



MEMORANDUM

Ordinance 23-57, An Ordinance of the City Council of Homer, Alaska Amending the FY24 Capital Budget by Appropriating an Additional \$35,000 from the Water Capital Asset Repair and Maintenance Allowance Fund to Purchase One Membrane Filter Module for the Water Treatment Plant. City Manager/Public Works Director.

Item Type: Backup Memorandum
Prepared For: City Council
Date: October 31, 2023
From: Janette Keiser, PE, Public Works Director/City Engineer
Through: Rob Dumouchel, City Manager

I. Issue: The purpose of this Memorandum is to request an additional appropriation of \$30,061 from the Water CARMA for the purpose of paying increased costs of providing membrane replacement modules for the Water Treatment Plant (WTP).

II. Background:

Homer's drinking water treatment technology involves the use of modules of very small diameter membranes, which are hung on racks, similar to a drying rack of angel hair pasta. Water passes through the membranes, which trap sediment, organics and other particles. The WTP contains space for six of these racks, called "membrane trains" of which five are currently in use. The sixth rack allows Homer to accommodate larger flows as water demand increases over time. The original membrane trains were installed in 2009, with an expected life span of 10-14 years. Thus, we are at the end of their useful life, so we have developed a plan for replacing them over the next few years. The FY24 CIP includes \$80,000 to purchase one membrane train and the FY25 CIP includes \$80,000 to purchase a second membrane train. We now know the cost of the first membrane train, including a modest contingency, is \$95,000. We need an additional appropriation of \$30,061 to cover the extra cost of the first membrane train.

We will be asking for additional appropriations in future years to address future purchases. We are contemplating purchase of five membrane trains in total to replace each of the original membrane trains.

We are also requesting an additional \$15,061 to cover the costs of the HDR Task Order. We needed help to review the specifications of the membrane trains, as some of the characteristics of the technology has changed in the past 14 years. Plus, we need to ensure brand new membranes won't adversely affect our current flow conditions at the WTP. So, we commissioned HDR, the original WTP designers to help us negotiate design parameters and features for the new membrane trains as well as to negotiate price indices. HDR's Task Order 23-04 for this work was authorized by Resolution 23-006 and cost \$15,061. The work has been done. We now have a final proposal from the manufacturer, Zenon Environmental Corporation (Zenon), for the new membrane trains.

The Zenon's proposal covers membrane replacement over a period of five years, anticipating purchase of one membrane train each year. This locks in the base price for all five membrane trains. Prices will be adjusted for inflation.

The total value for the purchase of five membrane trains is \$463,870. The Annual Payment is \$92,774 for the first year. Payments for subsequent years will be subject to inflationary adjustments, in accordance with the US CPI-U, All Urban Consumers. In addition to the membrane trains themselves, this price includes fiber repair kits and other parts required to connect the new membranes to the existing frameworks. In the event future City Councils do not appropriate funds for future payments, we have the option to terminate the purchase agreement. Once terminated, there is no option to restart the agreement; we will need to start from scratch.

The City's water treatment plant operators have the skills, abilities and tools to install the new membrane trains once we receive them. We may ask HDR to help commission the new membrane trains to ensure smooth transition between old and new flow parameters. We will assess the need, and request funding, for this possibility when we get the first train.

Homer City Code allows exceptions to be made to bidding requirements in the cases where a sole source procurements is justified, HCC 3.16.060(i). A sole source procurement is justified in this case because Zenon (1) provided the original membrane trains and (2) is the only manufacturer of these specialized membranes in the country.

Zenon's cost proposal is deem fair and reasonable, because it is based on the price guarantee formula that was part of the original purchase in 2009, adjusted for inflation, shipping and other incidental costs we've been able to identify and negotiate, such as costs for the repair kits, etc. The membranes themselves are manufactured in Hungary and subject to U.S. Custom duties, which are subject to change. Because of this, we recommend a small contingency be provided to account for small cost adjustments.

Delivery is projected to be 52 weeks after receipt of a purchase order.

We are asking for a total increase in appropriation of \$35,000, which includes \$15,000 for the additional costs for the membrane trains and \$15,061 for the cost of the HDR Task Order and a contingency amount:

- HDR Task Order \$ 15,061
- Membrane train \$ 95,000
- Contingency \$ 4,939
- Total needed \$115,000
- Currently authorized \$ 80,000
- Additional \$ needed \$ 35,000

III. RECOMMENDATION: That the City Council appropriate an additional \$35,000 from the Water CARMAS fund to pay for the acquisition of membrane filter trains for the Water Treatment Plant, including (a) purchase of one membrane filter train and (b) consultant services related to the transaction.