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# MEMORANDUM

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**TO:** Mayor and Members of the City Council  
**FROM:** Rich Olson, City Manager  
Amanda Boone, Director of Public Utilities  
**DATE:** July 19, 2019  
**REF:** Presentation – Water Meters, Distribution System, Water Quality

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***BACKGROUND:***

During the May 9<sup>th</sup> City Council meeting, staff presented information regarding the Badger smart meter products and specifically Beacon. At the conclusion of the meeting, the Council directed staff to install the new technology at each of the Councilors' houses, and any locations where the meter was stopped or broken, as part of the regular maintenance.

Staff has also previously reported to the Council regarding the distribution system and water quality during both their February 25, 2019 and June 11, 2018 meetings, respectively.

***ANALYSIS:***

The objective of the water-metering project is to utilize smart technology to better utilize staff resources, accurately measure services and protect our natural resources. Recently, staff has been intensely evaluating the smart water metering technology offered by Badger Meter. The technology specifically being considered is the Beacon AMA (Advanced Metering Analytics) system accompanied by the Orion Cellular LTE (long-term evolution) Endpoints and E-Series Ultrasonic Meters. One other cellular option has been presented to staff, but it is not an integrated solution, which means the endpoint and software is provided by them, but the encoder must be retrofitted to the selected meter.

Replacement of several lengths of water lines continues under contract with Enviro-Tech Unlimited Construction Services, LLC; however, this replacement only equates to 0.4% of the distribution system. There is approximately 812,329 linear feet of water line within the distribution system and at approximately \$135 per linear foot to replace, full replacement would cost over \$109 million. Replacement of water lines is necessary

to maintain flow and water quality. Additionally, staff continues to survey the City for water leaks and make repairs as identified.

Lately, the Public Utilities staff has received an increase number of calls regarding milky/cloudy water and the perception from the public is the water is unsafe due to its appearance. All water treatment facilities are subject to regular and increasing water testing requirements. The City of Elizabeth City provides water compliant with State and Federal regulations and as such is safe to drink.

***STAFF RECOMMENDATIONS:***

By motion, authorize staff to fully engage Beacon and begin a soft deployment of the new technology.