


Badger Meter
BEACON[®] AMA Solution
ORION[®] Cellular Coverage Analysis (CCA)
Customer: Kentucky American Water - KY

Date Issued: 2/15/2023

Project: North Middletown, KY, Plant #D605

Revision: 1.0

SUMMARY INFORMATION

Endpoint Type: **LTE-M**
Service Area (square miles): **1**
Total Endpoints: **90**

REQUEST INFORMATION

Solution Architect: Bruce Aquilina

Account Manager: Tom Watts, Mark Wright

INFORMATION PROVIDED

	<u>FILE NAME</u>	<u>DATE RECEIVED</u>
Coverage Request Form:	AW KY D605 North Middletown CCA 2023 02 13.pdf	2/13/2023
Endpoint Locations:	CCA Premise Extract 2023_02_13_KY.xlsx	2/13/2023

ANALYSIS COVERAGE AREA

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



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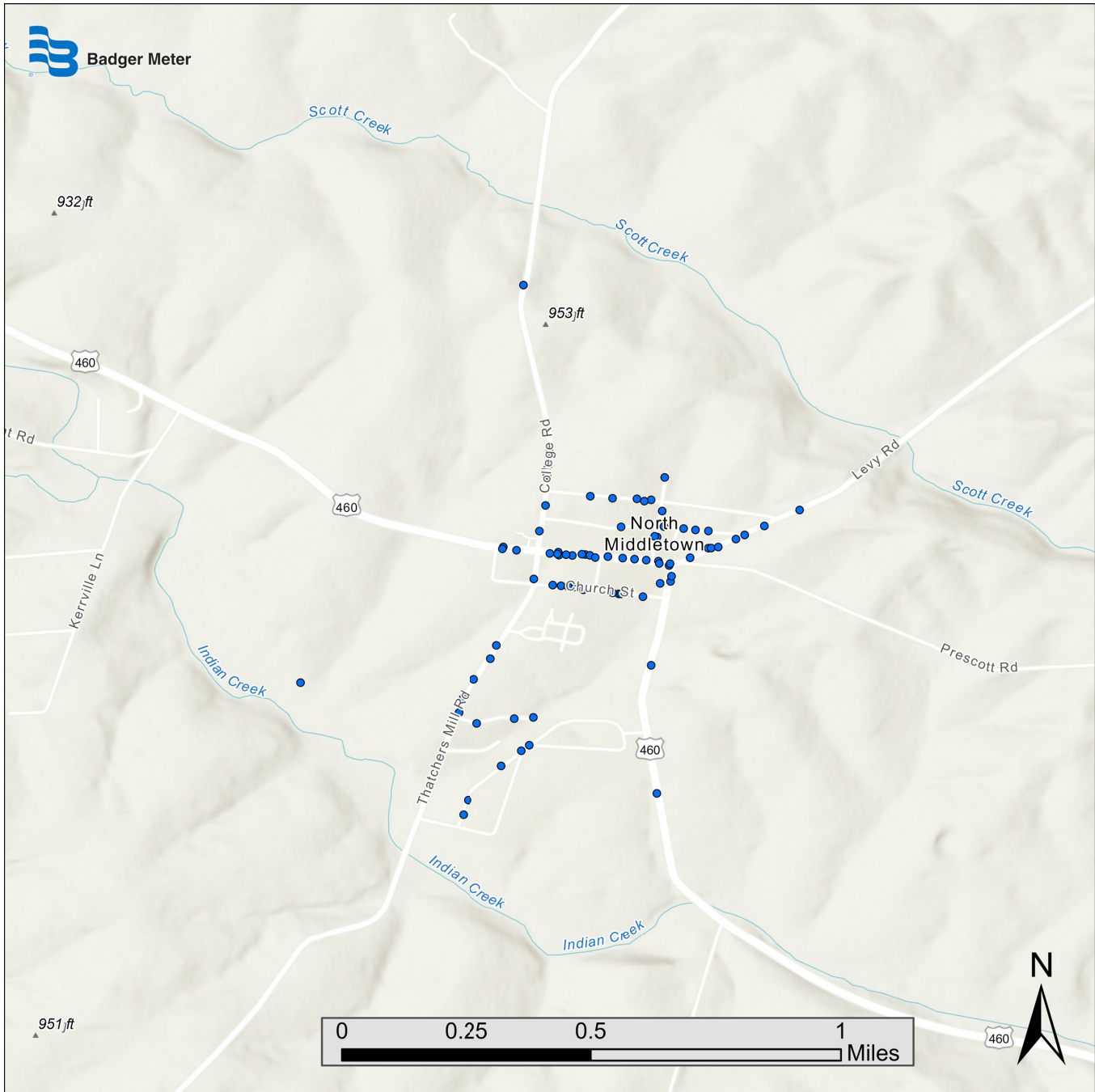
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ENDPOINT LOCATIONS MAP





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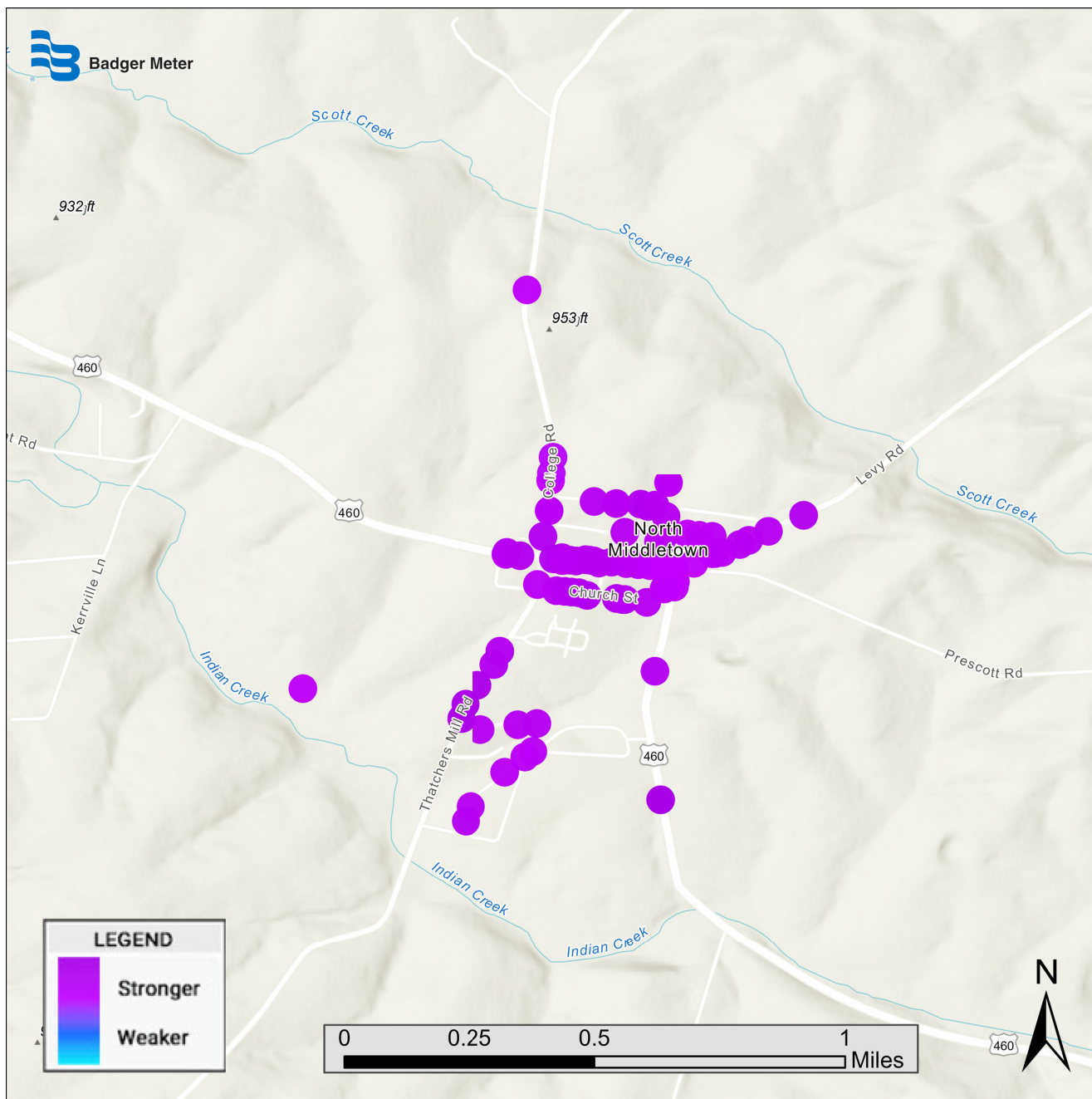
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CELLULAR COVERAGE ANALYSIS

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 the ORION Cellular LTE-M endpoint is available.





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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
- Cellular endpoint type recommended is specific to the latitude and longitude for each location.

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