

AGENDA ITEM
July 6, 2021

Subject: Reverse Osmosis (RO) Membranes replacement

Department: Water Treatment Plant

The approved 2021 Budget appropriated \$137,000 for the Center tower interior painting. We pushed this project back to 2022 and appropriated \$80,000 of the \$137,000 for Deep Well #4 pump replacement (Still waiting on parts – install planned for July or August).

My plan is to utilize the remaining budgeted balance of \$57,000 for RO membranes replacement.

Bids were solicited for 114 - CPA2-8 Hydranautics Membranes and vessel parts:

Vendor	Total Bid
Consolidated Water Solutions, Omaha, NE	\$50,329.00
Water Surplus, loves Park, IL	\$53,669.00
Applied Membranes, Inc., Vista CA	\$79,428.28

Recommendation for Consolidated Water Solutions for a not to exceed amount of \$52,000.00 for 114 - CPA2-8 Hydranautics Membranes and vessel parts.

Manager's Note:

- Delivery is 60-90 days
- The Water Treatment Plant (WTP) has used Hydranautics membranes for several years.
- There are 210 membranes in the existing RO rack (35 vessel with 6 membranes per vessel). There are 36 vessel in the rack but one is inoperable.
- Foulants or "dirty" membranes affect performance of water production. Replacing fouling membranes increases water production while reducing chemical and electricity cost.
- Without a Clean-in-Place (CIP) system lifespan is reduced to 3-7 years. With a CIP normal lifespan is 10-15 years.
- A Membrane Clean-In-Place (CIP) system simplifies and automates the reverse osmosis membrane cleaning process which drastically increases the lifespan of the membranes, improving the Return On Investment (ROI). The proposed upgrades to the WTP includes a CIP system.
- We currently have approximately 60 elements (membrane) in stock. These were purchased in 2019.
- See attached membrane change-out schedule.

RO Vessel Element Change Dates

Rack 1

	1	2	3	4	5	6
A	10/29/2016	05/03/2017	04/10/2014	03/26/2014	08/17/2016	03/31/2021
B	05/24/2017	05/18/2017	05/16/2017	05/17/2017	05/03/2017	05/03/2017
C	05/24/2017	04/20/2021	05/24/2017	05/16/2017	05/18/2017	05/16/2017
D	05/18/2017	04/27/2021	05/17/2017	05/17/2017	05/16/2017	02/20/2014
E	05/18/2017	05/11/2021	05/24/2017	05/24/2017	Not In Use	05/03/2017
F	*	*	04/14/2021	*	05/17/2017	05/18/2017

* Unknown.. sometime before 2007