA messages to ensure they receive preferential treatment for delivery.			
11.27	Describe all commissioning, test, and calibration files provided by the Proposer for each type of communicating device, including meters. The Supplier will be required to import these into the head-end system. Describe in detail the contents of each of these file types.			
11.28	Describe all remote mount antenna requirements/options for each network device type, including meters.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
11.29	All network and field devices (including metering endpoints) associated with the Proposer's system must not interfere with the City's water SCADA system. **This requirement is mandatory.** Frequencies for these systems are as follows: SCADA system for electric uses cellular routers that are 4G LTE and is IP-based utilizing bands B2, B4, B5, B12, B13, B14, B77, and B71. SCADA system for WWTP / WTP is protected with some being cellular based and some internet based. The guarded SCADA frequency range for the WWTP / WTP is 2400 HZ.			
11.30	Describe the timing for all communication devices and meters (electric and water) to return to normal after recovering from a system-wide communication network outage.			

12 SYSTEM TEST FIXTURE

The City intends to implement a system test fixture/board. The intended usage of this board includes initial pre-field deployment system testing, new firmware release testing, demonstrations to local government, training for City staff, and public demonstrations.

To support these needs, the Proposer shall provide a preliminary design of such a board and pricing to construct and deliver it to the City before training and field deployment. The City is not looking for a commercially available meter test fixture for accuracy testing. The proposed solution must:

a. Be a deliverable that is purchased and remains with City post project implementation
b. Be designed for the purposes of testing the operation of the meters and the overall AMI system. The test fixture is not intended to be used for meter accuracy testing.
c. Be portable with wheel mounting preferred
d. Be able to support include at least one of each type of proposed device (meter and all other ancillary equipment) as part of the project. It is anticipated that a separate test fixture be utilized for water and another separate fixture for electric given the differences in implementation.
e. For water: Be able to generate water flow through the meters in both directions as well as other events and alarms supported by the meters.
f. For electric: Be able to have visual indicators indicating on/off (e.g. light bulb for confirming connect/disconnect) or other confirmations of operations.

Table 12-1 details the requirements for the Meter System Test Fixture. **The provision of a Meter System Test Fixture is a mandatory requirement.**

Table 12-1. Meter System Test Fixture

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
12.1	As described above, a System Test Fixture is required that meets or exceeds required elements. Please describe the proposed system test fixture in detail sufficient to understand the intended offering.			
12.2	The system test fixture shall be suitable for in-depth training of City personnel.			
12.3	The system test fixture shall be able to be read by the to-be-deployed network and head-end system and provide a platform to demonstrate system capabilities in various venues such as City Commission meetings or customer engagement “AMI Day” at City offices.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
12.4	The system test fixture shall support system testing and potential testing of new firmware releases before field installation.			
12.5	The system test fixture shall support billing and other integration testing before field rollout.			
12.6	The system test fixture shall support testing new third-party devices offered by the Supplier and their sub-suppliers.			
12.7	The system test fixture shall contain at least one of each type of field device to be deployed as part of the project.			
12.8	Please list all additional smart devices to be included in the system test fixture.			

13 SOFTWARE SYSTEMS

The system requirements in this section are broadly grouped by the system component where the capability would logically reside. However, the architecture of the Proposer's system should in no way be dictated by these sections. Rather, the functionality is specified in what is envisioned as one or more applications embodied in the managed services offering, regardless of which managed services component provides the capability.

13.1 Managed Services

As depicted in Figure 1-4, the AMI head-end, MDM-lite, and customer portal are shown in separate boxes. This construct is for presentation purposes only. This RFP does not dictate the system architecture of the Proposer's offering. The Proposer will determine whether these functions are performed in separate physical servers, partitions in a virtual server, or otherwise. In many sections of this RFP, these systems are referred to separately. It is important to note that any functions described separately in this way are requirements regardless of the overall architecture. Any requirements for system security are fully applicable across all offerings by the Proposer. This example is just one of such broadly applicable requirements.

Table 13-1 presents the requirements for managed services.

Table 13-1. Managed Services

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.1.1	Detail the City's interaction process with managed services support via telephone, email, web portal, hours of support, etc. If 24/7 support is not provided as part of the standard managed services offering, state the options for upgrading to 24/7 support, including pricing.			
13.1.2	Describe the head-end system update process, the time durations to implement it, and the frequency of releases.			
13.1.3	Describe managed services data centers (primary and disaster recovery locations). Provide photographs of these facilities (inside and outside).			
13.1.4	Describe the disaster recovery process and the maximum time from system failure to recovery. Describe the point of recovery (last backup, yesterday, point of failure, etc.)			
13.1.5	Describe system backup processes, scope, and recovery request process.			
13.1.6	Describe and provide all applicable service-level agreements.			
13.1.7	Describe the system and field device software and firmware update processes and durations.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.1.8	Describe managed services staffing and hours of coverage.			
13.1.9	Describe trouble call response time commitments.			
13.1.10	Describe data center physical security and power security.			
13.1.11	Describe historical data center uptimes.			
13.1.12	The Supplier will ensure that all personally identifiable information (PII) regarding the City's customers will be protected from being released. At all times, ownership of any such data remains with the City.			
13.1.13	Describe the City's required efforts associated with the implementation of managed services. Include any point-to-point VPN or other requirements. The City will require assistance to implement this.			
13.1.14	The Supplier will notify the City of any security issues (physical or cyber) no later than the next business day after the Supplier becomes aware, including a description of the issue's resolution and any actions the City should take. Describe this process.			
13.1.15	The supplier shall have a notification process to inform the City of all software or firmware problems that the Supplier becomes aware of that may impact the City and provide a time frame for resolutions. Describe this process.			
13.1.16	Describe any backdoors in the managed services systems and how they are managed.			
13.1.17	The Supplier shall have a formal process for users to submit problem reports. The Proposer shall submit this process as part of their proposal.			
13.1.18	Describe all web browser versions supported. Web browsers must at least support SSL.			
13.1.19	The City prefers that all user interaction be web-based. If any thick clients are required, describe those and how installation and upgrades are managed.			
13.1.20	Maintenance shall be performed only during off-hours (11 PM to 6 AM Eastern time) unless under emergency.			
13.1.21	The Supplier shall notify the City of any available software or firmware updates to the AMI system and their recommendation on implementing each.			
13.1.22	The system must maintain an online set of water and electric metering-related data for 5 years. The data must be retained for the managed services contract's life and reloadable if needed for the City's data analysis. The City requires that all			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	system data be archived and provided to the City in a documented format that the City can maintain every calendar year. These archives must include all billing determinants provided by the system. Describe this process and the file format.			
13.1.23	The Supplier shall provide details on how service restoration after a major outage would be accomplished within 1 business day.			
13.1.24	The Supplier shall provide a pricing option for a test environment for the Head-end application with separate network device(s) to perform stand-alone testing using the supplied Meter System Test Fixture.			
13.1.25	The SaaS or Managed Services offering must be provided from a SOC 2 Type II certified data center(s).			

13.2 AMI Head-End System

These are the system requirements regardless of which managed services component provides the capability. Table 13-2 presents the AMI head-end software requirements.

Table 13-2. AMI Head-End Software

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.2.1	All head-end system interfaces will be accessible by commonly used web browsers (Chrome, Firefox, Edge, Safari, etc.) and support simultaneous users.			
13.2.2	Head-end system will support calculations of the City standard KPI indices including SAIDI, CAIDI, SAIFI, and MAIFI using the outage and blink data available in the system (monthly and with the ability to annualize). The system must provide standard reports whose data can be extracted to allow the City to easily calculate these KPI's. Supplier will coordinate the meter configuration during the project to ensure that settings that define momentary and sustained outage are consistent with the City's needs and regulatory definitions since Florida and IEE definitions of these parameters differ.			
13.2.3	Head-end system shall have the ability to report on outage occurrences and blink counts for all electric meters. Outage			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	notifications will be reported to the head-end within 1 minute of the occurrence for 99% of meters.			
13.2.4	The head-end system shall automatically retry missing billing reads and missing interval data.			
13.2.5	The head-end system must provide a user-configurable ability to send text messages and emails for selectable events and indications (e.g. outage/restoration). The Proposer shall provide a list of events for which this notification is possible for water meters, electric meters, and other network components and how they will be grouped or otherwise filtered. For each occurrence type, up to five media recipients shall be possible. It is required to be able to assign City recipient event notification emails and text numbers per water and electric meter account to support key account vigilance. These are City personnel notification processes. Individual customer notifications are included as part of the customer portal requirements. Describe these functionalities in detail.			
13.2.6	For outages, it is required that the City have the ability to set up text and/or email notifications for up to 5 city employees where they are aware of at least one outage on the system. This notification should contain all outages present at the time the message is sent. Sending a text and/or email per outage is not acceptable. Describe this functionality in detail.			
13.2.7	The head-end system time shall be synced to a network time server that is synced to a national standard.			
13.2.8	Time accuracy relative to system time: 1 minute for electric, 5 minutes for water.			
13.2.9	The head-end system shall support Standard Time and Daylight Savings Time.			
13.2.10	Firmware updates for individual, all, or groups of devices shall be possible. Describe these capabilities and the associated process.			
13.2.11	During the firmware download process: The head-end will provide a robust set of reports or displays to show the download status, estimated time to completion, all error conditions, and all other information needed to manage the firmware update process effectively. Firmware updates for all devices will be logged.			
13.2.12	Head-end system shall support the ability to turn off all radios in any electric meter. A handheld will be required to turn the radios back on. Describe these capabilities and the associated process.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.2.13	The head-end system shall support all interval data recording lengths and channel configurations available in meters.			
13.2.14	The head-end system must be able to identify and enforce the inability to disconnect accounts identified as "medical do not disconnect." Explain how this is achieved.			
13.2.15	The head-end system shall support reading all quantities available in meters, including but not limited to: • kWh (electric) • Var (electric) • Under the cover meter temperature (electric) • Last read. • Unit of measure. • Number of meter digits. • Device firmware version. • Disconnect switch status			
13.2.16	The head-end system will support the establishment of daily, weekly, or monthly billing schedules.			
13.2.17	The head-end system shall support other non-billing schedules to bring back items of interest to the City, such as service voltage, pressure readings or smart sensor data (like tank levels). Describe this capability and what water metering quantities (water and electric) can be so scheduled.			
13.2.18	The head-end system shall support on-request reads of any meter in the system. All meter data shall be returnable by such reads. **On-request read capability is a mandatory requirement for water and electricity meters.**			
13.2.19	Head-end system shall be able to perform an on-request demand reset for electric meters. Describe how this demand reset function works on a scheduled and on-request basis. Include a description of and the time sequence of any data brought back as part of a demand reset.			
13.2.20	Head-end system shall have the ability to confirm demand reset has occurred by examining demand reset count before and after the request. Describe how this confirmation occurs on the head-end system.			
13.2.21	Head-end system shall report on voltage threshold violations consistent with the thresholds available in electric meters.			
13.2.22	Head-end system shall detect and report time-stamped indications of all electric meter outages and restoration.			
13.2.23	Head-end system shall support all TOU functionality defined in Table 8-3, including modifying such settings.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.2.24	The system must provide a geospatial/map view of all devices on the communications network, which includes various device statuses via visual differentiation (color, etc.). Communications paths and health status should be included on these maps.			
13.2.25	Head-end system shall support pre-pay for electricity. Describe this pre-pay capability and any third-party relationships involved in your offering. (Note that the requirement for this RFP is to provide an AMI solution that is "pre-pay-ready". The utility intends to purchase a pre-pay application separately.)			
13.2.26	The Proposer shall provide a complete list of events and alarms supported by the head-end system and endpoints.			
13.2.27	Collecting metering data from deployed meters must be possible if the communications network is down. If there is a temporary failure or unavailability of all or a portion of the communications network, describe the backup process by which the City will gather meter reading data until repairs are made.			
13.2.28	The system shall provide reports to address the following: • Water meter low battery. • Electric meter low battery (if outage battery is used) • Meter configuration changed. • Meter errors. • Service Voltage (sags, swells, minimums, maximums, averages, etc.) • High flow, reverse flow, high/low pressure. • Tampers. • Battery status for all battery-backed network devices. • Counts of outages, blinks, and momentary interruptions			
13.2.29	The Proposer shall list available reports and capabilities in support of smart sensory devices (e.g., pressure, temperature, pH/water quality, and others as available). These capabilities will not be implemented in the initial AMI implementation but are part of the City's strategic roadmap.			
13.2.30	Discuss remote connect and disconnect capabilities via batch operations.			
13.2.31	Discuss remote connect and disconnect load side voltage detection and closure prevention.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.2.32	Disconnect switch status (open/closed/restricted flow-for water) shall be visually displayed on system displays.			
13.2.33	The head-end system shall support remote connect/disconnect status confirmation reads.			
13.2.34	Head-end system must support secure web-service calls from other systems to allow connect/reconnect operations. Describe these web services.			
13.2.35	The head-end system shall provide the ability to perform on-request reads of events and alarms (in addition to events automatically alarming up to the head-end system).			
13.2.36	Describe configurable parameters in water and electric meters and how changes to the parameters are implemented. Include changes to TOU schedules and seasons, LP interval, demand reset behavior, Sag & Swell limits, etc.			
13.2.37	Describe the system's firmware update process from end to end, including any retries, commit processes, rollback processes, etc.			
13.2.38	The head-end system shall not store sensitive customer personally identifiable information such as Social Security numbers, credit card numbers, etc. Name and address are acceptable if no other personally identifiable information is associated with them.			
13.2.39	No data may be released or sold from the City system.			
13.2.40	Hardware, software, and firmware configurations: The system shall maintain and provide current identification of hardware versions, firmware, and software for all AMI system components.			
13.2.41	Duplicate meter serial numbers: The system shall identify the premises where the same serial number has been used more than once.			
13.2.42	Network component status: The system shall report on the health of the Supplier's network components, including memory errors, battery status, signal strength, connection errors, redundancy, and whether the network components pass or fail the Supplier's operating specifications.			
13.2.43	Describe the confirmation process for any control action or customer messaging from the system.			
13.2.44	Provide a detailed product roadmap showing any enhancements that can be incorporated into the proposed AMI system.			

13.3 Meter Data Management (Lite)

These are all system requirements regardless of which managed services component provides the capability. Table 13-3 presents meter data management requirements.

Table 13-3. Meter Data Management

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.3.1	The system must support loading and maintaining GPS coordinate data for water meters and other field-deployed devices in decimal degrees to a six-decimal resolution.			
13.3.2	Preconfigured reports for examining meter data shall be provided. Describe these reports.			
13.3.3	The system must include water and energy balance analytics and dashboards. Please describe.			
13.3.4	The system must manage the database of meter readings and other related information about the meters and the AMI system.			
13.3.5	The system must be able to export data from reports in standard .CSV format.			
13.3.6	The system must provide a dashboard display that includes: • Peak usage. • Missed readings (excluding in-process missed read retrieval and missing LP gap fill-in processes). • Usage comparisons for like time periods. • Alerts and alarms. • Current status, including current read, disconnect status, etc.			
13.3.7	The system must provide validation, editing, and estimation (VEE) capability for water and electric meter reads to identify suspicious reads, allow City personnel to override a billing value, and estimate a billing read based on previous like time periods.			
13.3.8	The system shall support analytic leak and burst pipe detection with a definable rule set for water interval reads over various time periods, including sudden sustained high reads.			
13.3.9	The system shall be able to report on user-defined low or no flow conditions for water and electric meters over a specified time.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.3.10	The system shall be able to report on water and electric reverse flow conditions.			
13.3.11	The system shall be able to report leaks.			
13.3.12	The system shall support reporting on user-defined conditions considered abnormally high/low water consumption over a specified time.			
13.3.13	The system shall support enhanced analytics capabilities to identify non-technical loss (e.g., tampering/theft, energy loss or diversion, suspicious accounts based on usage patterns, and aggregated meter consumption comparisons).			
13.3.14	System shall support enhanced analytics capabilities to allow for monitoring and identification of under-utilized, over-utilized, or at-risk transformers throughout the distribution system (kVA utilization, loss of life and remaining life computations)			
13.3.15	System shall support enhanced analytics capabilities to allow for outage and reliability analysis and reporting including Outage/Restoration, and Reliability Computations (SAIDI, SAIFI, CAIDI, CAIFI, MAIDI, MAIFI)			
13.3.16	System shall support enhanced analytics capabilities to allow for demand and capacity monitoring (e.g., customer demand contributions, demand response impacts)			
13.3.17	System shall support enhanced analytics capabilities to allow for monitoring of power quality (e.g., voltage monitoring, voltage optimization, CVR/CVO, outage, and restoration.			
13.3.18	Describe how the proposed solution can provide load forecast using data from the AMI system for all meters in the system with identified EV and/or PV presence behind the meter. Does the system support KPI's to track changes in customer adoption of EV charging using data from the AMI system. Does the system provide KPI's to track changes in customer PV installations using data from the AMI system			
13.3.19	MDM Lite Functionality: Describe the MDM Lite functionality offered by your system. This description should address functions like system water balance support, multiple meter LP data aggregation for load studies, theft detection through pattern recognition such as an outage followed by reduced consumption, etc. Also, provide information on what your other municipal customers do with this MDM functionality.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.3.20	The system must support display of meteorological data such as temperature, dew point temperature, and rainfall. The data must be displayed in conjunction with water usage reports.			

13.4 Outage/Restoration Information System

The City currently has limited outage notification or visualization capabilities. As shown in Table 13-4, the City is not seeking a full outage management system in the traditional sense of the term in which the system manages outages by issuing work orders, etc. and tends to be very expensive and requires significant resources to maintain electric topology, etc. The City is seeking an outage notification and information system that includes geospatial visualization of outages and restorations, thus providing the bulk of the information needed without the noted drawbacks.

These are all system requirements regardless of which managed services component provides the capability. Table 13-4 presents a summary of the Outage/Restoration IS requirements.

Table 13-4. Outage/Restoration Information System

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.4.1	At a minimum, system must provide outage/restoration visualization using a map format (not full outage management functionality).			
13.4.2	System must provide the ability to ping the electric meter from a map format to confirm meter is still in an outage.			
13.4.3	System must provide per meter email and texting capabilities on outage and restoration described in Table 13-2. These texts must be able to be different for various accounts and cannot be global in nature such that all outages are sent to one text number.			
13.4.4	System must provide the ability for the City to receive notification to multiple text numbers to allow them to be aware that they have an outage on the system without being overrun with text messages from each meter. This functionality should be configurable to allow the City to configure the number of outages that must occur before this text is triggered. Describe in detail how this requirement is implemented in your system.			
13.4.5	The head-end system shall report on outages (blink, momentary, and sustained). These outage types shall be configurable parameters by the City that define power loss duration for each event type. (Note that the state of Florida considers any interruption longer than 1 minute to be a sustained outage.) Describe these blink and outage parameters and how these events are reported.			

13.5 Customer Portal

One of the AMI system's key features is allowing consumers to view their information. Table 13-5 presents portal requirements. The City intends to use the Tyler ERP Pro customer portal. However, the City would like to evaluate a single sign-on link to the AMI system customer web portal provided as part of the Proposer's solution.

Table 13-5. Customer Portal

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.5.1	The Proposer shall include a City customer web portal as a part of their solution.			
13.5.2	Describe all mobile application extensions that may be available on this portal.			
13.5.3	The customer web portal software shall allow the City's customers to initialize a new portal account using their addresses, City billing account numbers and the amount of the last payment received. Initializing a new customer account shall require no involvement of City staff.			
13.5.4	The customer web portal's functionality shall be available for water and electric services.			
13.5.5	The portal must have the ability to display customer data, including: • Consumption and cost graphs for the past 12 months. (Data must be retrieved from the City's CIS system.) • Hourly (or as set in meters) interval readings for water or electric over the past 6 months. • Current consumption since the last billing for water and electric (Billing date information must be retrieved from the City's CIS system). • Billing history report for the last 12 months. (Billing information must be retrieved from the City's CIS system.) • High usage periods (based on user-definable limit). • Leak indication.			
13.5.6	The customer web portal software shall allow customers to set up accounts using an e-mail, cell phone number, username, and password.			
13.5.7	The customer web portal shall include provisions for customers to reset or retrieve their passwords and/or usernames without City involvement.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.5.8	The customer web portal shall include the ability for the City to reset a customer's password to a default that the customer must reset on the next login.			
13.5.9	The customer web portal shall support Multi-Factor authentication as part of the account login process.			
13.5.10	The customer web portal must support the display of meteorological data such as temperature, dew point temperature, and rainfall. The data must be displayed in conjunction with water and electric usage reports.			
13.5.11	The customer web portal shall include the ability for customers to retrieve their current water or electric meter readings via a request to the AMI head-end.			
13.5.12	The customer web portal shall be able to make bill comparisons for a customer's neighbors. This shall be based on latitude and longitude (lat/lon) to determine the "nearness" of other customers. A provision must be made to exclude immediate neighbors based on lat/lon to avoid any potential disclosure of personally identifiable information. The Proposer shall describe this functionality in detail.			
13.5.13	The portal shall allow customers to receive notifications of a subset of system event messages. At a minimum, outage or leak customer notifications must be selectable by individual customers through the portal interface. Notification of specific events shall be selectable per customer. The notification mechanism shall be customer-selectable (text and/or email). Describe this functionality for water and electric meters and define what events are configurable.			
13.5.14	The customer web portal shall display City-entered customer notification information on a per-customer or broadcast basis.			
13.5.15	The customer web portal shall allow customers to use water and electric interval data to perform "what if" bill comparisons against alternate consumption usage. The portal admin function shall include the City's ability to enter alternate rates. No rate development activity is in the Supplier's scope.			
13.5.16	The customer web portal shall include single sign-on integration to the City's existing web portal.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.5.17	The Supplier shall interface with the City's customer portal.			

13.6 User Interfaces

Proposer will provide screenshots from the software user interface showing how a system user would view each use case listed in Table 13-6. Include comments on how each of these screens would be accessed.

Table 13-6. User Interface Screen Shots Requested

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.6.1	Disconnect/reconnect management			
13.6.2	Outage report			
13.6.3	Meter read rate performance			
13.6.4	Network equipment issues			
13.6.5	Leak summary			
13.6.6	Alarms/events			
13.6.7	Dashboard-level view of critical system information			
13.6.8	Customer portal screen showing usage history and other customer-relevant information			

13.7 Documentation

Table 13-7 presents an overview of the required documentation for the project execution.

Table 13-7. Required Documentation for Project Execution

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
13.7.1	The Supplier shall provide a Microsoft Visio system diagram of the plan, from head-end system to field devices. An "as-built" update of this diagram will be required before project closure.			
13.7.2	The Supplier shall provide a list of all documentation submitted to the City during the project and as a part of training.			

14 CUSTOMER IT SYSTEMS INTEGRATION

Table 14-1 presents a summary of the IT system integration requirements.

Table 14-1. Customer IT System Integration Requirements Summary

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
14.1	The Supplier shall provide the appropriate software integration to automatically transfer appropriate data to and from the billing and CIS. The City's CIS is a Tyler ERP Pro system. All licenses required to use the Supplier-provided integration software will be provided to the City by the Supplier.			
14.2	The Supplier shall provide the appropriate software integration to implement any other functionality described herein.			
14.3	The system must interface with the City's Tyler ERP Pro System to provide an equivalent set of billing inputs to Tyler ERP Pro with minimal disruption to existing City processes. **This is a mandatory requirement.** Describe in detail how this integration will be achieved.			
14.4	The Supplier will be responsible for integrating their installation contractors Work Order Management System (WOMS) with the City's CIS System for meter exchanges with minimal disruption to existing City processes. This integration is only for the field deployment phase of the project. **This is a mandatory requirement.** Describe in detail how this integration will be achieved.			
14.5	The existing City metering and billing process flow is shown in Figure 1-3, and the anticipated flow during and after this project is shown in Figure 1-4. The Proposer shall describe how 1) its WOMS fits into this plan, 2) individual installations are managed, and 3) the data flows back to the AMI head-end system and the City's Tyler ERP Pro System.			
14.6	The existing Tyler ERP Pro System must remain fully functional during the rollout. Describe how the Proposer will support this need and ensure a smooth transition to full AMI billing operations with meters being removed and replaced daily.			
14.7	The Supplier will provide an integration to the City's Customer Portal (Tyler ERP Pro Smart Meter Access).			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
14.8	The Supplier will provide an integration of lat/lon data gathered by the meter installer into the Tyler ERP Pro system or other geolocation system of record chosen by the City.			
14.9	Proposer to include any recommended integrations for Distribution Automation and SCADA capabilities.			

15 SECURITY

The Supplier must ensure that all devices within the managed services platform, network equipment, meters, and other field-deployed equipment are sufficiently protected from malicious attacks and unintended cyber and physical events that threaten the core purpose of the service. Specifically, the system must:

- Ensure sufficient information availability regarding a security-related event.
- Ensure confidentiality of the information regarding security services.
- Prevent a security incident from compromising the safety of personnel or stakeholders.
- Avoid the AMI platform or meters from being exploited as a "stepping stone" or conduit for attacks on end-users, external service providers (e.g., cell phone networks), or any other interconnected entity.
- Provide adequate evidence to support confidence and trust in the process, including the accuracy of billing statements.

Minimizing the likelihood of material loss to the City and its stakeholders must also be addressed in the context of Supplier responsibilities and accountabilities. Examples of such considerations include loss of trust/reputation, theft of money or services, "gaming" (or modifying, deleting, or otherwise altering information), privacy violations, hijacking control of a neighbor's equipment, and physical tampering, among other considerations.

Table 15-1 presents an overview of the system security requirements.

Table 15-1. Security System Requirements Overview

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
15.1	The entire network shall have an overall security scheme from the AMI head-end system through meters and other field devices. Please describe this scheme.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
15.2	Over-the-air security is required for all system components, including head-end, network components, backhaul communications, meters, and field devices (handhelds, etc.). Please describe the encryption method, key management process, related functions, and applicable standards for each system and device. While NERC CIP compliance is not currently a City requirement, the City would like security across the system to be NERC CIP compliant. Describe the level of such compliance provided.			
15.3	Security is required for public-facing applications, such as customer usage/profile data. Please describe the encryption method, key management process, related functions, and applicable standards for each system and device.			
15.4	For any other devices such as thermostats, streetlights, etc. included in the proposal, security is required. Please describe for each system and device the encryption method used, key management process, and any other related functions and any applicable standards.			
15.5	Is a security maintenance program in place? If so, describe the frequency of key updates, password updates, etc. Describe actions the City must take to maintain security, such as staff password management, customer portal account password management, etc.			
15.6	Describe third-party penetration testing performed on the system hardware, firmware, and software included in your proposal. Please state, when completed, any critical findings and frequency at which such testing is repeated. Also, describe how this testing was conducted and how often it is repeated.			
15.7	If a security event is detected, a process must exist to notify the City and support any customer questions/concerns. Describe this process.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
15.8	Has a security issue forced a component or system update in the past 12 months? If yes, describe that incident and the response.			
15.9	For managed services, please detail the location of servers, backup systems, and associated security plans—cyber and physical.			
15.10	Role-based security must be implemented to allow the City to restrict functionalities to various levels of its personnel to prevent unauthorized activities. An example of this is the water meter disconnect. This ability and other such critical functions must be able to be restricted by City-defined roles.			

16 SYSTEM PERFORMANCE

Table 16-1 presents system performance requirements.

Table 16-1. System Performance

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
General				
16.1	Excluding planned outages for maintenance, system operational availability shall be 99.9%.			
16.2	Describe all occurrences that could cause communications degradation and affect required read success rates and the percentage of bandwidth loss expected for each occurrence. This includes environmental issues such as rain, seasonal foliage changes, etc.			
16.3	The hosted AMI network shall be monitored for performance, with regular reports to the City of read success and other critical KPIs. Describe monitoring and reporting of the AMI network performance.			
Billing Demand Reads				
16.4	Loss of any previous demand and consumption registers for demand meters shall be 0%. This may be achieved by retries that read previous demand registers if needed but no loss of demand data shall occur. Describe your electric meter demand reset and read process that ensures this level of performance. This requirement also applies to any meters that are configured for TOU with demand.			
Register and Load Profile (LP Interval) Reads				
16.5	Ninety-eight percent of electric and water LP data shall be read daily and be available by 1 AM. This is required for intervals as short as 5 minutes for all meters.			
16.6	A retry strategy shall automatically collect missing reads, ensuring 100% of register and LP data for any given day are read within 3 days.			
On Request Reads				

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
16.7	On-request reads from the head-end system for any metered or status quantity from any electric meters shall succeed in 10 seconds or less for 98% of attempts.			
16.8	For water meters, on-request reads shall succeed in 15 seconds or less for 98% of attempts. Describe the on-request read mechanics for water—values in real-time from the meter or last read value stored in a data concentrator or some other device.			
16.9	Low payload responses minimally including meter pings shall respond in 2 seconds or less 98% of the time.			
Disconnect / Reconnect				
16.10	Electric meter disconnect and reconnect requests shall occur after initiation with confirmation received within 30 seconds for 99% of requests. Any disconnect request must also return the current register read.			
16.11	Water meter disconnect and reconnect requests shall occur after initiation, with confirmation received within 1 minute for 99% of requests. Any disconnect request must also return the current register read.			
Outage/Restoration Information				
16.12	Individual electric meter outage and/or restoration shall be reported to the head-end system and viewable on the UI within 1 minute for 99% of occurrences.			
16.13	Outages and/or restorations including 200 meters or less shall all be reported to the head-end system and viewable on the UI within 1 minute for 99% of the affected meters.			
16.14	Large scale outages and/or restorations including up to the entire the City electric meter population shall be reported to the head-end system and viewable on the UI within 5 minutes for 99% of the affected meters.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
16.15	Text messages and emails sent as part of the outage and restoration information system shall be initiated within 1 minute of the head-end system receiving the related notification.			
Over the Air Firmware Updates				
16.16	Field devices shall continue their normal operation during a firmware update. Once the new firmware image has been completely received, the system shall include the ability for the City to switch to the new image on an individual device or group of devices. The download should take no more than 1 day per device, 2 weeks for all devices, and the switch should take less than 5 minutes.			
System Scalability				
16.17	System must be scalable to continue to satisfy the City's future needs throughout the managed services contract period. While no DA devices are planned to this point in the project, support for DA devices identified by proposer in numbers typical for a utility the size of the City must be supported in the future without degrading any of the system functionality implemented. Provide confirmation the proposed system meets this requirement and provide the assumptions made including number of DA devices assumed, type of devices and network bandwidth requirements for each.			

17 FIELD INSTALLATION AND WORK ORDER MANAGEMENT SYSTEM

Field installation is a mandatory requirement. Proposals that do not include installation will be disqualified.

17.1 General

Table 17-1 presents the General requirements for the project.

Table 17-1. General Project Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.1.1	Identify and describe the Proposer's prior experience with the planned installation subcontractor.			
17.1.2	Identify and explain any constraints or preferences the Proposer has regarding the order of installation of field devices (e.g., electric meters before water meters).			
17.1.3	The City will supply a list of VIPs to the Supplier's installer. Also, there are no medical disconnects. The installer will consider these items when scheduling appointments and managing customers.			
17.1.4	Describe the personal protective equipment used by installers. Also, describe field practices and the safety processes to ensure equipment is maintained, checked, and adequate for safe usage.			
17.1.5	The Proposer shall discuss how a temporary installer stand-down requested by the City would be implemented and include pricing in the supplied Pricing sheet. The City reserves the right to issue a stand down at no cost due to excessive or significant safety violations.			
17.1.6	The City will supply fenced storage and limited offsite office space for the Supplier's installation subcontractor. Describe the installer's needs in this area.			
17.1.7	The Supplier shall ensure that its installation subcontractor is provided with all training and documentation related to the Supplier's products			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	needed to execute safe, high-quality installations of all devices.			
17.1.8	The Supplier or its subcontractor will supply all required field installation tools, including handhelds.			
17.1.9	Supplier will be responsible for resealing meters. Required seals and rings to be supplied by the City.			
17.1.10	The Supplier and its installation subcontractor shall use handhelds capable of scanning meter/module bar codes, and the WOMS must include processes that ensure that the bar code of the installed meter/module is scanned post-installation such that the data exported to the City's billing system is ensured to contain the correct meter to customer correlation. For water meters, this process must also ensure proper correlation of the meter module serial number to the water meter body serial number.			
17.1.11	The City's water account billing is organized into five billing cycle periods with fourteen manual reading routes. The Supplier must work with the City to develop a strategy to avoid billing interference during installation. This may or may not require a billing blackout window. The Proposer shall provide its initial input to this approach as a part of their proposal.			
17.1.12	Handheld devices must be secure. Describe the security features enabled in installer handhelds.			
17.1.13	Installers shall use a mobile work-order management system to manage the meter deployment.			
17.1.14	The Installer WOMS system must retain access to all installation-related documentation (pictures, notes, account information, etc.) for 3 months after the conclusion of the deployment.			
17.1.15	Describe the integration process for establishing data exchange between the proposed WOMS system and the City's CIS system and ensuring these systems stay synchronized throughout the deployment process.			
17.1.16	The Proposer should describe the premise data that the City will need to provide per premise for use by the installer.			
17.1.17	The Proposer shall discuss how changes to the City's metering system data, such as new accounts, are			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	communicated to the Supplier so they can update their Workorder systems during the project.			
17.1.18	The Proposer shall describe all meter programming data requirements the City must supply.			
17.1.19	The Proposer shall include in the supplied pricing sheet the pricing for the appropriate number of City-owned handheld devices required for the meter population in this RFP for future meter programming and troubleshooting required by City field personnel.			
17.1.20	Describe in detail the field and material management processes, including: • Receipt inspection. • New installer onboarding/training so the installer can install independently. • Safe driver training and instruction. • Material issuance to installers. • Inventory control and periodic true-up. • Return material authorization. • Return to utility process—number of attempts, etc.			
17.1.21	Describe the proposed due diligence process to ensure accounts that are not exchanged upon the initial site visit (e.g. Can't Complete) are systematically processed to maximize installation success rate. Please include: • Number of site visits (minimum of 2) • Number of calls for scheduling appointments including number of after-hours calls (minimum of 3 calls with one being after-hours) • Proposed sequence of visits and calls including duration between events			
17.1.22	The installer must capture GPS coordinates for all field-installed devices and meters, upload them to the head-end system, and make them available for the outage visualization portal. Lat/Lon in decimal degrees is preferred, with a six-decimal place resolution collected at the point of the physical meter with accuracy dependent on the device used for collection. Sub-meter accuracy is not a requirement. Proposer to specify delivered accuracy			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	at the point of the meter. Preferred accuracy is within 2 meters of the physical meter.			
17.1.23	The Supplier shall submit all proposed attachments to City-owned infrastructure for prior approval.			
17.1.24	The Supplier's installer shall provide pricing in the supplied pricing sheet for meter box remediation, including: • Leaks upon arrival (notify the City). • Meter box damage. • Box too low or high. • Tree root intrusion. • Apparent tampering (notify the City). • Safety concerns. • Sites requiring repairs. • Obstructed meters. • Damaged electric service entrance			
17.1.25	The City desires that the installation portion of this project be turnkey to the extent possible. As such, the Proposer should include pricing in the supplied pricing sheet and other blocking conditions that the installer has encountered in other projects.			
17.1.26	The Supplier will provide pricing in the supplied pricing sheet for replacement lids and meter boxes to repair damaged units encountered during deployment. The City will provide the purchasing standard for these items.			
17.1.27	The Supplier will provide pricing in the supplied pricing sheet for remedying meter boxes substantially below or above grade.			
17.1.28	The Supplier will provide pricing in the supplied pricing sheet for remediation of any as-found damage/deficiencies in plumbing connections including materials.			
17.1.29	The Supplier will provide pricing in the supplied pricing sheet for remediation of meter yokes or risers that are encountered in need of repair. Bidder to provide replacement materials.			
17.1.30	Standard working hours for installation activities are Monday-Friday, 7 AM to 4 PM (last install). Fieldwork outside these hours, including weekends, must have prior approval from the City.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	While not preferred, weekend work can be supported if needed to remediate the project schedule.			
17.1.31	The Supplier to describe its Quality Assurance (QA) field installation audit process. Provide details demonstrating that audits are conducted by an independent auditor (prevent self-audit), randomization such that all installers are periodically audited, target audit percentages (% of installs) throughout the deployment period, and typical items that are audited as part of the process.			

17.2 Return Material Authorization (RMA) Process

Table 17-2 presents the return material authorization (RMA) process requirements.

Table 17-2. RMA Process Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.2.1	Describe the RMA process used during installation and afterward by the City. Describe the process for products under and out of warranty. Include each type of device provided by the Proposer.			
17.2.2	Describe the level of root cause analysis provided with each RMA returned to the City.			
17.2.3	Describe the historical RMA turnaround times for each device type proposed for this project.			

17.3 Call Center

Table 17-3 presents the call center requirements to support installation activity during the deployment period.

Table 17-3. Call Center

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.3.1	Describe the call center process to be used during installation for appointment scheduling. This includes appointment scheduling from customer call-ins as well as call center staff pro-actively calling customers to setup appointments.			
17.3.2	Describe the customer complaint resolution from the initial call to the final issue resolution.			
17.3.3	Describe how this call center will be integrated with the City's call processes. Describe the ability to access call center records, including notes taken at calls.			
17.3.4	Describe hours of call center operation and support for after-hour calls (5 PM to 8 PM).			
17.3.5	Describe and provide any scripted responses used by the call center.			
17.3.6	Describe the call center recording process for recording calls between representatives and customers.			
17.3.7	Describe the call center issue escalation process.			
17.3.8	Describe your customer notification and scheduling process and the call center's role.			
17.3.9	Describe all planned door hanger notifications, their placement time, and their content.			
17.3.10	Describe all planned customer notification letters, the time they were sent, and their content.			
17.3.11	Call center personnel should have visibility into the WOMS field scheduling for informed customer discussions.			
17.3.12	Describe all call center audits and processes for corrective measures.			

17.4 Scrap Material

All scrap meters shall be handled by the Supplier and processed on a mutually agreed periodic basis. The Supplier's installer WOMS system will provide searchable access to adequate photos suitable for validating reads gathered as part of the installation process and will provide all such data for up to 3 months after deployment. This will allow the City ample time to settle billing disputes and allow for the immediate disposal of legacy scrap meters.

Table 17-4 presents the summary of scrap material requirements.

Table 17-4. Scrap Materials

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.4.1	The Supplier will process all scrap meters and City-owned scrap materials (electric meters, water meters, water modules) on a mutually agreeable periodic basis. The City does not have a retention requirement for legacy meters prior to disposal. Picture documentation will be utilized to address any customer questions.			
17.4.2	All disposal permitting (including for batteries) is the Supplier's responsibility.			
17.4.3	The Supplier will provide an option for disposing of water and electric meters for a set administrative fee while providing remaining credits to the City for acceptable scrap value of materials. Credits would be offset from outstanding invoices.			

17.5 Personnel

Table 17-5 presents the project personnel requirements.

Table 17-5. Project Personnel Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.5.1	The Supplier will be responsible for the complete training of their installation contractor personnel. Describe that training, including safety and QA aspects. Describe the incremental qualifications required for transformer rated electric installers, larger commercial or compound water meters.			
17.5.2	Describe the field supervision structure envisioned for the installation phase of this project.			
17.5.3	The Supplier's installation subcontractor personnel must wear a picture identification badge that is visible to customers. Describe this badging process.			
17.5.4	The Supplier's installation subcontractor personnel must be uniformly dressed and drive vehicles easily identifiable with the company name and logo. Describe how this will be implemented. Project-			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	specific signage must be reviewed and approved by the City.			
17.5.5	Describe the installation subcontractor background and drug testing processes.			
17.5.6	The City shall have the right to deny installers access to City property and request their removal from the project for any reason.			
17.5.7	The Supplier's installation subcontractor personnel must be fluent in the English language.			

17.6 Safety and Environmental

Table 17-6 presents the Safety and Environmental requirements.

Table 17-6. Safety and Environmental Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.6.1	The safety of the City's customers, employees, and subcontractors is paramount. Personnel safety only supersedes environmental protection as a City concern. The City expects all Supplier and/or subcontract personnel on City property to observe the City's safety and environmental processes and all applicable state and federal rules and regulations.			
17.6.2	The Supplier's installation subcontractor shall have a documented safety training program to which all installers must adhere. Provide this document if a subcontractor has been selected.			
17.6.3	All safety issues or accidents during installation must be reported to pre-established/agreed City staff and organizations immediately. Provide this proposed process.			
17.6.4	The Supplier must provide the required safety training to all installers. The installer/Supplier shall provide OSHA 300 reporting. Training shall include, at a minimum, electrical and arc flash hazards.			
17.6.5	Describe your overall safety program, including training, protective gear/PPE issuance and maintenance, audits, reporting, etc.			
17.6.6	Describe your safety driving training program (e.g., Smith Driving or equivalent).			

17.7 AMI Electric Meters

Table 17-7 presents AMI Electric Meter requirements during the deployment.

Table 17-7. AMI Electric Meters Requirements

Req'mnt #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.7.1	The Supplier's installation subcontractor shall follow a process to ensure electric AMI meters are readable from the head-end system post-installation before invoicing.			
17.7.2	The City has some net-metered customers now and expects more to be added. These customers will have a meter that is configured to read delivered and received energy. It is anticipated that all AMI electric meters will have the ability to meter delivered and received energy. How will any net-metered customers be identified to the installer such that delivered and received energy is delivered to the head-end and made available for billing? Proposer to describe process.			
17.7.3	Supplier shall be responsible for defining logistics and managing meter base repairs (e.g., meter box, lid, internal components, overhead service line, or other condition requiring repair). Supplier shall utilize a licensed local electrician to ensure that all work is completed to the City's standards.			

17.8 AMI Water Meters

Table 17-8 presents AMI water meter requirements during the deployment.

Table 17-8. AMI Water Meters Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.8.1	The Supplier's installation subcontractor shall follow a process to ensure water AMI meters are readable from the head-end system post-installation before invoicing.			
17.8.2	The Supplier shall be responsible for defining logistics and managing all plumbing repairs encountered during installation (e.g., valves, broken pipes, etc.,) including materials. The Supplier shall use a locally licensed plumber to ensure all work is completed to the City's standards. Pricing for repairs shall be included in the supplied pricing sheet.			

17.9 Network

Table 17-9 presents AMI non-metering device requirements during the deployment.

Table 17-9. Non-Metering Network Device Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.9.1	The Supplier's installation subcontractor shall follow a process to ensure all non-metering network devices communicate with the head-end system post-installation before invoicing.			

17.10 Photos

Table 17-10 presents the requirements for photos during the installation process.

Table 17-10. Photo-Documentation Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
17.10.1	The installation subcontractor shall obtain before and after photos of all meters. The photos must include clear views of the meter register reading and serial number.			
17.10.2	The Proposer shall describe the file naming convention and process for capturing and storing these photos. All photos and other site data will be provided to the City via mutually agreeable secure media at the end of the project. They shall be			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	easily searchable and tied to an agreed account reference/key. The City shall have access to site photos during the rollout within 2 days of each installation.			
17.10.3	All photos will be date and time-stamped and geotagged.			
17.10.4	The installer will purge all City-specific data, including photos from its system and handhelds after the archive is delivered at the end of the project.			

18 ACCEPTANCE TESTING

Table 18-1 presents the acceptance testing requirements.

Table 18-1. Acceptance Testing Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
18.1	The Supplier will submit a functional acceptance test plan to allow the City to verify the functionality defined in this specification, including integrations to City systems as specified herein.			
18.2	The meter system test fixture (defined previously) will be used to support functional acceptance testing. As such, the Supplier should ensure this board is populated with all devices needed to test the system fully.			
18.3	If special test equipment is needed to exercise a system function, the Supplier shall loan such devices to the City for the test duration.			
18.4	Functional acceptance testing will be performed successfully before deploying field hardware.			
18.5	The City intends that meters configured to their requirements, including nameplates, be tested as a part of the functional acceptance testing. The Supplier must ensure meters meeting City requirements are populated on the meter system test fixture.			
18.6	The Supplier will submit a final acceptance test plan to allow the City to verify the functionality defined in this specification, including integrations to City systems as specified herein, with most field meters deployed.			
18.7	Final system acceptance testing (SAT) will be conducted when 95% or more field meters are deployed. The test shall confirm the system's operational readiness and resolve any outstanding issues from the functional acceptance testing.			
18.8	As the pricing section notes, system payments are governed by passing the initial and final acceptance testing. Mutually agreed-upon percentage completions govern field device and installation costs.			

19 TRAINING

Table 19-1 presents the project training requirements.

Table 19-1. Training Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
19.1	Please list all applicable training courses to be provided on-site, via the Internet and off-site locations. Also, list refresher training(s) and the number of trainees permitted. All training must be comprehensive enough to ensure City staff can effectively install all products offered and operate all systems and software. Topics that must be covered in the training include, but are not limited to, the following: • Meter installation. • Meter troubleshooting. • Meter configuration. • Handheld usage. • Network components. • An overview of the AMI product and head-end software. • System operations and troubleshooting, including interactions among endpoints and network devices, network devices, and the AMI head-end, as well as interaction between the AMI head-end and other system components such as MDM Lite, OMS, and customer portal. • Identification, management, and resolution of events and alarms. • Customer portal administration. • Tyler ERP Pro system integration usage.			
19.2	Provide a typical training schedule that contains lessons, suggested attendees, and durations.			
19.3	The number of trainees allowed for any or all types of training must be clearly defined in the Proposer's responses. Provide a training plan which outlines the requirements listed above. The plan should include facilities and/or resources required.			
19.4	At the end of training, maintenance personnel will understand proper installation and maintenance procedures, as well as the use of the AMI head-end software system.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
19.5	Describe the training materials to be provided for each course.			
19.6	Describe the availability of refresher training and future training for new employees.			

20 CONTRACTUAL OBLIGATIONS AND WARRANTIES

Table 20-1 summarizes the contractual obligations and warranty requirements.

Table 20-1. Contractual Obligations and Warranty Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
20.1	Water meter/module water ingress failures are critical problems. The Proposer should identify any projects where they have experienced water meter/module failure that resulted from water ingress. Describe the situation(s) in detail, including how the issue was resolved for each project and how the product was modified due to this issue.			
20.2	Proposer to provide historical annualized hardware failure rates over the last 3 years for the 2S electric meter being proposed. Failure rate = (failed meters that were produced in year x)/ (total meters produced in year x). If you cannot provide the exact answer, is the rate less than 1%?			
20.3	If the electric meters use a separately manufactured communication module, Proposer to provide historical annualized hardware failure rates over the last 3 years for the communication module used in the proposed electric meters. Failure rate = (failed modules that were produced in year x)/ (total modules produced in year x). If you cannot provide the exact answer, is the rate less than 1%?			
20.4	The Proposer will provide historical annualized hardware failure rates over the last 3 years for the proposed residential water meter modules. Failure rate = (failed modules produced in year x)/ (total modules produced in year x). If you cannot provide the exact answer, is the rate less than 1%?			
20.5	The Proposer will provide historical annualized hardware failure rates over the last 3 years for proposed collection points and network communication equipment. Failure rate = (failed units produced in year x)/ (total units produced in year x). If you cannot provide the exact answer, is the rate less than 1%?			
20.6	Supplier shall provide a 5-year warranty on electric meters beginning at completion of installation.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
20.7	The Supplier shall provide a 20-year warranty on battery-powered devices such as water meter modules. Any warranty replacements under this warranty shall not involve wire splicing.			
20.8	The Supplier shall guarantee all system components are supported through the expected 10-year term of the managed services agreement.			
20.9	The Supplier shall guarantee all system components are backward compatible for up to 15 years.			
20.10	Proposer shall state terms and costs for optional extended warranties for each category of field-installed equipment in the supplied pricing worksheet.			
20.11	The Supplier shall be responsible for broad-based device failures exceeding 5% of any installed device category in a rolling 12-month period. The remedy shall be the complete replacement of all potentially affected devices, including field in/out costs for the affected population.			
20.12	Provide a detailed list of all subcontractors planned to service this implementation.			
20.13	The Proposer will describe what post-contract mobilization and end-of-project demobilization efforts look like.			
20.14	The Supplier will obtain any required FCC radio licenses on behalf of the City, which will be valid for 20 years. License pricing will be reflected in the base price or the monthly managed services fee.			
20.15	The Supplier will obtain all required sub-supplier software licenses on behalf of the City, which will be integrated with the pricing shown for their products.			
20.16	Any materials delivered to the City as a part of this project will be contracted as Freight on Board the City delivery point.			
20.17	The City reserves the right to sample test any lot shipment received.			
20.18	The data must always reside inside the United States for all systems and services provided.			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
20.19	The AMI system shall not be interfered with by any other RF signals related to commonly deployed FCC-compliant technology (i.e., home electronics and home RF devices, such as wi-fi, appliances, cellular telecommunications devices, etc.). Resolution of such interference is 100% the Supplier's responsibility throughout the anticipated 10-year term of a managed services agreement.			
20.20	The Proposer shall provide a draft contract for deployment/managed services—a full unexecuted copy of a standard managed services and/or deployment contract. Please note that this requirement does not imply acceptance of any Proposer wording.			

21 SCHEDULE

Table 21-1 defines the Proposer requirements for the project schedule.

Table 21-1. Project Schedule Requirements

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
21.1	The Proposer will provide a project plan, including an initial schedule showing relevant milestones and the City's initial planning elements, as shown in Table 21-2 and in line with the overall timeframes presented in Section 2.2. The Proposer's installation subcontractor and City staffing requirements should be identified in the schedule based on resource count and skill set.			
21.2	The project schedule will be refined with the selected Supplier as a part of contract negotiation.			

Table 21-2 defines the City's broad schedule plan for input to the Proposer's proposed project plan.

Table 21-2. Wauchula Conceptual Schedule Elements

Project Phase	Anticipated Activities
Kick-off meeting	• Contract deliverables review. • Overall project plan. • Communications plan. • Deployment plan. • Additional information requirements. • Review proposed KPI and metrics for deployment success. • Training plan. • Safety plan.
Meter system test fixture development	• System test fixture design. • System test fixture construction. • System test fixture usage in testing, training, SAT, and customer education.
System test planning	• Functional System Acceptance Test (FSAT) plan. • Final System Acceptance Test (SAT) plan.
Material logistics	• Discuss shipping and receipt plan. • Discuss the RMA process.

Project Phase	Anticipated Activities
Customer engagement, stakeholder outreach, and education	• Town hall or public meeting materials. • Communications strategy and execution. • Collateral to address negative perceptions of AMI (e.g., privacy invasion). • The City (internal) touchpoints to ensure buy-in from across all staff that the new platform will impact. • Other change management tactics and strategies deemed appropriate.
Hardware specification and meter configuration	• Discuss configuration option decisions to be made by the City, including all meter labeling and configuration issues.
Systems integration	• Installation of meters and other hardware elements and integration of all proposed software with the City's existing platforms, with full testing of all critical functions (e.g., monthly billing) in preparation for acceptance testing. • Acceptance testing (initial and final) as described above in this RFP.
Managed services administration	• Administer all software and maintain reliable points of contact for City inquiries. • Other managed services offerings as defined herein (i.e., ad hoc services or analytics) or via the Supplier's suite of services.

22 SUPPORT SERVICES

Table 22-1 lists the support service requirements.

Table 22-1. Support Services

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
22.1	The Supplier will provide adequate project support personnel for the project's duration, including a project manager (PM). The Proposer will describe the proposed organizational structure, identify individuals involved, and provide resumes and industry background information for those individuals. Proposer to describe anticipated on-site durations for their PM for various project phases. Please note that the City expects a significant PM presence on-site during FSAT. The City shall have the ability to approve the project manager and/or suggest a new project manager if required.			
22.2	The Supplier and/or its installation subcontractor are responsible for all files imported into the head-end system to allow the system to recognize and register meters as they are installed. Training for the City must include managing this process before and after project completion.			
22.3	The Supplier will support the City in redesigning business processes and define required/no longer required employee roles that can be repurposed related to the AMI program. The Proposer shall describe typical levels of engagement and support in this area.			
22.4	Several system integrations are required to be provided by the Supplier, as described in Section 14. The Proposer will include pricing for			

Rqmt. #	Requirement Description	Comply		Comments / Clarifications
		YES	NO	
	these services in its AMI proposal in the supplied pricing sheet.			
22.5	The Supplier will provide adequate support should emergency conditions occur during field deployment (e.g., hurricane). The Proposer shall provide details on emergency response operations to maintain the City's business continuity.			

23 PRICING

It is anticipated that the City will have very little growth during the 10-year term of the managed services contract—likely less than 30 percent, with an anticipated annual growth rate of 2%. All escalations in monthly service charges related to this growth must be clearly stated in the tables in this section.

All quoted prices must be provided in the supplied pricing worksheet and shall remain valid for a period of at least 6 months until finalized and governed by contractual terms. All requested options must be priced independently. The remaining subsections in this section include supplemental information that may aid in providing the requested pricing.

23.1 One-Time Pricing

23.1.1 AMI Software Integration

The Proposer will provide all associated professional services and related one-time fees for AMI software integration. Integrations should include:

- Basic billing integration with Tyler ERP Pro for monthly billing reads.
- Integration with the meter installer WOMS allowing daily meter changeouts in the Tyler ERP Pro system during the rollout. This integration will be temporary and only used during the field rollout.
- Integration of lat/lon data gathered by the meter installer into the Tyler ERP Pro system or other geolocation system of record chosen by the City.
- City intends to continue using Tyler ERP Pro Smart Meter Access customer portal but would like pricing on Proposer customer portal for evaluation.
- Proposer to include any recommended integrations for Distribution Automation and SCADA capabilities.

The Proposer will hold workshops with the City and Tyler to scope these integrations as needed. The City will be responsible for integration costs from Tyler, but the Proposer is responsible for its integration costs. **It is an absolute requirement that these integrations must be completed and tested as part of FSAT.**

The FSAT plan development is the Proposer's responsibility and will be reviewed by the City with resulting updates by the Proposer. This FSAT must functionally test all the capabilities identified in this RFP and all integrations developed by the Proposer. As previously noted, the Proposer must develop functional specifications for these integrations in collaboration with the City. Costs for this activity must be included in the integration costs (see below).

23.1.2 Infrastructure and Installation (Meters, Repeaters, Communications Hardware)

The Proposer shall provide one-time pricing for infrastructure and installation (meters, communications hardware). The City wants to evaluate positive displacement and non-displacement meters (e.g., electromagnetic, ultrasonic). The pricing sheet contains sections for each meter type. The quantities provided are based on a current CIS billing extract. Meter quantities will be updated at the time of placement of a PO with the successful Proposer.

Pricing is also requested for installation of all meters and communication hardware, and all field remediation work as required. These items will be priced as individual options that can be independently evaluated.

23.1.3 Recommended Spare Parts

The Proposer shall provide a recommended list of spare parts (including pricing) that the City should consider having on-site throughout the system's life. This includes all devices provided by the Proposer or their sub-suppliers. Per-unit pricing is assumed to be as shown on the pricing form unless noted otherwise.

23.1.4 Meter System Test Fixture

Proposer shall provide pricing for a furnished meter system test fixture. The test fixture must accommodate one of each type of electric and water meter and non-metering device ordered on the project. Water flow will be provided in both directions to test reverse flow conditions. Electric meter test fixture must include light indicators to support confirmation of certain operations (e.g. connect/disconnect).

23.1.5 Miscellaneous

The Proposer will list one-time pricing for any other services or hardware required to fulfill the RFP's requirements. Please note the inclusion of the stand-down pricing as item 1, absent any other miscellaneous pricing.

All optional ad hoc analytical services that the Proposer can offer the City should be clearly explained with associated incremental pricing if the offered service affects other pricing, such as managed services.

23.2 Recurring Pricing

23.2.1 Annual Managed Service Fees

The Proposer will provide all costs to the City for the managed service, including annual license fees. Proposers are encouraged to provide supportive comments or clarifications on the pricing structure in the spaces provided.

23.2.2 Network Managed Service Fees

The Proposer will provide all costs to the City for managing field-deployed non-metering devices (e.g., communication network devices), including any annual license fees, etc. Proposers are encouraged to provide supportive comments or clarifications on the pricing structure in the spaces provided.

23.3 Extended Warranty Pricing

The Proposer will provide pricing for extending the warranty on field-deployed devices. It is expected that this warranty would be in terms of a year by which this extension must be purchased, for how many years it can be extended, and whether this is a prorated lifetime or a full replacement warranty. All field devices replaced under warranty shall have their warranty period restarted and be warranted for the applicable period for that device (standard or extended). Please include these qualifiers in the Comments/Clarifications column for each entry. The table provided should be completed showing the quantities being proposed for each device with unit pricing as if the City exercises the warranty extension on each device type just before the expiration of the standard warranty or at the date required by the Supplier, as noted above.

24 PROPOSED PAYMENT PLAN

The Proposer shall provide a detailed payment plan with all the pricing information in the supplied pricing worksheet. This proposed plan must consider the following payment plan pricing restrictions from the City.

1. The City will not pay any amount upon contract signature.
2. The City will not pay for any materials not received at their facilities.
3. The City will pay for the meter system test fixture upon delivery.
4. The City will consider a payment after completing the functional acceptance test.
5. The City will make a payment after completing the final acceptance test.
6. The City will make partial payments for installation services based on work completed and meters confirmed as reading.

These payment plans are solicited for the Proposer's proposal only. The actual payment plan will be negotiated as part of the contract negotiations with the successful Proposer.

25 SUPPORTING WAUCHULA INFORMATION

The City-owned properties may be candidates for communication infrastructure siting. The Proposer shall receive a detailed listing of each available asset location that can be used for communication infrastructure take-out points along with relevant information (location, available mounting height, etc.).

25.1 City-Owned Assets

Table 25-1. City-Owned Assets

Name	LAT	LONG	Notes
E Oak Street Water Tower	27.549820	-81.808968	150 ft elevation.
Wildcat Way Water Tower	27.54643	-81.813119	150 ft elevation.
Admin Radio Tower (Police)	27.54508	-81.82064	60 ft - 75 ft elevation

26 METER LOCATION MAPS

Please note that the location data used to create the following figures and maps are not included in this document but will be provided as separate files for Proposer's network design and planning.

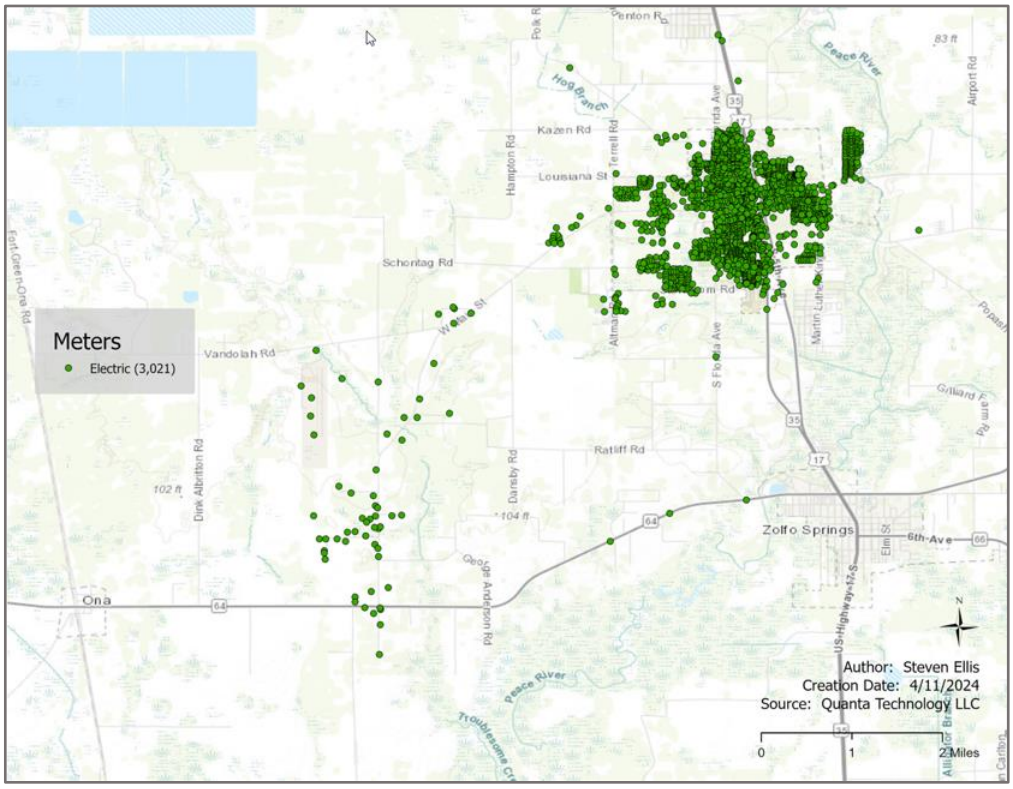


Figure 26-1: Wauchula Electric Meter Locations

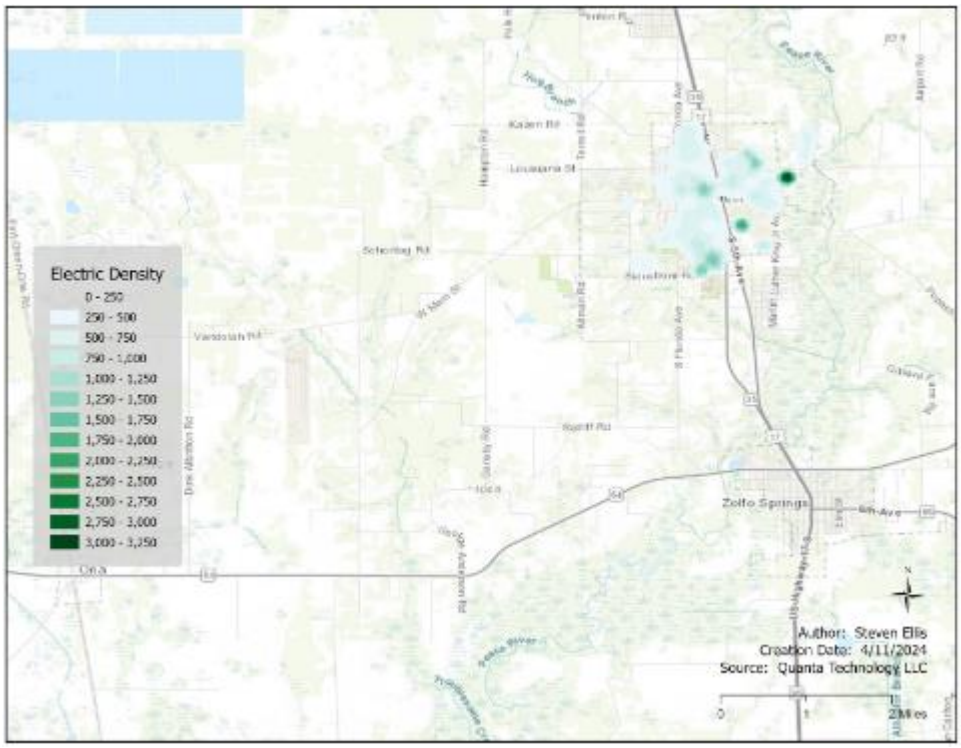


Figure 26-2: Wauchula Electric Meter Density Map

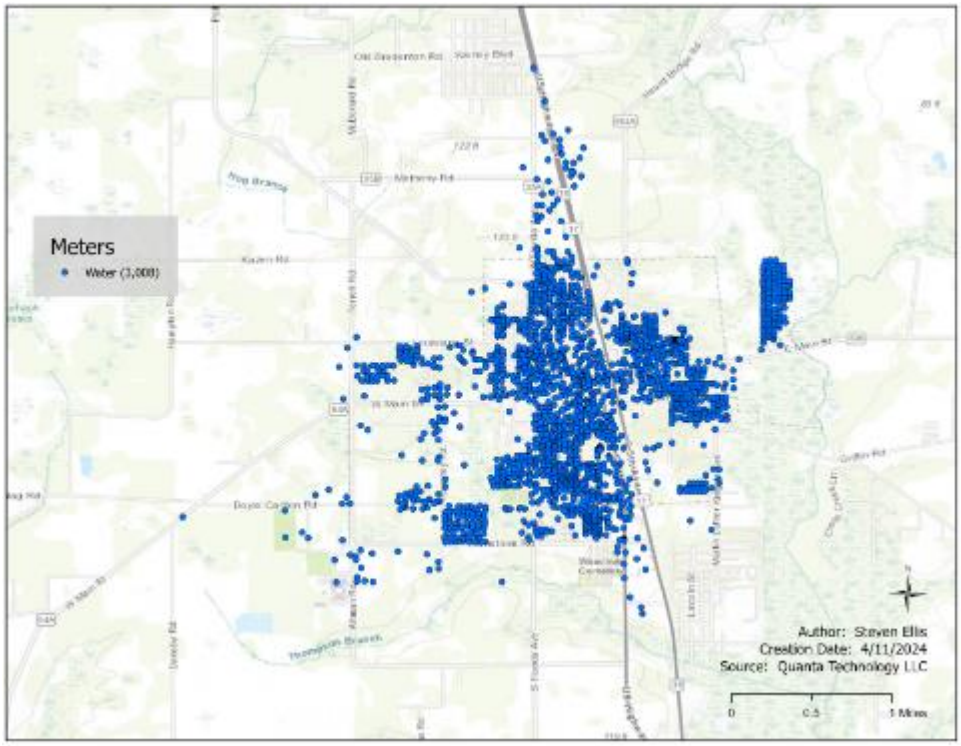


Figure 26-3. Wauchula Water Meter Locations

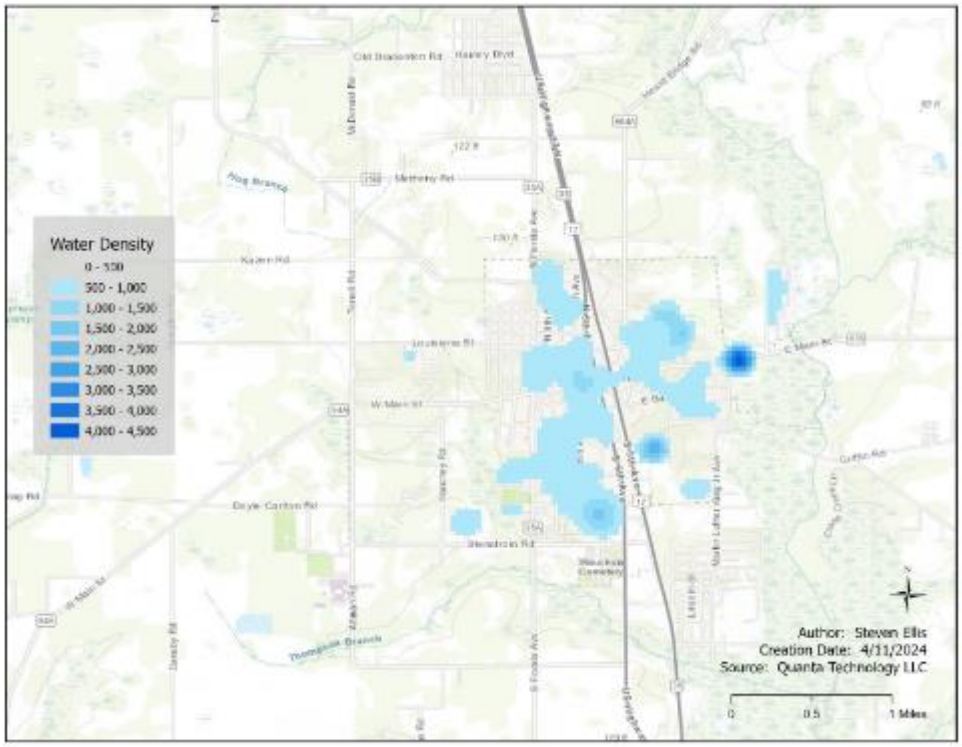


Figure 26-4. Wauchula Water Meter Density Map

The Figure 26-5 below shows electric accounts overlaid on water accounts. Given the majority of the accounts are co-located and only electric is shown. However, single blue dots show water accounts without an electric counterpart.

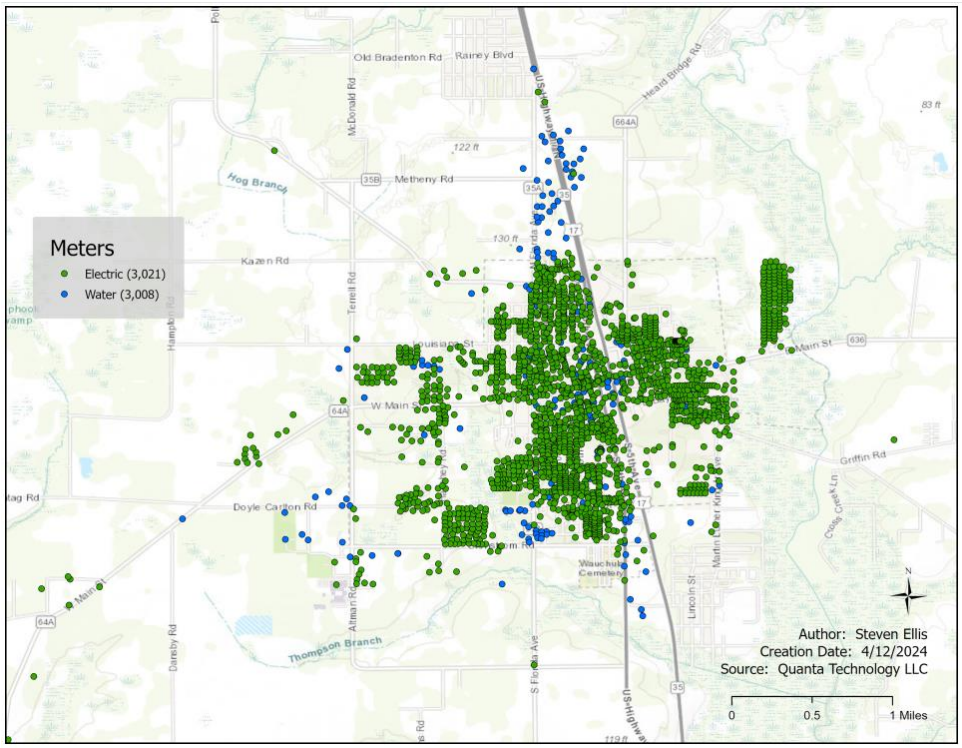


Figure 26-5: Electric Overlaid On Water Accounts

27 OTHER CLARIFICATIONS, ASSUMPTIONS, AND EXCEPTIONS

The Proposer shall include in the supplied proposer response template all other clarifications, assumptions, and/or exceptions made during the completion of their RFP not reflected in previous responses. This includes clarifications, assumptions, and/or exceptions to the accompanying Proposer terms document.