



# City of Homer

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## Memorandum 20-127

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

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**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 sewer system. In the meantime, the City's sewer 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 Waste Water Treatment Plant ("WWTP") was constructed over 35 years ago and was, at that time and even now, a unique design. It involves two Deep Shafts into which highly concentrated oxygen is pumped to sustain natural bacteria, whose biology is uniquely adapted to digest the organic matter in municipal waste water. The City's sewer system also includes a network of sewage collection pipes, manholes and sewage lift stations, which allow users in the lower-lying areas of town to be served, by pumping their waste water to the plant. The City's waste water system has performed its job admirably, allowing the City to meet and even exceed the regulated criteria for discharging treated waste water into Kachemak Bay. Over time, various mechanical elements of the system need to be maintained, refurbished, and even replaced to keep them operating properly. Further, new mechanical devices are more energy efficient than the equipment that was available 35 years ago, so upgrading equipment can often result in energy savings.

The City maintains a fund, currently called the "Sewer Depreciation Reserve" built from the user fees paid by the City's customers. The value of the Sewer Depreciation Reserve, as of March 31, 2020, was \$2,018,059. 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 Sewer Capital Improvement Plan to provide information about the sewer 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, sewage production 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:

<b>Projects</b>	<b>Ranking</b>	<b>Estimated Cost</b>
• Replace Deep Shaft Air Compressor	Urgent	\$ 85,000
• Upgrade SCADA for Seven Sewer Lift Stations	Urgent	\$210,900
• Waste Water Treatment Plant – Digester Blowers	Urgent	\$189,000
• Portable Generator for Sewer Collection System	High	\$ 58,000
• Ceiling Replacement at Waste Water Treatment Plant	High	\$ 65,000
• Small Works I & I Remediation Program	Moderate	\$ 50,000
• Electronic Pay Station for RV Dump Station	Low	<u>\$ 55,000</u>
Total Estimated Project Costs		\$712,900

The Sewer Depreciation Reserve, as of March 31, 2020, had a balance of \$2,018,059. This is sufficient to fund the projects marked “Urgent”, \$484,900, and leave sufficient reserve for emergency purposes. Indeed, spending this \$484,900 now will extend the life of the City’s sewerage systems.

**Recommendations:**

1. We further recommend the City Council authorize the implementation of the projects ranked as “Urgent”. We will start with these projects to protect the City’s investment in the WWTP.
2. We understand this authorization, if made, should not establish a precedence about how the account, currently, marked “Sewer Depreciation Reserve,” will be built or spent.

The Urgent Projects include:

- Replace Deep Shaft Air Compressor \$ 85,000
- Upgrade SCADA for Seven Sewer Lift Stations \$210,900
- Portable Generator for Sewer Collection System \$ 58,000
- Waste Water Treatment Plant – Digester Blowers \$189,000
- Ceiling Replacement at Waste Water Treatment Plant \$ 65,000

Total value of Urgent Projects \$607,900

The City’s Sewer Depreciation Reserve fund has sufficient monies to cover all of the City’s most urgent needs. Implementing these projects would, as a collective affect, decrease energy costs and extend the life of the WWTP as a whole.

The balance of the Sewer Depreciation Reserve fund, \$1,410,159, is an appropriate level of reserve for a WWTP system as complex as Homer’s, to maintain as an emergency reserve.

**Recommendation:** That the City Council (a) adopt the Sewer Capital Improvement Plan, dated July 30, 2020, and (b) authorize the implementation of the Urgent projects, including:

- Replace Deep Shaft Air Compressor \$ 85,000
- Upgrade SCADA for Seven Sewer Lift Stations \$210,900
- Portable Generator for Sewer Collection System \$ 58,000
- Waste Water Treatment Plant – Digester Blowers \$189,000
- Ceiling Replacement at Waste Water Treatment Plant \$ 65,000

Total value of Urgent Projects \$607,900