# CITY OF MORRO BAY
## CITY COUNCIL
## AGENDA

*The City of Morro Bay provides essential public services and infrastructure to maintain a safe, clean and healthy place for residents and visitors to live, work and play.*

## NOTICE OF SPECIAL MEETING

**Tuesday, January 23, 2018 – 4:00 P.M.**
**Veterans Memorial Hall**
**209 Surf St., Morro Bay, CA**

ESTABLISH QUORUM AND CALL TO ORDER

PUBLIC COMMENT FOR ITEMS ON THE AGENDA

SPECIAL MEETING AGENDA ITEM:

I. **Review of OneWater Plan; Including Water Supply Evaluation Criteria**

**RECOMMENDATION:** City Council review report and presentation; and provide comments to staff, as deemed appropriate.

ADJOURNMENT

DATED: January 19, 2018

Jamie L. Irons

Jamie L. Irons, Mayor

**IN COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT, IF YOU NEED SPECIAL ASSISTANCE TO PARTICIPATE IN A CITY MEETING, PLEASE CONTACT THE CITY CLERK'S OFFICE AT LEAST 24 HOURS PRIOR TO THE MEETING TO INSURE REASONABLE ARRANGEMENTS CAN BE MADE TO PROVIDE ACCESSIBILITY TO THE MEETING.**

**AGENDA NO: I**

**MEETING DATE: January 23, 2018**

# Staff Report

**TO:** **Honorable Mayor and City Council** **DATE: January 19, 2018**

**FROM:** **Damaris Hanson – Environmental Programs Manager**
**Rob Livick, PE/PLS – Public Works Director/City Engineer**

**SUBJECT:** **Review of OneWater Plan; Including Water Supply Evaluation Criteria**

## RECOMMENDATION

Council review report and presentation; and provide comments to staff, as deemed appropriate.

## FISCAL IMPACT

There is no direct fiscal impact as a result of this action. The City Council authorized a contract for $711,150 with Carollo Engineers Inc. (Carollo) on May 9, 2017, for the preparation of the OneWater plan. This item is a part of the OneWater work plan.

## BACKGROUND

Beginning in 1992, the City of Morro Bay has received most of its potable water supply from the State Water Project. With the rising cost and uncertainty of that supply, the City began development of the OneWater Plan in May 2017. The OneWater Plan has two main components:

- Identify alternative water supply options to allow for diversification of the City's portfolio; and
- Update the City's existing water, collection system, and stormwater master plans.

The purpose of this item is to provide an update on the various master planning components of the OneWater Plan and discuss the rating and criterion that can be used to evaluate various water supply options available to the City and detail the next steps in the process.

## DISCUSSION

**Work Completed to Date - Water Supply:**

Carollo began the water supply evaluation task for the OneWater Plan with a site evaluation of the City's existing desalination and brackish water reverse osmosis (BWRO) facility to determine its ability to play a role in the City's regular supply. The site evaluation found the BWRO facility was in good condition and the RO racks and recently upgraded electrical components could continue to be used. However, due to the age of the existing ocean water desalination facility components, many, if not all, of those components would likely need to be replaced if that supply option were to play a role in the City's future supply.

Using growth assumptions from the City's new General Plan that is currently under development, future water demands for the 20-year planning horizon were determined. Based on the information from the site visits and future demands, five water supply options have been developed. Those options are:

**Prepared By: DH** **Dept Review: RL**

**City Manager Review: SC**

| OPTION | WATER SUPPLY AVAILABILITY |
|---|---|
| Maintain some or all of State Water Allocation | Up to 1,313 AFY |
| Stream flow augmentation in Chorro Creek to allow for utilization of the Chorro Basin wells | 1,142 AFY |
| Ocean desalination | 645 AFY |
| Full utilization of the Morro Basin wells | 581 AFY |
| Groundwater Injection of treated advanced treated (purified) wastewater and Indirect Potable Reuse (IPR) | Additional 845 AFY |

Due to the parallel efforts of the OneWater and Water Reclamation Facility (WRF) Project, it is still unknown whether the purified water that will be injected as part of the WRF Project will require additional treatment for nitrates or salinity at the Morro Basin wells due to existing groundwater characteristics and non-point source contamination. The OneWater Plan includes evaluation of three water treatment for IPR scenarios:

- No additional treatment required;
- Filtration Treatment for salinity/nitrates (existing BWRO); and
- Biological Treatment for nitrates (Biottta® or similar).

Evaluation of that range of IPR options will allow the City to understand the cost of groundwater and potable reuse. However, this evaluation and outcomes of the evaluation will not impact the capital nor operational costs of the WRF project.

Along with those options, Carollo and City staff have developed a set of evaluation criteria that will be used to screen those options and determine the optimal water supply make-up for the City. The evaluation criteria categories include:

- Economic
- Natural Hazards
- Resiliency
- Environmental
- Implementation

**Next Steps - Water Supply:**

Following presentations to both the Public Works Advisory Board (PWAB) and the City Council, Carollo will develop planning-level cost estimates for each option and will work with City staff to apply the evaluation criteria and identify the preferred supply option(s).

**Work Completed to Date - Master Planning**

Like the water supply evaluation task, Carollo began the master planning process by performing site visits of all the City's water, collection system, and stormwater infrastructure including wells, tanks, lift stations, reservoirs, and flood-prone areas throughout the City. That information, combined with the City's GIS and as-built drawings, were used to develop dynamic hydraulic (water and sewer) and hydrologic (stormwater) models for those systems. Historical water production and consumption data along with information obtained from third-party flow monitoring in the collection system will be used to calibrate those models. To date, the combined calibration for the water,

collection system, and stormwater models is roughly 50 percent complete.

**Next Steps - Master Planning**

Following completion of the model calibration effort, Carollo will use the model, along with the design criteria developed with the City, to evaluate each system under both existing and future conditions. That evaluation will yield a number of existing and future deficiencies. The cost to mitigate those deficiencies will be determined and the resulting individual projects will be organized in a 20-year capital improvements program.

**CONCLUSION**

When completed, the OneWater plan will be critical in determining the necessary capital and maintenance improvements for the water and wastewater systems, along with recommending the make-up of the City's future water supply portfolio to meet goals adopted by City Council since 2016. Additionally, the Plan will inform the General Plan and Local Coastal Plan update regarding water and wastewater resources to accommodate future growth. The OneWater update was presented to the PWAB on November 15, 2017. PWAB had clarifying questions which Staff and Carollo answered.