



## AGENDA REPORT

**To:** Honorable Mayor and Members of City Council

**From:** Rudy Fischer, Council Member

**Meeting Date:** March 7, 2018

**Subject:** A Report on Progress at Monterey One Water and Goals for the Coming Year

**CEQA:** This action does not constitute a “project” as defined by the California Environmental Quality Act (CEQA) guidelines section 15378.

### RECOMMENDATION

Receive the report.

### DISCUSSION:

As we start 2018, I want to provide a summary of the Monterey One Water (M1W) agency, its original mission, and the exciting and challenging changes facing all of us in 2018.

#### The Regional Treatment Plant

Originally called the Monterey Regional Water Pollution Control Agency (MRWPCA); the agency provides wastewater treatment services to a population of 250,000 people. Formed due to the Clean Water Act of 1972, the agency took on a regional role right away. Prior to its construction, the various cities on the Monterey Peninsula had their own sewage treatment plants – some of which dumped treated sewage only a few hundred yards from shore.

By 1983 the various construction projects for the Regional Treatment Plant (RTP) and the collector pipelines were completed. The old coastal treatment plants provided the necessary pumping stations connected to three interceptor pipelines and a 60 foot wide outfall pipeline that extended 2 miles into Monterey Bay. This system took the place of eight old (and in some cases, overloaded) individual treatment plants, and has 25 pump stations and 30 miles of pipeline from the pump stations to the RTP.

Processing over 18 million gallons of wastewater each day, the agency takes care of the treatment needs of the Monterey Peninsula and the Salinas Valley. Because of its expertise and regional role, the agency also helps member cities meet their regulatory requirements in things like stormwater management.

It is also a leader in water recycling through the Salinas Valley Reclamation Project, Castroville Seawater Intrusion Project, and the Salinas Valley Diversion Facility, providing recycled water for agriculture use in one of the most productive regions in the world. For over 30 years the agency has provided irrigation water for growing non-cooked vegetables (lettuce, carrots, strawberries, etc.) without incident.

But the public expects wastewater systems to function at a high level of reliability and not have major issues. In order to ensure that M1W can continue to provide the reliability that people expect, in 2016 the Agency updated its Capital Improvement Program (CIP) and developed a multi-year projection of potential future costs. This was considered prudent because the

Agency's wastewater treatment facility and conveyance pipelines are now over 30 years old and starting to show their age. Wastewater systems operate in a harsh environment and need constant maintenance and replacement of components that wear out.

The Agency's Engineering Manager has estimated that approximately \$10 million per year will be needed going forward to fully fund the required ten year CIP. This led to a revision on the needed rates to fund that work. Because of the new need for a Pure Water Monterey clean water plant, this has taken on new importance. As a result, M1W is working with a consulting company to bring operations up to world class standards. This will both make the plant operate much better and more efficiently and ensure that the quality of water sent to the Pure Water Monterey (PWM) Advanced Water Purification Facility is consistent and of reliable quality.

Since 1998 the Agency has taken in waste water and produced over 75 billion gallons of recycled water for agricultural uses. In 2017 alone M1W produced over 4 billion gallons (12,807 acre feet) of this recycled water. This is used for irrigation of crops and has dramatically reduced the use of well water – benefiting the Aquifer. Even so, however, an average of 3,800 acre feet per year (afy) of water flows from the Treatment Plant to the sea unused for irrigation.

### **Development and Implementation of the GWR Project**

The Pure Water Monterey Groundwater Replenishment (GWR) project is a partnership of the Monterey One Water (M1W) and Monterey Peninsula Water Management District (MPWMD) to produce and inject highly purified water produced by a new Advanced Water Purification Facility (AWPF) at the M1W site north of Marina. Our partners at the Marina Coast Water District have started to build the pipeline to deliver that water to the injection site.

This AWPF came into being because of multiple factors that threatened the Monterey Peninsula's water supply. The State issued a Cease and Desist order directing the area's water provider, California American Water Company (Cal-Am), to reduce the amount of water it takes from the Carmel River from approximately 10,730 acre feet per year to its legally allowed 3,376 from the Carmel River. At the same time, the water drawn from the Seaside Aquifer is set to decline from 3,462 to 1,464 afy by 2021. Since the whole Peninsula used between 13,000 and 14,000 acre feet per year in the years before these decline orders came about, this created an obvious problem to be solved.

At the same time California also experienced a five-year drought, with associated restrictions in water use, from 2012 to 2017. Although after the record rainfall during the winter months of 2016-2017 the Governor lifted the drought restrictions in April of 2017, the area was still under instructions to reduce its withdrawal of water from the two main sources of that water. This, in turn, brought about several ideas on how to replace that water.

One of these was the realization that the water allowed to flow to the ocean – along with other sources of water – could provide a significant percent of the water the Peninsula needs if processed appropriately. It would require a significant capital investment, but state funds became available. M1W put together plans and applied for the loan funds; eventually receiving \$88 million in a State Revolving Fund (SRF) 1% loan, as well as a \$15 million grant from Proposition 1 funds.

In addition, 2017 saw several significant steps for the project completed. The MCWD, City of Salinas, Monterey County Water Resources Agency, and the Fort Ord Reuse Authority all pledged their support for the project. The California Public Utilities Commission also approved a three-way water purchase agreement whereby M1W sells the water to the MPWMD which, in turn, sells it to Cal-Am.

The Pure Water Monterey Groundwater Replenishment Project is designed to produce 3,500 afy of highly purified water. It is then sent to an injection well and used to replenish the Seaside Groundwater Basin. This will allow CalAm to reduce the water it takes from the river by that amount – also reducing the amount of water that needs to be treated by desalination.

The overall project also allows for a “drought reserve” of 1,000 acre feet. This will involve putting an extra 200 acre feet per year into the aquifer until that 1,000 AF goal is reached. That will then remain there to be drawn out in dry years if needed.

**Projects that will help with this effort include, and their status is:**

1. The Advanced Water Purification plant is under construction.
2. MCWD has started construction of the water conveyance pipeline to take water from the Advanced Water Purification Facility to the injection sites.
3. The first deep injection well is constructed and was successfully inspected by the County. Pump testing to assess injection well capacity was successfully conducted in November.
4. Cal-Am continues to pump water from their slant well into our Ocean Outfall manhole as a way to test the effect of brine discharge into our system.

All of the work appears to be on schedule, and we should be producing water by May of 2019. It is important to note that the Agency is not doing this by itself; but is working with our close partners the Monterey Peninsula Water Management District (MPWMD) and the Marina Coast Water District (MCWD); as well as state agencies and Cal-Am - the eventual recipient and distributor of the water to Monterey Peninsula water customers. This did not just happen; but is the result of a lot of negotiation with our water partners and the eventual customer – Cal-Am.

**Potential Pure Water Monterey expansion**

Almost as soon as we had the State Revolving Loan Funds (SRF) and grant in hand, others asked if we could expand the water project. While possible, no one is coming up with the funds to do that, however. As a result, we are working on ways to actually expand the Advance Water Purification Facility at the same time that we are looking at ways of funding the expansion.

The original Advanced Water Purification Facility has a design product water capacity of 4 MGD; with a maximum production capacity of 5 MGD and is expected to cost approximately \$103 million. It does, however, have space reserved for an expansion that could increase its capacity up to 6.5 MGD. Because others have now asked for this expansion, the CPUC is currently asking for additional information from Monterey One Water about the possibility of expanding the facility. Though several expansion options are possible, we are focusing M1W’s attention to the alternative that has the best chance for success while at the same time resulting in reasonable costs – both for construction and the eventual water rates.

<b>Option</b>	<b>Option Sizing</b>	<b>Anticipated Cost</b>
Current Design	3,500 acre-feet per year	\$103 million
Option A	650 acre-foot per year	\$6.9 million
<b>Option B</b>	<b>2,250-acre-foot per year</b>	<b>\$51.6 million</b>
Option C	3,570-acre-foot per year	\$132.9 million

Since we can only process water that we can take in, the option we are currently considering as the best one is option B. This would add 2,250 acre feet a year (afy) to the 3,500 afy we will be producing when the plant is completed. This would mean that Pure Water Monterey will be producing a total of between 5,500 and 5,750 afy of drinking water for the Monterey Peninsula.

This expansion may actually fit in well with Agency goals anyway, because one of the goals that the M1W has had for a long time is to have zero discharge to the ocean. The Monterey One Water Board is now moving toward developing a program to utilize all water resources (flows to the ocean, wastewater, storm water, and agricultural wash water - anything wet).

The main untapped source of water considered for a long time for this advanced treatment, however, is the 3,800 afy of unused winter wastewater flows that are going out into the ocean. A review of the amounts of water used by CSIP growers historically - and the amount of water going to the ocean via the outfall - was conducted in 2017. This review showed that there is an adequate supply of water to support future recycled water use in the winter (when growers generally don't need the water) **as well as** water that could be used by Pure Water Monterey.

Also, as Monterey County works on the implementation of several Sustainable Groundwater Management plans, utilizing all types of waters to help develop a safe, reliable and sustainable water supplies for our communities is paramount. Wasting water, regardless of source or quality, is no longer a responsible thing to do. The more that water is processed from other sources, the less will be the need for water to be taken out of the aquifers.

If Pure Water Monterey is called upon to expand and produce more water for groundwater injection, additional wastewater will be needed during the winter months. The unused winter wastewater could be a viable supply for reuse, as could increasing the use of stormwater. These flows could be utilized immediately by Pure Water Monterey and still distributed to growers if needed in the future.

In addition to the state loan and grant for the original project, the Agency was awarded a \$10 million grant from Proposition 1 to deal with stormwater. Agency staff will use some of this money to fund any expansion of Pure Water Monterey as well as to supplement construction costs for the original plant. Then we will have to look for additional grants and other funding sources to pay the additional costs.

As a result, while the initial Advanced Water Purification Facility is expected to provide water by May of 2019, though any expansion project will not be on-line until sometime in 2020-2022.

### **City Representation**

At our meeting last week, the Board unanimously re-elected me to be the Board Chair for the coming year. Anyone having questions should contact me. I will try to either answer or – if I don't know the answer – get the information for you.

Respectfully Submitted,



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Councilman Rudy Fischer