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Memorandum

Date: March 07, 2023

To: Capital Investment Committee

Prepared By: Holly Wilson, PE, Project Manager

Subject: Swanville Water System Improvements – SF 1073

I am writing to express our support for the Swanville Water System Improvements. The City of Swanville is requesting funds to address the water infrastructure needs within their community of 342 people. The existing water distribution system consists of two water supply wells, distribution mains and services, and a single elevated water storage tower. The wells and water tower are in critical need of replacement. The city also plans to address dead-end, undersized, and aged watermains as well as upgrade the water meter system.

The primary water supply well is identified as highly vulnerable to surficial and underground contamination sources due to several factors including its unknown construction, shallow depth, and lack of impermeable cover across the aquifer's watershed in the City's Wellhead Protection Plan. The City's other source of supply is seldom used due to the presence of free ammonia in the water. The level of ammonia present in this well source water makes the source water non-ideal and costly to treat. In addition, the water exceeds recommended secondary standards for iron and manganese which would be undesirable to pass into the system left untreated.

The existing well buildings have outdated or insufficient safety protections in place, such as lack of separate chemical room storage, inadequate or absent room ventilation and lack of automatic chlorine gas leak detection equipment. A new treatment building equipped with updated safety features and equipment would provide improved safety and worker protection and greater community assurance.

The existing elevated water storage tank was identified by the Minnesota Department of Health (MDH) as posing a threat to the sanitation of the finished water supply from openings, holes and other defects in the tank roof and joint seams. The water tower is also deficient in providing the recommended volume of storage for community fire protection.

The distribution system has some older sections of water main which may be of iron material construction and were not replaced in recent water system projects. There is also a section in the community that lacks an adequate distribution main and fire protection.

The City's water meters are aged and near the end of their expected service life. The current metering system is labor intensive and requires monthly manual reading of the meter; whereas newer water metering systems allow either drive-by radio reading or fixed base station meter readings.