



City of Homer

www.cityofhomer-ak.gov

Public Works

3575 Heath Street
Homer, AK 99603

publicworks@cityofhomer-ak.gov

(p) 907- 235-3170

(f) 907-235-3145

Memorandum 20-126

TO: City Council
THROUGH: Rob Dumouchel, City Manager
FROM: Jan Keiser, PE, JD, Director of Public Works
DATE: August 17, 2020
SUBJECT: Proposal for Water Projects

Issue: The City is in the process of adjusting sewer rates and updating how funding is used to fund repairs and capital projects related to the water system. In the meantime, the City's water system has some urgent needs for repairs and rehabilitation to protect the City's investment in this vital infrastructure. I propose that some money be authorized to proceed with designated, urgent projects, while this broader work of rate/policy adjustment is being done.

Background: The City's Water Treatment Plant ("WTP") was, at the time of its construction and even now, a state-of-the-art design. It involves the use of a membrane filter to trap organic material from the water. Water from the WTP is distributed to the City's water customers through a network of pipelines and because there is such a high elevation difference between the WTP and sea level, where many of the City's customers reside, the water must pass through Pressure-Reducing Stations to prevent the high pressures from damaging the pipeline network. Over time, various mechanical elements of the water system need to be maintained, refurbished, and even replaced to keep them operating properly. Further, new mechanical devices are more energy efficient than the original equipment, so upgrading equipment can often result in energy savings.

The City maintains a fund, currently called the "Water Depreciation Reserve", built from the user fees paid by the City's customers. The value of the Water Depreciation Reserve, as of March 31, 2020, was \$2,656,863. There is currently no plan that systematically programs how these monies will be spent. The City Council is in the process of reviewing how this fund will be built and used.

We have proposed a Water Capital Improvement Plan to provide information about the water system's needs for repairs and rehabilitation. To create Plan, we did the following:

- a. Reviewed the City's 2006 Water and Sewer Master Plan, which is the most recent detailed planning document related to the City's water/sewer infrastructure.
- b. Compared the City's current population, water use trends to the trends that were projected in 2006. For example the 2006 Water and Sewer Master Plan projected the City's population would be 11,244

people in 2025. In 2020, the population is about 5,700 people. It is unlikely to almost double in the next five years.

- c. Looked at the capital improvements recommended in the 2006 plan to identify work that had already been done.
- d. Identified current maintenance needs – critical repairs or upgrades that were needed to protect existing infrastructure.
- e. Made a list of projects that were required to upgrade existing facilities or develop new facilities and ranked those projects in order of urgency.

The Proposed Plan describes the following projects:

• Million Gallon Water Tank Aeration System	Urgent	\$ 210,000
• Tesoro Water Vault Upgrade	Urgent	\$ 100,000
• Raw Water Transmission Line Replacement, Ph 1- Design	Urgent	\$ 215,000
• Raw Water Transmission Line Replacement, Ph 11- Constr.	Urgent	\$1,785,000
• Pressure Reducing Valve Replacement, West Trunk Line	Urgent	\$ 25,000
• West Trunk Main Replacement	High	\$ 825,000
• New Water Storage Tank – West – .25 million gallons	High	\$1,105,000
• New Water Storage Tank – East – .75 million gallons	High	\$2,583,000
• Hydrology Study for Supplemental Water Supply	Moderate	\$ 150,000
• Spit Water Line Replacement	Moderate	\$ 624,000
• Update 2006 Water and Sewer Master Plan	Low	<u>\$ 50,000</u>
Total Estimated Costs		\$7,672,000

The value of the Water Depreciation Reserve, as of March 31, 2020, was \$2,656,863. This is sufficient to fund at least Phase I of the projects marked “Urgent”, \$550,000, and leave \$2,106,863, which would serve as a reserve for emergency purposes. Indeed, spending this \$550,000 now is a necessary part of (a) protecting the public health and (b) preserving the integrity of the City’s water system.

Recommendations:

1. We recommend the City Council authorize the implementation of the projects ranked as “Urgent”, except we would only execute Phase 1- Design, of the Raw Water Transmission Line Replacement Project
2. We understand this authorization, if made, should not establish a precedence about how the account, currently, marked “Water Depreciation Reserve,” will be built or spent.