Town of Jerome

A. PROPOSAL

To: Honorable Mayor & Council
600 Clark St.
Jerome, AZ 86331

In compliance with the Advertisement for Bids, by the Town Manager, the undersigned Bidder:

Having carefully examined the bidding documents and being familiar with the conditions to be met, hereby submits the following proposal for furnishing the material, equipment, labor and everything necessary for the completion of the work listed and agrees to execute contract documents and furnish the required Bonds and Certificates of Insurance for the completion of said work, at the locations and for the prices set forth on the BID SCHEDULE.

Understands that procurement of this project shall be in accordance with all applicable Standard Specifications and as otherwise required by the General Provisions and Special Provisions.

Understands that this proposal shall be submitted with a proposal guarantee of cash, certified check, cashier's check or surety bond (in accordance with Title 34, A.R.S.) for an amount not less than ten percent of the total amount bid.

Agrees that upon receipt of Notice of Award from the Town of Jerome, they will enter into contract negotiations and execute the contract documents.

Work shall commence no later than 30 days, after the Notice to Proceed and shall be completed within 180 calendar days, beginning with the day following the starting date specified in the Notice to Proceed. The time allowed for completion of the work includes lead time for obtaining the necessary material and/or equipment. Bidder agrees to pay, as liquidated damages, 2 times the sum as stated in the latest revision of the MAG Specifications. Liquidated Damages shall be based upon the final contract amount.

The Bidder hereby acknowledges receipt of and agrees his proposal is based on the following Addenda. (If there are no addenda, write NONE below).
NONE
_____

_____
_____

The Town of Jerome retains the right to reject any or all proposals and to waive minor defects and technicalities or withhold the award, as may be deemed best for the interest of the Town.

This proposal shall be valid for a period of thirty (30) days after the bid deadline.

THIS PROPOSAL IS SUBMITTED BY <u>Metron Farnier, LLC</u>

_____, a corporation organized under the laws of the State of Arizona, a partnership consisting of <u>Limited Liablity Corporation</u> or individual trading as _____

_____ of the City of _____ and is the holder of Arizona State Contractor's License(s):

Classification(s) _____

No. (s)_ _____

Respectfully Submitted,

<u>Metron Farnier, LLC</u>
Firm

<u>5665 Airport Blvd, Boulder, CO 80301</u>
Address

<u>Matt Kosorok, VP Enterprise Solutions</u>
By (Officer & Title)

<u>November 5, 2025</u>
Date

ATTEST:

_____
(Officer and Title)

_____
Witness (if Bidder is an Individual)

REQUIRED FOR SUBMITTAL

Town of Jerome

B. BID SCHEDULE

Firm Name **Metron Farnier, LLC**

Mailing Address **5665 Airport Blvd**

City **Boulder**   State **Colorado**   Zip **80301**

Telephone **303-449-8833**

PURSUANT to an in compliance with the Bid Package, Notice of Invitation to Bid, Instructions to Bidders, and the Bid Documents relating to the construction of:

**TOWN OF JEROME
ADVANCED AUTOMATIC METERING INFRASTRUCTURE PROGRAM**

This is to certify that the above documents, as well as the site upon which work is to be performed and any and all conditions affecting the work, have been carefully examined, that the amount and nature of work to be accomplished is thoroughly understood and that at no time will misunderstanding of the drawings, specifications or conditions to be overcome be alleged or pled as a basis for change orders, damages or non-performances.

I (We) acknowledge that the following Bid Schedule and table is for the convenience of the Town of Jerome to analyze the individual components of the Bid and to provide a means for partial payments during the project. The sum of the extended unit prices shall be the final price for the product procurement in accordance with the technical specifications. The total price listed on the Bid Schedule shall be the same as listed on the proposal to the Town of Jerome.

BID SCHEDULE INSTRUCTIONS:

1. All Items will be paid for as Lump Sums. The "ENGINEERS ESTIMATED QUANTITY/BID SCHEDULE" and the "CONTRACTORS UNIT PRICE" will be used as a means of computing progress payments and as a basis for any Change Orders incurred.

2. The Owner reserves the right to recalculate the following Schedules if they appear malapportioned.

3. The Lump Sum amounts indicated below are to include the Supplier's cost of administration, mobilization, bonds, insurance, and any other miscellaneous items required for the project.

	Est. Qty	Units	Unit Price	Total Price
BID SCHEDULE Town of Jerome Advanced Automatic Metering Infrastructure Program				
CIVIL BASE BID				
1 ¾ x 5/8" AMR Meter	299		$390.00	$116,610.00
2 1" threaded AMR Meter	17		$585.000	$9,945.00
3 1 ½" flanged AMR Meter	13		$900.00	$11,700.00
4 2" AMR Meter	2		$1,250.00	$2,500.00
5 4" AMR Meter	1		$4,400.00	$4,400.00
6 AMR System Software	1		$0.00	$0.00
7 AMR System Training	1		$0.00	$0.00
8 AMR Data Collection Hardware/Software	1		$0.00	$0.00
9 FCC Registration	1		$0.00	$0.00
SUBTOTAL COSTS – BASE BID				
GRAND TOTAL, BASE BID (This number to be used for the Contractors Bid Bond)		$145,155.00		

GRAND TOTAL – BASE BID (in words)

One hundred and forty-five thousand one hundred and fifty-five dollars

NOTE: All Quantities Shown are approximate and are furnished solely for the contractor's convenience. The quantities provided will be the lump sum that payment will be made on. The individual items are for use by the Town to analyze bids, use as a basis for any supplemental agreements, and for partial progress payments.

REQUIRED FOR SUBMITTAL

INSTALLATION PRICING - SCHEDULE A

Metron
Town of Jerome, Arizona

Installation pricing -Schedule A

	Discription	Qty	Metron Preferred Pricing	
			Each	Subtotal
1	Installation of utility meters – 5/8x3/4"	299	$ 105.00	$ 31,395.00
2	Installation of utility provided meters – 1"	17	$ 105.00	$ 1,785.00
3	Installation of utility provided meters – 1.5" (Flanged)	13	$ 225.00	$ 2,925.00
4	Installation of utility provided meters – 2" (Flanged)	2	$ 225.00	$ 450.00
5	Installation of utility provided meters – 3" (Flanged)	0	$ 375.00	$ -
6	Installation of utility provided meters – 4" (Flanged)	1	$ 450.00	$ 450.00
		Meter Install	Sub-Total	$ 37,005.00
7	Install non-functioning Curb Stop (Dry) (Company provided part)-3/4"	As Needed	$ 65.00	
8	Install non-functioning Curb Stop ((Wet/Live) (Company provided part))-3/4"	As Needed	$ 195.00	
9	Regrade of meter boxes (As Needed or requested – Does not include boxes incased in concrete)	As Needed	$ 20.00	
10	Box Replacement (no charge if box is provided by Town-Does not include boxes incased in concrete)	As Needed	$ 20.00	
11	Pull Box as needed to access meter to safely replace (up to, two boxes deep up to 12" - 24" deep)	As Needed	$ 75.00	
12	Pull Box as needed to access meter for replacement (3 boxes deep or greater 25" or more in depth)	As Needed	$ 150.00	
13	GPS Location (Includes Mapping of meter locations at customers request)		$ 2,500.00	
16	Workflow/Document Management		$ 1,500.00	$ 1,500.00
17	Mobilization		$ 3,500.00	$ 3,500.00
		Total		$ 42,005.00

NOTE: All Quantities Shown are approximate and are furnished solely for the contractor's convenience. The quantities provided will be the lump sum that payment will be made on. The individual items are for use by the Town to analyze bids, use as a basis for any supplemental agreements, and for partial progress payments.

REQUIRED FOR SUBMITTAL

METER AND INSTALLATION COMBINED PRICING - SCHEDULE A+B

Item	Description	Qty	Unit Price	Subtotal
1	¾ x 5/8" AMR Meter	299	$390.00	$116,610.00
2	1" Threaded AMR Meter	17	$585.00	$9,945.00
3	1 ½" Flanged AMR Meter	13	$900.00	$11,700.00
4	2" AMR Meter	2	$1,250.00	$2,500.00
5	4" AMR Meter	1	$4,400.00	$4,400.00
6	AMR System Software	1	$0.00	$0.00
7	AMR System Training	1	$0.00	$0.00
8	AMR Data Collection Hardware/Software	1	$0.00	$0.00
9	FCC Registration	1	$0.00	$0.00
	Materials Subtotal			$145,155.00
	INSTALLATION PRICING – SCHEDULE A			
1	Install 5/8 x 3/4" Meters	299	$105.00	$31,395.00
2	Install 1" Meters (Owner Provided)	17	$105.00	$1,785.00
3	Install 1.5" (Flanged) Meters	3	$225.00	$675.00
4	Install 2" (Flanged) Meters	2	$225.00	$450.00
5	Install 3" (Flanged) Meters	1	$375.00	$375.00
6	Install 4" (Flanged) Meters	1	$450.00	$450.00
7	Install Non-Functioning Curb Stop (Dry) – 3/4"	As Needed	$65.00	—
8	Install Non-Functioning Curb Stop (Wet/Live) – 3/4"	As Needed	$195.00	—
9	Regrade Meter Boxes	As Needed	$20.00	—
10	Box Replacement (Town Provided)	As Needed	$100.00	—
11	Pull Box – Meter Replacement (Up to 24" depth)	As Needed	$75.00	—
12	Pull Box – Meter Replacement (3'+ depth)	As Needed	$150.00	—
13	GPS Location & Mapping			$2,500.00
14	Workflow / Document Management			$1,500.00
15	Mobilization			$3,500.00
	Installation Subtotal			$42,005.00
	TOTAL PROJECT BID			$187,160.00

REQUIRED FOR SUBMITTAL

C. NON-COLLUSION CERTIFICATE

ADVANCED AUTOMATIC METERING INFRASTRUCTURE PROGRAM

Company Name: __Metron Farnier, LLC__

The undersigned Vendor hereby certifies as follows:

To the best of his/her knowledge, the person, vendor, association, partnership, or corporation herein has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive pricing in the preparation and submission of a bid to the Town of Jerome for consideration in the award of this solicitation.

Dated this __5th__ day of __November__ 2025.

_____
Signature

__Matt Kosorok, VP Enterprise Solutions__
Written Name

__303-449-8833__
Phone Number

__Matt.Kosorok@metron-us.com__
Email Address

REQUIRED FOR SUBMITTAL

E. VENDOR QUALIFICATIONS, REPRESENTATIONS, AND WARRANTIES

ADVANCED AUTOMATIC METERING INFRASTRUCTURE PROGRAM

Company Name: __Metron Farnier, LLC_____

The undersigned Vendor hereby certifies as follows:

X1   Taxes and Leins – Vendor has no unsatisfied tax or judgement lien on record.

X2   Vendor's Examination – Vendor has made its own examination, investigation and research regarding the requirements of the solicitation including but not limited to the work to be done, services to be performed, any conditions affecting the work and services, the type and quantity of labor, equipment, facilities necessary to perform. Vendor fully understands the character of the work and services, the manner in which payment is to be made, the terms and conditions of the draft agreement and the solicitation. Vendor acknowledges and agrees that it has satisfied itself by its own examination, investigation, and research, and that it will make no claim against the Town because of erroneous estimates, statements, or interpretations made by the Town. Vendor hereby proposes to furnish all materials, equipment, and facilities and to perform all labor which may be required to do the work within the time required and upon the terms and conditions provided in the draft agreement and the solicitation, and at the prices as bid.

Dated this __5th_____ day of __November___ 2025.

_____   303-449-8833_____
Signature   Phone Number

Matt Kosorok_____   Matt.Kosorok@metron-us.com_____
Written Name   Email Address

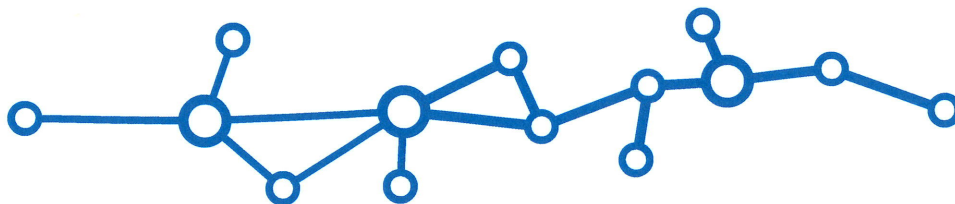*REQUIRED FOR SUBMITTAL*

TOWN OF JEROME, AZ
RFP QUESTIONS

Metron-Farnier, LLC

5665 Airport Blvd,

Boulder, CO 80301

Alex Schechter

alex.schechter@metron-us.com

12/01/2025

A. GENERAL INFORMATION

a. Brief overview of the vendor and legal organization of the company
Metron Response:
Metron Farnier has been supplying advanced metering solutions to utilities for over 30 years and has been an innovation leader within the industry. It is a limited liability company headquartered in Boulder, CO. Metron has a presence in all 50 states.

b. Submission requirements met
Metron Response:
Metron feels submission requirements have been met.

c. SAM.gov Unique Entity ID number (UEI) as required by grant funding.
Metron Response:
DBJVLTWLZQV1

d. Description of at least three (3) but no more than five (5) similar projects in which the vendor participated for each applied service category. Describe the vendor's role in the project and scope of work that demonstrates the vendor's expertise. Provide the name and contact information for each project. It is preferred that the similar project have been conducted in similar topography to the Town of Jerome.
Metron Response:
Below are five similar projects in which Metron participated, demonstrating our expertise across various applied service categories. These projects include deployments in diverse and challenging topographies, many of which share similarities to the Town of Jerome's environment:

> **Reference 1: (Municipal Utility) Town of Camp Verde, AZ**
> **Client Name: Town of Camp Verde**
> **Client Project Name: Meter Changeout Project**
> **Client Reference Name & Title: Jeff Low – Utilities Director**
> **Client Phone Number: 928-469-9063**
> **Client Email: jeff.low@campverde.az.gov**
> **Location of Work: Camp Verde, Arizona**
> **Total Endpoints: 2,200**
> **Initial Timeframe for Duration and Completion of Work: 1 year to complete all work including installation and billing**
> **Scope of Work / Description of Work Performed (including systems integrated): Metron supplied cellular AMI water meters for the district's service area. The Town of Camp Verde handled all self-installation, supported by Metron's technical team for configuration and ongoing system support.**
> **Comments: The Town of Camp Verde has had a successful time with the Metron product with a strong read rate and capturing thousands of dollars of unrecognized revenue.**

Water Meter Replacement and Advanced Metering Infrastructure

Reference 2: (Municipal Utility) Avra Water Company
Client Name: Avra Water Company
Client Project Name: Water Infrastructure Finance Authority Meter Replacement Project
Client Reference Name & Title: Cathy Kuefler – Administrative Manager
Client Phone Number: 520-780-8689
Client Email: cath@avrawater.com
Location of Work: Tucson, Arizona
Total Endpoints: 2,600
Initial Timeframe for Duration and Completion of Work: 1 year
Scope of Work / Description of Work Performed (including systems integrated): Metron supplied 1,400 Cellular enabled registers and meters to Avra Water co-op. Avra has been conducting their own installation of the product to combat a failing Sensus drive by system.
Comments: Avra has had a successful Time with the Metron product with a strong read rate and capturing Thousands of dollars of unrecognizes revenue.

Reference 3: (Rural Utility) BDM Rural Water, SD
Client Name: BDM Rural Water
Client Project Name: AMI Deployment
Client Reference Name & Title: Rodney Kappes – General Manager
Client Phone Number: 605-448-5417
Client Email: rodneyk@bdmruralwater.com
Location of Work: Day County, South Dakota
Total Endpoints: 2,300+
Initial Timeframe for Duration and Completion of Work: Completed
Scope of Work / Description of Work Performed (including systems integrated):
Metron supplied cellular AMI water meters for the district's service area. BDM handled all self-installation, supported by Metron's technical team for configuration and ongoing system support.
Comments: Successful deployment enabled reliable meter reads across a rural service territory with minimal field maintenance.

Reference 4: (Municipal Utility) Evergreen Metro District, CO
Client Name: Evergreen Metro District
Client Project Name: AMI Upgrade
Client Reference Name & Title: Kevin Rosemeyer – Water Director
Client Phone Number: 303-301-5500
Client Email: krosemeyer@evergreenmetro.org
Location of Work: Evergreen, Colorado
Total Endpoints: 4,500
Initial Timeframe for Duration and Completion of Work: One-year upgrade process
Scope of Work / Description of Work Performed (including systems integrated):
Metron performed a full upgrade from a previous drive-by AMR system to a cellular AMI network to improve meter reading efficiency and data visibility. Meters were supplied and installed by Metron, including those in indoor applications across hilly terrain.
Comments: The deployment improved operational efficiency and real-time data access, resulting in high customer satisfaction.

Water Meter Replacement and Advanced Metering Infrastructure

Reference 5: (Municipal Utility) Town of Erie, CO
Client Name: Town of Erie, Colorado
Client Project Name: AMI Upgrade
Client Reference Name & Title: Chris Biggs – Meter Supervisor
Client Phone Number: 303-243-2520
Client Email: cbiggs@erieco.gov
Location of Work: Erie, Colorado
Total Endpoints: 3,900+ and ongoing
Initial Timeframe for Duration and Completion of Work: 2023 to Present
Scope of Work / Description of Work Performed (including systems integrated):
The Town transitioned from a mix of non-Metron AMI and older meter types to a standardized deployment using Metron cellular AMI meters and endpoints across all meter sizes. Metron supplied the meters and supported installation efforts.
Comments: Ongoing project aimed at improving system visibility, data access, and customer engagement.

Each project highlights Metron's ability to deliver reliable smart water solutions in a range of topographies, including hilly and rural areas, and demonstrates our project management and technical expertise.

B. AMI INFORMATION REQUIREMENTS

a. Communication Propagation Study with a "Fixed Based" Communication system for the AMI system.
Metron Response:
Please see Prop Study in Appendices.

b. Explain if the AMI system will include any cellular network.
Metron Response:
Metron's AMI system is a fully cellular solution and utilizes existing cellular networks (Verizon and/or AT&T) for communication between endpoints and the headend system.

c. Explain if the AMI includes a free or paid customer engagement web portal.
Metron Response:
Metron's AMI solution includes WaterScope™, our customer engagement web portal, at no additional cost.

d. Explain if the AMI provides top-of-the-hour time-synchronized readings across the entire system with at least an update every hour.
Metron Response:
Meter readings from Metron endpoints are time-synchronized, with each endpoint synchronizing every time it communicates over the cellular network. The internal hardware-based real-time clock is set during these communications, ensuring all data transmitted by Metron endpoints is time-stamped to within 1 second of accuracy. All consumption intervals are synchronized to the minute, from midnight to midnight of the prior day. Transmissions occur once per day and include 1440 one-minute data intervals, rather than hourly updates.

Water Meter Replacement and Advanced Metering Infrastructure

Therefore, the system provides time-synchronized readings, but not top-of-the-hour updates every hour across the entire system.

e. Explain if the meters, endpoints, and AMI infrastructure is manufactured by the same company.
Metron Response:
Metron manufactures and develops all meters, endpoints, and AMI infrastructure—including the head end system and consumer portal. This approach ensures full compatibility and eliminates any cost differences among the components.

f. Explain if the current meters and endpoints will be able to integrate with the AMI system.
Metron Response:
Yes, current meters and endpoints can integrate with the AMI system. Metron offers a retrofittable endpoint that allows for migration of any existing meter—at the Town's discretion—onto Metron's cellular AMI solution, including recently purchased manual read meters. The water meters can be equipped with standard AMI outputs, and the output volume can be adjusted onsite.

g. Describe if the system can identify unauthorized usage on marketed accounts.
Metron Response:
The utility can upload a list of meters that have been shut-off for non-payment and WaterScope will alert to cases where the homeowner has turned the water back on.

h. Describe if the system can configure high or low usage parameters and identify accounts in violations.
Metron Response:
The system can be configured to set high or low usage parameters and identify accounts in violation.

i. Explain how many users the system can support at one time.
Metron Response:
There are not currently any limitations on the number of users the system can support at one time.

j. Explain if the software enhancements, upgrades, updates, and patches are included in the pricing structure or if it will be an annual cost for these items.
Metron Response:
All software enhancements, upgrades, updates, and patches are included in the pricing structure and there will be no additional annual cost for these items.

C. ENDPOINT INFORMATION AND REQUIREMENTS.

a. Describe the endpoint collection process and if it collects at the top of the hour and synchronized with 15-minute reads from the water meter.

Metron Response:

The endpoint collection process involves storing water usage data in 1-minute intervals throughout the day while the communications module remains in sleep mode. Once per day, the endpoint wakes and transmits the accumulated, time-synchronized midnight-to-midnight consumption data over the cellular network. Meter readings from MIUs are time-synchronized, with each endpoint synchronized during daily communications using a hardware-based real-time clock, achieving time-stamp accuracy within 1 second. Consumption intervals are synchronized to the minute, not specifically to the top of the hour or to 15-minute intervals by default. The system's default is 1-minute interval data, and while endpoints can be configured to deliver hourly or 15-minute interval reads.

b. Describe if the endpoint had two-way communication.

Metron Response:

The endpoint supports two-way communication. This functionality is provided via the existing cellular network and enables remote configuration, firmware upgrades, meter re-programming, time synchronization, and over-the-air (OTA) updates.

c. Describe the temperatures the endpoint can withstand storage and operating.

Metron Response:

The VN endpoint is fully submersible (IP68) and operates between -4 to 140 degrees Fahrenheit. Storage temperature range is between -20 to 140 degrees Fahrenheit. The endpoint meets compliance for functioning accurately and without damage at operating temperatures up to 140 degrees Fahrenheit, and is able to operate over a range of at least -30°F to 140°F as required.

d. Describe if the endpoint can be installed via pit or remote.

Metron Response:

The endpoint can be installed in a pit, and there is also a remote option available.

e. Describe the network firmware updates.

Metron Response:

Network firmware updates can be performed both locally and remotely. Locally, updates are executed via infrared communication using the Metron tablet communicator software. Remotely, firmware upgrades are supported over-the-air (OTA) through secure two-way communication via the cellular network and the AMI communications network. Updates may be initiated for individual endpoints or in bulk, with commands sent from the head-end system. Metron coordinates and controls the entire firmware update process, including communicating the need for upgrades to the Town of Jerome, AZ, collaborating on rollout plans, scheduling, and providing detailed reports on successful and failed updates. Firmware updates are completed with zero interruption to utility operations, and all network communication equipment supports remote software and firmware upgrades, including batch upgrades.

Water Meter Replacement and Advanced Metering Infrastructure

Rigorous QA processes, structured testing, and release management ensure all updates are validated, secure, and minimally disruptive.

i. Are they able to be done remotely, with infrared or local updates.
Metron Response:
Firmware updates can be performed both remotely via two-way communication over the cellular network and locally using infrared (IR) communication. This dual approach allows for flexible update options, enabling updates to be sent and received over-the-air as well as installed directly on the device using IR.

f. Explain the environments that the endpoints can withstand, including flooding or submerged pit application.
Metron Response:
The endpoint is IP-68 rated and can withstand flooding or submerged pit applications.

g. Describe the warranty for the endpoints and if it is included.
Metron Response:
The endpoints are covered by a 20-year warranty, which consists of a full replacement for the first 10 years and a prorated warranty for the following 10 years. The warranty is included in the original cost and begins at the time of shipment. See our Warranties in the Appendices.

D. CUSTOMER PORTAL INFORMATION AND REQUIREMENT

a. Explain if the customer portal is owned and developed by the AMI manufacturer.
Metron Response:
The customer portal is owned and developed by the AMI manufacturer, Metron.

b. Explain if the web portal will be accessible through a standard internet browser.
Metron Response:
The web portal is fully accessible through a standard internet browser with a valid username and password. It supports Chrome, Edge, Safari, Firefox, and other available browsers.

c. Explain if the customer portal will allow the customer to set up a leak notification through the portal and let the customer be notified via email.
Metron Response:
The customer portal allows customers to set up leak notifications through the portal or smartphone application. Customers may choose to be notified via email, text, or phone notifications.

d. Explain if the utility customer service representative will be able to see the same view as the customer or if the web portal will be different for the customer and the utility staff.

Metron Response:

Utility customer service representatives will be able to see the same view as the customer in the web portal. The web version provides identical visibility for both consumer and customer service staff, ensuring that all analytical customer screens are the same for CSRs and customers. While the utility portal offers extended access for system-wide consumption data and the ability to modify customer-facing screens, the customer-facing view remains consistent and identical for support purposes. This design allows utility staff to effectively assist customers by viewing exactly what the customer sees.

e. Explain if the customer will be able to export consumption data in Comma Separated Value (CSV) format.

Metron Response:

The customer will be able to export consumption data in Comma Separated Value (CSV) format and/or Excel.

E. TRAINING INFORMATION AND REQUIREMENT

a. Describe who will be providing the training. Example, Manufacturer Certified Trainers

Metron Response:

Metron will do all the training directly. The trainer may vary depending on the training (billing vs customer service vs field staff), but the trainer will be a Metron employee.

b. Describe if there will be web-based training for future head end system updates and upgrades and if there will be any cost that may be associated with the training.

Metron Response:

Unlimited training and support are included in the upfront cost. Training on future head end system updates and upgrades will be provided through web-based training at no additional cost.

c. Describe if training materials for end users will be available online or in electronic form.

Metron Response:

Training materials are incorporated into the online platform, allowing end users to access them electronically.

F. OTHER

a. Describe if you can replace a current meter in need of replacement with a non-AMI meter for an opt-out member and invoice separately from the project.

Metron Response:

Yes, we are able to replace a current meter in need of replacement with a non-AMI meter for an opt-out member.

Water Meter Replacement and Advanced Metering Infrastructure
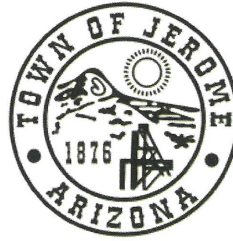
THE TOWN OF JEROME, ARIZONA ADVANCED METERING INFRASTRUCTURE (AMI) PROJECT
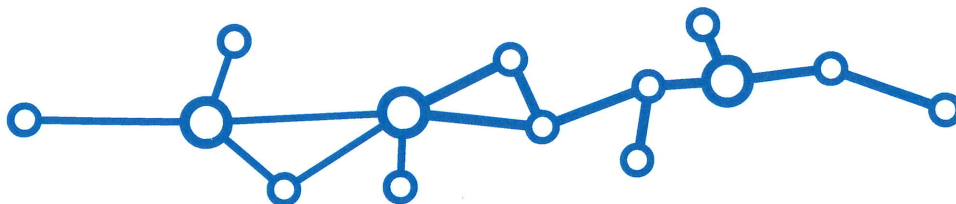
Metron-Farnier, LLC

5665 Airport Blvd,

Boulder, CO 80301

Alex Schechter

720-618.3435

alex.schechter@metron-us.com

11/5/2025

METRON

The Town of Jerome

Proposal for AMI Water Metering System

Submitted By:
Metron Farnier, LLC
Bidding for Advanced Metering Infrastructure (AMI) Project

Project Scope:
Replacement of existing water meters with AMI meters in the Town of Jerome's distribution system.

Prepared For:
The Town of Jerome

Sales Contact:
Alex Schechter
Metron-Farnier, LLC
Email: Alex.Schechter@metron-us.com
Phone: 720-618.3435

TABLE OF CONTENTS

LETTER OF INTENT

To: Honorable Mayor & Council
The Town of Jerome Water Resources Department
600 Clark St.
Jerome, AZ 86331

Subject: Statement of Qualifications – AMI Full-Service Implementation and Maintenance Program

Dear Selection Advisory Committee,

Metron Farnier, LLC. (Metron) is pleased to submit this Request of Proposal (RFP) in response to the Town of Jerome's request for a turnkey Advanced Metering Infrastructure (AMI) Full-Service Implementation and Maintenance Program. With over three decades of innovation and leadership in water intelligence and metering technologies, Metron is uniquely positioned to deliver a comprehensive solution that will modernize the Town of Jerome's water metering operations, enhance data visibility, and ensure long-term service reliability for decades to come.

We understand the Town's vision: to implement a system-wide AMI network that improves billing accuracy, elevates customer engagement, and enables proactive water management through data-driven insights. Metron's solution is designed to do just that — combining proven, field-tested hardware with a powerful software platform and a dedicated long-term asset management program.

Our proposal outlines a true turnkey approach. Metron will serve as the single point of responsibility for system design, meters, communications endpoints, software, data hosting, with full-service training, maintenance and support. To ensure seamless field execution, we will deploy full meter replacements for the Town. Together, our team will deliver a fully functional, standards-compliant AMI solution tailored to the Town's current and future needs.

Metron's WaterScope® platform will serve as the heart of the solution — providing secure, web-based access to high-resolution consumption data, integration with the Town's Caselle's current billing system, and customer-facing tools to improve transparency and engagement. Our solutions have consistently delivered read rates exceeding 99%, advanced analytics, and operational reliability for utilities large and small.

We appreciate the opportunity to present this bid proposal and look forward to partnering with the Town of Jerome to deliver a transformative AMI program that meets today's needs and tomorrow's challenges. Should you have any questions or require additional information, we would welcome the opportunity to discuss our proposal in greater detail.

Authorized Representatives

The following individuals are authorized to make representations on behalf of Metron for this project:

- **Alex Schechter, Metron Sales Account Manager**
  5665 Airport Blvd, Boulder, CO 80301
  720-618-3435
  Alex.Schechter@metron-us.com
- **Matt Kosorok, Metron VP of Enterprise Solutions**
  5665 Airport Blvd, Boulder, CO 80301
  303.449.8833
  matt.kosorok@metron-us.com

This proposal has been signed by the undersigned, a corporate officer with the authority to bind Metron Farnier, LLC.

Sincerely,

Matt Kosorok
VP, Enterprise Solutions
Metron Farnier, LLC

1. COMPANY OVERVIEW & QUALIFICATIONS

ABOUT METRON FARNIER, INC.

Metron Farnier, Inc. (Metron) is a leading provider of advanced water metering and water intelligence solutions, with more than 30 years of experience supporting municipal and commercial utilities across the United States. Headquartered in Louisville, Colorado, Metron has been at the forefront of metering innovation — designing and manufacturing state-of-the-art water meters, communication endpoints, and data management platforms that empower utilities to manage water resources more effectively and sustainably.

Since our founding in 1991, Metron has remained focused on a single mission: **to deliver actionable water intelligence that transforms how communities monitor, manage, and conserve water.** Our technologies are deployed in more than 8,000 networks and over 500,000 metering points nationwide, providing utilities and their customers with high-resolution data that improves billing accuracy, reduces water loss, and enhances operational efficiency. To date, Metron solutions have helped clients save over **1.3 billion gallons of water** — a testament to our commitment to conservation and performance.

PROVEN EXPERIENCE IN THE MUNICIPAL WATER SECTOR

Metron's solutions are designed specifically for municipal water systems, and we bring deep experience working with water municipalities of all sizes. Our projects range from small utility deployments to large-scale citywide AMI rollouts involving hundreds of thousands of meters. We have implemented solutions in varied geographic and environmental conditions, from densely populated urban centers to challenging rural terrains, ensuring reliability and scalability in any setting.

Our approach is rooted in partnership. We work closely with utility stakeholders, engineering firms, and technology partners from planning through deployment and long-term operation. This collaborative model ensures each project meets technical specifications, regulatory requirements, and performance expectations while staying on schedule and within budget.

LICENSING, CERTIFICATION, AND TECHNICAL EXPERTISE

Metron maintains all required business licenses and complies with all relevant industry standards. Our meters meet or exceed **AWWA Standard C715-18, C700, and C712 (Single-Jet)** and are **NSF/ANSI 61 and 372** certified for drinking water applications. We leverage and build to **ISO 9001 standards** with a goal of obtaining certification in June 2026. We also utilized ISO certified suppliers for key components and asset management, ensuring that our products and services adhere to the highest standards of reliability and safety.

Our engineering teams provide full system design and support for metering equipment and our AMI data management platform, WaterScope®. This engineering depth allows Metron to take full ownership of system deployment and ensures seamless integration with the Town's water metering infrastructure.

PROXIMITY AND SUPPORT RESOURCES

Metron maintains a service and support center hub, located in Louisville, Colorado which includes field resources to support deployment and ongoing maintenance for the Town of Jerome. Our network of trained technicians, project managers, and engineers ensures rapid response times and support. As part of our commitment to long-term service excellence, we will also provide a dedicated project manager and field support team for the duration of the project.

PROVEN TRACK RECORD

Metron has an extensive history of delivering successful AMI deployments for public utilities. Our work consistently meets or exceeds performance targets, including read rates above 99%, seamless integration with existing billing systems, and measurable operational savings. We bring this same dedication and proven track record to the Town of Jerome, ensuring that your investment in AMI technology delivers maximum long-term value.

METRON'S UEI

SAM.gov Unique Entity ID number (UEI) as required by grant funding is DBJVLTWLZQV1.

2. PROJECT UNDERSTANDING & TURNKEY APPROACH

UNDERSTANDING THE TOWN OF JEROME'S VISION AND OBJECTIVES

The Town of Jerome is embarking on a transformative effort to modernize its water metering and data management capabilities through a full-service Advanced Metering Infrastructure (AMI) program. The vision is clear: replace or retrofit existing meters with state-of-the-art, cellular based AMI technology; ensure accurate, reliable data collection for billing and operations; and deliver long-term service improvements that enhance customer engagement and resource management.

Metron understands that this initiative is not just about upgrading infrastructure - it's about enabling **data-driven water management**. With over three decades of experience supporting utilities nationwide, we recognize that a successful AMI program must do more than transmit meter reads. It must:
- Deliver consistently high read rates and reliable data for billing accuracy.
- Provide actionable insights into consumption patterns, leaks, and anomalies.
- Integrate seamlessly with existing utility systems and workflows.
- Support proactive customer communication and engagement.
- Scale and evolve with future needs and technologies.

Our solution and approach are designed to achieve these outcomes — providing the Town of Jerome with a future-ready AMI system that enhances operational efficiency, reduces non-revenue water, and strengthens their customer trust.

FULL-SERVICE PROGRAM DELIVERY

Metron's proposed solution is a **true turnkey offering**, where we serve as the single point of responsibility for the design, deployment, integration, and long-term operation of the AMI system. This comprehensive approach minimizes complexity for the Town and ensures seamless accountability from start to finish. Our scope of services will include:
- **Project Planning & Management:** Comprehensive planning, coordination, and oversight from kickoff through final system commissioning.
- **Meter Replacement and New Installations:** Removal and replacement of existing meters and installation of new meters where required, ensuring full system coverage.
- **AMI Endpoint Deployment:** Installation of cellular LTE-M endpoints
- **Software Implementation:** Configuration and deployment of Metron's WaterScope® platform for data management, analytics, and integration with the Town of Jerome's Caselle billing system.
- **Training:** Comprehensive training for staff and ongoing support throughout the lifetime of the meters and software.
- **Long-Term Asset Management:** Daily system monitoring, proactive maintenance, and guaranteed system performance with 99%+ read rates.

To execute the physical deployment of meters and endpoints, Metron will engage if needed with a **certified installation partner** This partner will work under Metron's direction, adhering to all town, state, and federal requirements, including OSHA standards and safety protocols.

Key features of our AMI system include:

- **WaterScope® Platform**: A cloud-based platform that offers utilities comprehensive usage analytics and conservation tools. The platform is accessible to both utility managers and consumers, without incurring additional fees, empowering end users to track and manage water consumption efficiently.
- **1-Minute Data Analytics**: Metron's endpoints capture consumption data in 1-minute intervals, giving utilities unprecedented visibility into consumption patterns, enabling early leak detection, peak flow management, and more granular resource control.
- **Retrofitting Flexibility**: Our VN system endpoints (the Prism) retrofit onto existing mechanical meter bodies, ensuring compatibility with current infrastructure and reducing overall deployment costs.

SEAMLESS INTEGRATION WITH EXISTING SYSTEMS

We recognize the importance of a solution that not only collects accurate data but also integrates cleanly into existing operational workflows. Metron's WaterScope® platform is designed with open architecture and robust API capabilities, allowing for straightforward integration with the Town of Jerome's Caselle billing software and other utility systems. The platform supports standard, non-proprietary data formats and interfaces, ensuring that data flows reliably from field devices to billing and customer information systems.

Through this integration, the town will gain real-time access to metering data, daily system performance dashboards, and consumption analytics, empowering staff to respond quickly to anomalies, optimize system performance, and improve customer service.

ACCELERATED IMPLEMENTATION WITH MINIMAL DISRUPTION

Our deployment approach prioritizes speed, accuracy, and minimal disruption to customers. Metron will coordinate closely with the town to develop a phased installation schedule that ensures timely project completion while maintaining ongoing utility operations. Customer engagement is a key part of our plan. We will provide clear communication, flexible scheduling, and support throughout the deployment process.

Metron has refined a deployment methodology that emphasizes meticulous planning, field validation, and quality control. Our process ensures that each installation is performed correctly the first time, reducing rework and maximizing long-term system reliability.

COMMITMENT TO LONG-TERM PARTNERSHIP

Metron views this project as the beginning of a long-term partnership with the Town of Jerome. Our responsibility extends far beyond installation. We will proactively address issues and continuously improve the solution to meet evolving needs. Our dedicated support team will remain engaged throughout the life of the program, providing training, software updates, and responsive technical assistance, as needed.

3. FULL-SERVICE PROGRAM CAPABILITIES

Our program is built around four core pillars: **metering hardware, cellular communications, data management software, and long-term support**. Each component is designed to deliver exceptional performance on its own, and together they form a cohesive ecosystem that enables reliable data collection, actionable insights, and operational efficiency.

FIELD DEPLOYMENT & INSTALLATION

Metron will oversee all field activities associated with meter and endpoint installation. Together with the Town, the team will:

- Perform site surveys and gather detailed data for all meter locations.
- Replace existing meters and install new cellular smart meters.
- If retrofit meters are required, we will install our cellular LTE-M Prism™ register endpoints with two-way licensed communication.
- Mount remote antenna systems as needed to optimize network performance.
- Provide customer scheduling, notification, and installation times.

Safety is a top priority with Metron to maintain robust safety training and compliance programs.

ADVANCED METERING TECHNOLOGY

At the core of our solution are Metron's **Spectrum™ Single Jet series water meters** — high-accuracy metering ranging from 5/8" to 8" and prides itself on the low-flow capability of our meter line. With its simplistic design coupled with minimal accuracy degradation, revenue stays steady throughout the life of the meter and eliminates the testing and maintenance normally required for commercial meters that offer this type of performance. Set it and forget.

The **Spectrum™ Wave™ ultrasonic meter** is based on a "See Through" ultrasonic technology. With this concept, the two sensors, used alternatively for the transmission and the reception of the ultrasonic signal into the water pipe, are installed on each end of a straight section of the water pipe. With such a mechanical configuration, the water flow remains free of any mechanical structure that would increase the drop of pressure inside the meter. The meter provides a very wide range with low flow accuracy to 0.05 gpm, which will capture the highest levels of revenue.

Designed for long-term performance and reliability, these meters feature:

- **No moving parts** – reducing wear and extending service life.
- **IP68-rated construction** – ensuring reliable operation even in submerged conditions.
- **High accuracy across a wide flow range** – improving billing precision and revenue capture.
- **Integrated communication ports** – enabling seamless connection to AMI LTE endpoints.

Our meter portfolio includes models suitable for all meter sizes and service types, ranging from 5/8" residential meters to 8" commercial meters.

LTE-M CELLULAR NETWORK & COMMUNICATION ENDPOINTS

Metron's AMI communication endpoints are designed to meet and exceed the Town's requirements for performance, reliability, and flexibility. Key features include:

- **Multi-carrier LTE-M connectivity:** Each endpoint supports two national carriers, Verizon and AT&T, automatically connecting to the strongest available signal and switching networks if needed for redundancy without reprogramming or field visits.
- **Two-way licensed communication:** Operating in the 700 MHz band, endpoints enable scheduled and on-demand reads, over-the-air firmware updates, and remote shutoff valve operation.
- **No repeaters required:** Direct-to-cloud communication eliminates the need for repeaters and networks, reducing infrastructure and improving reliability.
- **20-year battery life:** Endpoints are powered to ensure consistent performance for two decades.

Advanced Metering Infrastructure (AMI) Project

- **Rich data storage:** The default storage configuration retains 45 days of 1-minute interval data in the communication device. If required, the device can be configured to store 5-minute intervals, extending storage capacity to 225 days. This exceeds the requirement for retaining 120 days of hourly reading intervals in the event of backhaul loss or unavailability.
- **Tamper detection and diagnostics:** Endpoints continuously monitor connection integrity and report tamper alerts, battery voltage, and other diagnostic data.

WATERSCOPE® – DATA MANAGEMENT AND ANALYTICS PLATFORM

Metron's **WaterScope®** platform serves as the backbone of the AMI solution, providing utilities with secure, web-based access to consumption data, analytics, and system performance information. WaterScope® integrates directly with the Town's Caselle billing software and other utility systems through open, standards-based interfaces.

Key platform capabilities include:
- **Real-time data access:** Consumption data is available as frequently as every hour, enabling timely decision-making and rapid identification of anomalies.
- **Advanced analytics:** Automated detection of leaks, backflow, no-flow events, and continuous flow conditions.
- **Custom alerts and notifications:** Daily email alerts for critical consumption events, tamper conditions, and read failures.
- **Customer engagement:** A built-in customer portal allows users to view daily, monthly, and annual consumption, set budgets, and receive alerts for unusual usage or leaks.
- **Scalability and flexibility:** The platform supports multiple meter types, manufacturers, and service types, ensuring compatibility with future technology and expansion needs.
- **Secure cloud hosting:** All data is hosted in secure, redundant cloud environments with continuous monitoring, disaster recovery, and routine backups.

The Metron system delivers top-tier meter read performance, consistently exceeding industry standards.

System Notifications:

As the endpoint transmissions are delivered in the middle of the night, the **1-minute analytics** are analyzed for several unique defined conditions. The conditions are configurable and have optional auto generated notifications. Those conditions are:
- **Leak** – A leak flag is triggered if there were 1440 1-minute intervals that had consumption above 0. Metron feels that if the meter can't register 0 gallons for at least 1-minute in a 24-hour period there is no question there is a leak.
- **Threshold Leak** – The Metron residential meter is accurate below 1/50th of a gallon per minute. Because of this, the program detects a lot of trickle leaks. To not overwhelm utility personnel with leak notifications, we've established this condition so the utility can filter notifications by a true GPM flow. For example, if 0.25 gpm is considered an 'actionable' leak rate from a utility perspective, WaterScope® will only notify utility personnel of leaks greater than 0.25 gpm. The threshold can then be lowered or raised as needed.
- **Intermittent Leak** – The intermittent leak is designed to identify leaking toilets, or any other fixture in a home that runs intermittently for extended periods of time. The utility can configure the trigger as to not have irrigation events and/or constant leaks trigger the flag.
- **High Usage** – The high usage flag is a configurable daily consumption value. If usage exceeds the daily value, an alert is generated.
- **Backflow** – The backflow alert will trigger if a configurable amount of water runs in reverse over a specified period of time. It is also a useful flag for meters that were mistakenly installed backwards.
- **Zero Use** – The zero-use condition will trigger if NO water is used over a configurable period. This flag is useful for rental/vacant properties at the homeowner level, but for the utility can be used as a revenue protection alarm for the larger size meters. 30 days seems like a long period of time, especially for larger meters. The user can configure this alarm by meter size.

Advanced Metering Infrastructure (AMI) Project

- **High Meter Flow** – This alert will notify the utility if flow rates exceed the high-end capacity of the meter. Can be helpful for right sizing an application.
- **High/Low Temperature** – The Metron Prism measures the daily high and low ambient temperature. The sensor is built into the register, so the temperature reflects the meter level as opposed to the temperature at the pit lid level. The ultrasonic Spectrum Wave will detect water temperature and send an instant alert if temperature thresholds are hit.
- **Unauthorized Use** – The utility can upload a list of meters that have been shut-off for non-payment and WaterScope® will alert to cases where the homeowner has turned the water back on.
- **Unexpected Use** – This condition is designed for the homeowner so they may receive alerts if water is used unexpectedly. Use cases would be rental/vacant properties, snowbirds, and vacations.
- **Watering Event** – If the town intends to implement watering restrictions now or in the future the Watering Event condition can help monitor those restrictions. Restrictions can be mandatory/voluntary, based on time of day, and the days in a week. The Metron VN system is the only one that offer this as the Prism is the only device that can identify indoor vs outdoor use based on the flow rate.
- **Emergency Transmit** – The emergency transmit feature is meant to catch real time leaks. The condition is configurable by meter, and triggers if a configurable amount of flow occurs over a configurable amount of time. In that event the VN will wake up in real time and send an emergency text to the homeowner.

SEAMLESS INTEGRATION & OPEN ARCHITECTURE

Metron's system is designed with open architecture to ensure compatibility with existing and future systems. Data can be transferred to the existing billing and customer information systems in standard, non-proprietary formats, and the platform's API allows for easy integration with GIS, asset management, and reporting tools.

WaterScope® Utility extends the WaterScope platform with integrated work order and asset management capabilities, enabling maintenance teams to execute field tasks, update asset records, and sync detailed service data back to WaterScope — providing the core functionality of a WOMS.

LONG-TERM MAINTENANCE AND SUPPORT

Metron's commitment extends beyond deployment. Our maintenance support includes:
- **Issue resolution and escalation**
- **Comprehensive repair and replacement**
- **Ongoing software upgrades**
- **Unlimited support and training**

4. TECHNOLOGY SOLUTION OVERVIEW

A FUTURE-READY AMI SYSTEM FOR THE TOWN OF JEROME

Metron proposed solution is centered on a **Cellular Long-Term Evolution Machine Type Communication (LTE-M)** AMI system built for reliability, scalability, and future growth. It combines best-in-class metering hardware, multi-carrier cellular connectivity, secure cloud-based software, and advanced analytics, all integrated into a single platform.

This solution has been field-proven in deployments nationwide and is designed to deliver **98.5%+ read success**, continuous data visibility, and actionable insights that empower utilities to operate more efficiently, engage customers proactively, and manage water resources responsibly.

CELLULAR LTE-M NETWORK ARCHITECTURE

Our LTE-M network architecture is designed from the ground up to meet the requirements for two-way communication, reliability, and performance. It operates without the need for repeaters, collectors, or proprietary networks — simplifying deployment and reducing infrastructure and maintenance costs.
Key design features include:
- **Two-Way Licensed Communication**: Endpoints transmit and receive data on a licensed frequency, ensuring secure and interference-free communication.
- **Multi-Carrier Redundancy:** Each endpoint connects automatically to the strongest available carrier, switching seamlessly if signal quality changes.
- **Future-Proof Design:** Additional carriers can be added to the network without field reprogramming or hardware changes, ensuring the system remains adaptable over the next 15+ years.

By leveraging existing cellular infrastructure, the Town of Jerome avoids the capital and maintenance costs associated with proprietary networks while gaining coverage and reliability.

WATERSCOPE® DATA PLATFORM

Metron's WaterScope® platform is the central hub for data collection, processing, visualization, and integration. Delivered as a secure, cloud-hosted service, WaterScope® provides real-time visibility into metering data and system performance while seamlessly integrating with the Town's existing systems.
Core Platform Capabilities:
- **Real-Time Monitoring:** Access 1-minute consumption data, endpoint performance, and system diagnostics via a web-based dashboard.
- **Data Processing and Storage:** Store and manage up to a minimum of 60 months of historical data, easily retrievable for analysis, reporting, and compliance.
- **Advanced Analytics:** Automated detection and alerting for leaks, no-flow, backflow, and high-usage events.
- **Customer Engagement Portal:** A pre-integrated web portal gives customers access to their usage data, estimated billing costs, and leak notifications. Users can set consumption budgets and receive alerts as they approach usage thresholds.
- **Integration Ready:** WaterScope® interfaces with billing, GIS, and asset management systems through open standards, ensuring data flow and compatibility with future applications.

SECURITY AND DATA INTEGRITY

Metron understands that data security is mission critical. Our information security program is built around industry best practices and aligned with **ISO** and **NIST** frameworks.
Security Features Include:
- **Secure Hosting:** All data is hosted in redundant, geographically dispersed data centers with enterprise-grade security controls.
- **Encryption:** All data is encrypted in transit and at rest using advanced protocols.
- **Access Controls:** Role-based access, multi-factor authentication, and detailed audit logging protect against unauthorized access.

- **Disaster Recovery and Backups:** Continuous backups and disaster recovery systems ensure data availability and integrity even in the event of system disruptions.

The Town of Jerome will retain full ownership of all data collected through the AMI system. Metron's role is to securely host, manage, and deliver this data back to the town in the format and frequency required.

SYSTEM DIAGNOSTICS AND MONITORING

The system continuously monitors its own performance at every level — from endpoint battery voltage to network connectivity and provides detailed diagnostic reports through the WaterScope® platform. This monitoring enables the Town and Metron support teams to quickly identify and resolve issues before they affect performance.

- **Read Verification:** The system verifies receipt of data from every meter daily.
- **Automated Alerts:** Any meter failing to report for five consecutive days automatically triggers a work order.
- **Network Health:** Cellular signal strength, endpoint connectivity, and backhaul performance are continuously monitored.
- **System-Wide Performance:** Daily read rate tracking ensures the system meets or exceeds the 98.5% threshold.

WORK ORDER AND ASSET MANAGEMENT

Metron's WaterScope® Utility app extends the functionality of WaterScope into the field, giving maintenance teams a powerful mobile tool to manage assets, execute work orders, and capture field data. Crews can view meters needing attention (leaks, high use, missed reads), navigate to locations, capture serial numbers and photos, update GPS data, and sync records automatically to WaterScope — even when offline. Maintenance managers can generate tasks directly within WaterScope, dispatching prioritized routes and work orders to field staff, who complete inspections, repairs, or replacements with full visibility into asset history. This seamless integration creates a secure, centralized record of field actions and provides the Town of Jerome with the core capabilities of a work order and asset management system without requiring a separate platform.

WATER METER PERFORMANCE AND CAPABILITIES

Metron's water meters are designed for accuracy, reliability, and longevity. Built from NSF/ANSI 61 certified materials and tested to AWWA C715-18, AWWA C712, and AWWA C710 standards, they deliver precise measurements across a wide range of flows and environmental conditions.

Meter Performance Features:
- **High-Resolution Measurement:** Our Spectrum™ Single Jet and Wave ultrasonic meters detect low-flow leaks and accurately measure over a wide dynamic range.
- **Durable Construction:** Our meters are constructed with either reinforced composite (polyamide 12) and/or ASTM C875 bronze. The Prism register is full encapsulated and contains a lithium D-cell battery, all to ensure strength and a long life.
- **Guaranteed Accuracy:** All meters are factory-tested and guaranteed for high accuracy.
- **Environmental Protection:** IP68-rated designs for meters and registers withstand submersion and environmental exposure.

Together with our LTE-M integrated endpoints and WaterScope® platform, Metron's meters form the foundation of a water intelligence network that will serve reliably for decades.

5. PROJECT TEAM QUALIFICATIONS

A TEAM BUILT FOR TURNKEY SUCCESS

Metron has assembled a highly qualified project team with the experience, technical expertise, and proven track record necessary to deliver a successful AMI implementation and long-term asset management program for the Town of Jerome. Our team brings together seasoned professionals in engineering, software development, field services, and customer support — all dedicated to delivering on the Town's objectives from planning through full-scale operation.

Our approach ensures that all project elements — from design and deployment to training and maintenance — are aligned, integrated, and executed seamlessly.

PROJECT LEADERSHIP AND MANAGEMENT

Metron will assign a dedicated **Project Manager** to oversee all aspects of the town's project. This individual will serve as the Town's primary point of contact and will be responsible for scope, schedule, quality, and communication.

Key responsibilities include:
- Developing and maintaining the overall project schedule and work plan.
- Coordinating all project activities across Metron teams, Town stakeholders, and subcontractors.
- Overseeing field deployment and ensuring adherence to safety and regulatory standards.
- Managing risk, change orders, and issue resolution proactively.

Metron's project managers are certified professionals with extensive experience leading complex AMI projects. They are supported by a team of specialists in metering technology, software integration, data security, and utility operations.

ENGINEERING AND TECHNICAL SUPPORT

Metron's engineering team will be responsible for system design, configuration, and integration. With decades of combined experience in water metering, communication systems, and software development, our engineers will ensure the solution is optimized for the Town's specific needs and infrastructure.

Engineering support will include:
- Network propagation studies.
- System design, including endpoint placement and communication planning.
- Configuration and integration of WaterScope® with the Town's Caselle billing system.
- Design of remote antenna and above-grade endpoint installations, if needed.
- Ongoing technical support for software, data analytics, and integration.

FIELD SERVICES AND INSTALLATION TEAM

Metron will manage and oversee all field deployment activities through a certified installation partner. This team will be responsible for meter replacement, endpoint installation, remote antenna deployment, and customer coordination.

All field technicians will receive project-specific training and will work under Metron's direct supervision.

SUPPORT, TRAINING, AND CUSTOMER ENGAGEMENT

Metron's customer support and training teams will ensure Town staff and end users are fully equipped to operate the new AMI system. We provide comprehensive training at project launch and refresher sessions as needed.

Training and support services include:
- **Utility staff training:** Hands-on instruction on WaterScope® functionality, system monitoring, and data analysis.
- **Field team training:** Proper installation procedures and system testing requirements.

Our dedicated support team remains available for ongoing assistance via phone, email, and remote sessions — ensuring Town staff have the help they need when they need it.

6. TRAINING, SUPPORT & CUSTOMER ENGAGEMENT

COMMITMENT TO LONG-TERM SUCCESS THROUGH EDUCATION AND SUPPORT

Metron believes that the success of any AMI program extends beyond the technology itself — it depends on the knowledge and readiness of the people who use and manage the system every day. Comprehensive training and ongoing support are integral components of our AMI solution for the Town of Jerome.

Our training programs are structured to empower staff, field personnel, and customers with the skills and information they need to fully leverage the capabilities of the AMI system.

UTILITY STAFF TRAINING

Metron provides comprehensive training for utility staff responsible for operating and managing the AMI system. These sessions are designed to ensure staff are fully proficient in system use, data interpretation, and troubleshooting.

Training includes:

- **WaterScope® Platform Training:** Detailed instruction on navigating the platform, accessing consumption data, creating alerts, generating reports, and integrating with other utility systems.
- **System Monitoring and Diagnostics:** Training on interpreting endpoint diagnostics, monitoring network health, and responding to alerts.
- **Data Analytics and Insights:** How to leverage WaterScope® analytics for leak detection, anomaly identification, and demand forecasting.
- **Reporting and Compliance:** Guidance on generating reports for internal use, regulatory compliance, and customer communication.

Training is delivered through a combination of on-site workshops, virtual sessions, and comprehensive user manuals.

FIELD TECHNICIAN TRAINING

Metron ensures that all field personnel — including those from our installation partner — receive thorough training on equipment installation, and endpoint configuration. This ensures every field activity is performed to the highest standards of quality, safety, and compliance.

Field training includes:

- **Installation Procedures:** Proper handling, installation, and commissioning of meters and endpoints.
- **Quality Assurance:** Verification steps to ensure all devices are installed correctly and reporting successfully before leaving the site.

ONGOING TECHNICAL SUPPORT

Metron's commitment to the Town of Jerome continues well beyond the initial deployment. Our dedicated support team is available to provide timely, expert assistance for any questions or issues that arise.

Our support services include:

- **Remote Support:** Assistance via phone, email, or web conferencing for troubleshooting, configuration, or data inquiries.
- **Software Updates and Training:** Training sessions aligned with major WaterScope® updates to ensure staff remain current on new features and capabilities.

CUSTOMER ENGAGEMENT AND EDUCATION

Customer engagement is a vital part of any AMI deployment, and Metron provides the tools and resources to help the Town of Jerome communicate effectively with water customers throughout the transition and beyond.

Our WaterScope® customer portal is a web-based platform that empowers customers to understand and manage their water usage. Features include:

- **Real-Time Consumption Data:** Customers can view hourly, daily, and monthly water use.
- **Budget and Usage Alerts:** Customers can set consumption budgets and receive notifications when usage approaches or exceeds targets.
- **Leak Detection Alerts:** Automatic alerts notify customers of potential leaks, helping them address issues early and reduce water loss.
- **Billing Transparency:** Customers gain insight into how usage affects billing, improving trust and satisfaction.

Metron also supports Town-led outreach campaigns, providing communication templates, educational materials, and customer FAQ documents to help explain the benefits of AMI technology and encourage portal adoption.

CONTINUOUS IMPROVEMENT AND KNOWLEDGE TRANSFER

Our partnership approach ensures that Town staff are always equipped with the latest tools and information. Through continuous education and support, Metron ensures the Town of Jerome's team is capable and prepared to maximize the value of its AMI investment, both on day one and throughout the life of the program.

7. COMPLIANCE, SAFETY, & RISK MANAGEMENT

COMMITMENT TO SAFETY AND REGULATORY COMPLIANCE

Metron is committed to the highest standards of safety, quality, and regulatory compliance in every aspect of project delivery. Metron ensures that the Town's AMI program is implemented safely, efficiently, and in full accordance with all applicable regulations.

All field activities performed by Metron and our installation partner will comply with **Occupational Safety and Health Administration (OSHA)** standards, **Davis-Bacon Act** wage requirements, and all state and municipal regulations governing water utility infrastructure projects. Safety is integrated into every stage of our work from planning and design through deployment, commissioning, and maintenance.

HEALTH AND SAFETY INSTALLATION PROGRAM

Metron maintains a comprehensive safety and health program that governs all field operations. This program includes:
- **Job Hazard Analysis:** Conducted prior to the start of each task to identify potential hazards and define mitigation measures.
- **Safety Meetings:** Daily safety briefings conducted before work begins on site.
- **Training and Certification:** All field personnel receive OSHA training and are certified in confined space entry, trench safety, and other required competencies.
- **Personal Protective Equipment (PPE):** Strict PPE policies ensure field teams are properly equipped for all tasks.
- **Incident Reporting and Investigation:** All incidents and near-misses are documented and reviewed to prevent recurrence.

Our installation partner will be required to adhere to the same safety policies and procedures and will receive project-specific safety orientation and training before beginning work in the field.

REGULATORY AND CONTRACTUAL COMPLIANCE

Metron ensures full compliance with all contractual and regulatory obligations associated with the AMI program. Our processes include regular compliance checks and documentation reviews to confirm adherence to applicable standards and reporting requirements.

We also coordinate closely with Town staff and regulatory agencies to ensure all required permits, inspections, and approvals are secured in a timely manner. All equipment supplied as part of the project will meet or exceed applicable AWWA, NSF/ANSI, and FCC standards.

SUPPLY CHAIN RISK MITIGATION AND DELIVERY ASSURANCE

Metron understands that reliable delivery of equipment and materials is critical to the success of any AMI deployment. In an era of global supply chain disruptions, we have implemented proactive strategies to mitigate risks and ensure timely delivery of all project components.
Our approach includes:
- **Strategic Inventory Planning:** Core components — including meters, endpoints, and installation kits — are incorporated into standard inventory cycles, allowing Metron to maintain buffer stock for immediate deployment.
- **Multiple Sourcing Options:** Key materials are sourced from multiple suppliers to minimize dependency on any single source, if needed.
- **Close Supplier Partnerships:** Metron maintains strong relationships with logistics partners to secure priority production and shipping schedules.
- **Advanced Forecasting:** We use demand forecasting tools and historical data to anticipate material needs and plan procurement schedules well in advance.

While unforeseen disruptions can impact lead times, these measures significantly reduce risk and allow Metron to remain agile and responsive to changing conditions. Our proven supply chain resilience ensures that the Town's project will remain on schedule from procurement through final commissioning.

INSURANCE AND LIABILITY COVERAGE

Metron carries comprehensive insurance coverage that meets or exceeds all requirements for municipal infrastructure projects. Certificates of insurance are provided to the Town prior to the start of work, demonstrating compliance with all contractual and regulatory requirements. Our installation partner will also be required to provide proof of insurance and maintain coverage throughout the project duration.

RISK MANAGEMENT AND QUALITY ASSURANCE

Metron employs a structured risk management framework throughout the project lifecycle. Risks are identified, assessed, and mitigated through proactive planning, ongoing monitoring, and responsive corrective actions. This approach minimizes the likelihood of schedule delays, cost overruns, and performance issues. Quality assurance is built into every stage of the project. Our processes ensure that materials, workmanship, and system performance meet stringent quality standards. Each meter, endpoint, and software component undergoes rigorous testing and validation before deployment, and system performance is verified through acceptance testing before final handoff.

Advanced Metering Infrastructure (AMI) Project

8. REFERENCES & PAST PERFORMANCES

PROVEN SUCCESS ACROSS MUNICIPAL AMI PROJECTS

Metron has successfully delivered advanced water metering and AMI solutions to municipal utilities across the United States. Our decades of experience and deep understanding of water utility operations allow us to design, deploy, and maintain solutions that consistently meet or exceed performance expectations.
Our deployments range from small pilot programs to full-scale system-wide implementations serving thousands of endpoints. In each case, we focus on accuracy, reliability, integration, and long-term partnership — the same priorities we bring the Town of Jerome's AMI project.

PAST PROJECTS & REFERENCES

Reference 1: (Municipal Utility) Town of Camp Verde, AZ
Client Name: Town of Camp Verde
Client Project Name: Meter Changeout Project
Client Reference Name & Title: Jeff Low – Utilities Director
Client Phone Number: 928-469-9063
Client Email: jeff.low@campverde.az.gov
Location of Work: Camp Verde, Arizona
Total Endpoints: 2,200
Initial Timeframe for Duration and Completion of Work: 1 year to complete all work including installation and billing
Scope of Work / Description of Work Performed (including systems integrated): Metron supplied cellular AMI water meters for the district's service area. The Town of Camp Verde handled all self-installation, supported by Metron's technical team for configuration and ongoing system support.
Comments: The Town of Camp Verde has had a successful time with the Metron product with a strong read rate and capturing thousands of dollars of unrecognized revenue.

Reference 2: (Municipal Utility) Avra Water Company
Client Name: Avra Water Company
Client Project Name: Water Infrastructure Finance Authority Meter Replacement Project
Client Reference Name & Title: Cathy Kuefler – Administrative Manager
Client Phone Number: 520-780-8689
Client Email: cath@avrawater.com
Location of Work: Tucson, Arizona
Total Endpoints: 2,600
Initial Timeframe for Duration and Completion of Work: 1 year
Scope of Work / Description of Work Performed (including systems integrated): Metron supplied 1,400 Cellular enabled registers and meters to Avra Water co-op. Avra has been conducting their own installation of the product to combat a failing Sensus drive by system.
Comments: Avra has had a successful Time with the Metron product with a strong read rate and capturing Thousands of dollars of unrecognizes revenue.

Reference 3: (Rural Utility) BDM Rural Water, SD
Client Name: BDM Rural Water
Client Project Name: AMI Deployment
Client Reference Name & Title: Rodney Kappes – General Manager
Client Phone Number: 605-448-5417
Client Email: rodneyk@bdmruralwater.com
Location of Work: Day County, South Dakota
Total Endpoints: 2,300+
Initial Timeframe for Duration and Completion of Work: Completed
Scope of Work / Description of Work Performed (including systems integrated):
Metron supplied cellular AMI water meters for the district's service area. BDM handled all self-installation, supported by Metron's technical team for configuration and ongoing system support.
Comments: Successful deployment enabled reliable meter reads across a rural service territory with minimal field maintenance.

Reference 4: (Municipal Utility) Evergreen Metro District, CO
Client Name: Evergreen Metro District
Client Project Name: AMI Upgrade
Client Reference Name & Title: Kevin Rosemeyer – Water Director
Client Phone Number: 303-301-5500
Client Email: krosemeyer@evergreenmetro.org
Location of Work: Evergreen, Colorado
Total Endpoints: 4,500
Initial Timeframe for Duration and Completion of Work: One-year upgrade process
Scope of Work / Description of Work Performed (including systems integrated):
Metron performed a full upgrade from a previous drive-by AMR system to a cellular AMI network to improve meter reading efficiency and data visibility. Meters were supplied and installed by Metron, including those in indoor applications across hilly terrain.
Comments: The deployment improved operational efficiency and real-time data access, resulting in high customer satisfaction.

Reference 5: (Municipal Utility) Town of Erie, CO
Client Name: Town of Erie, Colorado
Client Project Name: AMI Upgrade
Client Reference Name & Title: Chris Biggs – Meter Supervisor
Client Phone Number: 303-243-2520
Client Email: cbiggs@erieco.gov
Location of Work: Erie, Colorado
Total Endpoints: 3,900+ and ongoing
Initial Timeframe for Duration and Completion of Work: 2023 to Present
Scope of Work / Description of Work Performed (including systems integrated):
The Town transitioned from a mix of non-Metron AMI and older meter types to a standardized deployment using Metron cellular AMI meters and endpoints across all meter sizes. Metron supplied the meters and supported installation efforts.
Comments: Ongoing project aimed at improving system visibility, data access, and customer engagement.

CONSISTENT RESULTS AND LASTING PARTNERSHIPS

Metron's AMI solutions consistently deliver measurable benefits for our clients, including:

- **High Read Success:** Sustained read rates above 98.5%, even in challenging environments.
- **Improved Revenue Recovery:** Enhanced meter accuracy and real-time leak detection reduce non-revenue water.
- **Operational Efficiency:** Direct-to-cloud connectivity and automated analytics reduce manual labor and streamline operations.
- **Customer Engagement:** Customer-facing tools improve transparency, satisfaction, and trust.
- **Long-Term Reliability:** Systems are designed for 20+ years of service life with minimal field maintenance.

Our approach is focused on partnership. We collaborate closely with clients before, during, and after deployment to ensure their unique needs are met and we remain engaged long after installation to ensure continued system performance and customer satisfaction.

9. APPENDICES & SUPPORTING DOCUMENTATION

9.1. METRON ADVANCED METERING INFRASTRUCTURE (AMI) OVERVIEW

Metron's Advanced Metering Infrastructure (AMI) solution leverages existing cellular networks (Verizon/AT&T) to provide 1-minute, time-synchronized consumption data—without the need for additional infrastructure costs. This cellular-based architecture ensures ease of deployment and scalability across both rural and urban environments. Whether serving 200 endpoints or 100,000+, the outcome is consistent: immediate AMI capability with no additional infrastructure required.

Municipalities benefit by avoiding propagation studies, property lease negotiations, or the maintenance burdens of fixed-network equipment. There is no need to install or maintain costly reading infrastructure. Simply install a Prism® register or meter today and begin accessing real-time consumption data through our WaterScope® portal tomorrow.

CLOUD STORAGE & SYSTEM EFFICIENCY

All consumption data is securely stored within Microsoft Azure, removing the need for on-site servers while offering virtually unlimited scalability. Endpoint transmissions are randomized throughout the day to avoid network congestion, ensuring reliable data delivery.

WATERSCOPE® WEB PORTAL

Our high-resolution data is accessed through Metron's WaterScope platform—nominated as a finalist for the 2022 IoT "Best Utility and Energy Solution" worldwide. WaterScope provides utilities, business owners, and homeowners with web-based and mobile access to consumption data at no added cost. We also provide mobile applications for both utility and consumer use, ensuring full transparency and accessibility.
Metron offers an all-in pricing model—unlimited software access, cellular coverage, and support are bundled into the cost of the meter. This approach eliminates recurring fees and simplifies budgeting. Every component of the AMI ecosystem, from endpoint to portal, is developed and supported in-house. Customers have one point of contact for service and support, eliminating third-party complexity.

METRON'S AMI TECHNOLOGY AND SUPPORT FRAMEWORK

- **WaterScope® Platform**: Real-time analytics and alerting for leak detection, high usage, and more. Hosted on Microsoft Azure for high availability, security, and scalability.
- **Universal Endpoints**: Prism™ and Prism R registers retrofit to most existing meters and offer over 20 years of battery life. Endpoints transmit during off-peak hours to optimize network use.
- **Consumer and Utility Portals**: Robust tools for understanding usage trends, budgeting water consumption, and detecting leaks. Both portals are accessible via web and mobile applications.
- **Integration Capabilities**: Supports flat file transfers, API, FTP, and VPN—ensuring easy alignment with existing billing or customer systems.
- **Project Management**: A structured methodology with dedicated teams, comprehensive training, and proactive support throughout the life of the deployment.
- **Innovative Features**: Metron was first to market with cellular AMI and delivers 1-minute interval data, enabling granular analytics such as fixture-level consumption and peak flow reporting.

METRON SYSTEM ARCHITECTURE AND AMI HARDWARE OVERVIEW

Metron's AMI architecture uses a radically different design philosophy. The Prism® register contains its own integrated cellular communication module, eliminating the need for a separate endpoint device. This configuration drastically reduces battery usage by removing frequent wake-ups for internal polling.
The result: unmatched data resolution and battery longevity.

- **Ultrasonic Meters**: Highly accurate, with no moving parts—ideal for long-term, maintenance-free service.
- **Single-Jet Meters**: Cost-effective and reliable for residential and light commercial use.
- **Hybrid Meters**: Combine mechanical and ultrasonic technology for specific or challenging applications.

The Prism™ register can be retrofitted to most existing mechanical meters, providing full AMI capability without meter replacement. The register stores 1-minute intervals over a rolling 45-day period (227 days for 5-minute commercial applications). If a daily transmission fails, the data is backfilled upon reconnection or can be retrieved locally via IrDA.

**Prism™ Register Functionality and Design**

- **Data Transmission**: Each register sends a single, daily, time-synchronized transmission containing all usage data for the previous 24 hours. This allows utilities to perform system-wide analytics such as peak demand or non-revenue water loss with consistent, aligned data.
- **Two-Way Communication**: Supports remote firmware updates and programming.
- **Installation Flexibility**: Available antenna types include pit mount and paddle, with 5', 12', or 20' cable options. Our two-part design allows damaged cables to be repaired independently, saving cost.
- **Durability**: Fully submersible (IP68) and functional in temperatures from -0°F to 140°F. The standard warranty includes 10 years full, and 10 years prorated coverage.

Future-Readiness: Our solution is designed with scalability in mind, accommodating the utility's growth and future technological advancements. This future-readiness ensures a long-term, sustainable investment. Metron is continually enhancing the functionality and efficiency of our platform and welcomes the opportunity to collaborate on future features and custom integrations. We are happy to discuss these opportunities further once a mutual NDA is in place.

Over the next three years, Metron will continue to:

- Expand **WaterScop**e analytics and reporting tools, including our latest addition of **WaterMasters™** a subscription-based monitoring service that provides continuous oversight of your water system.
- Integrate **AI-driven leak prediction and water usage forecasting**
- Enhance **mobile application** features for utilities and consumers

METRON SYSTEM ARCHITECTURE DIAGRAM

Advanced Metering Infrastructure (AMI) Project
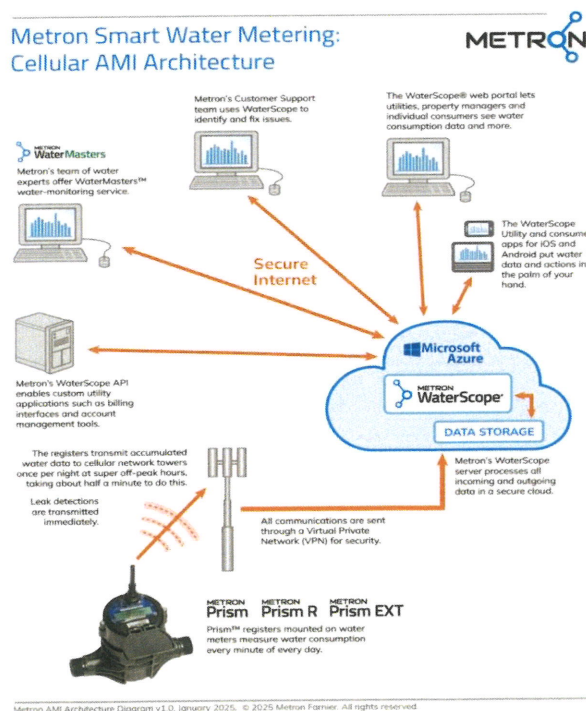
9.2. PROPAGATION STUDY

DUAL TELECOM PROVIDER STRATEGY:

Metron maintains active partnerships with both **Verizon** and **AT&T**, ensuring broad and resilient network coverage across all deployment environments. Our metering devices operate on the **LTE-M (Long-Term Evolution for Machines)** cellular band—**a low-power, wide-area network specifically designed for IoT devices**, including smart meters. LTE-M runs in parallel to the 5G network but remains independent of it, ensuring reliable performance today while staying future-ready.

As cellular providers expand their capabilities to **5G, 6G, and beyond**, Metron's solution will continue to operate seamlessly on the LTE-M network. We are committed to evolving alongside our technology partners, ensuring the long-term viability of every device we install. This guarantees that meters deployed today will remain compatible and functional for **20+ years** into the future, protecting utility investments over time. We leverage a **multi-carrier setup** to enhance network reliability. **Verizon** serves as our primary provider, offering robust nationwide coverage. **AT&T** provides automatic failover support, stepping in to maintain uninterrupted service in the rare event of a Verizon disruption. This dual-carrier approach ensures **constant connectivity and operational continuity**, regardless of local conditions or carrier-specific issues.

One of the key advantages of Metron's **cellular-based AMI solution** is its **elimination of costly and complex infrastructure**. Our system requires **no repeaters, no towers, and no proprietary mesh networks**— dramatically reducing deployment time, maintenance costs, and operational overhead. This not only simplifies installation but also removes long-term risks associated with managing and maintaining dedicated communications hardware.

The result is a highly **scalable, low-maintenance, and future-proof AMI network** that delivers reliable performance in both urban and rural settings, including hard-to-reach areas with challenging terrain. Cellular metering allows utilities to **focus on data-driven decision-making** rather than infrastructure management, accelerating the path to smarter water systems and improved customer engagement.

System testing is a continuous process that takes place from the start of the project until final completion to ensure read reliability as well as customer satisfaction. While Verizon has provided a propagation study ensuring 100% coverage of the Town's cellular network and communication to proposed endpoints, Metron also recommends, if needed, the use of interchangeable antennas to optimize signal. Should the need arise at the time of installation when the field installer is verifying the Received Signal Strength Indicator (RSSI), installers will be equipped with antennas to ensure a continuous reliable cellular connection.

In addition to paddle antennas and RSSI being checked at the time of installation, Metron is continuously monitoring system health reports to identify any anomalies or missed readings immediately after the time of installation. This ensures that each account is positioned to perform from project inception through the life of the system.

Verizon LTE-M coverage

AT&T coverage

Advanced Metering Infrastructure (AMI) Project
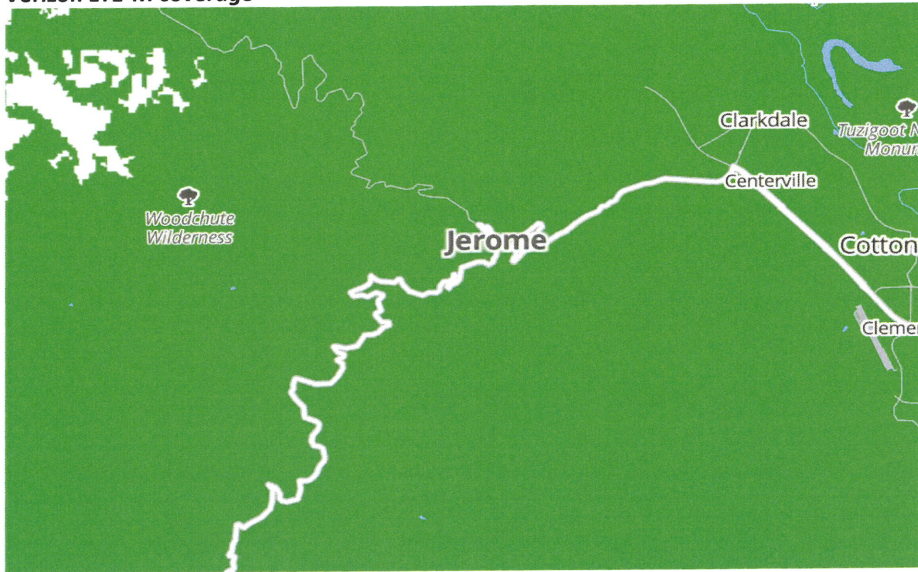
9.3.   METRON ENDPOINTS – THE PRISM REGISTER

The Metron system is constructed in a very different way than other AMI systems. The Metron Prism register endpoint has the communications built into the register. There are several advantages to this design, with battery life (20+ years) and data resolution being the most significant. Typical AMI systems have an endpoint that wakes up every hour, or sometimes 15-minutes, to communicate with the meter to obtain updated usage information. That is a very battery intensive operation and is the limiting factor in data resolution. Because the Metron Prism register has eliminated that constant communication (i.e. battery drain), we can capture and store the usage intervals down to a single minute. This gives the utility true GPM calculation and unrivaled water usage analytics never before available. The most unique design feature of the Prism cellular register is its universal compatibility. The Prism register can be retrofitted to the utility's existing mechanical meters. No need to replace your meter to gain access to what the Prism cellular register offers.

PRISM REGISTER OPERATION

The register stores the 1-minute intervals throughout the course of the day while the communications aspect is essentially in sleep mode. Then, one time per day, the register will wake up and send the equivalent of a text message over the existing cellular network with time-synchronized midnight-to-midnight consumption data. The data is time-synced so the utility can do macro level analytics such as water loss, time of use, peak flow, etc. on a system wide basis. No more apples to oranges comparison.

The Prism register stores up to 45 days of 1-minute interval data for residential applications and 227 days of 5-minute interval for commercial applications. Should a daily transmission fail, the actual missing data will be backfilled upon the next successful connection. This data may also be retrieved locally via an IrDA communication. The Prism offers full two-way functionality, which allows for over-the-air programming and over-the-air firmware updates. (IrDA as well)

The Prism can be installed in pits or indoors and there are multiple antenna options to ensure connectivity. The pit mount antenna secures through a pre-drilled 2 ¼" hole for deeper meter sets. The paddle antenna (recommended) can be mounted to the underside of the lid. Each option comes in 5', 12', or 20' cable lengths. Our 2-part design allows for cut cables to be remedied without having to replace the entire register, saving the utility in cost/repair.

The Prism is fully submersible (IP68) and operates between -0 to 140 degrees Fahrenheit. Storage is between -20 to 140 degrees. The industry standard warranty is for 20yrs; a full 10-year, as well as an additional 10 years prorated.

WaterScope Dashboard 1-minute

9.4. METRON'S HEADEND SYSTEM – WATERSCOPE®

The Metron head end system, WaterScope, is a web-based platform that is accessed via an internet connection, username, and password. WaterScope is maintained by a group of internal software engineers which means there are no third-party licensing requirements. Metron gladly takes customer feedback and suggestions to continue to make WaterScope as useful to a water utility as possible. The platform is constantly improving but the improvements occur without any interruption of day-to-day operations and at no cost to the utility. There are also no recurring charges for the first ten years incurred by the utility for access and no limitations to the number of users. Anybody and everybody within the City can have login access and all users can be logged in simultaneously.

CONDITIONS - NOTIFICATIONS

As the endpoint transmissions are delivered in the middle of the night the 1-minute analytics are analyzed for several different utility defined conditions. The conditions are configurable, and the utility has the option to opt in for auto generated notifications. Those conditions are:
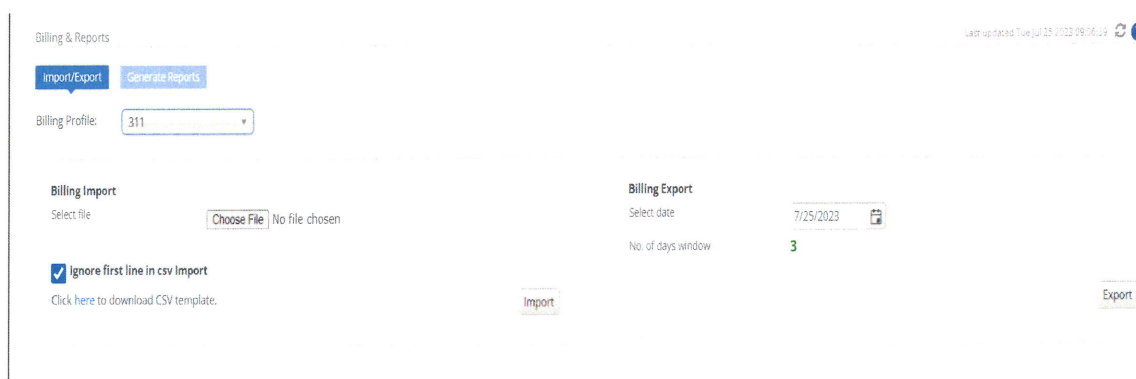
- **Leak** – A leak flag is triggered if there were 1440 1-minute intervals that had consumption above 0. Metron feels that if the meter can't register 0 gallons for at least 1-minute in a 24-hour period there is no question there is a leak.
- **Threshold Leak** – The Metron residential meter is accurate below 1/50th of a gallon per minute. Due to this, the program detects a lot of trickle leaks. In an effort to not overwhelm utility personnel with leak notifications, we've established this condition so the utility can filter notifications by a true GPM flow. For example, if 0.25 gpm is considered an 'actionable' leak rate from a utility perspective, WaterScope will only notify utility personnel of leaks greater than 0.25 gpm. The threshold can then be lowered or raised as needed.
- **Intermittent Leak** – The intermittent leak is designed to identify leaking toilets, or any other fixture in a home that runs intermittently for extended periods of time. The utility can configure the trigger as to not have irrigation events and/or constant leaks trigger the flag.
- **High Usage** – The high usage flag is a configurable daily consumption value. If usage exceeds the daily value, an alert is generated.
- **Backflow** – The backflow alert will trigger if a configurable amount of water runs in reverse over a specified period of time. It is also a useful flag for meters that were mistakenly installed backwards.
- **Zero Use** – The zero-use condition will trigger if NO water is used over a configurable period of time. This flag is useful for rental/vacant properties at the homeowner level, but for the utility can be used as a revenue protection alarm for the larger size meters. 30 days seems like a long period of time, especially for larger meters. The user can configure this alarm by meter size.
- **High Meter Flow** – This alert will notify the utility if flow rates exceed the high-end capacity of the meter. Can be helpful for right sizing an application.
- **High/Low Temperature** – The Spectrum Wave will detect water temperature and send an instant alert if temperature thresholds are hit. The Metron Prism measures the daily high and low ambient temperature. The sensor is built into the register, so the temperature reflects the meter level as opposed to the temperature at the pit lid level.
- **Unauthorized Use** – The utility can upload a list of meters that have been shut-off for non-payment and WaterScope will alert to cases where the homeowner has turned the water back on.
- **Unexpected Use** – This condition is designed for the homeowner so they may receive alerts if water is used unexpectedly. Use cases would be rental/vacant properties, snowbirds, and vacations.
- **Watering Event** – If the City intends to implement watering restrictions now or in the future the Watering Event condition can help monitor those restrictions. Restrictions can be mandatory/voluntary, based on time of day, and the days in a week. The Metron VN system is the only one that offer this as the Prism is the only device that can identify indoor vs outdoor use based on the flow rate.
- **Emergency Transmit** – The emergency transmit feature is meant to catch real time leaks. The condition is configurable by meter, and triggers if a configurable amount of flow occurs over a configurable amount of time. In that event the Prism will wake up off schedule and send an emergency text to the homeowner.

NOTE – Some insurance companies are willing to provide a rebate to the homeowner if they opt in for the emergency leak option. This only occurs because of the 1-minute data intervals Metron provides and the real time call in.

BILLING INTEGRATION & REPORTS

The WaterScope program is very flexible with regard to integrating with utility billing vendors. Typically, the integration occurs without the utility having to make any changes. There are also no resolution or multiplier requirements that need to be sent to the WaterScope program.

The most common integration method is a file transfer (text or csv). This file is used to populate the WaterScope site with pertinent information such as the Account Number, Customer Name, and Customer Address. Below is a screenshot of the file transfer screen within WaterScope.

WaterScope supports API integrations as well as FTP and VPN file transfers. For more see *webapi.waterscope.us/HelP*

WaterScope offers several integrated reports. There are no third-party requirements to generate the reports, and the user may export unlimited numbers of them. The following outlines currently available reports:

- **Billing Usage** – This report returns a consumption value between a configurable date range.
- **Read Report** – Provides the current read on selected meters. The user has the option to view the full LCD read, or the scaled billing read.
- **Consumption by Meter Size** – Returns a report for aggregated consumption by meter size for the selected range of meters.
- **Comparative Report** – Returns comparative usage for a single meter, group of meters, or all meters for a configurable number of years.
- **Single Meter Consumption** – Returns interval data for a single meter over a configurable date range. The intervals can also be configured by the minute, hourly, daily, or monthly. This same report can be generated by the homeowner per consumer user access.
- **Historic Read Report** – Allows the user to view either the full LCD read or scaled billing read for a configurable date range. The report can be generated by a single meter, group of meters, or all meters.
- **Endpoint Configuration Report** – Displays current programming values of the Prism for a single meter, group of meters, or all meters.
- **Account Daily Consumption** – Returns daily consumption values for a single meter, group of meters, or all meters over a configurable date range.
- **Consumption Report** – Similar to the account daily report, but this one lets the user view consumption in interval data. Intervals can view hourly, daily, or monthly for a single meter, group of meters, or all meters for a specified date range.

MACRO LEVEL ANALYTICS

WaterScope offers a number of different macro level analytics. The more prominent ones being District Metering, time of use, flow rate analytics, and comparative analytics.

District Metering – The district metering groups can be configured regionally as well as system wide. The utility can easily identify the supply meter(s) and then subsequently assign the demand meters downstream. Adding/removing meters from a DMA group is also very user friendly. Below is a screenshot of the analytic
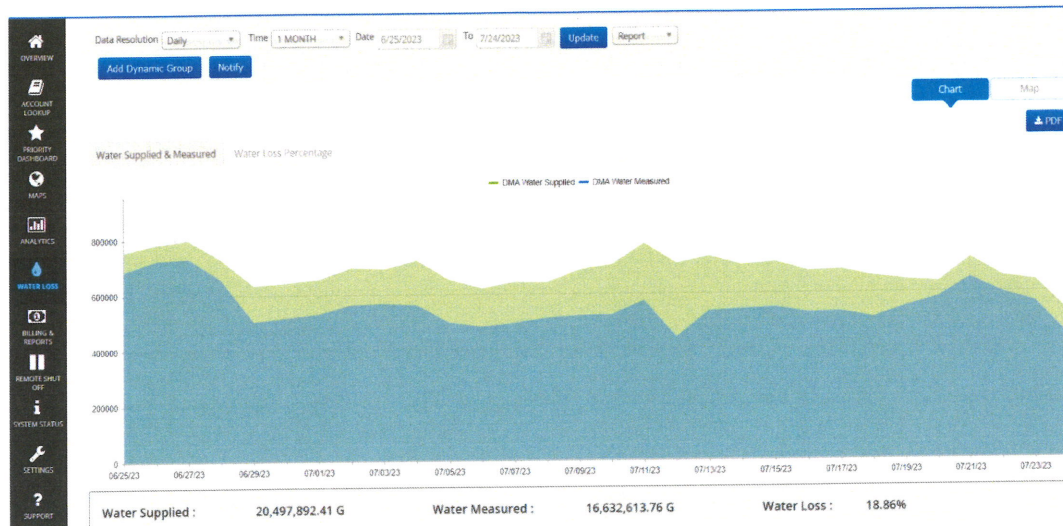
NOTE: *WaterScope also has the ability to monitor cooling towers. Should the City have any downstream cooling towers the building maintenance group could have the ability to monitor for cycles of concentration, faulty valves, etc.*

Analytics Dashboard – The analytics dashboard gives the utility a customized view of how the water is being consumed within the utility. The breakdown is indoor vs outdoor vs leak. This is a system wide total. The timeframe can easily be edited to reflect a month or a past week's usage:
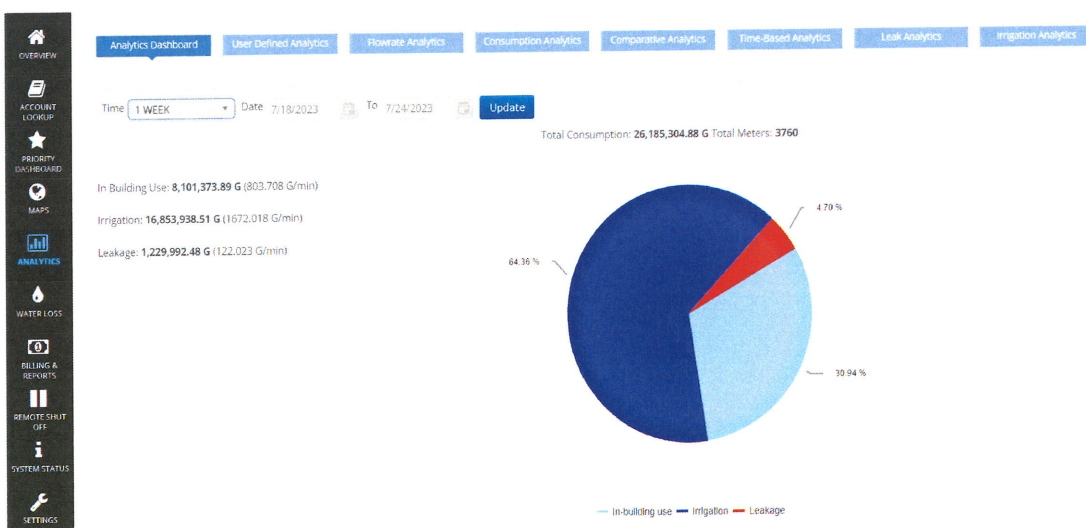
Flowrate Analytics – The flowrate analytics page allows the utility to view total consumption by flow rate, either system wide, by a group of meters (i.e., irrigation meters), by meter size, meter type, etc.

Comparative Analytics – View consumption differences from week to week, month to month, or by a custom date range for system wide consumption or by a utility defined group.

Advanced Metering Infrastructure (AMI) Project
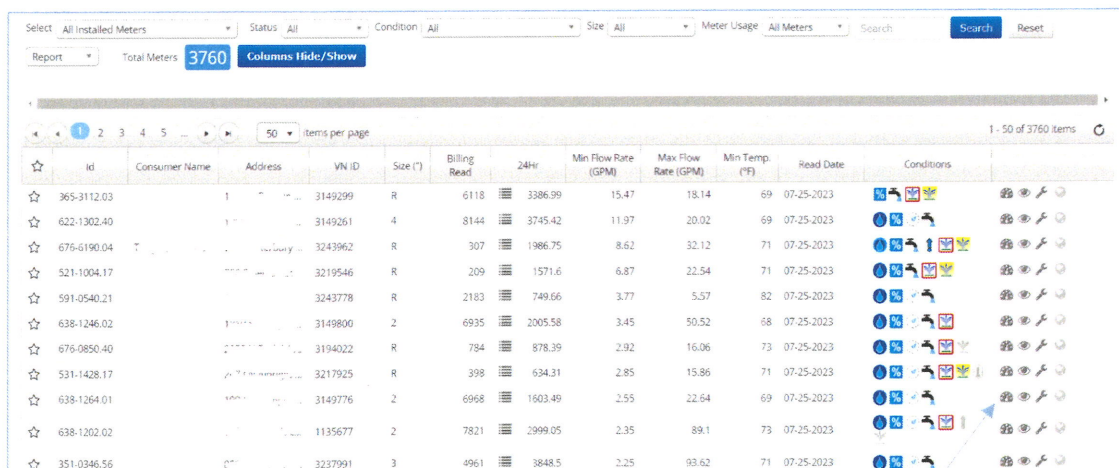
Time Based Analytics – The utility can utilize time-based analytics to see at what times per day the majority of water is being used. This could be especially useful during summer months to ensure that water supplied is keeping up with demand during irrigation.

MICRO LEVEL ANALYTICS

Aside from the different flag conditions mentioned prior, there are a number of consumption-based analytical options for the single meter. The Account Lookup screen is the utility bridge to each individual meter. On the account lookup screen, the utility can view the Account Number, Name, Address, Size, 24-Hour consumption, minimum leak rate, maximum leak rate, and low temperature. The user has the option to configure this screen to only display columns of importance to that user.

Users can easily filter by condition, size, type, group, etc. It is also very easy to lookup a particular meter via the Search option. Users can also view single meter configuration, signal strength values, current read, as well as enter notes for specific accounts. Notes are accessible to all users within the utility.

To access the consumption details for an individual meter, click the dashboard icon.

Advanced Metering Infrastructure (AMI) Project

There are a number of different single meter analytics pages available to both the utility and the end user. The utility can ultimately determine what access and what analytical screens are made available to the end users by a simple configuration:

Menu Settings

Consumer User	Menu Name	Action
Utility Admin/Owner	Consumer Dashboard	☑
	Consumption History	☑
Group (BillingProfile/Utility/Commercial)	Usage Analysis	☑
	Water Budget	☑
Consumer Group	Flowrate Analysis	☑
	Environmental	☑
Utility User	Notifications	☑
Utility User 1	Watering	☑
	Consumption Comparison	☑
Utility Tech	Settings	☑

Apply

Consumer Dashboard – The consumer dashboard gives a quick summary of things like the current billing read, the past 24 hours consumption, month to date consumption, daily average, as well as a graphical representation of the past 24 hours consumption.

Advanced Metering Infrastructure (AMI) Project
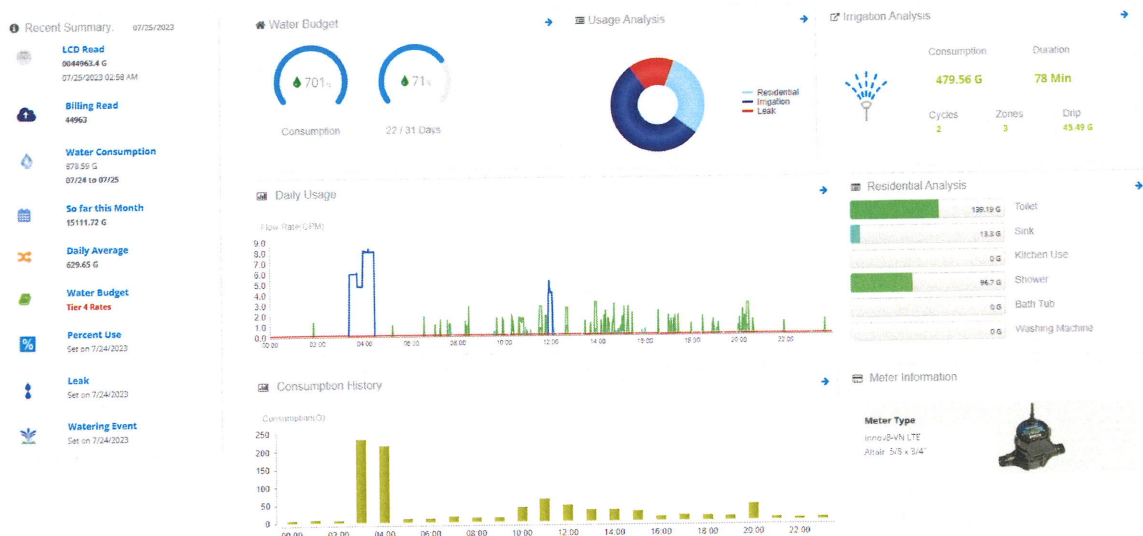
Consumption History – The consumption history allows the user to view the past day, week, month, year, or a custom time period (i.e., start-stop actual billing dates). The WaterScope program analyzes the data in 1-minute intervals and based on the flow rate and duration of time, designates the usage for things such as irrigation, toilet flushes, sink use, etc.
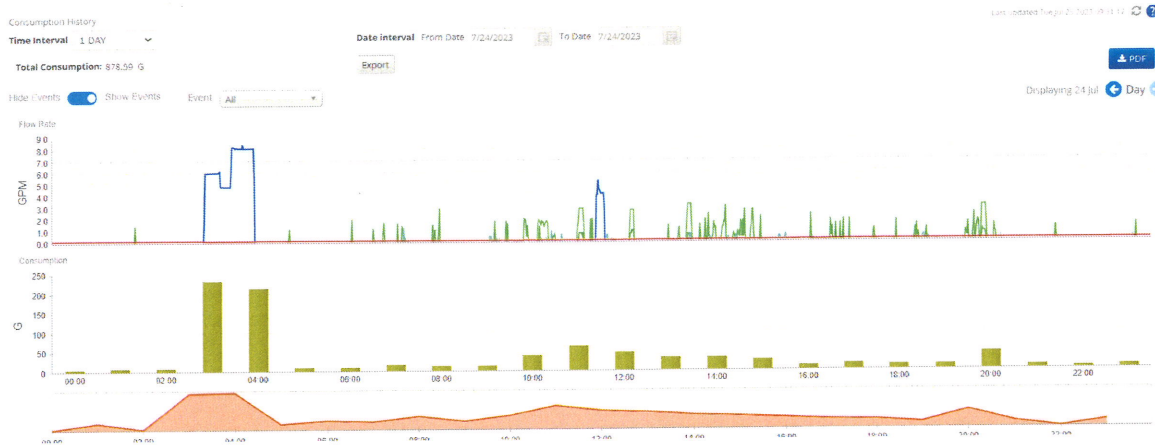
This page is very useful to the utility and end user to view leaks. In the example below the red line outlines a leak running at 0.09 gpm.
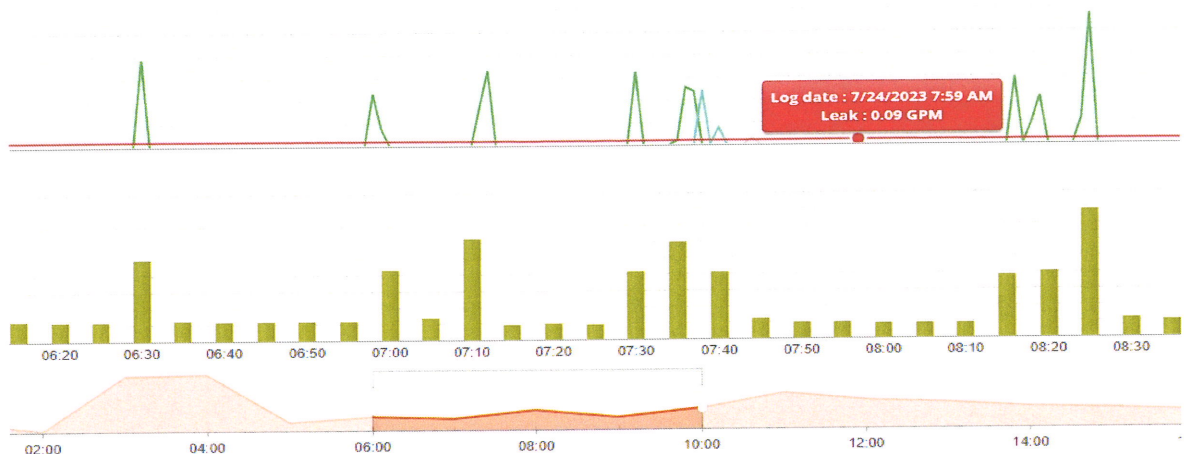
Usage Overview – The usage overview page presents the different types of consumption (indoor, outdoor, leak) so both the utility and end user can see how much water is being used in the different categories. When an end user can quantify how much water is potentially being wasted on a leak, or potential over-irrigating, it helps them understand the bill and adjust as necessary.

One Month Consumption Analysis	
Irrigation	8,821.36
Leak	4,471.64
Indoor	5,873.52
Total	19,166.52
Leak Rate	0.07GPM

Actions

⬇ Export to CSV

> 70% of the monthly usage for this account is either irrigation or leak.

Indoor 5,873.52 Irrigation 8,821.36 Leak 4,471.64
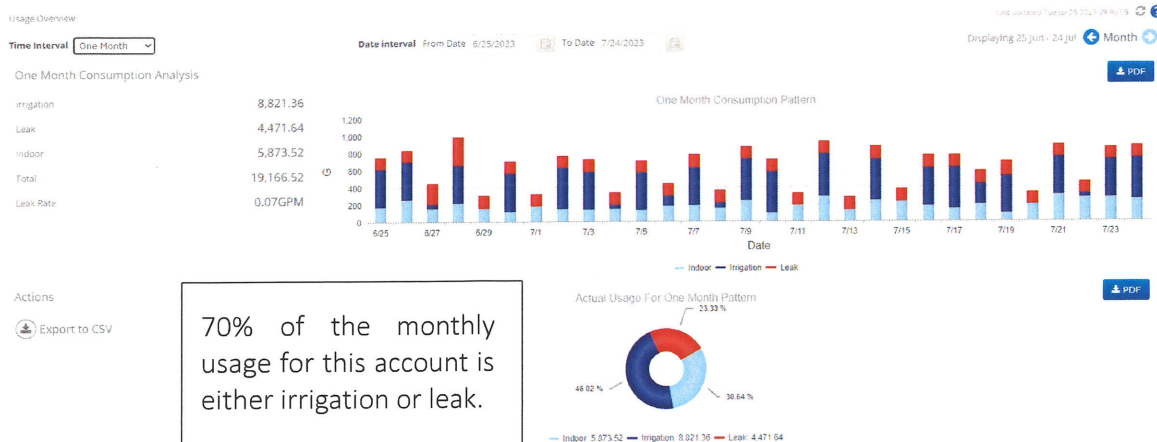
Water Budget – The water budget feature allows the end user to track monthly usage compared to a goal they have set themselves, or that has been set by the utility. That monthly usage goal can reflect billing tiers, average use within the utility, or seasonal expectations. The tiers within the budget are ultimately controlled by the utility. The screen displays total use per day, indoor vs outdoor, as well as a trend graph for month to date. The data is displayed statistically and graphically.

Statistically:

Daily Budget	225.81 G
Cycle Daily Average	351.77 G
Last 24 Hr	375.14 G
Cycle Budget	7000 G

You are 25 days into this cycle
which is 80.65% into the month

You have used 909.56 G for Irrigation

You have used 8794.21 G so far this cycle
which is 125.63% of your water budget

Your Water Budget is

Wasteful

Graphically:

Consumption

Cycle Accumulative

Advanced Metering Infrastructure (AMI) Project

Consumption Comparison – The user may view comparative consumptions year over year either by a total monthly volume, or average usage per day over a given month for a single meter.
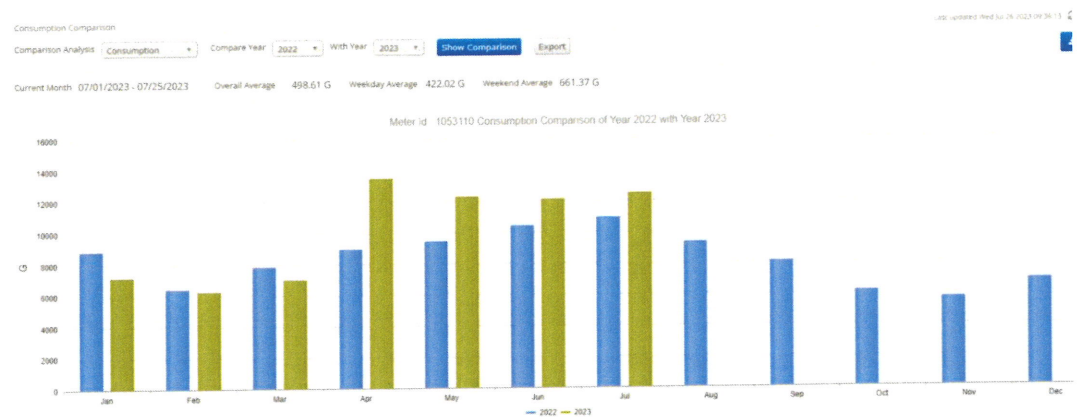
Environmental – The user can view daily maximum ambient temperature, as well as daily minimum ambient temperature. Alerts may be setup for both. Monitoring this is particularly beneficial in the winter months.
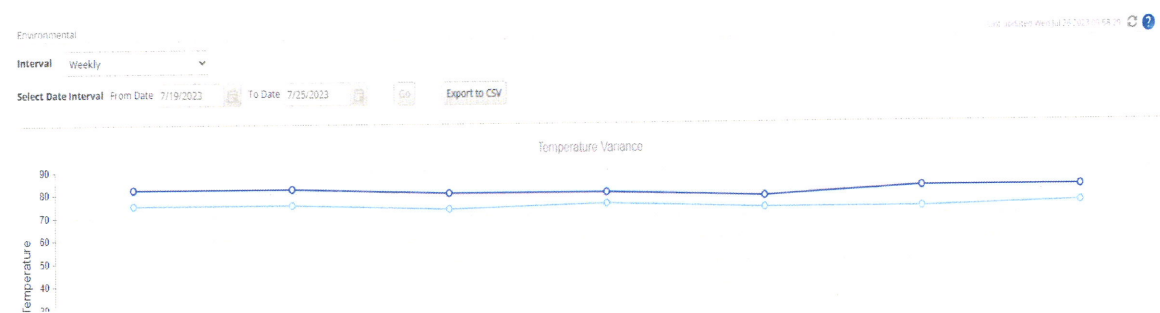
Watering – Should the City decide to implement Watering Restrictions, the Watering calendar lets the homeowner know what days are available for them to irrigate.

CONSUMER CONFIGURATION

Verification – The consumer can opt in for email, text, or both to receive alerts. They may also add additional emails and phone numbers to the account.

Set Notifications – Allows the homeowner to choose which flag conditions to receive notifications for. There is a brief explanation to the homeowner on what will trigger each condition.

Alert Schedule – The consumer can define what days alerts will come in. 7 days a week is the default.

Advanced Metering Infrastructure (AMI) Project

Unexpected Usage – The consumer can set an unexpected usage date range, or per the days of the week. This is designed to detect unexpected usage for things like rental properties, snowbirds, or when a consumer goes on vacation. It is also beneficial for businesses that may be closed certain days of the week.

Notification Settings

Verification	Set Notification	Alert Schedule	**Unexpected Usage**	Consumption Per Day

Settings

☐ From Date 9/27/2016 📅   To Date 9/27/2016 📅

☐ ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

Apply

Consumption Per Day – The consumer can set daily consumption alerts, as well as low temperature alerts. The notification is only sent if daily usage exceeds the consumer defined threshold, or the temperature falls below the consumer defined value.

Notification Settings

Verification	Set Notification	Alert Schedule	Unexpected Usage	**Consumption Per Day**

Consumption:

200   G

Minimum Temperature:

28   °F

✉ Temperature Notifications   ☑

✉ Consumption Notifications   ☑

Save

HEAD END SYSTEM IN SUMMARY

The WaterScope® web portal seems to not only meet but exceed the expectations of what the County expects in a head end system. With numerous different conservation tools both at a micro and macro level, WaterScope will provide the tools to the County to help manage the system efficiently, effectively, and transparently.

9.5. CONSUMER PORTAL OVERVIEW

The WaterScope package includes a fully incorporated consumer portal. The consumers can access their usage information either via the web portal or the mobile app. The mobile app is available for both Apple (iOS) and Android. Both the app and the web portal are maintained by Metron so there will be interruption to either the City or the homeowner when enhancements and patches are made to the program.

Signup for the consumer portal is very simple. The homeowner simply enters their Prism serial number along with the matching account number and as long as the two match WaterScope will allow the signup. The authentication between the Prism and account number is to prevent a homeowner from inadvertently signing up for another meter.

CONSUMER PORTAL WEB VERSION

The web version of the consumer portal reflects the exact same screens that were discussed on the Micro level of the head end system. This is very beneficial when the City customer support staff engages with a homeowner as it allows both sides to view the same exact information. The City has the ability to customize what screens the consumer has access to. The homeowner then has the option to decide which alerts they would like to receive. The following will cover the consumer web version with signup process and available analytics.

SIGN-UP

To signup, a consumer user must have the Prism's VN ID as well as the account number. The account number will be the City account number maintained within the billing software. They will begin by clicking 'Register', the next screen will prompt for the VN ID and Account number:

CONSUMER PORTAL MOBILE VERSION

WaterScope offers many of the same benefits in the web version in both an iOS and Android app version. The signup process is the same, enter a VN ID with matching account number and the consumer may continue along the registration process. Upon registration completion, the user will access to the following:

Advanced Metering Infrastructure (AMI) Project

Dashboard – The dashboard screen will show the consumer the prior day's usage, current leak status, an up-to-date water budget, and the usage breakdown.
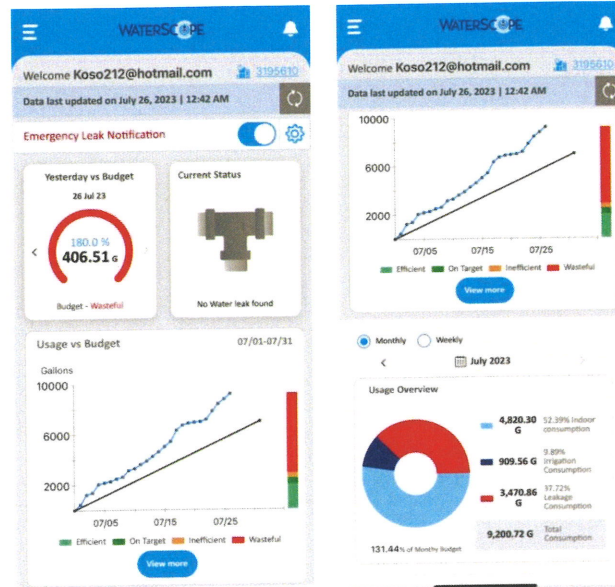
Usage Overview – The usage overview slide allows the consumer to view more granular data. They have the ability to analyze the usage monthly, weekly, daily, and hourly (1-minute view). The consumer can also view the same time intervals but for indoor, outdoor, and leak, respectively.
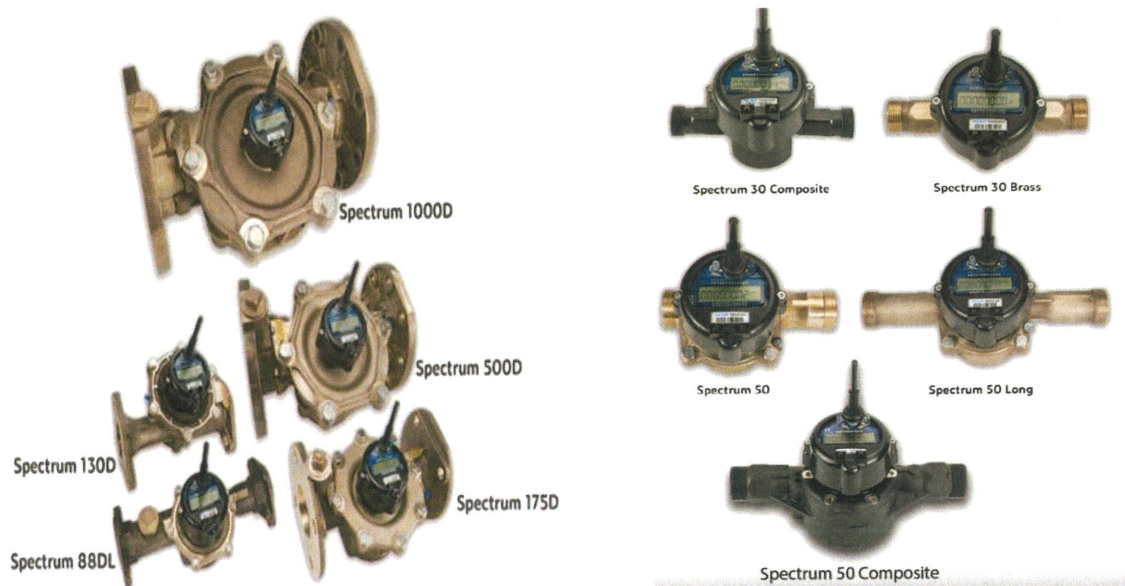
Advanced Metering Infrastructure (AMI) Project

Notifications – The consumer can choose which notifications to opt in for, much like in the web version. They may also view a notification history.
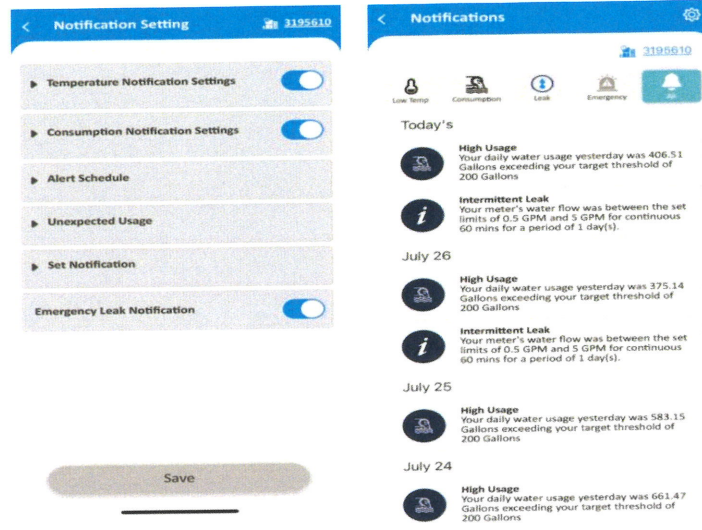
9.6.   WATER METERS

Metron offers a full line of water meters ranging from 5/8" to 8" and prides itself on the low-flow capability of our meter line. The Spectrum Jet single-jet family is the widest ranged, single-measuring element meter available to U.S. utilities. With its simplistic design coupled with minimal accuracy degradation, revenue stays steady throughout the life of the meter and eliminates the testing and maintenance normally required for commercial meters that offer this type of performance. Set it and forget.

Spectrum 1000D

Spectrum 500D

Spectrum 130D

Spectrum 88DL

Spectrum 175D

Spectrum 30 Composite

Spectrum 30 Brass

Spectrum 50

Spectrum 50 Long

Spectrum 50 Composite

SINGLE-JET OPERATION

The Spectrum Jet meters are velocity-type meters that incorporate a single tangential jet which flows across the impeller. The impeller is offset from the water flowing through the tangential jet such that the water travels perpendicular to the rotational axis of the impeller. Using an exclusive twin pivot design the meter combines excellent sensitivity at low flow rates and friction free operation at high flow.

Incoming water rotates a suspended impeller that is magnetically linked to the register. A low friction tungsten carbide bearing supports the impeller at low flow rates while a tungsten carbide thrust bearing provides support at high flow rates. This unique "dual bearing" design provides unparalleled accuracy and durability at both high and low flows.

Dual Bearing Design

• *No Crossover Loss*
• *No Wear at High Flows*

Low Flow Rates   *High Flow Rates*

Advanced Metering Infrastructure (AMI) Project
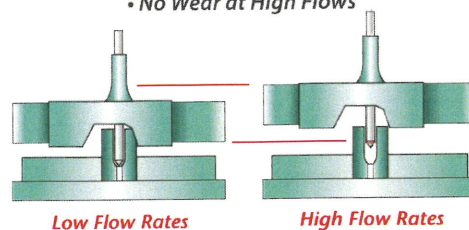
LOW FLOW ACCURACY

For comparative context, a typical 1.5"-2" PD meter has a new meter accuracy low flow listed as 1-1.5 gpm. The Metron 1.5" and 2" Single-Jets offer a low flow accuracy of ¼ gpm. The difference in captured usage between ¼ gpm to 1.5gpm generates a rapid ROI, additional revenue and higher accountability for the customer. Please refer to product spec sheets for specifics on all meter sizes.

Our Spectrum PD 5/8x3/4" rotary piston PD meter provides high level accuracy down to 1/50th+ of a gpm making it the most accurate mechanical residential meter in the industry and matches or surpasses most solid-state meters. The same holds true for the larger Spectrum Jet commercial meters.

Note: Unlike most static meters, the top-load design allows for quick in line OEM chamber replacement for end of life or repair which restores low flow accuracy back to new meter specification and can be done at considerably less cost than having to buy a new meter. This is *not* a "throw away" meter and can provide the utility *decades* of reliable and accurate consumption data.

Metron's single-jet meter line paired with high resolution 1-minute or 5-minute data analytics, and the WaterScope web portal gives water utilities a system with the unrivalled ability to not only monitor and manage a distribution system from a supply aspect but also provide transparency and extensive customer service analytics previously unavailable to the U.S. water utility industry. A win-win for both the customer and utility.

SPECTRUM WAVE ULTRASONIC METER

The Spectrum Wave ultrasonic meter is an advanced water metering instrument. Its measuring unit is based on a "See Through" ultrasonic technology. With this concept, the two sensors, used alternatively for the transmission and the reception of the ultrasonic signal into the water pipe, are installed on each end of a straight section of the water pipe. With such a mechanical configuration, the water flow remains free of any mechanical structure that would increase the drop of pressure inside the meter. The meter provides a very wide range with low flow accuracy to 0.05 gpm which will capture the highest levels of revenue.

The Spectrum Wave meter is equipped with a built-in cellular module and internal antenna which provides seamless integration into the WaterScope water management system. The meter does have an external antenna port for challenging environments, but in most residential applications, the utility will not need to deal with any external cables. An industry standard 3-wire encoder output can also be optionally ordered.

Spectrum Wave Ultrasonic Meter

*For more in-depth information, please refer to **Metron Meter Datasheets**.

9.7. TRAINING INFORMATON

We are committed to providing as much training as the utility needs/wants. Trying to learn a new system in just a day or two can be overwhelming so we typically phase in the training from the simplest form to the more advanced over time.

ONGOING TRAINING AND SUPPORT

The entire training and support costs are included in the up-front bundle so there will be no additional fees for training current users on new features, or for new utility staff that start employment after the project is completed.

'

Training documents are online and can be easily downloaded and printed into paper form.

Metron prioritizes comprehensive training sessions tailored to different groups within the utility, including field personnel, administration staff, and customer service representatives. While these are the standard groups, additional training can be arranged upon the utility's request.

At the project's outset, a brief training session is conducted to provide utility personnel with a fundamental understanding of Metron's meters and systems:

- **Field Training**: Covers topics such as Meters, Registers, Antennas, Local Communication, and Configuration.
- **Administration Training**: Introduces users to the WaterScope platform, providing initial login credentials and familiarizing them with essential functionalities.
- **Customer Service Training**: Like administration training, it includes an introduction to the WaterScope platform, initial login credentials, and focuses on customer service-related functionalities.
- **Billing Training**: Includes WaterScope platform introduction, initial login credentials, and discussions on system interface for billing purposes.

As the project nears completion, Metron collaborates with the utility to schedule comprehensive training sessions tailored to each category mentioned above. These sessions delve deeper into meter functionalities and system operations, ensuring utility personnel are proficient in utilizing Metron's technology to its fullest extent. Additionally, the training schedule and content are customized to meet the specific needs and preferences of the utility, ensuring optimal knowledge transfer and skill acquisition.

TRAINING SUMMARY

- Continuous access to training for all current and future utility staff.
- Live support and refresher courses available on request.
- No additional cost for new employees.

![METRON Spectrum JET] ![METRON]

Residential Spectrum Jet Meters

Product Datasheet

Applications

The Spectrum Jet single-jet meter is the widest range single measuring element meter available to North American utilities. Spectrum Jet residential meters are designed for extremely wide range and long-term accuracy. The single-jet technology is highly impervious to dirt, sand or grit in the water system. The combination of design simplicity, superior grade materials, and high quality manufacturing standards allows for years of virtually new meter performance with no maintenance.

Spectrum Jet residential meters are available in composite (reinforced plastic) and lead-free bronze models across all common residential sizes.

Coupled with the advanced Prism cellular registers, Spectrum Jet single-jets are the meters of choice for your revenue assurance and water loss programs.
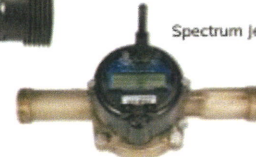

Spectrum Jet 15D, 25D and 30D

Spectrum Jet 30DL

Spectrum Jet 30DB

Spectrum Jet 50DL

All meters are shown with Prism cellular registers installed

Spectrum Jet 50DLC

Operations

Incoming water rotates a suspended impeller that is magnetically linked to the register. A low friction tungsten carbide bearing supports the impeller at low flow rates while a tungsten carbide thrust bearing provides the support at high flow rates. This unique "dual bearing" design provides unparalleled accuracy and durability at both high and low flows.

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow.

All Spectrum Jet Model D meters utilize Prism registers. These sealed electronic registers provide a high resolution interface to the meter and have multiple cellular, AMR, AMI and SCADA outputs. All registers are attached with a robust tamper-resistant housing.

Materials

All residential Spectrum Jet Model-D meters are designed and manufactured to meet or exceed AWWA C712 standard design and performance specifications. All models are maintained with NSF-61G lead-free certifications.

Standards

AWWA C712 – Single-jet meters

NSF-61G – Drinking water system components health effects

Design Features

- High accuracy – exceeding high and low range of AWWA residential standards
- Starting flow below 1/16 gpm
- Excellent performance in adverse water conditions
- Advanced materials for long-term durability
- Unaffected by sand or small debris in line
- No straight pipe requirements upstream or downstream of meter
- High resistance to freezing
- Lightweight, compact design for simple installations
- No strainer requirement
- Compatible with all Metron Prism registers and associated AMR/AMI capabilities

Mechanical Specifications

Spectrum Jet 15D – AWWA ⅝ x ½" (15mm) Short

Construction	Threads	Lay Length
Composite	¾" NPSM	3.9" (100mm)

Spectrum Jet 25D – AWWA ⅝ x ½" (15mm)

Construction	Threads	Lay Length
Composite	¾" NPSM	7.5" (190mm)

Spectrum Jet 30D – AWWA ⅝ x ¾" (15x20mm)

Construction	Threads	Lay Length
Composite	1" NPSM	7.5" (190mm)

Spectrum Jet 30DB – AWWA ⅝ x ¾" (15x20mm)

Construction	Threads	Lay Length
Lead-free brass body + Composite plates	1" NPSM	7.5" (190mm)

Spectrum Jet 30DL – AWWA ¾ x ¾" (20mm)

Construction	Threads	Lay Length
Composite	1" NPSM	9.0" (230mm)

Spectrum Jet 50DL – AWWA 1" (25mm)

Construction	Threads	Lay Length
Lead-free brass	1.25" NPSM	10.75" (273mm)

Spectrum Jet 50DLC – AWWA 1" (25mm)

Construction	Threads	Lay Length
Lead-free brass	1.25" NPSM	10.75" (273mm)

Materials

Spectrum Jet 25/30Dx Models

Composite Body & Top-plate	Brass Body & Top-plate	Impeller	Impeller Bearing	Impeller Pivot	Impeller Shaft
Reinforced Nylon (Polyamide 12)	EcoBrass™ – Lead Free Brass	Polypropylene	Nivaflex	Sapphire	Tungsten Carbide

Spectrum Jet 50DL/50DLC Models

Body	Impeller	Impeller Bearings	Impeller Shaft
Low-lead Bronze: ASTM C875	Polypropylene	Tungsten Carbide	AISI 303 Tungsten Carbide Tip

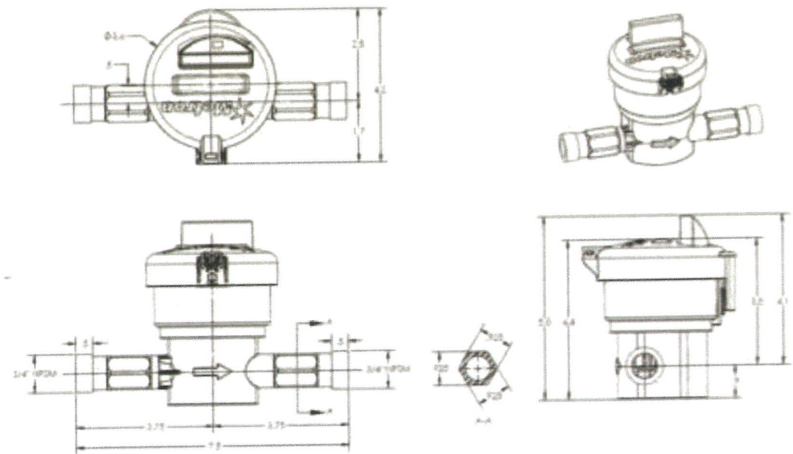**Register Housing: Thermoplastic**

Markings

Engraved on Meter Body:
- Model
- Serial Number
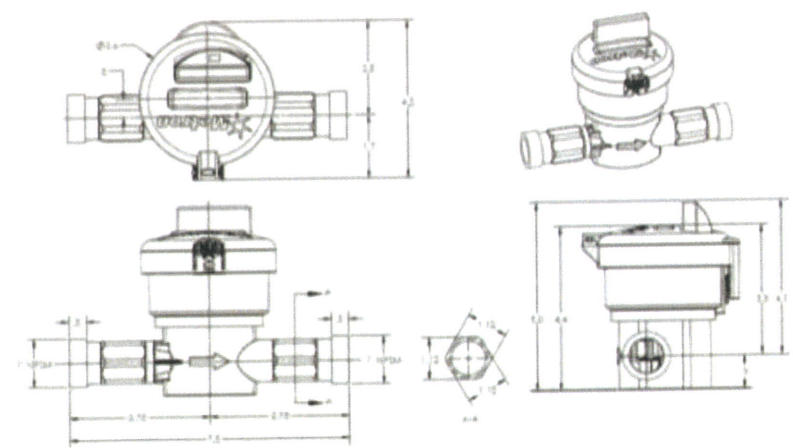- Date of Manufacture
- NSF-6
- Direction of Flow

Dimensions

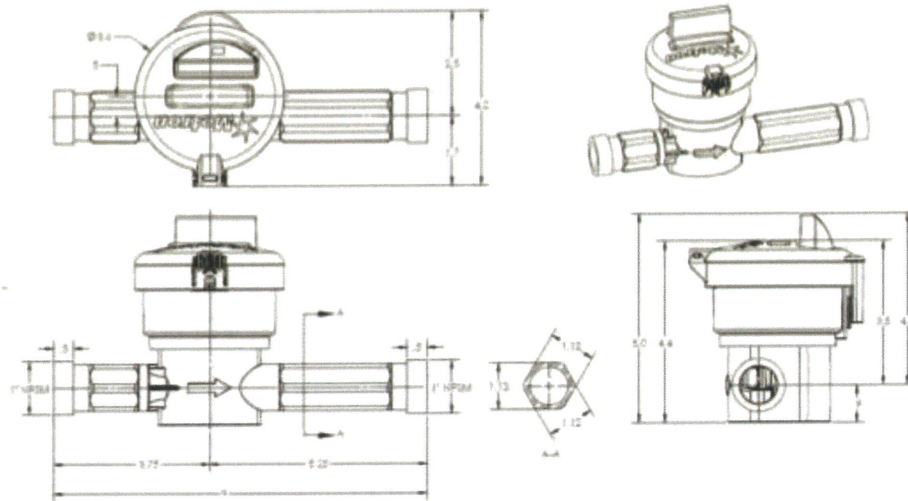Spectrum Jet 15D - ⅝" Short: Contact Metron

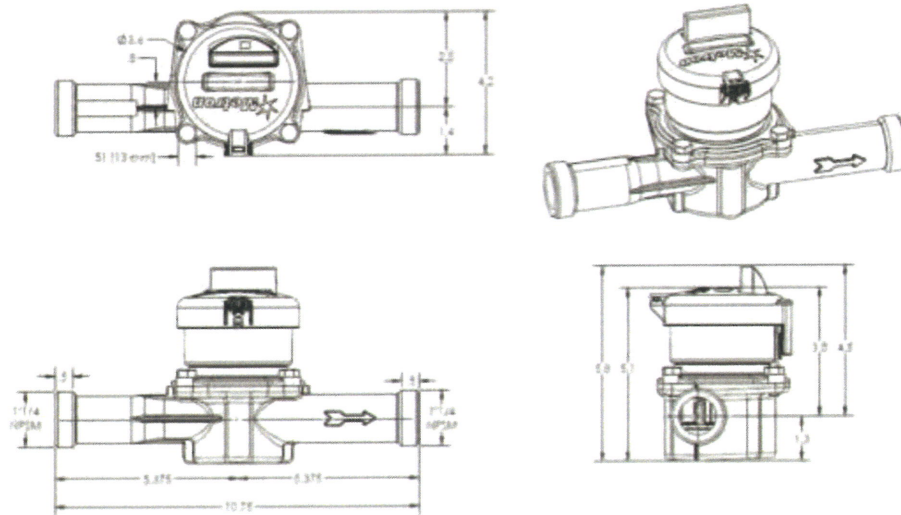Spectrum Jet 25D - ⅝"

Spectrum Jet 30D and 30DB - ⅝ x ¾"

Advanced Metering Infrastructure (AMI) Project

Dimensions

Spectrum Jet 30DL - ¾"

Spectrum Jet 50DL - 1"

Dimensions

Spectrum Jet 50DLC - 1"
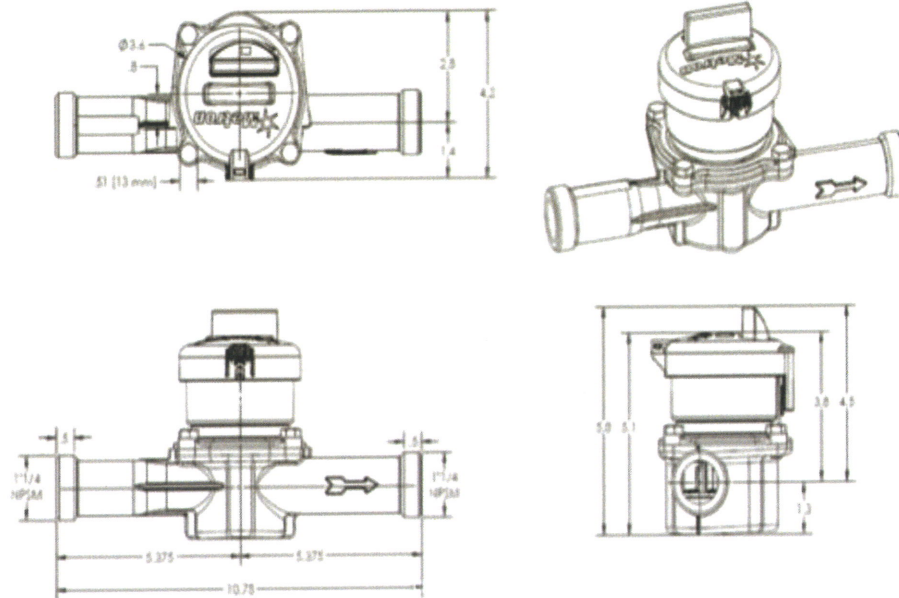
Flow & Pressure Specifications

Spectrum Jet 15D - ⅝ Short Model

Operating Range (98.5 to 101.5%)	0.088 to 15 gpm	0.02 to 3.4 m³/hr
Low Flow (95% min)	0.06 gpm	0.014 m³/hr
Max Continuous Duty[1]	15 gpm	3.4 m³/hr
Max Intermittent[2]	20 gpm	4.5 m³/hr
Pressure Loss at Max Continuous	10 psi	0.69 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Notes:

1. Starting flow rate for reference only

2. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week

3. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Flow & Pressure Specifications

Spectrum Jet 25D - ⅝" Model

Operating Range (98.5 to 101.5%)	0.125 to 20 gpm	0.028 to 4.5 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	20 gpm	4.5 m³/hr
Max Intermittent[2]	30 gpm	6.8 m³/hr
Pressure Loss at Max Continuous	22 psi	1.51 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Spectrum Jet 30D/30DB - ⅝ x ¾" Model

Operating Range (98.5 to 101.5%)	0.125 to 30 gpm	0.028 to 6.8 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	30 gpm	6.8 m³/hr
Max Intermittent[2]	40 gpm	9.1 m³/hr
Pressure Loss at Max Continuous	13 psi	0.9 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Spectrum Jet 30DL - ¾" Model

Operating Range (98.5 to 101.5%)	0.125 to 30 gpm	0.028 to 6.8 m³/hr
Low Flow (95% min)	0.0625 gpm	0.0142 m³/hr
Max Continuous Duty[1]	30 gpm	6.8 m³/hr
Max Intermittent[2]	40 gpm	9.1 m³/hr
Pressure Loss at Max Continuous	13 psi	0.9 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	140° F	60° C

Notes:

1. Starting flow rate for reference only
2. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
3. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

METRON Spectrum JET

Small Commercial Spectrum Jet Meters

Product Datasheet

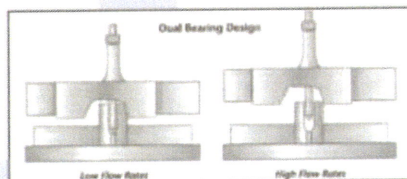Spectrum 88DL   Spectrum 88DLT

Spectrum 130D

Applications

The Spectrum Jet single-jet meter is the widest ranged, single-measuring element meter available to U.S. utilities. The operation of the single jet element allows the meter to be applied in the vast majority of potable cold water, small commercial applications. These meters are designed with a very high range, including low flow performance equaling or exceeded all other metering technologies. Coupled with the advanced Prism registers, the Spectrum Jet single-jets are the meter of choice for your revenue assurance and water loss programs.

The Spectrum Jet Model-D meters are top-loading, chamber designs which allow for field maintenance and repairs.

Operations

Incoming water rotates a suspended impeller that is magnetically linked to the register. A low friction tungsten carbide bearing supports the impeller at low flow rates while a tungsten carbide thrust bearing provides the support at high flow rates. This unique "dual bearing" design provides unparalleled accuracy and durability at both high and low flows.

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow. The Spectrum Jet 88DL and 88 DLT come with an integral test port on the outlet. Although regular maintenance is not required, the Spectrum Jet Model D meters have a top-loading measurement chamber for simple access without removing the meter from service. The chamber is bolted to the meter body and secured with a tamper seal.

All Spectrum Jet Model D meters utilize Prism registers. These sealed electronic registers provide a high resolution interface to the meter and have multiple cellular, AMR, AMI and SCADA outputs. All registers are attached with a robust tamper-resistant housing.

Design Features

- High accuracy below AWWA standards
- Wide range—1000:1 turndown
- Superior low flow registration
- Compact and light
- Convenient options for various lengths and connections
- Low pressure drop
- No regular maintenance
- Excellent performance in adverse water conditions
- Unaffected by sand or small debris in line
- No straight pipe requirements – upstream or downstream
- No strainer requirement
- 5-year flange-to-flange warranty
- 20-year warranty on meter body
- Compatible with all Prism registers and associated AMR/AMI capabilities.

Materials

All Spectrum Jet Model-D meters are designed and manufactured to meet or exceed AWWA C712 standard design and performance specifications. All models are maintained with NSF-61G lead-free certifications.

Standards

AWWA C712 – Single-Jet Meters

NSF-61G – Drinking Water System Components Health Effects

Mechanical Specifications

Spectrum Jet 88DL - 1 ½" (40mm)

Flanges	Lay Length	Dimensions	Weight	Test Plug	Test Port
Oval 2-bolt	13" (330mm)	See Drawing	9.95lb (4.5kg)	1" Integral	Integral 1" NPT Threads

Spectrum Jet 88DLT - 1 ½" (40mm)

Connection	Lay Length	Dimensions	Weight
Female 1 ½" / 11 ½ NPT Integral Threads	12 ⅝" (319mm)	See Drawing	8.15lb (3.69kg)

Spectrum Jet 130D - 2" (50mm)

Flanges	Lay Length	Dimensions	Weight	Test Plug	Test Port
Oval 2-bolt	9¾" (300mm)	See Drawing	13lb (5.8kg)	Available on Spool	Lead-free Flanged Spools for 15 ¼" & 17" LL

*Contact Metron for information on brass spools and couplers.

Materials

Body & Top-plate	Impeller	Impeller Bearings	Impeller Shaft	Register Housing
ASTM C874 - Lead Free Bronze	Polypropylene	Nylon with Carbon Fiber	AISI 303, Tungsten Carbide Tip	Thermoplastic

Tamper Features

Meter Body	Register
Wire + Lead Seal Between Meter Body and Top-Plate	Tamper-resistant Screw

Markings

Engraved on Meter Body:

- Model
- Serial Number
- Date of Manufacture
- NSF-6
- Direction of Flow

Dimensions

Spectrum Jet 88DL - 1½" Models

1" NPT test port

4.7"

6.4"

1.7"

4"

6.2"

6.3"

6.7"

13"

1" NPT test port

1-1/2" NPT

1-1/2" NPT

Hex.
2-1/4"

12-5/8"

Spectrum Jet 130D - 2" Model

Advanced Metering Infrastructure (AMI) Project
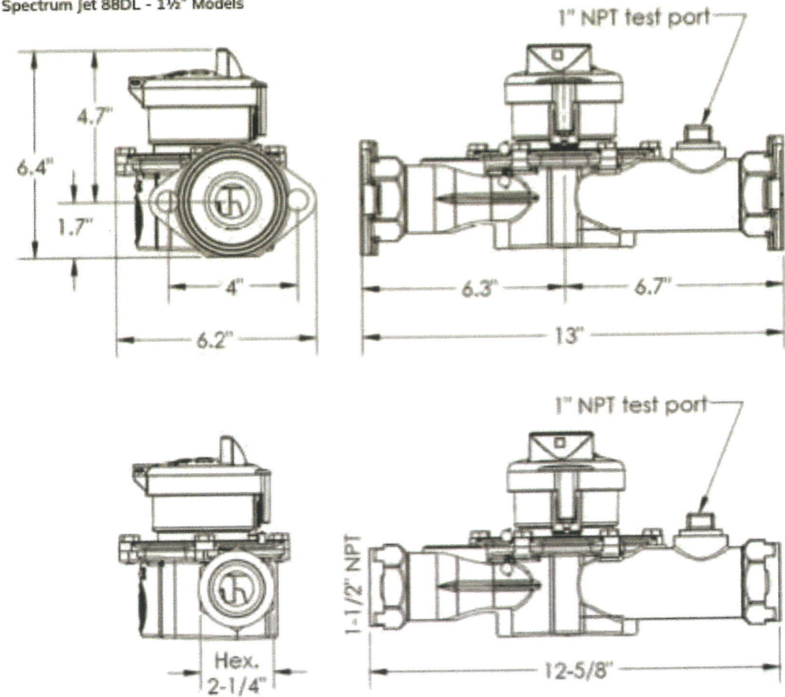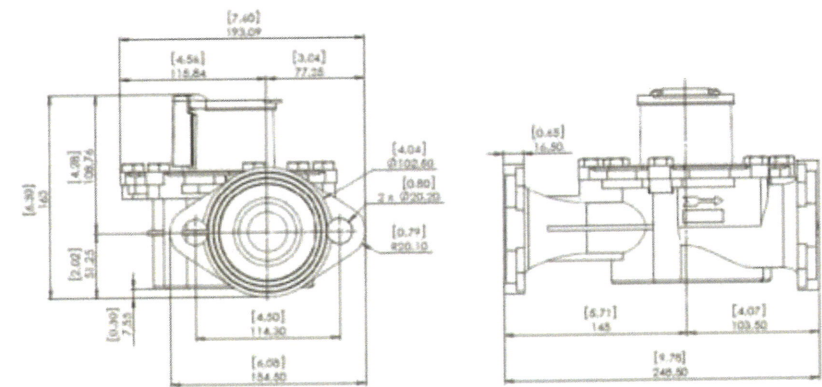
Flow & Pressure Specifications

Spectrum Jet 88DL / 88DLT - 1 ½" Models

Operating Range (98.5 to 101.5%)	0.5 to 105 gpm	0.11 to 24 m³/hr
Low Flow (95% min)	0.25 gpm	0.057 m³/hr
Max Continuous Flow[1]	88 gpm	20 m³/hr
Max Intermittent Flow[2]	105 gpm	24 m³/hr
Pressure Loss at Max Continuous	7.25 psi	0.5 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	120° F	48.9° C

Spectrum Jet 130D - 2" Model

Operating Range (98.5 to 101.5%)	0.75 to 165 gpm	0.17 to 37.5 m³/hr
Low Flow (95% min)	0.25 gpm	0.057 m³/hr
Max Continuous Flow[1]	130 gpm	29.5 m³/hr
Max Intermittent Flow[2]	165 gpm	37.5 m³/hr
Pressure Loss at Max Continuous	7.25 psi	0.5 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	120° F	48.9° C

Spectrum Jet 88DL / 88 DLT
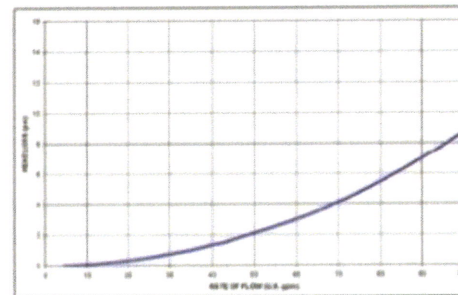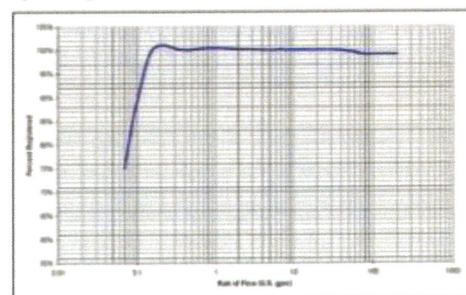
Notes:

1. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week
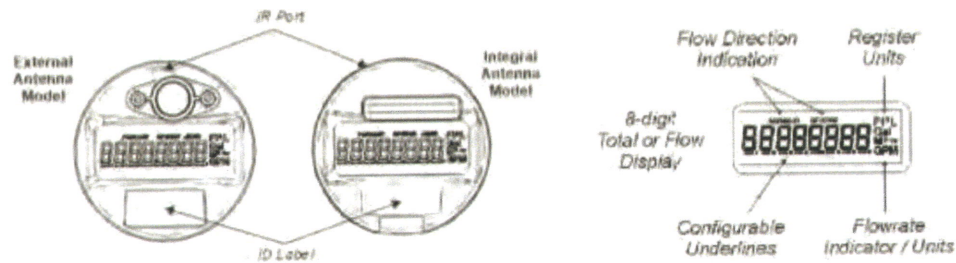2. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Advanced Metering Infrastructure (AMI) Project

Flow & Pressure Specifications
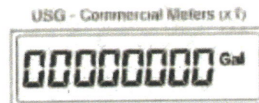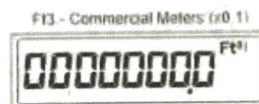
Spectrum Jet 130D

Registers

The Prism electronic register is the water industry's new standard for register performance. The Prism offers maximum resolution, a multitude of standard features, on-board datalogging and a variety of cellular, AMI, AMR and SCADA output options. The Prism is designed for all environments and incorporates the largest battery available for utility applications. The Prism can be deployed on any Metron Spectrum Jet water meter.
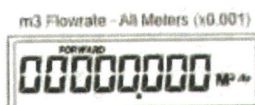

	USG - Commercial Meters (x1)	USG Flowrate - All Meters (x0.01)
USG Configuration 1 Gallon Resolution	00000000 Gal	00000000 GPM

	Ft3 - Commercial Meters (x0.1)	Ft3 Flowrate - All Meters (x0.01)
Ft3 Configuration 0.1 Ft3 Resolution	00000000 Ft³	00000000 GPM

	m3 - Commercial Meters (x0.01)	m3 Flowrate - All Meters (x0.001)
m3 Configuration 0.01 m3 Resolution	00000000 M³	00000000 M³/hr

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Advanced Metering Infrastructure (AMI) Project

Warranty

Please contact your Metron representative for formal warranty certificates.

Legal

Due to updated regulations and product improvements, Metron-Farnier reserves the right to change the product specifications without notice.

METRON
Spectrum JET

METRON

Large Commercial Jet Spectrum Meters

Product Datasheet

Spectrum Jet 175D

Spectrum Jet 500D

Spectrum Jet 1000D

Applications

The Spectrum Jet single-jet meter is the widest ranged, single measuring element meter available to U.S. utilities. The operation of the single jet element allows the meter to be applied in the vast majority of potable cold water, reclaim water and well applications. Coupled with the advanced Prism registers, the Spectrum Jet single-jets are the meter of choice for your revenue assurance and water loss programs.

The large Spectrum Jet meters come in a selection of configurations for 3-inch, 4-inch and 6-inch applications. The meter has a very wide range so there is no compromise at either low or high flows. All Spectrum Jet Model-D meters are top-loading, chamber designs which allow for field maintenance and repairs.

Operations

Incoming water rotates a suspended impeller that is magnetically linked to the register. A low friction tungsten carbide bearing supports the impeller at low flow rates while a tungsten carbide thrust bearing provides the support at high flow rates. This unique "dual bearing" design provides unparalleled accuracy and durability at both high and low flows.

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow. Each of the meters come with an integral test port on the outlet flange. Although regular maintenance is not required, the Spectrum Jet Model D meters have a top-loading measurement chamber for simple access without removing the meter from service. The chamber is bolted to the meter body and secured with a tamper seal.

All Spectrum Jet Model D meters utilize Prism registers. These sealed electronic registers provide a high resolution interface to the meter and have multiple cellular, AMR, AMI and SCADA outputs. All registers are attached with a robust tamper-resistant housing.

Design Features

- High accuracy below AWWA standards
- Wide range—1000:1 turndown
- Superior low flow registration
- Compact and light
- Convenient options for various lengths and connections
- Low pressure drop
- No regular maintenance
- Excellent performance in adverse water conditions
- Unaffected by sand or small debris in line
- No straight pipe requirements – upstream or downstream
- No strainer requirement
- 5-year flange-to-flange warranty
- 20-year warranty on meter body
- Compatible with all Prism registers and associated AMR/AMI capabilities.

Materials

All Spectrum Jet Model-D meters are designed and manufactured to meet or exceed AWWA C712 standard design and performance specifications. All Models are maintained with NSF-61G lead-free certifications.

Standards

AWWA C712 – Single-Jet Meters

NSF-61G – Drinking Water System Components Health Effects

Mechanical Specifications

Spectrum Jet 175D - 3" (80mm)

Flanges	Lay Length	Dimensions	Weight	Z-Plate Strainer*	SS Spacer Spools	Test Port
Round 4-bolt	11.8" (300mm)	See Drawing	32lb (14.5kg)	Available (6" LL)	Hard-flanged or adjustable	Integral 1" NPT Threads

Spectrum Jet 500D - 3" (80mm)

Flanges	Lay Length	Dimensions	Weight	Z-Plate Strainer*	SS Spacer Spools	Test Port
Round 4-bolt	13.75" (349mm)	See Drawing	41lb (18.6kg)	Available (6" LL)	Hard-flanged or adjustable	Integral 1" NPT Threads

Spectrum Jet 500D - 4" (80mm)

Flanges	Lay Length	Dimensions	Weight	Z-Plate Strainer*	SS Spacer Spools	Test Port
Round 8-bolt	13.75" (349mm)	See Drawing	48lb (21.7kg)	Available (7.5" LL)	Hard-flanged or adjustable	Integral 1" NPT Threads

Spectrum Jet 1000D - 4" (100mm)

Flanges	Lay Length	Dimensions	Weight	Z-Plate Strainer*	SS Spacer Spools	Test Port
Round 8-bolt	17.75" (349mm)	See Drawing	78lb (35.4kg)	Available (7.5" LL)	Hard-flanged or adjustable	Integral 1" NPT Threads

Spectrum Jet 1000D - 6" (150mm)

Flanges	Lay Length	Dimensions	Weight	Z-Plate Strainer*	SS Spacer Spools	Test Port
Round 8-bolt	17.75" (349mm)	See Drawing	89 lb (40.4kg)	Available (8.9" LL)	Hard-flanged or adjustable	Integral 1" NPT Threads

*Contact Metron for information on brass spools and couplers.

Materials

Body & Top-plate	Impeller	Impeller Bearings	Impeller Shaft	Register Housing
ASTM C875 - Lead Free Bronze	Polypropylene	Tungsten Carbide	AISI 303, Tungsten Carbide Tip	Thermoplastic

Tamper Features

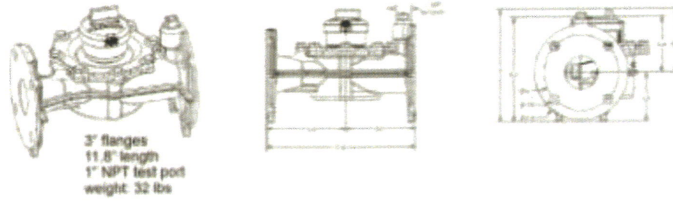| Meter Body	Register
Wire + Lead Seal Between Meter Body and Top-Plate	Tamper-resistant Screw

Markings

Engraved on Meter Body:
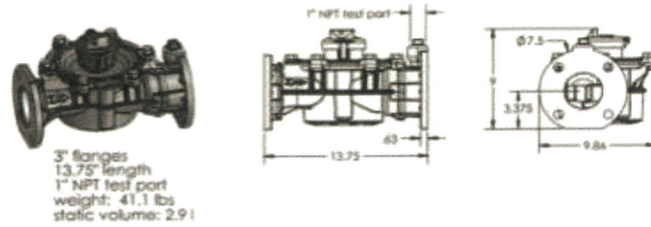
- Model
- Serial Number
- Date of Manufacture
- NSF-61G
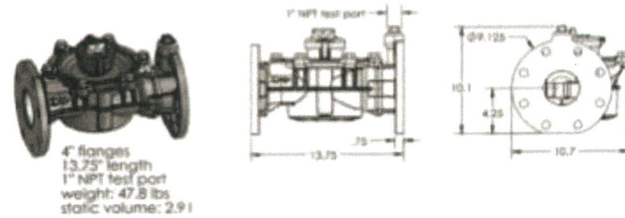- Direction of Flow

Dimensions
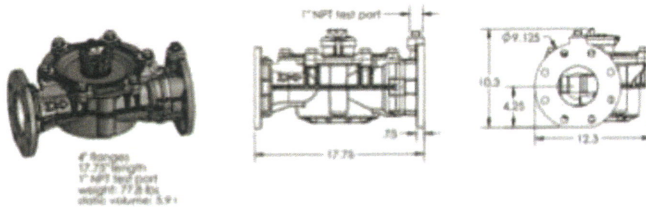
Spectrum Jet 175D - 3" Model

3" flanges
11.8" length
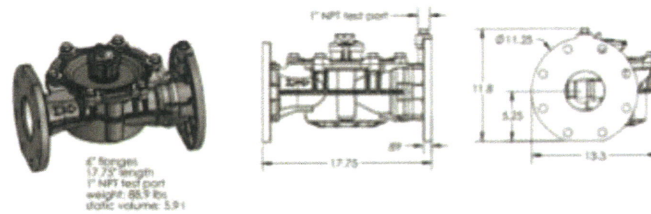1" NPT test port
weight: 32 lbs

Spectrum Jet 500D - 3" Model

3" flanges
13.75" length
1" NPT test port
weight: 41.1 lbs
static volume: 2.9 l

Spectrum Jet 500D - 4" Model

4" flanges
13.75" length
1" NPT test port
weight: 47.8 lbs
static volume: 2.9 l

Spectrum Jet 1000D - 4" Model

4" flanges
17.75" length
1" NPT test port
weight: 77.8 lbs
static volume: 5.9 l

Spectrum Jet 1000D - 6" Model

4" flanges
17.75" length
1" NPT test port
weight: 88.9 lbs
static volume: 5.9 l

Advanced Metering Infrastructure (AMI) Project

Flow & Pressure Specifications

Spectrum Jet 175D - 3" Models

Operating Range (98.5 to 101.5%)	0.75 to 350 gpm	0.34 to 113.5 m³/hr
Low Flow (95% min)	0.5 gpm	0.17 m³/hr
Max Continuous Flow[1]	175 gpm	79.5 m³/hr
Max Intermittent Flow[2]	245 gpm	113.5 m³/hr
Peak Test Flow[3]	350 gpm	136 m³/hr
Pressure Loss at Max Continuous	7.25 psi	0.5 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	120° F	48.9° C

Spectrum Jet 500D - 3" and 4" Models

Operating Range (98.5 to 101.5%)	1.5 to 500 gpm	0.34 to 113.5 m³/hr
Low Flow (95% min)	0.75 gpm	0.17 m³/hr
Max Continuous Flow[1]	350 gpm	79.5 m³/hr
Max Intermittent Flow[2]	500 gpm	113.5 m³/hr
Peak Test Flow[3]	600 gpm	136 m³/hr
Pressure Loss at Max Continuous	7.25 psi	0.5 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	120° F	48.9° C

Spectrum Jet 1000D - 4" and 6" Models

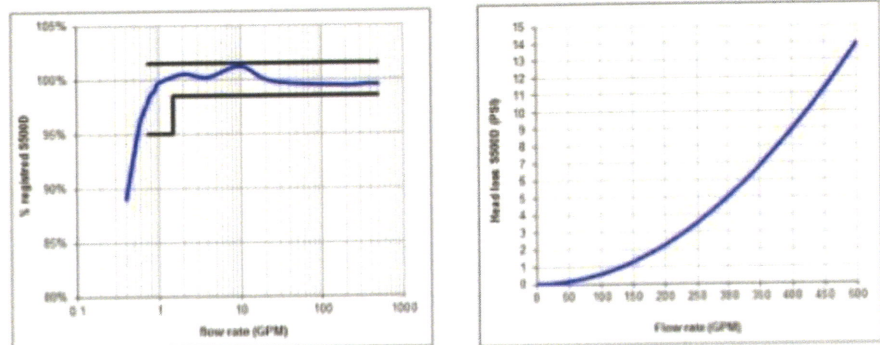|		
Operating Range (98.5 to 101.5%)	2.0 to 1000 gpm	0.34 to 113.5 m³/hr
Low Flow (95% min)	1.0 gpm	0.17 m³/hr
Max Continuous Flow[1]	600 gpm	79.5 m³/hr
Max Intermittent Flow[2]	1000 gpm	113.5 m³/hr
Peak Test Flow[3]	1100 gpm	136 m³/hr
Pressure Loss at Max Continuous	7.25 psi	0.5 bar
Max Operating Pressure	230 psi	15.9 bar
Max Operating Temperature	120° F	48.9° C

Notes:

1. Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week

2. Max Intermittent defined as flow rate which can be maintained 1 hr/day average

3. Peak Test flow defined as absolute max flow rate which can be maintained for brief periods under stable conditions while maintaining a minimum of 20 psi downstream of the meter.
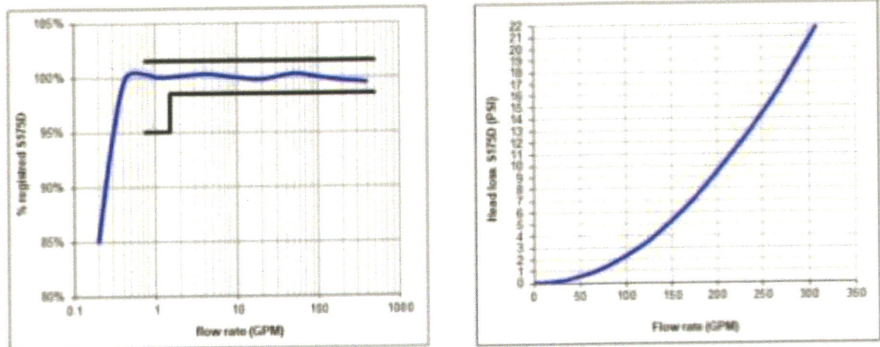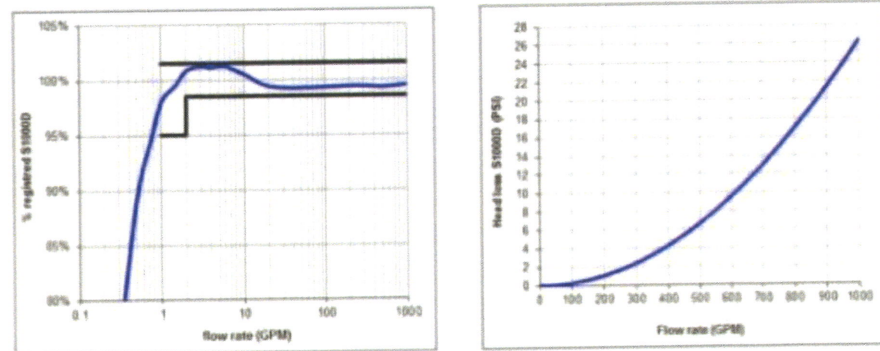
Large Commercial Spectrum Jet Meters datasheet v3.0 September 2024. © Metron. Information is subject to change without notice.   Page 4

Flow & Pressure Specifications

Spectrum Jet 175D

Spectrum Jet 500D



Spectrum Jet 1000D

Advanced Metering Infrastructure (AMI) Project

Registers

The Prism electronic register is the water industry's new standard for register performance. The Prism offers maximum resolution, a multitude of standard features, on-board datalogging and a variety of cellular, AMI, AMR and SCADA output options. The Prism is designed for all environments and incorporates the largest battery available for utility applications. The Prism can be deployed on any Metron Spectrum Jet water meter.
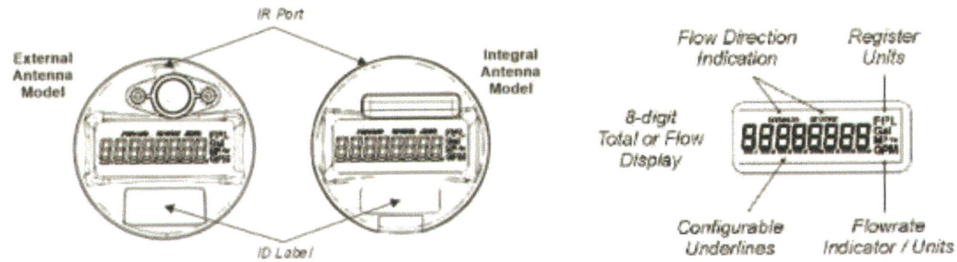
USG Configuration
1 Gallon Resolution

USG - Commercial Meters (x1)

USG Flowrate - All Meters (x0.01)
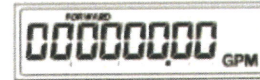
Ft3 Configuration
0.1 Ft3 Resolution

Ft3 - Commercial Meters (x0.1)
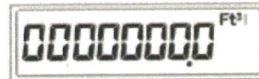
Ft3 Flowrate - All Meters (x0.01)
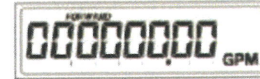
m3 Configuration
0.01 m3 Resolution

m3 - Commercial Meters (x0.01)
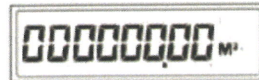
m3 Flowrate - All Meters (x0.001)

Warranty

Please contact your Metron representative for formal warranty certificates.

Legal

Due to updated regulations and product improvements, Metron-Farnier reserves the right to change the product specifications without notice.

Advanced Metering Infrastructure (AMI) Project

![METRON Spectrum ENDURO]

![METRON]

Spectrum Enduro Meters

Product Datasheet

Applications

The Spectrum Enduro 6" and 8" water meters are single element, wide range industrial meters. They utilize a top-loading chamber to insert a small diameter Spectrum Jet meter within the flow stream. This unique system allows for unparalleled accuracy and durability at both high and low flows within a compact meter body. The Spectrum Enduro meters are an ideal solution for most industrial metering applications.

Spectrum Enduro 2800D 6" & 8"
Spectrum Enduro Extended Range (ER) 6" & 8"

Operations

Water enters the meter passing over an in-line water conditioner that directs the water through a small diameter Spectrum Jet meter that proportionally measures the total water flow. This incoming water rotates a suspended impeller in the measuring chamber. A low friction pivot bearing supports the impeller at low flow rates while an upper thrust bearing provides the support at high flow rates. The impeller has an attached magnet at its top for the register interface.

All bearing materials are fortified for minimal wear during high-flow stress. The impeller shaft utilizes tungsten tips to minimize wear and ensure long-term accuracy. The Spectrum Enduro meters come with integral flanges (either 6" or 8").

To maintain accuracy, the meter must be installed horizontally (±10°) in the direction of water flow. Spectrum Enduro meters come with an integral test port on the outlet. Although regular maintenance is not required, the meters have a top-loading measurement chamber for simple access without removing the meter from service.

All Spectrum Enduro meters utilize Prism registers. These sealed electronic registers provide a high resolution interface to the meter and have multiple output options. All registers are attached with a robust tamper-resistant housing.

Design Features

- High accuracy
- Wide range – 1000:1 turndown
- Superior low flow registration
- Minimal pressure loss
- Long-term durability
- Low and high flow models to accommodate variety of industrial applications
- No regular maintenance
- Small, compact design for simple installations
- Excellent performance in adverse conditions
- Unaffected by sand or small debris in line
- No straight pipe requirements upstream or downstream of meter
- Strainers available for FM Fire Service
- 5-year flange-to-flange warranty

Materials

All Spectrum Enduro meters are designed and manufactured to meet or exceed AWWA C712 standards design specifications. They also meet or exceed AWWA C701 standards Class II turbine meter performance.

Standards

AWWA C712 – Single-Jet Meters

NSF-61G – Drinking Water System Components Health Effects

Mechanical Specifications

Spectrum Enduro 2800	6-inch (150mm)	8-inch (200 mm)
Flanges	Round 8-bolt	Round 8-bolt
Lay Length	24" (610 mm)	24" (610 mm)
Dimensions	See drawing	See drawing
Weight	121 lb (54.88 kg)	142 lb (64.4 kg)
Test Port	Integral 2" NPT threads	Integral 2" NPT threads

Spectrum Enduro 3600	6-inch (150mm)	8-inch (200 mm)
Flanges	Round 8-bolt	Round 8-bolt
Lay Length	24" (610 mm)	24" (610 mm)
Dimensions	See drawing	See drawing
Weight	121 lb (54.88 kg)	142 lb (64.4 kg)
Test Port Integral	2" NPT threads Integral	2" NPT threads

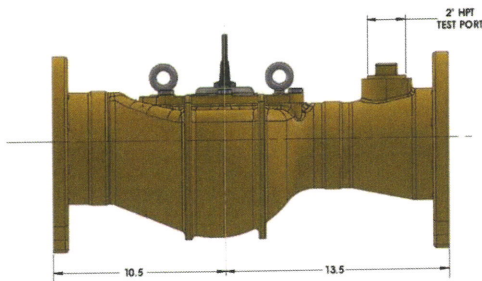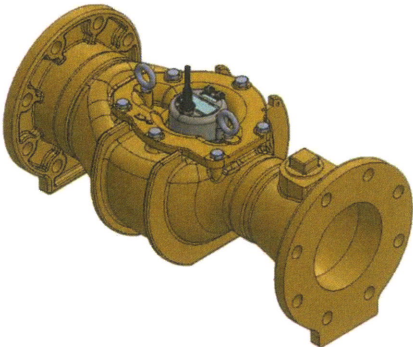Strainers: Fireflow-rated strainers available. Contact Metron for additional information
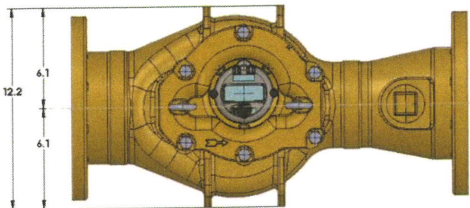
MATERIALS

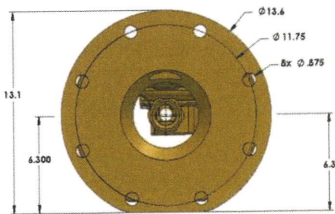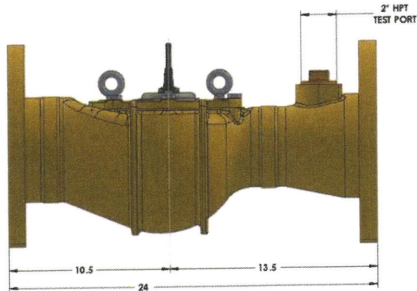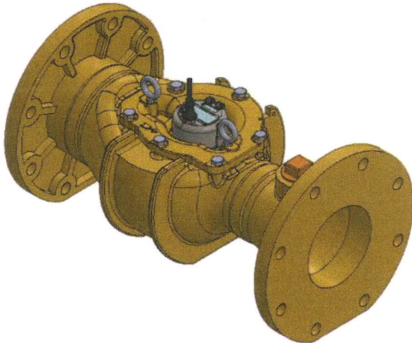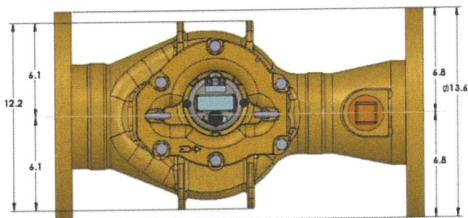|	
Body & Top-plate:	ASTM C917 - Lead Free Brass
Impeller:	Polypropylene
Impeller Bearings:	Tungsten Carbide
Impeller Shaft:	AISI 303, Nivaflex tip
Register Housing:	Thermoplastic

MARKINGS

Engraved on meter body: Model, Serial Number, Date of Manufacture, NSF-61G, Direction of Flow arrow

Advanced Metering Infrastructure (AMI) Project

DIMENSIONS

Spectrum Enduro 2800D / 3600D - 6-inch model

2" HPT TEST PORT

8X Ø.875
Ø 11.1
Ø 9.5
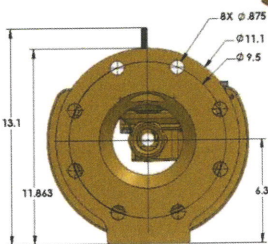
Spectrum Enduro 2800D / 3600D - 8-inch model

2" HPT TEST PORT

Ø13.6
Ø 11.75
8x Ø.875

Advanced Metering Infrastructure (AMI) Project

Flow & Pressure Specifications

Spectrum Enduro 2800D – 6" and 8" Model

Operating Range (98.5 to 101.5%)	6 to 2800 gpm	(1.38 to 636 m3/hr)
Low Flow (95% min)	4.4 gpm	(1 m3/hr)
Max Continuous Flow[2]	2400 gpm	(545 m3/hr)
Max Intermittent Flow[3]	2800 gpm	(636 m3/hr)
Pressure Loss at Max Continuous	6.40 psi	(0.44 bar)
Max Operating Pressure	230 psi	(15.9 bar)
Max Operating Temperature	120 °F	(48.9 °C)

Spectrum Enduro 3600D – 6" and 8" Model

Operating Range (98.5 to 101.5%)	14 to 3600 gpm	(3.2 to 818 m3/hr)
Low Flow (95% min)	8 gpm	(1.82 m3/hr)
Max Continuous Flow[2]	2800 gpm	(636 m3/hr)
Max Intermittent Flow[3]	3600 gpm	(818 m3/hr)
Pressure Loss at Max Continuous	11 psi	(0.76 bar)
Max Operating Pressure	230 psi	(15.9 bar)
Max Operating Temperature	120 °F	(48.9 °C)

Notes

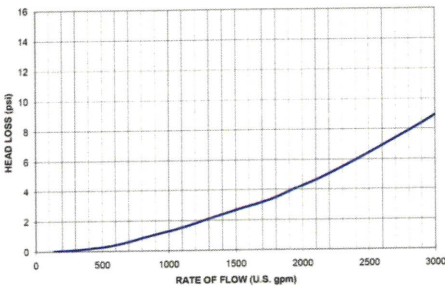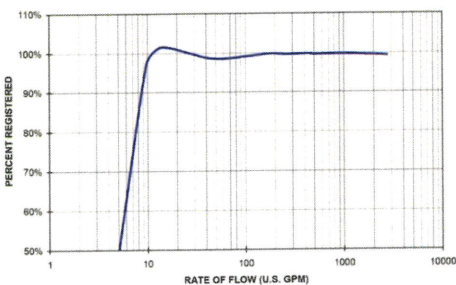1 Starting flow rate for reference only

2 Max Continuous defined by AWWA as flow rate which can be maintained 24 hrs/day x 7 days/week

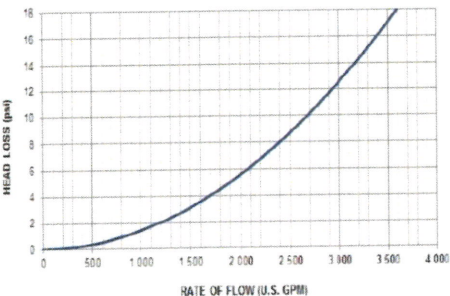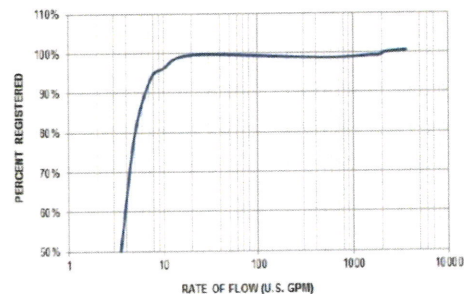3 Max Intermittent defined as flow rate which can be maintained 1 hr/day average

Advanced Metering Infrastructure (AMI) Project

Flow Accuracy

Pressure Drop

Spectrum Enduro 2800D

Spectrum Enduro 3600D

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Advanced Metering Infrastructure (AMI) Project

Registers

The Prism electronic register is the water industry's new standard for register performance, offering maximum resolution, a multitude of standard features, on-board data logging and a variety of cellular, AMI, AMR and SCADA output options. The Prism is designed for all environments and incorporates the largest battery available for utility applications. It can be deployed on any Metron Spectrum Jet, Spectrum Hydrant, Spectrum PD and Spectrum Enduro water meters.
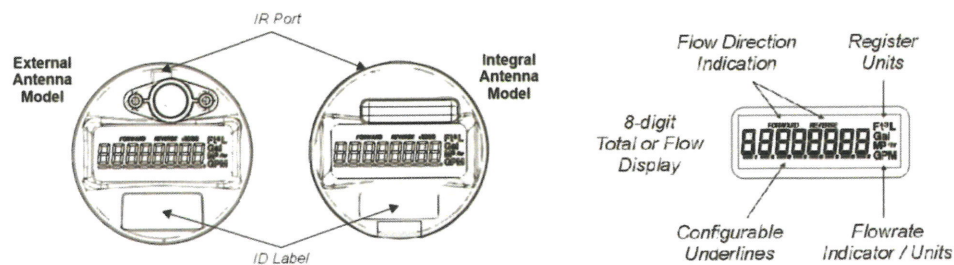
USG Configuration
0.1 Gallon Resolution

USG - Residential Meters (x0.1)

USG Flowrate - All Meters (x0.01)

Ft3 Configuration
0.01 Ft3 Resolution

Ft3 - Residential Meters (x0.01)

Ft3 Flowrate - All Meters (x0.01)

m3 Configuration
0.001 m3 Resolution

m3 - Residential Meters (x0.001)

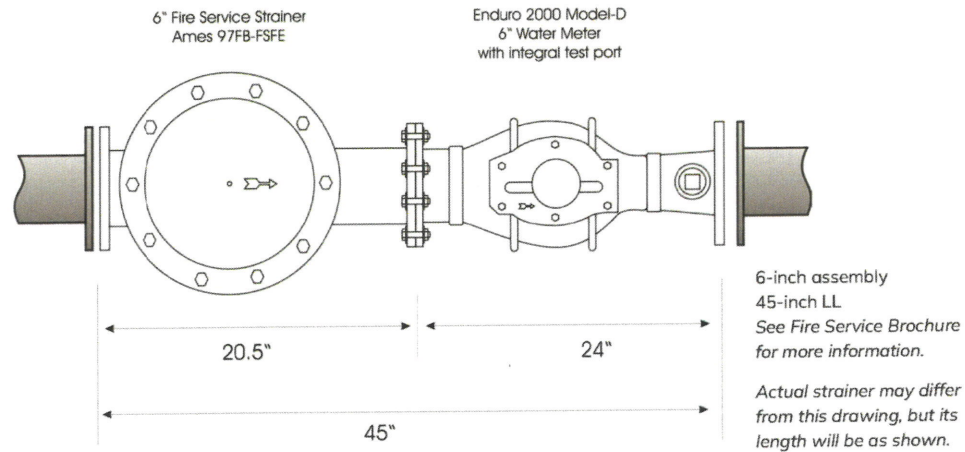m3 Flowrate - All Meters (x0.001)

Warranty

Please contact your Metron representative for formal warranty certificates.

Legal

Due to updated regulations and product improvements, Metron reserves the right to change the product specifications without notice.

Advanced Metering Infrastructure (AMI) Project

Fire Service Configurations

FSA6

6" Fire Service Strainer
Ames 97FB-FSFE

Enduro 2000 Model-D
6" Water Meter
with integral test port

20.5" 24"

45"

6-inch assembly
45-inch LL
*See Fire Service Brochure
for more information.*

*Actual strainer may differ
from this drawing, but its
length will be as shown.*

FSA8

8" Fire Service Strainer
Ames 97FB-FSFE

Enduro 2800 Model-D
8" Water Meter
with integral test port

28.5" 24"

53" (includes gaskets)

8-inch assembly
53-inch LL
*See Fire Service Brochure
for more information.*

*Actual strainer may differ
from this drawing, but its
length will be as shown.*

IR Port

ID Label

Flow Direction Indication

Register Units

8-digit Total or Flow Display

Configurable Underlines

Flowrate Indicator / Units

	USG - Residential Meters (x0.1)	USG Flowrate - All Meters (x0.01)
USG Configuration 0.1 Gallon Resolution	00000000 Gal	FORWARD 00000000 GPM
Ft3 Configuration 0.01 Ft3 Resolution	Ft3 - Residential Meters (x0.01) 00000000 Ft³	Ft3 Flowrate - All Meters (x0.01) FORWARD 00000000 GPM
m3 Configuration 0.001 m3 Resolution	m3 - Residential Meters (x0.001) 00000000 M³	m3 Flowrate - All Meters (x0.001) FORWARD 00000000 M³/hr

METRON
Prism

Prism Cellular Register

Product Datasheet

The Prism is a cellular digital register which mounts on all Metron Spectrum water meters[1]. It can also be adapted to many other traditional water meters providing instant AMI upgrades to deployed meters.

The Prism register senses the meter's magnetic element down to ¼ turn resolution, and stores data at 1-minute intervals, thereby enabling the most advanced water usage data and analytics in the industry. It utilizes the Verizon Wireless™ network to securely and reliably deliver readings, high resolution interval data and diagnostic data to WaterScope®, Metron's cloud-based meter data management system (MDMS). Utilities and consumers can access water usage data via the powerful WaterScope web portal and via email and text notifications.

Design

Construction: The Prism register is a compact, fully encapsulated package designed for all environments.

Meter Attachment: A standard plastic meter housing provides a robust and tamper-resistant attachment to all Metron water meters. Metron can also provide attachment housings for many other meter types.

Outputs: The Prism register can be supplied with a 3-wire standard AMR output. The output cable can be ordered in different lengths and with Itron or Nicor waterproof connectors.

Antennas: The Prism register has an antenna port which can accommodate either a local antenna or a remote antenna for extension through walls or outside pits/vaults.

Activation: All Prism units come from the factory activated and provisioned on the Verizon Wireless network. Consumption data on the WaterScope web portal can be accessed within 24 hours of installation.

Operation

The Prism register has an internal sensor which tracks the meter's measuring element and stores consumption every log interval. The unit will also perform on-board measurement diagnostics regularly. Once per day during super off-peak hours (1am to 6am local time), the unit will negotiate a secure channel with the Verizon Wireless tower and transmit a daily packet with the current meter read, the daily interval logs and other diagnostic data. Following the transmission, the unit waits for any commands from the cloud server (such as configuration or data backfill) prior to returning to normal operational mode.

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1   Except Spectrum Wave, which has an integrated register

Advanced Metering Infrastructure (AMI) Project

Specifications

Operational

Cellular channel carrier:	Verizon Wireless
Method:	LTE Cat-M
FCC/IC:	License exempt
Secondary comms:	Proprietary InfraRed port
Onboard Storage:	5 min intervals: 227 days
	1 min intervals: 45 days
LCD:	8 digits
Display:	Duplicates meter/register
	Configurable digit underlines
Units:	gallons (US), ft³ or m³
Battery:	One 19Ahr non-replaceable
Type:	Lithium Thioynl Chloride
Lifetime:	10 years nominal

Physical

Dimensions:	3.6W x 3.6H x 2.5D inches
(w/o antenna)	(91W x 91W x 63.5D mm)
Weight:	0.70 lb (0.31 kg)
Storage temperature:	-20° to 140° F (-6° to 60° C)
Operating temperature:	-0° to 140° F (-18° to 60° C)
Humidity:	0 to 100% RH condensing

Fully submersible (IP-68)

Functionality

Configuration: Configuration can be performed via the local InfraRed (IR) port with Metron's IR bridge. The IR bridge can be coupled via USB to a Win10 computer with the Communicator software or be operated in a standalone mode.

Configuration Options
- Index Ratio (meter calibration)
- LCD Configuration
- Measurement units
- Log Interval
- 3-wire output digits

Data resolution:	per Index Ratio
Data intervals:	5-minute or 1-minute
Data backfill:	Automatic from MDMS
OTA updates:	Available
Onboard time:	Synced with Verizon
Security:	VPN and encryption (contact Metron for info)

Flags/Alerts:

Consumption
- Leak / Threshold Leak / Intermittent Leak
- High Usage / Zero Usage
- Backflow
- Unexpected / Unauthorized Usage
- High/Low Temp
- Watering Event

Diagnostic
- Low Signal Strength

Compatibility

The Prism is compatible with a wide range of industry registers and electronic meters.

Metron: Spectrum Jet, Spectrum PD, Spectrum Enduro, Spectrum Hydrant, Challenger

Metron has tested meters from other meter manufacturers and offers compatibility with many meters with magnetic measuring elements. The following shows a sample of the types of meters. Consult with your Metron representative for questions on compatibility or testing.

Badger, Sensus, Neptune, Mueller: PD meters, turbine meters

Master Meter, Elster, Zenner, RG3, Hendey: PD meters

Warranty

Please contact your Metron representative for formal warranty certifications.
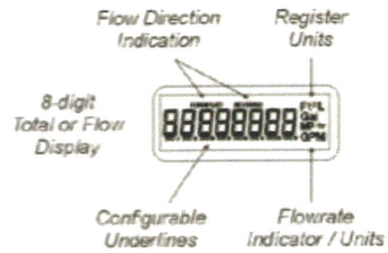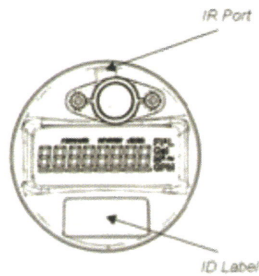
Disclaimers

Transportation: The Prism Register contains a lithium battery and thus is prohibited from shipment by AIR. Please conform with all shipping regulations for lithium batteries.

Safety: The Prism operates with radio frequency (RF) during its cellular communications. Metron can provide a whitepaper covering the potential health effects of smart meters.
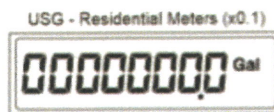
Disposal: The battery inside the Prism is not replaceable and removal should never be attempted. The Prism units should be disposed of in accordance with local regulations.

Legal

Waterscope is a registered trademark of Metron-Farnier, LLC. All other trademarks and company names listed in this document are the property of the associated companies.
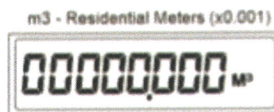
Advanced Metering Infrastructure (AMI) Project
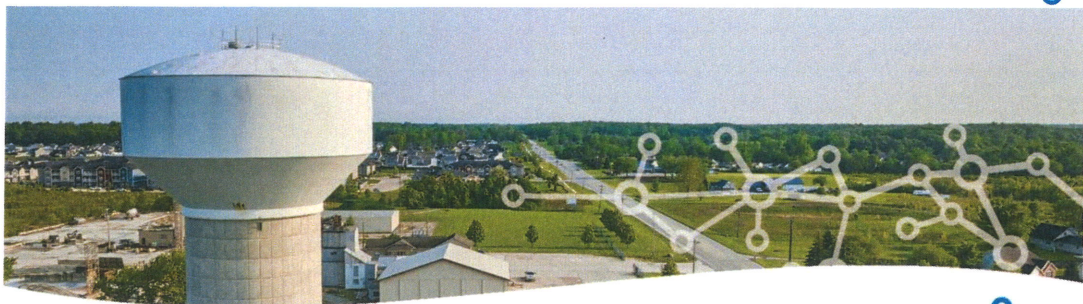
IR Port

ID Label

Flow Direction Indication

Register Units

8-digit Total or Flow Display

88888888

Configurable Underlines

Flowrate Indicator / Units

USG Configuration
0.1 Gallon Resolution

USG - Residential Meters (x0.1)

00000000 Gal

USG Flowrate - All Meters (x0.01)

FORWARD
00000000 GPM

Ft3 Configuration
0.01 Ft3 Resolution

Ft3 - Residential Meters (x0.01)

00000000 Ft3

Ft3 Flowrate - All Meters (x0.01)

FORWARD
00000000 GPM

m3 Configuration
0.001 m3 Resolution

m3 - Residential Meters (x0.001)

00000000 M3

m3 Flowrate - All Meters (x0.001)

FORWARD
00000000 M3/hr

WaterScope® for Water Utilities

Water Usage Reporting, Analytics and Billing

With Metron's smart meters deployed across your district in residential, commercial, industrial and educational applications, the WaterScope Suite is your set of tools for understanding and acting on your customers' water usage.

Get accurate and detailed daily reports on leaks, high usage, zero usage, unauthorized usage, infrastructure losses, freeze alerts, and more. Easy integration with any billing system means on-time billing that reflects actual water use.

WaterScope turns information into action, simplifying the business of water.
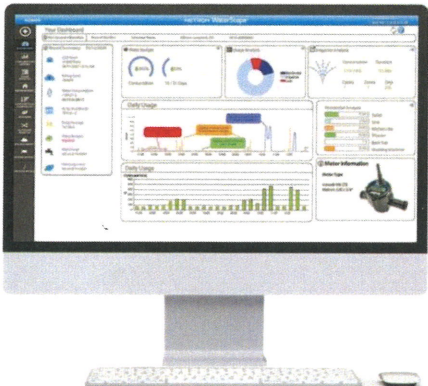
The WaterScope Suite

METRON WaterScope® CLASSIC

Designed for meter management, system status and billing integration, the industry favorite WaterScope Classic offers a deep dive into the usage data of every Metron meter and monitor in your district.

METRON WaterScope® PLUS

Water data turned into business intelligence. WaterScope PLUS is a sophisticated dashboard for property and portfolio managers, providing intuitive data on financial and operational performance.

METRON WaterScope® UTILITY

Designed to make field techs more productive, the WaterScope Utility app for iOS and Android allows them to identify meters with issues, see a route map, capture serial numbers when repairing or replacing meters, update GPS coordinates, and much more.

METRON WaterScope® DATALINK

We've built an API to allow application developers to access the power of WaterScope's database and analytic tools. With deep integration like this, the sky's the limit for billing, property management and ESG applications.

Water Utilities

Powered by Microsoft® Azure, WaterScope is reliable, highly-available and scalable. **WaterScope Classic's** powerful analytics and reporting features give you the tools to run your water business efficiently, with as much insight into where the water goes as you need.

Here are a few examples of what WaterScope can do for you:

- Capture accurate usage data for every customer
- Generate billing data easily
- Identify leaks in your infrastructure
- Identify meters that aren't reading over cellular
- Find water being used at properties marked as unoccupied
- Identify residents flouting watering restrictions
- Identify residents with the most serious leaks
- Analyze usage trends, such as seasonal

Installation and Maintenance Teams

Our **WaterScope Utility** app for iOS and Android streamlines your field teams' activities by allowing you to easily create and assign work orders directly from reports of, for example, leaks or missed reads. Out in the field, technicians can use WaterScope Utility when installing and repairing Metron meters, with step-by-step procedures, including taking photographs and capturing GPS locations. Replaced meters or registers are updated instantly in WaterScope, eliminating paperwork.

Benefits are:

- Easy assigment and management of work orders
- Efficient use of technicians' time
- Instant updating of meters IDs in WaterScope
- Reduction in human errors

Customers

Utilities can provide customers with individual logins to WaterScope Classic or WaterScope PLUS, allowing them to track their own water usage.

Benefits are:

- Empowering customers to conserve water
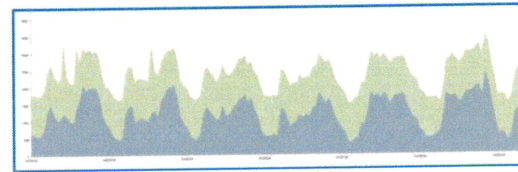- Improved customer relations
- Leak alerts

Learn more on our website: metron-us.com

Call 303.449.8833 to speak to a member of our sales team, or email us at: hello@metron-us.com
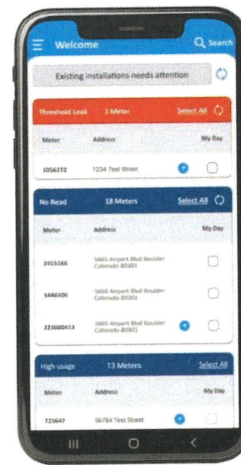

WaterScope PLUS turns water data into business intelligence.

Analyzing infrastructure water losses in **WaterScope Classic**

WaterScope Utility streamlines installation and maintenance tasks.

WaterScope® Utility app

Productivity in the Palm of your Hand

WaterScope Utility is an innovative iOS and Android app tailored to the unique needs of water utilities' maintenance teams. Drawing on Metron's decades of experience partnering with hundreds of municipal and rural utilities across North America, WaterScope Utility efficiently digitizes frontline operations, enabling teams to seamlessly record, share, and access geo-tagged data and insights, communicate with their office, and streamline workflows with intelligent alerts.

With all data dependably stored on the worker's device and automatically uploaded to Metron's central WaterScope servers, WaterScope Utility provides seamless connectivity for field teams operating in all locations, whether urban or remote. Maintenance managers can create work orders in WaterScope — such as a list of all the Metron meters in a city section that haven't transmitted their reads for a few days — allowing the maintenance crew to follow efficient routes to get those meters inspected and repaired.

Managers can determine how data is shared across workers' devices, creating a powerful on-the-go knowledge repository — complete with smart-meter data, notes, maps, and photos taken by field teams — while also ensuring that sensitive customer information is kept fully secure.

Using WaterScope Utility, field team members can identify meters with issues, see a route map, capture serial numbers when repairing or replacing meters, update GPS coordinates if not accurate, and plan their activities for the day.

- See which meters require attention for leaks, high use, irrigation violations, etc.
- View meter details: address and location, recent consumption, map-based navigation to meter.
- Schedule work orders from WaterScope. Tasks will show up in the app.
- Install / replace, maintenance, manual meter read, record location, fix leaks, missing reads etc.
- Save detailed records of field actions.
- Send manual meter reads to WaterScope instantly.
- View status of scheduled work in WaterScope.
- View recorded data in WaterScope, such as before/after photographs.
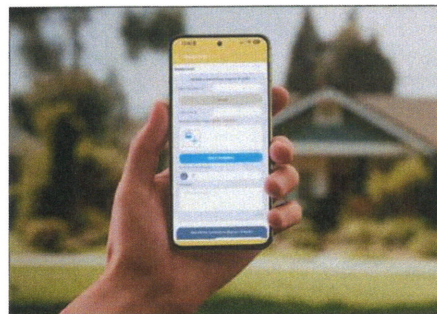
WaterScope Utility features a rich set of workflows which make your field teams productive and efficient, from route planning to logging activities and capturing photos of issues and work done.
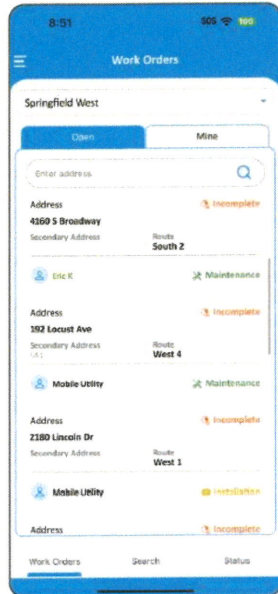
Work orders are managed centrally and appear on technicians' phones for execution.
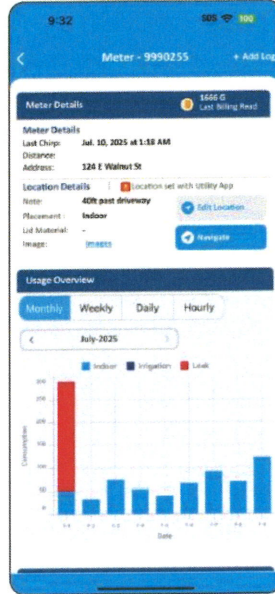
The status and recent usage of a meter can be easily viewed in the app.
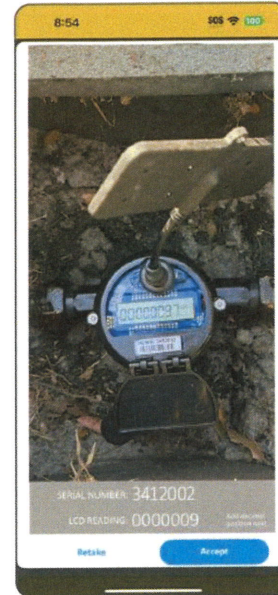

Photographs of installations and repairs can be taken in-app, going straight into WaterScope.

WaterScope®

Accurate, 1-minute water consumption data isn't useful unless you can understand it. That's where WaterScope comes in. With AI-powered analytics and actionable reporting, WaterScope puts utilities – and residents – in control.

Offering leak alerts, usage summaries and details, violation alerts (such as irrigating on off-days) and easy integration with billing systems, WaterScope turns water consumption data into something you can take action on.
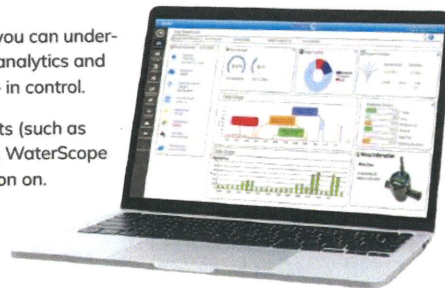
Learn more on our website: metron-us.com

Call 303.449.8833 to speak to a member of our sales team, or email us at: hello@metron-us.com

WaterScope Utility - July 2025 v1.0

Advanced Metering Infrastructure (AMI) Project

METRON LIMITED WARRANTIES

WARRANTY (10/1/2025)

Metron Farnier, LLC ("Metron") provides the limited warranties described in this document only to the original purchaser of Metron products directly from Metron or from an authorized Metron distributor ("Client").

Metron warrants its products from the date of shipment for the length of time shown below (the "Warranty Period") to (i) function in accordance with Metron's published specifications and functionality (which Metron may change from time to time to keep current), (ii) be free from defects in material and workmanship and (iii) to the best of Metron's knowledge, to be in compliance with all applicable laws, rules and regulations. To make a warranty claim, Client must notify Metron in writing (including email), obtain a Return Material Authorization (RMA), and return the nonconforming product to a Metron service center. Upon inspection and confirmation of the warranty claim, Metron will either repair, replace the nonconforming product or credit the customer at no cost to Client (except Client's shipping cost to return the products to Metron). Metron's standard warranty for any products shown below is twelve months from date of shipment.

WARRANTY EXCLUSIONS

THE WARRANTIES AND REMEDIES ARE EXCLUSIVE TO THE ORIGINAL PURCHASER AND ARE NOT TRANSFERRABLE. OTHER THAN METRON'S EXPRESS WARRANTIES DESCRIBED IN THIS DOCUMENT, METRON MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. METRON MAY REDUCE THE WARRANTY PERIOD FOR SPECIFIC PRODUCTS IN AREAS OF HIGH RISK. (Contact your Metron representative for specifications on areas of high risk.)

Metron's warranties shall not apply (a) to products exposed to conditions outside the normal working conditions of a typical water distribution system including, but not limited to, extreme weather (such as freezing) or unusually harsh or uncommon installation environments; (b) if the products are operated outside of Metron's operating environment specifications; (c) to damage caused by circumstances beyond Metron's control including, but not limited to acts of God, vandalism, negligence, misuse or misapplication, product tampering/alteration, careless or improper handling/installation/repair, excessive operating conditions (pressure or flow) outside the product specifications, foreign particles in the water or aggressive/poor water quality conditions; (d) if Client self-installed or altered the product in a manner not approved by Metron in writing in advance or (e) if Client improperly repaired the product. In addition, Metron makes no warranty that the products will operate in an uninterrupted or error-free fashion at all times. Metron has no control over the performance, reliability, or availability of cellular or Internet communications.

WARRANTY LIABILITY LIMITATION

METRON'S TOTAL LIABILITY FOR ANY CLAIMS ARISING OUT OF OR RELATED TO THESE WARRANTIES ("CLAIMS") SHALL BE LIMITED TO DIRECT DAMAGES. METRON SHALL NOT BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR CONTINGENT DAMAGES INCLUDING WITHOUT LIMITATION, ANY REVENUE OR PROFITS LOST BY CLIENT OR ITS AFFILIATES FROM ANY END USER(S), (EVEN IF THEY ATTEMPT TO CATEGORIZE LOST REVENUE OR PROFITS AS DIRECT DAMAGES) OR DAMAGES RESULTING FROM DELAY OR LOSS OF USE OF THE METRON PRODUCT(S) OR RESULTING FROM MISCALCULATION OF WATER USAGE OR THE COSTS OF FIELD LABOR FOR AUDITING OR

REPLACEMENT. METRON'S TOTAL LIABILITY FOR DIRECT DAMAGES CLAIMS SHALL NOT EXCEED THE TOTAL AMOUNT PAID OR PAYABLE BY CUSTOMER TO METRON FOR THE PRODUCT GIVING RISE TO THE CLAIM, REGARDLESS OF WHETHER THE CLAIM IS IN TORT, NEGLIGENCE, STRICT LIABILITY, CONTRACT, STATUTE OR OTHERWISE AND EVEN IF THE DAMAGES WERE NOT FORESEEABLE.

METRON'S EXPRESS PRODUCT WARRANTIES

Spectrum™ Jet Meters (formerly Spectrum meters)

Performance Guarantee (Based on AWWA Standard C712).
Metron warrants the Spectrum Jet meter components for the applicable period or registration listed below, whichever occurs first.
In addition, Metron warrants the meter body against failure for twenty (20) years.

Residential Spectrum Jet single-jet meters

Meter Size	Model	Meter Warranty
5/8"	Spectrum Jet 25D / 25DB	10 Years
5/8"x3/4"	Spectrum Jet 30D / 30DB	10 Years
3/4"	Spectrum Jet S30DL	10 Years
1"	Spectrum Jet 50DL / 50DLC	10 Years

Small commercial Spectrum Jet single-jet meters

Meter Size	Model	Meter Warranty
1.5"	Spectrum Jet 88DL / 88DLT	5 Years
2"	Spectrum Jet 130D	5 Years

Large commercial Spectrum Jet single-jet meters

Meter Size	Model	Meter Warranty
3"	Spectrum Jet 175D	5 years
3"	Spectrum Jet 500D	5 years
4"	Spectrum Jet 500D	5 years
4"	Spectrum Jet 1000D	5 years
6"	Spectrum Jet 1000D	5 years

Spectrum PD 5/8" x 3/4" positive displacement residential meter (formerly Altair meter)

Performance Guarantee (Based on AWWA Standard C710).
Metron warrants the residential Spectrum PD meter components for ten (10) years.
In addition, Metron warrants the meter body against failure for twenty (20) years.

Spectrum Wave 5/8" x 3/4" ultrasonic residential meters (formerly Astria meter)

Performance Guarantee (Based on AWWA Standard C715)
Metron warrants the residential Spectrum Wave meter components for ten (10) years.

Materials & Workmanship

From the date of original shipment from Metron or an authorized distributor of Metron, this Warranty covers the residential Spectrum Wave meters from defects in materials and workmanship (separate from the battery) as follows:

Manufacturer's Defects: Twenty (20) years after shipment, as follows:

Metron will repair or replace, at its discretion, a non-performing Product at no cost during the first ten (10) years of the warranty and at prorated price discounts during the last ten (10) years of the warranty. Metron will apply these prorated price discounts to the Product list prices in effect at the time of Product return and according to the following prorated price discount schedule:

Warranty Period (years)	Replacement Credit (% of current list price)
1-10	100%
11-12	75%
13-15	50%
16	40%
17	30%
18	20%
19-20	10%

The warranty does not include the communication via the embedded radio. The Spectrum Wave meter with embedded radio capabilities is running a firmware able to adapt the usage of radio to the level of power in battery, a first threshold will decrease the frequency of emission, a second one will stop it in order to dedicate power supply to metrology.

Spectrum Enduro 2800D & 3600D water meters (formerly Enduro meters)

Performance Guarantee (Based on AWWA Standard C701)
Metron warrants that new industrial Spectrum Enduro 6" 2800D and 8" 3600D meters from the date of original shipment for five (5) years.

Spectrum Hydrant 3" hydrant water meters (formerly Voyager meters)

Performance Guarantee (Based on AWWA Manual M-6 Chapter 5 Table 5.3)
Metron warrants that new Spectrum Hydrant meter (listed below) from the date of original shipment for a period of one (1) year.

Warranty Exclusion
Warranty coverage does not include physical damage to the hydrant meters due to misuse or negligent handling.

Prism LTE Electronic Register (formerly Innov8-VN LTE register)

Metron warrants the Prism LTE register for twenty (20) years as shown below.

Warranty Period (years)	Replacement Credit (% of current list price)
0-10	100%
11-13	40%
14-16	30%
17-18	20%

Advanced Metering Infrastructure (AMI) Project

19-20	10%

Warranty Exclusions
- *Cabled Outputs.* The Prism register is available with encoder and pulse output options which apply additional and unspecified loads on the batteries. For these register options, the Prism's Warranty Period is limited to five (5) years from the original date of shipment.
- *High Risk Areas.* Please contact your Metron representative to confirm whether your intended installation is in a high-risk area which will reduce the standard Warranty Period and for availability and cost of a High Risk Premium Warranty Extension.
- *Cellular/Internet Service.* Metron has no control over the performance, reliability, availability or security of cellular or Internet service.

Prism R LTE Electronic Remote (formerly Innov8-VNr)

Metron warrants the current (single battery) Prism R LTE Electronic Remote for fifteen (15) years as shown below.

Warranty Period (years)	Replacement Credit (% of current list price)
0-5	100%
6-7	40%
8-9	30%
10	20%

Warranty Exclusions
- *Cabled Outputs.* The Prism R register is available with encoder and pulse output options which apply additional and unspecified loads on the batteries. For these register options, the Prism R's Warranty Period is limited to five (5) years from the original date of shipment.
- *High Risk Areas.* Please contact your Metron representative to confirm whether your intended installation is in a high-risk area which will reduce the standard Warranty Period and for availability and cost of a High Risk Premium Warranty Extension.
- *Cellular/Internet Service.* Metron has no control over the performance, reliability, availability or security of cellular or Internet service.

Prism EXT Monitors (formerly WaterSignal®-VN)

Metron warrants the Prism EXT monitor for a period of seven (7) years.

Warranty Exclusions
- *Cabled Outputs.* The Prism EXT Monitor is available with encoder and pulse output options which apply additional and unspecified loads on the batteries. For these register options, the Prism EXT Monitor's Warranty Period is limited to five (5) years from the original date of shipment.
- *High Risk Areas.* Please contact your Metron representative to confirm whether your intended installation is in a high-risk area which will reduce the standard Warranty Period and for availability and cost of a High Risk Premium Warranty Extension.
- *Cellular/Internet Service.* Metron has no control over the performance, reliability, availability or security of cellular or Internet service.

METRON

Bidder: Metron Farnier, LLC and affiliates controlled by or under common control with Metron.

Metron Sensors and Data Services.

Metron sells the metering, monitoring and data transmission equipment ("Sensors") to utility customers ("Utility") for installation on Utility property or in Utility buildings or residences. Information from the Sensors is monitored, processed and analyzed through Metron's proprietary data monitoring and analytics services ("Data Services") including consumption information (for billing), usage analysis, and leak detection and made available to the Utility by subscription to a user-addressable dashboard and through notifications. Metron provides Sensors and licenses the Metron Data Services software through subscriptions for each site owned or managed by the Utility specified in the Request for Proposal.

Ownership and Data Use/Management.

A. Utility owns all rights to the proprietary information it provides, including property types and addresses, and administrator and end-user personal information ("Utility Data"). Utility is responsible for obtaining any necessary consents for disclosure and transmission of any personal information in the Utility Data and any consequences or results of any transmission or publication of any private information that is not intended for public availability. Within thirty (30) days after termination or expiration of this Agreement, Utility may request that Metron provide a file of Utility Data. Utility grants Metron the right to access, copy, transmit, reformat, and display Utility Data to create and provide the Metron Data Services which may include personal information as necessary for Utility to bill its end-users. Utility agrees that Metron may analyze Utility Data for the purpose of improving Metron Data Services, or to provide generalized data on the use or attributes of content types and may provide additional Service analytics. Utility also agrees that Metron may also create generalized examples of types of Utility Data to demonstrate the Metron Data Services analytics capabilities. Utility's subscription to access and use the Metron Data Services through Metron software does not include ownership rights to any Metron Data Services. Metron will utilize reasonable, currently available measures to remove end-user personal information from the generalized data.

B. Metron owns all design rights to the Sensors and Metron Data Services, and to any modifications or improvements and all related intellectual property rights. Metron also owns the metrics and analytics data related to Utility Data or Utility's use of the Metron Data Services. Metron's Data Services ownership includes all (a) pre-existing works and materials or works, (b) works of general applicability to the data analytics and software development industries, and (c) any concepts, approaches, knowledge, experience, skills, techniques, methodologies, designs, processes, tools, know-how or ideas already

Metron
5665 Airport Blvd, Boulder, CO 80301, USA
Phone: 303.449.8833
Fax: 303.449.1464

possessed by Metron prior to the Agreement or resulting from Metron's work under the Agreement or which may be used by Metron to improve Metron's business offerings for other Utilities, provided that it does not contain any Utility confidential information or Utility Data. Metron may use any suggestions, ideas, enhancement requests, feedback, recommendations, or other non-proprietary information ("Feedback") to improve the Data Services without charge, royalties, or other obligation to the source, and Metron's use of Feedback does not give Utility or its end-users any property rights to the Metron Data Services. To the extent that Metron's transformative formatting, reorganization, and analytics of Utility Data may be considered copyrightable by Metron (excluding Utility Data itself), Utility and Metron agree to cross-license Utility's rights to Utility Data and Metron's rights to its transformations and analytics to each other to provide the Metron Data Services for the duration of the Agreement. Upon termination of this Agreement the cross-license shall expire and Metron can no longer use Utility Data and Utility can no longer use Metron's analytics and Data Services.

C. Restrictions. Utility may not modify or create derivative works from the Metron Data Services, reverse engineer, decompile, or disassemble the Sensors or Metron Data Services; or otherwise use the Metron Data Services except as expressly described in the Agreement.
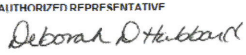
D. Metron and Utility may correspond and convey information and documentation, including intellectual property such as Utility Data and Metron Data Services via cellular data transmission and the Internet. Neither party has control over the performance, reliability, availability or security of cellular or Internet communications and therefore neither party shall be liable for any loss, damage, expense, harm or inconvenience resulting from the loss, delay, interception, corruption, or alteration of any Internet data transmissions due to any reason beyond that party's reasonable control.

Sensor Warranty.
A. Metron warrants to Utility that (i) the Sensors will be free from material defects in materials and workmanship and will perform substantially in accordance with the applicable warranties described in the proposal and (ii) the Data Services will materially perform as described in the proposal. For nonconforming Sensors or Data Services reported by Utility during the applicable Warranty Period and not subject to a warranty exclusion, Utility's sole and exclusive remedy will be for Metron to promptly repair or replace nonconforming Sensors and/or re-perform nonconforming Data Services at no additional cost to Utility.

Advanced Metering Infrastructure (AMI) Project

9.10. CERTIFICATE OF INSURANCE (COI)

ACORD®	**CERTIFICATE OF LIABILITY INSURANCE**		DATE (MM/DD/YYYY) 10/2/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: John Munson		
Securance Corporation Agency 10205 Westheimer Rd., Ste. 1100 Houston TX 77042	PHONE (A/C, No, Ext): 312-420-0747		FAX (A/C, No): 713-785-6722
	E-MAIL ADDRESS: jmunson@securancecorp.com		

	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Hartford Fire Insurance Co.	19682
INSURED METRON0-01	INSURER B : Trumbull Insurance Company	27120
Metron Farnier LLC Metron Sustainable Services, Inc. WaterSignal LLC, Transparent Technologies, Inc. 5665 Airport Blvd, Suite 105 Boulder CO 80301	INSURER C : Hartford Casualty Ins. Co.	29424
	INSURER D : Obsidian Specialty Insurance Company	16871
	INSURER E :	
	INSURER F :	

COVERAGES   **CERTIFICATE NUMBER: 1647431297**   **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE X OCCUR	Y	Y	61UUNBC5FFG	7/1/2025	7/1/2026	EACH OCCURRENCE	$1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$300,000
							MED EXP (Any one person)	$5,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY ☐ PRO-JECT ☐ LOC OTHER:							GENERAL AGGREGATE	$2,000,000
							PRODUCTS - COMP/OP AGG	$2,000,000
								$
B	AUTOMOBILE LIABILITY X ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY	Y	Y	61UENBC5FU8	7/1/2025	7/1/2026	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
C	X UMBRELLA LIAB X OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE DED X RETENTION $ 10,000	Y	Y	61RHUBE3SU4	7/1/2025	7/1/2026	EACH OCCURRENCE	$5,000,000
							AGGREGATE	$5,000,000
								$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	Y	61WEAY0M8P	7/1/2025	7/1/2026	X PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
D	Technology E&O & Cyber Liability		Y	OBD-PT-SFRG4TEEA	1/24/2025	1/24/2026	Each claim/aggregate	$3,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Certificate holder is Additional Insured per written agreement. Policies are Primary and Non-Contributory in favor of certificate holders per written agreement. Policies include Waiver of Subrogation per written agreement. Referenced forms: HG00010916, HA99161221.

CERTIFICATE HOLDER	CANCELLATION
Portage County Water Resources Department Shannon Kautzman, Director of Internal Services Portage County Internal Services Director Portage County Administration Bldg 449 S. Meridian St. Ravenna OH 44266	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE *Deborah D Hubbard*

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