

MEMORANDUM

DATE: August 27, 2015

TO: William Stowe, CEO and General Manager

FROM: Danny J. Klopfer, Engineering Services Manager *D J Klopfer*
Katie Kinsey, Professional Engineer *Katie Kinsey*

SUBJECT: 2020 Long Range Plan for Water Distribution and Meeting Future Water Needs for the City of Johnston

In 2009, our engineering staff completed the Water Distribution component of the Des Moines Water Works Long Range Plan. This plan evaluated the components of our distribution system and compared the results to many industry standards as well as our own. The Long Range Plan also projected the future customer needs until 2020 and evaluated how effectively the existing system could handle those future needs and what improvements would be needed.

One of the major areas of concern that this study identified was the northwest portion of our system that supplies water to the northwest portion of Des Moines, the City of Johnston, the City of Urbandale, and the City of Clive. This portion of our system is fed from the Fleur Drive Water Treatment Plant through the feeder main network to Des Moines, Clive, and Urbandale customers, north to the Tenny Standpipe and ultimately to Johnston.

The recommendations of the Long Range Plan included the installation of a new 30-inch water main from Polk Boulevard and Chamberlin Avenue to the Tenny Standpipe on Merle Hay Road. The installation cost of 18,600 feet of pipe at current prices is about \$8,000,000.

In 2014, the City of Johnston began discussion with Des Moines Water Works staff to obtain additional water from us at NW 62nd Avenue and NW Beaver Drive. Having knowledge of Polk County's proposed improvements to NW 66th Avenue from our Saylorville Water Treatment Plant to NW Beaver Avenue gave the opportunity to develop a joint project to meet the City of Johnston's needs.

Several agreements among the Des Moines Water Works, the City of Johnston, and Polk County have been executed by the Board of Water Works Trustees. These agreements were for the installation of a 36-inch and 30-inch water main in NW 66th Avenue from the Saylorville Water Treatment Plant to NW Beaver Drive and a 30-inch water main in NW Beaver Drive from NW 66th Avenue to NW 62nd Avenue.

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The first phase of this project on NW 66th Avenue from the Saylorville Water Treatment Plant to NW Beaver Drive is within the Polk County NW 66th Avenue contract and is currently under construction. The construction of this phase will be completed in the winter of 2016. This phase will include the installation of a 36-inch HDPE pipe under the Des Moines River which will be the largest installation of this product by Des Moines Water Works.

The second phase of this project includes the installation of a 30-inch feeder main on NW Beaver Drive from NW 66th Avenue to NW 62nd Avenue. At NW Beaver Drive and NW 62nd Avenue a connection and meter pit will be installed for the City of Johnston. The construction of this phase should start in the winter of 2016 and plans to be completed by June of 2016. The costs of the first two phases of this project will be shared with the City of Johnston.

The third phase of this project will include the installation of a 24-inch water main from NW Beaver Drive and NW 62nd Avenue and will connect to an existing 24-inch water main in Merle Hay Road just north of I-80. The installation of this phase of work will address the concerns of our 2020 Water Distribution Long Range Plan, provide the additional needed water at Johnston's desired location within their system, and connect the Saylorville Water Treatment Plant to the Tenny Standpipe.

The design of this third phase of feeder main is currently included in the 2016 budget with construction to occur in accordance with our CIP in 2017 or 2018. This timeframe is essential to facilitate us meeting the future demands placed upon the northwest portion of our distribution system.

The total cost of all three phases of this project is approximately \$8,400,000 with the City of Johnston reimbursing DMWW approximately \$1,000,000. The cost savings and the increased flexibility of connecting the Saylorville Water Treatment Plant to the Tenny Standpipe support the approach we have taken.

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