



Monterey One Water

PROGRESS REPORT ON PURE WATER MONTEREY EXPANSION

Prepared by
Monterey One Water

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Attachment I. SWRCB General Application

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Attachment K. Technical Memorandum - NBS Government Finance Group, Economic Analysis of PWM
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INTRODUCTION

Monterey One Water (M1W), in partnership with the Monterey Peninsula Water Management District (MPWMD), is developing a Pure Water Monterey Groundwater Replenishment Project (PWM Project) to create a reliable source of water supply to replace existing water supply sources for the Monterey Peninsula in northern Monterey County. **Figure 1** below shows M1W's existing infrastructure and service area. This report provides additional information developed by M1W and MPWMD regarding the potential to expand the PWM Project from 5 mgd (which is currently under construction) to 7 mgd to provide additional water to the Monterey region (PWM Expansion). For reference, the PWM Expansion described in this report is "Scenario B" presented to the Commission in the September 29, 2017 testimony of Paul Sciuto in A. 12-04-019.

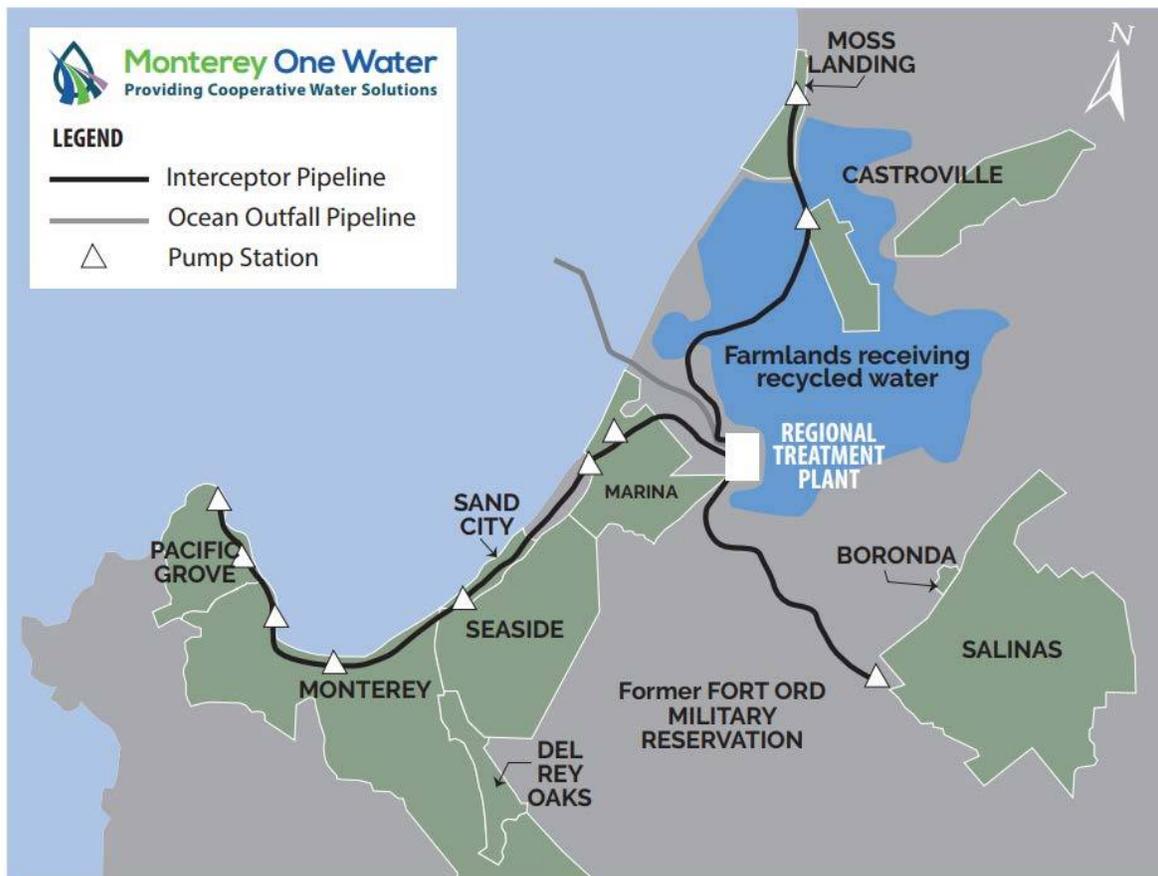


Figure 1. M1W Service Area

In the earlier Phase 2 of this proceeding, the California Public Utilities Commission (Commission) authorized California American Water Company (CalAm) to enter into a Water Purchase Agreement (WPA) for purchase of water from the PWM Project. In doing so, the Commission utilized nine criteria to evaluate the viability of the PWM Project and reasonableness of the WPA. See D.16-09-021 at 10-17.

The nine criteria are described in more detail later in this report but are briefly summarized as follows:

- Criterion 1: Final EIR
- Criterion 2: Permits
- Criterion 3: Source Waters
- Criterion 4: Water Quality and Regulatory Approvals
- Criterion 5: PWM Project Schedule Compared to Desalination Schedule
- Criterion 6: Status of PWM Project Engineering
- Criterion 7: PWM Project Funding
- Criterion 8: Reasonableness of WPA Terms
- Criterion 9: Reasonableness of the PWM Project Revenue Requirement

Following D.16-09-021, the proceeding remained open for the Commission to evaluate whether to issue a Certificate of Public Convenience and Necessity for CalAm's proposed desalination plant and related facilities. In an August 28, 2017 scoping ruling, the Commission requested and received information on various scenarios for expansion of the PWM Project through prepared testimony and evidentiary hearings. More recently, certain parties to the proceeding have requested the State Water Resources Control Board (SWRCB) to modify the milestones in its Cease and Desist Order (CDO) to be met by progress in the PWM Expansion as an alternative to progress on the desalination plant. Ultimately, the PWM Expansion could be an alternative water supply necessary to offset diversions from the Carmel River.

Against this backdrop, the following report uses the nine criteria applied by the Commission in D.16-09-021 as a framework for demonstrating the progress of the PWM Expansion. For each of the criteria, this report describes the status of the PWM Expansion, including any additional steps or future work needed to fully satisfy these criteria.

Importantly, this report does not suggest that the PWM Expansion currently meets the nine criteria. However, it does present substantial new information about the viability of the PWM Expansion. For example, the initial economic analysis of the PWM Expansion, presented herein under Criterion 9, suggests there is a benefit to ratepayers to pursue a PWM Expansion now in conjunction with the construction of a "right-sized" desalination plant in five to fifteen years.

The report provides a framework and schedule going forward as well as to demonstrate that the criteria can be satisfied in time for a Commission approval of an amended WPA by September 2019. Achievement of these criteria assumes the Commission promptly opens a Phase 3 of this proceeding, as discussed in the parties' recent filings with the Commission, including briefs on the EIR/EIS and at the recent status conference. Such action by the Commission is needed to secure funding for the continued work on the potential PWM Expansion.

DESCRIPTION OF PWM PROJECT AND OVERVIEW OF PWM EXPANSION

The Previously-Approved PWM Project

On October 8, 2015, the Board of Directors of Monterey One Water (M1W) approved the PWM Project as modified by the Alternative Monterey Pipeline and the Regional Urban Water Augmentation Project (RUWAP) alignment for the product water conveyance system and certified the Environmental Impact Report (PWM EIR) (State Clearinghouse No. 2013051094). The primary objective of the PWM Project was to replenish the Seaside Groundwater Basin (Basin) with 3,500 acre-feet per year (AFY) of purified recycled water to replace a portion of California American Water Company's (CalAm) water supply as required by State Water Resources Control Board (State Water Board or SWRCB) orders.

The PWM Project as initially approved included a 4 million gallon per day (mgd) capacity Advanced Water Purification Facility (AWPF) for treatment and production of purified recycled water that will be conveyed for injection into the Basin using a series of shallow and deep injection wells. Project conveyance facilities include ten miles of pipeline from the AWPF to injection wells in the Basin. Once injected, the purified recycled water will augment existing groundwater supplies and provide 3,500 AFY of water for extraction via existing CalAm wells. The extracted water will be delivered to CalAm customers to offset use of water from the Carmel River system. The project also provides additional recycled water for crop irrigation by the existing Castroville Seawater Intrusion Project.

The Initial Expansion of the PWM Project

On October 30, 2017, the Board of Directors of M1W approved modifications to the PWM Project to increase the operational capacity (peak or maximum product water flowrate) of the approved AWPF from 4.0 mgd to 5.0 mgd. This expanded capacity is achieved by using redundancies in the AWPF design and the stated purpose of the expansion is to enable delivery of 600 AFY of purified recycled water to Marina Coast Water District (MCWD) for urban landscape irrigation by MCWD customers. The additional recycled water delivery is a component of the approved Regional Urban Water Augmentation Project (RUWAP), an urban recycled water project developed by MCWD.¹ The source water for this expansion of the PWM Project is entirely from MCWD's rights to the return of its municipal wastewater. In April 2016 (amended in October 2017), M1W Board of Directors approved joint (shared) use of product water

¹ The RUWAP is a recycled water project developed by MCWD in cooperation with M1W. RUWAP was originally developed to help MCWD meet the overall needs of its service area, delivering tertiary-treated and disinfected recycled water produced at the existing Salinas Valley Reclamation Plant ("SVRP") to urban users in the MCWD service area and former Fort Ord. MCWD and M1W have agreed to jointly implement a project to convey advanced-treated (purified recycled water) through a shared pipeline for PWM Project and MCWD's initial 600 AFY of recycled water irrigation demands at the former Fort Ord (referred to as RUWAP Phase 1). Phase 1 is currently under construction. Phase 2 would include an additional 827 AFY of recycled water use for a total of 1,427 after completion of recycled water lateral pipelines to irrigation sites.

storage and conveyance facilities, including Blackhorse Reservoir, with MCWD for the PWM Project and the RUWAP Project (PWM EIR Addendum No. 3).²

Overview of the PWM Project

Figure 2 includes a map of the PWM Project. Environmental review documents for the PWM Project analyzed the PWM Project into the following components, as described in this document: Source Water Diversion and Storage Sites, Treatment Facilities at the Regional Treatment Plant, Product Water Conveyance, Injection Well Facilities, and CalAm Distribution System. Each of these components is described in greater detail below:³

- **Source Water Diversion and Storage Sites**

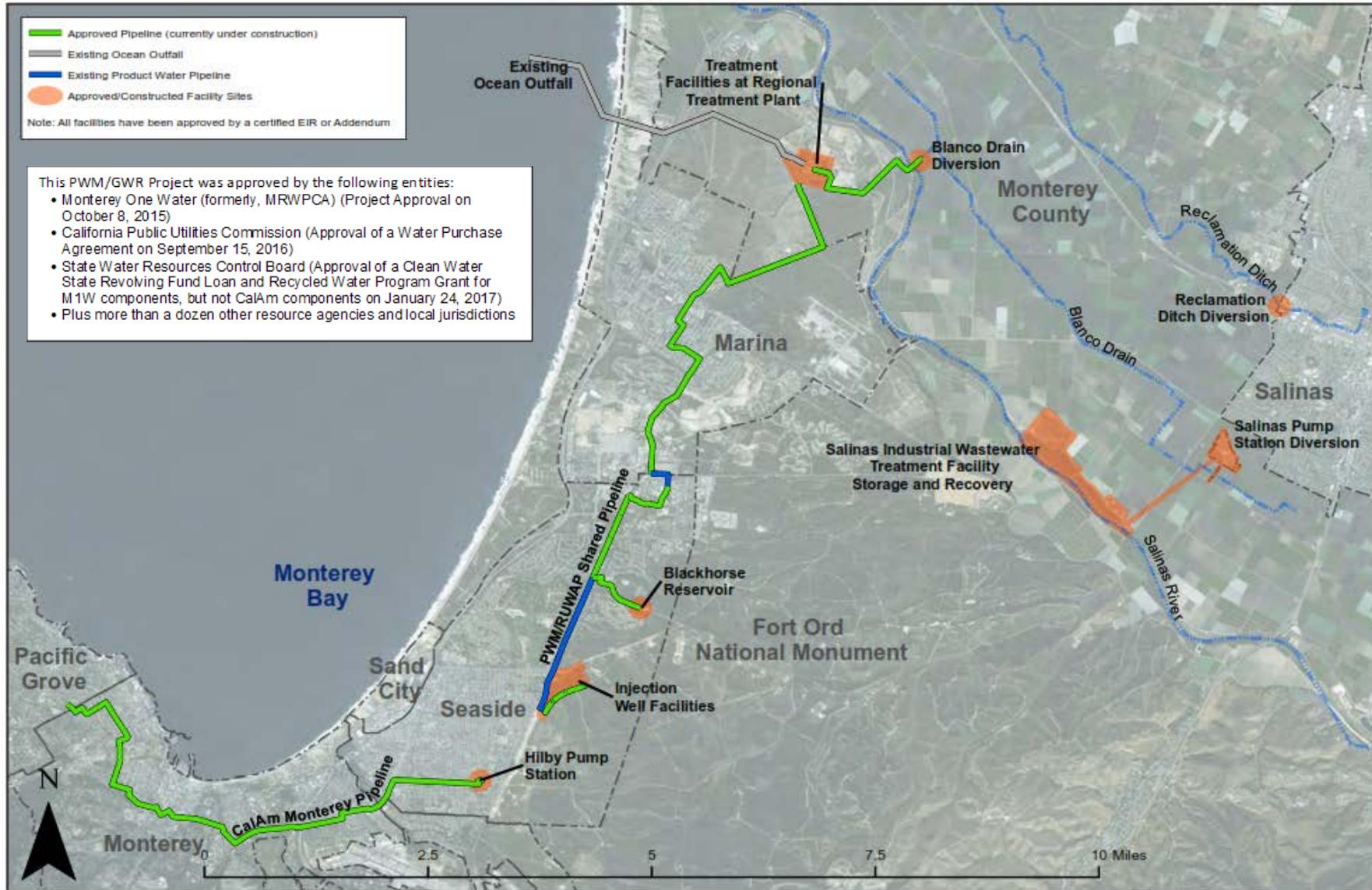
The source water diversion and storage facilities include new facilities at Blanco Drain, Reclamation Ditch, and Salinas Industrial Wastewater Treatment Facility (SIWTF) and associated conveyance system. These facilities will enable new source waters to be diverted into the existing municipal wastewater collection system and to the Regional Treatment Plant to supplement the existing incoming wastewater flows with the following new inflows: (1) industrial wastewater primarily from the City of Salinas' produce washing industries, (2) stormwater flows from the southern part of Salinas, (3) surface water and agricultural tile drain water that is captured in the Reclamation Ditch, and (4) surface water and agricultural tile drain water that flows in the Blanco Drain. The PWM Project also include modifications to the SIWTF to allow seasonal storage of storm and wastewater for recovery in peak demand months.

- **Treatment Facilities at the Regional Treatment Plant**

New treatment facilities at the Regional Treatment Plant include the Advanced Water Purification Facility (AWPF) and pump station facilities at the Regional Treatment Plant (RTP). The AWPF will include a state-of-the-art treatment system that uses multiple membrane barriers to purify the water, product water stabilization to prevent pipe corrosion due to water purity, a pump station, and a brine and wastewater mixing facility. The water treated by the AWPF would meet or exceed federal and state drinking water standards, including those set forth in Title 22. The PWM Project also includes modifications to the Salinas Valley Reclamation Plant to improve delivery of recycled water to agricultural users.

² The combined RUWAP-PWM conveyance system, also termed the Shared Project Water Conveyance Facilities, was also approved by MCWD in March 2016 (RUWAP Addendum No. 3)

³ Source: Resolution October 2015, Monterey Regional Water Pollution Control Agency Board (now M1W) as modified by October 2017 Approvals (including Addendum No 3 to the PWM EIR and Addendum No. 3 to the RUWAP EIR)



- **Product Water Conveyance**

The product water facilities include the PWM/RUWAP shared pipeline referenced above, a pump station and appurtenant facilities to transport the purified recycled (product) water from the AWPf at the RTP to the Basin for injection.

- **Injection Well Facilities**

The injection facilities include new wells (in the shallow and deep aquifers), back-flush facilities, pipelines, electricity/power distribution facilities, and electrical/motor control buildings.

- **CalAm Distribution System**

Certain distribution facilities are to deliver PWM project water extracted from the Seaside to CalAm customers, which include the Monterey Pipeline and Hilby Pump Station.⁴

Benefits of the PWM Project

As approved and under construction, the PWM Project is a water supply project that will provide the following benefits when it is fully operational:

- **Replenishment of the Basin.** The PWM Project would enable CalAm to reduce its diversions from the Carmel River system by up to 3,500 acre-feet per year by injecting the same amount of purified recycled water into the Basin.
- **Additional recycled water for agricultural irrigation in northern Salinas Valley.** The Salinas Valley Reclamation Plant, an existing water recycling facility at the RTP, would be provided additional source waters to produce additional recycled water for use in the Castroville Seawater Intrusion Project's agricultural irrigation system. It is anticipated that in normal and wet years thousands of acre-feet per year of additional recycled water supply could be created for agricultural irrigation purposes. The PWM Project would also include a drought reserve component to support use of the new supply for crop irrigation during dry years. With the drought reserve component, the PWM Project could provide up to 5,900 acre feet per year for crop irrigation in some drought conditions. MCWRA is currently considering whether to participate in funding and accruing the benefits of the new source water components as described under Criterion 3, below.

Environmental Compliance and Permits Completed for the PWM Project

The PWM Project has undergone substantial environmental review and regulatory compliance. Key environmental review documents and permitting approvals include the following:

⁴ These components were needed to address CalAm Distribution System constraints, namely a hydraulic trough near the Naval Postgraduate School in Monterey.

- The PWM Project certified EIR that was prepared to meet the requirements of the Clean Water State Revolving Fund loan program that is partially funded through the U.S. Environmental Protection Agency (certified October 8, 2015; available at: www.purewatermonterey.org) and Addenda by responsible agencies,⁵ and by M1W, the lead agency;
- Letter of concurrence from the State Historic Preservation Office completing the NHPA Section 106 process (dated April 19, 2016);
- Biological Assessment Supporting USFWS Biological Opinion for compliance with Endangered Species Act (ESA) Section 7 Consultation (dated March 2, 2016);
- Biological Assessment of the Effects of the Pure Water Monterey/Groundwater Replenishment project on South-Central California Coast steelhead (dated October 11, 2016);
- Letter of concurrence from the National Oceanic and Atmospheric Administration National Marine Fisheries Service (dated December 5, 2016);
- U.S. Fish and Wildlife Service Biological Opinion for compliance with Endangered Species Act (ESA) Section 7 Consultation (dated December 20, 2016);
- Clean Water State Revolving Fund (CWSRF) environmental checklist, CEQA findings and a Notice of Determination (dated January 9, 2017);⁶
- Clean Water Section 404 Authorization to Fill Waters of the U.S. from the U.S. Army Corps of Engineers for the Blanco Drain and Reclamation Ditch Diversions (Source Waters components) (initially authorized January 18, 2017 and reauthorized on March 22, 2018);
- Waste Discharge Requirements and Water Recycling Requirements for the Monterey Pure Water, Advanced Water Purification Facility and Groundwater Replenishment Project (March 9, 2017);
- SWRCB Water Rights Permit 21376 for the diversion of surface waters from Blanco Drain (March 17, 2017);
- SWRCB Water Rights Permit 21377 for the diversion of surface waters from Reclamation Ditch (dated March 17, 2017);
- Clean Water Section 401 Water Quality Certification from the SWRCB for the Blanco Drain and Reclamation Ditch Diversions (dated March 30, 2017);
- California Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement for the Blanco Drain and Reclamation Ditch Diversions (dated June 8, 2017); and

⁵ MPWMD prepared and adopted two (2) Addenda to the PWM EIR to approve Water Distribution System Permit amendments to California American Water Company to approve construction and operation of their Monterey Pipeline and Pump Station and a modification to the facilities (Addendum No. 1 on June 20, 2016 and Addendum No. 2 on February 22, 2017, respectively).

⁶ This review began with Initial Environmental Package submitted on October 9, 2015 and a Revised Environmental Package of the Financial Assistance Application submitted on November 18, 2015. Funding approval occurred in April 2017.

- U.S. Bureau of Reclamation Finding of No Significant Impact (FONSI) Pure Water Monterey Groundwater Replenishment Project - Monterey Regional Water Pollution Control Agency, FONSI_17-05-MP (dated May 2017).

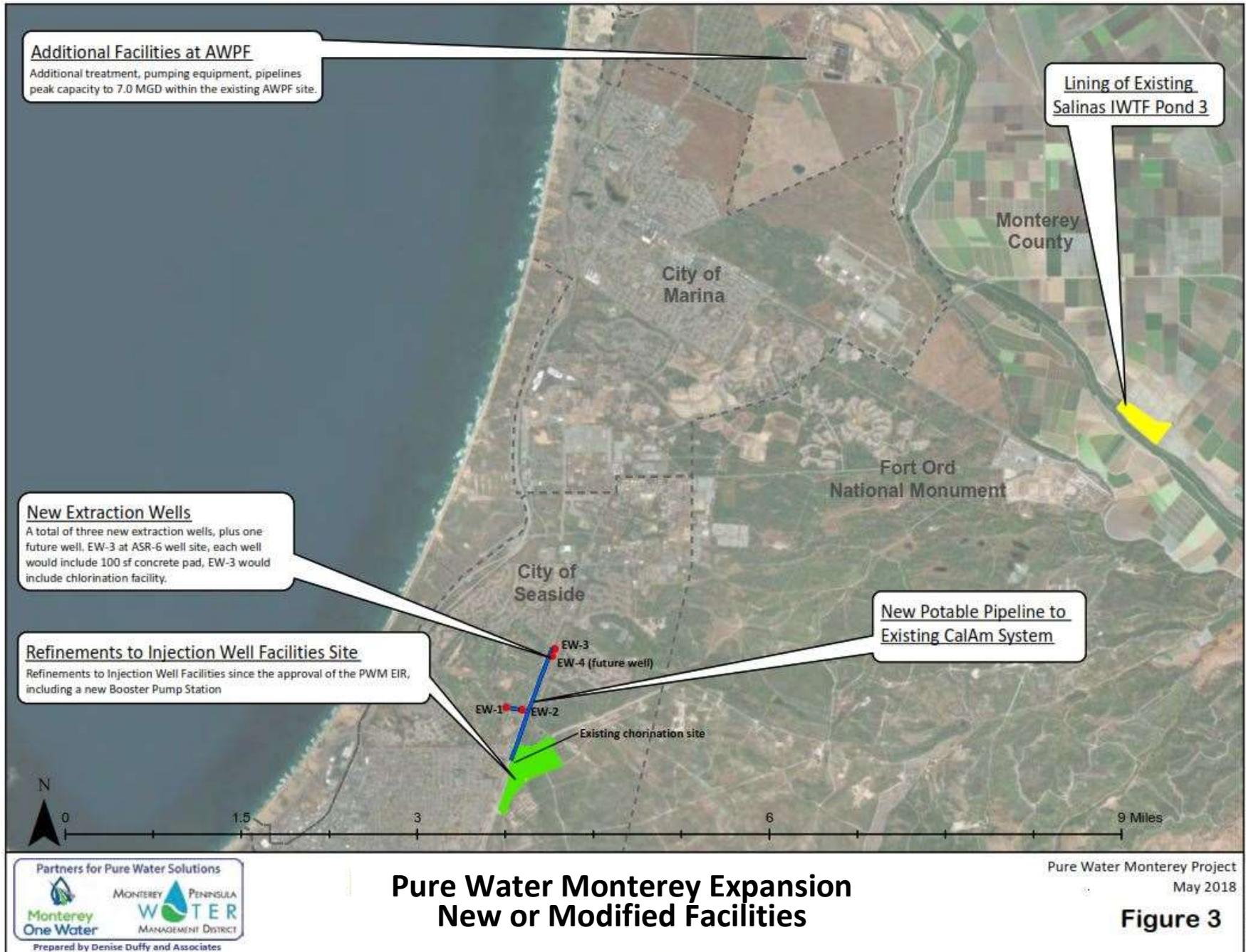
M1W has submitted a request to the Central Coast Regional Water Quality Control Board (RWQCB) to amend the NPDES permit for the 5 mgd PWM Project currently under construction. The RWQCB completed a draft permit (Order No. 2018-0017) for M1W review on May 4, 2018. M1W expects a decision by the RWQCB by September 21, 2018.

Overview of the PWM Expansion

To potentially increase the amount of water available to CalAm from the PWM Project, modifications to the existing PWM Project would be required to increase the capacity of the PWM Project from 5 mgd to 7 mgd. Additional technical information regarding the modifications needed for the PWM Expansion is available in the following attachments to this report.

- Attachment A. Draft Technical Memorandum - Kennedy Jenks, Pure Water Monterey System Expansion Study Update for 7-mgd Capacity, April 12, 2018
- Attachment B. Summary Memorandum - M1W, Salinas Industrial Wastewater Treatment Facility Percolation and Water Reuse, March 19, 2018
- Attachment C. Draft Technical Memorandum - M1W and MPWMD Feasibility Analysis of Potable Water Extraction Wells for the Pure Water Monterey Expansion, May 7, 2018
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- Attachment F. Technical Memorandum - Geo-Logic Associates, Inc.– Comparison Study between HDPE Liner versus Bentonite Admix Soils, April 30, 2018
- Attachment J. Pure Water Monterey Expansion Injection Well Field Phase 3 Civil Work Plan, April 25, 2018

The PWM Expansion would include facilities located within unincorporated areas of the Monterey County and the City of Seaside. **Figure 3** includes a map of the PWM Expansion. The PWM Expansion would include the following changes to those previously approved project components:



- **Changes to Source Water Diversion and Storage Sites**

Lining of Pond 3 at SIWTF (optional component). The SIWTF receives, treats and disposes of industrial wastewaters from the City of Salinas and surrounding areas. The SIWTF is comprised of an aeration basin, three (3) infiltration/evaporation ponds, and drying beds. As an option if the need arises for new source water, M1W would line Pond 3 of the SIWTF as part of the PWM Expansion to reduce infiltration thereby storing more water for reuse during the peak demand time periods. M1W would not proposed to modify Modifications to Ponds 1 and 2 are not proposed at this time. Pond 3 is approximately 38 acres in surface area and holds approximately 359 acre-feet of water. Pond 3 would be lined using a high-density polyethylene (HDPE) geomembrane liner. Water stored in Pond 3 would ultimately be diverted to the RTP via the existing Salinas Interceptor, treated through the existing primary and secondary treatment processes, and ultimately would be routed to the AWPf. Additional source water to the AWPf would result in additional production of purified recycled water available for groundwater replenishment and potable water replacement.

The lining of Pond 3 was not included in the final Area of Potential Effect (APE) for the PWM Project approved on October 8, 2015. While this component is assumed to be required to be built for the cost analysis, it is possible that it will not be needed due to the availability of adequate water from previously approved components of the base Pure Water Monterey Project and associated agreements. More information about the ponds, pond lining options and feasibility, is available in Attachments B and Attachment F.

- **Changes to Treatment Facilities at the Regional Treatment Plant**

Modifications to Advanced Water Purification Facility. The design and physical features of the AWPf currently under construction (the PWM Project as approved with 5 mgd AWPf) allow operation of the AWPf at a peak capacity of 5.0 mgd. Expanding the AWPf to produce up to 7.0 mgd will require additional treatment and pumping equipment, pipelines and facility appurtenances within the 3.5-acre existing building area to provide the expansion capacity. The AWPf would be designed to produce a seasonal peak of 7.0 mgd; however, it may operate at 5.0 to 6.0 mgd during April through October. The 7.0 mgd operations during November through March allows for the maximum production and injection of advanced treated water during the winter months when irrigation demands are low and municipal wastewater is not needed for CSIP. During the period from April through October, municipal wastewater is primarily used to produce tertiary-treated recycled water for CSIP. Additional information about the expansion of the AWPf is available in Attachment A.

- **Changes to Product Water Conveyance**

The PWM Expansion would require no changes to the Product Water Conveyance Facilities. However, a new booster pump station to improve conveyance was added within the Injection Well Facilities Area of Potential Effect, it is discussed below. Additional information about product water conveyance for PWM Expansion is available in Attachments A and J.

- **Changes to Injection Well Facilities**

Modifications to Injection Well Facilities. Final project design and project permitting have resulted in minor modifications to the layout of the Injection Well Facilities site that would also be needed for the Injection Well Facilities for the PWM Expansion. The PWM EIR evaluated all injection well facilities that would be needed for the PWM Expansion, including the four (4) deep injection wells, four (4) shallow vadose zone well(s), associated backwash pumps, and a percolation basin for backwash water disposal (percolation into the vadose zone). In addition, the PWM Project's Area of Potential Effect used in the PWM EIR and federal environmental review and permits encompassed the location of the injection well facilities that would be needed for the PWM Expansion. Please see **Figure 4** for more information.

Booster Pump Station. The PWM Expansion would require a new booster pump station to facilitate injection of the additional water produced by the AWPf at Well Sites 1 and 2. Due to friction losses in the conveyance pipeline when the PWM Expansion is producing 7 mgd of product water, the conveyance system will not have enough energy to enable adequate injection of purified recycled water at Injection Well Site 1, the highest injection site, without additional pumping capacity. This new Booster Pump Station will be required to provide operating flexibility to maintain minimum pressures and to optimize operations at Injection Well Sites 1 and 2. Therefore, M1W would propose a small booster pump station to boost the flows to that site. The Booster Pump Station would be located between Well Sites 2 and 3 and would therefore be within the boundaries of Area of Potential Effects previously evaluated in the PWM EIR. This new booster pump station would be located near the electrical equipment area for the injection wells. Additional information is available in Attachment A.



**Pure Water Monterey Expansion
 Injection Well Facilities Modifications**

Figure 4

- **Changes to CalAm Distribution System**

Extraction Wells. For CalAm to utilize the additional purified recycled water that would be produced by the PWM Expansion, additional potable water extraction wells would be required. To reliably utilize the estimated yield of the PWM Expansion, CalAm would construct and operate a minimum of two (2) new extraction wells, plus one additional extraction well to provide system redundancy/back-up. Extraction Wells 1 and 2 would be located just north of Seaside Middle School. The Blackhorse Golf Course is located to the north and west of Extraction Well sites 1 and 2. Extraction Well 3 is located just to the east of General Jim Moore Boulevard, near the southeast corner of the intersection of General Jim Moore Boulevard and Ardennes Circle on U.S. Army-owned property in the Fitch Park neighborhood of the Ord Military Community. Extraction Well 3 is also referred to as Aquifer Storage and Recover (ASR) Well 6, except for the PWM Expansion it would operate only in extraction mode, not for injection. The well has been analyzed in previous environmental documentation, namely the Commission's EIR/EIS prepared for the Monterey Peninsula Water Supply Project (MPWSP), and an Environmental Assessment/Finding of No Significant Impact, prepared by the U.S. Army. Each extraction well would include a well pump and motor, and the associated electrical equipment. Extraction Well 3 would include chlorination dosing equipment. The well sites would be located on an approximately 100 square foot concrete pad. CalAm may elect to install emergency generators at one or more sites, depending upon their need for system reliability. These extraction wells were not included as part of the PWM Project, nor were they included in the Area of Potential Effect for the environmental review or approval of the PWM Project.

Potable Water Pipeline. For the PWM Expansion, CalAm would construct and operate a new potable water pipeline to convey the water from the new extraction wells to the existing CalAm distribution system. The 30-inch pipeline would be approximately 5,000 feet in length. The pipeline would begin at Extraction Well 3 (the northern most extraction well) and connect to the existing ASR pipe network at ASR Wells 1 and 2 (Santa Margarita site). From that point, water would be distributed to CalAm customers. This new potable water pipeline was not included in the Area of Potential Effect for the PWM Project. Additional information is available in Attachment D.

SETTLEMENT AGREEMENT CRITERIA APPLIED TO PWM EXPANSION⁷

Criterion 1: Final EIR

Criterion 1 requires that M1W has approved the PWM Project pursuant to a certified Final EIR; no timely CEQA lawsuit had been filed; or, if a timely CEQA lawsuit has been filed, no stay of the PWM Project has been granted.

To comply with CEQA and CEQA-plus for the potential PWM Expansion, it is anticipated that a focused Supplemental EIR would be required and that some form of NEPA review such as an Environmental Assessment leading to a Finding of No Significant Impact (FONSI) may also be required from one or more funding agencies or agencies with approval authority of the PWM Expansion. It is important to note that the following discussion of the potential scope of review under any Supplemental EIR is subject to change as the PWM Expansion develops.

The preliminary PWM Expansion environmental review process has commenced with the development of a project description. The following tasks would be required to complete the CEQA/CEQA-Plus process (approximate timelines are shown in parentheses; detailed schedule information is provided in Criterion 5 and Attachment G):

- Scoping, including Notice of Preparation and 30-day Review (with funding of soft costs on June 1, completion by end of July 2018)
 - Preparation and Review of the Administrative and Screen-Check Draft Focused Supplemental EIR (August – November 2018)
 - Publishing and Noticing of Public Review Draft Focused Supplemental EIR (end of November 2018)
 - Public Review Period for Draft Focused Supplemental EIR (November 2018 - January 2019)
 - Final EIR Preparation and Review (February – March 2019)
 - M1W Certification and Project Approval (March 2019)
- In parallel with the above, federal funding and permitting agencies must conduct their own environmental review to the extent required.

An estimated, preliminary schedule (contingent upon M1W securing adequate funding for costs for environmental, design, and permitting by June 2018) for completion of the above tasks is provided in Attachment G. The following describes the anticipated content and scope of a focused Supplemental EIR, if the PWM Expansion were to be pursued.

Scope and Content of Supplemental EIR

If PWM Expansion is pursued, M1W, as the CEQA Lead Agency, has determined that a focused Supplemental EIR would be required. A Supplemental EIR on the PWM Expansion would evaluate potential environmental effects associated with construction, operation, and maintenance activities.

⁷ Each of the criterion are discussed below, adjusted as needed to refer to the PWM Expansion.

As discussed in CEQA Guidelines Section 15163, a lead agency may choose to prepare a Supplement to an EIR when only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation. Thus, a Supplemental EIR addressing the PWM Expansion needs to contain only the information necessary to make the previous EIR adequate for the project as revised.

If M1W pursues PWM Expansion, the M1W Board would ultimately consider any Supplemental EIR in combination with the previous PWM Project Final EIR, which was certified in October 2015, and the adopted Addenda (referred to herein as the “PWM Project EIR”).

The Supplemental EIR would be intended to serve as a supplement to the previously adopted PWM Project Final EIR, impacts and conditions presented in the previous EIR would serve as the primary base of comparison for the analysis. Thus, not all the environmental topics included in the CEQA Guidelines Initial Study Checklist would necessarily be addressed in the Supplemental EIR. Those topics that are not addressed in the Supplemental EIR would be excluded because the previous EIR concluded that there were no significant impacts associated with those topics, that the mitigation measures proposed in the 2015 Final EIR would still be feasible and would mitigate impacts of a PWM Expansion to a less-than-significant level, or for which level of significance is unchanged from that described in the PWM Project Final EIR.

The Supplemental EIR for the PWM Expansion would likely assess the following issues of potential environmental effects focusing only on the components of the PWM Project that would be changed by the PWM Expansion as discussed in the Introduction of this report:

- ***Aesthetics Resources***

PWM Expansion facilities would predominantly be underground or located on existing water and wastewater facility sites. Those facilities that are not located on existing water and wastewater facility sites would be designed to visually blend into the environment through use of vegetative screening and/or appropriate materials and colors. The Supplemental EIR would evaluate visual/aesthetic impacts related to the PWM Expansion’s limited above-ground facilities, including visual character, scenic vistas, and new sources of light and glare. The only site with new above-ground facilities not already discussed in the PWM Final EIR is the Injection Wells Facilities site where a booster pump station would be placed adjacent to the electrical building currently under construction.

- ***Agricultural and Forest Resources***

There are no agricultural or forest resources within the PWM Expansion sites where components would be constructed. The evaluation of agricultural and forest resources as addressed in the PWM Final EIR would be considered adequate and does not need to be updated in the Supplemental EIR.

- ***Air Quality and Greenhouse Gas Emissions***

The PWM Expansion would be located within the Monterey Bay Air Resources District (formerly the Monterey Bay Unified Air Pollution Control District). Construction of the PWM Expansion would

generate emissions from construction equipment exhaust, earth movement, construction workers' commute, and material hauling. Operation of pipelines, pump stations, wells, and treatment facilities would potentially generate emissions associated with energy use. The Supplemental EIR would evaluate construction- and operation-related emissions of criteria air pollutants from these expanded facilities and expanded operations. The PWM Expansion would be evaluated in accordance with all applicable federal, state, and regional rules and guidelines. The Supplemental EIR would quantify greenhouse gas emissions associated with the PWM Expansion incremental construction and operation above the PWM Project emissions and compare those to applicable regional thresholds of significance. The analysis would identify any potential conflict the PWM Expansion may have with an applicable plan, policy, or regulation adopted for reducing the greenhouse gas emissions.

- ***Biological Resources***

The Supplemental EIR would evaluate potential impacts of the PWM Expansion on terrestrial special-status animal and plant species, sensitive habitats, mature native trees, and migratory birds believed to occur in the PWM Expansion area. The Supplemental EIR would evaluate the potential for PWM Expansion facilities to impact terrestrial and marine biological resources, such as sensitive species and critical habitats, and would also discuss local ordinances and state and federal regulations governing biological resources. The Supplemental EIR would include a summary of the federal Endangered Species Act Section 7 compliance activities, document existing federal and state permits and conditions for the approved project and likely would recommend additional feasible mitigation measures to reduce significant impacts on biological resources as needed. The Supplemental EIR would also identify current EIR mitigation and best management practices to avoid significant impacts on biological resources. The Supplemental EIR would also address potential impacts to marine resources from the PWM Expansion and compliance with the California Ocean Plan water quality objectives.

- ***Cultural Resources***

Construction of new facilities both above and below-ground could encounter previously unknown archaeological or paleontological resources during ground disturbance and excavation. The Supplemental EIR would assess if there are any potential effects of the PWM Expansion on cultural resources, including archaeological, paleontological, and Native American resources, and Tribal cultural resources identified during the consultation process required by Assembly Bill 52. The Supplemental EIR would review cultural resource records and evaluate potential impacts on historic, archaeological, and paleontological resources, and human remains at PWM Expansion facility sites using available cultural resources records and data from the certified PWM Final EIR. The Supplemental EIR would also include a summary of the National Historic Preservation Act Section 106 compliance from the approved PWM Project. Standard mitigation measures to protect cultural resources would be included.

- ***Geology, Soils, and Seismicity***

Construction and operation of the PWM Expansion would occur in a seismically active region however the PWM Expansion sites are within the approved PWM Project site already evaluated in the 2015 EIR. The evaluation of geologic hazards in the region associated with seismic activity near faults and fault

zones as addressed in the 2015 Final EIR is considered adequate and does not need to be updated in the Supplemental EIR. Ground-disturbing construction activities from the expanded facilities could expose soils to storm water erosion. The Supplemental EIR would focus on expanded ground disturbing activities and potential for soil erosion from the expanded facilities. Standard building requirements and engineering standards would be included to protect facilities and structures from seismic risks.

- ***Hazards and Hazardous Materials***

Construction of the PWM Expansion facilities would require excavation of the existing ground surface, which could uncover contaminated soils or hazardous substances that pose a substantial hazard to human health or the environment. The Supplemental EIR would rely on the summarize documented soil and groundwater contamination in the PWM Project areas from the PWM Final EIR and focus evaluation on the potential for hazardous materials that could be encountered during construction of the PWM Expansion facilities. The analysis would also consider the proper handling, storage, and use of hazardous chemicals that may be used during construction and operation of the expanded facilities. Existing hazardous materials regulatory requirements and mitigation from the PWM Final EIR would be followed to protect workers and the public from exposure to hazardous materials.

- ***Hydrology and Water Quality***

Hydrogeology and Groundwater Quality: Construction and operation of the PWM Expansion could affect groundwater levels and quality in the Seaside, Carmel Valley, and Salinas Valley Groundwater Basins. Using groundwater modeling and hydrogeologic analyses, the Supplemental EIR would evaluate changes in local groundwater quality, storage, and levels within the groundwater basins as a whole and their subbasins, as appropriate. The Supplemental EIR would describe the recharge, storage, and recovery capacities of the Seaside Groundwater Basin and describe potential impacts of recharge and extraction activities at the PWM Expansion locations. Potential effects on the seawater/freshwater interface (i.e., seawater intrusion) would also be evaluated. The PWM Expansion would be designed to comply with SWRCB Division of Drinking Water (DDW) and Regional Water Quality Control Board standards and requirements to protect public health and water quality.

Hydrology and Surface Water Quality: Construction and operation of the PWM Expansion could affect surface water quality and hydrologic systems/processes in the construction areas. Potential impacts to be evaluated include alteration of drainage patterns and increase in storm water flows due to increase in impervious surfaces, and degradation of surface water quality because of erosion and sedimentation, hazardous materials release during construction, and construction dewatering discharges. The Supplemental EIR would identify storm water quality protection measures required during construction and operation of the expanded facilities. The PWM Expansion would be designed to comply with standard construction and operational requirements and permits under the National Pollutant Discharge Elimination System and General Waste Discharge Requirements.

- ***Land Use Planning***

Implementation of the PWM Expansion would include construction and operation of new facilities and water supply infrastructure within the same planning jurisdictions as evaluated in the PWM Project EIR. The Supplemental EIR would focus on the PWM Expansion facilities and determinations of consistency with established plans, policies, and regulations, as well as compatibility with the existing and future land use patterns in the area, including adjacent land uses. Because most conveyance facilities would be underground, and because the proposed treatment facilities would be located at the existing AWPF, significant effects on land use patterns are not anticipated.

- ***Mineral Resources***

The PWM Project EIR addressed local mineral resources; the evaluation of these resources as addressed in the PWM Project Final EIR is considered adequate and would not need to be updated in any Supplemental EIR for the PWM Expansion.

- ***Noise and Vibration***

Implementation of the PWM Expansion would require construction and operation of expanded facilities that would potentially generate additional noise and vibration. The Supplemental EIR would focus on the potential noise sources and evaluate the proximity of sensitive receptors to the PWM Expansion components to assess whether the facilities would comply with local noise policies and ordinances.

- ***Population and Housing***

The potential implementation of the proposed PWM Expansion would enhance the reliability of the water supply within the Monterey Peninsula area and be implemented to meet urgent deadlines for replacement supplies for CalAm's service area set by the SWRCB in CDO (Order WR 2009-0006 and amended by WR 2016-0016). The Supplemental EIR would describe the relationship of the increase in water supply to population growth in the area. The Supplemental EIR would identify current population and employment projections and identify local planning jurisdictions with the authority to approve growth and mitigate secondary effects of growth.

- ***Public Services and Recreation***

Implementation of the PWM Expansion would include new, upgraded, and expanded water supply infrastructure throughout area, however, the PWM Expansion would unlikely to affect demand for public services, or to require new or expanded facilities for public service providers. The PWM Project EIR previously assessed the potential for impacts on police and fire protection services, schools, parks and recreational facilities. This evaluation would not need to be updated in the Supplemental EIR.

- ***Water Supply and Wastewater Systems***

The Supplemental EIR would examine the water and wastewater services of the PWM Expansion facilities and address potential for the PWM Expansion to have a substantial adverse impact related to construction and operation of the new water or expanded water and wastewater treatment facilities.

- ***Transportation and Traffic***

Any Supplemental EIR would generally analyze the types of construction activities that would be generated by the PWM Expansion focusing on temporary increases in traffic volumes along local and regional roadways from expanded facilities. The installation of pipelines within or adjacent to road rights-of-way could result in temporary lane closures and traffic delays however, the expanded facilities would not likely increase either the location or amount of traffic from construction. The analysis would use information about construction activities of the PWM Expansion (e.g., the numbers of additional trucks and workers) to the extent such information is available. The analysis would focus on the existing traffic control plan measures that are currently in place from current PWM Project construction activities to reduce impacts to vehicular traffic, traffic safety hazards, public transportation, and other alternative means of transportation.

- ***Utilities, Service Systems, and Energy***

Construction and operation of the potential PWM Expansion could affect public utilities. Implementation of the PWM Expansion would result in increased use of pump stations, extraction wells, conveyance and treatment facilities, which would increase the amount of energy required locally to achieve regional water supply goals. The Supplemental EIR would evaluate energy consumption from the expanded facilities and compare the proposed energy use with energy demands in the PWM Project EIR.

- ***Alternatives, Cumulative and Growth Inducing***

Alternatives: Substantial analysis of Project alternatives was contained in the PWM Project EIR, which continues to be valid. Therefore, the alternatives analysis in the Supplemental EIR would only include alternatives that address significant impacts of facilities and PWM Expansion components that were not evaluated in the PWM Project EIR. This analysis would not need to not consider alternatives analyzed in the PWM Project EIR because such alternatives were already evaluated in that EIR. The findings of the Supplemental EIR impact analysis would guide the refinement of one or more feasible alternative(s) to be evaluated in any focused Supplemental EIR that would avoid or substantially lessen significant impacts of the PWM Expansion, while still meeting the project objectives. Using a Notice of Preparation of a focused Supplemental EIR M1W would seek comments from agencies, stakeholders, and the public regarding feasible alternatives (if any) for evaluation in the Supplemental EIR. The Supplemental EIR would include, at a minimum, a discussion of impacts associated with the No Project Alternative.

Other Environmental Issues: Other environmental issues that would be evaluated in the Supplemental EIR include the PWM Expansion's potential impacts on public services and utilities, including the PWM Expansion's beneficial effect on water supply reliability; adequacy and environmental effects due to use of RTP secondary effluent and additional new source water storage; effects on energy delivery systems due to fossil-fuel resource use (if any); and climate adaptation and sustainability benefits of the PWM Expansion. The focused Supplemental EIR also would evaluate the potential for any indirect growth-inducing impacts of the PWM Expansion. The Supplemental EIR would address whether the PWM

Expansion would have impacts that are individually limited, but “cumulatively considerable” when combined with the impacts of other past, present and reasonably foreseeable future projects (i.e., cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).

Criterion 2: Permits

Criterion 2 examines whether the status of required permits is consistent with the published PWM Expansion schedule and, for required permits not yet obtained, the weight of the evidence does not show any required permits are unlikely to be obtained in a timeframe consistent with the published schedule.

The PWM Expansion would require new or amended permits, including those required for the CalAm only facilities.⁸ A summary of key regulatory permits and approvals received for the PWM Project currently under construction was provided previously. The permits are divided into three categories: federal, state, and local as described below. Notably, none of the permits are currently considered to be a component of the critical path of the PWM Expansion, and thus there is some flexibility in the permitting timeline. In addition, M1W has obtained or is obtaining all these permits for the PWM Project, except for (1) the Division of Safety of Dams Coordination (DSOD) (required only for lining pond 3 at the SIWTF) and (2) U.S. Army Land Easement (required only for Extraction Well #3 and connecting pipeline). In most cases, M1W would only need to amend an existing permit for expansion rather than obtain a completely new permit.

- **Federal Approvals and Consultations**

The federal agency permitting begins with the preparation and submittal of a draft letter to federal action agencies, in this case, the PWM Project’s funding agencies (the U.S. Environmental Protection Agency (EPA), the California State Water Resources Control Board (SWRCB), and/or the U.S. Bureau of Reclamation (USBR)), landowners (the U.S. Army (Army) for Extraction Well #3), and permitting agencies (the Monterey Bay National Marine Sanctuary (MBNMS)). With respect to the MBNMS, MBNMS works with the RWQCB to ensure Sanctuary resources are protected through terms and conditions (and authorization) of the NPDES permit amendment/revision, which is discussed in greater detail below.

After reviewing the changes needed for the PWM Expansion, each federal action agency would notify any other agencies with jurisdiction over resources potentially affected (e.g., U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Office of Historic Preservation). M1W is quite experienced in this process. There are four approvals and/or consultations that may need to be revisited if the PWM Expansion is pursued.

⁸ The permits required for CalAm Extraction Facilities are described here and shown in the attached schedule (Attachment G) even though M1W expects that CalAm would obtain the permits, acquire financing, and build the facilities themselves.

Table 1. Federal Approvals and Consultation

Permit	Component of PWM Needing the Permit	Previous Action	Comments
National Historic Preservation Act (NHPA) Section 106 Compliance	CalAm only Extraction Wells and Pipeline, Salinas Industrial Water Treatment Facility	M1W obtained NHPA compliance for the Injection Well Facilities plus approval for components at the Salinas Industrial Water Treatment Facility	Potential amendment to existing Section 106 Letter of Concurrence; past inventories and site surveys near project sites did not reveal any protected resources.
Endangered Species Act Consultation with U.S. Fish and Wildlife Service (USFWS) regarding Existing Biological Opinion	CalAm only Extraction Site and Pond Lining at Salinas Industrial Water Treatment Facility	M1W received a Biological Opinion for the PWM Project. M1W's components of the PWM Expansion would not be disturbing any natural, undeveloped land not already included in the Biological Opinion.	Potential amendment to the Biological Opinion due to proximity of the pond lining work to the Salinas River riparian corridor.
Endangered Species Act Consultation with National Marine Fisheries Services (NMFS)	The Advanced Water Purification Facility (AWPF)	M1W obtained compliance for the existing AWPF reverse osmosis discharges without controversy.	Likely no action. There are no concerns related to water quality effects on the MBNMS (see Attachment E).
U.S. Army (Army) Land Easement	CalAm only Extraction Well Facilities	CalAm has experience	CalAm likely would obtain required property rights/easements. Army approval should be feasible to obtain for these facilities that are also proposed as part of the MPWSP.

There are no anticipated problems with obtaining the federal approvals in ample time to place the PWM Expansion in service by January 2021. (see Criterion #5)

- **State Agency Permits**

The following state approvals are anticipated to be required: an amendment to the existing Water Recycling Requirements/Waste Discharge Requirements (WRR/WDR), and an amendment to the Waste Discharge Requirements/National Pollutant Discharge Elimination System (NPDES), plus, potential DSOD approval. The first and last permits are also described under Criterion #4. Here the permit process and work completed to date are described. Under Criterion #4, the response of the DDW and the RWQCB is presented. M1W is experienced in obtaining WRR/WDR and NPDES permits. Regarding approval by DSOD, M1W staff has obtained a consultant, Geo-Logic Associates, who is very experienced working with DSOD on similar projects. They have stated that projects, such as lining of an existing Pond 3, may be approved by DSOD with minor documentation and coordination but could take many months to achieve (Monte Christie, Geo-Logic Associates, personal communication, March 2018). This opinion was

also provided by M1W’s other pond lining engineering consultant (Vinod Badani, E2 Consulting Engineers, March 2018, attached to Attachment F).

Table 2. State Regulatory Agency Approvals

Permit	Component of PWM Needing the Permit	Previous Action	Comments
Water Recycling Requirements/ Waste Discharge Requirements	AWPF and Injection	This permit process starts with submittal of AWPf design and hydrogeological modeling of the Basin followed by a study of anticipated groundwater geochemical interactions. M1W prepares an Engineering Report, which is reviewed by DDW. There is a public hearing, a revision of the Engineering Report and finally issuance of the permit by the RWQCB. M1W has obtained this permit for the PWM Project and does not expect any issues related to amendment to the permit to accommodate the PWM Expansion.	This is a straight forward permit because the AWPf design meets treatment standards for indirect potable reuse projects. M1W has completed an Engineering Report and amended it once. M1W has conducted the planning-level groundwater modeling for the PWM Expansion. No issues are anticipated. (See Criterion 6.)
Division of Safety of Dams Coordination	Lining of Pond #3 at the Salinas Industrial Water Treatment Facility	No prior permit was required for the PWM Project. M1W will begin this process as soon as funding is obtained, and a consultant hired.	Lining of an existing pond is typically approved with minor documentation and coordination. (See discussion above.)
Waste Discharge Requirements/ NPDES for Regional Treatment Plant Ocean Outfall	AWPF	This permit process starts with the Report of Waste Discharge (ROWD), including modeling of the ocean from the new discharge characteristics and a comparison of the modeling results to the California Ocean Plan (Ocean Plan) requirements. M1W completed the ocean modeling and the Ocean Plan Compliance for a 6.5 mgd expanded AWPf in February 2018. Shortly thereafter, M1W’s engineer determined that the AWPf could be expanded to 7.0 mgd allowing for extra flexibility. M1W’s Board approved a contract to perform the modeling for a 7.0 mgd facility on March 26, 2018. M1W’s consultants expect to have the new modeling completed by the end of April or early May and the Ocean Plan Compliance completed by the end of June. M1W received the draft order in May 2018 with the hearing for NPDES permit approval on September 20-21, 2018. MBNMS partners with the RWQCB in the issuance of an NPDES permit.	No problems anticipated. See additional discussion below and in Attachment D.

There are no anticipated constraints to timely receipt of the required State permits for the PWM Expansion to be completed by January 2021.

- **Local Permits**

There are seven new or amended permits or easements to obtain: City of Seaside Use, Grading, and Encroachment Permits, Monterey County Use Permit, Fort Ord Reuse Authority (FORA) Right of Entry and Easement, Seaside Groundwater Basin Watermaster Water Storage Permit, and a Monterey County Health Department Well Drilling Permit. M1W is experienced in obtaining these types of permits.

Table 3. Local Approvals

Permit	Component of PWM Needing the Permit	Previous Action	Comments
City of Seaside Use Permit	CalAm-only Extraction facilities and Injection Facilities	M1W has obtained Use Permits from the City of Seaside for a monitoring well, Phase 1, and Phase 2 of the injection well facilities components.	No anticipated issues. It is anticipated that CalAm will obtain the Use Permit for their own facilities.
City of Seaside Digging and Excavating on the Former Fort Ord Permit (grading permit)	CalAm-only Extraction facilities and Injection Facilities	M1W has obtained grading permits from the City of Seaside for a Phase 1, and Phase 2 injection well facilities.	No anticipated issues. It is anticipated that CalAm will obtain the Use Permit for their own facilities M1W already has a draft of the Work Plan needed prior to applying for this permit. (Attachment J.)
Monterey County Use Permits	AWPF	M1W amended its use permit for the existing AWPF.	No anticipated issues.
City of Seaside Encroachment Permit	Injection Facilities	M1W has obtained Encroachment Permits from the City of Seaside for a monitoring well, Phase 1, and Phase 2 injection well facilities.	No anticipated issues.
Fort Ord Reuse Authority (FORA) Right of Entry and Easement	CalAm only pipeline facilities, Injection Facilities	M1W has obtained Right of Entry and Easements from FORA for a monitoring well, Phase 1, and Phase 2 injection well facilities.	No anticipated issues. CalAm must obtain the Right of Entry and Easements for their own facilities, if needed. M1W already has a draft of the Work Plan needed for the permit. (Attachment J.)
Seaside Groundwater Basin Watermaster Water Storage Permit	Injection Facilities	In March 2018, CalAm applied to the Seaside Basin Watermaster “to store and recover non-native water from the Basin” for the PWM Project. The application process is simple and there were no objections from the Watermaster Technical Advisory Committee on the application.	No anticipated issues. This permit would be obtained by CalAm.
Monterey County Health Department Well Drilling Permit	CalAm only facilities, Injection Facilities	These are permits obtained by the well drilling contractor after the construction contract is awarded. M1W has worked through this process several times.	No anticipated issues. It is anticipated that CalAm’s well driller will obtain the Well Drilling Permit for the Extraction Wells.

There are no anticipated constraints to timely receipt of the required local permits so that the PWM Expansion can be operational by January 2021.

M1W has experience obtaining the permits needed for the PWM Expansion and has a team of consultants well versed in these activities. The proposed schedule (Attachment G) shows the expected time to obtain each permit. Each permit has a significant amount of float which allows some delay in obtaining the permits before the overall project schedule is adversely affected. As noted above, it is highly likely that these permits can be obtained in ample time to complete the PWM Expansion by January 2021.

Criterion 3: Source Waters

Criterion 3 requires an examination of whether there is sufficient legal certainty as to agreements or other determinations to secure delivery of source waters needed to produce sufficient product water from the PWM Expansion.

There are four sources of water for the PWM Expansion. The right to use those waters is described in the “Amended and Restated Water Recycling Agreement Between Monterey Regional Water Pollution Control Agency and Monterey County Water Resources Agency” (ARWRA) entered into on November 3, 2015. These water sources are further described below:

- *Winter Wastewater (Winter Water)*. Per the ARWRA Section 4.01,1c, M1W has the right to use any wastewater that is not used for irrigation through MCWRA’s CSIP system. For the 20 years of operation of the Salinas Valley Reclamation Plant, there has consistently been 6,000 to 8,000 AF of water discharged through the outfall every year in the winter months. Approximately 47% to 69% of the feed water needed for expansion would come from the excess winter wastewater currently being discharged to the ocean.
- *Winter Industrial Wastewater and Storm Water (Pond Return)*. Per the ARWRA Section 4.01, 1c, M1W has the right to use any wastewater that is not used for irrigation through MCWRA’s CSIP system. The Industrial Wastewater is not required to meet MCWRA demands during the winter; so, would not be diverted to the M1W Salinas Pump Station but instead, flow to the SIWTF. Similarly, the storm water from the City of Salinas that is received during the winter would be diverted to the SIWTF. The combined waters at the ponds would be returned to M1W in the summer using a new return pump station and pipeline to be constructed in 2018-2020 under a storm water grant. M1W is currently negotiating an agreement with the City of Salinas to define how the storage ponds will be operated and maintained. It is anticipated that M1W and the City of Salinas will have a Memorandum of Understanding by the end of June 2018 and a full agreement by the end of September 2018. An important consideration is whether one or more of the SIWTF ponds would be lined. Depending on the number of ponds lined, approximately 23% to 40% of the feed water needed for expansion would come from the returned industrial wastewater and storm water. If no ponds are lined, the PWM Expansion could still provide up to 2,331 AFY and would be expected to meet the proposed yield of 2,250 AFY until expanded irrigation projects are implemented.

- *Dry Season Allocations of 650 AFY in the months of May through August from MCWRA (Summer Water).* Per the ARWRA Section 4.01, 1d, M1W has the right to 650 AF of water during May through August as shown in the ARWRA Table 2. This water, like MCWD's summer allocation of 300 AFY, is available even if there is not enough wastewater to meet CSIP irrigation demands. This water is the water to be utilized for MCWD's Phase 1 and Phase 2 landscape irrigation projects.⁹ However, until the completion MCWD's Phase 2 project, it would be available to meet expansion influent water needs.
- *New water.* This report only considers existing water once the PWM system has been built. Per the ARWRA Section 4.01, 2, M1W is entitled to one-half the volume of wastewater flows from areas outside of the M1W's 2001 boundary provided that M1W passes those waters through the SVRP or the PWM facilities. M1W is pursuing expansion of its service area to bring in additional waters in the future. Also, the Water Recovery Study for the Monterey Peninsula is looking to bring additional water to M1W. This new water would be needed to meet CSIP demands if CSIP acreage expands by more than about 9,000 acres (current plans are for about 3,500 acres) or if MCWD expands their landscape irrigation system (MCWD Phase 2). Further discussion of this water is found under Criteria 5 and 6.

Regarding the source water availability, this report assumes the following:

- CSIP may expand its use of recycled water during the summer months by about 14% (equivalent to adding about 1,700 acres to the existing 12,000 acres of distribution system). And recycled water use during the winter months would increase less than 70% (equivalent to adding about 8,400 acres). The summer expansion is required to utilize the new source waters developed by the PWM Project after replacing the 300 AF (MCWD) and the 650 AF (M1W, ARWRA 4.01d) summer water rights. M1W believes that CSIP is likely to expand by 3,500 acres (29%) within the next five to ten years. Should CSIP not expand, there would be additional water available for PWM Expansion beyond what is shown here.
- MCWD's Phase 1 project, currently under construction, is built and that MCWD's Phase 2 project will be delayed. Some of M1W's 650 AFY of summer water will be utilized for MCWD's Phase 1. It is assumed that the remainder of M1W's summer water will be replaced by New water before MCWD's Phase 2 expansion is completed.
- SIWTF ponds are emptied in the following order: (1) Pond #1, (2) Pond #2, (3) aeration basin, (4) Pond #3. This order of emptying ponds was utilized in calculating the amounts of evaporation and percolation occurring during storage.

⁹ Phase 1 of the RUWAP will provide 600 AFY of purified recycled water for irrigation demands at the former Fort Order and is currently under construction. Phase 2 would include an additional 827 AFY of recycled water use for a total of 1,427 after completion of recycled water lateral pipelines to irrigation sites.

- It is a normal or wet year in which the drought reserve is being refilled at a rate of 200 AFY. If the drought reserve program has stored at least 1,000 AF in the Basin, then the PWM Expansion could produce an additional 200 AFY.
- MCWRA meets the conditions of the ARWRA Section 16.15. If MCWRA does not meet the conditions and ARWRA Section 16.16 applies, then M1W will not be creating/refilling the drought reserve for the benefit of CSIP and 200 AFY more of product water would be available to supply the PWM Expansion.
- The AWPf facilities will operate 90% of time. Consultants expect the operation time to increase to 95% within one to five years of start-up. Since less water is available during July through October, many scenarios assumed planned maintenance during those months and additional operational time during the other months (i.e., planned downtime of the AWPf for maintenance would occur during the peak irrigation months of July through October).
- Although M1W has existing rights to water sufficient to provide for 2,250 AFY of new yield without lining any of the ponds, costs to line Pond #3 are included to insure future source waters can be acquired in the event of increased demands for tertiary recycled water (CSIP expansion). The yield of a PWM Expansion was analyzed under scenarios, including scenarios that included lining one, all three, or no ponds.

M1W staff has conducted 12 scenarios that confirm source water adequacy to produce between 2,254 and 2,601 AFY. All scenarios produced more than the required minimum of 2,250 AFY of additional water under differing conditions following the above assumptions. If the drought reserve program (ARWRA Section 4.05) did not exist (ARWRA Section 16.16) or if the drought reserve reaches at least 1,000 AF then 200 AFY more product water would available for PWM Expansion.

Criterion 4: Water Quality and Regulatory Approvals

Criterion 4 examines whether the weight of the evidence in the record does not show that the DDW or the RWQCB will decline to accept or approve the Project extraction or Project treatment and injection processes, respectively.

DDW and the RWQCB oversee the Water Recycling Requirements/Waste Discharge Requirements (WRR/WDR) for the PWM Project. Indeed, M1W has obtained a permit for the 5 mgd PWM Project currently under construction, which covers the water quality of the purified water used for injection and the water quality of the native groundwater, the interaction of the water with the aquifer and soil, the travel times and directions of the purified water in the two aquifers, and the requirements for monitoring and extraction. M1W anticipates no issues with the increased amount of water that would be injected by the PWM Expansion since the water will be produced from the same source waters by the same method and with the same equipment. The same hydrogeologic model was used to predict water movement, and the same monitoring and safety processes will be in place.

The results of groundwater modeling by Hydrometrics WRI under a contract with Todd Groundwater for the PWM Expansion is provided in Attachment A. The results of these analyses show that the PWM Expansion can feasibly meet regulatory requirements of DDW and the RWQCB. In addition, Trussell Technologies provided an analysis of additional opportunities for pathogen reduction (log) credits through the existing and proposed treatment processes that further support the conclusion that the PWM Expansion could feasibly treat and deliver water for reuse in compliance with State and federal safe drinking water regulations.

The WDR/NPDES process for the 5 mgd PWM Project under construction is nearly complete. M1W received a draft NPDES permit on May 4, 2018 and expects the NPDES permit hearing and decision in September. M1W has worked very closely with the RWQCB for several years to develop a multiple dilution factor methodology for the amended NPDES permit. The PWM Expansion would require only a modification to the September 2018 permit rather than a new permit. M1W meets regularly with the RWQCB to keep them up to date with the status of the PWM Project.

M1W anticipates no difficulty in obtaining either the WRR/WDR or the NPDES. M1W has an excellent track record with DDW and RWQCB. The proposed schedule (Attachment G) shows the anticipated time to obtain the various permits. The schedule for each permit has a significant amount of float, which reduces the risk that a delay would adversely affect the timely completion of the PWM Expansion.

Criterion 5: PWM Project Schedule Compared to Desalination Schedule

Criterion 5 requires a showing that the PWM Expansion is on schedule to be operable on or before the later of (a) the then-effective date of the CDO or such other date as the SWRCB states in writing is acceptable or (b) the date the MPWSP desalination project is scheduled to become operable.

The projected schedule for the PWM Expansion presented in **Figure 5** is an executive summary intended to highlight critical activities necessary for the completion of the PWM Expansion by January 2021. A more detailed, multi-page, projected schedule for the PWM Expansion is included for reference in Attachment G. M1W will continue to update the Commission and the parties as the evaluation of the PWM Expansion proceeds.

This projected schedule for the PWM Expansion provides a verifiable comparison to the latest available MPWSP desalination schedule information. The projected schedule indicates that M1W could begin start-up activities of the increased capacity facilities on December 29, 2020 and completion on January 27, 2021 which is before: (1) the effective date of the CDO from SWRCB (currently December 31, 2021) and about the same time as (2) the operation date of MPWSP (currently between Q4 2020 and Q2 2021 per MPWSP's Newsletter 2018 Q1 dated April 30, 2018). CalAm could begin extracting water as soon as the new water is injected into the Basin.

Confirming two other key milestones, the projected schedule for the PWM Expansion demonstrates that before September 30, 2020 all civil site work will be complete, and all equipment required to expand the Advanced Water Purification Facility will have been delivered and on-site. Further, the PWM Expansion schedule demonstrates that before September 30, 2021 all construction will be complete. In fact, the

projected schedule for the PWM Expansion shows completion and start-up of all the increased capacity facilities much earlier on January 27, 2021.

The ability of M1W to meet the projected schedule for the PWM Expansion is predicated on (in chronological order): (1) the Commission's prompt initiation of a Phase 3 proceeding; (2) M1W securing preconstruction project funding of soft costs by June 29, 2018; (3) the Commission's approval of a new or amended WPA by September 30, 2019, and (4) securing construction funding by January 25, 2020. Delay in obtaining sufficient funding for preconstruction costs or construction funding would result in a delay to completion. Thus, prompt action by the Commission is a priority for the Monterey region's ability to explore this potential alternative source of water to ensure compliance with the CDO.

The overview of the PWM Expansion schedule below in Figure 5 shows that the following activities have already commenced in the January – May 2018 timeframe:

- Seeking source water commitments by other agencies
- Initial Hydrogeological/Water Quality Studies and initial EIR Scoping
- Securing funding for preconstruction activities, "soft costs" (critical path today)

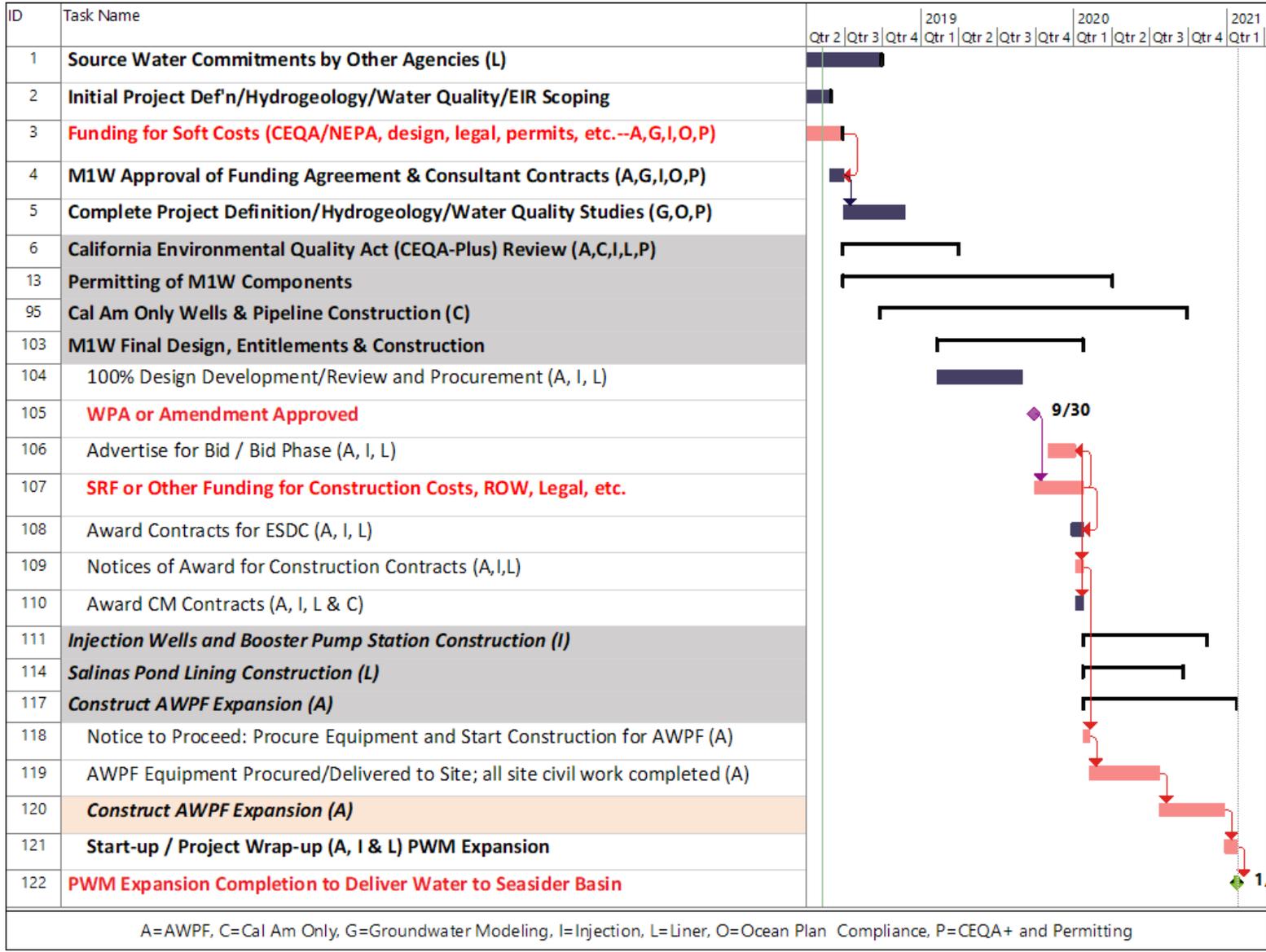


Figure 5. PWM Expansion Summary Schedule

As previously noted, the projected schedule shows the current critical path activity runs through obtaining preconstruction funding and then immediately getting the necessary consultant contracts in-place by the end of June 2018, so the environmental and engineering work for the PWM Expansion can be resumed quickly.

Once funding is obtained, the critical path of the PWM Expansion would then be driven by obtaining a new or amended WPA. The WPA is expected to be the last requirement needed to obtain a State Revolving Fund Loan (other funding mechanisms may require additional environmental work).¹⁰

At the final stage of the PWM Expansion, the critical path of the schedule then flows through the bid, award, notice to proceed, and construction of the Advanced Water Purification Facility expanded components are the major critical path activities from early 2020 through early 2021. The PWM Expansion schedule confirms completion and start-up of all the necessary facilities by January 27, 2021, with new water production and injection starting as early as December 2020.

Criterion 6: Status of PWM Expansion Engineering

Criterion 6 looks to the level of design completed for the PWM Expansion and requires a showing that the PWM Expansion is at least at the 10 percent level with support from a design report. Alternatively, this criterion can be satisfied for the PWM Expansion based on a showing that the GWR's level is similar to, or more advanced, than the level of engineering for the desalination project.

Introduction

M1W has already met Criterion 6 for PWM Expansion. M1W, in collaboration with the MPWMD, the Marina Coast Water District, and other regional stakeholders developed the PWM Project. As described in greater detail above, the PWM Project will produce purified water at M1W's Regional Treatment Plant (RTP) for injection into the Basin and subsequent potable reuse by MPWMD and the private water purveyor, CalAm.

The PWM system is under construction and includes five primary facility components:

- Source Water Facilities - that convey wastewater sources into the M1W RTP.
- Advanced Water Purification Facilities (AWPF) - that treat RTP secondary effluent to produce purified water.
- Product Water Pump Station – located at the AWPF site that pumps purified water into the conveyance system for non-potable and potable reuse.
- Conveyance Facilities - including a product water pipeline and storage reservoir that conveys purified water to the injection well facilities for groundwater recharge.
- Well Injection and Extraction Facilities – that includes both deep and vadose zone wells, and associated improvements for groundwater injection, monitoring and well backwashing in the

¹⁰ As noted above, success of the PWM Expansion would depend on securing construction funding by January 25, 2020.

Basin. Extraction wells include well facilities operated by MPWMD and the private water company, California American Water.

The facilities under construction have been designed to initially produce, convey and inject up to 4 million gallons per day (mgd) of purified water. Flexibility for operating the facility at 5-mgd was included in the design of the facilities and would require operating redundant equipment at reduced system reliability to deliver water to irrigation customers along the product water conveyance pipeline. Environmental and regulatory review is nearly complete for the PWM Project to be operated at 5 mgd (only NPDES permit, criterion #4 remains).

In designing the PWM Project currently under construction, M1W incorporated certain design elements that could facilitate potential future expansion to 6.5-mgd, which include:

- space was provided within the footprint of the AWPf and Product Water Pump Station (PWPS) (the facility that pumps the product water from the AWPf through the product water conveyance pipeline to the injection facilities) for additional equipment required for expansion to 6.5-mgd;
- the electrical service, switchgear, transformers and motor control centers at the AWPf and PWPS were designed to accommodate additional loads from new equipment;
- overall system hydraulics were evaluated to accommodate 6.5-mgd from the source water pump station, through the AWPf, PWPS, and conveyance facilities to the Injection Well Facilities; and
- two additional well sites, including two deep injection wells and one vadose zone well, were sited adjacent to the two well sites under construction (these facilities are evaluated in the PWM Project EIR).

PWM Expansion

M1W and its partners have been actively undergoing planning and preliminary design for the PWM Expansion, currently achieving a 30% level of design development. Although expansion to 6.5-mgd was previously contemplated in the testimony of Paul Sciuto, M1W has concluded that 7-mgd system capacity would better utilize the additional sources of water that vary seasonally and maximize the production of purified water for potable and non-potable uses.

The PWM Expansion's design objectives include constructing facilities capable of providing advanced treatment, conveyance and injection of up to 7-mgd of purified water, providing 5,750 AFY for groundwater recharge in the Basin, 200 AFY for drought reserve and 600 AFY for MCWD irrigation, for a total production of 6,550 AFY. The PWM Expansion would provide injection of 7 mgd during non-irrigating months, and up to 5.69-mgd of injection and 1.31-mgd of irrigation water during peak days of the irrigating season in accordance with the recently executed agreement between M1W and MCWD.

Significant engineering work has been performed related to the capacity expansion. M1W is well positioned to begin the CEQA review process, final design and associated permitting, right-of-way, and funding/financing-related work, which could be done in parallel with the construction of the PWM Project as currently approved. This section provides an overview of the engineering design work that is currently at the 30% design level.

Source Water Components: Lining Pond 3 at SIWTF

The City of Salinas owns and operates the SIWTF that includes an aeration lagoon, three evaporation and percolation ponds, drying beds, and rapid infiltration basins as shown on **Figure 6**. Through a Proposition 1 Storm Water Grant, the City of Salinas and M1W are designing a system to tie storm water from the southwestern corner of the City of Salinas directly into M1W’s sewage pump station or into the industrial waste pipeline that takes the water to the SIWTF. Also, that project will be building a pump station that will pump water from the SIWTF directly into the sewage force main that flow between the Salinas sewage pump station and the RTP. That new pump station allows water to be stored in the ponds during the winter and then be pumped to the RTP during spring and summer when the water can be utilized. That work is nearing 100% design, should be put out to bid in May 2018, and construction should begin before the end of 2018. The result of that project is that all the SIWTF ponds should be filled each winter and emptied each summer.

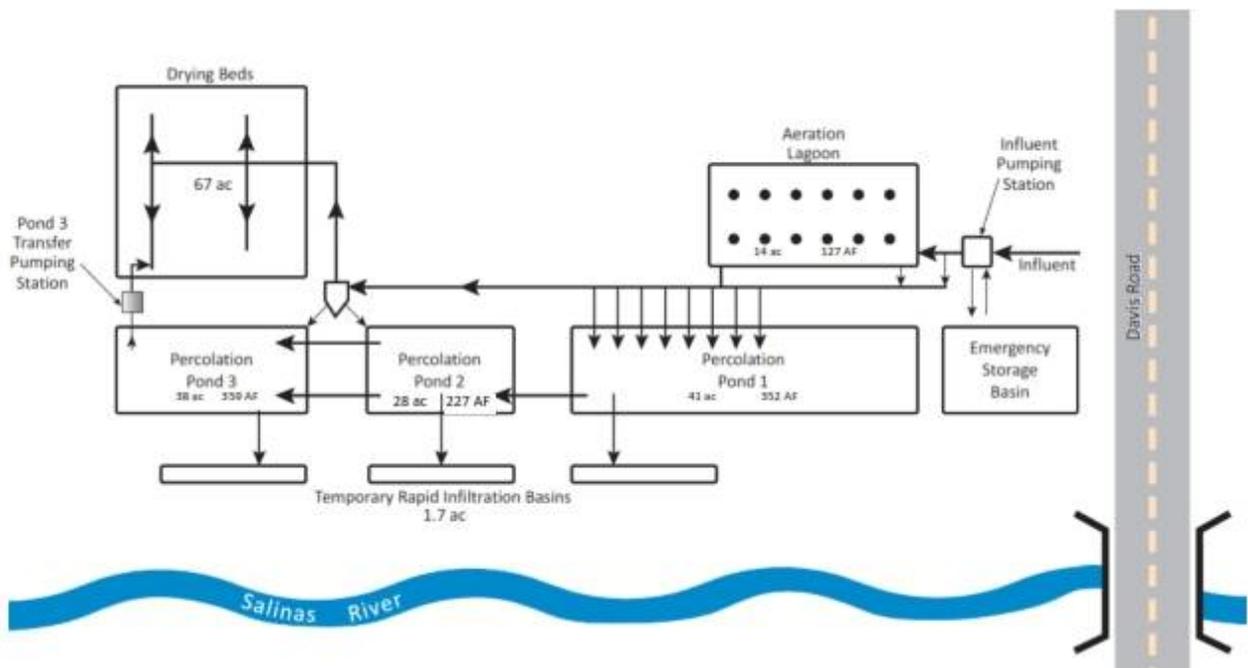


Figure 6. SIWTF Schematic

Paul Sciuto’s September 29, 2017 testimony assumed that all three ponds would be lined to reduce percolation and to maximize spring and summer water recovery. A preliminary design study (E2 Consulting Engineers, 2017, included as an attachment to Geo-Logic, 2018, included as Attachment F) looked at various options including turning the drying beds into a lined fourth pond and estimated yields available by lining ponds. That study suggested using plastic lining material which was expensive. A follow-up study (Geo-Logic, 2018 in Attachment F) looked more closely at the difference in liner type (bentonite versus several types of plastic) including consideration for maintenance, California Division of Safety of Dams (DSOD) approvals, flooding issues, etc. The conclusion was that 60-mil HDPE was the preferred liner material. Geo-Logic also updated cost estimates for the option of lining pond #3. M1W

has discussed the prospect of lining the pond with the City of Salinas and with growers in the community. Based on those conversations, M1W is currently pursuing only lining Pond 3 (as reflected in this report). An agreement is still needed between the City of Salinas and M1W over use of the ponds, lining, and costs. More background on the SIWTF, planned projects, percolation conditions, and options for increasing recycling yields is provided in Attachment B. As discussed under Criterion 3, M1W has existing rights to water sufficient to provide for a 2,250 AFY expansion without lining any of the ponds; however, costs of lining Pond 3 are included to insure adequate source waters can be available in the event of increased demands for tertiary recycled water due to CSIP expansion. The Geo-Logic report evaluating options for pond lining is included as Attachment F.

AWPF and PWPS Pre-Design

The final design of the AWPF and PWPS (currently under construction) shows the location where additional process equipment, piping, pumps, motors, and related improvements will be required. The design drawings, equipment pre-purchase documents and project specifications can be quickly adapted, after the final design work for increasing the capacity to 7-mgd is completed.

System Hydraulics Evaluation

Extended period hydraulic modeling has been performed for the Conveyance Pipeline and Reservoir, confirming that there is adequate storage available for both injection and MCWD irrigations under varying seasonal conditions. This evaluation also confirmed that a small booster pump station will be required to be constructed adjacent to the electrical building (**Figure 7**) in the Well Injection Facilities to provide adequate pressure service for two of the well sites (Well Sites #1 and #2).

Hydrogeologic Modeling

Hydrogeologic modeling has been performed using the field results from construction of the first deep injection well and the Seaside Basin Watermaster's numerical model. This modeling was performed using various injection and extraction scenarios that bracket a broad range of anticipated operating conditions using historical data and considering the impacts of climate change. This work confirms the proposed four well site configuration of the injection facilities will be adequate and that subsurface travel times will be adequate, in combination with treatment processes, to assure compliance with DDW regulations. Based on MPWMD-supplied assumptions about supply and demand of the water supply systems and the hydrogeologic modeling, additional well extraction facilities have been identified and sited to provide potable water for CalAm.

Injection Facilities Pre-Design

The Final Design of the Injection Facilities currently under construction can be readily adapted for the final design of the new pipelines, deep injection wells, vadose zone wells and site improvements. The preliminary site plan and building layout for Booster Pump Station has been completed, and the backwash percolation basin capacity has been confirmed for operating four deep injection wells. A draft Civil Work Plan detailing the engineering design is provided in Attachment J.

CalAm Only Extraction Facilities

While modeling the Basin for particle travel paths and times for water to travel from injection to extraction (HydroMetrics, 2018), CalAm indicated that they would need additional wells within the Basin to extract peak demand with greatest operational flexibility including to meet their firm supply goals under a PWM Expansion. MPWMD worked with CalAm, HydroMetrics, and Todd Groundwater to determine CalAm's needs for water extraction (MPWMD, 2018). **Figure 7** shows the new extraction wells (EW-1 and EW-2) for PWM Expansion along with a 30-inch potable connection pipeline between injection and extraction. **Figure 8** shows the continuation of the pipeline to the ASR-6 site where the third extraction well (EW-3) would be located.¹¹ The CalAm-only extraction facilities are needed to extract water from the Basin until the desalination facility is built. At that time, ASR-6 would be repurposed to be an Aquifer Storage and Recovery well for injection in addition to being used for extraction. For PWM Expansion assumptions, the well would only be used for extraction because using it for injection of desalinated or Carmel River potable water would require approval of the desalination water supply project and water rights, respectively. For this report, it is assumed that CalAm would use their own consultants to design and permit their facility and their own financing for the construction. The cost estimate is based on recent nearly identical well drilling and pipe laying costs. Attachment C provides more information, including conceptual design for CalAm-only extraction wells and pipeline.

¹¹ For the purpose of this analysis, it is assumed that up to three wells may be built; however, MPWMD staff has indicated that only two new wells would be required to extract the total amount of PWM Expansion water needed to meet system demands during peak days. The third well would only be needed as a stand-by (or backup) well for the overall CalAm system redundancy requirements. For this reason, the cost analysis discussed below does not include a third well and only two of the three wells would be built to meet the capacity/yield requirements of the PWM Expansion (Dave Stoldt, personal communication, April 12, 2018).

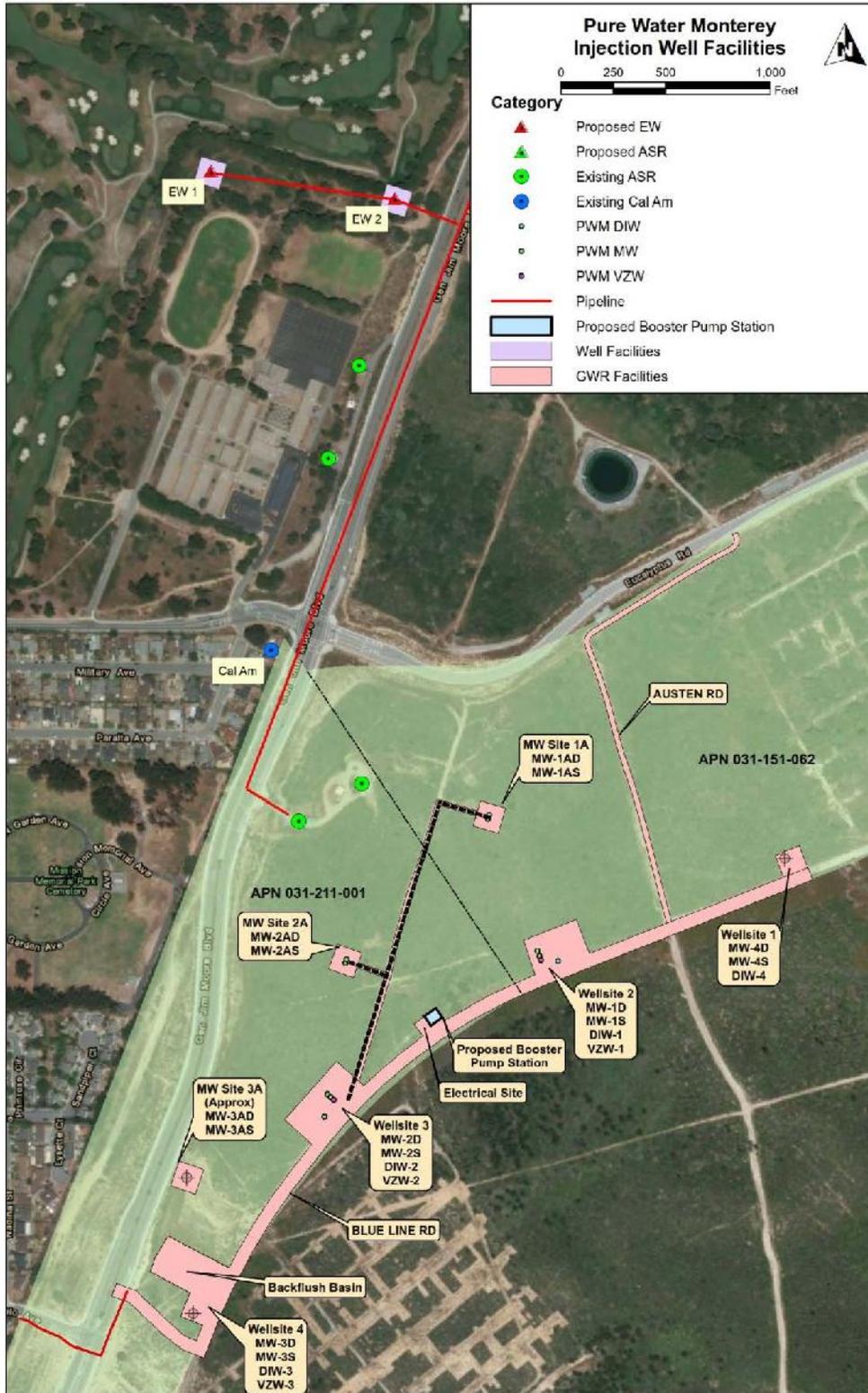


Figure 7. PWM Expansion Injection and Extraction Facilities



Figure 8. PWM Expansion CalAm Extraction Facilities

Estimates of Probable Capital Costs

Detailed estimates of probable construction costs for the PWM Expansion have been prepared for the treatment, conveyance and injection facilities using standard cost estimating guidelines, recent bid costs for the facilities under construction; and supplemented with budgetary cost estimates from selected equipment manufacturers and recent experience on comparable projects.

Table 4 contains the Class 3 level estimate for 30% design development in accordance with the Association for the Advancement of Cost Engineering International (1997 International Recommended Practices and Standards); thus, the estimate has an expected accuracy range of up to +20 to -15%. The estimate is in Q1 2018 dollars and includes contractor’s overhead and profit and a contingency of 15%. This estimate does not include CalAm’s extraction related facilities capital costs, as well as costs associated with CEQA review, regulatory permitting, project financing, right-of-way costs which are presented elsewhere in this report.

Table 4. Estimated M1W Capital Costs for 2,250 AFY PWM Expansion

PWM System Component	Opinion of Probable Cost
Lining of Pond #3 at the SIWTF	\$6.8M
AWPF and PWPS Expansion Construction Cost	\$8.7M
Booster Pump Station Construction Cost	\$1.1M
Well Injection Facilities Construction Cost	\$10.5M
Subtotal	\$27.1M
Planning, Environmental, Permitting, Engineering, Legal, etc.	\$5.4M
Total Opinion of Construction, Engineering and CM Costs for M1W’s PWM Expansion components	\$32.5M

Table 5 contains a summary of CalAm only Extraction Facilities for PWM Expansion costs.

Table 5. Estimated Capital Costs for CalAm-Only Facilities)

Description	Amount
Design, Permitting & Right-of-Way	\$ 865,771
Construction	\$ 9,377,364
ESDC, CM, Legal & In-house Labor	\$ 1,273,350
Total Cost	\$ 11,516,485

Energy and Chemical Cost for the PWM Expansion

Energy and chemical usage are estimated for PWM Expansion producing 6,550 AFY (5,750 AF recharge + 600 AFY MCWD Irrigation + 200 AFY drought reserve).

Energy usage for the AWPf and PWMS is estimated assume the facilities operate with 90 percent run time and loads are adjusted for VFD or infrequent operation. Under these assumptions, the facility would draw approximately 31,140,000 KWH annually and produce 7057 AF of purified water at an annual energy usage of 3,972 KWH/AF. Assuming only 6,550 AFY of purified water is produced, reduces the energy use to approximately 28,890,000 KWH and 3,686 KWH/AF.

Chemical usage for the AWPf assumes a total of 6,550 AFY are produced at the AWPf. The estimated cost for the twelve chemicals in use at the AWPf totals approximately \$2.01M annually for a unit cost of about \$307/AF of purified water produced.

Energy usage for the Injection Facilities is estimated assuming the 500 HP backwash pumps operate for four hours each week, for each of the four deep injection wells, with 90% up time. The wells vary in terms of ground surface elevation and water surface elevation in the wells. It is assumed the four wells will use an average of 450 HP during backwash. The resulting energy use is approximately 310,000 KWH annually and 54 KW/AF (assuming 5,750 AF/YR is injected). Additional energy will be required to operate the booster pump station during certain periods of time.

Current Cost Estimate for the PWM Expansion

Table 6 summarizes the preliminary cost of water including CalAm only facilities. The capital, capitalization, operations and maintenance, M1W overhead, MPWMD, and equipment replacement costs are included.

Table 6. Preliminary Cost of Water Calculation for 2,250 Acre-Feet Output

	2018 \$s	2021 \$s
Expansion (M1W) Capital Cost	\$ 37,679,000	
CalAm Only Extraction Facilities	\$ 11,516,485	
TOTAL Capital	\$ 49,195,485	
Annualized Capital (30 year; 4.0%)		\$ 2,844,980
O&M Expense	\$ 1,747,895	\$ 1,872,393
M1W Overhead		\$ 316,434
MPWMD Expense		\$ 131,067
Cost per AF w/o Replacement		
TOTAL Annual Expense		\$ 5,164,874
Cost per Acre-Foot		\$ 2,296
Cost per AF with Replacement		

Annual Replacement Fund	\$ 370,126	\$ 396,489
TOTAL Annual Expense		\$ 5,561,363
Cost per Acre-Foot		\$ 2,472

Summary

The PWM Expansion to a 7 mgd capacity can be completed in an efficient and expedited manner if desired. Facilities for 5-mgd system capacity are under construction and are anticipated to begin initial operations by late 2019. The PWM Expansion has been planned and evaluated to a 30% level of design development and the CEQA review process could be initiated at any time. Final design of the expansion could be performed as the current facilities are constructed and placed into service. Additional details can be found in Attachments A, C, and F.

Criterion 7: PWM Expansion Funding

Criterion 7 requires a project funding plan, sufficient in detail to be accepted as an application for a State Revolving Fund loan, is in place.

M1W has taken steps towards satisfying this criterion by submitting an application to the State Revolving Fund administered by the SWRCB and also completing a financial analysis for the PWM Expansion. The remainder of this section describes various funding mechanisms and how M1W is in a good position to obtain funding for the PWM Expansion. To obtain such funding, it is critical that the Commission will have initiated a Phase 3, or other process, through which an amended WPA could be approved.

To develop a Project Funding Plan for the PWM Expansion, M1W staff is exploring a wide variety of funding mechanisms to provide the necessary funding required for the PWM Expansion. These mechanisms may include the State Revolving Fund program, WIFIA, IBank, and borrowing on the open market, as explained in more detail below. M1W is also considering a combination of one or more of these mechanisms to complete the funding package.

M1W submitted a General Information Package to the SWRCB for the PWM Expansion on April 6, 2018 via the SWCRB's online portal (Attachment I) and was issued a PIN for the loan application on May 2, 2018. The portal, Financial Assistance Application Submittal Tool (FAAST), is administered by the Board's Division of Financial Assistance (DFA). Submittal of this General Information Package is the first step for obtaining funds from the State Revolving Fund (SRF) program. M1W will have to complete several technical, environmental and financial components to secure the loan. M1W is familiar with these requirements as the DFA approved the loan in which the PWM Project was funded.

The initial amount listed in the General Information Package submitted to the SWRCB was for the PWM Expansion was approximately \$44 million. This amount was based on initial design reports and cost calculations. A revised amount that is being utilized in other sections of this report is \$38 million. Final costs for the project can change due to the bidding environment, contractor availability and cost of materials.

Another possible funding mechanism is the Water Infrastructure Finance and Innovation Act (WIFIA), which is directed by the Environmental Protection Agency (EPA). WIFIA funds can be used for eligible water and wastewater infrastructure projects. WIFIA only funds 49% of eligible project costs and the interest rate will be equal to or greater than the U. S. Treasury rate of a similar maturity at the date of closing of the project’s loan application. WIFIA has similar credit requirements of the applicant, such as dedicated sources of revenues, and project applicants must comply with federal provisions, such as NEPA and American Iron and Steel.

M1W will also investigate another potential funding mechanism managed by the California Infrastructure & Economic Development Bank (IBank). One of the programs that the IBank oversees is called the Infrastructure State Revolving Fund program (ISRF). This program provides financing to public agencies for infrastructure and economic development projects. Project funding ranges from \$50,000 to \$25 million. Loans are typically issued for the useful life of the project with a maximum repayment length of 30 years.

The last option for obtaining construction funds is to have the agency issue revenue bonds through the open financial market. This option provides the highest degree of flexibility but comes with the highest cost. There is a wide selection of financial institutions that could provide the funds, with varying length of terms for repayment.

The table below summarizes the various financial options available to M1W for funding the PWM Expansion.

Table 7. Financial Options

Loan Type	Maximum Amount of Loan	Approximate Loan Rate *	Years of Maturity	Status
SRF	Cost of the project	2%	30	Initial application submitted
WIFIA	Up to 49% of the loan amount	3%	Up to 35	Letter of Interest to be submitted prior to July 2018
IBank	Up to \$50 Million	4%	30	In progress
Revenue Bonds	Cost of project	5%	1 to 40	As needed

**Initial estimate for rates as of April 2018*

To qualify for loans, M1W must demonstrate its financial stability. A common method for analyzing an M1W’s financial condition is its debt coverage ratio. M1W has some existing obligations and for the M1W to take on any new debt, the existing financial institutions require the M1W to maintain a debt coverage ratio of at least 1.25 of net revenues over its annual debt service. M1W has met this requirement during the past several fiscal years.

M1W has these existing long-term debt obligations as of June 30, 2017:

- Pension Bonds of approximately \$6 Million, which mature in 2026
- Revenue Bonds for Agency Projects of approximately \$8 million, maturing in 2026
- State Revolving Fund (SRF) Loans for the PWM of \$8 million (with a total upon project completion in 2018 of \$98 million and maturing in 2048)
- United States Bureau of Reclamation Loans (USBR) of \$12 million, maturing in 2036.

M1W secured a WPA with CalAm and the MPWMD to cover the costs of constructing the new facilities associated with the PWM Project. The debt associated with the PWM Project has its own dedicated revenue stream and is also covered in part by the MPWMD as well as some of the revenues from M1W.

M1W also has a \$12 Million line of credit to assist in maintaining cash flow disbursements to vendors during the construction process. The time between paying vendors for work on the PWM Project and receiving reimbursements from the SWRCB from the SRF loan can result in a significant drain on M1W's cash reserves. The line of credit allows the M1W the ability to maintain sufficient cash reserves, so M1W can pay its vendors on a timely basis.

M1W has experience obtaining various forms of financing. M1W has the financial resources required to support financing. M1W has the ability to complete the CEQA-Plus environmental review and obtain necessary permits as discussed under Criteria 1 and 2 above. M1W needs only an amended WPA to obtain financing. M1W does not anticipate problems obtaining financing.

Criterion 8: Reasonableness of WPA Terms

Criterion 8 requires that CalAm, M1W, and MPWMD have agreed upon a WPA whose terms are just and reasonable.

The Commission approved the WPA for up to 3,500 AFY of product water produced by the PWM Project between CalAm, M1W, and MPWMD in Decision 16-09-021.

M1W's position is that the approved WPA could be amended and approved by the Commission in a Phase 3 proceeding, a stand-alone application or, potentially, through an advice letter filing. The "Company Allotment" would be revised to 5,750 acre-feet and other terms such as "Minimum Allotment," "Operating Reserve Minimum," would be subject to revision based on negotiation between the parties. The Performance Start Date would require amendment to reflect the current date for phase 1 (3,500 acre-feet) and a second date for the expansion. The Term would be extended to thirty (30) years from the second (new) Performance Start Date. The Section 12 Water Delivery Guarantee would reflect the new Company Allotment number. Finally, the Commission would need to approve a new soft cost cap in Section 16 for the per acre-foot cost of water based on the blended cost estimate of the PWM Project and the PWM Expansion. These modifications can be executed quickly and brought to the Commission for approval long before the September 30, 2019 milestone under the SWRCB's CDO.

Criterion 9: Reasonableness of the PWM Project Revenue Requirement

Criterion 9 requires that the revenue requirement for the combination of the PWM Project with the smaller desalination project is just and reasonable when compared to the revenue requirement for the larger desalination project alone.

Criterion 9 is not relevant when examining the PWM Expansion because the reason for approval of the expansion would be as an alternative interim project that would allow CalAm to comply with the Cease and Desist Order and end the moratorium on new connections. As a result, PWM Expansion will provide an alternative water supply if the desalination plant is delayed because of legal challenges, delays in permitting, or other challenges during construction or operation. Hence, there is not an objective “just and reasonable” comparison to make about a revenue requirement when the objective is to lift the CDO and the combination of projects are separated by an unknown amount of time.

Nonetheless, M1W and MPWMD worked with NBS Government Finance Group (NBS) to examine the revenue requirements of the Pure Water Monterey expansion in conjunction with various sizes of desalination facility delayed to various dates in the future. **Attachment K** includes the initial economic analysis of the PWM Expansion, allowing the Commission to better understand the potential rate impacts in the near-term versus the long term, the lifecycle costs of various combinations of projects, and the time value of delaying investment in the desalination alternatives. **Figures 9a and 9b** are the MPWMD transmittal memorandum to M1W for the NBS economic analysis; MPWMD’s memorandum summarizes MPWMD’s view of the economic analysis results while highlighting several relevant general conclusions. In sum, PWM Expansion is a viable solution to the CDO issues should CalAm be delayed in completing the MPWSP.

Criteria Conclusions

M1W has confirmed that it can timely satisfy the criteria for the PWM Expansion. Indeed, M1W has already satisfied Criterion #6 by completing 30% design of the PWM Expansion. M1W also meets Criterion #5 with its current schedule. M1W is well positioned to meet the other criteria should the Commission promptly initiate a Phase 3 proceeding, as the only outstanding critical unknown is whether and when M1W would obtain a new or amended WPA. Otherwise, there is ample time in the schedule to complete the PWM Expansion before the CDO’s September 30, 2021 milestone.



MEMORANDUM

To: Paul Sciuto, Monterey One Water
From: Dave Stoldt, Monterey Peninsula Water Management District
Date: April 27, 2018
Subject: Economic Analysis of Pure Water Monterey Expansion

We have received the Report titled "Economic Analysis of Pure Water Monterey Expansion" prepared by NBS, the consultant hired by the Monterey Peninsula Water Management District (District) on behalf of Monterey One Water and the District. The analysis was to examine the expansion as an interim measure to relieve the Monterey Peninsula of the moratorium on new service connections and lift the State-imposed Cease and Desist Order (CDO) in the event the proposed 6.4 MGD desalination facility is delayed several years or more.

The purpose of this memorandum is to summarize the District's view of the results presented in Tables S-1 and S-2, and Figures S-1, S-2, S-3, and S4 of the report. These tables and figures represent the net present value (NPV), as well as the total revenues required from ratepayers, for the 30-year life-cycle beginning 2021.¹ It is also instructive to examine Table CF-1 in Appendix B of the report to see individual annual revenue requirements for the combined projects vis a vis the 6.4 MGD desalination project online by 2021.

In general, the following global conclusions can be reached.

- In all cases, the net present value of the 30-year revenue requirement is lower for Pure Water Monterey expansion combined with any of the reduced size and delayed desalination plants.
- In all but one case, the total revenue requirement over the 30-year period is favorable for Pure Water Monterey expansion combined with any of the reduced size and delayed desalination plants. In that one scenario, expansion combined with a 4.8 MGD plant delayed 5 years, ratepayers would pay \$11 million additional over a 30-year period in order to relieve the moratorium and lift the CDO 5 years early.
- The combined annual revenue requirement (Table CF-1), once the desalination plant does come on line, is shown to be higher than it would have been with only the 6.4 MGD desalination project online by 2021. This augers toward attempting to further reduce the construction cost of the desalination alternative, when and if it is ready to proceed.

¹ Revenue requirements for either project beyond the 30-year period are truncated and not included.

Figure 9a. Summary Memorandum of NBS Report (page 1 of 2)

Mr Paul Sciuto

Page 2 of 2

4-27-18

- It should be noted that waiting on the eventual construction of a 6.4 MGD plant without a Pure Water Monterey expansion, would result in escalation of both capital and O&M costs of the project, leading to \$3-5 million per year in additional annual revenue requirement over the base case shown in Table CF-1.

We recognize that scenarios that include a 1.6 MGD desalination plant, or a delay of 25 years to 2036 are unlikely. However, there does appear to be a benefit to ratepayers to expand Pure Water Monterey today, in conjunction with a delay of 5 or 15 years in the start of a “right-sized” desalination plant.

Thank you for the opportunity to provide my high-level review of the NBS report.

Sincerely,



David J. Stoldt
General Manager
Monterey Peninsula Water Management District

Figure 9b. Summary Memorandum of NBS Report (page 2 of 2)

Attachments
to the Progress Report on Pure Water Monterey Expansion

The following link provides access to the full report, including the attachments, for viewing, printing, and/or downloading: <http://purewatermonterey.org/reports-docs/>
