



City of Homer

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Public Works

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Memorandum 21-003

TO: City Council
THROUGH: Rob Dumouchel, City Manager
FROM: Janette Keiser, PE, Director of Public Works
DATE: December 18, 2020
SUBJECT: Beluga Sewage Lift Station Rehabilitation

Issue: The Beluga Sewage Lift Station is a major piece of the City's sewer system, transporting all sewage from the Spit as well as the Lakeshore Drive/Ocean Drive neighborhoods. For a variety of reasons, the sewage is extra rich in hydrogen sulfide, which is an acid that eats metal and concrete. As a result, the mechanical/electrical components as well as the concrete structure comprising this lift station, are corroding. Rehabilitation is necessary to extend the useful life of this lift station and protect the neighborhoods it serves. We propose to issue a contract for engineering services to explore options, perform preliminary design, and prepare a cost estimate for the rehabilitation.

Background:

All the sewage from the Spit flows through this lift station. In the winter flows on the Spit are substantially reduced, which means sewage sits in the pipes longer than it does in the summer. This pooling gives the sewage time to generate substantial volumes of hydrogen sulfide, a powerfully corrosive and dangerous gas. When you walk by the lift station and smell rotten eggs, you are smelling low concentrations of hydrogen sulfide. Over time, the acid has caused the concrete structure of the lift station to crack, spall and otherwise deteriorate. This is putting the structure at increasing risk of failure. Likewise, the acid adversely affects the valves, pipes, controls and other mechanical/electrical systems, decreasing their useful life.

There are multiple ways to address this problem. We propose to bring in HDL Engineering, a firm that is well-experienced with waste water collection systems, to evaluate the conditions and help us identify a preferred option as well as perform preliminary engineering sufficient for initiating permitting and developing a reliable cost estimate for final design and construction. HDL is one of the firms, with which the City has a Term Contract. The cost for the proposed services is \$19,573.

With this preliminary engineering effort, we will be able to ascertain our best option for moving forward and the extent to which we can perform some of the rehabilitation work with our own staff. We will not initiate any new sewer projects from this fund until such time as a new CARMA policy manual is adopted and we have refined our Asset Management Plan and Capital Improvement Plans for the sewer system.

The City maintains a Sewer CARMA, built from the user fees paid by the City’s customers. The value of the Sewer CARMA Account, as of March 31, 2020, was \$2,018,059. Since then, the City Council has appropriated or obligated the following expenses:

Balance in Sewer CARMA Account as of 3-31-20	\$2,018,059
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Less:

- | | |
|--|------------------|
| a. High Priority Sewer Projects, Ord 20-57 | \$ 503,596 |
| b. Low Energy Light Fixtures for WWTP, Ord 20-92 | <u>\$ 18,696</u> |

Total Funds obligated from Sewer CARMA Fund	<u>\$ 522,292</u>
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Minimum balance remaining in Sewer CARMA Fund, before this request	\$1,495,767
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Recommendations:

We recommend the City Council appropriate \$19,573 from the Sewer CARMA Account to fund preliminary engineering for the Beluga Lift Station Rehabilitation Project.