



**Badger Meter**

## BEACON<sup>®</sup> AMA Solution

ORION<sup>®</sup> Cellular Coverage Analysis (CCA)

**Customer:** Kentucky American Water - KY

**Date Issued:** 2/15/2023

**Project:** Livingston, KY, Plant #D603

**Revision:** 1.0

### SUMMARY INFORMATION

**Endpoint Type:** **Inconclusive**

**Service Area (square miles):** **104.0**

**Total Endpoints:** **326**

### REQUEST INFORMATION

**Solution Architect:** Thomas Watts

**Account Manager:** Mark Wright

### INFORMATION PROVIDED

	<u>FILE NAME</u>	<u>DATE RECEIVED</u>
<b>Coverage Request Form:</b>	AW KY D603 Livingston CCA 2023 02 13.pdf	2/13/2023
<b>Endpoint Locations:</b>	CCA Premise Extract 2023_02_13_KY.xlsx	2/13/2023

### ANALYSIS COVERAGE AREA

Analysis is based on GPS coordinates provided by Kentucky American Water, KY. A map of the provided endpoint locations is shown below.



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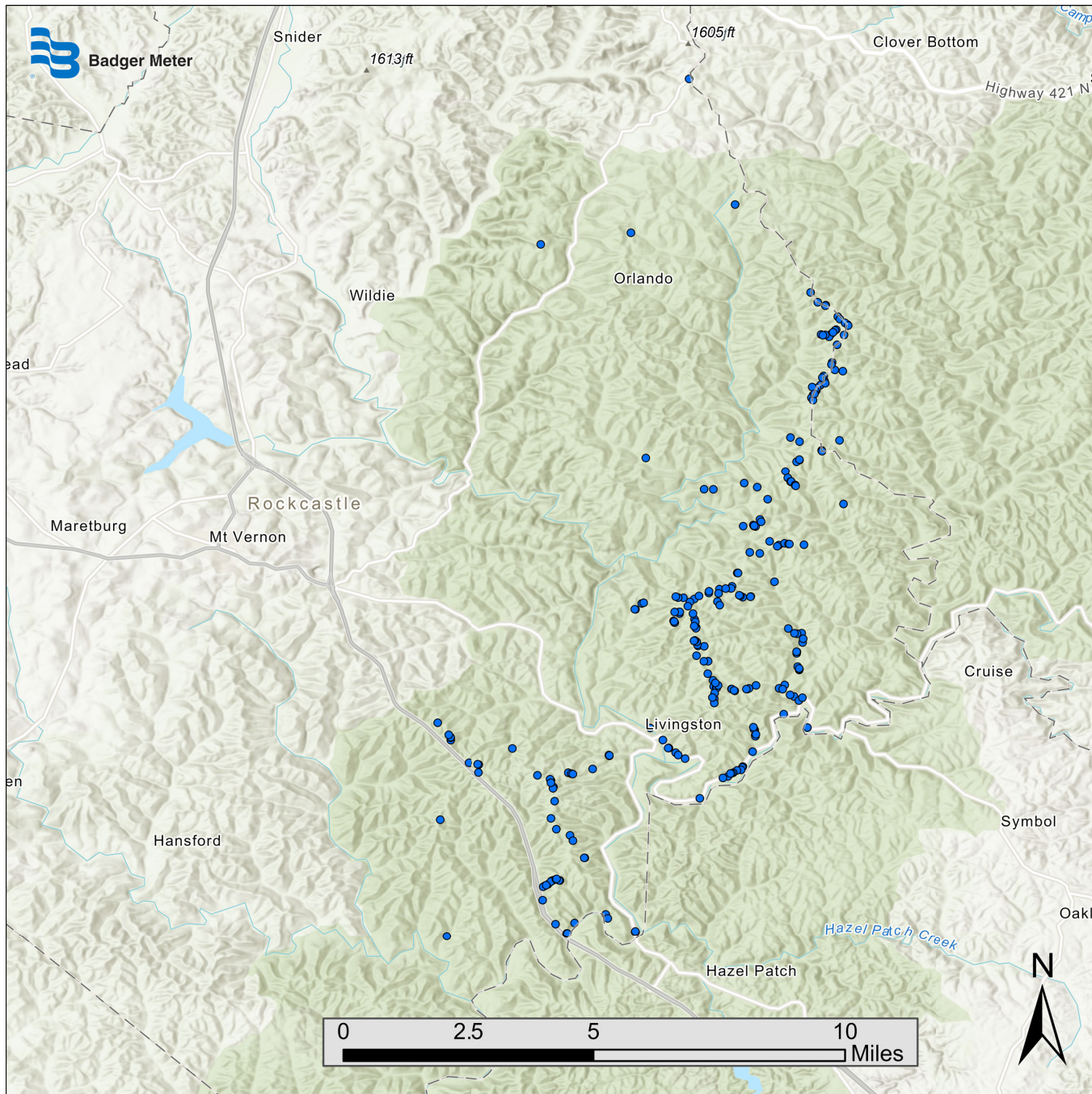
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### ENDPOINT LOCATIONS MAP





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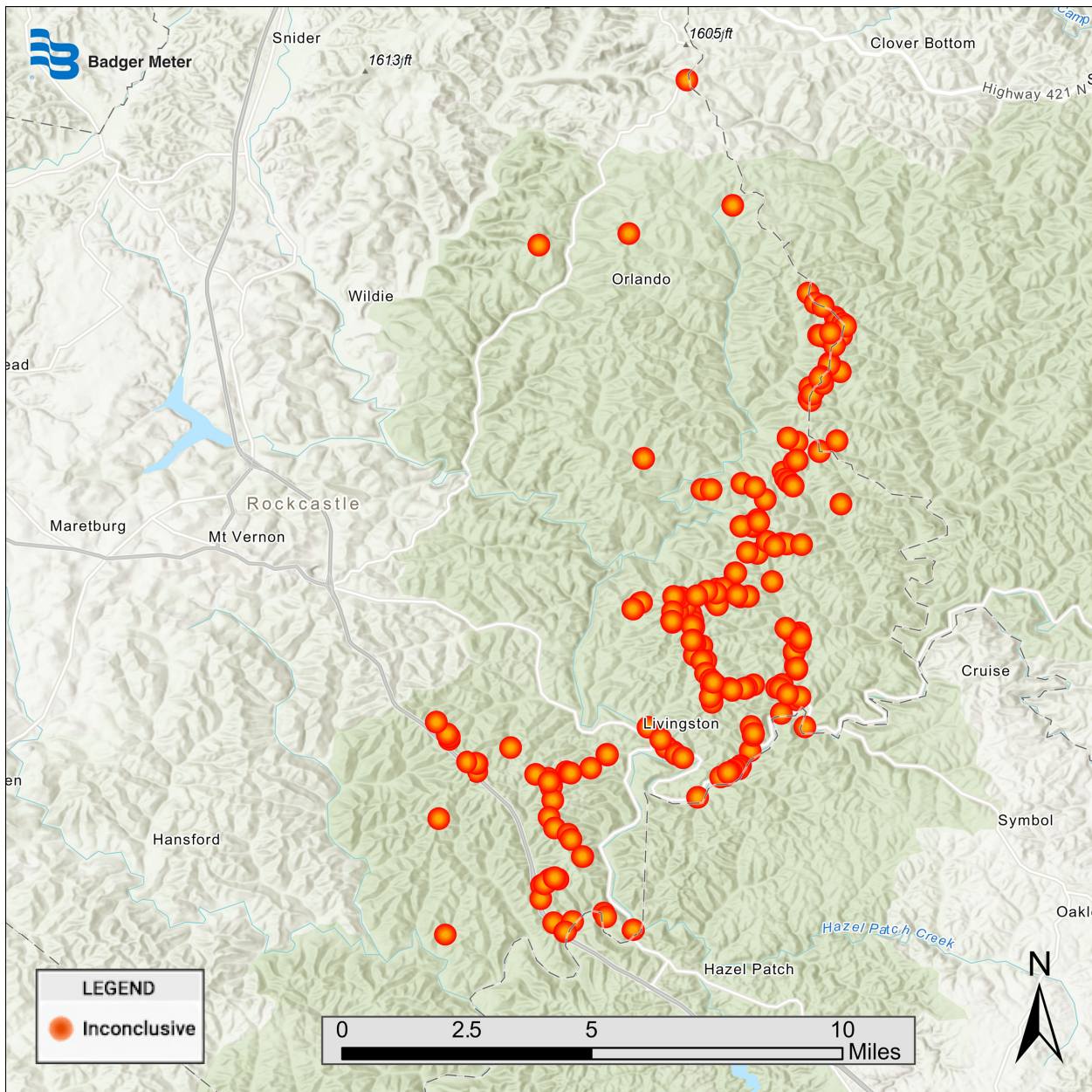
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### CELLULAR COVERAGE ANALYSIS

- A check of our cellular network providers' Machine-to-Machine (M2M) cellular network coverage for the service locations provided has indicated that coverage to support either the ORION Cellular LTE-M or LTE-MS endpoints may or may not be available. A Field Evaluation, with both carriers, is required to confirm adequate signal levels for a successful deployment.
- The map below provides an illustration of that coverage.





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### ASSUMPTIONS MADE

- Submitted information including but not limited to street addresses, service area, GPS coordinates, and meter locations are accurate.
- If GPS coordinates or a GIS shapefile are not provided for endpoint locations, street addresses are geocoded into decimal-degree latitude and longitude using ESRI's StreetMap Premium for ArcGIS North America HERE address locaters.
- Data from third party providers such as USGS National Elevation Dataset (NED), USGS National Land Cover Database (NLCD), Tele-Atlas municipal boundaries, cellular providers, and the RF propagation software used by Badger Meter is accurate.
- ORION endpoints are installed and maintained according to "ORI-UM-00025 ORION Water Endpoint Installation Manual" using a Badger Meter approved endpoint installation kit in a location that allows two-way communication between the endpoint and the cellular network.
  - Pit or vault installations are through a non-metal pit lid and the pit or vault lid is at or above grade
  - Indoor installations are mounted as high as possible in the floor joists above grade on an exterior wall

### CLARIFICATIONS

- The ORION cellular coverage analysis is subject to change for reasons which may include but are not limited to; consultation with the customer, site visit by Badger Meter authorized personnel, and the availability of new or updated information.
- Cellular coverage within the utility service area is required to deploy ORION cellular endpoints.
- Review the cellular coverage analysis with your Badger Meter representative in order to understand how it may be used by the utility as a tool to deploy the system.
- All endpoints are to be installed in compliance with the published ORION installation guidelines which can be found at [www.badgermeter.com](http://www.badgermeter.com)
- Cellular endpoint type recommended is specific to the latitude and longitude for each location.

### SMART WATER IS BADGER METER

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