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MEMO

To: Mayor and City Council Members
From: Tracy Peterson, P.E., Municipal Engineer
Date: January 14, 2022
Subject: 4-inch Water Mains (City Council referral from Tam Lorenz)

On December 14, 2021, City Council requested a memo from staff concerning correspondence from Tam Lorenz regarding replacing all four-inch mains. On November 3, 2021, as part of the Town Budget Meeting being held the next evening, an email was received from Ms. Lorenz to Mayor and City Council asking to “Allocate More Money and Staff to Replace 4-inch Water Mains”. The specific location mentioned in the email is S. Maple Avenue.

The Water Distribution System in Ames consists of 251 miles of water main including approximately 7.5 miles of active 4-inch water mains. To replace this length with new standard 8-inch water main is estimated to cost \$12 million. The Ames Water System also includes about 28.5 miles of active, aged 6-inch cast iron water mains with a replacement cost of \$45 million. Benefits of replacing the aged 4-inch and 6-inch cast iron water mains include enhanced firefighting capacity and improved water quality in the system (based on rusty water complaints). There are an estimated 130 lead services (estimated cost to replace of \$1 million) still active, connected to these older mains.

Some water main replacements are combined with street reconstruction projects, in order to minimize negative construction impacts to the neighborhoods to one construction season. Where there are new water mains but services are still connected to old mains, water service transfer projects are bid to connect services to the larger, newer water main in the area. If out of compliance with current plumbing code, the private service is replaced between the main and home as part of the project, at the utility’s cost. Additional water main replacement projects are also bid, separate from street pavement improvement projects, within the budget provided through the Water System Improvement Program that is annually in the Capital Improvements Plan.

The draft 5-year Capital Improvements Plan includes \$9.8 million in planned water main replacements projects as follows:

2022/23:	\$1,750,000	2025/26:	\$2,050,000
2023/24:	\$1,900,000	2026/27:	\$2,500,000
2024/25:	\$2,050,000		

Staff estimates that these projects will replace approximately 1.25 miles of 4-inch water main (leaving 6.25 miles of 4-inch main yet to be replaced) and approximately 2.69 miles of 6-inch water main (leaving 25.81 miles of 6-inch main yet to be replaced).

