

This meeting has been noticed according to the Brown Act rules. The Board of Directors meets regularly on the third Monday of each month, except in January, February. The meetings begin at 7:00 PM.



AGENDA  
**Regular Meeting**  
**Board of Directors**  
**Monterey Peninsula Water Management District**

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**Monday, July 16, 2018, 7:00 pm**  
Conference Room, Monterey Peninsula Water Management District  
5 Harris Court, Building G, Monterey, CA

Staff notes will be available on the District web site at  
<http://www.mpwmd.net/who-we-are/board-of-directors/bod-meeting-agendas-calendar/>  
by 5 PM on Friday, July 13, 2018

The meeting will be televised on Comcast Channels 25 & 28. Refer to broadcast schedule on page 3.

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**CALL TO ORDER/ROLL CALL**

**PLEDGE OF ALLEGIANCE**

**ADDITIONS AND CORRECTIONS TO AGENDA** - The Clerk of the Board will announce agenda corrections and proposed additions, which may be acted on by the Board as provided in Sections 54954.2 of the California Government Code.

**ORAL COMMUNICATIONS** - Anyone wishing to address the Board on Consent Calendar, Information Items, Closed Session items, or matters not listed on the agenda may do so only during Oral Communications. Please limit your comment to three (3) minutes. The public may comment on all other items at the time they are presented to the Board.

**CONSENT CALENDAR** - The Consent Calendar consists of routine items for which staff has prepared a recommendation. Approval of the Consent Calendar ratifies the staff recommendation. Consent Calendar items may be pulled for separate consideration at the request of a member of the public, or a member of the Board. Following adoption of the remaining Consent Calendar items, staff will give a brief presentation on the pulled item. Members of the public are requested to limit individual comment on pulled Consent Items to three (3) minutes. Unless noted with double asterisks "\*\*", Consent Calendar items do not constitute a project as defined by CEQA Guidelines section 15378.

1. Consider Adoption of Minutes of the June 18, 2018 Regular Board Meetings
2. Consider Approval of Amendment to License Agreement with California American Water for the Sleepy Hollow Steelhead Facility Upgrade

**Board of Directors**

Andrew Clarke, Chair – Division 2  
Ralph Rubio, Vice Chair - Mayoral Representative  
Brenda Lewis – Division 1  
Molly Evans – Division 3  
Jeanne Byrne – Division 4  
Robert S. Brower, Sr. – Division 5  
Mary Adams, Monterey County Board of Supervisors Representative

**General Manager**

David J. Stoldt

This agenda was posted at the District office at 5 Harris Court, Bldg. G Monterey on Thursday, July 12, 2018. Staff reports regarding these agenda items will be available for public review on Friday, July 13, at the District office and at the Carmel, Carmel Valley, Monterey, Pacific Grove and Seaside libraries. After staff reports have been distributed, if additional documents are produced by the District and provided to a majority of the Board regarding any item on the agenda, they will be available at the District office during normal business hours, and posted on the District website at [www.mpwmd.net/who-we-are/board-of-directors/bod-meeting-agendas-calendar/](http://www.mpwmd.net/who-we-are/board-of-directors/bod-meeting-agendas-calendar/). Documents distributed at the meeting will be made available in the same manner. The next regular meeting of the Board of Directors is scheduled for August 20, 2018 at 7 pm.

3. **\*\*Consider Expenditure to Contract for Construction and Related Services to Complete the Carmel River Bank Stabilization at Rancho San Carlos Road Project (CEQA: An Addendum for this project was approved by the Board on March 19, 2018.)**
4. Consider Contract with Pueblo Water Resources to Provide Aquifer Storage and Recovery Operational Support
5. Consider Authorizing Monterey Bay Analytical Services to Provide Laboratory Support for Watermaster Water Quality Monitoring
6. Consider Authorizing Monterey Bay Analytical Services to Provide Laboratory Support for Aquifer Storage and Recovery Project Operations
7. Consider Expenditure to Contract with Normandeau Associates, Inc. for Carmel River IFIM for IFIM Model Support
8. Receive Draft Water Year 2017 Aquifer Storage and Recovery Project Summary of Operations Report
9. Consider Adoption of Treasurer's Report for May 2018

#### **GENERAL MANAGER'S REPORT**

10. Status Report on California American Water Compliance with State Water Resources Control Board Order 2016-0016 and Seaside Groundwater Basin Adjudication Decision

#### **ATTORNEY'S REPORT**

11. No report for July 16, 2018

#### **DIRECTORS' REPORTS (INCLUDING AB 1234 REPORTS ON TRIPS, CONFERENCE ATTENDANCE AND MEETINGS)**

12. Oral Reports on Activities of County, Cities, Other Agencies/Committees/Associations

**PUBLIC HEARINGS** – Public comment will be received on each of these items. Please limit your comment to three (3) minutes per item.

13. **Consider First Reading of Ordinance No. 179 – Clarifying Rules Related to the Rebate Program, Permits, and Water Waste (CEQA: Exempt pursuant to CEQA Guidelines Section 15301)**  
*Action: The Board will consider first reading of an ordinance that amends and clarifies Rules related to the Rebate Program, Water Permits, and Water Waste.*
14. **Consider Certification of Initial Study/Mitigated Negative Declaration and Addendum for Los Padres Dam Gravel Augmentation Program Including Adoption of CEQA Findings and Mitigation Measures (CEQA Sections 15063, Initial Study; 15070, Negative Declaration; and 15162(b), Addendum. Adoption is final Board action in the CEQA process.)**  
*Action: The Board will consider certification of the Initial Study/Mitigated Negative Declaration and Addendum for the Los Padres Dam Gravel Augmentation Program.*
15. **Consider Approval of a CEQA Addendum to the Mitigated Negative Declaration for the Sleepy Hollow Steelhead Rearing Facility Upgrade (CEQA: Approve Addendum to the Mitigated Negative Declaration for the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Under CEQA Guideline Sections 15162 and 15164)**  
*Action: The Board will consider approval of a CEQA Addendum to the Mitigated Negative Declaration for an upgrade to the Sleepy Hollow Steelhead Rearing Facility raw water intake system.*
16. **Consider Approval of a CEQA Addendum to the ASR EIR/EA for the Backflush Basin Expansion (CEQA: Approve Addendum to the ASR EIR/EA for the Backflush Expansion under CEQA Guideline Sections 15162 and 15164)**  
*Action: The Board will consider approval of a CEQA Addendum for the Backflush Basin Expansion which will be identified as Addendum 4 to the ASR EIR/EA.*

- 17. Consider Declaring Monterey County Zoning Ordinance Inapplicable to the Sleepy Hollow Steelhead Rearing Facility Upgrade (CEQA: Does not constitute a “Project” per California Environmental Quality Act (CEQA) Guidelines 15378 (b))**  
*Action: The Board will consider whether to exempt construction activities proposed to upgrade the Sleepy Hollow Steelhead Rearing Facility from complying with Monterey County zoning ordinances under Government Code Section 53096.*

**ACTION ITEMS** – Public comment will be received on each of these items. Please limit your comment to three (3) minutes per item.

- 18. Consider Expenditure to Contract for Construction and Related Services for the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project (CEQA: The Board certified the Final Initial Study/Mitigated Negative Declaration for this project and adopted the Mitigation and Monitoring and Reporting Plan on November 14, 2016.)**  
*Action: The Board will consider approval of a contract to upgrade the raw water intake and water supply system at the Sleepy Hollow Steelhead Rearing Facility.*

- 19. Consider Expenditure for the Santa Margarita Backflush Basin Expansion Project Construction and Support Services (CEQA: A Resolution to adopt an addendum to the ASR EIR/EA for this project will be presented to the Board on July 16, 2018 in advance of the request for the Board to approve this project. See agenda item 16.)**  
*Action: The Board will consider approval of funds to complete the Santa Margarita Backflush Expansion Project. See related agenda item 16.*

**INFORMATIONAL ITEMS/STAFF REPORTS** - The public may address the Board on Information Items and Staff Reports during the Oral Communications portion of the meeting. Please limit your comments to three minutes.

- 20. Letters Received Supplemental Letter Packet
- 21. Committee Reports
- 22. Monthly Allocation Report
- 23. Quarterly Water Use Credit Transfer Status Report
- 24. Water Conservation Program Report
- 25. Carmel River Fishery Report
- 26. Quarterly Carmel River Riparian Corridor Management Program Report
- 27. Monthly Water Supply and California American Water Production Report

**ADJOURNMENT**

Board Meeting Broadcast Schedule – Comcast Channels 25 & 28	
View Live Webcast at <a href="http://Ampmedia.org">Ampmedia.org</a>	
Ch. 25, Mondays, 7 PM	Monterey, Del Rey Oaks, Pacific Grove, Sand City, Seaside
Ch. 25, Mondays, 7 PM	Carmel, Carmel Valley, Del Rey Oaks, Monterey, Pacific Grove, Pebble Beach, Sand City, Seaside
Ch. 28, Mondays, 7 PM	Carmel, Carmel Valley, Del Rey Oaks, Monterey, Pacific Grove, Pebble Beach, Sand City, Seaside
Ch. 28, Fridays, 9 AM	Carmel, Carmel Valley, Del Rey Oaks, Monterey, Pacific Grove, Pebble Beach, Sand City, Seaside

Upcoming Board Meetings			
Monday, August 20, 2018	Regular Board Meeting	7:00 pm	District conference room
Monday, September 17, 2018	Regular Board Meeting	7:00 pm	District conference room
Monday, October 15, 2018	Regular Board Meeting	7:00 pm	District conference room

Upon request, MPWMD will make a reasonable effort to provide written agenda materials in appropriate alternative formats, or disability-related modification or accommodation, including auxiliary aids or services, to enable individuals with disabilities to participate in public meetings. MPWMD will also make a reasonable effort to provide translation services upon request. Please submit a written request, including your name, mailing address, phone number and brief description of the requested materials and preferred alternative format or auxiliary aid or service by 5:00 PM on Thursday, July 12, 2018. Requests should be sent to the Board Secretary, MPWMD, P.O. Box 85, Monterey, CA, 93942. You may also fax your request to the Administrative Services Division at 831-644-9560, or call 831-658-5600.

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**ITEM: CONSENT CALENDAR**

**1. CONSIDER ADOPTION OF MINUTES OF THE JUNE 18, 2018 REGULAR BOARD MEETING**

**Meeting Date:** July 16, 2018 **Budgeted:** N/A

**From:** David J. Stoldt, **Program/** N/A  
**General Manager** **Line Item No.:**

**Prepared By:** Arlene Tavani **Cost Estimate:** N/A

**General Counsel Review:** N/A

**Committee Recommendation:** N/A

**CEQA Compliance:** This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.

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**SUMMARY:** Attached as **Exhibit 1-A** are draft minutes of the June 18, 2018 Regular meeting of the Board.

**RECOMMENDATION:** District staff recommends approval of the minutes with adoption of the Consent Calendar.

**EXHIBIT**

**1-A** Draft Minutes of the June 18, 2018 Regular Meeting of the Board of Directors



EXHIBIT 1-A

DRAFT MINUTES  
**Regular Meeting**  
**Board of Directors**  
 Monterey Peninsula Water Management District  
*June 18, 2018*

The meeting was called to order at 7:00 pm in the MPWMD conference room.

**CALL TO ORDER/ROLL CALL***Directors Present:*

Andrew Clarke – Chair, Division 2  
 Ralph Rubio – Vice Chair, Mayoral Representative  
 Brenda Lewis, Division 1  
 Mary Adams – Monterey County Board of Supervisors Rep.

*Directors Absent:*

Molly Evans – Division 3  
 Jeanne Byrne – Division 4  
 Robert S. Brower, Sr. –Division 5

*General Manager present:* David J. Stoldt

*District Counsel present:* David Laredo

The assembly recited the Pledge of Allegiance.

**PLEDGE OF ALLEGIANCE**

On a motion by Rubio and second of Lewis, an Attorney's Report was added to the Board meeting agenda so that District Counsel could report on the 6:30 pm Closed Session. The motion was approved unanimously on a vote of 4 – 0 by Directors Adams, Clarke, Lewis and Rubio. Directors Brower, Byrne and Evans were absent.

**ADDITIONS AND CORRECTIONS TO AGENDA**

The following comments were directed to the Board during Oral Communications. **(A) Dan Turner** referenced a document titled "Top Ten Most Expensive Water Providers in the Country: 2017 Update" which categorized California-American Water as number 1 on the list. He noted that agencies shown as numbers 2 and 3 on the list advised him that their costs were high because of water purchases from the State due to drought conditions. Mr. Turner stated that Cal-Am does not purchase the water it distributes to local water users, yet costs to the ratepayer are high. **(B) Tom Rowley** stated that he could not trust the accuracy of data compiled by Food and Water Watch that was referenced by Dan Turner.

**ORAL COMMUNICATIONS**

On a motion by Adams and second of Rubio, the Consent Calendar was adopted unanimously on a vote of 4 – 0 by Directors Adams, Rubio, Clarke and Lewis. Directors Brower, Byrne and Evans were absent.

**CONSENT CALENDAR**

- |   |   |
|---|---|
| Adopted.  | <b>1. Consider Adoption of Minutes from the May 21, 2018 Regular Meeting of the Board of Directors</b>  |
| Adopted.  | <b>2. Consider Adoption of Resolution 2018-11 to Provide Further Direction to Monterey County Elections Department Related to the Public Water Now Initiative</b>   |
| Approved expenditure of \$160,000.                          | <b>3. Consider Approval of Service Agreement for the Provision of Election Services with Monterey County Registrar of Voters for November 6, 2018 General Election</b>  |
| Approved increase in indemnification level up to \$300,000. | <b>4. Consider Authorizing the General Manager to Increase the Level of Indemnification in a Right-of-Entry and Project Permission Agreement with Quail Lodge, Inc. for the Carmel River Bank Stabilization Project at Rancho San Carlos Road</b> |
| Approved expenditure of \$60,000.                           | <b>5. Consider Approval of Expenditure for Phone System and Server Network Upgrade</b>  |
| Approved expenditure of \$70,000.                           | <b>6. Consider Approval of Amendment No. 2 to Agreement with Regional Government Services Authority for Management and Administrative Services</b>  |
| Approved expenditure of \$25,000.                           | <b>7. Consider Expenditure for Temporary Agency Employee to Assist with Electronic Document Storage During FY 2018-2019</b>   |
| Approved expenditure of \$35,000.                           | <b>8. Consider Approval of Agreement with Lynx Technologies for Geographic Information System (GIS) Services</b>  |
| Approved expenditure of \$46,500.                           | <b>9. Authorize Funds to Contract for Limited-Term Field Positions During FY 2018-2019</b>  |
| Approved expenditure of \$50,000.                           | <b>10. Consider Approval of Three Temporary Field Staff Positions Funded Through the Interagency Contract Between MPWMD and NMFS to Provide for a Cooperative Research and Monitoring Projects</b>  |



Approved expenditure of \$20,000.

**11. Consider Approval to Purchase Expendable PIT Tags and Other Disposable Tagging Supplies for the Remainder of Calendar Year 2018**

Approved expenditure of \$14,000.

**12. Consider Renewal of Standard License Agreement with CoreLogic Information Solutions, Inc.**

Approved expenditure of \$40,000.

**13. Approve Expenditure to Corporation Service Company - Recording Fees**

Approved expenditure of \$97,600.

**14. Authorize Expenditure for Software Maintenance Agreements for FY 2018-2019**

Approved expenditure of \$25,000.

**15. Consider Expenditure for Water Conservation Messaging Materials**

Approved expenditure of \$700,000.

**16. Consider Funding Rebates in the California American Water System Between July 1, 2018 and the Availability of Funding from the Cal-Am General Rate Case**

Approved expenditure of \$60,000.

**17. Consider Continuance of Contract with Zone 24x7 for Water Demand Database Improvements and Maintenance**

Approved expenditure of \$2,000.

**18. Consider Expenditure to Amend Contract with Pueblo Water Resources to Provide Hydrogeologic Review for Water Distribution System Permits**

Approved expenditure of \$35,000.

**19. Consider Renewal of Contract with JEA & Associates for Legislative and Administrative Services**

Approved expenditure of \$99,500.

**20. Consider Renewal of Contract with Ferguson Group for Legislative and Administrative Services**

Approved expenditure of \$19,652.

**21. Consider Entering Into an Agreement for an Addendum to the MPWMD Aquifer Storage and Recovery Project Environmental Impact Report/Environmental Assessment**

Approved expenditure of \$44,000.

**22. Consider Entering Into Agreements for ASR Expansion Project Storm Water Pollution Prevention Plan**

### Development and Monitoring Services

Approved expenditure of \$42,000.

23. **Consider Renewal of Contract for District Public Outreach and Communications Services with TBC Communications and Media**

Adopted.

24. **Consider Adoption of Resolution 2018-12 Certifying Compliance with State Law with Respect to the Levying of General and Special Taxes, Assessments, and Property-Related Fees and Charges**

Adopted.

25. **Consider Adoption of Resolution 2018-13 Establishing Article XIII (B) Fiscal Year 2018-2019 Appropriations Limit**

Adopted.

26. **Consider Adoption of Resolution 2018-14 Update to Rule 24, Table 3, Capacity Fee History**

Adopted.

27. **Consider Adoption of Treasurer's Report for April 2018**

### GENERAL MANAGER'S REPORT

A summary of General Manager Stoldt's report is on file at the District office and can be viewed on the agency's website. Mr. Stoldt noted that in May 2018, production from the Sand City Desalination plant was 25 acre-feet, which is the first month in 2018 that the project has produced the budgeted amount. For the period of October 1, 2017 the June 1, 2018, rainfall totaled 13.52 inches which is 65% of the long-term average and is defined as dry-year conditions. For the same time period, streamflow was measured at 30,000 acre-feet which is 40% of long-term average and is defined as below normal conditions. Storage remains at 96% of long-term average.

28. **Status Report on California American Water Compliance with State Water Resources Control Board Order 2016-0016 and Seaside Groundwater Basin Adjudication Decision**

A summary of General Manager Stoldt's report is on file at the District office and can be viewed on the agency's website. He noted that by August 1, 2018 the California Public Utilities Commission (CPUC) should issue a proposed decision on a Certificate of Public Necessity and Convenience for the desalination plant proposed by California-American Water. In September 2018 the final decision should be issued.

29. **Update on Development of Water Supply Alternatives**

District Counsel Laredo reported that he provided a status report to the Board on Item 3 and received general direction. No reportable action was taken.

### ATTORNEY'S REPORT

**Report on 6:30 pm Closed Session of the Board**

**3. Conference with Legal Counsel – Existing Litigation (Gov. Code 54956.9(a))**

Application of California American Water to CPUC (No. 12-04-019) – Monterey Peninsula Water Supply Project

**DIRECTORS' REPORTS (INCLUDING AB 1234 REPORTS ON TRIPS, CONFERENCE ATTENDANCE AND MEETINGS)**

No reports were presented.

**30. Oral Reports on Activities of County, Cities, Other Agencies/Committees/Associations**

**PUBLIC HEARINGS**

On a motion by Rubio and second of Lewis, the July through September 2018 Quarterly Water Supply Strategy and Budget was adopted on a unanimous vote of 4 – 0 by Directors Adams, Clarke, Lewis and Rubio. Directors Brower, Byrne and Evans were absent. No comments were directed to the Board during the public hearing on this item.

**31. Consider Adoption of July through September 2018 Quarterly Water Supply Strategy and Budget**

On a motion by Rubio and second of Adams, the FY 2018-19 MPWMD Budget and Resolution No. 2018-10 were adopted on a unanimous vote of 4 – 0 by Directors Adams, Clarke, Lewis and Rubio. Directors Brower, Byrne and Evans were absent. No comments were directed to the Board during the public hearing on this item.

**32. Consider Adoption of Proposed FY 2018-19 MPWMD Budget and Resolution 2018-10**

Not a project – CEQA Section 15378

Director Rubio offered a motion that was seconded by Director Lewis to authorize \$2 million from reimbursement of preconstruction costs to be reserved as contingency for Monterey One Water to be used towards the Pure Water Monterey Project. The motion was approved on a unanimous vote of 4 – 0 by Directors Adams, Clarke, Lewis and Rubio. Directors Brower, Byrne and Evans were absent.

**ACTION ITEMS**

**33. Consider Authorization to Provide Funds to Monterey One Water for the Pure Water Monterey Project**

Tom Rowley, representing the Monterey Peninsula Taxpayers Association (MPTA), addressed the Board during the public comment period on this item. He stated that the entire cost for Pure Water Monterey Project (PWM) construction was not clearly defined, because the cost for construction of a new pipeline that would be used by PWM and the MPWSP desalination plant is being charged to the desalination project. Rowley opined that funding a project without voter approval was a violation of the District's enabling legislation.

There was no discussion of these items.

**INFORMATIONAL ITEMS/STAFF REPORTS**

- 34. Letters Received**
- 35. Committee Report**
- 36. Monthly Allocation Report**

- 37. Water Conservation Program Report**
- 38. Carmel River Fishery Report**
- 39. Monthly Water Supply and California American Water Production Report**

The meeting was adjourned at 8:05 pm.

**ADJOURNMENT**

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Arlene M. Tavani, Deputy District Secretary

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**ITEM: CONSENT CALENDAR****2. CONSIDER APPROVAL OF AMENDMENT TO LICENSE AGREEMENT WITH CALIFORNIA AMERICAN WATER FOR THE SLEEPY HOLLOW STEELHEAD FACILITY UPGRADE****Meeting Date:** July 16, 2018 **Budgeted:** N/A**From:** David J. Stoldt,  
General Manager **Program/** N/A  
**Line Item No.:****Prepared By:** Larry Hampson **Cost Estimate:** N/A**General Counsel Approval:** N/A**Committee Recommendation:** The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.**CEQA Compliance:** This action does not constitute a project as defined by the California Environmental Quality Act Guidelines 15378.**SUMMARY:** This item is to request authority for the General Manager to execute an amendment to an existing license agreement with California American Water (Cal-Am) to allow an upgrade of the Sleepy Hollow Steelhead Rearing Facility (SHSRF). A draft amendment is attached as **Exhibit 2-A**.**RECOMMENDATION:** Authorize the General Manager to amend an existing license agreement with California American Water to allow the District to upgrade the Sleepy Hollow Steelhead Rearing Facility.**DISCUSSION:** An upgrade of the intake at the SHSRF was first identified in 2001 and has been a high priority project to improve management of steelhead since 2005. The National Marine Fisheries Service and the California Department of Fish and Wildlife have requested that MPWMD allow steelhead to remain longer at the facility than current operational capability allows. The upgrade project addresses three conditions that can force a shutdown of the facility: 1) extreme low flow during droughts; 2) increased sediment and debris flow since the removal of San Clemente Dam; and 3) high flows in early winter before steelhead are ready to be released.**IMPACT TO STAFF/RESOURCES:** There are no immediate costs associated with this agreement. If Cal-Am is sued in the future over the upgrade project, the District would be obligated to defend Cal-Am against claims for damages.**EXHIBIT****2-A** First Amendment to License Agreement for Sleepy Hollow Fish Rearing Facility



**FIRST AMENDMENT TO  
LICENSE AGREEMENT  
FOR SLEEPY HOLLOW FISH REARING FACILITY**

This First Amendment to License Agreement for Sleepy Hollow Fish Rearing Facility ("**First Amendment**") is entered into by and between California-American Water Company, a California corporation ("**Company**"), and the Monterey Peninsula Water Management District, a governmental entity ("**District**") (each of whom is sometimes individually referred to herein as a "**Party**" and collectively as the "**Parties**"), with reference to the following:

**WHEREAS**, effective May 5, 1994, Company and District entered into a License Agreement pursuant to which District constructed and operates a fish rearing and holding facility located on certain real property owned by Company ("**Agreement**");

**WHEREAS**, pursuant to Section 2 of the Agreement, the term has been renewed by District four (4) times, with the current five (5) year renewal period expiring December 4, 2020;

**WHEREAS**, District desires to construct the *Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project* ("**Project**") on the Licensed Property, and to use other Company property identified herein for disposal of soil from Project excavations;

**WHEREAS**, the Agreement provides that District is prohibited from making any improvements on the Licensed Property without the prior written consent of Company, which consent may be withheld or granted in Company's sole and absolute discretion; and

**WHEREAS**, Company is willing to consent to District's construction and operation of the Project on the Licensed Property and disposal of excavated soil from the Project site under the terms and conditions set forth in this First Amendment.

**NOW, THEREFORE**, in consideration of the above Recitals, which are true and correct and incorporated herein by this reference, and of the mutual covenants and conditions set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

**AMENDMENT**

1. Consent to Project. In accordance with Section 5(f) of the Agreement, Company hereby consents to construction and operation of the Project on the Licensed Property as the Project is described in that certain *Initial Study/Mitigated Negative Declaration, Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project* dated February 2017 ("**MND**"), which MND was certified by District on November 14, 2016, corrected in an addendum thereto certified by District on January 25,

2017, modified in an addendum thereto certified by the State Coastal Conservancy on November 30, 2017, and modified by an addendum thereto certified by District on July 16, 2018, all of which are incorporated herein by this reference. This consent is subject to the conditions subsequent that District and its contractors shall: (a) only access the Licensed Property using the Tularcitos High Road; (b) at all times comply with Company's security procedures; (c) not use any portion of Assessor's Parcel Number 197-081-033-000 ("**Parcel 033**") for Project staging or storage without the prior written approval of Company, which approval may be withheld in Company's sole discretion.

2. Disposal of Excavated Soil. Company hereby consents to the disposal of soil excavated from the Project site on Parcel 033, subject to the conditions precedent that District shall: (a) obtain Company's written approval of a soil disposal plan ("**Disposal Plan**"); and (b) implement the Disposal Plan to the reasonable satisfaction of Company. At a minimum, the Disposal Plan must identify: (i) pre-Project and post-Project erosion control measures; (ii) specific disposal location(s); (iii) dimensions of soil deposits; (iv) planting requirements for each disposal location; and (v) plant establishment period(s).

3. Indemnification. As a material part of the consideration to Company for the consent provided in paragraphs 1 and 2 of this First Amendment, and notwithstanding any provision in the Agreement to the contrary, District agrees, to the fullest extent permitted by law, to defend, indemnify, and hold harmless Company, including its directors, officers, employees and agents, from and against all claims, damages, losses and expenses, direct, indirect or consequential (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration or other dispute resolution costs) arising out of, resulting from, or related in any way to the Project (collectively, "**Claims**") (including any Claims related to compliance with the California Environmental Quality Act, use of access roads or Company property, or the disposal of soil excavated from the Project site), excepting therefrom any Claims caused by the sole negligence or willful misconduct of Company.

4. Insurance. Section 12 of the Agreement, *Company as Additional Insured*, is amended by adding the following:

12. Effective July 1, 2018, in lieu of the foregoing, at all times during the term of the Agreement, Company and District shall respectively: (i) keep in force at a minimum the insurance coverages in the amounts set forth on Exhibit INS-1; and (ii) include the other as additional insured as set forth on Exhibit INS-1. Further, District shall: (a) require its contractors performing any work on the Licensed Property to obtain and keep in force at a minimum the insurance coverages in the amounts set forth on Exhibit INS-2, or as otherwise accepted in writing by Company; and (b) require its contractors to include Company as additional insured as set forth on Exhibit INS-2.

5. Compliance with Law. District shall comply, and shall require its contractors and agents to comply, with all laws applicable to construction and operation of the Project.



- 6. Definitions. All capitalized terms not defined herein shall have the meanings set forth in the Agreement.
- 7. Exhibits. All Exhibits referenced in this First Amendment are attached hereto and incorporated herein.
- 8. Continuity. Except as expressly and explicitly set forth in this First Amendment, all terms and conditions of the Agreement shall remain and continue in full force and effect.
- 9. Effective Date. This First Amendment shall be effective on the date it has been executed by both Parties.
- 10. Counterparts. This First Amendment may be executed in counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument and the signature of a Party may be sent by facsimile or other electronic transmission and shall be deemed to constitute an original and fully effective signature of such Party.

IN WITNESS WHEREOF, this First Amendment has been executed by the duly authorized representatives of the Parties.

**MONTEREY PENINSULA WATER  
MANAGEMENT DISTRICT**

**CALIFORNIA-AMERICAN WATER  
COMPANY**

By: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT INS-1**

DRAFT

**EXHIBIT INS-2**

DRAFT



**ITEM: CONSENT CALENDAR****3. CONSIDER EXPENDITURE TO CONTRACT FOR CONSTRUCTION AND RELATED SERVICES TO COMPLETE THE CARMEL RIVER BANK STABILIZATION AT RANCHO SAN CARLOS ROAD PROJECT (CEQA: An Addendum for this project was approved by the Board on March 19, 2018.)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>Yes, partially</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/</b>	<b>Protect Environmental Quality</b>
		<b>Line Item No.:</b>	<b>2-2-1</b>
<b>Prepared By:</b>	<b>Larry Hampson</b>	<b>Cost Estimate:</b>	<b>Up to \$907,000</b>

**General Counsel Review: N/A****Committee Recommendation: The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.****CEQA Compliance: An Addendum for this project was approved by the Board on March 19, 2018.**

**SUMMARY:** Staff proposes to complete a streambank stabilization project along the Carmel River downstream of the Rancho San Carlos Road Bridge, about four miles east of the Pacific Ocean. Project work includes 300 cubic yards of excavation, 225 cubic yards of imported fill, import and placement of 950 tons of rock riprap, installation of 160 lineal feet of log crib wall, installation of 60 lineal feet of logs and boulders, seeding and installation of erosion control fabric. The District advertised for bids during the month of June 2018 and received three bids, with the lowest bidder being Empire Landscaping, Inc. at a cost of \$517,365 as shown in **Exhibit 3-A**. Additional work and the total estimated costs to construct the project with the low bidder are \$632,000, which includes a contingency amount of \$82,635 or about 15% of the project cost. The cost of completing the project with the next highest bidder is estimated at \$907,000, which is \$107,000 more than the FY 2018-19 budget for the project.

**RECOMMENDATION:** The Board of Directors should take the following action:

1. Authorize the General Manager to enter into a contract with Empire Landscaping, Inc., for construction of the Carmel River Bank Stabilization at Rancho San Carlos Road Project at a cost of \$517,365.
2. Authorize the General Manager to approve service contracts for associated tasks for up to \$32,000.
3. Authorize the General Manager to approve change orders to the construction and service contracts or for new service contracts for the Project to allow for unforeseen items up to a total amount of \$82,635.

4. Should the District be unable to contract with Empire Landscaping, Inc, and need to contract with the next highest bidder, the General Manager would be authorized to execute contracts for up to \$907,000.

**DISCUSSION:** The proposed Carmel River Bank Stabilization at Rancho San Carlos Road Project (RSC Project) is located at River Mile 3.8 (measured from the Pacific Ocean) just downstream of the Rancho San Carlos Road Bridge. The project area contains two eroding stream banks almost opposite from each other. Concern for the stability of the right bank (looking downstream) on APN 015-251-027, Moratz Property started in 2011 and interim measures such as jute netting, willow planting, and irrigation were carried out in an effort to stabilize the bank. In February of 2017, during a high flow event of 9,570 cubic feet per second at the U.S.G.S Near Carmel gage, the left bank along APN 157-121-027, Quail Lodge Property experienced significant erosion and up to about 55 feet of streambank was eroded along 300 lineal feet.

During the high flows, numerous large cottonwood trees toppled out of the river bank and culturally significant Santa Barbara Sedge beds were lost. Currently, the left bank is vulnerable to erosion from high flows because it has lost its protective vegetative cover and is on the outside of a meander bend in an area that can erode during high flows. Because these vulnerable streambanks are so close together, work on one bank can impact the other. Therefore, a comprehensive project addressing both banks is being proposed.

A log crib wall will protect the most severely damaged portion of the left bank. Logs with rootwads and boulders will be placed along the right side of the project area to protect the streambank. Disturbed areas will be seeded and replanted with native riparian cuttings. An irrigation system will be installed and maintained by the District.

Staff has applied for necessary permits from local, state and federal agencies. At their March 19, 2018 meeting, the Board of Directors adopted findings and certified an Addendum to the Carmel River Management Program Environmental Impact Report. MPWMD has requested affected property owners enter into a 10-year maintenance and access agreement to carry out the project. All authorizations will need to be complete before the Contractor is given a Notice to Proceed with the Project.

Table 1 – Summary of Costs for Low Bidder

Construction	\$ 517,365
Establish Survey Control	\$ 2,000
Inspection/testing	\$ 5,000
Record Drawings	\$ 25,000
Contingency (15%)	\$ 82,635
<b>Total</b>	<b>\$ 632,000</b>

The District received two additional bids from the Mercer-Fraser Company for \$794,980 and from Graniterock for \$799,677.50. The low bidder, Empire Landscaping, Inc., clarified bid documents by informing the District about which firms would be used for archeological monitoring and

testing services.

Should the District be unsuccessful in executing a contract with Empire Landscaping, Inc., the District could elect to contract with the next highest bidder. The estimated costs of the project for contracting with the Mercer-Fraser Company would be \$827,000 and would include a 10% contingency as shown in Table 2 below.

Table 2 – Summary of Costs for Next Highest Bidder

Construction	\$ 794,980
Establish Survey Control	\$ 2,000
Inspection/testing	\$ 5,000
Record Drawings	\$ 25,000
Contingency	\$ 80,020
<b>Total</b>	<b>\$ 907,000</b>

**IMPACTS ON STAFF AND RESOURCES:** The FY 2018-19 budgeted amount for this project is \$800,000. Several District staff will be involved in the project assisting with project management, inspections, permit compliance, fish rescue, revegetation, and monitoring. The work will be performed under the direction of the District Engineer.

#### **EXHIBITS**

**3-A** Bid for Construction from Empire Landscaping, Inc.

**3-B** Email correspondence concerning services





**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
MONTEREY COUNTY, CALIFORNIA**

**BID TO PROVIDE CARMEL RIVER BANK STABILIZATION  
AT RANCHO SAN CARLOS ROAD**

Monterey Peninsula Water Management District  
5 Harris Court Bldg. G, Monterey CA 93940  
or  
P.O. Box 85, Monterey, CA 93942-0085

Ladies and Gentlemen:

Pursuant to the foregoing Notice Inviting Sealed Bids, the undersigned hereby proposes and binds himself by the District, under this Bid, to execute in accordance with such award, a contract of which this Bid and the Specifications shall be a part, to furnish any and all labor, materials, equipment, and services necessary for satisfactory performance and completing the work set forth in said Specifications within the time hereinafter set forth and at the prices named in this bid as follows\*:

## BID FORM – REVISED June 19, 2018

Item	Description	Quantity	Unit	Unit Cost	Total Cost
	<b>Mobilization and General Conditions</b>				
1	Mobilization/demobilization	1	LS	50.000	50.000
2	Demolition	1	LS	50.000	50.000
3	Erosion Control & Exclusionary Fencing	1	LS	20.000	20.000
4	Temporary Construction Ramp	1	LS	5.000	5.000
	<b>Log Cribwall - left bank</b>				
5	Excavation <sup>1</sup>	1	LS	20.000	20.000
6	Fill <sup>2</sup>	225	CY	150	33.750
7	15' x 9" Logs	36	EA	800	28.800
8	15' x 12" Logs	36	EA	900	32.400
9	15' x 15" Logs	41	EA	1000	41.000
10	15' x 15" Logs with Rootwads	5	EA	1500	7.500
11	1.5-ton Boulders	525	TON	100	52.500
12	1-ton Boulders	232	TON	70	16.240
13	1/2-ton Boulders	87.5	TON	50	4.375
14	Bolted Connections	1	LS	10.000	10.000
15	Channel Bed Fill	1	LS	15.000	15.000
16	Construct Cribwall	1	LS	55.000	55.000
	<b>Right Bank Stabilization</b>				
17	Excavation <sup>1</sup>	1	LS	10.000	10.000
18	Fill <sup>2</sup>	1	LS	10.000	10.000
19	Bank Logs (18' x 18")	3	EA	1.500	4.500
20	Footer Logs (18' x 18")	2	EA	2.000	4.000
21	1.5-ton Boulders	108	TON	100	10.800
22	Duckbill anchor	3	EA	300	900
23	8-inch marine screw anchor	3	EA	300	900
24	Construct RB stabilization	1	LS	5000	5000
25	<b>Hydroseeding</b>	1	LS	20.000	20.000
26	<b>Erosion Control Blanket</b>	4,700	SF	1	4700
27	<b>Temporary Diversion and Dewatering<sup>3</sup></b>	1	LS	5000	5000
	<b>Total</b>				<b>517.365</b>

1. Left bank excavation = 225 CY. Right bank excavation = 55 CY. Anticipated to produce channel bed fill.

2. Imported from off-site at either Santa Lucia Preserve or Sleepy Hollow Facility.

3. To be paid only if there is water in the channel at the time of construction.

\* Upon award, this Bid Form shall become a part of the final contract

The undersigned has examined the location of the proposed work and/or is familiar with the Specifications and the local conditions in the place where the work is to be done.

The undersigned has checked carefully all the above figures and understands that the District shall not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned understands that the District reserves the right to reject any or all bids, and to waive any irregularities or informalities in bids received. Award shall be made which, in the judgement of the District, is to the best interest of the District. It is agreed that this bid may not be withdrawn within a period of 180 days after the date set for the opening thereof.

In accordance with the Construction Specifications, the undersigned further agrees to so plan the work and prosecute it with such diligence that said work shall be commenced within 10 days after issuance of the notice to proceed, and the work shall be completed by October 31, 2018.

The undersigned agrees, if awarded the contract, that there shall be paid by the undersigned and all subcontractors under him, to all laborers, workmen, and mechanics employed in the execution of such contract or any subcontract thereunder, not less than the general prevailing rate of per diem wages, and rates for overtime and legal holidays in the locality in which the work is to be performed, as established by the State Director of the Department of Industrial Relations.

The undersigned or his or her subcontractors currently possess and agree to maintain valid **Contractor's Licenses** issued by the State of California necessary to prosecute the work.

Bidder: Empire Landscaping Inc Tax I.D.Number: 45-2854540  
Business Address: 979 F street suite # A Davis CA 95616.  
List all Contractor's License No.: 811554  
Telephone: (530) 400-3943  
e-mail: empirelandscaping@icbud.com  
By: Ahmet Gulcu Dated: 6-28-2018  
Title: President


This form to be submitted with the bid.

**BIDDER'S EXPERIENCE QUALIFICATIONS**

The Bidder has been engaged in the contracting business, under the present business name for years. Experience in work of a nature similar to that covered in the bid extends over a period of years. **The Bidder must demonstrate successful completion of at least one project involving heavy construction work in a live stream containing steelhead or other salmonid species.**

The bidder, as a contractor, has never failed to satisfactorily complete a contract awarded to him, except as follows:

Year	Type of Work	Contract Amount	Location and for Whom Performed
2017	Aquatic Riparian habitat creation	558,424	Sacramento Flood Control Agency Sacramento CA
2018	mitigation Re-vegetation	509,167	Napa County Napa CA
2013	Riparian Mitigation Project	506,108	XXI. Sacramento CA

Bidder Ahmet Gulcu  
 Signed   
 Title President  
 Date 6-28-2018

This form to be submitted with the bid.

**SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS**

The subcontractor has been engaged in the contracting business, under the present business name for \_\_\_\_\_ years. Experience in work of a nature similar to that covered in the bid extends over a period of \_\_\_\_\_ years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

\_\_\_\_\_

Please indicate for whom the work was conducted, the type of work, and who can be contacted as a reference for the work:

Year	Type of Work	Contract Amount	Location and for Whom Performed
<i>No Sub Contractors</i>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please attach additional sheet(s) as needed.

Signed *[Signature]*  
Title *President*  
Date *6-28-2018*

This form to be submitted with the bid.

**SECURITY FOR COMPENSATION CERTIFICATION**

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract:

6-28-2018

Date



(Signature of Bidder)

Business Address:

Empire Landscaping Inc.  
979 F Street Suite #A  
Davis CA 95616

Place of Residence:

Empire Landscaping Inc.  
979 F Street Suite #A  
Davis CA 95616


(This certificate must be executed by the successful bidder prior to the award of Contract.)

**FAIR EMPLOYMENT PRACTICES CERTIFICATION**

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

The undersigned, in submitting a bid for performing the following work by Contract, hereby certifies that he has or shall meet the standards of affirmative compliance with Fair Employment Practices requirements of the special provisions contained herein:

6-28-2018  
Date

  
(Signature of Bidder)

Business Address:

Empire Landscaping Inc.  
979 F street Suite #A  
Davis CA 95616.

Place of Residence:

Empire Landscaping Inc.  
979 F street Suite #A  
Davis CA 95616

(This certification must be executed by the successful bidder prior to the award of the Contract.)

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California )
) ss.
County of Yolo )

Ahmet Gulcu
being first duly sworn, deposes and says that he or she is President of the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true, and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

[Handwritten Signature]
Signature

6-28-2018
Date

The title of the affidavit provides that it is "to be executed by bidder and submitted with the bid."



**BID BOND            TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA**  
Hartford, Connecticut 06183

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KNOWN ALL BY THESE PRESENTS, That we, EMPIRE LANDSCAPING, INC., as Principal, and Travelers Casualty and Surety Company of America, as Surety, are held and firmly bound unto MONTEREY PENINSULA WATER MANAGEMENT DISTRICT , as Obligee, in the sum of **\*\*TEN PERCENT (10%) OF AMOUNT BID\*\*** Dollars (\$\*\*10%\*\*\*) for the payment of which we bind ourselves, and our successors and assigns, jointly and severally, as provided herein.

WHEREAS, Principal has submitted or is about to submit a bid to the Obligee on a contract for Carmel River Bank Stabilization at Rancho San Carlos Road ("Project").

NOW, THEREFORE, the condition of this bond is that if Obligee accepts Principal's bid, and Principal enters into a contract with Obligee in conformance with the terms of the bid and provides such bond or bonds as may be specified in the bidding or contract documents, then this obligation shall be void; otherwise Principal and Surety will pay to Obligee the difference between the amount of Principal's bid and the amount for which Obligee shall in good faith contract with another person or entity to perform the work covered by Principal's bid, but in no event shall Surety's and Principal's liability exceed the penal sum of this bond.

Signed this 29th day of May, 2018.

**EMPIRE LANDSCAPING, INC.**  
(Principal)

By:   
Ahmet Gulus President 5-28-18

Travelers Casualty and Surety Company of America

By:   
Karen Amin, Attorney-in-Fact

### ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of San Joaquin )

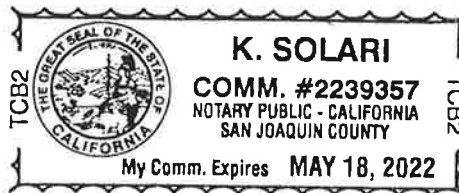
On May 29, 2018 before me, K. Solari, Notary Public  
(insert name and title of the officer)

personally appeared Karen Amin  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~  
subscribed to the within instrument and acknowledged to me that he/~~she~~/~~they~~ executed the same in  
his/~~her~~/~~their~~ authorized capacity(~~ies~~), and that by his/~~her~~/~~their~~ signature(s) on the instrument the  
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature  (Seal)



**EXHIBIT 3-A**  
**TRAVELERS**

**POWER OF ATTORNEY**

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
St. Paul Fire and Marine Insurance Company  
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company

Attorney-In Fact No. 228630

Certificate No. 007075140

**KNOW ALL MEN BY THESE PRESENTS:** That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Daniel M. Connolly, Karen Amin, David Schnapp, and Jennifer Loper

of the City of Lodi, State of California, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 20th day of December, 2016.

Farmington Casualty Company  
Fidelity and Guaranty Insurance Company  
Fidelity and Guaranty Insurance Underwriters, Inc.  
St. Paul Fire and Marine Insurance Company  
St. Paul Guardian Insurance Company

St. Paul Mercury Insurance Company  
Travelers Casualty and Surety Company  
Travelers Casualty and Surety Company of America  
United States Fidelity and Guaranty Company



State of Connecticut  
City of Hartford ss.

By: *Robert L. Raney*  
Robert L. Raney, Senior Vice President

On this the 20th day of December, 2016, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.  
My Commission expires the 30th day of June, 2021.



*Marie C. Tetreault*  
Marie C. Tetreault, Notary Public

**EXHIBIT 3-A**

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 29th day of May, 2018.

Kevin E. Hughes  
Kevin E. Hughes, Assistant Secretary



To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at [www.travelersbond.com](http://www.travelersbond.com). Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.



**BID ADDENDUM 1 – May 29, 2018**

**CARMEL RIVER BANK STABILIZATION  
AT RANCHO SAN CARLOS ROAD**

Item 1 – Labor Code Section 1776 Compliance

*The language below is to be incorporated into the Notice Inviting Sealed Bids and into Section 5 Wage Scale in the Contract for the work.*

“The Contract is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The prime contractor shall post job site notices, as prescribed by regulation. Each contractor and subcontractor shall furnish the records specified in Labor Code Section 1776 directly to the Labor Commissioner, in the manner prescribed under Section 1771.4.”

Item 2 – Add clarification concerning physical and mailing address for bid.

Item 3 – Correct numbering in Contract form, starting with 19.

Item 4 – Correct numbering in Special Conditions starting with 15.

Item 5 – SECTION 01568 - EROSION AND POLLUTION CONTROLS

This section is amended to add the following specification:

6.4 HYDROSEED

Hydro seeding shall consist of mixing and applying seed, commercial fertilizer and stabilizing emulsion, or any combination thereof, with fiber and water. The Contractor shall supply all materials and equipment and shall apply the hydroseed mix in the locations specified on the construction drawings and as described below.

A. PAYMENT

Payment for this item shall be the price as established in the Bid Schedule. Such payment shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the completion of the work.

B. ITEMS OF WORK AND CONSTRUCTION DETAILS

The Contractor shall mix seed, emulsion, fiber, and fertilizer in a tank with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous mixture and a discharge system which will apply the mixture at a continuous and uniform rate. The seed mix

Ahmet Gulcu

6.28-2018

**BID ADDENDUM 2 -- June 19, 2018****CARMEL RIVER BANK STABILIZATION  
AT RANCHO SAN CARLOS ROAD**

*The items below are to be incorporated into the Notice Inviting Sealed Bids and costs shown on the Bid Form.*

Item 8 – Access and staging at site (Bid Items 1, 2, 3, 4) – see also Figures below

- 1.1 Remove dead pine tree adjacent to fence on Rancho San Carlos Road and dispose offsite
- 1.2 Remove approximately 20 feet of fence on Rancho San Carlos Road
- 1.3 Install two 10-ft. gates with lock; match gate style to existing fence style; gates to open inward to staging area
- 1.4 Install temporary asphalt apron (20 ft. x 20 ft.); contractor to patch or fill as necessary to maintain a smooth transition from the temporary apron to Rancho San Carlos Road; remove as directed after project completion
- 1.5 Clear and grub inside fence to limits of cottonwood; remove cypress tree, poison oak, blackberry, fennel and other vegetation to allow access into the site and staging of materials
- 1.6 Protect live cottonwood and oak trees on perimeter of staging site with temporary high visibility fencing
- 1.7 Dispose cleared vegetation off-site
- 1.8 Install temporary high visibility fencing to limit access to sensitive species (Santa Barbara sedge) as shown on Sheet 3.0
- 1.9 Protect 36-inch cottonwood at access ramp; remove large limb from 36-inch cottonwood that blocks access to streambank; remove 18-inch cottonwood blocking access ramp; cottonwood pieces of 10-ft. or greater may be stockpile and placed into the channel bottom at the end of construction.
- 1.10 Hydroseed staging area at end of construction

Ahmet Gulcu



6-28-2018

From: Ahmet Gulcu <empirelandscaping@icloud.com>  
Sent: Monday, July 09, 2018 3:31 PM  
To: Thomas Christensen  
Cc: Larry Hampson; Ahmet Gulcu  
Subject: Re: Carmel River Bank Stabilization at Rancho San Carlos Road Project

Tomas,

We will be using for Archaeological monitoring

Stella D'Oro  
Senior Archaeologist M.A RPA  
Albion  
1414 Sequel Avenue Suite 205  
Sant Cruz CA 95062  
831-245-7504

For Soil compaction testing  
Taylor  
Soil Survey Group Inc  
103 Church Street  
Salinas CA 93901  
Ph 831-757-2172

Let me know if you need more information Thank you Ahmet Gulcu Empire Landscaping Inc  
530-400-3943





**ITEM: CONSENT CALENDAR****4. CONSIDER CONTRACT WITH PUEBLO WATER RESOURCES TO PROVIDE AQUIFER STORAGE AND RECOVERY OPERATIONAL SUPPORT**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>Yes</b>
<b>From:</b>	<b>David J. Stoldt General Manager</b>	<b>Program/ Line Item No.:</b>	<b>Water Supply Projects 1-2-1</b>
<b>Prepared By:</b>	<b>Jonathan Lear</b>	<b>Cost Estimate:</b>	<b>\$70,000</b>

**General Counsel Review: N/A****Committee Recommendation: The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.**

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**SUMMARY:** The District's Carmel River Aquifer Storage and Recovery (ASR) project is operated under a cooperative agreement between the District and California American Water (Cal-Am.) Under this agreement, the District operates the wells during the injection season and collects the data required to meet permit requirements for the State Water Resources Control Board Division of Water Rights (DWR) and the Regional Water Quality Control Board. The District also provides data to the Seaside Groundwater Basin Watermaster (Watermaster) related to the Storage and Recovery agreement between Cal-Am and the Watermaster. Pueblo Water Resources (PWR) is used to support District staff with the field work, data collection, and report preparation to operate the wells while injecting and comply with permit requirements.

**DISCUSSION:** Due to the seasonal nature of work associated with ASR operations, the District has opted to not hire full time operators, but to hire PWR as support staff on an as-needed basis. PWR will assist in field work, support data networks, and assist in the preparation of compliance reports. PWR has 15 years of experience in supporting this project and is familiar with the ASR procedures and regulations. Staff proposes to retain PWR to support the District with operations on an as-needed basis for the WY 2019 ASR season.

**RECOMMENDATION:** The Board should authorize the General Manager to enter into an agreement on an as-needed basis, not to exceed \$70,000 with PWR to support the District with WY 2019 ASR operations.

**BACKGROUND:** The District completes annual water quality monitoring at the ASR facilities as outlined in the ASR Sample and Analysis Plan, which is a requirement for project operations by the Regional Water Quality Control Board. The District also monitors and reports streamflow and diversion volumes to the DWR, NOAA Fisheries, and State Department of Fish and Wildlife for permit compliance. In addition, the District reports volumes of water injected and recovered to the Watermaster as required by the Storage and Recovery agreement between Cal-Am and the

Watermaster. The District has used PWR for 15 years to support the development and operation of the Carmel River ASR project.

**IMPACT TO STAFF/RESOURCES:** Funds for this project are included in the FY 2018-19 budget under “Water Supply Projects,” line item 1-2-1. Funds expended to complete this work will be shared between the District and Cal-Am through the ASR Management and Operations agreement between the District and Cal-Am. Staff time will be utilized to aid consultant in sample collection.

**EXHIBIT**

**4-A** Sample and Analysis Plan outlining annual ASR project monitoring as required by the Regional Water Quality Control Board



**MONTEREY PENINSULA  
AQUIFER STORAGE AND RECOVERY PROJECT  
SAMPLING AND ANALYSIS PLAN**

Prepared for:



December 2012



**MONTEREY PENINSULA  
AQUIFER STORAGE AND RECOVERY PROJECT  
  
GROUNDWATER SAMPLING AND ANALYSIS PLAN**

**INTRODUCTION**

This Groundwater Sampling and Analysis Plan (SAP) has been developed for the Monterey Peninsula Aquifer Storage and Recovery (ASR) Project. The project is cooperatively implemented by the Monterey Peninsula Water Management District (MPWMD or District) and California American Water (CAW), and generally involves the diversion of excess winter/spring flows from the Carmel River system for recharge, storage and subsequent recovery in the Seaside Groundwater Basin (SGB). Treated (potable) drinking water from the CAW distribution system is injected into the Santa Margarita Sandstone aquifer in the SGB via three existing ASR wells located at two ASR facilities in the SGB. The injected water is stored within the aquifer and subsequently recovered into the CAW distribution system during dry periods. The overall objective of the project is to facilitate the conjunctive use of water supplies in the Carmel River system and SGB that will benefit the resources of both systems.

ASR operations generally consist of three components or phases: (1) injection of drinking-quality water into the aquifer through the ASR wells; (2) storage of the injected water within the aquifer; and, (3) recovery of the stored water by pumping at one or more of the ASR wells. Periodic samples of the injected, stored, and recovered waters are to be collected from the ASR wells and associated monitoring wells and analyzed for a variety of water-quality constituents pursuant to requirements of the Central Coast Regional Water Quality Control Board (RWQCB) for the project. The purpose of this SAP is to identify the locations, sample collection frequency, and parameters to be monitored as part of the project's ongoing water-quality data collection program. The project location and associated wells in the SGB are shown on **Figure 1** – Project Location Map.

**GROUNDWATER MONITORING**

**Groundwater Monitoring Wells**

ASR Project On-Site Wells. There are two ASR facilities located in the SGB; the Santa Margarita and Seaside Middle School ASR Facilities. Groundwater monitoring wells for collection of on-site water-quality samples include three ASR wells and two associated monitoring wells that have been constructed at the two ASR facilities. Two of the ASR wells are located at the Santa Margarita (SM) ASR Facility and are designated as SM ASR-1 and SM ASR-2. This facility is also referred to as the Phase 1 ASR Project. The third existing ASR well is located at the Seaside Middle School (SMS) ASR Facility and is designated as SMS ASR-3.



This facility is also referred to as the Phase 2 ASR Project<sup>1</sup>. All three existing ASR wells are completed solely within the Santa Margarita Sandstone (Tsm) aquifer.

In addition to the ASR wells, there are two on-site monitoring wells (one located at each ASR facility) that are also completed solely within the Tsm aquifer. SM MW-1 is located at the SM ASR Facility and is located in between SM ASR-1 and SM ASR-2, at distances of approximately 90 and 190 feet, respectively. SMS Deep MW is located at the SMS ASR Facility at a distance of approximately 20 feet from SMS ASR-3. An additional monitoring well is also located at the SMS ASR Facility that is completed within the overlying Paso Robles aquifer, designated as SMS Shallow MW. This well is instrumented with a submersible water-level transducer/data logger unit to observe the water-level response of this aquifer to ASR operations (it is not designed or equipped for collection of water-quality samples). The locations of the ASR wells and on-site monitoring wells are shown on **Figure 2 – Site Location Map**. A summary of the on-site wells is presented in **Table 1** below:

**Table 1. On-Site Wells Summary**

Well ID	Distance from ASR Well (feet)			Aquifer Completed
	SM ASR-1	SM ASR-2	SMS ASR-3	
SM ASR-1	--	280	1,380	Tsm
SM ASR-2	280	--	1,235	Tsm
SM MW-1	90	190	1,325	Tsm
SMS ASR-3	1,380	1,235	--	Tsm
SMS Deep MW	1,380	1,240	20	Tsm
SMS Shallow MW	1,415	1,265	25	QTp

Table 1 Notes:

Tsm – Santa Margarita Sandstone aquifer  
 QTp – Paso Robles aquifer

Off-Site SGB Wells In addition to the on-site wells at the two ASR facility sites, submersible water-level transducer/data logger units have been installed at seven off-site District monitoring well sites in the SGB to observe the water-level response of the aquifer system to ASR operations. The locations of the off-site monitoring wells are shown on **Figure 1**. The distances from each of the project sites and aquifers monitored by the off-site wells are summarized in **Table 2** below:

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<sup>1</sup> The Phase 2 ASR Project will consist of two ASR wells and associated facilities at the SMS ASR Facility. SMS ASR-4 is currently planned to be installed during summer/fall of 2012 and will be added to the SAP when completed and equipped for operation.



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 Monterey Peninsula ASR Project – Sampling and Analysis Plan

**Table 2. Off-site Monitoring Wells Summary**

Well ID	Distance from ASR Site (feet)		Aquifer Monitored
	SM	SMS	
Paralta Test	680	740	QTp & Tsm
Ord Grove Test	1,540	2,535	QTp & Tsm
Ord Terrace (Deep)	2,275	2,910	Tsm
FO-7 (Deep)	4,265	3,700	Tsm
FO-7 (Shallow)			QTp
PCA East (Deep)	6,390	6,200	Tsm
PCA East (Shallow)			QTp
FO-9 (Deep)	7,290	6,125	Tsm
FO-8 (Deep)	7,585	6,450	Tsm

Table 2 Notes:

Monitoring well distances are measured to centroid of each ASR site.

Tsm – Santa Margarita Sandstone aquifer

QTp – Paso Robles aquifer

In addition to water-level monitoring at the above off-site monitoring wells, CAW's Paralta well and PCA East Deep have been designated as off-site monitoring wells for periodic water-quality sampling as part of this SAP (refer to **Table 4**).

**Groundwater Monitoring Equipment**

The equipment required to perform the groundwater monitoring as prescribed in the SAP includes:

- Sampling Pumps
- Pressure Transducers/Data Loggers
- Electric Water Level Sounder
- Field Water Quality Monitoring Devices
- Flow-Thru Cell Device(s)
- Sample Containers
- Coolers and Ice

Each of the on-site wells is equipped with a dedicated pump. The ASR wells are equipped with water-lubricated, vertical line-shaft turbine pumps. SM MW-1, SMS Deep MW, and PCA East Deep are equipped with submersible sampling pumps. The flow rates for each monitored wells are measured using in-line flow meters. Sampling ports on the well-head piping at each well allow for the collection of grab samples during injection and pumping operations.



Field water-quality monitoring is to be performed using various instruments that allow for the field analysis of a variety of constituents, including but not limited to: chlorine residual, conductivity, dissolved oxygen, pH, temperature, redox/ORP, and Silt Density Index (SDI). The field water-quality monitoring devices are to be routinely calibrated as prescribed in the operating procedures manual for each device.

All of the ASR and monitoring wells are instrumented with dedicated pressure/level transducers and dataloggers. Reference-point elevations have been established by surveying on each of the monitored wells. Static water-levels in each of the wells are to be measured with an electric sounder on a quarterly basis (minimum) and the transducers calibrated accordingly. The transducers are to be programmed with the reference static water-level and the data-collection interval, which will measure and record the water level in each of the wells a minimum of four times per day.

### **Purging and Sampling**

During injection periods, samples of the injectate are to be collected directly at one of the ASR wellheads while active injection is occurring. During storage periods, each of the ASR wells that has been utilized for injection during the season will be periodically purged and sampled. During recovery periods, one or more of the ASR well pumps will be operating and purging is continuous and sustained. Groundwater samples are also to be collected routinely during all three ASR periods (i.e., injection, storage and recovery) from both the on-site monitoring wells (SM MW-1 and SMS Deep MW) and periodically from the far-field off-site monitoring wells (Paralta and PCA-E Deep).

The existing pumps will be used to purge a volume equivalent to a minimum of three (3) casing volumes from the well prior to sampling. Purge water from the ASR wells during backflushing and sampling is to be discharged to the backflush pit at the SM ASR Facility and percolated back into the SGB. Water produced by the ASR well(s) during recovery period operations is to be discharged to the CAW potable water supply system (in accordance with Department of Public Health approvals). Purge water from the monitoring wells will be directed to either the SM backflush pit or to the ground away from the wellheads and percolated back into the SGB.

During purging and prior to sampling, field water-quality parameters of temperature, pH and specific conductance are to be monitored. Stabilization of these water-quality parameters will indicate when collection of a representative sample is obtainable.

### **Chain-of-Custody, Sample Handling, and Transport**

All samples collected will be labeled in a clear and precise way for proper identification in the field and for tracking in the laboratory. All sample shipments for analyses will be accompanied by a chain-of-custody record. Forms will be completed and sent with the samples for each shipment. The chain-of-custody form will identify the contents of each shipment and



maintain the custodial integrity of the samples. Samples will be placed in a cooler for delivery to the laboratory.

### **Documentation Procedures**

Field data will be recorded by field personnel on the attached Field Sampling Log Form and routinely submitted to the Project Manager for review and QA/QC. Field data will include the completed field sampling-log form and chain-of-custody records. At a minimum, documentation of each monitoring and sampling event will include the following information:

- Sample location and description
- Sampler's name(s)
- Date and time of sample collection
- Type of sampling equipment used
- Field instrument calibration procedures and results
- Field instrument readings
- Field observations and details related to analysis or integrity of samples (e.g., weather conditions, noticeable odors, colors, etc.)
- Sample preservation
- Shipping arrangements
- Name(s) of recipient laboratory
- Any deviations from SAP procedures

Project information will be filed by Water Year. The project file will contain project field data, correspondence, survey reports, laboratory reports, charts, tables, permits, and other project-related information. This information will be utilized in the preparation of the annual Summary of Operations Reports for the project.

### **LABORATORY PROGRAM**

A complete list of constituents and constituent “groups” to be monitored as part of the ASR Project for injected, stored, and recovered waters is presented in **Table 3** below. **Table 4** summarizes the planned sample constituent group frequencies for each source for the injection, storage, and recovery periods.



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**Table 3. Analytic Testing Program Constituent Summary**

Constituent	PQL	General Parameters	Disinfection Byproducts	Supplemental	Field <sup>1</sup>
Group ID		G-1	DBP	S-1	F-1
<b>Major Cations</b>					
Calcium (Ca)	1 mg/L	✓			
Magnesium (Mg)	1 mg/L	✓			
Sodium (Na)	1 mg/L	✓			
Potassium (K)	0.5 mg/L	✓			
<b>Major Anions</b>					
Total Alkalinity (as CaCO <sub>3</sub> )	10 mg/L	✓			
Sulfate (SO <sub>4</sub> )	1 mg/L	✓			
Chloride	1 mg/L	✓	✓		
Nitrate as (NO <sub>3</sub> )	1 mg/L	✓			
Nitrite as (Nitrogen)	0.1 mg/L	✓			
<b>General Physical</b>					
pH	0.1 units	✓			✓
Temperature	0.5 °C				✓
Specific Conductance (EC)	10 uS	✓			✓
ORP (redox potential / Eh) <sup>2</sup>	10 mV				✓
Total Dissolved Solids (TDS)	10 mg/L	✓			
<b>Metals</b>					
Arsenic (As)	1 ug/L			✓	
Barium (Ba)	0.5 mg/L			✓	
Iron (Fe) (Total and Dissolved)	50 ug/L	✓			
Lithium (Li)	5 ug/L			✓	
Manganese (Mn) (Total and Dissolved)	10 ug/L	✓			
Molybdenum (Mo)	5 ug/L			✓	
Nickel (Ni)	10 ug/L			✓	
Selenium (Se)	5 ug/L			✓	
Strontium (Sr)	5 ug/L			✓	
Uranium (U)	1 pCi/L			✓	
Vanadium (V)	5 ug/L			✓	
Zinc (Zn)	0.5 ug/L			✓	
<b>Miscellaneous</b>					
Ammonia (as N)	0.05 mg/L	✓			
Boron (B)	0.05 mg/L	✓			
Chlorine residual (free)	0.1 mg/L				✓

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Constituent	PQL	General Parameters	Disinfection Byproducts	Supplemental	Field <sup>1</sup>
Group ID		G-1	DBP	S-1	F-1
Chloramines	50 ug/L		✓		
Dissolved Methane	0.5 ug/L			✓	
Dissolved Oxygen (DO) <sup>2</sup>	0.025 mg/L				✓
Gross Alpha	1 pCi/L			✓	
Hydrogen Sulfide (H <sub>2</sub> S)	0.05 mg/L				✓
Total Nitrogen (N)	0.2 mg/L	✓			
Total Phosphorous	0.05 mg/L	✓			
Orthophosphate as P	0.05 mg/L	✓			
Radium 226	1 pCi/L			✓	
Silt Density Index (SDI)	0.1 units				✓
Total Kjeldahl N (TKN)	0.2 mg/L	✓			
<b>Organic Analyses</b>					
Total trihalomethanes	1 ug/L		✓		
Bromodichloromethane	1 ug/L		✓		
Bromoform	1 ug/L		✓		
Chloroform	1 ug/L		✓		
Dibromochloromethane	1 ug/L		✓		
Haloacetic Acids (HAA)	1 ug/L		✓		
Monobromoacetic Acid	1 ug/L		✓		
Monochloroacetic Acid	1 ug/L		✓		
Dibromoacetic Acid	1 ug/L		✓		
Dichloroacetic Acid	1 ug/L		✓		
Trichloroacetic Acid	1 ug/L		✓		
Total organic carbon (TOC)	0.1 mg/L	✓			
Dissolved organic carbon (DOC)	0.1 mg/L	✓			

Table 3 Notes:

- 1 – Field Parameters (Group F-1) must be taken concurrently with collection of all laboratory samples.  
 2 – ORP and DO must be analyzed utilizing a flow-thru cell device.



**Table 4. Analytic Testing Program Schedule**

INJECTION PERIOD (active injection)							
Analyte Group	Injectate			SM MW-1	SMS Deep MW	PCA East (deep)	
F-1	Bi-Weekly			Bi-Weekly	Bi-Weekly	Semiannually	
DBP	Monthly			Quarterly	Quarterly	Semiannually	
G-1	Quarterly			Quarterly	Quarterly	Semiannually	
S-1	Quarterly			Quarterly	Quarterly	Semiannually	
STORAGE PERIOD (one month duration or longer)							
Analyte Group	SM ASR-1	SM ASR-2	SMS ASR-3	SM MW-1	SMS Deep MW	PCA East (deep)	
F-1	Monthly	Monthly	Monthly	Quarterly	Quarterly	Semiannually	
DBP	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Semiannually	
G-1	Quarterly	Quarterly	Quarterly	Semiannually	Semiannually	Semiannually	
S-1	Quarterly	Quarterly	Quarterly	Semiannually	Semiannually	Semiannually	
RECOVERY PERIOD							
Analyte Group	SM ASR-1 <sup>1</sup>	SM ASR-2	SMS ASR-3	SM MW-1	SMS Deep MW	Paralta	PCA East (deep)
F-1	Bi-Weekly	Monthly	Monthly	Quarterly	Quarterly	Semiannually <sup>2</sup>	Semiannually
DBP	Quarterly	Quarterly	Quarterly	Semiannually	Semiannually	Semiannually <sup>2</sup>	Semiannually
G-1	Quarterly	Quarterly	Quarterly	Semiannually	Semiannually	Semiannually <sup>2</sup>	Semiannually
S-1	Quarterly	Quarterly	Quarterly	Semiannually	Semiannually	Semiannually <sup>2</sup>	Semiannually

Table 4 Notes:

1 – SM ASR-1 is currently the only ASR well authorized by DPH to recover into the CAW distribution system.

2 – Near the beginning and end of the SGB production/recovery season (e.g., in June and November).



FIGURE 1. PROJECT LOCATION MAP  
Monterey Peninsula ASR Project  
Sampling and Analysis Plan



FIGURE 2. SITE LOCATION MAP  
Monterey Peninsula ASR Project  
Sampling and Analysis Plan



**Monterey Peninsula ASR Project  
Field Sampling Log Form**

Water Year: \_\_\_\_\_

Well ID: _____	
Observer: _____	
Date: _____	
Observation Period: Start: _____	Stop: _____
Weather: _____	

<b>Purging &amp; Water-Level Data</b>	Notes:
ASR Period (injection, storage, recovery)	
Well Status (injecting, idle, pumping)	
Purge Rate (gpm)	
Totalizer Reading Start (gals)	
Totalizer Reading at Sampling (gals)	
Purge Volume (gals)	
Totalizer Reading End (gals)	
Static Water Level (ft btoc) <sup>1</sup>	
Datalogger Water Level (ft btoc)	

<b>Field Water-Quality Parameter Data</b>							
Time:							
Elapsed Time:							
Temperature (°C)							
Conductivity (umhos/cm)							
pH							
ORP (mV) <sup>2</sup>							
Free Chlorine Residual (mg/L)							
Dissolved Oxygen (mg/L) <sup>2</sup>							
Silt Density Index							
Gas Volume (mL)							
H2S (mg/L)							
Visual Observations							

<b>Sampling and Laboratory Data</b>		
Collection Time	Laboratory	Laboratory Analyses Requested (analyte group or other constituents)

<b>Additional Information and Observations</b>

Notes:  
 1 - Pump must be off a minimum of 10 minutes prior to measuring.  
 2 - ORP and Dissolved Oxygen must be analyzed utilizing a flow-thru cell device

**ITEM: CONSENT CALENDAR****5. CONSIDER AUTHORIZING MONTEREY BAY ANALYTICAL SERVICES TO PROVIDE LABORATORY SUPPORT FOR WATERMASTER WATER QUALITY MONITORING**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>No</b>
<b>From:</b>	<b>David J. Stoldt General Manager</b>	<b>Program/ Line Item:</b>	<b>Water Supply Projects N/A</b>
<b>Prepared By:</b>	<b>Jonathan Lear</b>	<b>Cost Estimate:</b>	<b>\$10,000</b>

**General Counsel Review: N/A****Committee Recommendation: The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.**

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**SUMMARY:** Staff proposes to use Monterey Bay Analytical Services (MBAS) to complete water quality analysis in support of the Seaside Groundwater Basin Watermaster (Watermaster). The District currently has a business relationship with MBAS and is billed on a net 30 following completion of laboratory analysis.

**RECOMMENDATION:** Staff recommends the Board authorize the General Manager to spend up to \$10,000 to complete laboratory analysis related to the Watermaster in WY 2019.

**BACKGROUND:** The District provides water quality monitoring and data management support to the Watermaster to meet the requirements outlined in the Seaside Groundwater Basin Monitoring and Management Plan. The Plan is a requirement outlined in the 2007 Adjudication Decision. The Monitoring and Management plan was adopted by the Monterey County Superior Court in 2008 and outlines a series of monitor and production wells to be sampled each water year. The District has a contract with the Watermaster to carry out this work on their behalf. District staff uses MBAS to complete the laboratory analysis for the sampling required by the Plan.

**EXHIBIT**

None





**ITEM: CONSENT CALENDAR****6. CONSIDER AUTHORIZING MONTEREY BAY ANALYTICAL SERVICES TO PROVIDE LABORATORY SUPPORT FOR AQUIFER STORAGE AND RECOVERY PROJECT OPERATIONS**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>No</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item:</b>	<b>Water Supply Projects N/A</b>
<b>Prepared By:</b>	<b>Jonathan Lear</b>	<b>Cost Estimate:</b>	<b>\$60,000</b>

**General Counsel Review: N/A****Committee Recommendation: The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.**

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**SUMMARY:** Staff proposes to use Monterey Bay Analytical Services (MBAS) to complete water quality analysis in support of the Regional Water Quality Control Board's (RWQCB) Sample and Analysis (SAP) plan required to operate the Aquifer Storage and Recovery (ASR) project. The District currently has a business relationship with MBAS and is billed on a net 30 following completion of laboratory analysis.

**RECOMMENDATION:** Staff recommends the Board authorize the General Manager to spend funds up to \$60,000 to complete laboratory analysis related to the SAP in WY 2019.

**BACKGROUND:** The District operates the ASR project and is required by the RWQCB to complete and submit an Annual Operations Report. A component of this report requires various water quality sampling from injected water to off-site wells to characterize and monitor the water quality of the Seaside Groundwater Basin. Staff utilizes MBAS to complete the water quality analysis outlined in the SAP. The District has been working with MBAS for over a decade to support this function. All funds spent for laboratory analysis related to the SAP are reimbursed by California American Water (Cal-Am) through the ASR Operations Agreement between the District and Cal-Am.

**EXHIBIT**

None



**ITEM: CONSENT CALENDAR****7. CONSIDER EXPENDITURE TO CONTRACT WITH NORMANDEAU ASSOCIATES, INC. FOR CARMEL RIVER IFIM FOR IFIM MODEL SUPPORT**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>Yes</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/</b>	<b>Protect Environmental Quality</b>
		<b>Line Item No.:</b>	<b>1-8-1 A</b>
<b>Prepared By:</b>	<b>Larry Hampson</b>	<b>Cost Estimate:</b>	<b>\$20,000</b>

**General Counsel Review:** N/A**Committee Recommendation:** The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.**CEQA Compliance:** This action does not constitute a project as defined by the California Environmental Quality Act Guidelines 15378.

**SUMMARY:** The District completed the Carmel River Instream Flow Incremental Method (IFIM) Study and associated 1-dimensional and 2-dimensional hydraulic models in November 2017. Subsequently, the National Marine Fisheries Service (NMFS) conducted additional review of the study and had several comments and concerns about its use in evaluating alternatives for management of Los Padres Dam. This item is to request \$20,000 to address NMFS comments, revise the IFIM study, and to allow expenditures to revise the IFIM model in response to information provided from ongoing analysis of Los Padres Dam alternatives.

If this item is adopted with the Consent Calendar, the General Manager will be authorized to expend up to \$20,000 for support from Normandeau Associates, Inc., for continued development of the Carmel River Instream Flow Incremental Method Study.

**RECOMMENDATION:** Staff recommends approval.

**DISCUSSION:** The Board has authorized \$251,000 over the previous five fiscal years to develop the Carmel River IFIM Study, which was completed in November 2017 after input on all aspects of the study and review of draft products by California American Water, California Department of Fish and Wildlife, and the National Marine Fisheries Service. In November 2017, NMFS chose to carry out another review by staff who had not been involved in the project previously. Their review resulted in several comments on the study that will need to be addressed. The IFIM model may also need to be modified for use with some of the alternatives that are being considered for Los Padres Dam. In particular, dam removal may result in channel changes downstream of the dam that are outside of the range of conditions that the present IFIM model can evaluate.

**IMPACTS ON STAFF AND RESOURCES:** District staff will be involved with project management and ongoing discussion about use of and results from the IFIM model.

**EXHIBIT**

None

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**ITEM: CONSENT CALENDAR****8. RECEIVE DRAFT WATER YEAR 2017 AQUIFER STORAGE AND RECOVERY PROJECT SUMMARY OF OPERATIONS REPORTS**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item No.:</b>	<b>1-2-1</b>
<b>Prepared By:</b>	<b>Jonathan Lear</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.**

**SUMMARY:** A draft report documenting the summary of operations for Water Year 2017 at the Monterey Peninsula Aquifer Storage and Recovery (ASR) Project sites has been prepared by the District's technical consultant on the project, Pueblo Water Resources, Inc. The draft report is provided as **Exhibit 8-A**. The report documents the ASR activities conducted cooperatively with California American Water (CAW) at the Phase 1 and 2 ASR sites during WY 2017, including: (a) summary of project status and injection well performance, (b) seasonal recharge operations, and (c) water-quality monitoring. During WY 2017, a volume of 2,345 acre-feet (AF) of Carmel River Basin source water was injected and stored in the Seaside Basin during the winter high-flow season. The completion of this annual report is a requirement of the Central Coast Regional Water Quality Control Board (RWQCB) as part of their ongoing oversight of the ASR program in the Seaside Basin.

**RECOMMENDATION:** The Board should receive the draft report documenting ASR activities at the ASR project sites during WY 2017. If this item is adopted along with the Consent Calendar, the report will be finalized and distributed, subject to inclusion of comments from the District, Cal-Am or other interested parties.

**BACKGROUND:** The District has been pursuing Aquifer Storage and Recovery (ASR) in the Seaside Basin since 1996. The project concept entails diverting excess winter flows from the Carmel River Basin approximately six miles through existing Cal-Am distribution system pipelines to the hydrologically-separate Seaside Basin, where the water is injected into specially-constructed ASR wells, for later recovery during dry periods. Prior to injection, the diverted water is treated at Cal-Am's Begonia Iron Removal Plant in Carmel Valley so that it meets potable drinking water standards. In 1998, the District constructed a pilot injection well, known as the Paso Robles Test Injection Well (PRTIW) in the northeastern portion of the City of Seaside. The 460-foot deep pilot well was screened in the Paso Robles Formation aquifer. Subsequent injection testing at the pilot well provided data that allowed the District to proceed with construction of a larger injection test well, SMTIW No. 1 (now referred to as ASR-1), for which construction was completed in 2002 on the former Fort Ord Military Reservation, approximately 300 feet east of the PRTIW. This site is known as the Phase 1 or Santa Margarita ASR facility. ASR-1 is an 18

inch-diameter, 720 feet deep stainless steel well screened in the Santa Margarita Sandstone aquifer. The Santa Margarita aquifer has more favorable hydrogeologic characteristics, and is therefore more conducive to a full-scale ASR project in the basin. ASR-2 was drilled in 2007 and equipped with permanent pump and motor in 2008. ASR- 2 is larger and deeper, at 22 inches in diameter and 790 feet deep. In recent years, District staff has been working with the City of Seaside and the Fort Ord Reuse Authority in order to expand the Santa Margarita ASR site to incorporate needed space for pipelines, treatment equipment, and well backflushing capacity.

Also in 2008, the District began negotiations with the Monterey Peninsula Unified School District (MPUSD) for potential use of an unused portion of the Seaside Middle School property for a second phase of ASR expansion. This was followed by successful exploration work at the site in 2009 and an easement for the site was acquired by Cal-Am in 2011. The District has been working under contract with Cal-Am to complete construction of ASR wells 3 and 4 and the permanent ASR facilities at this Phase 2 ASR site.

The draft WY 2017 report has been provided to Cal-Am staff for their review and comment. The report, once finalized, will be posted and available on the District's website. The report will also be a useful reference document to support future operations and testing at the ASR Project sites.

**IMPACT ON STAFF/RESOURCES:** A significant staff effort has been expended planning, coordinating, and overseeing work on the District's ASR program in the Seaside Basin. It is planned to continue this level of effort during the remainder of this year and into the next recharge season.

#### **EXHIBIT**

**8-A** 2017 Aquifer Storage and Recovery Project Summary of Operation Report

*(A print out of the report is available for review at the MPWMD office and can be provided upon request.)*



## **SUMMARY OF OPERATIONS**

### **MONTEREY PENINSULA ASR PROJECT**

**WATER YEAR 2017**

Prepared for:



**JUNE 2018  
DRAFT**



June 30, 2018  
Project No. 12-0049

Monterey Peninsula Water Management District  
Post Office Box 85  
Monterey, California 93942-0085

Attention: Mr. Jonathan Lear, Senior Hydrogeologist

Subject: Monterey Peninsula ASR Project; Draft Water Year 2017 Summary of Operations Report

Dear Jon:

We are transmitting one digital image (PDF) of the subject draft report documenting operations of the Monterey Peninsula ASR Project during Water Year 2017 (WY 2017) for your review and comments. WY 2017 was classified as an "Extremely Wet" Water Year on the Monterey Peninsula, and as a result a commensurately significant volume of water totaling 2,345 acre-feet (af) was able to be diverted from the Carmel River system for recharge in the Seaside Groundwater Basin (SGB) via the ASR-1 through ASR-4 wells. To date, a total volume of approximately 7,430 of excess Carmel River system water has been successfully injected, stored, and recovered in the SGB since the ASR project was initiated in 2001.

We appreciate the opportunity to provide ongoing assistance to the District on this important community water-supply project. Please contact us with any questions.

Sincerely,

PUEBLO WATER RESOURCES, INC.

Robert C. Marks, P.G., C.Hg.  
Principal Hydrogeologist

Stephen P. Tanner, P.E.  
Principal Engineer

Copies submitted: 1 digital (PDF)





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## INTRODUCTION

### GENERAL STATEMENT

Presented in this report is a summary of operations of the Monterey Peninsula Aquifer Storage and Recovery (ASR) Project during Water Year 2017 (WY 2017)<sup>1</sup>. During WY 2017, approximately 2,345 acre-feet (af) of excess flows were diverted from the Carmel River system for recharge, storage, and subsequent recovery in the Seaside Groundwater Basin (SGB). This report presents a summary of the project operations during WY 2017, an assessment of ASR well performance, aquifer response and water-quality data, and provides recommendations for ongoing operation of the project.

### BACKGROUND

The Monterey Peninsula ASR Project is cooperatively implemented by the Monterey Peninsula Water Management District (MPWMD or District) and California American Water (CAW) and involves the diversion of excess winter and spring time flows from the Carmel River system for recharge and storage in the Seaside Groundwater Basin (SGB). The excess water is captured by CAW wells in the Carmel Valley during periods when flows in the Carmel River exceed fisheries bypass flow requirements, treated to potable drinking water standards, and then conveyed through CAW's distribution system to ASR facilities in the SGB.

Aquifer recharge is accomplished via injection of these excess flows into specially designed ASR wells drilled in the SGB. The locations of the ASR wells and associated project monitoring wells in the SGB are shown on **Figure 1**. The recharged water is temporarily stored underground utilizing the available storage space within the aquifer system. During periods of high demand, other existing CAW production wells in the SGB and/or the ASR wells can be used to recover the previously recharged water, which in turn allows for reduced extractions from the Carmel River system during seasonal dry periods.

The District and CAW have been cooperatively developing an ASR project on the Monterey Peninsula since 1996. These efforts have evolved over time, from the performance of various technical feasibility investigations, leading to the construction and testing of pilot- and then full-scale ASR test wells to demonstrate the viability and operational parameters for ASR wells in the SGB. Based on the success of the ASR demonstration testing program, MPWMD and CAW are in the process of implementing a full-scale permanent ASR Project.

The Phase 1 ASR Project (a.k.a. Water Project 1) includes two ASR wells (ASR-1 and ASR-2) located at the Santa Margarita (SM) ASR Facility at 1910 General Jim Moore Blvd. in Seaside. The Phase 1 Project is capable of recharging up to the State Water Resources Control

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<sup>1</sup> Water Year 2017 is the period of October 1, 2016 through September 30, 2017.



Board (SWRCB) water right<sup>2</sup> maximum annual diversion limit of 2,426 acre-feet per year (afy) at a combined permitted injection rate of approximately 3,000 gallons per minute ([gpm] maximum diversion rate of 6.7 cubic feet per second [cfs]), with an average annual yield of approximately 920 afy. ASR-1 is designed for an injection capacity of 1,000 gpm and ASR-2 is designed for an injection capacity of 1,500 gpm. As-built schematics of ASR-1 and ASR-2 are presented on **Figures 2 and 3**, respectively.

The Phase 2 ASR Project (a.k.a. Water Project 2) also includes two ASR wells (ASR-3 and ASR-4) located at the Seaside Middle School (SMS) ASR Facility at 2111 General Jim Moore Blvd. in Seaside. The Phase 2 Project is designed to be capable of recharging up to the SWRCB water right<sup>3</sup> maximum annual diversion limit of 2,900 afy at a combined permitted injection rate of approximately 3,600 gpm (maximum diversion rate of 8.0 cfs), with an average annual yield of approximately 1,000 afy. ASR-3 and ASR-4 are both designed for injection capacities of 1,500 gpm. As-built schematics of ASR-3 and ASR-4 are presented on **Figures 4 and 5**, respectively.

A graphical summary of historical ASR operations in the SGB is shown on **Figure 6**. Shown are the annual injection and recovery volumes since the inception of injection operations at the Santa Margarita ASR Facility in WY 2001 through the current period of WY 2017. Also presented is a delineation of the various phases of project implementation, starting with the Santa Margarita Test Injection Well (SMTIW) in 2001, which became ASR-1 as the project transitioned from a testing program to a permanent project in WY 2008 (Phase 1 ASR Project), through construction and operation of the second well (ASR-2) at the facility in 2010. As shown, having the Santa Margarita Facility in full operation with both ASR-1 and ASR-2 injecting simultaneously in WY 2010 and WY 2011 (combined with above normal rainfall and Carmel River flows during those years) resulted in significant increases in the annual volume injected. During WY 2012 through WY 2015, relatively low volumes were injected due to the extended drought conditions during that period.

WY 2017 was the first year of above normal rainfall and Carmel River flows with all four ASR wells in full operation, and as shown on **Figure 6** over 2,300 af of excess river flows were captured and successfully injected into the SGB. This volume represents over twice the previous largest annual volumes injected (in WY 2010 and WY 2012), and approximately one quarter of the Monterey Peninsula's average annual water supply. Commensurate annual injection volumes are expected to occur in the future (depending on hydrologic conditions in any given year) as the project continues to operate at full capacity.

## PURPOSE AND SCOPE

The overall purpose of the ongoing ASR program is to recharge the SGB with excess treated Carmel River system water when it is available during wet periods for storage and later

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<sup>2</sup> SWRCB water right 20808A for the Phase 1 ASR Project is held jointly by MPWMD and CAW.

<sup>3</sup> The SWRCB water right 20808C for the Phase 2 ASR Project is held jointly by MPWMD and CAW.



extraction (recovery) during dry periods. ASR benefits the resources of both systems by raising water levels in the SGB during the recharge and storage periods and reducing extractions from the Carmel River System during dry periods.

The scope of the ongoing data collection, analysis, and reporting program for the ASR program can be categorized into issues generally associated with:

- 1) ASR well hydraulics and performance;
- 2) Aquifer response to injection, and;
- 3) Water-quality issues associated with geochemical interaction and mixing of injected and native groundwaters.

The ongoing data collection and reporting program is intended to monitor and track ASR well performance and aquifer response to injection (both hydraulic and water quality) and to comply with the requirements of the Central Coast Regional Water Quality Control Board (RWQCB) for submitting annual technical reports for the project pursuant to Section 13267 of the California Water Code<sup>4</sup> and the existing General Waiver for Specific Types of Discharges (Resolution R3-2008-0010).

## **FINDINGS**

### **WY 2017 ASR OPERATIONS**

#### **General Recharge Procedures**

Recharge of the SGB occurs via injection of diverted flows from the CAW distribution system into ASR wells during periods of available excess Carmel River system flows. The ASR recharge source water is potable (treated) water provided from the CAW distribution system. The water is currently diverted by various production well sources in Carmel Valley and (after treatment and disinfection to potable standards) then conveyed through the Segunda-Crest pipeline network to the ASR Pipeline in General Jim Moore Blvd and then to the Santa Margarita and Seaside Middle School ASR facilities.

Injection water is introduced into the ASR wells via the pump columns. Injection rates are controlled primarily by downhole flow control valves (FCV's) installed on the pump columns, and secondarily by modulating the automatic flow control valves (i.e., Cla-Vals) installed on the ASR wellhead piping. Injection flow rates and total injected volumes are measured with rate and totalizing meters at each of the wellheads. Positive gauge pressures are maintained at the wellheads during injection to prevent cascading of water into the wells (which can lead to air-binding). Continuous water-level data at each of the ASR wells are collected with submersible pressure transducer data loggers.

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<sup>4</sup> Letter from Roger W. Briggs, Executive Officer of the Central Coast RWQCB, to Joseph Oliver, Water Resources Manager for MPWMD, dated April 29, 2009.



Injection generally occurs at each of the ASR wells on a continuous basis when flows are available, interrupted only for periodic backflushing, which typically occurs on an approximate weekly basis. Most sources of injection water contain trace amounts of solids that slowly accumulate in the pore spaces in the well's gravel pack and adjacent aquifer materials, and the CAW source water is no exception. Periodic backflushing of the ASR wells is therefore necessary to maintain well performance by removing materials deposited/accumulated around the well bore during injection. The procedure is similar to backwashing a media filter to remove accumulated material deposited during filtration.

The trigger for backflushing is when the amount of water-level drawup during injection equals the available drawdown (as measured from the static water level to the top of the pump bowls) in the well for backflushing, or one week of continuous injection, whichever occurs first. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging. This factor is the basis for the maximum recommended drawup levels referenced in the following section.

The general procedure consists of temporarily stopping injection and then pumping the wells at rates of approximately 2,000 to 3,000 gpm (i.e., at least twice the rate of injection) for a period of approximately 15 to 20 minutes, and repeated as necessary to effectively remove particulates from the well screen / gravel pack / aquifer matrix. Backflush water is discharged to the Santa Margarita ASR Facility backflush pit, where it percolates back into the groundwater basin.

### Injection Operations Summary

A summary of injection operations at the four ASR wells is presented in **Table 1** below. Field data collected during injection operations are presented in **Appendix A** (not included in draft).

**Table 1. WY 2017 Injection Operations Summary**

Well	Injection Season		Active Days	Injection Rate (gpm)			Total Vol (af)
	Start	End		Min	Max	Avg	
ASR-1	12/20/16	5/31/17	93	270	1,868	1,434	543.0
ASR-2	12/17/16	5/30/17	155	337	1,944	1,449	981.6
ASR-3	12/17/16	5/22/17	134	600	1,405	996	577.9
ASR-4	4/5/17	5/19/17	45	142	1,590	1,257	242.9
						<b>Total</b>	<b>2345.4</b>

As shown in **Table 1**, recharge operations were performed nearly continuously in WY 2017 during the period December 17, 2016 through May 31, 2017. WY 2017 was classified as



an “Extremely Wet” Water Year<sup>5</sup> on the Carmel River with up to 155 days of active injection and a total volume of approximately 2,345 acre-feet (af) of water was available for diversion from the CAW system for recharge in the SGB. The recharge water was injected at all four ASR wells into the Santa Margarita Sandstone aquifer with per-well average injection rates ranging from approximately 140 to 1,950 gpm (approximately 0.62 to 8.6 acre-feet per day [afd]).

It is noted that the variability in injection rates at the ASR wells during the injection season is controlled by various factors, including the number of active sources to the CAW system, customer demands on the CAW system, and the ability of CAW’s distribution system to maintain piping pressure at the ASR wellheads.

Water-level data collected at ASR-1 through ASR-4 during WY 2017 are presented in **Figures 7 through 10**, respectively, and briefly summarized below:

- ASR-1: The minimum injection water-level was approximately 250 feet below ground surface (bgs) on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 110 feet, which exceeded the maximum recommended drawup level of approximately 100 by 10 feet.
- ASR-2: The minimum injection water-level was approximately 220 feet bgs on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 160 feet, which exceeded the maximum recommended drawup level of approximately 130 by 30 feet.
- ASR-3: The minimum injection water-level was approximately 170 feet bgs on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 190 feet, which exceeded the maximum recommended drawup level of approximately 170 feet by 20 feet.
- ASR-4: The minimum injection water-level was typically maintained approximately 200 to 300 feet bgs, corresponding to water-level drawup of approximately 60 to 160 feet, well below the maximum recommended drawup level of approximately 200 feet; however, on one occasion the injection water level reached a maximum drawup of approximately by 200 feet with a minimum depth to water of approximately 160 ft bgs.

In summary, injection water levels at ASR-1 through ASR-3 frequently exceeded the respective maximum drawup levels by approximately 10 to 30 feet during WY 2017. Injection water levels at ASR-4 were generally maintained below the recommended minimum level below ground surface. The effects of these injection water levels on residual well plugging and well performance is discussed below.

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<sup>5</sup> Based on 196,291 af of unimpaired Carmel River flow at the Sleepy Hollow Weir in WY 2017.





**Recovery Operations Summary**

When the injected water is recovered via delivery through the CAW system, the recovered water is offset by reduced pumping by CAW from the Carmel River system during the low-flow, high demand periods of the year. During WY 2017, other CAW wells in the SGB were utilized for recovery of previously injected water (ASR-1 was inactive due to a failed FCV). As shown on **Figure 6**, 1,182 af of water recharged during WY 2017 was recovered into the CAW system, with 1,163 af left in aquifer storage and carried over into WY 2018.

It is noted that in this context, ASR recovery is essentially an accounting / allocation of CAW’s various water rights and pumping from the SGB and does not represent a “molecule-for-molecule” recovery of the injected water. Rather, the volume recharged in any given year increases the operational yield of the SGB by the same amount and can be “recovered” by any of CAW’s wells in the SGB and / or the ASR wells themselves.

**WELL PERFORMANCE**

Well performance is generally measured by specific capacity (pumping) and / or specific injectivity (injection), which is the ratio of flow rate (pumping or injection) to water-level change in the well (drawdown or drawup) over a specific elapsed time. The value is typically expressed as gallons per minute per foot of water level change (gpm/ft). The value normalizes well performance by taking into account differing static water levels and flow rates. As such, specific capacity / injectivity data are useful for comparing well performance over time and at differing flow rates. Decreases in specific capacity / injectivity are indicative of decreases in the hydraulic efficiency of a well due to the effects of plugging and/or particle rearrangement.

**Injection Performance**

Injection performance has been tracked at ASR-1 since the inception of the ASR program in WY 2002 by measurement and comparison of 24-hour injection specific injectivities (a.k.a. injection specific capacity).

**ASR-1.** A summary of 24-hour specific injectivity for ASR-1 for WY 2002 through 2017 is presented in **Table 2** below:

**Table 2. Injection Performance Summary - ASR-1**

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
<b>WY2002</b>					
Beginning Period	1,570	81.7	<b>19.2</b>	<b>-67%</b>	FCV not installed yet in WY2002. No recovery pumping performed.
Ending Period	1,164	199.8	<b>6.4</b>		
<b>WY2003</b>					
Beginning Period	1,070	70.0	<b>15.5</b>		Recovery pumping performed following



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
Ending Period	1,007	49.7	20.3	+31%	WY2003 Injection
<b>WY2004</b>					
Beginning Period	1,383	183.4	7.5	+112%	Recovery pumping performed following WY2004 Injection
Ending Period	1,072	67.4	15.9		
<b>WY2005</b>					
Beginning Period	1,045	46.6	22.4	-54%	Injectate dechlorinated in WY2005. No recovery pumping performed.
Ending Period	976	94.1	10.4		
<b>WY2006</b>					
Beginning Period	1,039	71.5	15.0	+17%	Injection procedures consistent and performance stable in WY2006. No recovery pumping performed.
Ending Period	1,008	62.2	17.5		
<b>WY2007</b>					
Beginning Period	1,098	92.4	11.9	--	Only one injection period in WY2007. No recovery pumping performed.
Ending Period	--	--	--		
<b>WY2008</b>					
Beginning Period	979	25.5	38.4	-17%	Formal rehabilitation performed prior to WY2008 injection
Ending Period	1,063	33.4	31.8		
<b>WY 2009</b>					
Beginning Period	1,119	56.1	19.9	+56%	Beginning period low specific injectivity due to high plugging rate during initial injection period. No recovery pumping performed.
Ending Period	1,069	34.3	31.1		
<b>WY 2010</b>					
Beginning Period	1,080	35.6	30.3	-19%	Observed decline in performance due to residual plugging.
Ending Period	1,326	54.0	24.6		
<b>WY 2011</b>					
Beginning Period	1,367	53.0	25.8	-10%	Observed decline in performance due to residual plugging.
Ending Period	1,454	63.7	22.8		
<b>WY 2012</b>					
Beginning Period	NA	NA	NA	NA	No injection at this well this year.
Ending Period	NA	NA	NA		
<b>WY 2013</b>					
Beginning Period	NA	NA	NA	NA	No injection at this well this year.
Ending Period	NA	NA	NA		



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
<b>WY 2014</b>					
Beginning Period	NA	NA	NA	<b>NA</b>	No injection at this well this year.
Ending Period	NA	NA	NA		
<b>WY 2015</b>					
Beginning Period	NA	NA	NA	<b>NA</b>	No beginning period due to datalogger malfunction.
Ending Period	1,018	40.7	<b>25.0</b>		
<b>WY 2016</b>					
Beginning Period	NA	NA	NA	<b>NA</b>	No beginning period due to datalogger malfunction.
Ending Period	460	14.4	<b>31.9</b>		
<b>WY 2017</b>					
Beginning Period	970	39.5	<b>24.6</b>	<b>-13%</b>	<b>See discussion below</b>
Ending Period	1,295	60.2	<b>21.5</b>		

As shown in **Table 2**, the 24-hour specific injectivity at the beginning of WY 2017 was 24.6 gpm/ft and at the end of WY 2017 it was 21.5 gpm/ft, representing a decrease of approximately 13 percent, indicating that some residual plugging occurred at ASR-1 over the course of the WY 2017 injection season (discussed further in a following section).

**ASR-2.** A summary of the beginning and ending injection performance at ASR-2 for WY 2010 through WY 2017 is presented in **Table 3** below:

**Table 3. Injection Performance Summary - ASR-2**

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
<b>WY 2010</b>					
Beginning Period	1,017	156.5	<b>6.5</b>	<b>-57%</b>	Significant residual plugging.
Ending Period	237	85.0	<b>2.8</b>		
<b>WY 2011</b>					
Beginning Period	1,497	39.5	<b>37.9</b>	<b>-0.5%</b>	Significant improvement as a result of well rehabilitation. No residual plugging during year.
Ending Period	1,292	34.3	<b>37.7</b>		
<b>WY 2012</b>					
Beginning Period	1,830	56.1	<b>32.6</b>	<b>-12%</b>	Observed decline in performance due to residual plugging.
Ending Period	1,817	63.4	<b>28.7</b>		
<b>WY 2013</b>					



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
Beginning Period	1,087	32.7	<b>33.2</b>	<b>+3%</b>	No residual plugging during year.
Ending Period	1,508	44.2	<b>34.1</b>		
<b>WY 2014</b>					
Beginning Period	NA	NA	NA	<b>NA</b>	No injection at this well this year.
Ending Period	NA	NA	NA		
<b>WY 2015</b>					
Beginning Period	1,456	38.9	<b>37.4</b>	<b>-14%</b>	Observed decline in performance due to residual plugging.
Ending Period	1,574	49.1	<b>32.1</b>		
<b>WY 2016</b>					
Beginning Period	1,270	34.9	<b>36.4</b>	<b>-30%</b>	Observed decline in performance due to residual plugging.
Ending Period	1,620	63.9	<b>25.4</b>		
<b>WY 2017</b>					
Beginning Period	822	24.2	<b>33.9</b>	<b>-13%</b>	<b>See discussion below</b>
Ending Period	907	30.7	<b>29.5</b>		

As shown in **Table 3**, the 24-hour specific injectivity at the beginning of WY 2017 was 33.9 gpm/ft and at the end of WY 2017 it was 29.5 gpm/ft, representing a decrease of approximately 13 percent, indicating that some residual plugging occurred at ASR-2 over the course of the WY 2017 injection season (discussed further in a following section).

**ASR-3.** A summary of the beginning and ending injection performance at ASR-3 for WY 2013 through WY 2017 is presented in **Table 4** below:

**Table 4. Injection Performance Summary – ASR-3**

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
<b>WY 2013</b>					
Beginning Period	1,044	87.0	<b>12.0</b>	<b>-31%</b>	See discussion below.
Ending Period	822	99.6	<b>8.3</b>		
<b>WY 2014</b>					
Beginning Period	NA	NA	NA	<b>NA</b>	No injection at this well this year.
Ending Period	NA	NA	NA		
<b>WY 2015</b>					
Beginning Period	NA	NA	NA		No beginning period data.



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
Ending Period	892	90.3	9.9	NA	
<b>WY 2016</b>					
Beginning Period	948	83.6	11.3	+7%	Slight increase observed.
Ending Period	897	74.1	12.1		
<b>WY 2017</b>					
Beginning Period	936	107.5	8.7	+8%	See discussion below.
Ending Period	986	105.2	9.4		

As shown in **Table 4**, the 24-hour specific injectivity at the beginning of WY 2017 was 8.7 gpm/ft and at the end of WY 2017 it was 9.4 gpm/ft, representing a slight increase of approximately 8 percent, indicating that no residual plugging occurred at ASR-3 over the course of the WY 2017 injection season.

#### ASR-4 Baseline Injection Testing

WY 2017 was the first year that ASR-4 was able to be placed in full operational mode following the injection “conditioning” conducted at the well in WY 2016 (refer to the WY 2016 Summary of Operations Report). Prior to long-term continuous injection operations in WY 2017, a baseline injection testing program was conducted. The primary purpose of the baseline injection testing was to establish the baseline injection well hydraulics and performance of the new well. Primary issues to be investigated include:

- Determination of injection well efficiency and specific injectivity;
- Evaluation of injection well plugging rates (both active and residual);
- Determination of optimal rates, frequency, and duration of backflushing in order to maintain long-term injection capacity, and;
- Determination of long-term sustainable injection rates.

The baseline testing program included the following steps:

1. Pre-injection pumping performance testing;
2. 8-hr step-rate injection testing;
3. 24-hr constant-rate injection test;
4. 6-day constant-rate injection test;
5. Backflushing between each injection test, and;
6. Post-injection pumping performance testing



**Pre-Injection Pumping Performance Test.** A pre-injection performance test was conducted on April 4, 2016, which consisted of a 10-minute specific capacity test. As discussed in the following section, 10-minute specific-capacity tests are typically performed at all project ASR wells following routine backflushing operations to track well pumping performance (and evaluate residual plugging), similar to the tracking of injection performance from 24-hour specific injectivity discussed above.

The static water level in ASR-4 prior to pumping was approximately 333.7 feet bgs<sup>6</sup>. The discharge was maintained at an average rate of approximately 3,000 gpm during the 10-minute test. The pumping level after 10-minutes was approximately 455.5 feet bgs, corresponding to a drawdown of 121.8 feet and a 10-minute specific capacity of approximately 24.6 gpm/ft.

**8-hr Step-Rate Injection Test.** A variable rate injection test was performed on April 5, 2016. The primary purpose of the test was to assess variations in well specific injectivity (the converse of specific capacity) at differing injection rates and to determine a suitable rate for long-term injection testing. The test consisted of four steps, each at a successively higher rate. The duration of each step was 2 hours. The four test rates were approximately 740, 1130, 1500, and 1860 gpm (i.e., approximately 50, 75, 100 and 125 percent of the design injection capacity of 1,500 gpm). The static water level in the well prior to the test was 331.3 feet bgs. The resulting water-level drawup and specific injectivities associated with each of these steps are shown on **Figure 11** and are summarized below in **Table 5**.

**24-hr Constant-Rate Injection Test.** Following the step-rate injection test, backflushing (discussed below), and a period of water level recovery overnight, a 24-hour constant rate injection test was initiated on April 6, 2018. This phase of testing consisted of a continuous rate injection test performed at an average injection rate of approximately 1,506 gpm (i.e., the design injection rate). Water-level data for the 24-hour constant-rate injection test are graphically presented on **Figure 12**.

As shown, the static water level in the well prior to injection was 335.9 feet bgs. The injection water level recorded after 24 hours was 244.6 feet bgs, corresponding to a drawup of 91.3 feet and a 24-hour specific injectivity of approximately 16.5 gpm/ft. This value represents approximately 56 percent of the 24-hour pumping specific capacity of 29.4 gpm/ft<sup>7</sup>.

**6-day Constant Rate Injection Test.** A 6-day constant-rate injection was initiated on April 9 and continued until April 25, 2017. This phase of testing consisted of a continuous rate injection test performed at an average injection rate of approximately 1,490 gpm, with a total volume of approximately 38.2 af injected.

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<sup>6</sup> ASR-3 was actively injecting at approximately 1,000 during the ASR-4 Baseline Injection Testing program, which causes approximately 30 feet in water level interference (drawup) at ASR-4. Typical static water levels at ASR-4 are approximately 360 feet bgs.

<sup>7</sup> Pueblo Water Resources, Inc. (2015), *Summary of Operations, Well Construction and Testing, Seaside Middle School ASR-4 Well*, prepared for Monterey Peninsula Water Management District.



During injection, drawup in the well was approximately 66.1, 79.8 and 115.5 feet after 100 minutes, 24 hours and 6 days of injection; respectively, corresponding to specific injectivities of approximately 22.6, 18.7 and 12.9 gpm/ft, respectively. The 24-hour value during this test (18.7 gpm/ft) was slightly greater than the specific injectivities observed during the 24-hour injection test (16.5 gpm/ft), indicating that backflushing of the well between tests (discussed below) was effective at removing plugging materials.

The resulting drawup and specific injectivities associated with each of the various ASR-4 baseline injection tests are summarized below in **Table 5**:

**Table 5. ASR-4 Baseline Injection Testing Specific Injectivity Summary**

Test	Duration	Rate (gpm)	Drawup (ft)	Q/s (gpm/ft)
Step-Rate				
Step 1	2 hrs	742	21.8	34.0
Step 2	2 hrs	1,133	43.7	25.9
Step 3	2 hrs	1,500	76.5	19.6
Step 4	2 hrs	1,858	124.7	14.9
24-hr Constant	1 day	1,506	91.3	16.5
6-day Constant	6 days	1,493	115.7	12.9

As presented in **Table 5**, the specific injectivity ranged between approximately 12.9 and 34.0 gpm/ft, depending on the injection rate and duration of injection. It is important to note that according to well hydraulic theory, specific injectivity is expected to generally decrease with increasing injection rate and duration of injection; therefore, it is important to consider the test duration and injection rate when comparing specific injectivity values.

**Backflushing.** Following each injection test, backflushing was performed on the well. Backflushing operations consisted of pumping the well to waste at a rate of approximately 3,000 for 20 minutes until discharge clarity had significantly improved. The pump was then stopped and the well allowed to recover for approximately 20 minutes, then the pump was restarted and run for another 20 minutes as described above. This process was performed a total of three times (i.e., a triple-backflush).

During backflushing after the 8-hr step- and 24-hr constant-rate injection tests, the well discharge was initially only slightly turbid (approximately 10 to 20 NTU) followed by a decrease in turbidity to less than 3 NTU after 20 minutes. Discharge water during the subsequent (second and third) pumping/surging cycles was essentially clear, indicating that the majority of particulates were removed from the well during the initial 20 minutes of backflushing. After the 6-day constant-rate injection test, however, the initial backflushing discharge was very turbid (73 NTU), but became essentially clear by the end of the third backflush cycle.



Following each backflushing event, controlled 10-minute specific capacity tests were performed to track well performance and the efficacy of backflushing. The 10-minute specific capacity results are summarized in **Table 6** below:

**Table 6. ASR-4 10-Minute Specific Capacity Summary**

Test	Rate (gpm)	Drawdown (ft)	Q/s (gpm/ft)	% Change <sup>1</sup>
Pre-Injection	3000	121.8	24.6	--
Post 8-hr Step-Rate Injection	3000	187.5	16.0	-35.0
Post 24-hr Constant-Rate Injection	3000	200.1	15.0	-39.1
Post 6-Day Constant-Rate Injection	3100	222.9	13.9	-43.5

Notes:

1 - Compared to pre-injection baseline.

As shown, the well displayed a pre-injection 10-minute specific capacity of approximately 24.6 gpm/ft. Following the initial 8-hr step-rate injection test, the 10-minute specific had declined to approximately 16.0 gpm/ft, representing a loss in performance of approximately 35 percent, indicating that that backflushing was not effective at restoring performance, despite the relatively low turbidity levels observed during backflushing (discussed above). Following the 6-day constant-rate injection test, the specific capacity had declined to 13.9 gpm, representing a total loss in performance over the course of the baseline injection testing program of approximately 44 percent. It is notable that the majority of the total performance occurred after the relatively short-duration 8-hr step-rate injection test. This observation, combined with the very low particulate levels in the injectate throughout the baseline injection testing period, suggest that the loss in performance is not due to particulate plugging, but some other mechanism, such as particle rearrangement and/or geochemical reactions (e.g., solids precipitation or clay swelling).

**Plugging Rate Analysis.** Experience at injection sites around the world shows that all injection wells are subject to some amount of plugging because no water source is completely free of particulates. During injection, trace amounts of suspended solids are continually being deposited in the gravel pack and aquifer pore spaces, much as a media filter captures particulates in the filter bed. The effect of plugging is to impede the flow of water from the injection well into the aquifer, causing increased injection heads in the well to maintain a given injection rate, or reduced injection rates at a given head level. Well plugging reduces injection and extraction capacity, and consequently, well life.

Plugging can occur due to poor water quality, improper system operation, or poor design practices. In general, plugging issues fall into four general categories: physical plugging (by particulate matter), chemical reaction (between the injectate and native waters or aquifer minerals), biofouling (the proliferation of bacteria in the gravel pack or aquifer), and gas binding (the vapor locking of the aquifer by entrained or evolved gasses in the injectate).

Relative measurements of the particulate matter in the injectate were made through silt density index (SDI) testing during injection. The SDI was originally developed to quantitatively





assess particulate concentrations in reverse osmosis feed waters. The SDI involves pressure filtration of source water through a 0.45 micron membrane, and observation of the decrease in flow over time; the resulting value of SDI is dimensionless, and used as a comparative value for tracking relative well plugging rates versus water quality or other parameters. SDI test results are summarized in **Table 7** below:

**Table 7. ASR-4 Summary of Silt Density Index (SDI) Test Results**

Injection Test	No. of Tests	Values <sup>1</sup>		
		High	Low	Average
8-hr Step-Rate	2	2.42	0.88	1.65
24-hr Constant-Rate	2	0.46	0.20	0.33
6-Day Constant-Rate	1	0.20	0.20	0.20

Notes:

1 - Dimensionless

As shown in **Table 7**, SDI values during injection testing consistently decreased with duration of the testing program, ranging between approximately 0.2 and 1.7. Values within this range are generally representative of source waters with a very low amount of particulates.

Plugging rate during injection testing of ASR-4 was estimated utilizing the Graphical Observed vs. Theoretical Drawup Method. Water-level rise in an injection well is a combination of both aquifer response and well losses. Theoretically, at any given constant injection rate, well losses should remain constant; therefore, in the absence of plugging, any water level rise in the well would be due only to aquifer response. The difference between the theoretical water level and the observed water can be presumed to be caused by plugging.

It is important to note that the theoretical water level rise corresponds to the water level that would occur if well losses were negligible and well efficiency was 100 percent. In order to account for well efficiency losses, the graphical method involves drawing a straight line through moderate elapsed time data points (e.g., 10 to 1,000 minutes). Assuming no plugging is occurring, the theoretical water level rise during injection would plot on along a straight line on a semi-log plot. The variance from the straight line is assumed to be indicative of the amount of plugging.

The amount of plugging, in feet of water level rise, was calculated for the 6-day constant-rate injection test and the plugging rate analysis is presented graphically on **Figure 13**. As shown, there was approximately 28 feet of plugging observed during the 6-day injection test.

**ASR-4 WY 2017 Injection Performance.** Following the Baseline Injection Testing Program, ASR-4 was placed into injection operational mode. WY 2017 was the first injection season when 24-hr continuous injection operations occurred at ASR-4, and a summary of the beginning and ending injection performance for WY 2017 is presented in **Table 8** below:



**Table 8. Injection Performance Summary – ASR-4**

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
<b>WY 2017</b>					
Beginning Period	1,506	91.3	16.5	+58%	See discussion below.
Ending Period	1,068	41.3	25.9		

As shown in **Table 8**, the 24-hour specific injectivity at the beginning of WY 2017 was 16.4 gpm/ft and at the end of WY 2017 it was 23.8 gpm/ft, representing a significant increase of approximately 58 percent.

**Injection Performance Summary.** The above results indicate a pattern in ASR well performance, with ASR-1 through ASR-4 all having experienced comparably significant declines in performance following initial injection (i.e., the initial variable-rate injection tests performed at each well), followed by a period of relative stability in performance. It was hypothesized that the observed loss in performance may be due to particle rearrangement (mechanical jamming) and/or geochemical reactions (e.g., solids precipitation and/or clay swelling), as opposed to the normal and relatively slow plugging caused by particulates. This phenomenon is the reason for the well “conditioning” effort performed at ASR-4 during WY 2015 and WY 2016.

As shown in **Tables 5 and 6** previously, however, ASR-4 appeared to experience the same initial decline in performance as the other three ASR wells despite the thorough condition effort. These findings suggest that the initial and significant decline in performance consistently observed at all four ASR wells following initial injection testing is likely not due to particle rearrangement, but rather due to a geochemical reaction(s) (e.g., solids precipitation and/or clay swelling). It is also noted that while ASR-3 and ASR-4 have experienced a significant decline in performance following initial injection, (which limits their injection capacities) it is expected that rehabilitation will result in significantly improved performance as has been observed at both ASR-1 and ASR-2.

**Pumping Performance and Residual Plugging**

Experience at injection well sites around the world shows that all injection wells are subject to some amount of plugging, because no water source is completely free of particulates, bionutrients, or oxidants, all of which can contribute to well plugging; the CAW source water is no exception. During injection, trace amounts of suspended solids are continually being deposited in the gravel pack and aquifer pore spaces, much as a media filter captures particulates in the filter bed. The effect of plugging is to impede the flow of water from the injection well into the aquifer, causing increased injection heads in the well to maintain a given injection rate, or reduced injection rates at a given head level. Well plugging reduces injection and extraction capacity and can result in decreased useful well life if not mitigated.



Relative measurements of the particulate matter in the injectate have historically been made at the Santa Margarita site through Silt Density Index (SDI) testing during the injection season. The SDI was originally developed to quantitatively assess particulate concentrations in reverse-osmosis feed waters. The SDI test involves pressure filtration of source water through a 0.45-micron membrane, and observation of the decrease in flow rate through the membrane over time; the resulting (dimensionless) value of SDI is used as a comparative value for tracking relative declines in well plugging rates associated with particulate plugging during an injection season (i.e., plugging rates tend to increase directly with SDI). During WY 2017 injection operations, SDI values were only measured at the beginning of the injection season and was approximately 4.1 at that time. Other than the SDI testing conducted during the ASR-4 baseline injection testing discussed previously, the SDI during the remainder of the injection season is not known (was not measured).

Following routine backflushing operations and periods of water-level recovery, controlled 10-minute specific-capacity tests are typically performed to track well pumping performance, similar to the tracking of injection performance from 24-hour specific injectivity discussed above. Residual plugging is the plugging that remains following backflush pumping. Residual plugging increases drawdown during pumping and drawup during injection and is manifested as declining specific capacity / injectivity. The presence of residual plugging is indicative of incomplete removal of plugging particulates during backflushing and has the cumulative effect of reducing well performance and capacity over time.

As discussed previously, routine 10-minute specific capacity tests were performed at the ASR wells as part of backflushing events during WY 2017. Presented in **Table 9** below is a summary of the residual plugging calculations for the ASR wells during WY 2017.

**Table 9. Pumping Performance and Residual Plugging Summary**

Well	Test	Pumping Rate (gpm)	10-min Drawdown (ft)	10-min Q/s <sup>1</sup> (gpm/ft)	Normalization Ratio <sup>2</sup>	Normalized Drawdown <sup>2</sup> (ft)	Residual Plugging (ft)
ASR-1	Pre-Injection	4,600	116.7	39.4	0.65	76.1	--
	Post-Injection	3,200	103.0	31.1	0.94	96.6	20.5
ASR-2	Pre-Injection	2,600	76.7	33.9	1.15	88.5	--
	Post-Injection	2,700	100.2	26.9	1.11	111.3	22.8
ASR-3	Pre-Injection	1,500	82.9	18.1	1.33	110.5	--
	Post-Injection	1,600	117.0	13.7	1.25	146.3	35.7
ASR-4	Pre-Injection	3,000	121.8	24.6	1.00	121.8	--
	Post-Injection	2,900	164.4	17.6	1.03	170.1	48.3

Notes:

1 - Specific Capacity. Ratio of pumping rate to drawdown.

2 - Normalized based on ratio of 3,000 gpm to actual test pumping rate for ASR-1, -2 and -4. Based on 2,000 gpm for ASR-3.

As shown on **Figures 7 through 9**, injection water levels were not maintained below the recommended maximum available drawup levels at ASR-1 through ASR-3 during WY 2017, and



as shown in **Table 9**, all three wells experienced residual plugging ranging between approximately 20 and 50 feet and commensurate declines in pumping specific capacity. Although as shown on **Figure 10** and discussed previously, injection water levels and performance at ASR-4 were generally maintained at acceptable levels throughout most of WY 2017, based on the pumping performance shown in **Table 9**, ASR-4 also experienced residual plugging of approximately 50 feet. These results indicate that:

1. Injection water levels should be maintained below the recommended minimum levels below ground surface during the injection season to avoid excessive drawup and over pressurization of plugging constituents. These thresholds should not be adjusted during the injection season due to apparent changes in static water levels, and;
2. More intensive backflushing (e.g., multiple backflush cycles as opposed to a single cycle) should be implemented at all four ASR wells during WY 2018 to limit residual plugging and maintain performance.

### **AQUIFER RESPONSE TO INJECTION**

The response of the regional aquifer system to injection has been monitored since the SMTIW project was initiated in WY 2002. Submersible water-level transducer/data logger units have been installed at seven offsite monitoring well locations in the SGB as well as three onsite monitoring wells. The locations of each offsite monitoring well are shown on **Figure 1**, and water-level hydrographs for the monitoring wells during WY 2017 are graphically presented on **Figures 14 through 22**. A summary of the regional water-level observations during the WY 2017 injection season is presented in **Table 10** below.

As shown on the water-level hydrographs, water levels in the Santa Margarita Sandstone (Tsm) aquifer at the start of the WY 2017 recharge season ranged between approximately 20 to 50 feet below sea level. Positive response to injection during WY 2017 was observed at 8 of the 9 monitoring wells completed in the Santa Margarita Sandstone aquifer, with apparent water-level responses ranging between approximately 11 to 92 feet, generally decreasing with distance from the ASR wells, which is the typical and expected aquifer response to hydraulic stresses (i.e., injection or pumping). The WY 2017 responses are comparable to those observed in previous water years.

The available water-level data also continue to show that at the majority of the offsite Tsm-only monitoring wells, water levels consistently remained below sea level throughout the injection season. Notable exceptions included the Paralta Test and FO-9 wells, which showed water levels as much as approximately 10 to 8 feet above sea level, respectively. Under these overall basin water-level conditions, little to no offshore groundwater flow from the Tsm aquifer would be expected to occur and any “losses” associated with ASR project operations from water potentially migrating offshore are likely limited.

**Table 10. Aquifer Response Summary**

Well ID	Distance from Nearest Active ASR Well (feet)	Aquifer Monitored	Fig. No.	Pre-Injection DTW (ft. bgs)	Shallowest Injection DTW (ft. bgs)	Maximum Drawup Response (ft.)
SMS (Shallow)	25 (ASR-3)	QTp	<b>14</b>	No Discernable Response		
SMS (Deep)		Tsm		371.4	279.7	<b>91.7</b>
SM MW-1	190 (ASR-2)	Tsm	<b>15</b>	363.7	313.3	<b>50.4</b>
Paralta Test	650 (ASR-2)	QTp & Tsm	<b>16</b>	348.3	318.9	<b>29.4</b>
Ord Grove Test	1,820 (ASR-2)	QTp & Tsm	<b>17</b>	No Discernable Response		
Ord Terrace (Shallow)	2,550 (ASR-2)	Tsm	<b>18</b>	258.0	246.9	<b>11.1</b>
FO-7 (Shallow)	3,700 (ASR-3)	QTp	<b>19</b>	No Discernable Response		
FO-7 (Deep)		Tsm		496.4	472.7	<b>23.7</b>
FO-9 (Deep)	6,130 (ASR-3)	Tsm	<b>20</b>	33.8	10.0	<b>23.8</b>
PCA East (Shallow)	6,200 (ASR-3)	QTp	<b>21</b>	No Discernable Response		
PCA East (Deep)		Tsm		94.9	70.2	<b>24.7</b>
FO-8 (Deep)	6,450 (ASR-3)	Tsm	<b>22</b>	404.9	384.1	<b>20.8</b>

**Notes:**

QTp – Quaternary / Tertiary-age Paso Robles Formation aquifer  
 Tsm – Tertiary-age Santa Margarita Sandstone aquifer  
 DTW – Depth to Water

The limited available data for wells completed in the Paso Robles Formation (QTp) also continue to show no discernible response to injection and water levels in this aquifer remained above the water levels in the underlying Tsm aquifer during WY 2016. Under these water-level conditions, little to no flow of water from the Tsm to the QTp aquifer would be expected to occur.

It is further noted that the Ord Grove Test monitoring well (**Figure 17**) continues to show no discernible response to injection operations, as has been observed during previous injection seasons. In addition, most project monitoring wells show no discernible response to the pumping of CAW's Ord Grove production well. These observations suggest that the Ord Terrace Fault or a parallel branch of the fault may represent a hydraulic barrier in the Tsm aquifer.

**WATER QUALITY****General**

Source water for injection is supplied from the CAW municipal water system, primarily from Carmel River system wells, which is treated at the CAW Begonia Iron Removal Plant (BIRP) for iron and manganese removal. The BIRP product water is also disinfected and maintains a free chlorine residual. A phosphate-based corrosion inhibitor (Zinc Orthophosphate) is also added to the filtered water before entering the CAW distribution system. The finished



product water meets all California Department of Public Health (CADPH) Primary and Secondary water quality standards.

As in previous years, water quality was routinely monitored at the ASR well sites during WY 2017 injection and aquifer storage operations. Far-field water quality was also monitored at the CAW Paralta production well and at the PCE-East Deep monitoring well (PCA-E Deep). Summaries of the collected water-quality data during WY 2017 are presented in **Tables 11 through 18** below. Analytic laboratory reports are presented in **Appendix B** (not included in draft). A discussion of the water-quality data collected during WY 2017 is presented below.

### **Injection Water Quality**

Injection water quality from the CAW system during WY 2017 is presented in **Table 11** below, and the data show injection water quality was typical of recent years. Levels of Trihalomethanes (THM) and Haloacetic Acid (HAA) compounds, as well as bionutrients (oxygen, nitrogen, phosphorous, and organic carbon), were all present at levels similar to previous years.

### **Water Quality During Aquifer Storage**

**Tables 12 through 15** present summaries of water-quality data collected at the four ASR wells. **Tables 16 and 17** present similar data collected at the on-site monitoring wells SM MW-1 and SMS Deep, respectively; and **Table 18** presents the water-quality data collected at the off-site monitoring wells (PCA-E Deep and Paralta). Data for the ASR wells include baseline water quality taken prior to WY 2017 injection (end of WY 2016 Storage) and stored water quality (WY 2017 Storage) collected periodically from the aquifer after WY 2017 injection operations were terminated.

Review of water-quality parameters gathered at the ASR wells, including major anions and cations, redox potential (ORP), and conductivity all showed relatively limited effects of dilution / intermixing of injected water with native groundwater (NGW) during aquifer storage compared to previous water years. The apparent lack of mixing during the WY 2017 storage period is not unexpected, given the significantly greater volume and duration of injection, and the associated relatively short storage period, compared to previous years.

Disinfection Byproducts (DBPs) parameters for the on-site wells collected during the WY 2017 storage period are graphically presented on **Figures 23 through 28** and are summarized below:

- ASR-1: One sample was collected from ASR-1 after approximately 30 days of storage, which showed significant ingrowth of THMs at 89 micrograms per liter (ug/L), exceeding the Maximum Contaminant Level (MCL) of 80 ug/L. As a result of a failure of the pump assembly FCV, no additional samples were collected from this well during WY 2017.



Table 11. Summary of WY 2017 Water Quality Data – Injectate

Parameter	Unit	PQL	MCL	Results			
				CAW Injectate			
				12/16/16	1/17/17	3/10/17	4/11/17
Sample Description			Injectate				
<b>Major Cations</b>							
Calcium	mg/L	0.5		49			33
Magnesium	mg/L	0.5		16			12
Potassium	mg/L	0.5		3.2			2.6
Sodium	mg/L	0.5		55			1
<b>Major Anions</b>							
Alkalinity, Total (as CaCO3)	mg/L	2		144			127
Chloride	mg/L	1	250	32		27	27
Sulfate	mg/L	1	250	85			66
Nitrate (as NO3)	mg/L	1	45	ND			1
Nitrite (as NO2-N)	mg/L	1	1	0.3			0.5
<b>General Physical</b>							
pH	Std Units			7.6			7.4
Specific Conductance (EC)	uS	1	900	555			466
Total Dissolved Solids	mg/L	10	500	348			280
<b>Metals</b>							
Arsenic (Total)	ug/L	1	10	ND			ND
Barium (Total)	ug/L	10	1000	0.061			57
Iron (Dissolved)	ug/L	10		ND			ND
Iron (Total)	ug/L	10	300	10			ND
Lithium	ug/L	1		10			6
Manganese (Dissolved)	ug/L	10		ND			ND
Manganese (Total)	ug/L	10	50	13			ND
Mercury	ug/L	0.5	2	ND			ND
Molybdenum	ug/L	1	1000	ND			2
Nickel	ug/L	10	100	ND			ND
Selenium	ug/L	2	50	ND			2
Strontium (Total)	ug/L	5		270			230
Uranium (by ICP/MS)	ug/L	1	30	ND			ND
Vanadium (Total)	ug/L	1	1000	ND			ND
Zinc (Total)	ug/L	10	5000	243			268
<b>Miscellaneous</b>							
Ammonia-N	mg/L	0.05		ND			ND
Boron	mg/L	0.05		ND			ND
Chloramines	mg/L	0.05		0.12	0.06	0.18	0.18
Gross Alpha	pCi/L		15	1.23 +/- 1.13			1.27 +/- 1.09
Kjeldahl Nitrogen (Total)	mg/L	0.5		ND			0.5
Methane	ug/L	0.1		2.7			1.3
Nitrogen (Total)	mg/L	0.5		ND			1.3
o-Phosphate-P	mg/L	0.05		0.4			0.2
Phosphorous (Total)	mg/L	0.03		0.46			0.4
Radium 226	pCi/L		3	0.295 +/- 0.246			0.066 +/- 0.129
<b>Organic Analyses</b>							
Haloacetic Acids (Total)	ug/L	1.0	60.0	23.0	9.0	11.9	8.0
<i>Dibromoacetic Acid</i>	ug/L	1.0		3.0	2.0	2.1	2.0
<i>Dichloroacetic Acid</i>	ug/L	1.0		10	4.0	5.5	2.0
<i>Monobromoacetic Acid</i>	ug/L	1.0		1.0	ND	ND	ND
<i>Monochloroacetic Acid</i>	ug/L	2.0		ND	ND	ND	ND
<i>Trichloroacetic Acid</i>	ug/L	1.0		9.0	3.0	4.3	4.0
Organic Carbon (Dissolved)	mg/L	0.2		1.5			1.5
Organic Carbon (Total)	mg/L	0.2		1.4			1.5
Trihalomethanes (Total)	ug/L	1.0	80.0	47.9	23.1	23.4	18.7
<i>Bromodichloromethane</i>	ug/L	0.5		15.4	8.0	7.8	6.3
<i>Bromoform</i>	ug/L	0.5		1.8	1.0	0.69	0.7
<i>Chloroform</i>	ug/L	0.5		18.8	7.2	9.2	6.9
<i>Dibromochloromethane</i>	ug/L	0.5		11.9	6.9	5.7	4.8
<b>Field Parameters</b>							
Temperature	° C	0.1		12.9	14.9	15.8	14.8
Specific Conductance (EC)	uS	1.0	900	491	458	450	442
pH	Std Units	0.1	6.5 - 8.5	7.4	7.0	7.1	7.4
ORP	mV	1.0		507	664	727	717
Free Chlorine Residual	mg/L	0.1	2 - 5	1.0	1.9	1.1	1.3
Dissolved Oxygen	mg/L	0.01		5.2	3.9	4.1	3.6
Silt Density Index	Std Units	0.1		4.1			
H <sub>2</sub> S	mg/L	0.1		ND	ND		ND

Notes:  
 Constituents exceeding MCLs denoted in **BOLD** type



Table 12. Summary of WY 2017 Water-Quality Data – ASR-1

Parameter	Unit	PQL	MCL	Results			
				SM ASR-1			
				3/21/01	9/21/16	12/2/16	6/28/17
<b>ASR Operational Phase</b>				<b>NGW</b>	<b>WY 2016 Storage</b>		<b>WY 2017 Storage</b>
Elapsed Storage Time	Days			--	170	242	29
<b>Major Cations</b>							
Calcium	mg/L	0.5		85	68	81	41
Magnesium	mg/L	0.5		19	17	20	13
Potassium	mg/L	0.5		5.3	4	4.6	2.8
Sodium	mg/L	0.5		88	71	72	43
<b>Major Anions</b>							
Alkalinity, Total (as CaCO3)	mg/L	2		224	180	228	138
Chloride	mg/L	1	250	120	72	112	28
Sulfate	mg/L	1	250	95	96	100	68
Nitrate (as NO3)	mg/L	1	45	ND	1	1.0	1
Nitrite (as NO2-N)	mg/L	1	1		0.3	0.3	0.2
<b>General Physical</b>							
pH	Std Units			7.1	7.4	7.2	7.5
Specific Conductance (EC)	uS	1	900	1015	763	962	496
Total Dissolved Solids	mg/L	10	500	618	471	583	320
<b>Metals</b>							
Arsenic (Total)	ug/L	1	10	ND	1	1	1
Barium (Total)	ug/L	10	1000	52	55	71	58
Iron (Dissolved)	ug/L	10			ND	12	ND
Iron (Total)	ug/L	10	300	120	ND	16	20
Lithium	ug/L	1			19	29	7
Manganese (Dissolved)	ug/L	10			ND	22	ND
Manganese (Total)	ug/L	10	50	40	ND	21	ND
Mercury	ug/L	0.5	2		ND	ND	ND
Molybdenum	ug/L	1	1000		6	7	3
Nickel	ug/L	10	100		ND	ND	2
Selenium	ug/L	2	50	ND	2	2	6
Strontium (Total)	ug/L	5			308	402	210
Uranium (by ICP/MS)	ug/L	1	30		1	1	ND
Vanadium (Total)	ug/L	1	1000		ND	ND	1
Zinc (Total)	ug/L	10	5000	10	87	70	202
<b>Miscellaneous</b>							
Ammonia-N	mg/L	0.05		0.33	ND	0.09	0.1
Boron	mg/L	0.05		0.14	0.08	0.11	ND
Chloramines	mg/L	0.05			ND	ND	ND
Gross Alpha	pCi/L		15		2.52 +/- 1.55	2.64 +/- 1.89	1.97 +/- 1.27
Kjeldahl Nitrogen (Total)	mg/L	0.5			ND	0.5	ND
Methane	ug/L	0.1			2.2	3.9	0.77
Nitrogen (Total)	mg/L	0.5			0.5	1	0.5
o-Phosphate-P	mg/L	0.05		0.46	0.1	ND	0.3
Phosphorous (Total)	mg/L	0.03			0.13	0.13	0.3
Radium 226	pCi/L		3		0.758 +/- 0.437	1.33 +/- 0.340	0.044 +/- 0.104
<b>Organic Analyses</b>							
Haloacetic Acids (Total)	ug/L	1.0	60.0		ND	0	6
<i>Dibromoacetic Acid</i>	ug/L	1.0			ND	ND	ND
<i>Dichloroacetic Acid</i>	ug/L	1.0			ND	ND	2
<i>Monobromoacetic Acid</i>	ug/L	1.0			ND	ND	ND
<i>Monochloroacetic Acid</i>	ug/L	2.0			ND	ND	ND
<i>Trichloroacetic Acid</i>	ug/L	1.0			ND	ND	4
Organic Carbon (Dissolved)	mg/L	0.2			1.0	1.4	1.8
Organic Carbon (Total)	mg/L	0.2		6.3	1.0	1.3	1.5
Trihalomethanes (Total)	ug/L	1.0	80.0		28.9	14.8	89
<i>Bromodichloromethane</i>	ug/L	0.5			7.6	4.0	22
<i>Bromoform</i>	ug/L	0.5			0.5	ND	1
<i>Chloroform</i>	ug/L	0.5			18.8	10.1	56
<i>Dibromochloromethane</i>	ug/L	0.5			2	0.7	10
<b>Field Parameters</b>							
Temperature	°C	0.1			19.4		16.6
Specific Conductance (EC)	uS	1.0	900	1015	667		440
pH	Std Units	0.1	6.5 - 8.5	7.1	7.03		7.3
ORP	mV	1.0			-243		220
Free Chlorine Residual	mg/L	0.1	2 - 5		ND		0.23
Dissolved Oxygen	mg/L	0.01			1.17		3.12
Silt Density Index	Std Units	0.1					
H <sub>2</sub> S	mg/L	0.1		1.5	ND		ND

Notes:  
 Constituents exceeding MCLs denoted in BOLD type





Table 13. Summary of WY 2017 Water Quality Data – ASR-2

Parameter	Unit	PQL	MCL	Results			
				SM ASR-2			
				9/27/2016	12/6/16	6/28/17	10/4/17
<b>ASR Operational Phase</b>				<b>WY 2016 Storage</b>		<b>WY 2017 Storage</b>	
Elapsed Storage Time	Days			176	246	29	127
<b>Major Cations</b>							
Calcium	mg/L	0.5		60	66	41	38
Magnesium	mg/L	0.5		19	19	13	14
Potassium	mg/L	0.5		3.8	4.5	2.9	2.8
Sodium	mg/L	0.5		64	59	44	43
<b>Major Anions</b>							
Alkalinity, Total (as CaCO3)	mg/L	2		180	209	134	134
Chloride	mg/L	1	250	64	102	28	28
Sulfate	mg/L	1	250	81	71	69	70
Nitrate (as NO3)	mg/L	1	45	1	ND	1	0.2
Nitrite (as NO2-N)	mg/L	1	1	0.3	0.3	0.2	ND
<b>General Physical</b>							
pH	Std Units			7.5	7.3	7.5	7.4
Specific Conductance (EC)	uS	1	900	707	864	488	495
Total Dissolved Solids	mg/L	10	500	431	514	308	297
<b>Metals</b>							
Arsenic (Total)	ug/L	1	10	1	1	ND	ND
Barium (Total)	ug/L	10	1000	83	106	59	62
Iron (Dissolved)	ug/L	10		ND	ND	ND	11
Iron (Total)	ug/L	10	300	66	67	57	66
Lithium	ug/L	1		14	26	6	7
Manganese (Dissolved)	ug/L	10		10	15	ND	ND
Manganese (Total)	ug/L	10	50	11	16	ND	ND
Mercury	ug/L	0.5	2		2	ND	ND
Molybdenum	ug/L	1	1000	6	10	4	6
Nickel	ug/L	10	100	ND	ND	2	2
Selenium	ug/L	2	50	2	2	2	3
Strontium (Total)	ug/L	5		300	374	210	208
Uranium (by ICP/MS)	ug/L	1	30	1	1	ND	2.4
Vanadium (Total)	ug/L	1	1000	ND	ND	1	ND
Zinc (Total)	ug/L	10	5000	317	360	257	272
<b>Miscellaneous</b>							
Ammonia-N	mg/L	0.05		ND	0.08	0.1	ND
Boron	mg/L	0.05		0.06	0.07	ND	ND
Chloramines	mg/L	0.05		ND	ND	ND	ND
Gross Alpha	pCi/L		15	2.59 +/- 2.16	2.24 +/- 1.91	0.775 +/- 0.946	2.04 +/- 1.15
Kjehidahl Nitrogen (Total)	mg/L	0.5		1	0.9	ND	ND
Methane	ug/L	0.1		1.7	1.9	1.5	0.7
Nitrogen (Total)	mg/L	0.5		1.5	1.3	ND	ND
o-Phosphate-P	mg/L	0.05		0.3	0.2	0.3	0.26
Phosphorous (Total)	mg/L	0.03		0.25	0.23	0.4	0.3
Radium 226	pCi/L		3	0.000 +/- 0.246	0.170 +/- 0.132	0.109 +/- 0.128	0.090 +/- 0.124
<b>Organic Analyses</b>							
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	0.0	30.0	4.0
<i>Dibromoacetic Acid</i>	ug/L	1.0		ND	ND	2.0	ND
<i>Dichloroacetic Acid</i>	ug/L	1.0		ND	ND	14.0	ND
<i>Monobromoacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND
<i>Monochloroacetic Acid</i>	ug/L	2.0		ND	ND	ND	ND
<i>Trichloroacetic Acid</i>	ug/L	1.0		ND	ND	14.0	4.0
Organic Carbon (Dissolved)	mg/L	0.2			1.2	2.0	1.4
Organic Carbon (Total)	mg/L	0.2		1.10	1.2	1.5	1.9
Trihalomethanes (Total)	ug/L	1.0	80.0	47.9	25.3	97.0	87.0
<i>Bromodichloromethane</i>	ug/L	0.5		12.0	6.7	26.0	21.0
<i>Bromoform</i>	ug/L	0.5		0.60	ND	1.0	1.00
<i>Chloroform</i>	ug/L	0.5		29.8	15.4	58.0	55.0
<i>Dibromochloromethane</i>	ug/L	0.5		5.5	3.2	12.0	10.0
<b>Field Parameters</b>							
Temperature	° C	0.1		18.0	20.4	16.4	19.4
Specific Conductance (EC)	uS	1.0	900	610	568	460	428.0
pH	Std Units	0.1	6.5 - 8.5	6.5	7.2	7.3	7.1
ORP	mV	1.0		-202.5	-232	470	
Free Chlorine Residual	mg/L	0.1	2 - 5	0.24	ND	0.2	
Dissolved Oxygen	mg/L	0.01		1.01	3.98	3.28	2.03
Silt Density Index	Std Units	0.1					
Fl <sub>2</sub> S	mg/L	0.1		0.02	0.09	ND	

Notes:  
 Constituents exceeding MCLs denoted in **BOLD** type



Table 14. Summary of WY 2017 Water Quality Data – ASR-3

Parameter	Unit	PQL	MCL	Results				
				SMS ASR-3				
				10/22/10	9/21/16	12/9/16	6/27/17	9/6/17
ASR Operational Phase				NGW	WY 2016 Storage		WY 2017 Storage	
Elapsed Storage Time	Days				170	249	28	99
<b>Major Cations</b>								
Calcium	mg/L	0.5		76	53	60	43	
Magnesium	mg/L	0.5		18	17	18	14	
Potassium	mg/L	0.5		5	4	4	3.0	
Sodium	mg/L	0.5		102	59	66	46	
<b>Major Anions</b>								
Alkalinity, Total (as CaCO3)	mg/L	2		304	171	178	134	
Chloride	mg/L	1	250	107	58	75	28	36
Sulfate	mg/L	1	250	56	72	71	71	68
Nitrate (as NO3)	mg/L	1	45	1	1	ND	1	
Nitrite (as NO2-N)	mg/L	1	1	ND	0.3	0.3	0.2	
<b>General Physical</b>								
pH	Std Units			7.7	7.5	7.3	7.5	
Specific Conductance (EC)	uS	1	900	954	657	740	497	507
Total Dissolved Solids	mg/L	10	500	575	426	437	314	
<b>Metals</b>								
Arsenic (Total)	ug/L	1	10	4	6	5	6	
Barium (Total)	ug/L	10	1000	50	78	88	61	
Iron (Dissolved)	ug/L	10		21	ND	13	ND	ND
Iron (Total)	ug/L	10	300	21	56	208	173	
Lithium	ug/L	1		36	14	22	6	
Manganese (Dissolved)	ug/L	10		27	12	15	10	ND
Manganese (Total)	ug/L	10	50	27	13	16	10	
Mercury	ug/L	0.5	2			1	ND	ND
Molybdenum	ug/L	1	1000	--	21	9	56	
Nickel	ug/L	10	100	ND	ND	ND	2	2.9
Selenium	ug/L	2	50	ND	3	3	8	
Strontium (Total)	ug/L	5		403	281	322	211	
Uranium (by ICP/MS)	ug/L	1	30	--	3	2	1	
Vanadium (Total)	ug/L	1	1000	--	ND	ND	1	
Zinc (Total)	ug/L	10	5000	--	266	241	256	250
<b>Miscellaneous</b>								
Ammonia-N	mg/L	0.05		249	ND	ND	0.1	
Boron	mg/L	0.05		ND	0.05	0.07	ND	
Chloramines	mg/L	0.05		0.08	ND	ND	ND	
Gross Alpha	pCi/L		15	--	4.28 +/- 1.73	4.79 +/- 1.87	0.894 +/- 0.980	
Kjeldahl Nitrogen (Total)	mg/L	0.5		ND	1	ND	ND	
Methane	ug/L	0.1		ND	1.4	0.31	1.7	
Nitrogen (Total)	mg/L	0.5		ND	1.5	ND	ND	
o-Phosphate-P	mg/L	0.05		ND	0.2	0.2	0.1	
Phosphorous (Total)	mg/L	0.03		0.03	0.27	0.19	0.37	
Radium 226	pCi/L		3	--	0.178 +/- 0.302	0.100 +/- 0.139	0.066 +/- 0.114	
<b>Organic Analyses</b>								
Haloacetic Acids (Total)	ug/L	1.0	60.0	ND	3	0.0	17.0	
Dibromoacetic Acid	ug/L	1.0		ND	1	ND	ND	
Dichloroacetic Acid	ug/L	1.0		ND	2	ND	2.0	
Monobromoacetic Acid	ug/L	1.0		ND	ND	ND	ND	
Monochloroacetic Acid	ug/L	2.0		ND	ND	ND	ND	
Trichloroacetic Acid	ug/L	1.0		ND	ND	ND	15	
Organic Carbon (Dissolved)	mg/L	0.2		0.71	0.9	1.3	2.0	
Organic Carbon (Total)	mg/L	0.2		0.70	1.00	1.4	1.6	1.0
Trihalomethanes (Total)	ug/L	1.0	80.0	ND	61.40	46.2	112.0	
Bromodichloromethane	ug/L	0.5		ND	15.9	12.0	28.0	
Bromoform	ug/L	0.5		ND	0.8	0.6	1.0	
Chloroform	ug/L	0.5		ND	36.7	27.3	71.0	
Dibromochloromethane	ug/L	0.5		ND	8	6.3	12.0	
<b>Field Parameters</b>								
Temperature	° C	0.1		26.2	17.3	19.9	18.1	19.4
Specific Conductance (EC)	uS	1.0	900	991	588	426	462	467
pH	Std Units	0.1	6.5 - 8.5	7.0	7.07	7.0	7.1	7.1
ORP	mV	1.0		-82	-171.0	-93	166	85
Free Chlorine Residual	mg/L	0.1	2 - 5	ND	ND	ND	0.23	0.26
Dissolved Oxygen	mg/L	0.01		--	4.67	3.74	3.26	3.58
Silt Density Index	Std Units	0.1		--				
H <sub>2</sub> S	mg/L	0.1		0.60	ND	ND	ND	ND

Notes:  
 Constituents exceeding MCLs denoted in BOLD type



Table 15. Summary of WY 2017 Water Quality Data – ASR-4

Parameter	Unit	PQL	MCL	Results				
				ASR-4				
				9/21/2016	12/2/2016	3/7/2017	6/27/2017	10/4/17
<b>ASR Operational Phase</b>				<b>WY 2016 Storage</b>			<b>WY 2017 Storage</b>	
Elapsed Storage Time	Days			170	242	337	28	127
<b>Major Cations</b>								
Calcium	mg/L	0.5		76	68	49	40	36
Magnesium	mg/L	0.5		16	14	6	13	13
Potassium	mg/L	0.5		4.6	4.0	4.2	2.8	2.7
Sodium	mg/L	0.5		103	88	76	42	39
<b>Major Anions</b>								
Alkalinity, Total (as CaCO3)	mg/L	2		234	231	176	134	134
Chloride	mg/L	1	250	121	123	77	27	27
Sulfate	mg/L	1	250	55	53	48	69	70
Nitrate (as NO3)	mg/L	1	45	1.0	2.0	1.0	1	0.2
Nitrite (as NO2-N)	mg/L	1	1	0.3	0.3	ND	0.2	ND
<b>General Physical</b>								
pH	Std Units			7.5	7.3	7.6	7.5	7.5
Specific Conductance (EC)	uS	1	900	924	937	689	497	487
Total Dissolved Solids	mg/L	10	500	563	537	437	311	297
<b>Metals</b>								
Arsenic (Total)	ug/L	1	10	5	5	7	22	8
Barium (Total)	ug/L	10	1000	54	52	29	58	60
Iron (Dissolved)	ug/L	10		ND	23	ND	ND	18
Iron (Total)	ug/L	10	300	144	153	135	114	201
Lithium	ug/L	1		32	34	24	7	7
Manganese (Dissolved)	ug/L	10		21	21	ND	ND	13
Manganese (Total)	ug/L	10	50	21	22	ND	ND	14
Mercury	ug/L	0.5	2		ND	0.2	ND	ND
Molybdenum	ug/L	1	1000	6	6	24	62	55
Nickel	ug/L	10	100	58	68	25	9	23
Selenium	ug/L	2	50	2	2	5	12	10
Strontium (Total)	ug/L	5		444	497	456	214	206
Uranium (by ICP/MS)	ug/L	1	30	1	1	3	1	1.7
Vanadium (Total)	ug/L	1	1000	ND	7	5	1	ND
Zinc (Total)	ug/L	10	5000	ND	ND	20	190	104
<b>Miscellaneous</b>								
Ammonia-N	mg/L	0.05		ND	ND	ND	0.1	ND
Boron	mg/L	0.05		0.11	0.09	0.08	ND	ND
Chloramines	mg/L	0.05		ND	ND	ND	ND	ND
Gross Alpha	pCi/L		15	3.01 +/- 2.64	3.91 +/- 2.17	1.01 +/- 1.67	5.07 +/- 1.71	2.02 +/- 1.14
Kjeldahl Nitrogen (Total)	mg/L	0.5		0.5	1.3	0.8	ND	ND
Methane	ug/L	0.1		1.7	1.20	0.51	1.5	0.98
Nitrogen (Total)	mg/L	0.5		1.00	2.1	1.1	ND	ND
o-Phosphate-P	mg/L	0.05		ND	ND	0.1	ND	0.16
Phosphorous (Total)	mg/L	0.03		ND	0.04	0.03	0.24	0.17
Radium 226	pCi/L		3	0.760 +/- 0.438	0.578 +/- 0.234	0.318 +/- 0.171	0.000 +/- 0.074	0.000 +/- .088
<b>Organic Analyses</b>								
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	0.0	0.0	12.0	2.0
Dibromoacetic Acid	ug/L	1.0		ND	ND	ND	ND	ND
Dichloroacetic Acid	ug/L	1.0		ND	ND	ND	2.0	ND
Monobromoacetic Acid	ug/L	1.0		ND	ND	ND	ND	ND
Monochloroacetic Acid	ug/L	2.0		ND	ND	ND	ND	ND
Trichloroacetic Acid	ug/L	1.0		ND	ND	ND	10	2.0
Organic Carbon (Dissolved)	mg/L	0.2			0.9	0.9	1.6	1.7
Organic Carbon (Total)	mg/L	0.2		0.6	0.9	0.8	1.6	1.3
Trihalomethanes (Total)	ug/L	1.0	80.0	0.0	0.0	19.3	98	59
Bromodichloromethane	ug/L	0.5		ND	ND	5.6	23	16
Bromoform	ug/L	0.5		ND	ND	0.8	1.0	ND
Chloroform	ug/L	0.5		ND	ND	9.4	62	34
Dibromochloromethane	ug/L	0.5		ND	ND	3.5	12	9.0
<b>Field Parameters</b>								
Temperature	° C	0.1		25.1	26.0	25.6	18.5	18.5
Specific Conductance (EC)	uS	1.0	900	564	859	680	423	415
pH	Std Units	0.1	6.5 - 8.5	7.08	7.2	7.3	7.2	6.4
ORP	mV	1.0		-262.0	-297	54	159	31
Free Chlorine Residual	mg/L	0.1	2 - 5	ND	0.2		0.21	0.51
Dissolved Oxygen	mg/L	0.01		0.97	0.52		ND	1.87
Silt Density Index	Std Units	0.1						
H <sub>2</sub> S	mg/L	0.1		0.01	0.14		ND	ND

Notes:  
 Constituents exceeding MCLs denoted in **BOLD** type



Table 16. Summary of WY 2017 Water Quality Data – SM MW-1

Parameter	Unit	PQL	MCL	Results						
				SM MW-1						
				12/1/16	2/1/17	4/11/17	6/28/17	7/18/17	9/18/17	10/2/17
Sample Description				WY 2016 Storage	WY 2017 Injection		WY 2017 Storage			
Elapsed Storage Time	Days			241	0	0	29	49	111	125
<b>Major Cations</b>										
Calcium	mg/L	0.5		74		40	44			48
Magnesium	mg/L	0.5		22		10	11			13
Potassium	mg/L	0.5		4.6		2.5	2.7			3.2
Sodium	mg/L	0.5		67		41	43			48
<b>Major Anions</b>										
Alkalinity, Total (as CaCO3)	mg/L	2		209		134	135			137
Chloride	mg/L	1	250	109		28	28			28
Sulfate	mg/L	1	250	75		68	69			69
Nitrate (as NO3)	mg/L	1	45	ND		1	1			0.3
Nitrite (as NO2-N)	mg/L	1	45	0.3		0.5	0.2			ND
<b>General Physical</b>										
pH	Std Units			7.3		7.7	7.5			7.5
Specific Conductance (EC)	uS	1	900	890		493	489			491
Total Dissolved Solids	mg/L	10	500	517		288	297			326
<b>Metals</b>										
Arsenic (Total)	ug/L	1	10	2		2	2			2
Barium (Total)	ug/L	10	1000	66		20	21			26
Iron (Dissolved)	ug/L	10		ND		ND	ND			14
Iron (Total)	ug/L	10	300	ND		72	ND			ND
Lithium	ug/L	1		25		9	7			4
Manganese (Dissolved)	ug/L	10		16		ND	ND			ND
Manganese (Total)	ug/L	10	50	17		ND	ND			ND
Mercury	ug/L	0.5	2			0.4	ND			ND
Molybdenum	ug/L	1	1000	10		3	3			5
Nickel	ug/L	10	100	ND		ND	1			ND
Selenium	ug/L	2	50	2		2	9			3
Strontium (Total)	ug/L	5		388		282	245			213
Uranium (by ICP/MS)	ug/L	1	30	2		2	1			1
Vanadium (Total)	ug/L	1	1000	ND		ND	2			ND
Zinc (Total)	ug/L	10	5000	ND		ND	ND			40
<b>Miscellaneous</b>										
Ammonia-N	mg/L	0.05		ND		ND	0.1			ND
Boron	mg/L	0.05		0.08		ND	ND			ND
Chloramines	mg/L	0.05		ND	0.08	0.08	ND	ND	ND	ND
Gross Alpha	pCi/L		15	4.70 +/- 2.20		2.31 +/- 1.29	1.77 +/- 1.15			2.88 +/- 1.29
Kjeldahl Nitrogen (Total)	mg/L	0.5		ND		0.6	ND			0.8
Methane	ug/L	0.1		0.92		0.68	0.74			ND
Nitrogen (Total)	mg/L	0.5		ND		1.4	ND			ND
o-Phosphate-P	mg/L	0.05		0.1		ND	ND			ND
Phosphorous (Total)	mg/L	0.03		0.11		0.04	0.1			0.07
Radium 226	pCi/L		3	0.878 +/- 0.282		0.164 +/- 0.170	0.044 +/- 0.104			0.050 +/- 0.120
<b>Organic Analyses</b>										
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	21.0	18.0	2.0	12.0	1.6	0.0
<i>Dibromoacetic Acid</i>	ug/L	1.0		ND	2.0	2.0	ND	ND	ND	ND
<i>Dichloroacetic Acid</i>	ug/L	1.0		ND	9.0	8.0	ND	3.0	1.6	ND
<i>Monobromoacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND	ND	ND	ND
<i>Monochloroacetic Acid</i>	ug/L	2.0		ND	ND	ND	ND	ND	ND	ND
<i>Trichloroacetic Acid</i>	ug/L	1.0		ND	10.0	8.0	2.0	9.0	ND	ND
Organic Carbon (Dissolved)	mg/L	0.2		1.3		1.3	1.4			1.8
Organic Carbon (Total)	mg/L	0.2		1.0		1.2	1.3			1.20
Trihalomethanes (Total)	ug/L	1.0	80.0	26.7	69.6	58.0	66.0	77.0	80.8	71.0
<i>Bromodichloromethane</i>	ug/L	0.5		6.7	14.8	14	17	17	17	16
<i>Bromoform</i>	ug/L	0.5		ND	1.2	1.0	1.0	ND	0.57	ND
<i>Chloroform</i>	ug/L	0.5		16.9	45.6	35	39	52	57	50
<i>Dibromochloromethane</i>	ug/L	0.5		3.1	8.0	8.0	9.0	8.0	6.2	5.0
<b>Field Parameters</b>										
Temperature	° C	0.1		20	17.2	18.3	18.8	18.3	19.1	19.5
Specific Conductance (EC)	uS	1.0	900	741	469	444	426	433	426	475
pH	Std Units	0.1	6.5 - 8.5	7.0	7.5	7.5	7.3	7.5	7.4	7.27
ORP	mV	1.0		-164	35	688	265	178	55	91
Free Chlorine Residual	mg/L	0.1	2 - 5	0.2	0.37	0.21	0.1	0.43	0.29	0.39
Dissolved Oxygen	mg/L	0.01		1.99	4.23	3.94	3.08	1.2	3.99	3.19
Silt Density Index	Std Units	0.1								
H <sub>2</sub> S	mg/L	0.1		ND	ND	ND	ND	ND	ND	ND

Notes:  
 Constituents exceeding MCLs denoted in **BOLD** type



Table 17. Summary of WY 2017 Water Quality Data – SMS Deep

Parameter	Unit	PQL	MCL	Results				
				SMS Deep				
				1/18/17	4/11/17	7/18/17	9/18/17	10/2/17
<b>Sample Description</b>				<b>WY 2017 Injection</b>		<b>WY 2017 Storage</b>		
Elapsed Storage Time	Days			0	0	49	111	125
<b>Major Cations</b>								
Calcium	mg/L	0.5		51	41			48
Magnesium	mg/L	0.5		13	12			14
Potassium	mg/L	0.5		3.3	2.7			3.2
Sodium	mg/L	0.5		48	39			48
<b>Major Anions</b>								
Alkalinity, Total (as CaCO3)	mg/L	2		145	138			143
Chloride	mg/L	1	250	31	27			29
Sulfate	mg/L	1	250	82	66			70
Nitrate (as NO3)	mg/L	1	45	ND	1.0			0.3
Nitrite (as NO2-N)	mg/L	1	1	ND	0.5			ND
<b>General Physical</b>								
pH	Std Units			7.7	7.6			7.7
Specific Conductance (EC)	uS	1	900	533	490			505
Total Dissolved Solids	mg/L	10	500	331	300			308
<b>Metals</b>								
Arsenic (Total)	ug/L	1	10	1	1			6
Barium (Total)	ug/L	10	1000	45	43			56
Iron (Dissolved)	ug/L	10		ND	ND			ND
Iron (Total)	ug/L	10	300	ND	ND			ND
Lithium	ug/L	1		6	7			4
Manganese (Dissolved)	ug/L	10		ND	ND			ND
Manganese (Total)	ug/L	10	50	ND	ND			ND
Mercury	ug/L	0.5	2	ND	ND			ND
Molybdenum	ug/L	1	1000	3	3			25
Nickel	ug/L	10	100	ND	ND			ND
Selenium	ug/L	2	50	2	2			4
Strontium (Total)	ug/L	5		325	277			250
Uranium (by ICP/MS)	ug/L	1	30	1	1			1
Vanadium (Total)	ug/L	1	1000	ND	ND			ND
Zinc (Total)	ug/L	10	5000	ND	56			61
<b>Miscellaneous</b>								
Ammonia-N	mg/L	0.05		ND	0.05			ND
Boron	mg/L	0.05		ND	ND			ND
Chloramines	mg/L	0.05		0.19	0.14	ND	ND	ND
Gross Alpha	pCi/L		15	2.84 +/- 1.45	2.20 +/- 1.33			1.80 +/- 1.09
Kjeldahl Nitrogen (Total)	mg/L	0.5		ND	0.5			ND
Methane	ug/L	0.1		0.60	1.3			0.39
Nitrogen (Total)	mg/L	0.5		ND	1.3			ND
o-Phosphate-P	mg/L	0.05		0.2	0.2			ND
Phosphorous (Total)	mg/L	0.03		0.26	0.29			0.09
Radium 226	pCi/L		3	0.000 +/- 0.171	0.066 +/- 0.129			0.149 +/- 0.154
<b>Organic Analyses</b>								
Haloacetic Acids (Total)	ug/L	1.0	60.0	16.0	11.0	12.0	3.0	6.0
<i>Dibromoacetic Acid</i>	ug/L	1.0		2.0	2.0	ND	ND	ND
<i>Dichloroacetic Acid</i>	ug/L	1.0		6.0	3.0	3.0	2.0	1.0
<i>Monobromoacetic Acid</i>	ug/L	1.0		1.0	1.0	ND	ND	ND
<i>Monochloroacetic Acid</i>	ug/L	2.0		ND	ND	ND	ND	ND
<i>Trichloroacetic Acid</i>	ug/L	1.0		7.0	5.0	9.0	1.0	5
Organic Carbon (Dissolved)	mg/L	0.2		1.6	1.4			1.7
Organic Carbon (Total)	mg/L	0.2		1.5	1.4			1.3
Trihalomethanes (Total)	ug/L	1.0	80.0	41.0	27.0	81.0	81.0	86.0
<i>Bromodichloromethane</i>	ug/L	0.5		13.5	9	21	24	22
<i>Bromoform</i>	ug/L	0.5		1.2	ND	1.0	1.0	1.0
<i>Chloroform</i>	ug/L	0.5		16.5	12	49	45	52
<i>Dibromochloromethane</i>	ug/L	0.5		9.8	6	10	11	11
<b>Field Parameters</b>								
Temperature	° C	0.1		16.1	16.8	17.1	18.2	18.1
Specific Conductance (EC)	uS	1.0	900	490	429	437	447	444
pH	Std Units	0.1	6.5 - 8.5	7.5	7.7	7.3	7.3	7.1
ORP	mV	1.0		637	731	166	217	148
Free Chlorine Residual	mg/L	0.1	2 - 5	1.4	0.94	0.4	0.27	0.41
Dissolved Oxygen	mg/L	0.01		4.36	4.16	3.68	3.94	3.48
Silt Density Index	Std Units	0.1						
H <sub>2</sub> S	mg/L	0.1		ND	ND	ND	ND	ND

Notes:  
 Constituents exceeding MCLs denoted in BOLD type



- ASR-2: Two samples were collected from ASR-2; one after approximately 30 days and another after approximately 130 days of storage. Although some decline in THMs was observed during the period after the initial ingrowth, both samples exceeded the THM MCL with levels of 97 and 87 ug/L, respectively.
- ASR-3: One sample was collected from ASR-3 after approximately 30 days of storage, which showed significant ingrowth of THMs at 112 ug/L, exceeding the MCL of 80 ug/L. The pump was removed from ASR-3 in late September 2017 for well rehabilitation, and no additional samples were collected from this well during WY 2017.
- ASR-4: Two samples were collected from ASR-4; one after approximately 30 days and another after approximately 130 days of storage. The initial sample at 30 days showed significant ingrowth exceeding the THM MCL with a level of 98 ug/L, followed by more significant decline than observed at ASR-2 declining to below the MCL at a level of 59 ug/L.
- SM MW-1: Four samples were collected at SM MW-1 on an approximate monthly basis during the storage period, which showed steady ingrowth of THMs over a period of approximately 110 days reaching a level of 81 ug/L, followed a slight decline after 125 days of storage to a level of 71 ug/L.
- SMS Deep: Three samples were collected at SMS Deep during the storage period, which showed steady ingrowth of THMs over the period of 125 days reaching a level of 86 ug/L.

Historically, THMs at the ASR wells typically show an initial and significant ingrowth during the storage period, which is a result of free chlorine and trace levels of organic carbon in the injected water. THM ingrowth typically peaks in concentration approximately 60 to 120 days after the cessation of injection, followed by a gradual decline during the remainder of the storage period. After approximately 150 to 180 days of storage, THMs typically degrade to below the initial injection levels.

As discussed above, THMs during the WY 2017 storage period showed the above-described typical initial and significant ingrowth; however, their persistence this season differed from the typical pattern of significant degradation after several months of aquifer storage (with the possible exception of ASR-4). The lack of THM degradation observed during the WY 2017 storage period is likely attributable to the significantly greater volume and duration of injection, and the relatively short storage period, compared to previous years. Historically, THM degradation at ASR-1 appeared to have a direct relationship to intermixing with native ground waters, especially from gradient-induced mixing resulting from nearby pumping. Other ASR locations have postulated that changes in aquifer redox conditions and/or bioactivity from subsurface organisms such as Iron Dissimilatory Bacteria facilitate the degradation of the more robust THM compounds (i.e., chloroform and dichlorobromomethane). The large amount of recharge this season would thoroughly purge the proximate well bore areas with highly oxidized and oxygen-rich water, which would inhibit the above-noted degradation mechanisms; the



persistence of elevated redox potential (ORP), dissolved oxygen levels, and measurable free chlorine residuals during this year's storage period confirm the persistence of this condition.

HAA levels at the wells (where sufficient data was collected) generally showed their typical pattern of limited (if any) ingrowth during the initial storage period, followed by complete to near-complete degradation by the end of the storage season. HAA's are much less stable compounds than THM's; their auto-degradation is therefore unremarkable.

### **Water Quality at Off-Site Monitoring Wells**

Water-quality data collected from off-site wells in WY 2017 data are presented in **Table 18**. At PCA-E Deep, the absence of DBP's, in addition to an apparent increasing trend in chloride during the period, suggest that the influence of recharge operations is negligible to date at this location. Paralta is the nearest CAW production well to the ASR wells, and the available THM data show a potential trend of an increasing contribution of injected water quality over the WY 2017 storage season with levels increasing from 4 ug/L prior to the WY 2017 injection season to 15 ug/L near the end of the storage period. These levels are well below the MCL of 80 ug/L; however, the potential for an increasing trend in THMs at Paralta should be tracked during future ASR operations.

### **Additional Water Quality Investigations**

As discussed in the WY 2015 Summary of Operations Report (SOR), at the commencement of WY 2013 recovery pumping of ASR-1, a sample collected by CAW<sup>8</sup> had a Mercury (Hg) concentration of 4 µg/L, exceeding the State MCL of 2 µg/L. Although the occurrence of Hg in surface water and groundwater has been documented elsewhere in the Monterey Bay region, the detection of Hg in SGB water was unusual. The initial Hg detection at ASR-1 was followed up with additional sampling to verify the presence of Hg, and the subsequent sampling identified detectable levels of Hg, although below the MCL. The fact that detectable Hg was identified, and at levels above historical NGW and injectate concentrations has led to the development of an ongoing investigation of Hg occurrence at the ASR wells.

As described in previous technical memoranda and reports regarding this issue, the origin of the detected Hg could be the result one or more mechanisms, including the following:

- A. Soluble or insoluble Hg present in the Carmel River System source water that could have accumulated as particulate (insoluble) compounds in the well bore area, similar to the accumulation of other particulate matter present in the Carmel River injectate and CAW conveyance system. Such accumulation would be released during routine backflushing operations and/or early stages of stored water recovery operations.

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<sup>8</sup> Collected on October 24, 2013.



**Table 18. Summary of WY 2017 Water Quality Data – Off-Site Monitoring Wells**

Parameter	Unit	PQL	MCL	Results					
				PCA-E Deep			Paralta		
				12/8/2016	4/10/2017	9/11/17	12/1/16	8/15/17	
ASR Operational Phase				WY 2016 Storage	WY 2017 Injection	WY 2017 Storage	WY 2016 Storage	WY 2017 Storage	
<b>Major Cations</b>									
Calcium	mg/L	0.5		37	46	56	73	56	
Magnesium	mg/L	0.5		7	10	4.4	17	14	
Potassium	mg/L	0.5		3.5	4.4	4.4	4.7	4.1	
Sodium	mg/L	0.5		68	77	98	83	78	
<b>Major Anions</b>									
Alkalinity, Total (as CaCO3)	mg/L	2		138	187	196	223	169	
Chloride	mg/L	1	250	76	107	112	112	64	
Sulfate	mg/L	1	250	22	31	32	66	71	
Nitrate (as NO3)	mg/L	1	45	ND	ND	ND	3	1	
Nitrite (as NO2-N)	mg/L	1	1	0.2	ND	ND	0.3	ND	
<b>General Physical</b>									
pH	Std Units			7.6	7.4	7.3	7.3	7.4	
Specific Conductance (EC)	uS	1	900	578	760	764	912	652	
Total Dissolved Solids	mg/L	10	500	291	440	463	557	403	
<b>Metals</b>									
Arsenic (Total)	ug/L	1	10	7	7	7	3	3	
Barium (Total)	ug/L	10	1000	64	86	99	64	43	
Iron (Dissolved)	ug/L	10		ND	ND	ND	20	11	
Iron (Total)	ug/L	10	300	ND	35	54	24	ND	
Lithium	ug/L	1		21	33	37	30	22	
Manganese (Dissolved)	ug/L	10		ND	121	157	30	11	
Manganese (Total)	ug/L	10	50	ND	124	150	28	11	
Mercury	ug/L	0.5	2	ND	ND	ND		ND	
Molybdenum	ug/L	1	1000	10	10	9	12	26	
Nickel	ug/L	10	100	26	ND	4	ND	ND	
Selenium	ug/L	2	50	ND	ND	1	2	2	
Strontium (Total)	ug/L	5		206	319	281	379	252	
Uranium (by ICP/MS)	ug/L	1	30	ND	ND	ND	1	1	
Vanadium (Total)	ug/L	1	1000	ND	ND	ND	5	ND	
Zinc (Total)	ug/L	10	5000	24	27	ND	ND	ND	
<b>Miscellaneous</b>									
Ammonia-N	mg/L	0.05		ND	ND	ND	0.1	ND	
Boron	mg/L	0.05		0.07	0.09	0.10	0.10	0.07	
Chloramines	mg/L	0.05		ND	ND	ND	ND	ND	
Gross Alpha	pCi/L		15	0.489 +/- 1.42	1.38 +/- 1.51	0.986 +/- 1.93	7.19 +/- 2.50	3.77 +/- 1.77	
Kjeldahl Nitrogen (Total)	mg/L	0.5		ND	ND	ND	1.2	ND	
Methane	ug/L	0.1		ND	2.2	2.8	3.7	1.6	
Nitrogen (Total)	mg/L	0.5		ND	ND	ND	1.7	ND	
o-Phosphate-P	mg/L	0.05		ND	ND		0.2	ND	
Phosphorous (Total)	mg/L	0.03		0.03	0.05	0.02	0.03	0.02	
Radium 226	pCi/L		3	0.050 +/- 0.120	0.164 +/- 0.170	0.56 +/- 0.134	1.39 +/- 0.349	0.978 +/- 0.285	
<b>Organic Analyses</b>									
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	0.0	0.0	0.0	0.0	
<i>Dibromoacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND	ND	
<i>Dichloroacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND	ND	
<i>Monobromoacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND	ND	
<i>Monochloroacetic Acid</i>	ug/L	2.0		ND	ND	ND	ND	ND	
<i>Trichloroacetic Acid</i>	ug/L	1.0		ND	ND	ND	ND	ND	
Organic Carbon (Dissolved)	mg/L	0.2		0.7	0.5	0.6	1.0	1.1	
Organic Carbon (Total)	mg/L	0.2		0.8	0.5	0.6	1.0	1.0	
Trihalomethanes (Total)	ug/L	1.0	80.0	0.0	0.0	0.0	4.3	15.0	
<i>Bromodichloromethane</i>	ug/L	0.5		ND	ND	ND	0.6	3.0	
<i>Bromoform</i>	ug/L	0.5		ND	ND	ND	ND	ND	
<i>Chloroform</i>	ug/L	0.5		ND	ND	ND	3.7	12.0	
<i>Dibromochloromethane</i>	ug/L	0.5		ND	ND	ND	ND	ND	
<b>Field Parameters</b>									
Temperature	° C	0.1		27.7	27.1	28.8	24.5	22	
Specific Conductance (EC)	uS	1.0	900	554	525	660	785	455	
pH	Std Units	0.1	6.5 - 8.5	7.5	7.7	7.4	7.2	7.4	
ORP	mV	1.0		68	75	-64	-211	-47	
Free Chlorine Residual	mg/L	0.1	2 - 5	ND	ND	ND	0.2	0.27	
Dissolved Oxygen	mg/L	0.01			0.46	0.55	2	6.14	
Silt Density Index	Std Units	0.1							
H <sub>2</sub> S	mg/L	0.1		ND	ND	ND		ND	

Notes:  
 Constituents exceeding MCLs denoted in **BOLD** type





- B. Solubilization of naturally occurring Hg minerals present in the Tsm geologic matrix, which could result from geochemical interactions between the injection source water, NGW and aquifer minerals.
- C. Mobilization of insoluble (i.e., particulate) Hg from the Tsm matrix via the dissolution of cementitious materials and subsequent migration of particulate Hg compounds during recovery/pumping operations.
- D. Other anthropogenic sources of Hg in well components or other off-site sources.

During WY 2016, a Supplemental Sampling and Analysis Plan<sup>9</sup> (SSAP) was developed for additional investigation of the Hg occurrence. In addition to the collection of Hg samples utilizing a variety of EPA-approved laboratory methods and detections limits, the suite of analytes included a variety of constituents that are known to affect (or directly react with) Hg and/or Hg compounds. The sampling performed during WY 2016 resulted in the following preliminary findings:

- The ASR wells showed Hg levels below MCL's, but there was also a positive correlation between declining turbidity and decreasing Hg levels as the duration of pumping increased during well backflushing operations.
- Injection source waters from the Begonia Iron Removal Plant (BIRP) indicated detectable Hg levels in the raw well water plant influent and in the finished product water; however, the Hg levels were all far below MCL's, and even below the detection limits of conventional EPA 200.8 analysis methods, with the Hg detections at sub-parts-per-trillion levels.

The data collected during WY 2016 suggested that there was a meaningful correlation between Hg content, Turbidity, and pumping time in the produced water from ASR-1. The possible explanation for this phenomenon is that the trace-level Hg present in the Carmel River System injection source waters was accumulating in the near-well-bore area during injection operations, and then released when reverse flows associated with backflushing or recovery operations occurred (per hypothesis (A) above).

Because the occurrence of elevated Hg levels in ASR-1 appeared to be directly correlated to elevated turbidity levels in initial well flush waters, a revised protocol consisting of a new triple-surge well flushing procedure (refer to the WY 2016 SOR for details) was recommended for all regular and special operations in WY 2017. The addition of an on-line Turbidity analyzer at ASR-1 was also recommended to serve as a safeguard against the possible conveyance of turbid (and potentially Hg-noncompliant) waters into the distribution system during ASR recovery (ie production) operations.

**WY 2017 Investigation.** The Hg occurrence investigation continued in WY 2017 and consisted of the following activities:

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<sup>9</sup> Dated September 4, 2015



- Collection of high-frequency (daily) samples of injectate during the Injection Season to monitor for the presence / absence of Hg in the injected water.
- Performance of 1-hr Cycle Tests for the collection of additional Hg data from all four of the ASR wells.
- Collection of water quality data on a monthly basis from all 4 ASR wells during the storage period to assess time- and mixing-dependant effects on the occurrence of Hg.
- “Breakthrough” sampling at ASR-4 to detect the arrival of the ASR-3 injection front and monitor for associated changes in Hg concentrations.
- Collection of ASR well backflush residue samples for evaluation by a specialty lab to establish if the samples have sufficient quantities of Hg-bearing particulates for further analysis via specialty analytical laboratory methods to determine the precise identification of Hg-bearing particulates (i.e., molecular composition and structure) to facilitate refined geochemical modeling to provide an improved understanding of the geochemical mechanism(s) responsible for Hg-occurrence.

The results to date of the WY 2017 Hg investigation activities are summarized below:

High-Frequency Injectate Sampling. High frequency sampling of the injectate during WY 2017 was performed to detect the presence of Hg in the injection source water. High frequency composite sampling of the injectate was performed to detect if high flows in the Carmel River Watershed was causing episodic releases of Hg into the river system from soil runoff in the watershed and/or stirring up sediments in the reservoir(s) or floodplains. It was assumed that if Hg was being released from the Carmel River System, the events would occur over several consecutive days when the river flows were high and sediments were being transported. Due to the assumed timing of the hypothetical Hg release mechanism, daily composite samples were used to detect if the events were occurring.

Composite samples of injectate were collected at the ASR-2 wellhead every day the project was operated in injection mode. An automated ISCO sampler was plumbed to the sample port at the ASR-2 wellhead and was programmed to pull 50 ml of water from the injectate stream at a 30-minute sample interval. An aliquot of the water collected by the ISCO was collected by operations staff and sent to the lab at roughly 24-hour intervals. A record of when the samples were collected and what time-period each of the samples represent is included in this report as **Appendix C** (not included in draft). In addition, a record of which Carmel River System wells were producing water to the CAW system was kept in case there was a Hg detection in the injectate. The Carmel Valley production records are also presented in **Appendix C** (not included in draft).

Over the WY 2017 project operation, no Hg was detected in any of the daily composite samples, indicating that the Carmel River System is likely not a source of Hg at the ASR wells as postulated in (A) above. Because no Hg was detected during this WY 2017 sampling, the District does not intend to continue composite sampling of injectate in future operational years.



**1-Hr Cycle Testing.** Additional Hg sampling and analysis was performed at ASR-2, and ASR-3 and ASR-4 during WY 2017 (prior to the injection season) as part of the expansion of the Hg occurrence investigation beyond ASR-1 to the other ASR project wells. The sampling consisted of 1-hr “Cycle Tests”, similar to the sampling that has been conducted at ASR-1 previously, where samples were collected from each well at elapsed pumping/purge times of 0 (initial casing flush water), 1, 2, 5, 10, 30 and 60 mins. The results are summarized in **Table 19** below:

**Table 19. Hg “Cycle Test” Data Summary**

Well	Sample Date	Cl- (mg/L)	% NGW <sup>1</sup>	Purge ET (mins) vs. Hg (ug/L) <sup>2</sup>						
				0	1	2	5	10	30	60
ASR-2	11/3/2016	92	61	1.8	0.67	0.23	1.1	<b>2.1</b>	<b>2.5</b>	<b>2.5</b>
	12/6/2016	102	72	0.28	1.8	0.23	0.78	<b>2.4</b>	<b>2.5</b>	<b>2.6</b>
ASR-3	11/1/2016	75	45	0.01	0.01	1.5	0.01	1.3	1.4	1.5
	12/9/2016	87	58	1.5	0.35	0.2	0.19	1.1	1.5	1.5
ASR-4	11/1/2016	91	61	<b>4.5</b>	0.01	0.67	0.33	0.17	0.4	0.36
	12/9/2016	92	61	<b>2.4</b>	0.17	0.58	0.19	0.22	0.38	0.27

**Notes:**

Constituents exceeding MCLs denoted in **BOLD** type

1 - Percent of native groundwater (NGW) in based on Chloride (Cl-) data.

2 - Unfiltered EPA Method 200.8

The cycle test data did not show a correlation between Turbidity and Hg level as noted above during the 2016 testing program. This may be a result of the very low turbidities encountered throughout ASR operations during the 2017 year; it is possible that the Turbidity:Hg correlation is applicable only when there are substantial turbidity spikes at the wells. Because Turbidity is an indirect measurement of particulate matter in water, the correlation between possible Hg occurrence and higher Tu values would appear to be valid, at least at relatively high values, as detected occurrences of Hg have historically been predominantly in an insoluble (particulate) form.

Further analysis of the dataset does, however, suggest that the presence of Hg may have a correlation with the amount of mixing between injected and native ground waters; the magnitude of mixing is presented above in **Table 19** as a percent of NGW in the samples collected based on Chloride ion measurements. While the theory of possible Hg accumulation around the well bore opened in 2016 is not supported by the 2017 test data, the hypothesis of Hg solubilization and/or dissolution from the Tsm matrix (per (B) and (C) above) may still have merit. The data also indicate that during these testing sessions there were occasional occurrences of Hg above the EPA MCL of 2.0 ug/L. These occurrences were the only detections of Hg during WY 2017 that exceeded drinking water standards, and they occurred only at the ASR-2 and ASR-4 wells, which are not currently connected to pump recovery water into the CAW system. Although these samples were not collected during actual production operations, the data illustrate two important issues: (1) the implementation of mandatory flushing of any ASR wells before commencement of production into the Cal-Am potable system is still warranted; and (2) the ASR-2 exceedances occurred when the aquifer conditions contained predominantly older NGW that would be on the outer fringe of the recharge boundary.



Monthly Storage Testing. As described above, supplemental sampling was performed at the wells on a monthly basis during the aquifer storage period. The wells were flushed to waste and samples were collected at 4- and 20-minutes, with laboratory analyses for Hg, Cl<sup>-</sup> (as an indicator of the percentage of mixing with native ground waters), and a variety of divalent metal ions which are characteristically associated with Hg mineral chemistry – especially Copper (Cu) and Zinc (Zn) ion. The data collected indicated several trends which appear to support the hypothetical mechanisms of solubilization or dissolution of Hg from Tsm aquifer minerals ((B) and (C) above) based on the following:

- In all sample events, the (minor) increase in Cl levels indicated increased mixing of injected and native ground waters over time for all wells.
- In most cases, Hg levels increased over time, although in no cases were Hg levels detected at or above Drinking Water Standards.
- In most cases, concentrations of Copper ion (Cu) showed a corresponding increase in concentration when Hg levels increased.

ASR-4 was especially characteristic in this trend, as presented in **Figure 29**. Additional sampling under this protocol is warranted to further evaluate these relationships, as well as re-assessment of historical data, if available, to further confirm these trends.

“Breakthrough” Sampling at ASR-4. Because solubilization of naturally occurring Hg present in the Tsm minerals resulting from geochemical interactions between the injection source water, NGW, and aquifer minerals was identified as one potential mechanism for the Hg occurrences, sampling for Hg was performed at ASR-4 in an effort to observe the arrival of the ASR-3 injection front and any associated changes in Hg concentrations that could be attributable to solubilization and mobilization of naturally occurring Hg present in Tsm minerals.

ASR-3 began essentially continuous injection on January 4, 2017 (there was some minor intermittent injection at this well during the period December 17 and 21, 2016). First arrival time of ASR-3 injectate at ASR-4 was roughly estimated at approximately 30 days<sup>10</sup>. Chloride concentrations were intermittently monitored at ASR-4 to detect the arrival of ASR-3 injectate (the pre-injection groundwater concentration of chloride was approximately 120 mg/L, whereas the average injectate Cl<sup>-</sup> concentration was approximately 30 mg/L), after which samples were collected for Hg analysis.

The collected data are graphically presented on **Figure 30**. As shown, the chloride concentration at ASR-4 was observed to gradually decline as injectate from ASR-3 began to arrive. Samples were collected from ASR-4 for Hg analysis on March 7 and 15, 2017 (approximately 60 and 70 days after ASR-3 began injecting), with resulting Hg concentrations of 0.14 and 0.12 ug/L, respectively, which were significantly less than the pre-injection

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<sup>10</sup> Based on the Calculated Fixed Radius (CFR) equation and an average ASR-3 injection rate of 1,000 gpm.



concentration of Hg (by as much as 0.40 ug/L). These observations suggest that injection at ASR-3 and the subsequent influx of Carmel River injected waters did not result in the direct/immediate solubilization and mobilization of Hg that would impact ASR-4. This is an important finding, but it does not rule out the solubilization or dissolution/mobilization mechanisms postulated in (B and (C) above; rather it demonstrates only that the geochemical processes may not be immediate.

Injection operations were subsequently initiated at ASR-4 on April 5, 2017. Samples were collected following backflushing of ASR-4 after an 8-hr Step-Rate Injection Test (April 5 and 6, 2017) for Hg analysis. As shown on **Figure 30**, the Hg concentration at ASR-4 was observed to essentially double compared to the pre-injection baseline, with both samples at concentrations of 0.80 ug/L. Although these concentrations are below the MCL of 2.0 ug/L, these observations suggest that the initial injection at ASR-4 in WY 2017 may have resulted in solubilization or dissolution of Hg from the Tsm mineralogy. This data warrants further geochemical assessment.

Further review of **Figure 30** shows that as injection at ASR-4 continued, and then into the storage period, samples collected from the well began to display essentially the pure Carmel River injectate concentrations of chloride and Hg, reflecting the essentially complete displacement of NGW from ASR-4 during WY 2017. Again, the return of Hg levels to background level further support the displacement mechanism.

Backflush Residue Sampling. A critical factor in the assessment of the occurrence of Hg and determination of the cause(s) and mitigation of the occurrences is to establish the geochemical mechanism(s) associated with the reactions. Although the investigation thus far has been successful in establishing the presence and quantification of the levels of Hg during the various operations of the ASR program, the precise speciation of the original Hg compounds has not been achieved. The reason for this is a result of the exceptionally low levels of Hg mineral occurrence and the lack of sufficiently large quantities of mineral samples for analysis.

In an effort to obtain solid residue samples of Hg-containing materials, the WY 2017 investigation focused on the capture of granular materials ejected from the wells during routine backflush operations. The technique utilized involved the routing of a slipstream of water from each well during the first minutes of backflushing into a clean 100-gallon Nalgene container; the flush water is then isolated and allowed to settle for several days, after which the supernatant water is decanted, and the granular sludge materials are captured and isolated for laboratory analysis. The sludge samples typically amount to less than 10 grams of material and are first analyzed for total Hg content to determine their suitability for further Hg speciation analyses. Current mineralogical analysis techniques are, however, limited to detection thresholds of >10-20 mg/kg levels for Hg compounds.

A total of 6 sludge samples were collected during WY 2017; 2 each from the ASR-2, -3, and -4 wells (no samples were able to be collected from ASR-1 due to mechanical problems at this well). The results ranged from a low of 1.4 mg/kg at ASR-3 to a high of only 11 mg/kg at ASR-4. The full analytic laboratory results are provided in **Appendix D** (not included in draft



report). Note that in all sludge sampling cases, the supernatant was analyzed after separation and Hg levels were essentially non-detect.

Unfortunately, none of the WY 2017 collected samples had a high enough concentration of Hg to warrant additional speciation analysis. It is recommended that this program be continued in WY 2018 in the hopes of obtaining a sample with a sufficiently high Hg concentration for speciation analysis.

Another alternative for obtaining granular solids samples for mineralogical analysis is the collection of cuttings from other proximate wells soon to be drilled through the Tsm formation; such samples can be obtained in large quantities, and therefore easily analyzed for bulk Hg concentrations. If the initial screening analysis for Hg is sufficiently high, additional samples can be speciated. It is our understanding that this work can be implemented in Summer 2018.

**Next Steps.** The investigation of the occurrence of Hg has not yet sufficiently identified the source(s), mechanism(s), and potential mitigations for this issue, and it is therefore recommended that investigation be continued during the WY 2018 program. Based on the previous work and the information gleaned from the current study, we recommend the following activities be implemented during WY2018:

1. The water quality program outlined in the SSAP, specifically the collection of monthly 4- and 20-minute samples from each of the four ASR wells, should be continued for WY 2018.
2. Collection and screening analysis of Tsm cuttings from upcoming proximate wells should be implemented, with subsequent speciation analyses performed on samples with Hg concentrations > 20 mg/kg.
3. Geochemical interaction modeling of the ASR program should be performed in the event that mineralized Hg compounds can be positively identified or inferred from other sources.
4. If possible, perform extended pumping tests of ASR-2 and ASR-4 with SSAP analytic parameters analyses to assess the long-term water quality trends at these wells.

These recommended next steps are intended to facilitate long-term operational improvement considerations for the Aquifer Storage and Recovery program. As the Hg investigation continues, additional findings, conclusions, and recommendations will be documented in the WY 2018 SOR to facilitate ongoing operation of the ASR project.



## CONCLUSIONS

Based on the findings developed from operation of Monterey Peninsula ASR Project during WY 2017, we conclude the following:

### WY 2017 Recharge Operations

WY 2017 was classified as an Extremely Wet Water Year on the Monterey Peninsula and a total volume of 2,345 af of water was recharged into the Seaside Groundwater Basin at the Santa Margarita and Seaside Middle Schools ASR Facilities during the WY 2016 injection season.

### ASR Well Performance

**ASR-1.** Pertinent well performance conclusions for ASR-1 during WY 2017 are summarized below:

- Injection Rates: Ranged between approximately 270 to 1870 gpm, averaging approximately 1,435 gpm.
- Water Levels: Consistently less than 260 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 100 ft.
- Specific Injectivity: Ranged between approximately 21 to 25 gpm/ft with an overall negative trend in 24-hr specific injectivity.
- Residual Plugging: Approximately 21 feet of residual plugging occurred.
- General Conclusions: ASR-1 performed well during WY 2017; however, the well did experience a moderate level residual plugging. The negative trend in performance at injection rates ranging up to 1,870 gpm suggests the injection rate at this well should be maintained at or below the design rate of 1,500 gpm in WY 2018.

**ASR-2.** Pertinent well performance conclusions for ASR-2 during WY 2017 are summarized below:

- Injection Rates: Ranged between approximately 340 to 1,940 gpm, averaging approximately 1,450 gpm.
- Water Levels: Consistently less than 250 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 130 ft.
- Specific Injectivity: Ranged between approximately 30 to 34 gpm/ft with an overall negative trend in 24-hr specific injectivity.
- Residual Plugging: Approximately 23 feet of residual plugging occurred.



- **General Conclusions:** ASR-2 performed well during WY 2017; however, the well did experience a moderate level residual plugging. The negative trend in performance at injection rates ranging up to 1,940 gpm suggests the injection rate at this well should be maintained at or below the design rate of 1,500 gpm in WY 2018.

**ASR-3.** Pertinent well performance conclusions for ASR-3 during WY 2017 are summarized below:

- **Injection Rates:** Ranged between approximately 600 to 1,405 gpm, averaging approximately 995 gpm.
- **Water Levels:** Consistently less than 190 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 170 ft.
- **Specific Injectivity:** Ranged between approximately 8.7 to 9.4 gpm/ft and overall stable trend in 24-hr specific injectivity.
- **Residual Plugging:** Approximately 36 feet of residual plugging occurred.
- **General Conclusions:** ASR-3 performance appeared to be relatively stable compared to the significant declines observed in WY 2012. The pattern of relative performance stabilization followed by the initial significant decline in well performance observed at ASR-3 is very similar to the pattern observed at both ASR-1 and ASR-2 when they were initially brought on-line. The stable performance at injection rates ranging between 700 to 1,010 gpm suggests the injection rate should be maintained at or below 1,000 gpm to maintain performance until the well is rehabilitated (planned for WY 2018).

**ASR-4.** Pertinent well performance conclusions for ASR-4 during WY 2017 are summarized below:

- **Injection Rates:** Ranged between approximately 140 to 1,860 gpm, averaging approximately 1,260 gpm.
- **Water Levels:** Generally maintained greater than 160 ft bgs, with approximately 50 feet of available “freeboard” remaining below the maximum recommended drawup level (when operated at the design injection rate of 1,500 gpm)
- **Specific Injectivity:** Ranged between approximately 16 to 26 gpm/ft with an overall increasing trend in 24-hr specific injectivity over the course of the injection season.
- **Residual Plugging:** Approximately 36 feet of residual plugging occurred.
- **General Conclusions:** ASR-4 performance appeared to decline significantly following the initial 8-hr step-rate injection test, then stabilize and actually increase during the course of the injection season, whereas the pumping performance decreased over





the course of the injection season. At this time, it is unclear why this well displayed apparent contradictory performance during WY 2017. Accordingly, these observations suggest the injection rate should be maintained at or below the design rate of 1,500 gpm until the performance trends at this well can be evaluated more fully in WY 2018.

### **Water Quality**

Significant conclusions regarding the water-quality investigation during WY 2017 include the following:

- Consistent with previous observations, no significant ion exchange, acid-base, or precipitation reactions were observed at the ASR sites.
- THMs during the WY 2017 storage period showed the typical initial and significant ingrowth; however, they differed from the typical pattern in that significant degradation of THMs was not observed during the storage period at most wells (with the possible exception of ASR-4). The lack of THM degradation observed during the WY 2017 storage period is attributable to the significantly greater volume and duration of injection, and the relatively short storage period, compared to previous years.
- HAAs at the wells with sufficient data generally showed their typical pattern of limited (if any) ingrowth during the initial storage period, followed by complete to near-complete degradation by the end of the storage season.
- The investigation of sporadic occurrences of Hg in the various wells has not conclusively identified the origins and mechanisms of the process to date; however, the following conclusions were developed based on the current years' data:
  - High frequency source sampling of Carmel River waters established that the river does not appear to be the source of Hg at the wells.
  - Source water Hg levels were all below detection limits.
  - In contrast to earlier data, Hg occurrences in WY 2017 generally consisted of soluble Hg rather than Insoluble (particulate) Hg; this was particularly evident in ASR- 2 and ASR-3; whereas ASR-4 Hg occurrences were approximately 1:1 in soluble:insoluble speciation.
  - A trend was observed in increasing Hg levels over time during aquifer storage, and a corresponding increase in the presence of Cu ion. This may represent a possible geochemical reaction mechanism related to the solubilization of Hg from Tsm minerals.



## RECOMMENDATIONS

Based on the WY 2017 ASR program results and our experience with similar ASR projects, we offer the following recommendations for continued and future operations of the Monterey Peninsula ASR Project wells:

### ASR-1 Well Operational Parameters

- **Injection Rate:** Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,870 gpm, we recommend the injection rate be limited to approximately **1,500 gpm or less** in order to limit residual plugging and maintain long-term performance.
- **Water-Level Drawup:** Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 100 feet. This amount of water-level drawup during injection equals the typical available drawdown in the well for backflushing. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained **greater than 260 feet bgs** at all times.
- **Backflushing Frequency:** During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately **260 feet bgs**, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

### ASR-2 Well Operational Parameters

- **Injection Rate:** Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,945 gpm, we recommend the injection rate be limited to the design rate of approximately **1,500 gpm or less** in order to limit residual plugging and maintain long-term performance.
- **Water-Level Drawup:** Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 130 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained **greater than 250 feet bgs** at all times.
- **Backflushing Frequency:** During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of



water-level drawup in the casing reaches a depth to water level of approximately **250 feet bgs**, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

### ASR-3 Well Operational Parameters

- Injection Rate: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,405 gpm, we recommend the injection rate continue to be limited to **1,000 gpm** in order to limit residual plugging and maintain long-term performance.
- Water-Level Drawup: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 170 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained **greater than 190 feet bgs** at all times.
- Backflushing Frequency: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately **190 feet bgs**, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

ASR-3 should undergo formal rehabilitation to improve well performance and injection capacity, similar to that performed at ASR-1 and ASR-2. It is believed that following rehabilitation, the well will be able to operate at its design injection rate of 1,500 gpm (i.e., 50 percent greater than the current capacity of 1,000 gpm).

### ASR-4 Well Operational Parameters

- Injection Rate: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,590 gpm, we recommend the injection rate be limited to the design rate of approximately **1,500 gpm or less** in order to limit residual plugging and maintain long-term performance.
- Water-Level Drawup: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 200 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained **greater than 160 feet bgs** at all times.



- **Backflushing Frequency:** During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately **160 feet bgs**, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

### **Supplemental Water Quality Investigations**

1. The water quality program outlined in the SSAP, specifically the collection of monthly 4- and 20-minute samples from each of the four ASR wells, should be continued for WY 2018.
2. Collection and screening analysis of Tsm cuttings from upcoming proximate wells should be implemented, with subsequent speciation analyses performed on samples with Hg concentrations > 20 mg/kg.
3. Geochemical interaction modeling of the ASR program should be performed in the event that mineralized Hg compounds can be positively identified or inferred from other sources.
4. Data from the ASR-4 baseline injection testing should be further analyzed via geochemical modeling to evaluate the possible mechanism(s) associated with the anomalous spike in Hg immediately after initial injection testing.
5. If possible, perform extended pumping tests of ASR-2 and ASR-4 with SSAP analytic parameters analyses to assess the long-term water quality trends at these wells.

### **CLOSURE**

This report has been prepared exclusively for the Monterey Peninsula Water Management District for the specific application to the ASR Project on the Monterey Peninsula. The findings and conclusions presented herein were prepared in accordance with generally accepted hydrogeologic and engineering practices. No other warranty, express or implied, is made.



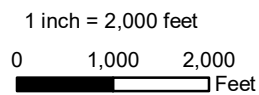
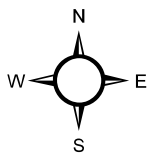
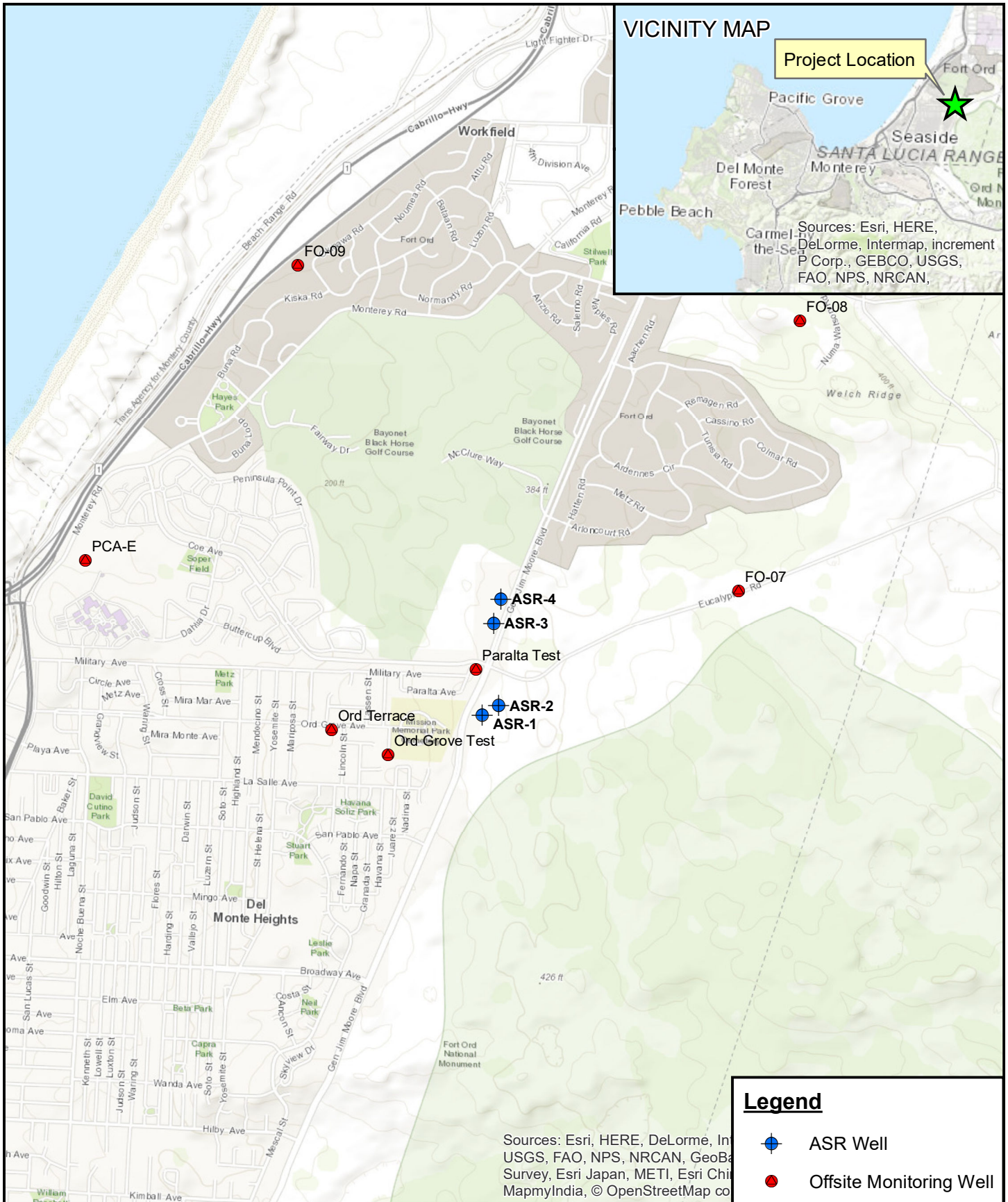
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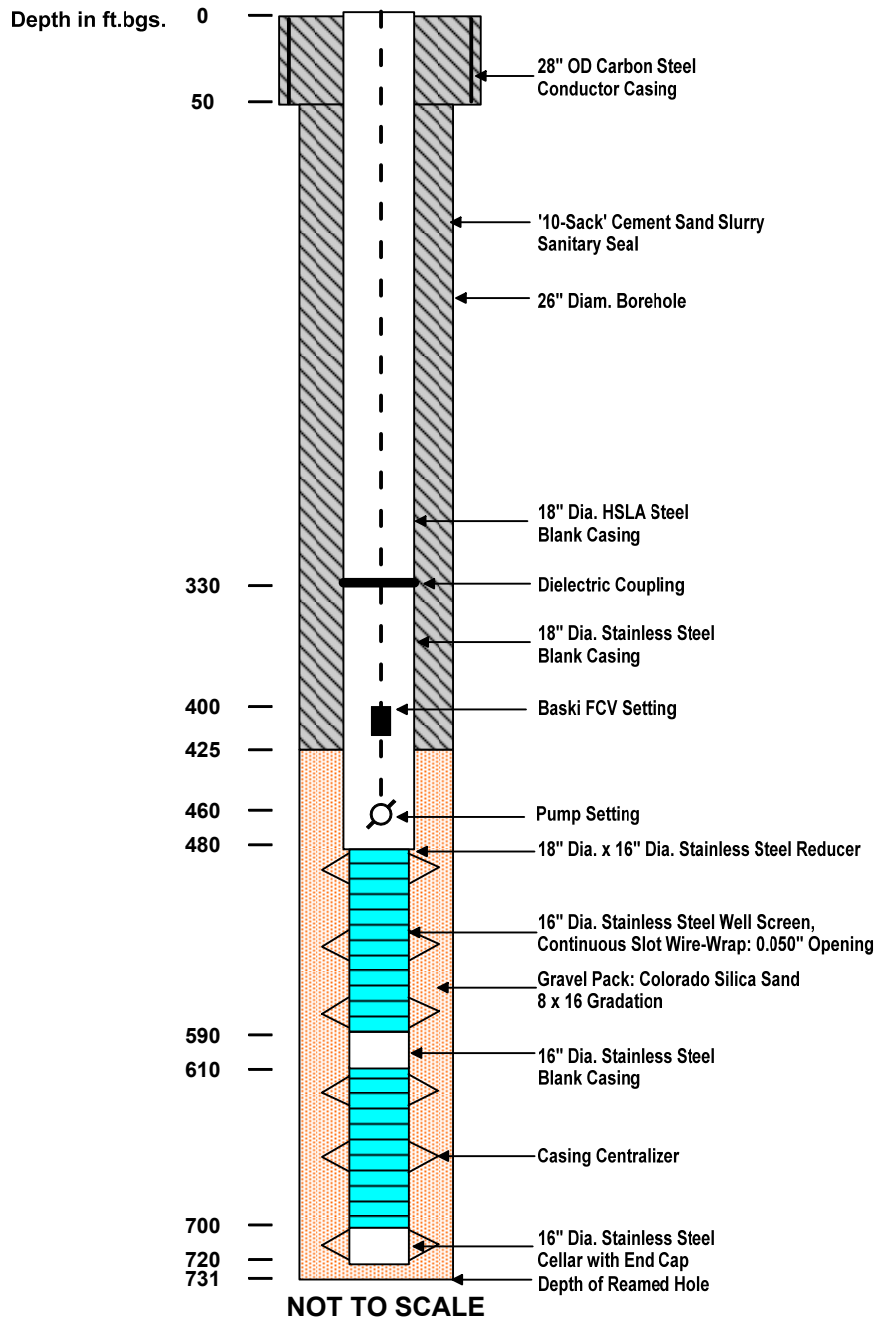
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**FIGURES**



**FIGURE 1. SITE LOCATION MAP**  
**WY 2017 ASR Program**  
**Monterey Peninsula Water Management District**



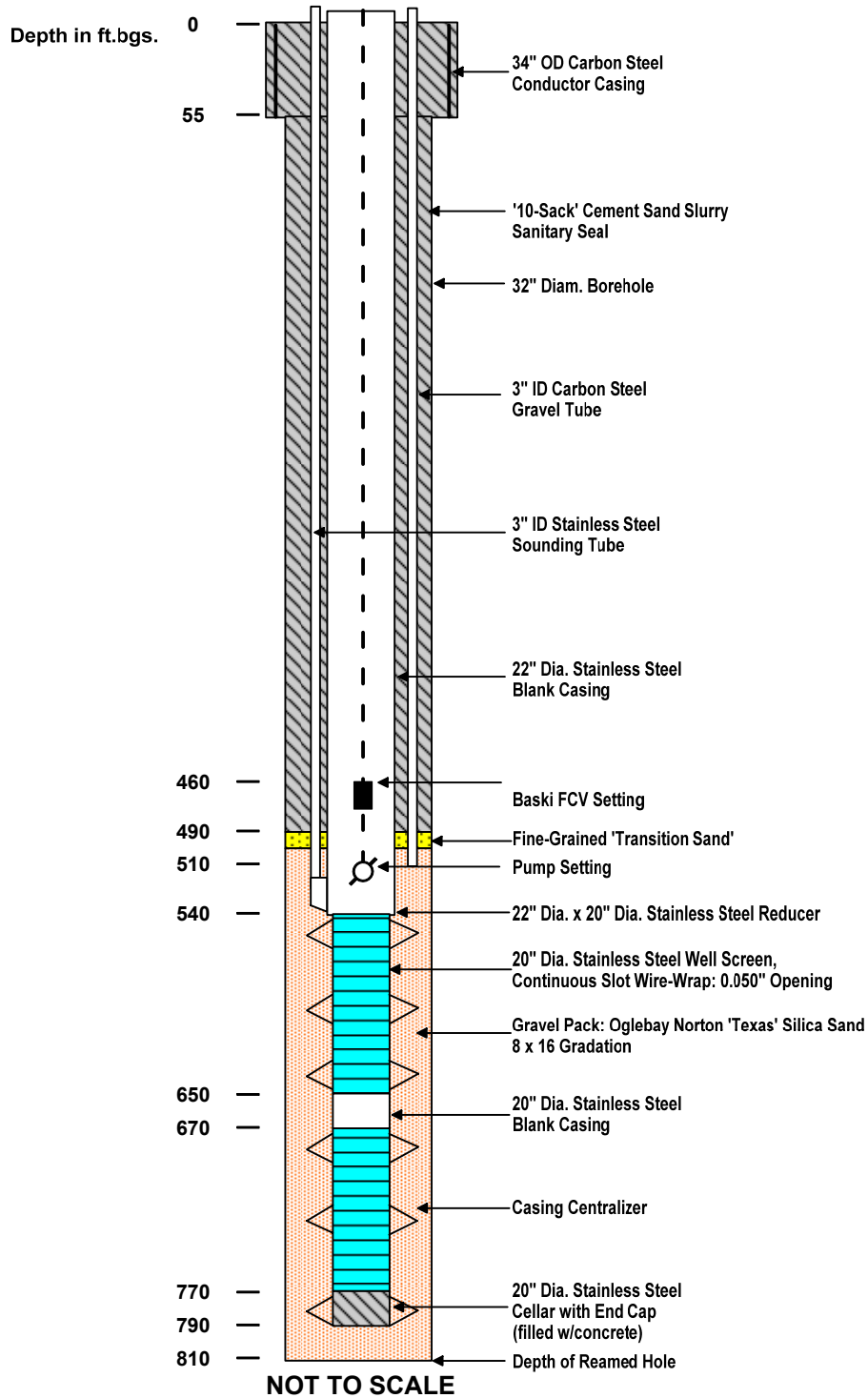


Pump Assembly Notes:

Hp: 600  
 Bowls: 16ENL, 7 stage  
 Col. Pipe Dia: 12"  
 Col. Pipe Length: 20'  
 Assy. Type: Water Lube/Open Shaft  
 Baski FCV Setting: 400' - 410'  
 Top of Bowls: 460'  
 Bowl Length: 10.5'  
 Suction Length: 10'  
 Intake: 480.5'



FIGURE 2. ASR-1 AS-BUILT SCHEMATIC  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District



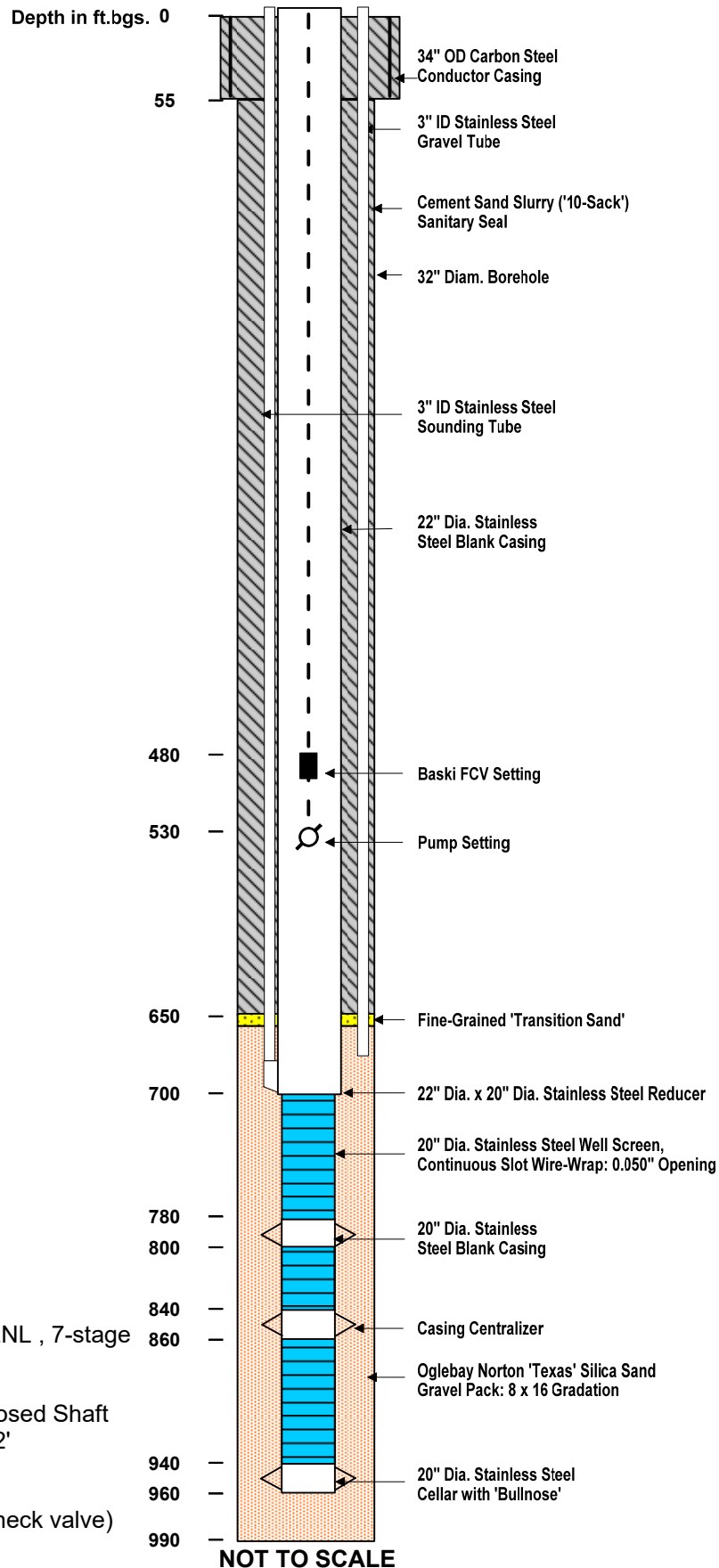
NOT TO SCALE

Pump Assembly Notes:

Hp: 600  
Bowls: 16ENL, 7 stage  
Col. Pipe Dia: 12"  
Col. Pipe Length: 20'  
Assy. Type: Water Flush/Enclosed Shaft  
Baski FCV Setting: 460' - 470'  
Top of Bowls: 510'  
Bowl Length: 10.5'  
Suction Length: 10'  
Intake: 530.5'



FIGURE 3. ASR-2 AS-BUILT SCHEMATIC  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

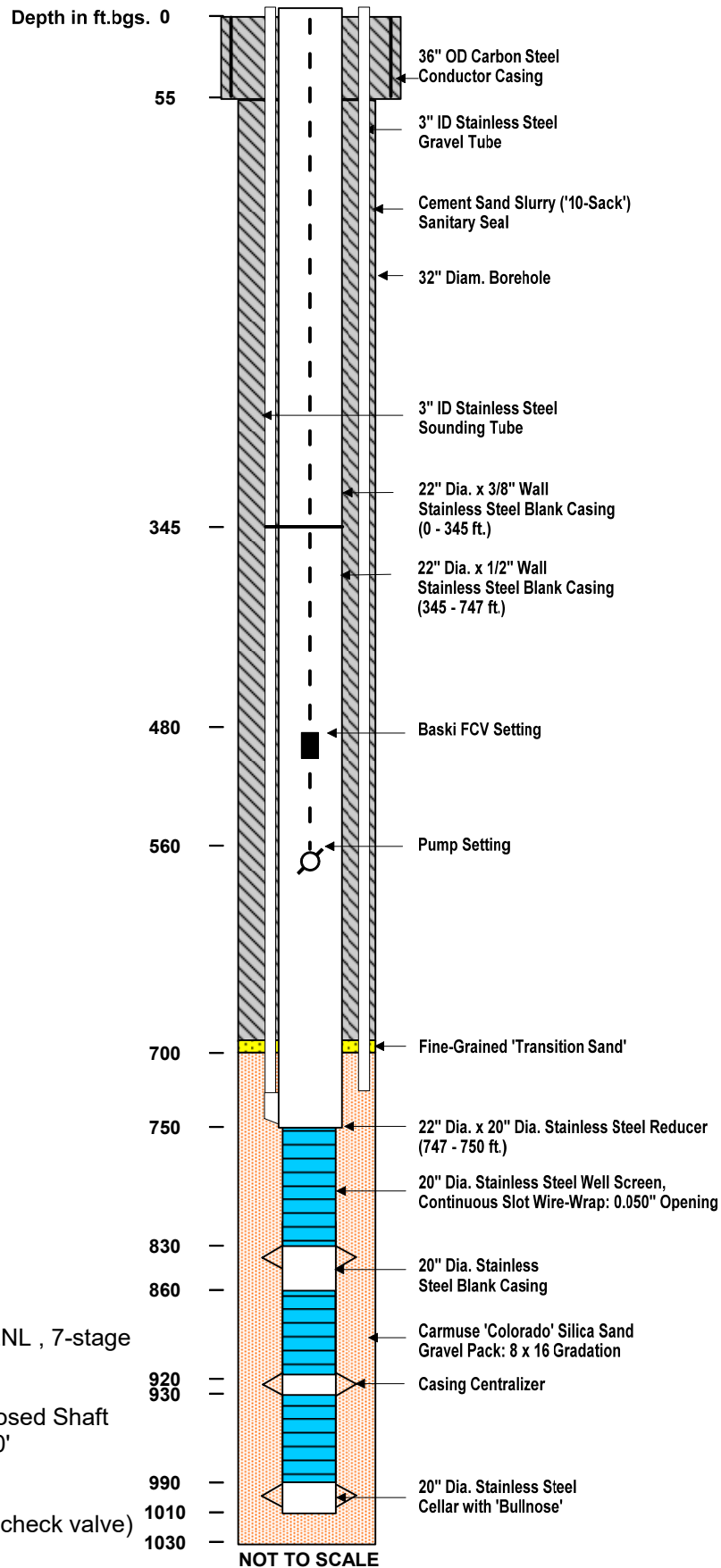


Pump Assembly Notes:

Hp: 600  
 Bowls: Flowserve Model 16 ENL , 7-stage  
 Col. Pipe Dia: 12"  
 Col. Pipe Length: 20'  
 Assy. Type: Water Flush/Enclosed Shaft  
 Baski FCV Setting: 482' to 492'  
 Top of Bowls: 532'  
 Bowl Length: 10.5'  
 Suction Length: 8'(including check valve)  
 Intake: 550.5'

NOT TO SCALE

FIGURE 4. ASR-3 AS-BUILT SCHEMATIC  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

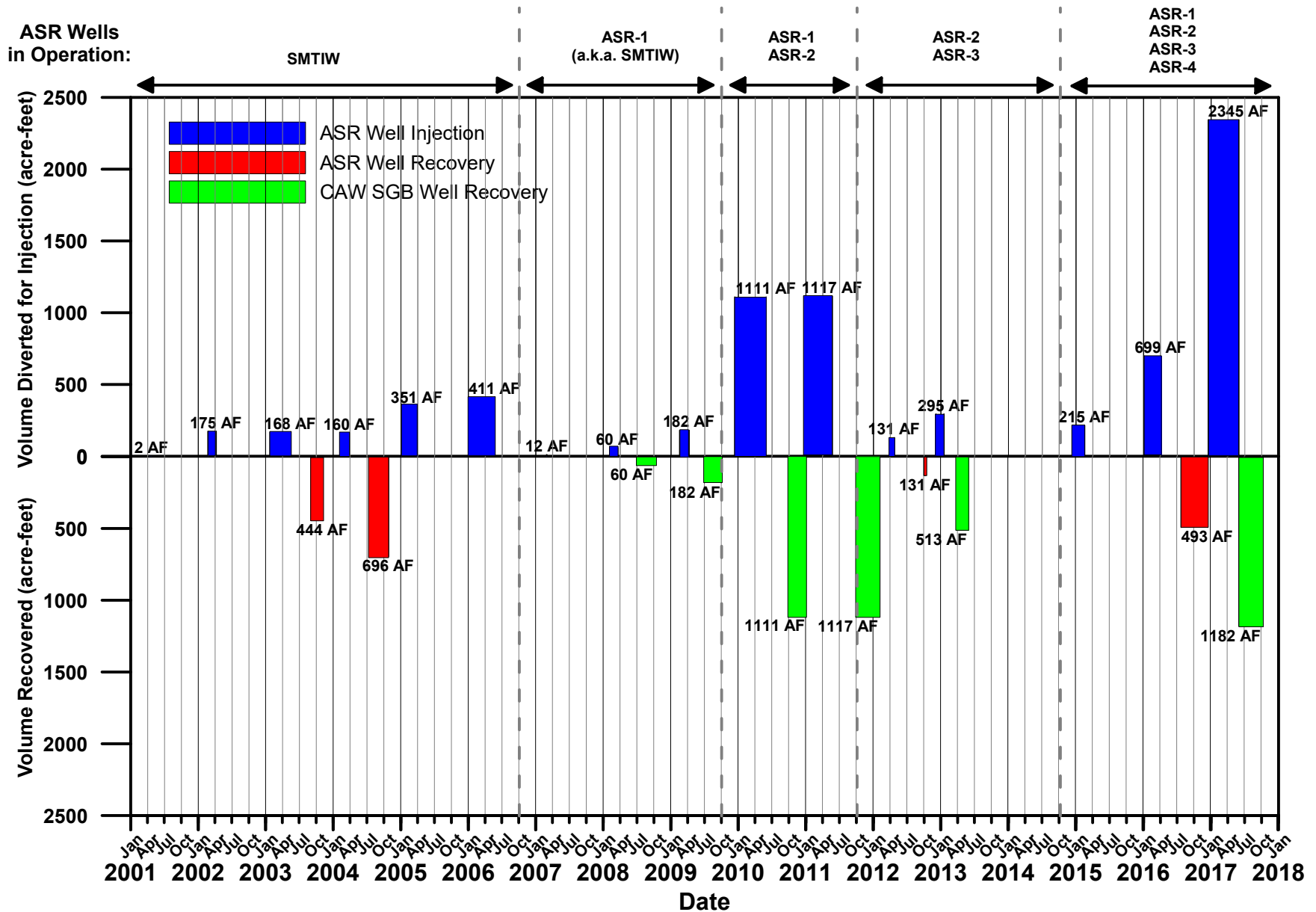


Pump Assembly Notes:

Hp: 600  
 Bowls: Flowserve Model 16 ENL , 7-stage  
 Col. Pipe Dia: 12"  
 Col. Pipe Length: 20'  
 Assy. Type: Water Flush/Enclosed Shaft  
 Baski FCV Setting: 480' to 490'  
 Top of Bowls: 562'  
 Bowl Length: 10.4'  
 Suction Length: 10' (including check valve)  
 Intake: 582.4'



FIGURE 5. ASR-4 AS-BUILT SCHEMATIC  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District



**FIGURE 6. SUMMARY OF ASR OPERATIONS (WY 2001 - WY 2017)  
WY 2017 ASR Program  
Monterey Peninsula Water Management District**

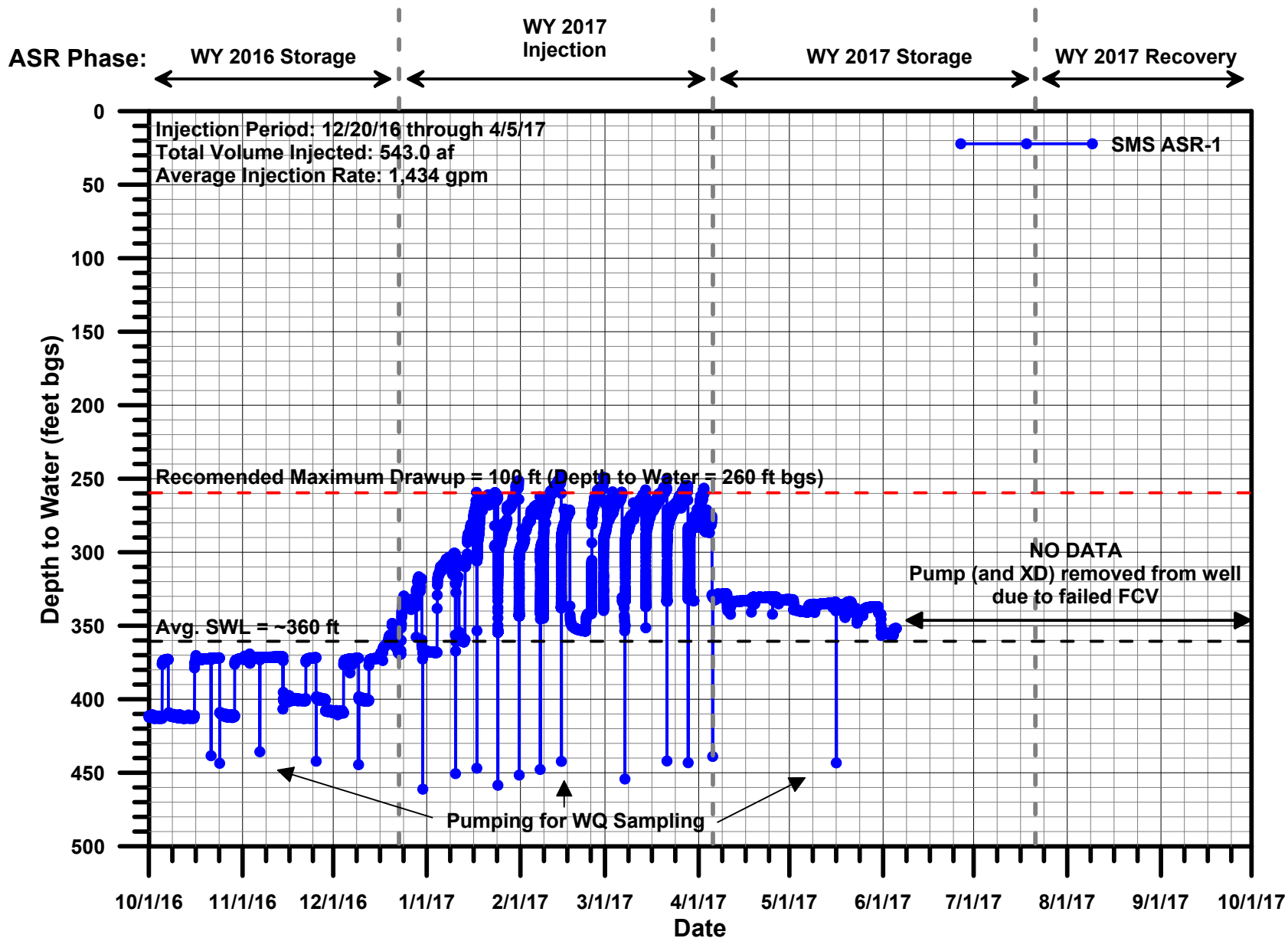


FIGURE 7. ASR-1 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

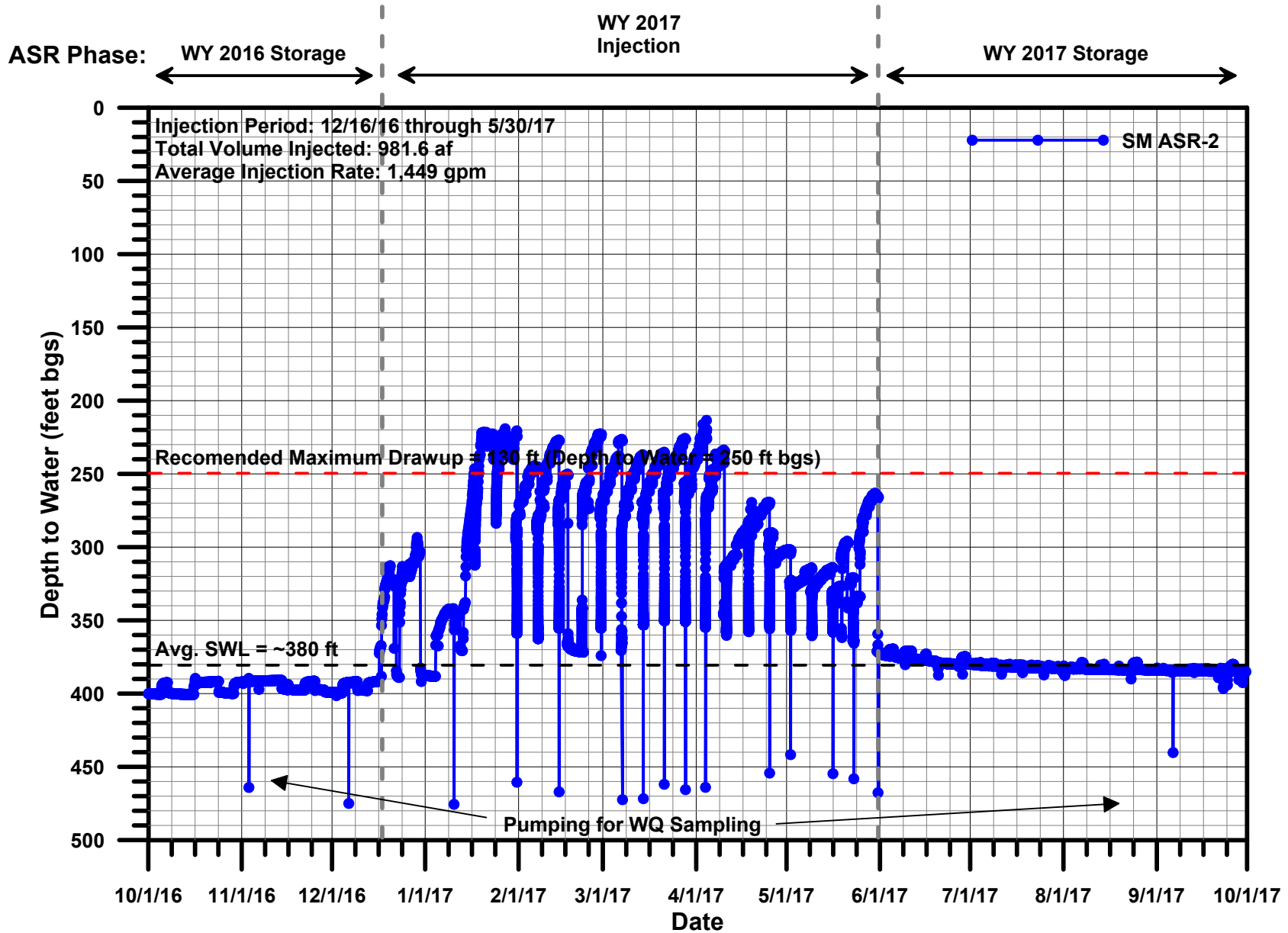


FIGURE 8. ASR-2 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

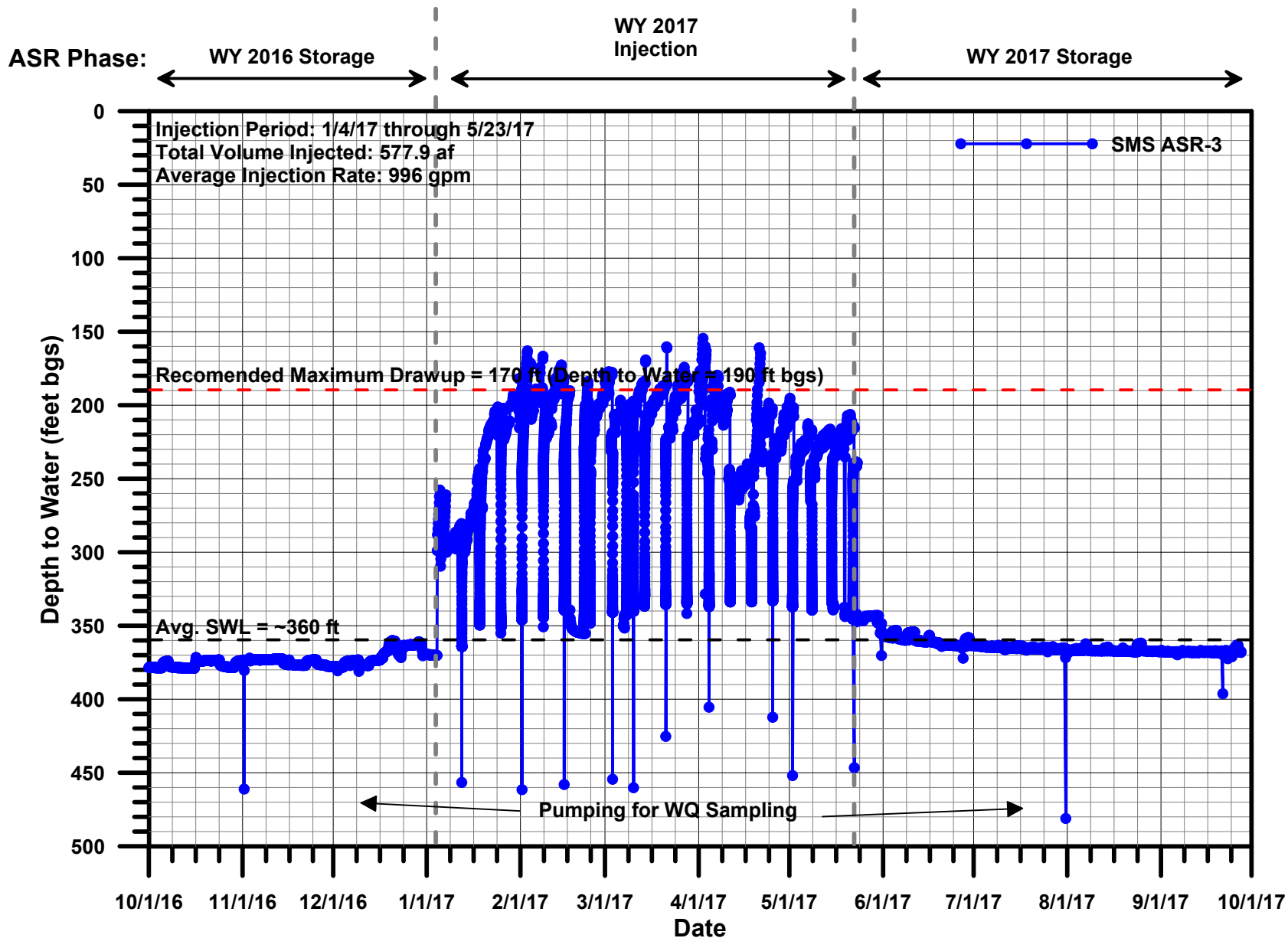


FIGURE 9. ASR-3 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District



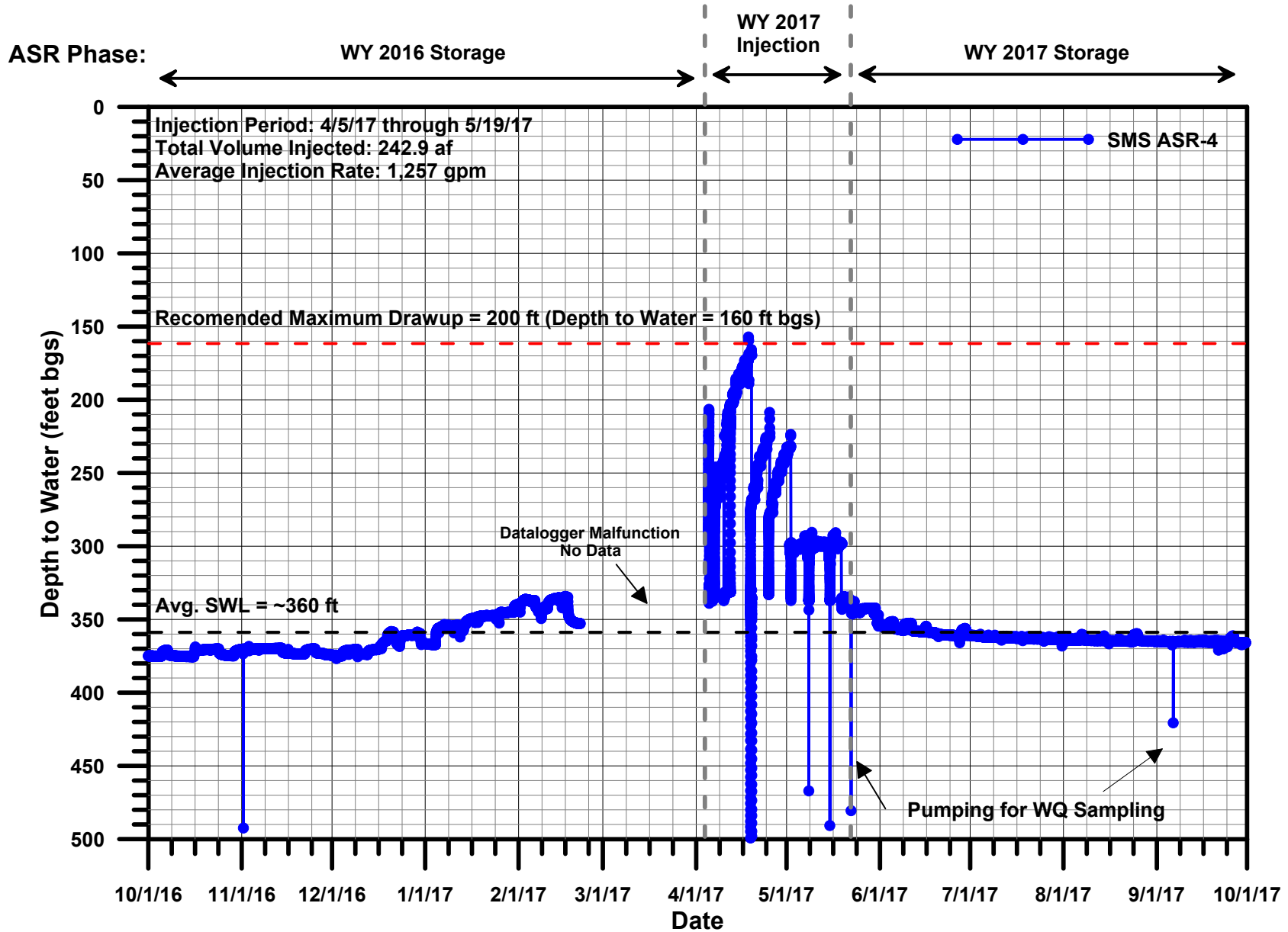


FIGURE 10. ASR-4 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

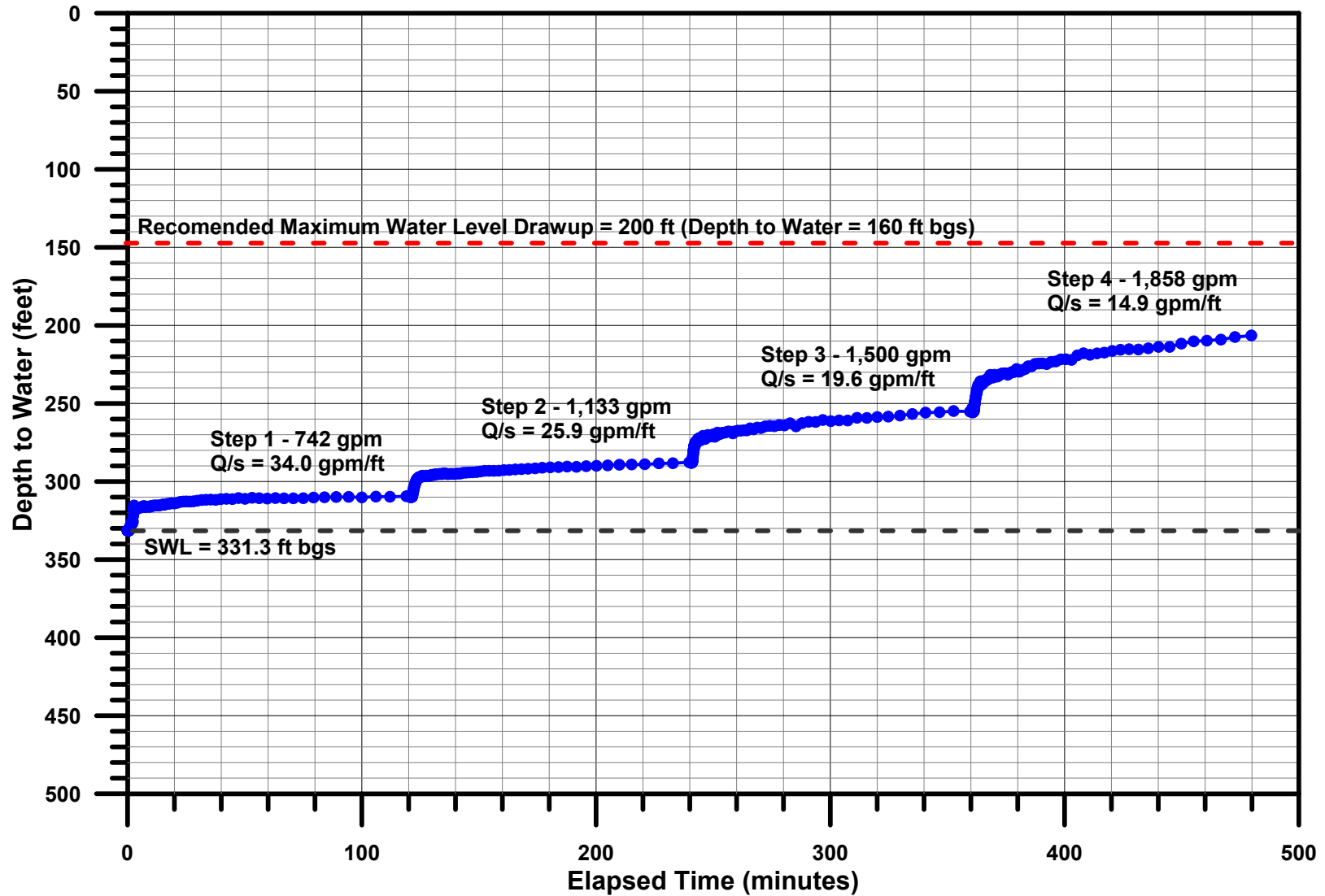
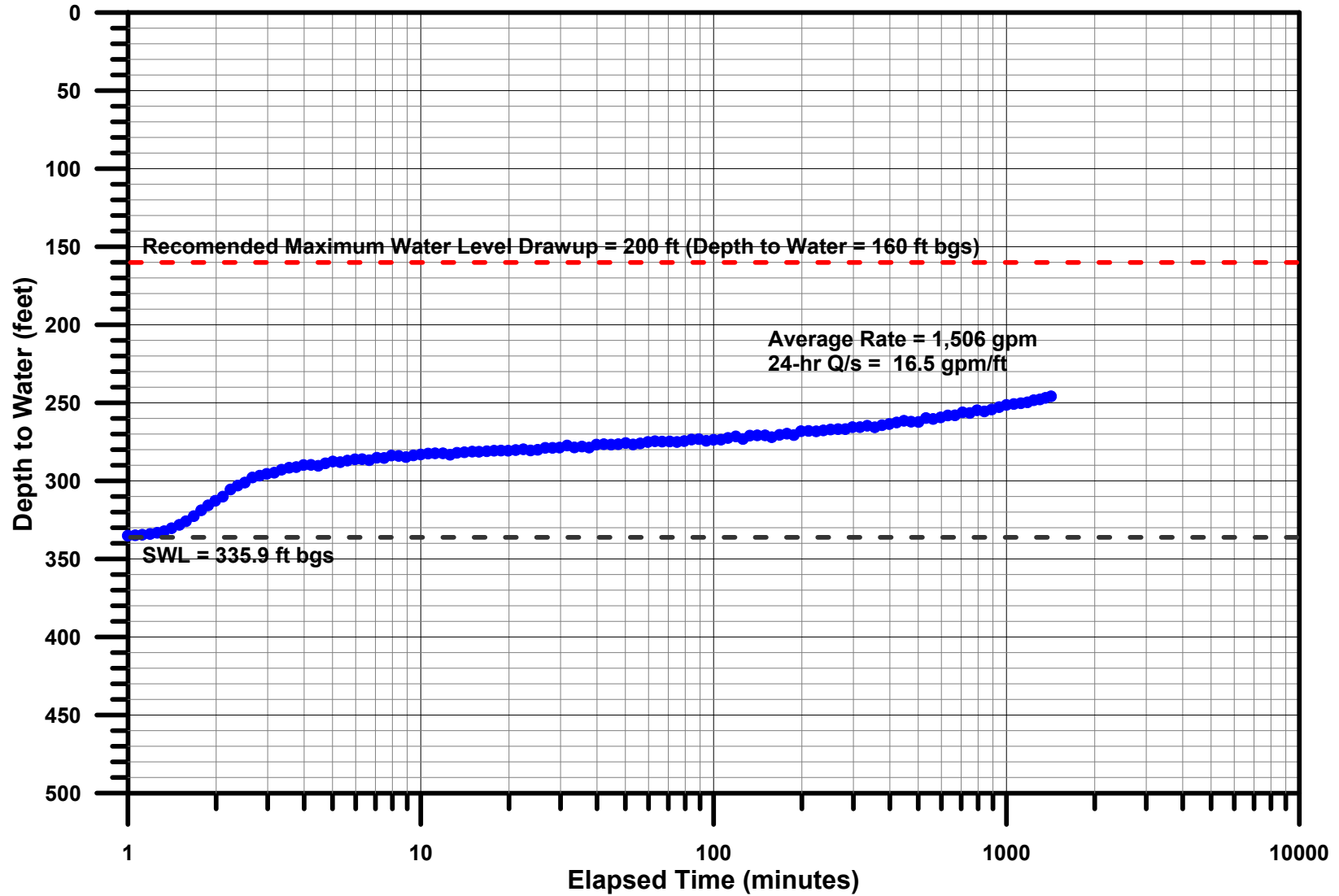


FIGURE 11. ASR-4 BASELINE INJECTION TESTING - 8-HR STEP-RATE INJECTION TEST  
WY 2017 ASR Program  
Monterey Peninsula Water Management District





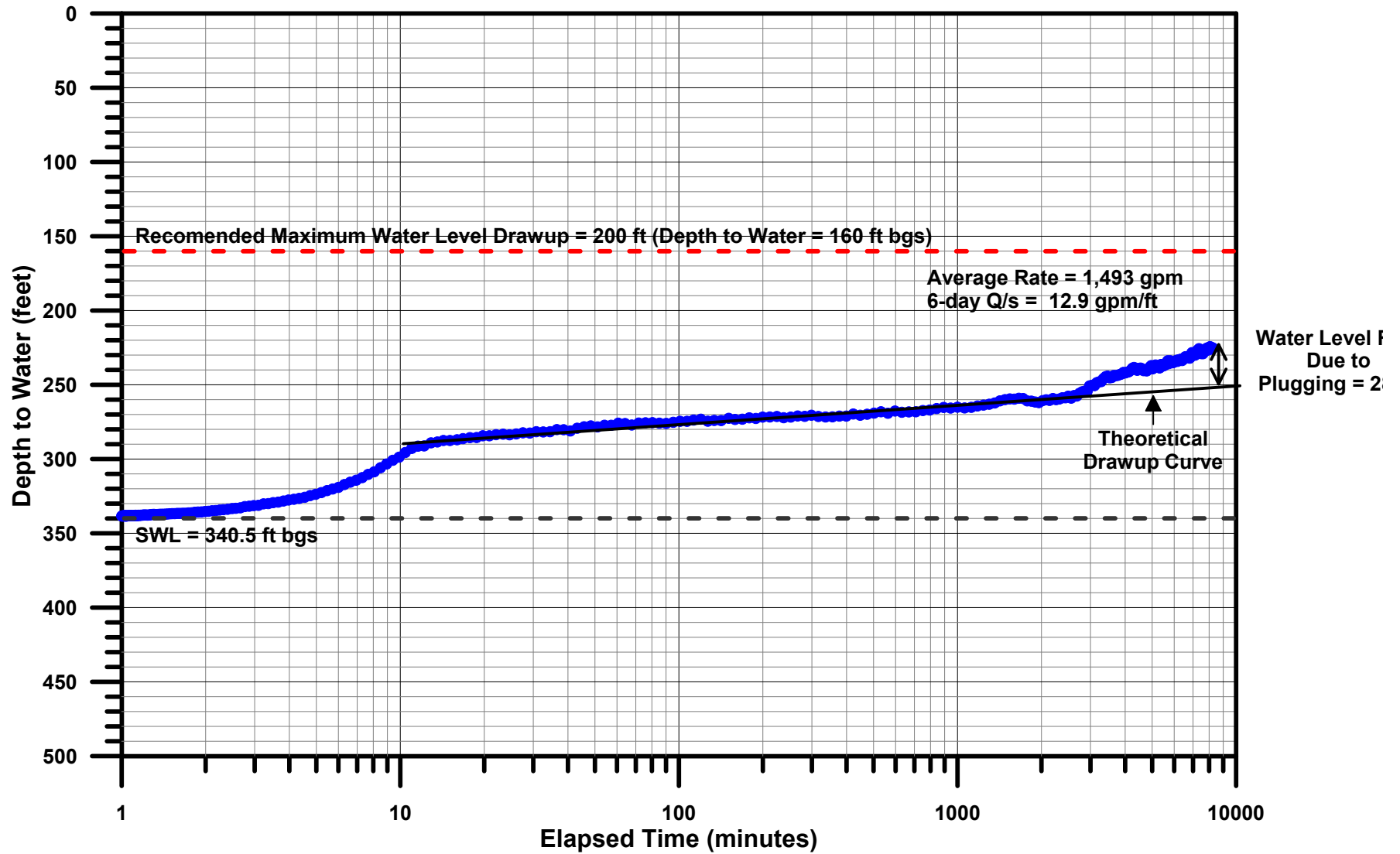


FIGURE 13. ASR-4 BASELINE INJECTION TESTING - 6-DAY CONSTANT RATE INJECTION TEST  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

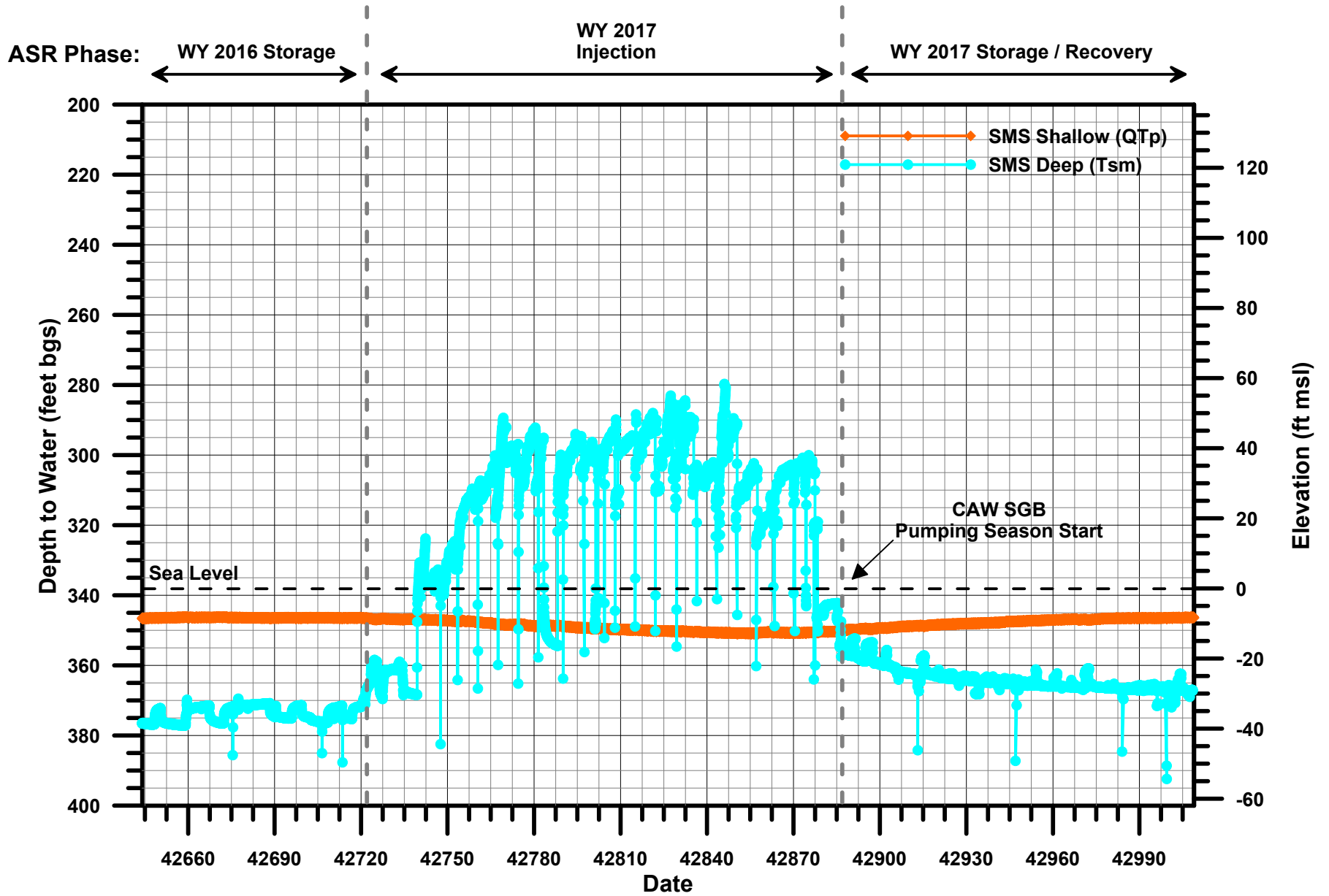


FIGURE 14. SMS MW WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

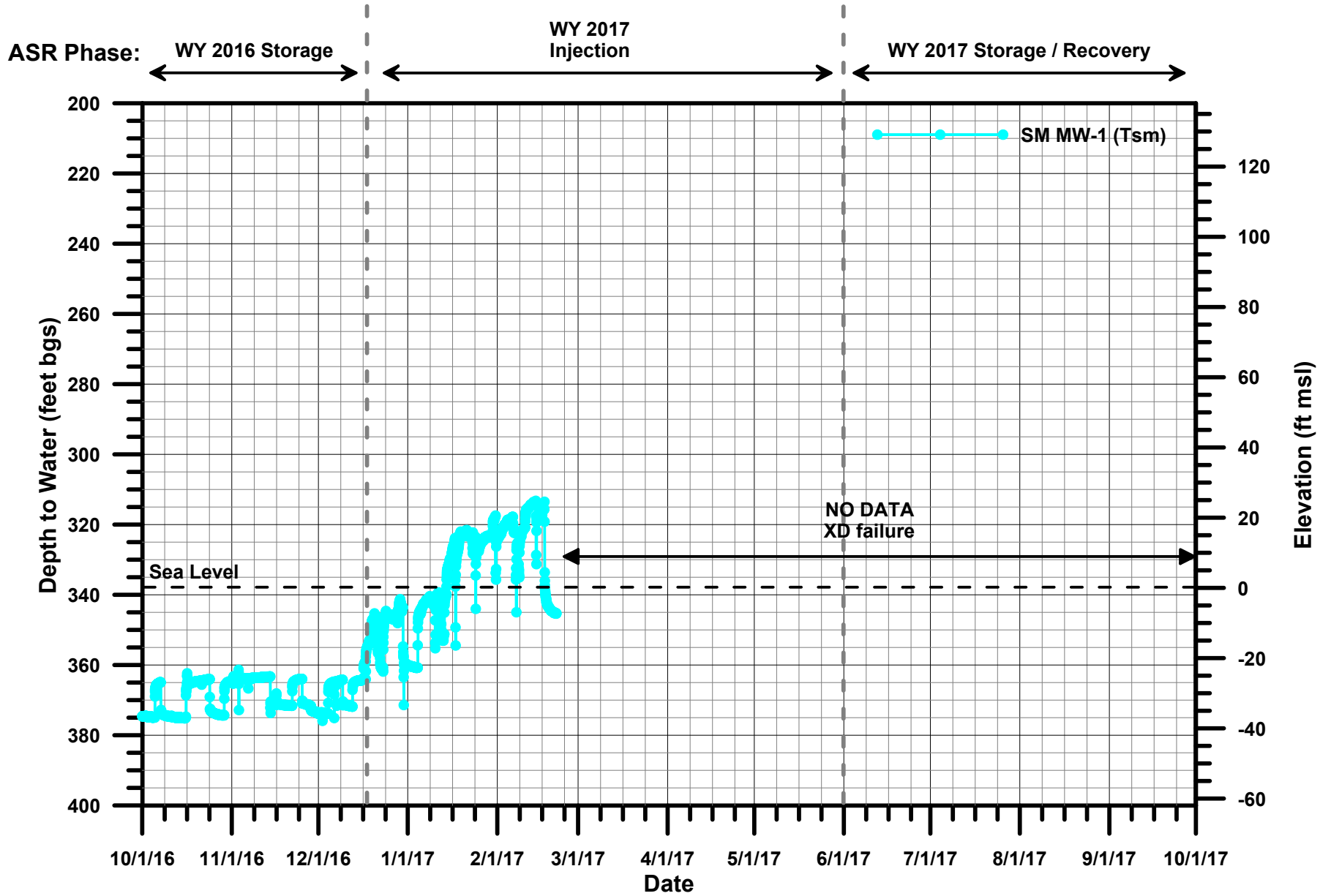


FIGURE 15. SM MW-1 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

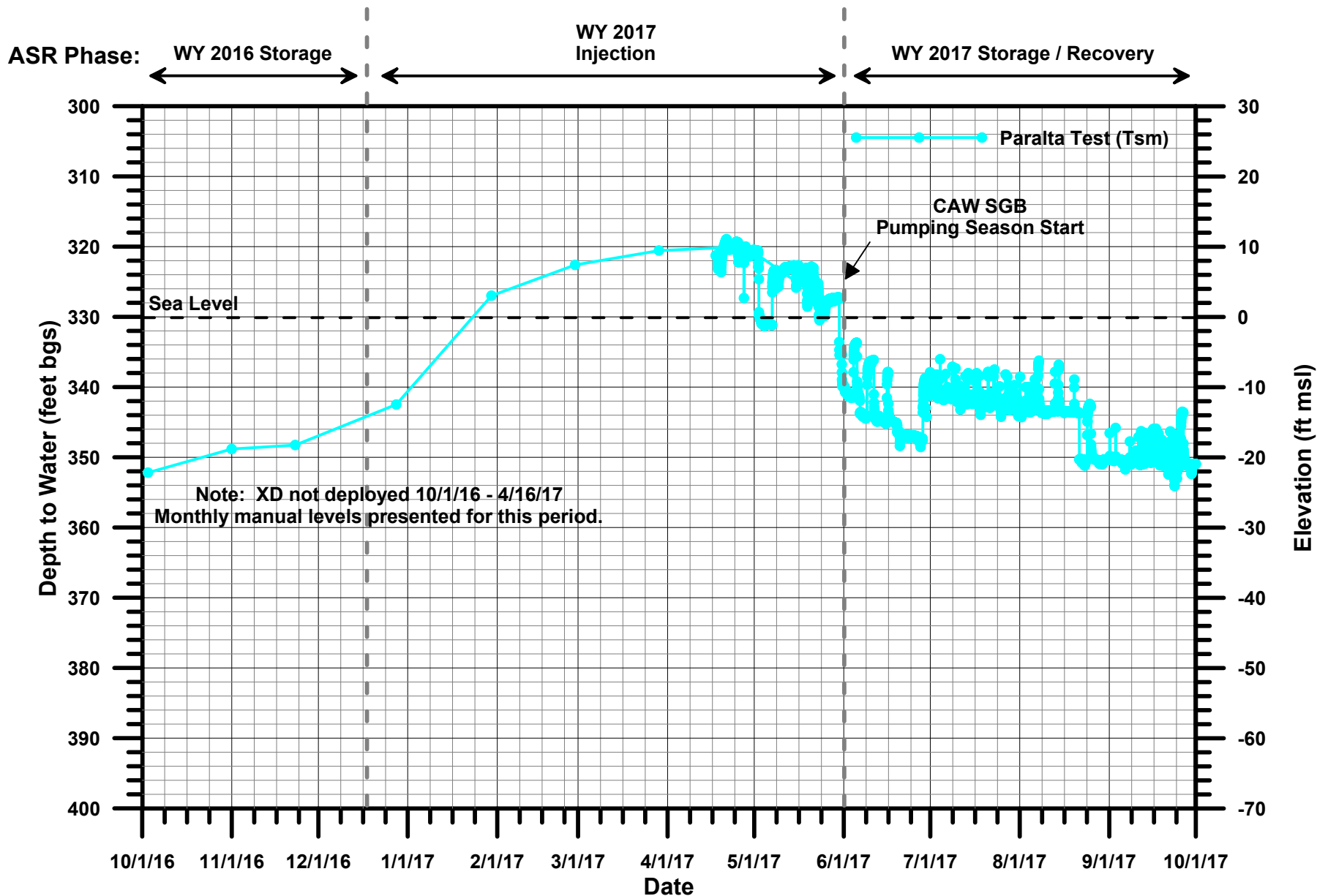


FIGURE 16. PARALTA TEST WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

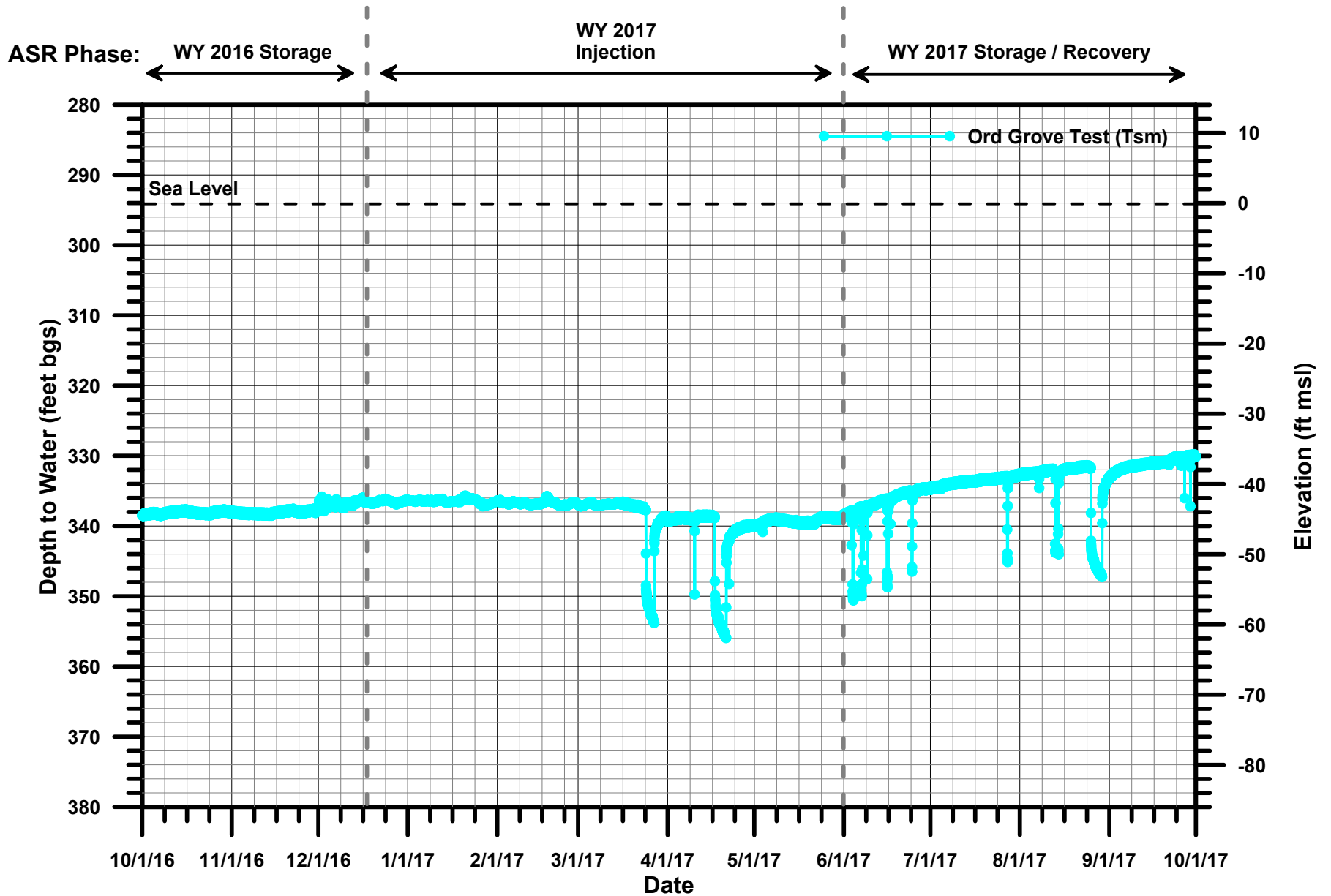


FIGURE 17. ORD GROVE TEST WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District



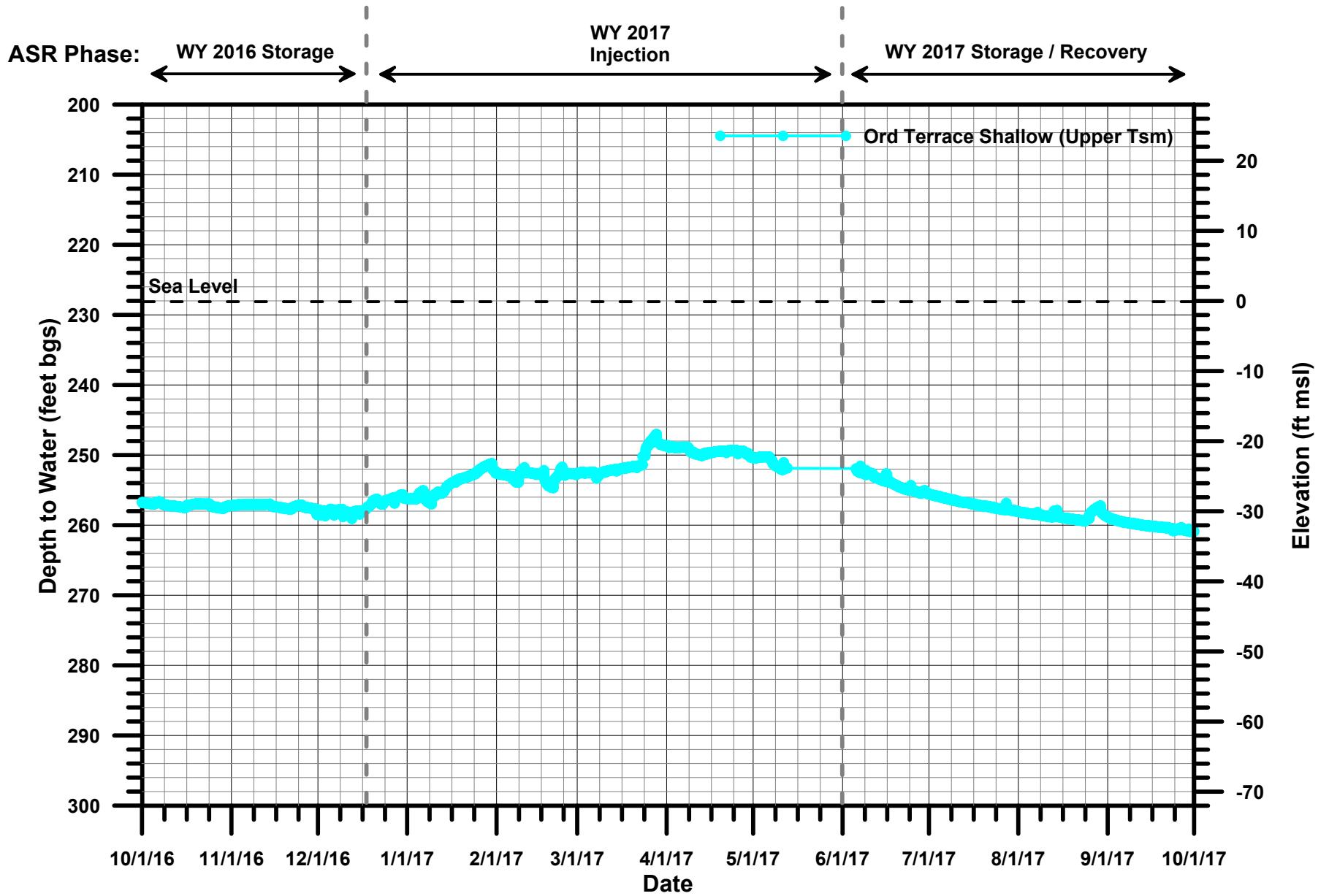


FIGURE 18. ORD TERRACE WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

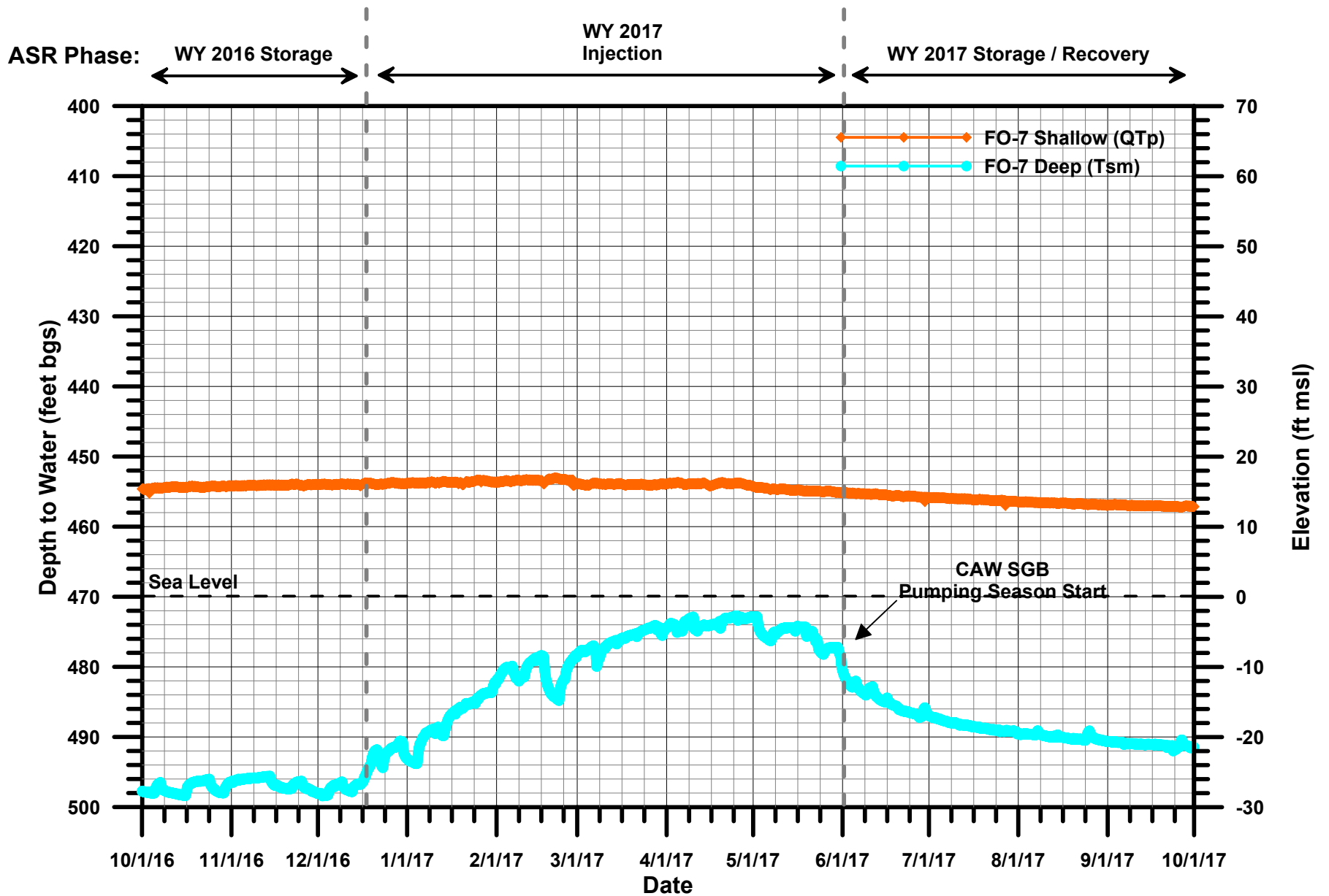


FIGURE 19. FO-7 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

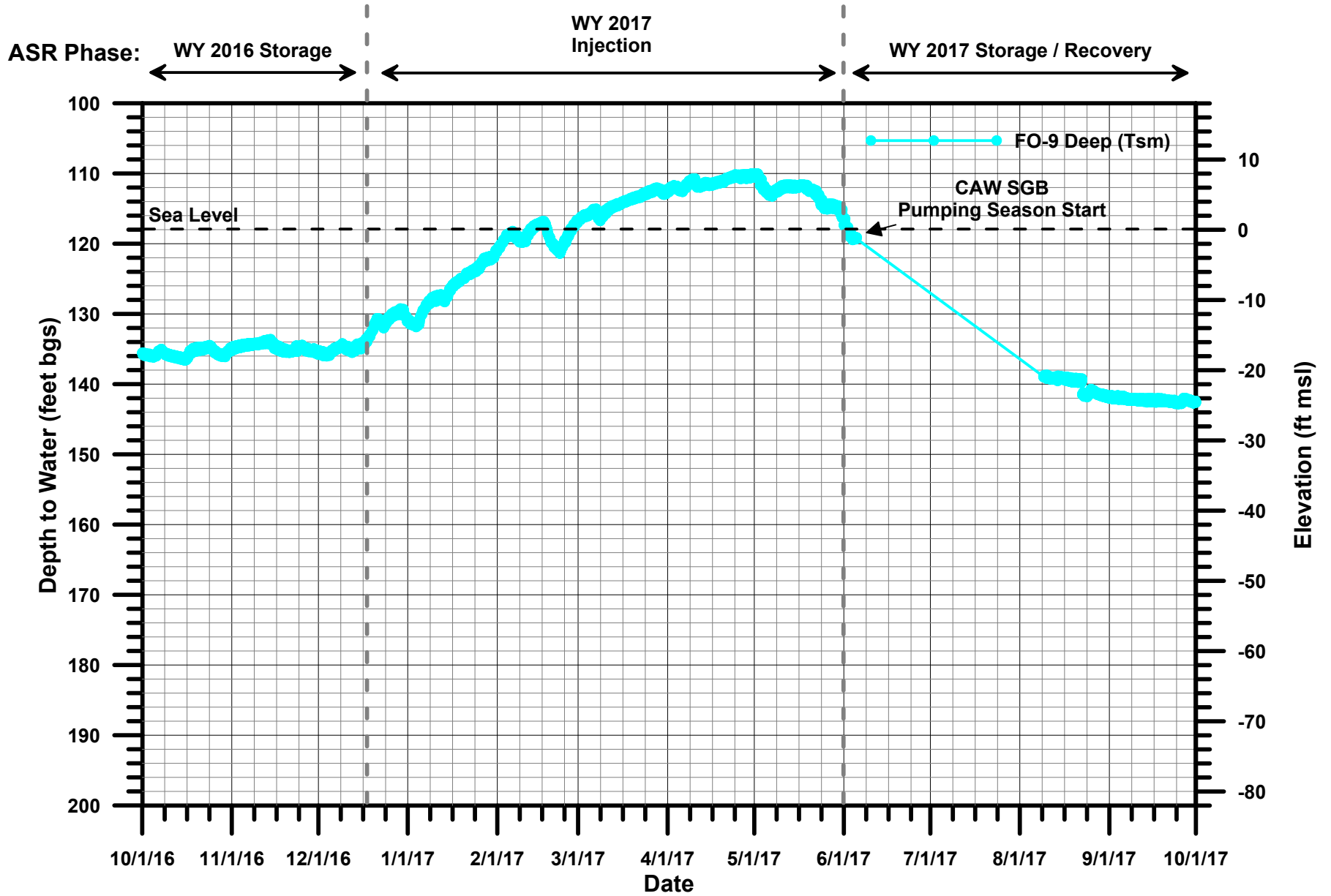


FIGURE 20. FO-9 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

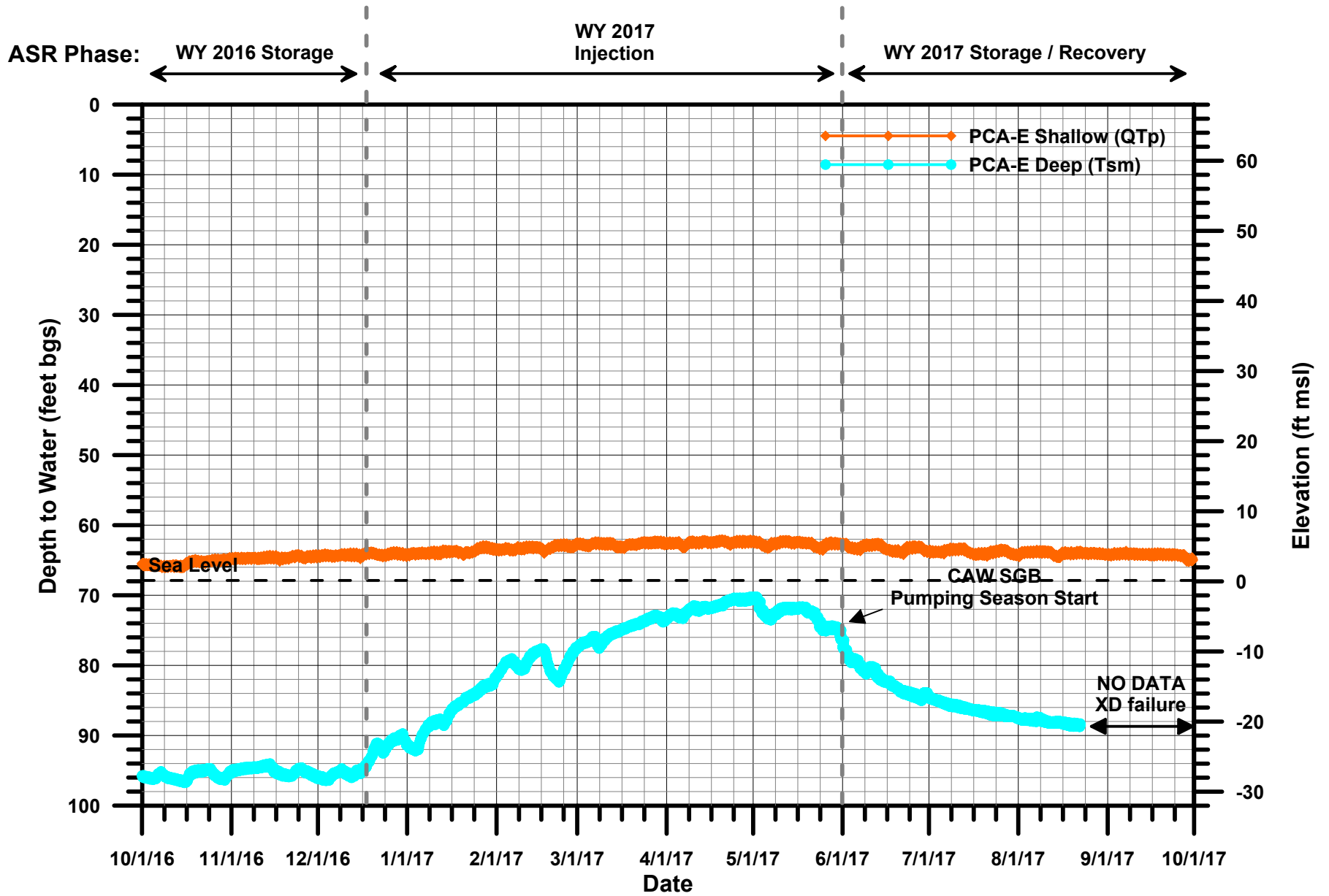


FIGURE 21. PCA-EAST WATER-LEVEL DATA  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

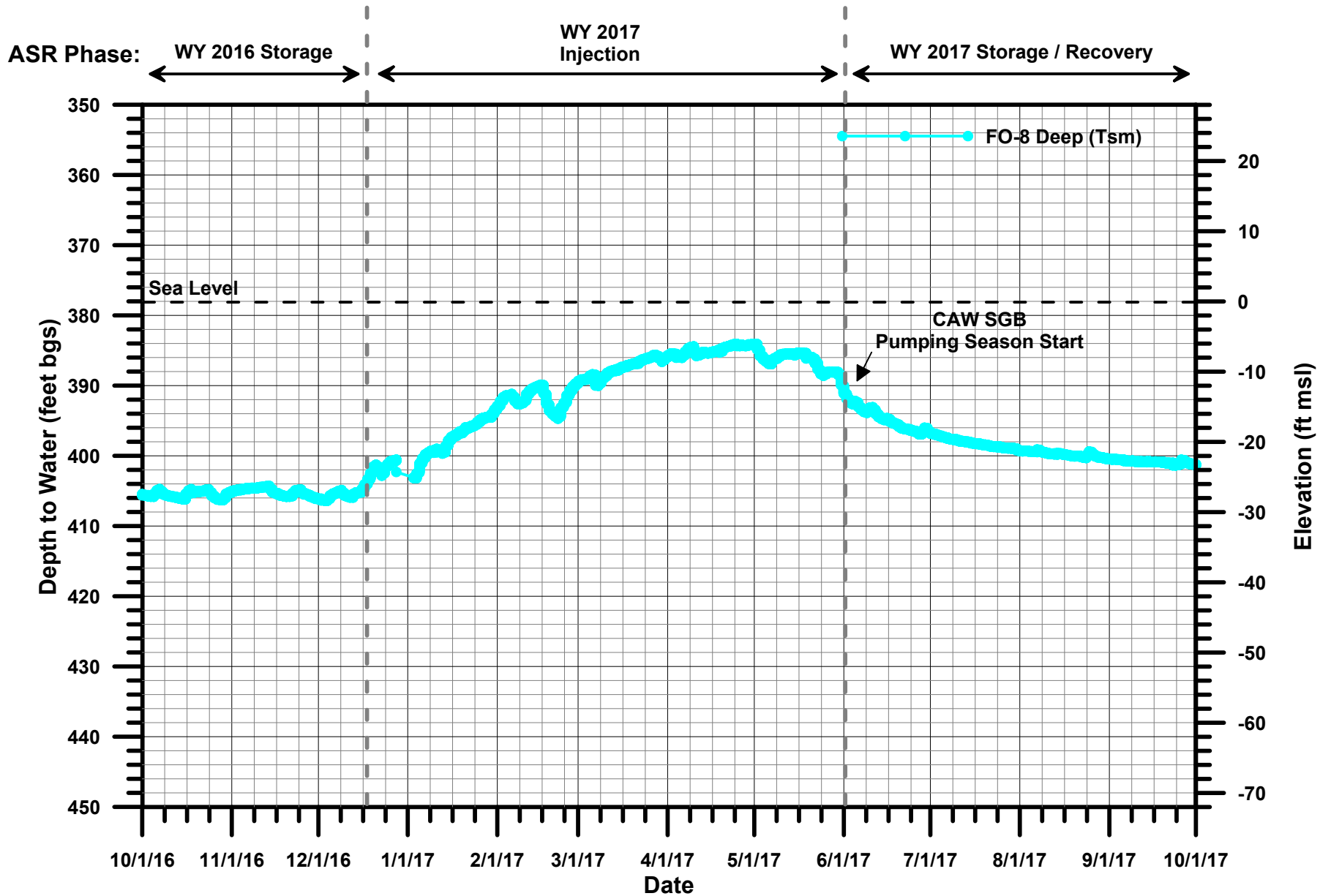


FIGURE 22. FO-8 WATER-LEVEL DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

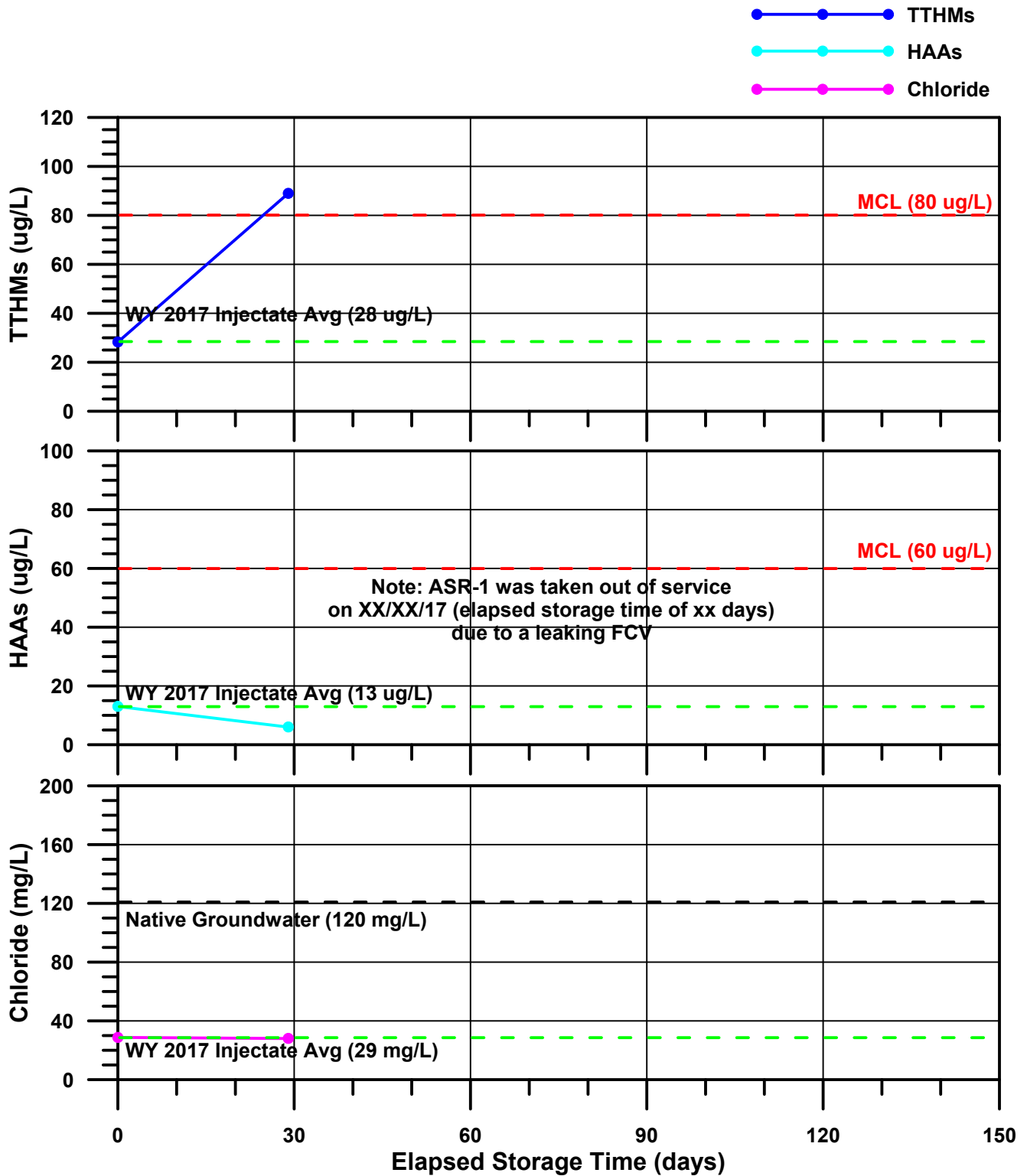


FIGURE 23. ASR-1 DISINFECTION BYPRODUCTS PARAMETERS  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

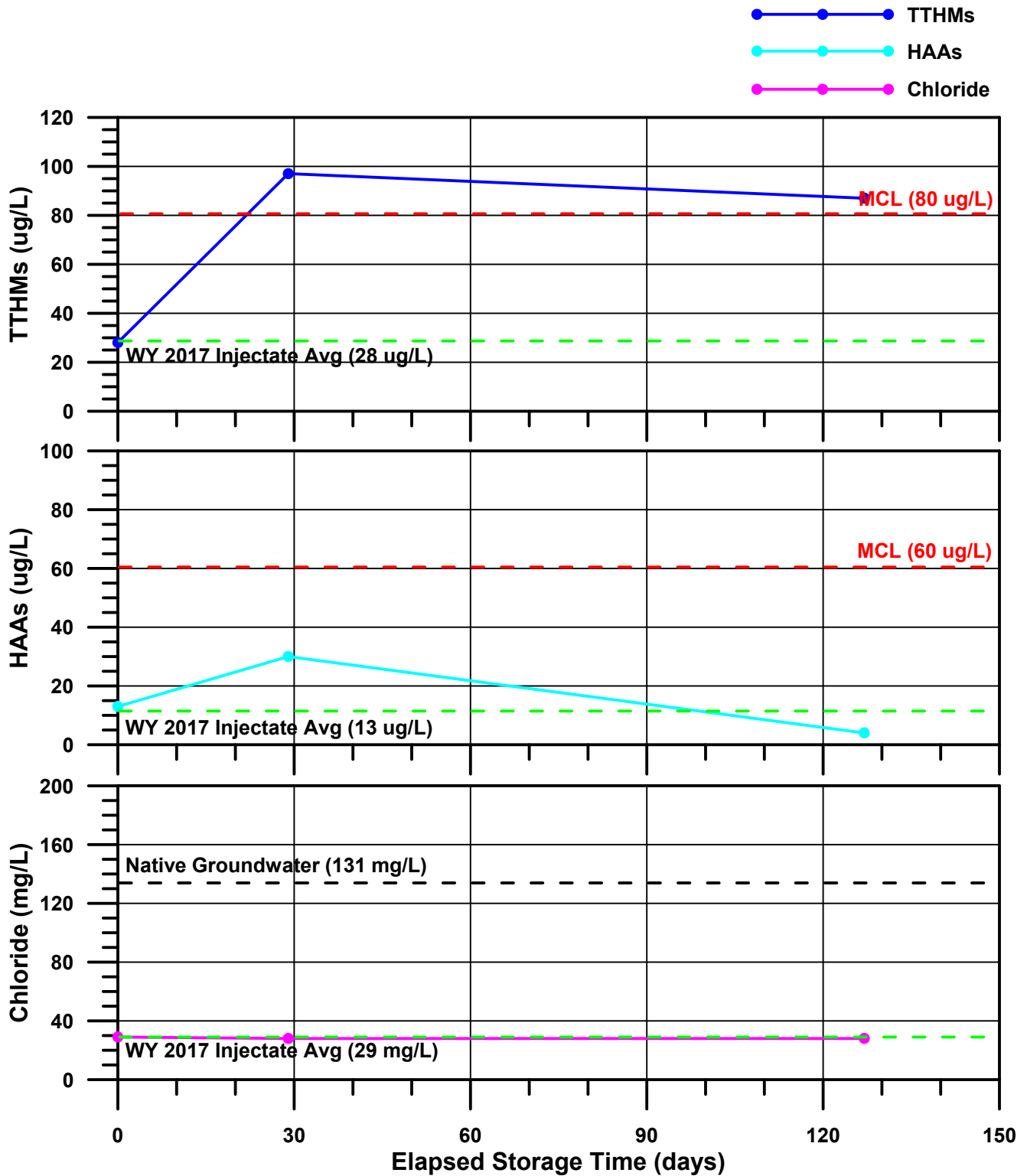


FIGURE 24. ASR-2 DISINFECTION BYPRODUCTS PARAMETERS  
WY 2017 ASR Program  
Monterey Peninsula Water Management District

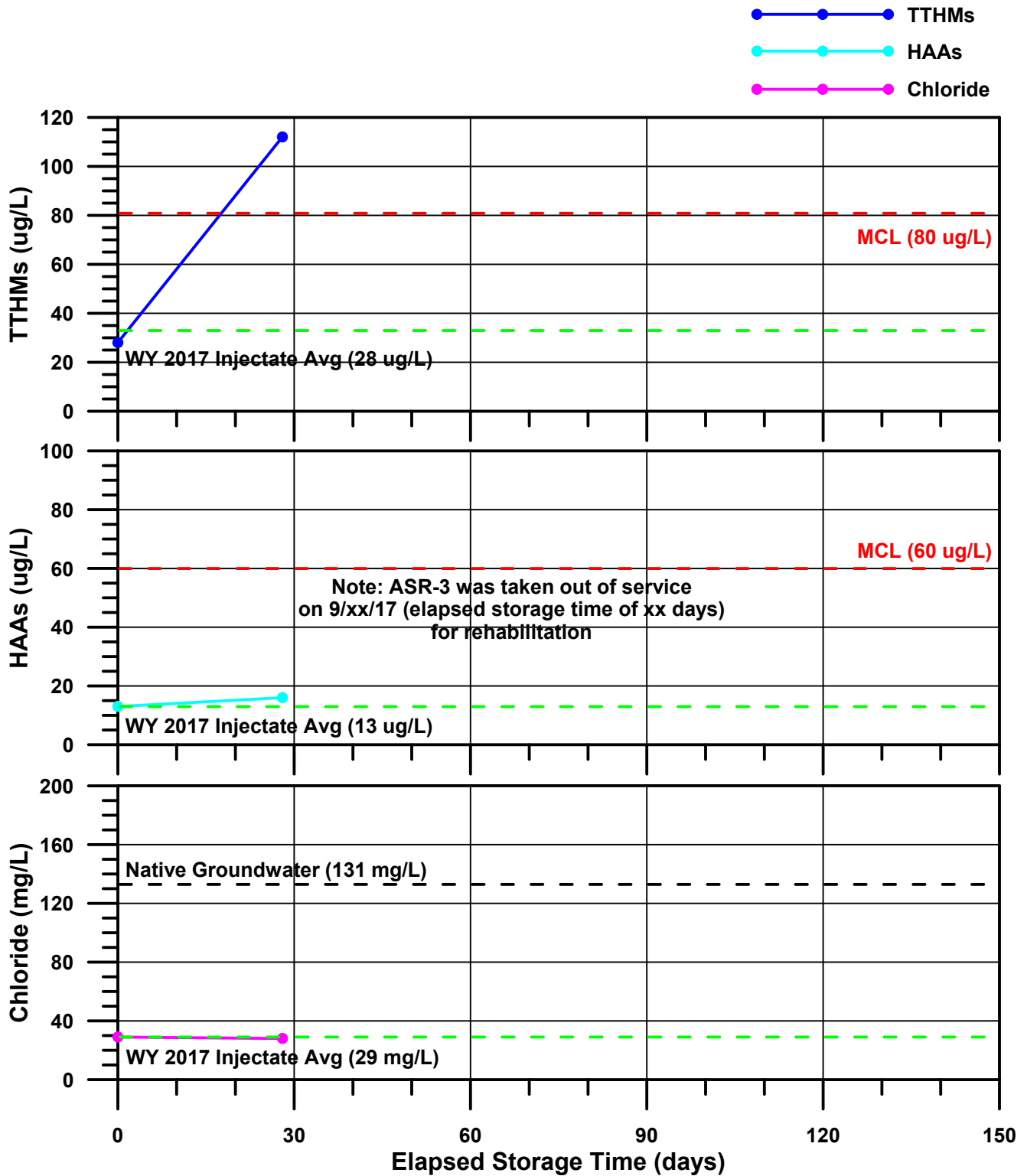


FIGURE 25. ASR-3 DISINFECTION BYPRODUCTS PARAMETERS  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District



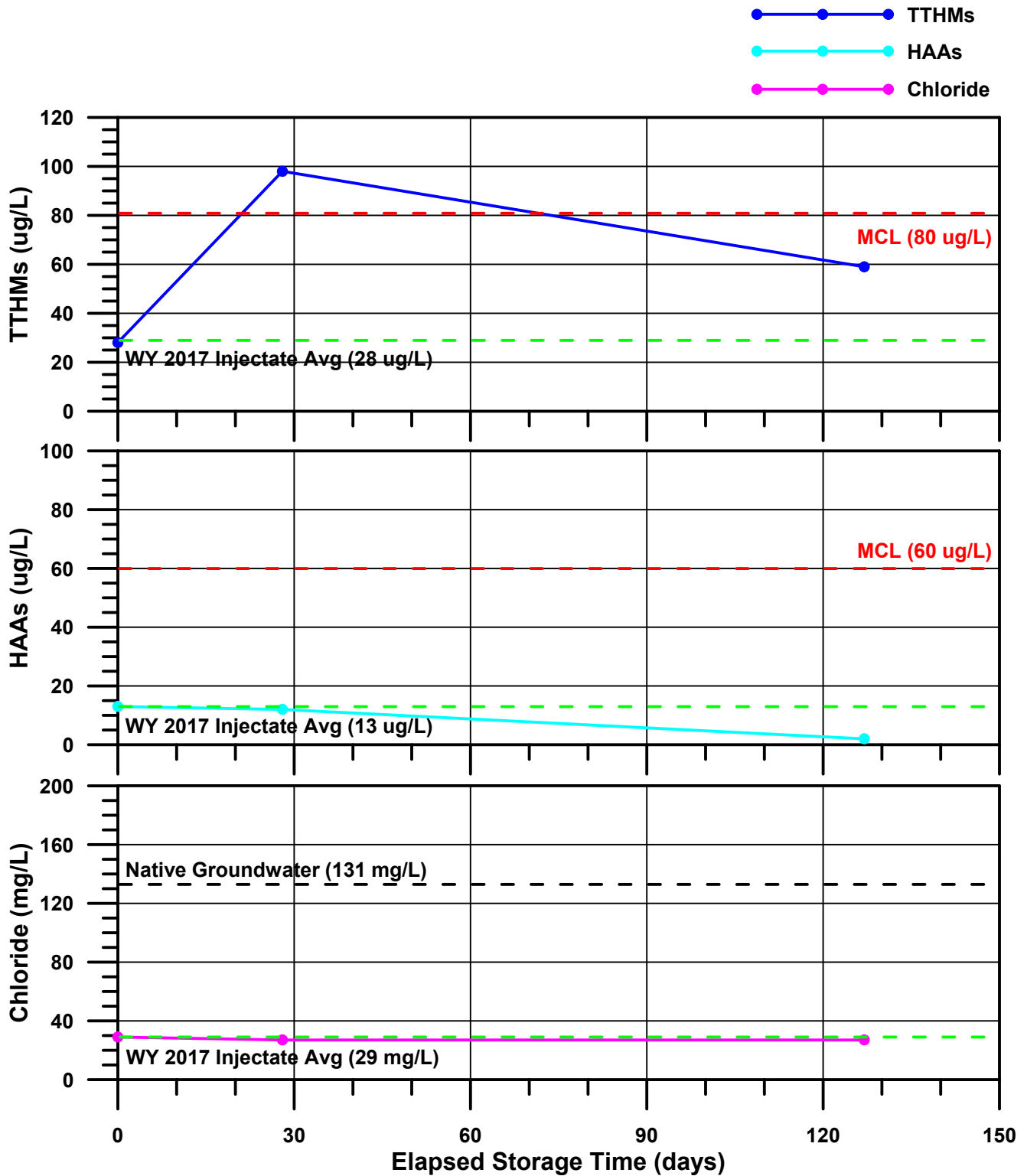


FIGURE 26. ASR-4 DISINFECTION BYPRODUCTS PARAMETERS  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

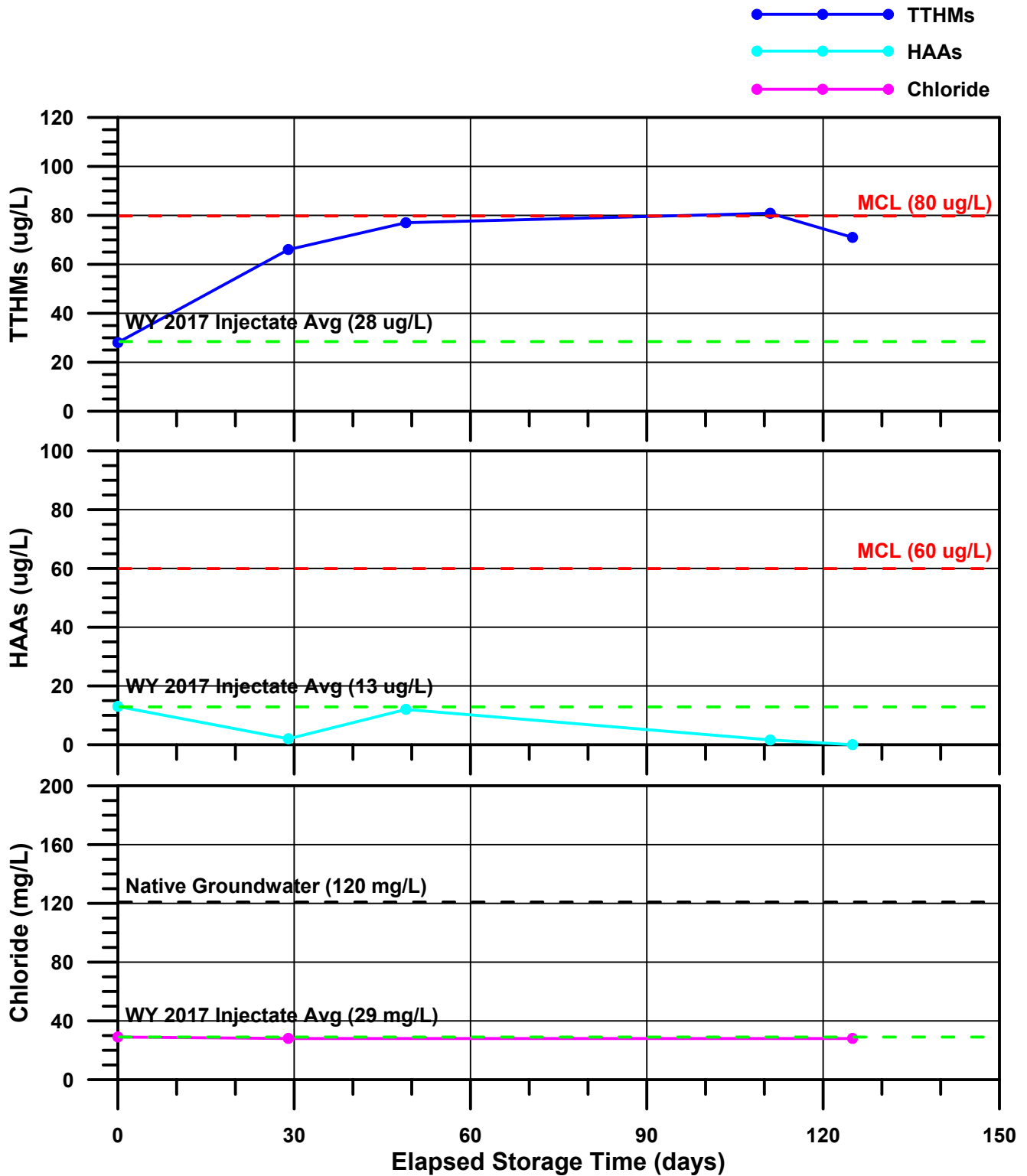


FIGURE 27. SM MW-1 DISINFECTION BYPRODUCTS PARAMETERS  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

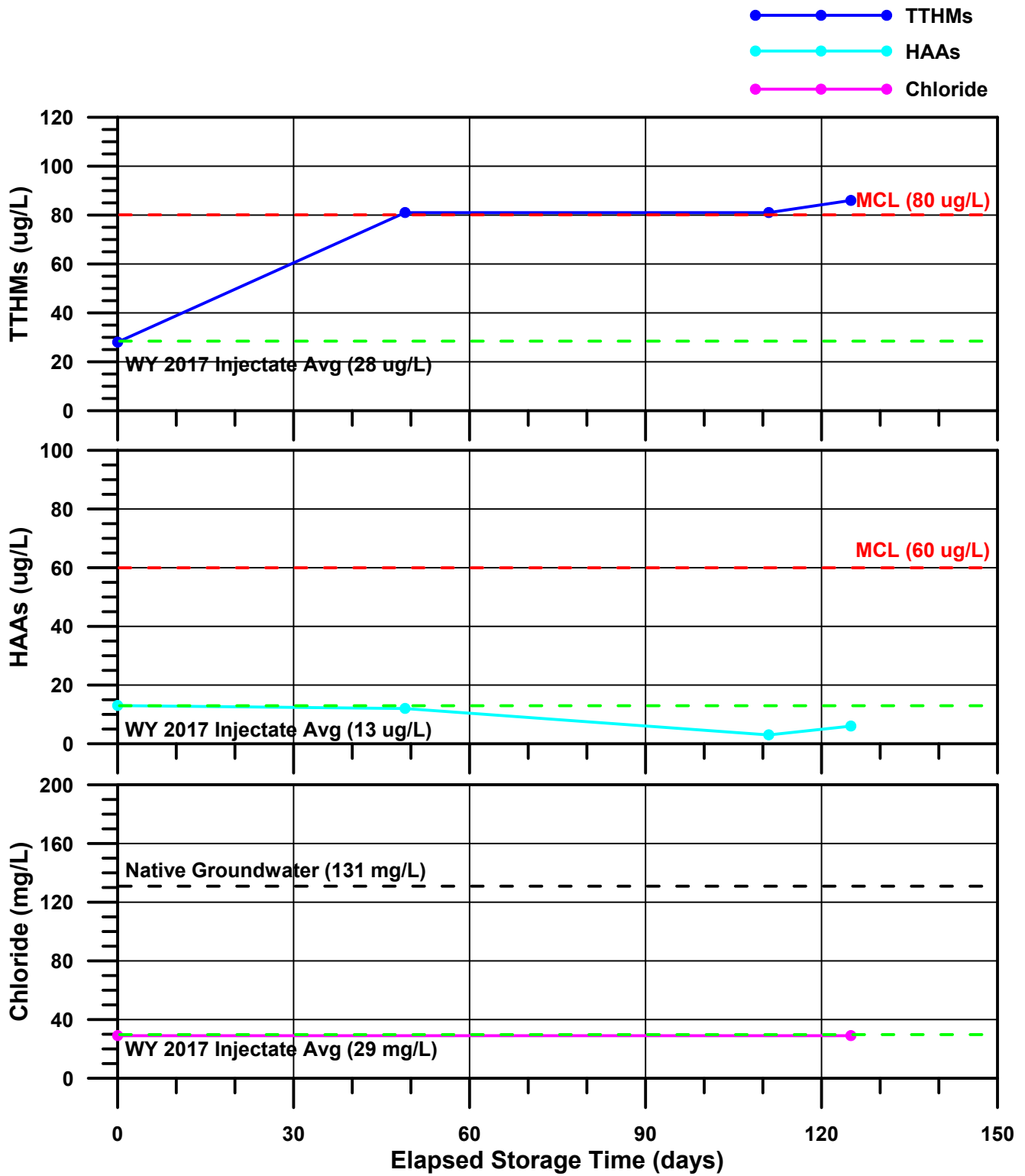


FIGURE 28. SMS DEEP DISINFECTION BYPRODUCTS PARAMETERS  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

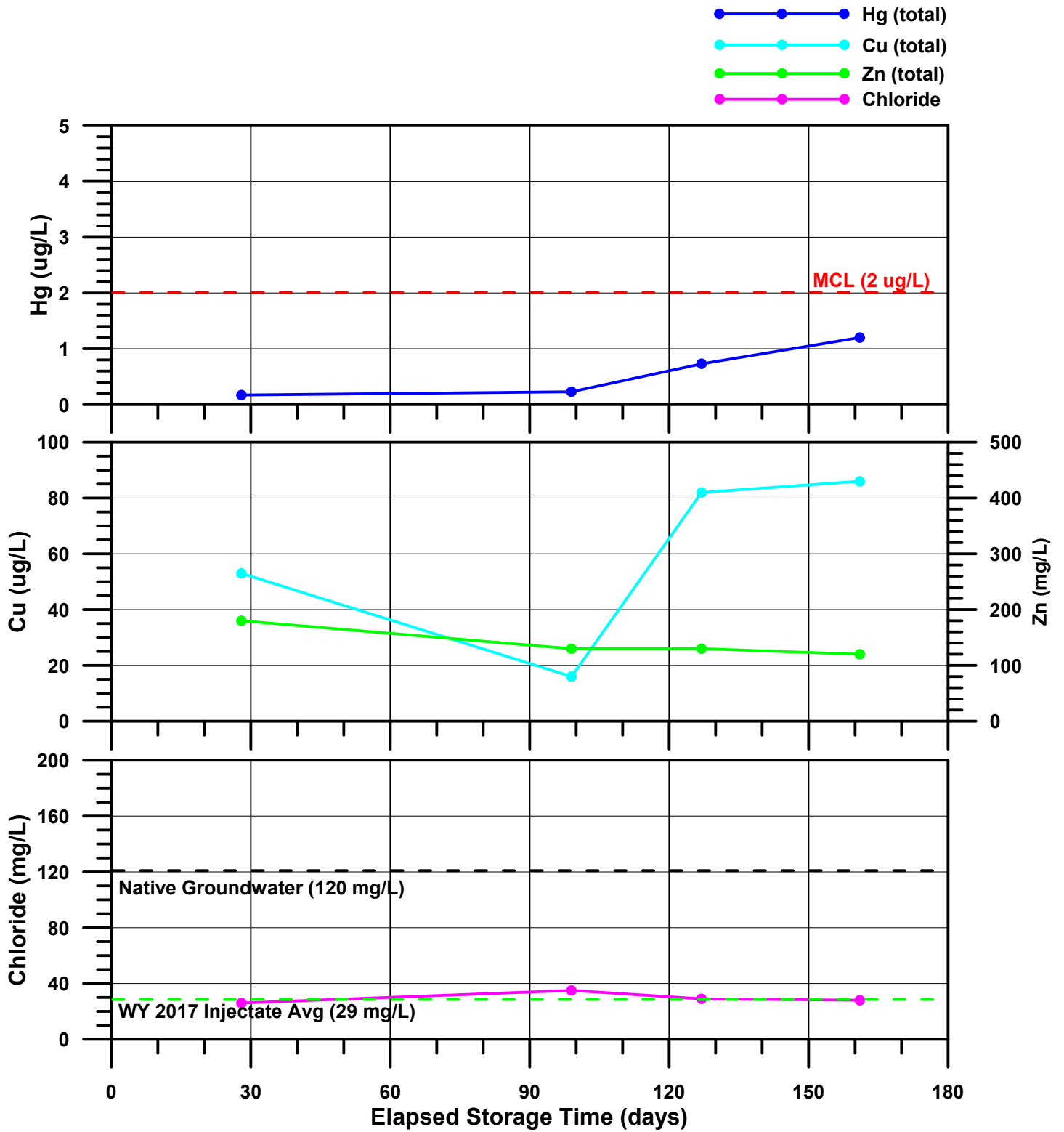


FIGURE 29. ASR-4 HG MONTHLY STORAGE DATA  
 WY 2017 ASR Program  
 Monterey Peninsula Water Management District

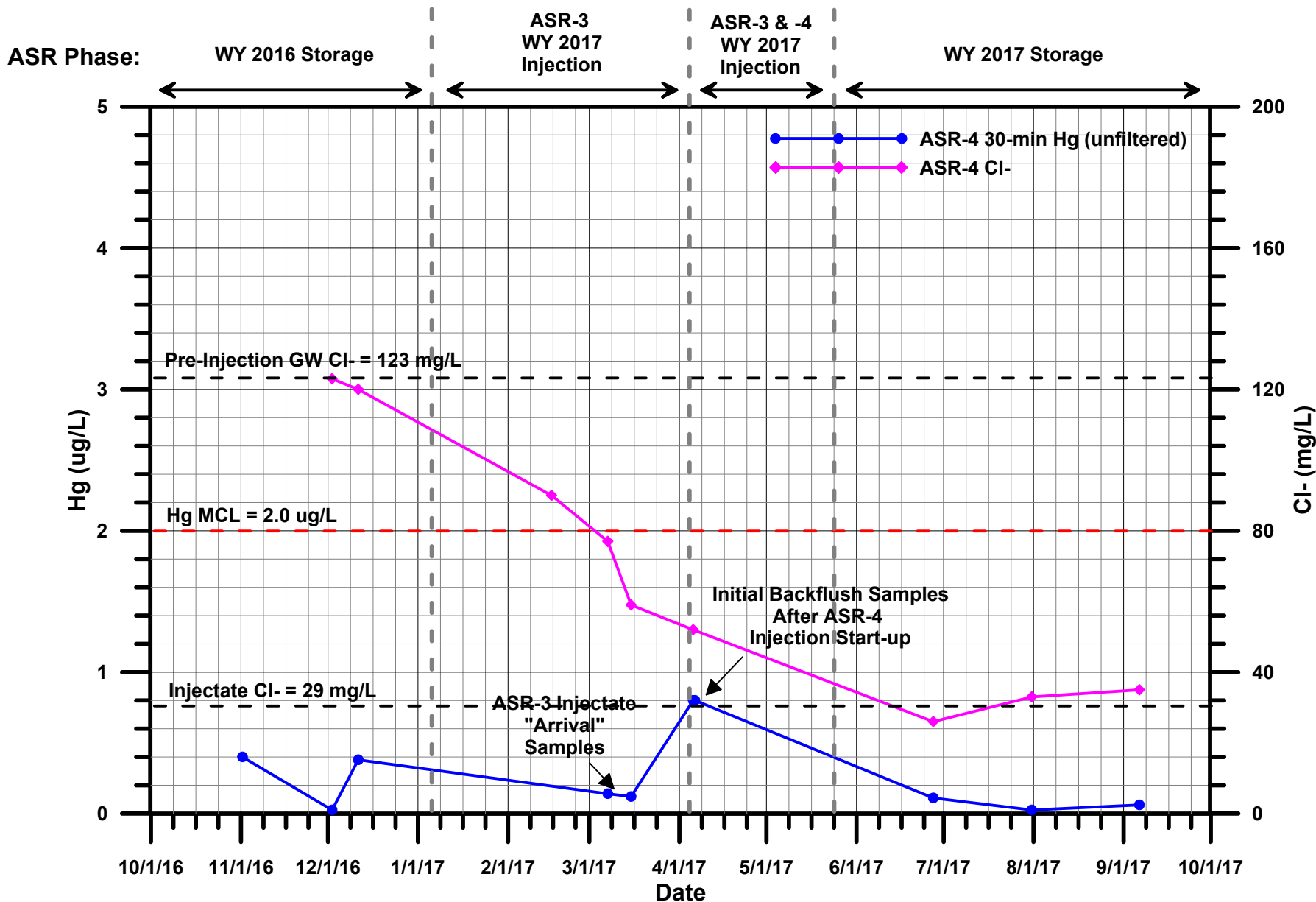


FIGURE 30. ASR-4 - ASR-3 Hg "BREAKTHROUGH" MONITORING DATA  
WY 2017 ASR Program  
Monterey Peninsula Water Management District



**APPENDIX A - FIELD DATA  
(not included in draft)**

**APPENDIX B – WATER-QUALITY LABORATORY REPORTS  
(not included in draft)**

**APPENDIX C – HIGH-FREQUENCY INJECTATE SAMPLING DATA  
(not included in draft)**



**APPENDIX D – BACKFLUSH RESIDUE SAMPLING LABORATORY  
REPORTS  
(not included in draft)**



**ITEM: CONSENT CALENDAR****9. CONSIDER ADOPTION OF TREASURER'S REPORT FOR MAY 2018**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item No.:</b>	<b>N/A</b>
<b>Prepared By:</b>	<b>Suresh Prasad</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review:** N/A**Committee Recommendation:** The Administrative Committee considered this item on July 10, 2018 and recommended approval.**CEQA Compliance:** This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.

**SUMMARY:** Exhibit 9-A comprises the Treasurer's Report for May 2018. Exhibit 9-B, Exhibit 9-C and Exhibit 9-D are listings of check disbursements for the period May 1-31, 2018. Check Nos. 31972 through 32224, the direct deposits of employee's paychecks, payroll tax deposits, and bank charges resulted in total disbursements for the period in the amount of \$473,906.35. That amount included \$78,184.34 for conservation rebates. Exhibit 9-E reflects the unaudited version of the financial statements for the month ending May 31, 2018.

**RECOMMENDATION:** District staff recommends adoption of the May 2018 Treasurer's Report and financial statements, and ratification of the disbursements made during the month.

**EXHIBITS**

- 9-A** Treasurer's Report
- 9-B** Listing of Cash Disbursements-Regular
- 9-C** Listing of Cash Disbursements-Payroll
- 9-D** Listing of Other Bank Items
- 9-E** Financial Statements



**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
TREASURER'S REPORT FOR MAY 2018**

<u>Description</u>						<b>PB</b>	
	<u>Checking</u>	<u>MPWMD Money Market</u>	<u>L.A.I.F.</u>	<u>Wells Fargo Investments</u>	<u>MPWMD Total</u>	<u>Rabobank Line of Credit</u>	<u>Reclamation Money Market</u>
Beginning Balance	\$111,242.02	\$3,943,999.09	\$5,024,084.33	\$3,039,640.60	\$ 12,118,966.04	\$0.00	\$346,333.30
Fee Deposits	\$0.00	769,004.35			769,004.35		320,082.74
Line of Credit Draw/Payoff					0.00		
Interest		136.45		3,341.71	3,478.16		13.40
Transfer to/from LAIF					0.00		
Transfer-Money Market to Checking	\$600,000.00	(600,000.00)			0.00		
Transfer-Money Market to W/Fargo					0.00		
Transfer-W/Fargo to Money Market					0.00		
W/Fargo-Investment Purchase					0.00		
Transfer Ckg to MPWMD M/Mrkt					0.00		
MoCo Tax & WS Chg Installment Pymt					0.00		
Transfer to CAWD					0.00		(500,000.00)
Voided Cks					0.00		
Bank Corrections/Reversals/Errors					0.00		
Bank Charges/Rtn'd Deposits/Other	(\$339.09)	(7,900.64)			(8,239.73)		0.00
Payroll Tax/Benefit Deposits	(37,016.55)				(37,016.55)		
Payroll Checks/Direct Deposits	(136,521.08)				(136,521.08)		
General Checks	(241,906.17)				(241,906.17)		
Bank Draft Payments	(58,123.46)				(58,123.46)		
<b>Ending Balance</b>	<b>\$237,335.67</b>	<b>\$4,105,239.25</b>	<b>\$5,024,084.33</b>	<b>\$3,042,982.31</b>	<b>\$12,409,641.56</b>	<b>\$0.00</b>	<b>\$166,429.44</b>



## Check Report

By Check Number

Date Range: 05/01/2018 - 05/31/2018



Monterey Peninsula Water Management Dist

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
<b>Bank Code: APBNK</b>	<b>-Bank of America Checking</b>					
13080	West Marine Products	05/01/2018	Regular	0.00	-499.12	31823
15816	NBS Government Finance Group	05/01/2018	Regular	0.00	-2,000.00	31957
14567	Applicant Information	05/04/2018	Regular	0.00	187.80	31972
00253	AT&T	05/04/2018	Regular	0.00	202.55	31973
00252	Cal-Am Water	05/04/2018	Regular	0.00	84.48	31974
00252	Cal-Am Water	05/04/2018	Regular	0.00	116.74	31975
01001	CDW Government	05/04/2018	Regular	0.00	2,468.01	31976
06001	Cypress Coast Ford	05/04/2018	Regular	0.00	145.49	31977
08104	DLT Solutions	05/04/2018	Regular	0.00	186.20	31978
00223	Martins Irrigation Supply	05/04/2018	Regular	0.00	50.50	31979
00118	Monterey Bay Carpet & Janitorial Svc	05/04/2018	Regular	0.00	1,000.00	31980
00154	Peninsula Messenger Service	05/04/2018	Regular	0.00	470.00	31981
00282	PG&E	05/04/2018	Regular	0.00	544.25	31982
00262	Pure H2O	05/04/2018	Regular	0.00	65.24	31983
04709	Sherron Forsgren	05/04/2018	Regular	0.00	715.47	31984
00990	Smith-Root, Inc.	05/04/2018	Regular	0.00	1,874.81	31985
00203	ThyssenKrup Elevator	05/04/2018	Regular	0.00	603.47	31986
00207	Universal Staffing Inc.	05/04/2018	Regular	0.00	2,553.60	31987
16234	Aquaveo, LLC	05/11/2018	Regular	0.00	300.00	32062
00253	AT&T	05/11/2018	Regular	0.00	1,615.17	32063
00252	Cal-Am Water	05/11/2018	Regular	0.00	220.03	32064
16237	California Water Efficiency Partnership	05/11/2018	Regular	0.00	668.13	32065
00243	CalPers Long Term Care Program	05/11/2018	Regular	0.00	50.06	32066
01001	CDW Government	05/11/2018	Regular	0.00	186.90	32067
00281	CoreLogic Information Solutions, Inc.	05/11/2018	Regular	0.00	1,094.71	32068
04041	Cynthia Schmidlin	05/11/2018	Regular	0.00	682.59	32069
00277	Home Depot Credit Services	05/11/2018	Regular	0.00	86.04	32070
00768	ICMA	05/11/2018	Regular	0.00	5,485.09	32071
04717	Inder Osahan	05/11/2018	Regular	0.00	1,183.47	32072
00222	M.J. Murphy	05/11/2018	Regular	0.00	40.89	32073
00259	Marina Coast Water District	05/11/2018	Regular	0.00	71.55	32074
00259	Marina Coast Water District	05/11/2018	Regular	0.00	280.16	32075
00223	Martins Irrigation Supply	05/11/2018	Regular	0.00	369.92	32076
07771	Monterey Bay Urgent Care	05/11/2018	Regular	0.00	60.00	32077
13396	Navia Benefit Solutions, Inc.	05/11/2018	Regular	0.00	932.51	32078
00755	Peninsula Welding Supply, Inc.	05/11/2018	Regular	0.00	144.74	32079
00282	PG&E	05/11/2018	Regular	0.00	336.00	32080
00282	PG&E	05/11/2018	Regular	0.00	1,311.09	32081
09989	Star Sanitation Services	05/11/2018	Regular	0.00	88.51	32082
00258	TBC Communications & Media	05/11/2018	Regular	0.00	875.00	32083
04719	Telit lo T Platforms, LLC	05/11/2018	Regular	0.00	245.65	32084
14680	Tope Tree Service	05/11/2018	Regular	0.00	5,752.50	32085
00271	UPEC, Local 792	05/11/2018	Regular	0.00	1,153.17	32086
00249	A.G. Davi, LTD	05/18/2018	Regular	0.00	790.00	32087
00763	ACWA-JPIA	05/18/2018	Regular	0.00	852.85	32088
00767	AFLAC	05/18/2018	Regular	0.00	1,275.04	32089
00760	Andy Bell	05/18/2018	Regular	0.00	699.00	32090
00253	AT&T	05/18/2018	Regular	0.00	1,635.56	32091
00036	Bill Parham	05/18/2018	Regular	0.00	650.00	32092
04042	Cabelas Government Outfitters	05/18/2018	Regular	0.00	352.68	32093
00252	Cal-Am Water	05/18/2018	Regular	0.00	223.25	32094
16120	California State University, Sacramento	05/18/2018	Regular	0.00	11,127.25	32095
16123	Carmel Valley Garage	05/18/2018	Regular	0.00	278.80	32096
01001	CDW Government	05/18/2018	Regular	0.00	3,024.58	32097

**EXHIBIT 9-B**

Check Report

Date Range: 05/01/2018 - 05/31/2018

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
00224	City of Monterey	05/18/2018	Regular	0.00	267.50	32098
06268	Comcast	05/18/2018	Regular	0.00	269.89	32099
01352	Dave Stoldt	05/18/2018	Regular	0.00	1,199.50	32100
08990	Fort Ord Reuse Authority	05/18/2018	Regular	0.00	4,568.36	32101
08929	HDR Engineering, Inc.	05/18/2018	Regular	0.00	5,075.48	32102
00986	Henrietta Stern	05/18/2018	Regular	0.00	1,183.47	32103
00277	Home Depot Credit Services	05/18/2018	Regular	0.00	66.18	32104
00100	J M Electric	05/18/2018	Regular	0.00	514.00	32105
03857	Joe Oliver	05/18/2018	Regular	0.00	1,183.47	32106
15601	LSA Associates, Inc.	05/18/2018	Regular	0.00	1,725.00	32107
13431	Lynx Technologies, Inc	05/18/2018	Regular	0.00	2,550.00	32108
00242	MBAS	05/18/2018	Regular	0.00	980.00	32109
15816	NBS Government Finance Group	05/18/2018	Regular	0.00	2,000.00	32110
00256	PERS Retirement	05/21/2018	Regular	0.00	-15,414.65	32111
00256	PERS Retirement	05/18/2018	Regular	0.00	15,414.65	32111
00282	PG&E	05/18/2018	Regular	0.00	46.43	32112
00282	PG&E	05/18/2018	Regular	0.00	10.51	32113
00159	Pueblo Water Resources, Inc.	05/18/2018	Regular	0.00	20,180.23	32114
13394	Regional Government Services	05/18/2018	Regular	0.00	600.00	32115
00987	SDRMA - Prop & Liability Pkg	05/18/2018	Regular	0.00	47.50	32116
00176	Sentry Alarm Systems	05/18/2018	Regular	0.00	215.50	32117
00283	SHELL	05/18/2018	Regular	0.00	867.16	32118
07769	University Corporation at Monterey Bay	05/18/2018	Regular	0.00	3,117.30	32119
08105	Yolanda Munoz	05/18/2018	Regular	0.00	540.00	32120
00754	Zone24x7	05/18/2018	Regular	0.00	3,957.60	32121
00249	A.G. Davi, LTD	05/25/2018	Regular	0.00	395.00	32124
00253	AT&T	05/25/2018	Regular	0.00	768.50	32125
12188	Brown and Caldwell	05/25/2018	Regular	0.00	8,808.00	32126
00243	CalPERS Long Term Care Program	05/25/2018	Regular	0.00	50.06	32127
00024	Central Coast Exterminator	05/25/2018	Regular	0.00	104.00	32128
00028	Colantuono, Highsmith, & Whatley, PC	05/25/2018	Regular	0.00	2,343.25	32129
00761	Delores Cofer	05/25/2018	Regular	0.00	356.00	32130
00225	Escalon Services c/o Palace Business Solutions	05/25/2018	Regular	0.00	149.36	32131
00758	FedEx	05/25/2018	Regular	0.00	117.29	32132
00277	Home Depot Credit Services	05/25/2018	Regular	0.00	149.98	32133
00094	John Arriaga	05/25/2018	Regular	0.00	2,500.00	32134
06999	KBA Docusys	05/25/2018	Regular	0.00	642.70	32135
00222	M.J. Murphy	05/25/2018	Regular	0.00	70.03	32136
15816	NBS Government Finance Group	05/25/2018	Regular	0.00	1,000.00	32137
00282	PG&E	05/25/2018	Regular	0.00	12.25	32138
00282	PG&E	05/25/2018	Regular	0.00	24.11	32139
16313	Salinas Valley Ford	05/25/2018	Regular	0.00	30,794.94	32140
00766	Standard Insurance Company	05/25/2018	Regular	0.00	1,607.89	32141
09989	Star Sanitation Services	05/25/2018	Regular	0.00	71.01	32142
00258	TBC Communications & Media	05/25/2018	Regular	0.00	3,500.00	32143
14680	Tope Tree Service	05/25/2018	Regular	0.00	5,640.00	32144
08105	Yolanda Munoz	05/25/2018	Regular	0.00	540.00	32145

	Bank Code APBNK		Summary	
Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	131	98	0.00	181,635.60
Manual Checks	0	0	0.00	0.00
Voided Checks	0	3	0.00	-17,913.77
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	<b>131</b>	<b>101</b>	<b>0.00</b>	<b>163,721.83</b>



**EXHIBIT 9-B**

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## Check Report

Date Range: 05/01/2018 - 05/31/2018

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
<b>Bank Code: REBATES-02-Rebates: Use Only For Rebates</b>						
16285	Aleksandr Ignatyev	05/04/2018	Regular	0.00	479.99	31988
16305	Alex Barth	05/04/2018	Regular	0.00	500.00	31989
16290	ANNE HATTON	05/04/2018	Regular	0.00	500.00	31990
16310	ANNETTE STEWART	05/04/2018	Regular	0.00	500.00	31991
16279	ANTHONY BILLISI	05/04/2018	Regular	0.00	500.00	31992
16291	Arnold Westphal	05/04/2018	Regular	0.00	500.00	31993
16301	BERJ MOOSEKIAN	05/04/2018	Regular	0.00	125.00	31994
16277	BEVERLY SCHIAVONI	05/04/2018	Regular	0.00	500.00	31995
16268	BRYAN ASHBY	05/04/2018	Regular	0.00	500.00	31996
16289	CARRIE BUCHER VORHIES	05/04/2018	Regular	0.00	500.00	31997
16263	CHERYL E PANATTONI	05/04/2018	Regular	0.00	500.00	31998
16297	CUSTOM HOUSE REALTY	05/04/2018	Regular	0.00	75.00	31999
16309	CUSTOM HOUSE REALTY	05/04/2018	Regular	0.00	150.00	32000
16274	DANIEL HIGHTOWER	05/04/2018	Regular	0.00	500.00	32001
16265	DANIEL SPILFOGEL	05/04/2018	Regular	0.00	500.00	32002
16267	DAVID & DONNA GAUVREAU	05/04/2018	Regular	0.00	500.00	32003
16295	DEL MESA CARMEL COMMUNITY ASSOC., INC	05/04/2018	Regular	0.00	1,300.00	32004
16271	DENNIS FOX	05/04/2018	Regular	0.00	500.00	32005
16280	DIANA WILKS	05/04/2018	Regular	0.00	500.00	32006
16294	DOUGLAS WEAVER	05/04/2018	Regular	0.00	200.00	32007
16251	EDWARD TRISCHMANN	05/04/2018	Regular	0.00	125.00	32008
16304	GAETANO CUTINO	05/04/2018	Regular	0.00	1,000.00	32009
16296	GARY BRIANT	05/04/2018	Regular	0.00	1,950.00	32010
16303	GAYLE EVANS	05/04/2018	Regular	0.00	1,000.00	32011
16300	GINTAUTAS BUZORIUS	05/04/2018	Regular	0.00	125.00	32012
16308	HARI SAHDEO	05/04/2018	Regular	0.00	125.00	32013
16269	HARLAN WILDER	05/04/2018	Regular	0.00	694.99	32014
16252	HARVEY SHRUM	05/04/2018	Regular	0.00	125.00	32015
11653	HILARIO VERA	05/04/2018	Regular	0.00	500.00	32016
16245	HOWARD FOSLER	05/04/2018	Regular	0.00	75.00	32017
16250	JANET MCTURK	05/04/2018	Regular	0.00	75.00	32018
16281	JAY GRAY	05/04/2018	Regular	0.00	500.00	32019
16306	JEANIE BECKS	05/04/2018	Regular	0.00	150.00	32020
16256	JEANNA WEINERTH	05/04/2018	Regular	0.00	125.00	32021
16288	JENNIFER HIRSH	05/04/2018	Regular	0.00	500.00	32022
16258	JIM COURTNEY	05/04/2018	Regular	0.00	125.00	32023
16286	JOE ACQUAVIVA	05/04/2018	Regular	0.00	497.70	32024
16257	JOHN CHATTERS	05/04/2018	Regular	0.00	125.00	32025
16270	JOHN HARDIN	05/04/2018	Regular	0.00	500.00	32026
16293	JOHN LUBBEN	05/04/2018	Regular	0.00	200.00	32027
16246	JUDY ANN TAGAMI	05/04/2018	Regular	0.00	150.00	32028
16302	JUDY GAUGHF	05/04/2018	Regular	0.00	1,000.00	32029
16273	JULIA RANDLE	05/04/2018	Regular	0.00	479.00	32030
16238	LARRY FOSTER	05/04/2018	Regular	0.00	125.00	32031
16253	LERABLE FAMILY TRUST	05/04/2018	Regular	0.00	125.00	32032
16276	LEROY & PATRICIA ERNST	05/04/2018	Regular	0.00	500.00	32033
16283	LINDA WARMINGTON	05/04/2018	Regular	0.00	500.00	32034
16249	LYLE BRUMFIELD	05/04/2018	Regular	0.00	225.00	32035
16239	LYLE QUOCK	05/04/2018	Regular	0.00	400.00	32036
16278	MARGARET & FERGUS TOBIN	05/04/2018	Regular	0.00	500.00	32037
16242	MARTHA LOPEZ	05/04/2018	Regular	0.00	75.00	32038
16284	MICHAEL MARKMAN	05/04/2018	Regular	0.00	500.00	32039
16307	MONTEREY CITY SCHOOL DIST	05/04/2018	Regular	0.00	10,508.00	32040
16244	NOELLE BALLARINI	05/04/2018	Regular	0.00	150.00	32041
16275	PATRICIA CRUICKSHANK	05/04/2018	Regular	0.00	479.99	32042
16260	PATRICIA K DALLY	05/04/2018	Regular	0.00	125.00	32043
16259	PETER & TERRY BALDWIN	05/04/2018	Regular	0.00	125.00	32044
16272	RICHARD JENSEN	05/04/2018	Regular	0.00	500.00	32045
16240	RICHARD SCHNEIDER	05/04/2018	Regular	0.00	225.00	32046
16266	ROBERT E HAYNER	05/04/2018	Regular	0.00	500.00	32047

**EXHIBIT 9-B**

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Check Report

Date Range: 05/01/2018 - 05/31/2018

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
16243	ROGER MANLEY	05/04/2018	Regular	0.00	75.00	32048
16247	RYAN & D ANNE PETERSON	05/04/2018	Regular	0.00	75.00	32049
16287	SALVATORE MERCURIO & KATELYNN SILVA	05/04/2018	Regular	0.00	497.70	32050
16292	SAMEER BAKHDA	05/04/2018	Regular	0.00	140.00	32051
16255	SANDRA FARRELL	05/04/2018	Regular	0.00	125.00	32052
16264	Scott Graham	05/04/2018	Regular	0.00	500.00	32053
16282	SHERMAN JONES	05/04/2018	Regular	0.00	500.00	32054
16262	STEVEN ANDERSON	05/04/2018	Regular	0.00	500.00	32055
16299	SYLVIA M GARCIA	05/04/2018	Regular	0.00	75.00	32056
16298	SYLVIA M GARCIA TRUST	05/04/2018	Regular	0.00	75.00	32057
16248	TIA LEWIS	05/04/2018	Regular	0.00	225.00	32058
16254	TONY FLORES	05/04/2018	Regular	0.00	125.00	32059
16241	W RENE AYERS	05/04/2018	Regular	0.00	150.00	32060
16261	Zachary Freedman	05/04/2018	Regular	0.00	500.00	32061
16341	ALAN MOVSON	05/25/2018	Regular	0.00	75.00	32146
16332	AMANDA FREEDMAN	05/25/2018	Regular	0.00	250.00	32147
16351	ANTHONY AIELLO	05/25/2018	Regular	0.00	75.00	32148
16337	ANTHONY R MAROTTA	05/25/2018	Regular	0.00	225.00	32149
16329	AUDREY MORRIS	05/25/2018	Regular	0.00	500.00	32150
16366	BARBARA SIEDHOFF	05/25/2018	Regular	0.00	476.99	32151
16385	Bruce Hedin	05/25/2018	Regular	0.00	500.00	32152
16328	CHRISTY SOBOLESKI	05/25/2018	Regular	0.00	500.00	32153
16384	CUSTOM HOUSE REALTY	05/25/2018	Regular	0.00	75.00	32154
16344	DAVID CAMERON	05/25/2018	Regular	0.00	75.00	32155
16338	DAVID COOPER	05/25/2018	Regular	0.00	714.98	32156
16378	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	500.00	32157
16379	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	500.00	32158
16360	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	125.00	32159
16361	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	125.00	32160
16389	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	1,500.00	32161
16377	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	500.00	32162
16392	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	12,000.00	32163
16388	Ecology Action of Santa Cruz	05/25/2018	Regular	0.00	1,500.00	32164
16333	ENID COCKER	05/25/2018	Regular	0.00	1,375.00	32165
16390	ERIKA P RUBIO	05/25/2018	Regular	0.00	500.00	32166
16322	ERNEST BIZZOZERO	05/25/2018	Regular	0.00	125.00	32167
16314	Frank Schiavone	05/25/2018	Regular	0.00	75.00	32168
16345	GLEN ALDER	05/25/2018	Regular	0.00	150.00	32169
16315	GREGORY CLAGGETT	05/25/2018	Regular	0.00	75.00	32170
16357	INGRID AQUINO	05/25/2018	Regular	0.00	125.00	32171
16319	JAE JUN KIM	05/25/2018	Regular	0.00	125.00	32172
16342	JAMES BARATH	05/25/2018	Regular	0.00	225.00	32173
16324	JAMES CHAMBERS	05/25/2018	Regular	0.00	500.00	32174
16352	JAMIE HOUSMAN	05/25/2018	Regular	0.00	125.00	32175
16373	JAN BRUNO	05/25/2018	Regular	0.00	500.00	32176
16327	JASON ALTO	05/25/2018	Regular	0.00	500.00	32177
16380	JEFF SALMON	05/25/2018	Regular	0.00	200.00	32178
16350	JERRY HORNOR	05/25/2018	Regular	0.00	75.00	32179
16339	JIELU ZHAO	05/25/2018	Regular	0.00	75.00	32180
16343	JOHN EATON	05/25/2018	Regular	0.00	15.00	32181
16330	Jose F Gomez Lopez	05/25/2018	Regular	0.00	500.00	32182
16349	JUDITH MEAD	05/25/2018	Regular	0.00	75.00	32183
16316	JULIE CAMBE	05/25/2018	Regular	0.00	125.00	32184
16364	LAURI TANNER	05/25/2018	Regular	0.00	500.00	32185
16331	LAWRENCE KALINOWSKI	05/25/2018	Regular	0.00	2,625.00	32186
16354	LEE K JOHNSON	05/25/2018	Regular	0.00	125.00	32187
16359	LEO LUKENAS	05/25/2018	Regular	0.00	125.00	32188
16371	Manuel Gonsalves	05/25/2018	Regular	0.00	500.00	32189
16318	Marcello Correa	05/25/2018	Regular	0.00	125.00	32190
16386	MARGARET MANNING	05/25/2018	Regular	0.00	300.00	32191
16387	MARGARET MANNING	05/25/2018	Regular	0.00	300.00	32192

**EXHIBIT 9-B**

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## Check Report

Date Range: 05/01/2018 - 05/31/2018

Vendor Number	Vendor Name	Payment Date	Payment Type	Discount Amount	Payment Amount	Number
16355	MARIE BRUNO	05/25/2018	Regular	0.00	125.00	32193
16368	MARK BAERG	05/25/2018	Regular	0.00	500.00	32194
16369	MARTHA MICHAELS	05/25/2018	Regular	0.00	500.00	32195
16382	MARY JO TRIVERS	05/25/2018	Regular	0.00	100.00	32196
16363	Matthew Triplett	05/25/2018	Regular	0.00	500.00	32197
16320	MELISSA RAE ANDERSEN	05/25/2018	Regular	0.00	125.00	32198
16353	Monterey Bay Property Management	05/25/2018	Regular	0.00	125.00	32199
16336	MYRNA JOHNSON	05/25/2018	Regular	0.00	500.00	32200
16346	NANCY T LEWIS	05/25/2018	Regular	0.00	75.00	32201
16365	NAVID GHAZI	05/25/2018	Regular	0.00	500.00	32202
16347	PAULA I O'CONNOR	05/25/2018	Regular	0.00	75.00	32203
16340	PETER HILLER	05/25/2018	Regular	0.00	125.00	32204
16321	PHILIP KING	05/25/2018	Regular	0.00	125.00	32205
16375	REBECCA BARRYMORE	05/25/2018	Regular	0.00	500.00	32206
16376	RENITA SEIBEL	05/25/2018	Regular	0.00	500.00	32207
16374	RICK SKIBINSKI	05/25/2018	Regular	0.00	500.00	32208
16325	ROBERTA FORLANO	05/25/2018	Regular	0.00	500.00	32209
16362	ROBIN REISMAN	05/25/2018	Regular	0.00	500.00	32210
16372	RONALD ROLAND	05/25/2018	Regular	0.00	500.00	32211
16317	Sam Mercurio	05/25/2018	Regular	0.00	125.00	32212
16356	SARAH HAINSTOCK	05/25/2018	Regular	0.00	125.00	32213
16383	SCOTT BROWN	05/25/2018	Regular	0.00	500.00	32214
16358	THEODORE RAABE	05/25/2018	Regular	0.00	125.00	32215
16391	THIERRY & AMY CROCQUET	05/25/2018	Regular	0.00	150.00	32216
16323	TIM D CONWAY	05/25/2018	Regular	0.00	125.00	32217
16381	TIM DAVID	05/25/2018	Regular	0.00	200.00	32218
16326	TOM HLASNY	05/25/2018	Regular	0.00	500.00	32219
16348	TOM REDFERN	05/25/2018	Regular	0.00	75.00	32220
16370	VICTORIA ANNE NUCCI	05/25/2018	Regular	0.00	500.00	32221
16367	ZOE CARTER	05/25/2018	Regular	0.00	500.00	32222

## Bank Code REBATES-02 Summary

Payment Type	Payable Count	Payment Count	Discount	Payment
Regular Checks	151	151	0.00	78,184.34
Manual Checks	0	0	0.00	0.00
Voided Checks	0	0	0.00	0.00
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	<b>151</b>	<b>151</b>	<b>0.00</b>	<b>78,184.34</b>

**All Bank Codes Check Summary**

<b>Payment Type</b>	<b>Payable Count</b>	<b>Payment Count</b>	<b>Discount</b>	<b>Payment</b>
Regular Checks	282	249	0.00	259,819.94
Manual Checks	0	0	0.00	0.00
Voided Checks	0	3	0.00	-17,913.77
Bank Drafts	0	0	0.00	0.00
EFT's	0	0	0.00	0.00
	<b>282</b>	<b>252</b>	<b>0.00</b>	<b>241,906.17</b>

**Fund Summary**

<b>Fund</b>	<b>Name</b>	<b>Period</b>	<b>Amount</b>
99	POOL CASH FUND	5/2018	241,906.17
			<b>241,906.17</b>



Monterey Peninsula Water Management Dist

By Payment Number

Date: 5/1/2018 - 5/31/2018

Payroll Set: 01 - Monterey Peninsula Water Management District

Payment Number	Payment Date	Payment Type	Employee Number	Employee Name	Check Amount	Direct Deposit Amount	Total Payment
3714	05/11/2018	Regular	1024	Stoldt, David J	0.00	5,636.77	5,636.77
3715	05/11/2018	Regular	1025	Tavani, Arlene M	0.00	2,088.30	2,088.30
3716	05/11/2018	Regular	1044	Bennett, Corryn D	0.00	1,567.13	1,567.13
3717	05/11/2018	Regular	1006	Dudley, Mark A	0.00	2,846.76	2,846.76
3718	05/11/2018	Regular	1039	Flores, Elizabeth	0.00	2,105.61	2,105.61
3719	05/11/2018	Regular	1018	Prasad, Suresh	0.00	4,250.68	4,250.68
3720	05/11/2018	Regular	1019	Reyes, Sara C	0.00	1,815.29	1,815.29
3721	05/11/2018	Regular	1045	Atkins, Daniel	0.00	1,679.72	1,679.72
3722	05/11/2018	Regular	1002	Bekker, Mark	0.00	1,896.70	1,896.70
3723	05/11/2018	Regular	1005	Christensen, Thomas T	0.00	3,188.65	3,188.65
3724	05/11/2018	Regular	1042	Hamilton, Maureen C.	0.00	3,117.01	3,117.01
3725	05/11/2018	Regular	1008	Hampson, Larry M	0.00	3,081.69	3,081.69
3726	05/11/2018	Regular	1009	James, Gregory W	0.00	3,289.53	3,289.53
3727	05/11/2018	Regular	1011	Lear, Jonathan P	0.00	3,723.15	3,723.15
3728	05/11/2018	Regular	1012	Lindberg, Thomas L	0.00	2,745.73	2,745.73
3729	05/11/2018	Regular	1004	Chaney, Beverly M	0.00	2,492.41	2,492.41
3730	05/11/2018	Regular	1007	Hamilton, Cory R	0.00	2,231.74	2,231.74
3731	05/11/2018	Regular	1043	Suwada, Joseph	0.00	1,709.57	1,709.57
3732	05/11/2018	Regular	1026	Urquhart, Kevan A	0.00	2,217.50	2,217.50
3733	05/11/2018	Regular	1001	Ayala, Gabriela D	0.00	2,323.38	2,323.38
3734	05/11/2018	Regular	1041	Gonnerman, Maryan C	0.00	1,971.53	1,971.53
3735	05/11/2018	Regular	1010	Kister, Stephanie L	0.00	2,545.58	2,545.58
3736	05/11/2018	Regular	1017	Locke, Stephanie L	0.00	3,469.67	3,469.67
3737	05/11/2018	Regular	1014	Martin, Debra S	0.00	2,654.16	2,654.16
3738	05/11/2018	Regular	1040	Smith, Kyle	0.00	2,272.80	2,272.80
3739	05/25/2018	Regular	1024	Stoldt, David J	0.00	5,636.77	5,636.77
3740	05/25/2018	Regular	1025	Tavani, Arlene M	0.00	2,088.31	2,088.31
3741	05/25/2018	Regular	1044	Bennett, Corryn D	0.00	1,889.47	1,889.47
3742	05/25/2018	Regular	1006	Dudley, Mark A	0.00	2,846.75	2,846.75
3743	05/25/2018	Regular	1039	Flores, Elizabeth	0.00	1,907.79	1,907.79
3744	05/25/2018	Regular	1018	Prasad, Suresh	0.00	4,250.68	4,250.68
3745	05/25/2018	Regular	1019	Reyes, Sara C	0.00	1,643.83	1,643.83
3746	05/25/2018	Regular	1045	Atkins, Daniel	0.00	1,679.72	1,679.72
3747	05/25/2018	Regular	1002	Bekker, Mark	0.00	1,896.71	1,896.71
3748	05/25/2018	Regular	1005	Christensen, Thomas T	0.00	3,188.65	3,188.65
3749	05/25/2018	Regular	1042	Hamilton, Maureen C.	0.00	3,117.01	3,117.01
3750	05/25/2018	Regular	1008	Hampson, Larry M	0.00	3,081.69	3,081.69
3751	05/25/2018	Regular	1009	James, Gregory W	0.00	3,289.53	3,289.53
3752	05/25/2018	Regular	1011	Lear, Jonathan P	0.00	3,723.15	3,723.15
3753	05/25/2018	Regular	1012	Lindberg, Thomas L	0.00	2,745.73	2,745.73
3754	05/25/2018	Regular	1004	Chaney, Beverly M	0.00	2,492.41	2,492.41
3755	05/25/2018	Regular	1007	Hamilton, Cory R	0.00	2,231.74	2,231.74
3756	05/25/2018	Regular	1043	Suwada, Joseph	0.00	1,709.57	1,709.57
3757	05/25/2018	Regular	1026	Urquhart, Kevan A	0.00	2,217.50	2,217.50
3758	05/25/2018	Regular	1001	Ayala, Gabriela D	0.00	2,448.52	2,448.52
3759	05/25/2018	Regular	1041	Gonnerman, Maryan C	0.00	1,971.53	1,971.53
3760	05/25/2018	Regular	1010	Kister, Stephanie L	0.00	2,545.60	2,545.60
3761	05/25/2018	Regular	1017	Locke, Stephanie L	0.00	3,469.67	3,469.67
3762	05/25/2018	Regular	1014	Martin, Debra S	0.00	2,654.16	2,654.16
3763	05/25/2018	Regular	1040	Smith, Kyle	0.00	2,023.06	2,023.06
3764	05/30/2018	Regular	7015	Adams, Mary L	0.00	124.67	124.67
3765	05/30/2018	Regular	7013	Clarke, Andrew	0.00	439.11	439.11
3766	05/30/2018	Regular	7014	Evans, Molly F	0.00	489.11	489.11
3767	05/30/2018	Regular	7003	Lewis, Brenda	0.00	249.34	249.34
32123	05/25/2018	Regular	1046	Whitmore, Cortina	299.56	750.00	1,049.56
32223	05/30/2018	Regular	7007	Byrne, Jeannie	249.34	0.00	249.34

**EXHIBIT 9-C**

<b>Payment Number</b>	<b>Payment Date</b>	<b>Payment Type</b>	<b>Employee Number</b>	<b>Employee Name</b>	<b>Check Amount</b>	<b>Direct Deposit Amount</b>	<b>Total Payment</b>
32224	05/30/2018	Regular	7016	Rubio, Ralph S	249.34	0.00	249.34
<b>Totals:</b>					<b>798.24</b>	<b>135,722.84</b>	<b>136,521.08</b>

**EXHIBIT 9-D**



Monterey Peninsula Water Management Dist

**Bank Transaction Report**

**Transaction Detail**

Issued Date Range: 05/01/2018 - 05/31/2018

Cleared Date Range: -

Issued Date	Cleared Date	Number	Description	Module	Status	Type	Amount
<b>Accounts Payable</b>							
05/03/2018	05/31/2018	<a href="#">DFT0001141</a>	PERS Retirement	Accounts Payable	Cleared	Bank Draft	-15,347.38
05/11/2018	05/31/2018	<a href="#">DFT0001138</a>	I.R.S.	Accounts Payable	Cleared	Bank Draft	-11,038.76
05/11/2018	05/31/2018	<a href="#">DFT0001139</a>	I.R.S.	Accounts Payable	Cleared	Bank Draft	-2,678.48
05/11/2018	05/31/2018	<a href="#">DFT0001140</a>	Employment Development Dept.	Accounts Payable	Cleared	Bank Draft	-4,567.49
05/15/2018	05/31/2018	<a href="#">DFT0001159</a>	Laborers Trust Fund of Northern CA	Accounts Payable	Cleared	Bank Draft	-27,360.00
05/17/2018	05/31/2018	<a href="#">DFT0001148</a>	PERS Retirement	Accounts Payable	Cleared	Bank Draft	-15,416.08
05/25/2018	05/31/2018	<a href="#">DFT0001145</a>	I.R.S.	Accounts Payable	Cleared	Bank Draft	-11,087.86
05/25/2018	05/31/2018	<a href="#">DFT0001146</a>	I.R.S.	Accounts Payable	Cleared	Bank Draft	-2,707.68
05/25/2018	05/31/2018	<a href="#">DFT0001147</a>	Employment Development Dept.	Accounts Payable	Cleared	Bank Draft	-4,557.26
05/30/2018		<a href="#">DFT0001150</a>	I.R.S.	Accounts Payable	Outstanding	Bank Draft	-69.16
05/30/2018		<a href="#">DFT0001151</a>	I.R.S.	Accounts Payable	Outstanding	Bank Draft	-58.76
05/30/2018		<a href="#">DFT0001152</a>	I.R.S.	Accounts Payable	Outstanding	Bank Draft	-251.10
<b>Accounts Payable Total: (12)</b>							<b>-95,140.01</b>
<b>General Ledger</b>							
05/15/2018	05/31/2018	<a href="#">SVC0000151</a>	05/2018 To post bank service fee	General Ledger	Cleared	Service Charge	-339.09
<b>General Ledger Total: (1)</b>							<b>-339.09</b>
<b>Report Total: (13)</b>							<b>-95,479.10</b>

**EXHIBIT 9-D**

**Bank Transaction Report**

156  
Issued Date Range: -

**Summary**

<b>Bank Account</b>	<b>Count</b>	<b>Amount</b>
<a href="#">111 Bank of America Checking - 0000 8170 8210</a>	13	-95,479.10
<b>Report Total:</b>	<b>13</b>	<b>-95,479.10</b>

<b>Cash Account</b>	<b>Count</b>	<b>Amount</b>
<a href="#">99 99-10-100100 Pool Cash Account</a>	13	-95,479.10
<b>Report Total:</b>	<b>13</b>	<b>-95,479.10</b>

<b>Transaction Type</b>	<b>Count</b>	<b>Amount</b>
Bank Draft	12	-95,140.01
Service Charge	1	-339.09
<b>Report Total:</b>	<b>13</b>	<b>-95,479.10</b>





Monterey Peninsula Water Management Dist

**Statement of Revenue Over Expense - No Decimals**  
**Group Summary**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Revenue</b>								
R100 - Water Supply Charge	0	283,220	-283,220	0.00 %	3,347,036	3,400,000	-52,964	98.44 %
R120 - Property Taxes Revenues	0	145,775	-145,775	0.00 %	1,835,234	1,750,000	85,234	104.87 %
R130 - User Fees	364,928	341,136	23,793	106.97 %	3,938,075	4,095,000	-156,925	96.17 %
R140 - Connection Charges	34,559	24,992	9,567	138.28 %	498,677	300,000	198,677	166.23 %
R150 - Permit Processing Fee	19,814	14,578	5,237	135.92 %	235,471	175,000	60,471	134.55 %
R160 - Well Registration Fee	200	0	200	0.00 %	2,475	0	2,475	0.00 %
R180 - River Work Permit Application	0	0	0	0.00 %	25	0	25	0.00 %
R190 - WDS Permits Rule 21	600	4,665	-4,065	12.86 %	17,610	56,000	-38,390	31.45 %
R200 - Recording Fees	2,122	2,466	-344	86.04 %	21,048	29,600	-8,552	71.11 %
R210 - Legal Fees	228	1,333	-1,105	17.11 %	5,370	16,000	-10,630	33.56 %
R220 - Copy Fee	0	0	0	0.00 %	99	0	99	0.00 %
R230 - Miscellaneous - Other	4,512	1,666	2,846	270.80 %	21,410	20,000	1,410	107.05 %
R250 - Interest Income	3,478	2,499	979	139.16 %	31,202	30,000	1,202	104.01 %
R260 - CAW - ASR	0	52,929	-52,929	0.00 %	0	635,400	-635,400	0.00 %
R265 - CAW - Los Padres Reimbursement	260,893	54,983	205,910	474.50 %	260,893	660,000	-399,107	39.53 %
R270 - CAW - Rebates	0	21,650	-21,650	0.00 %	281,445	260,000	21,445	108.25 %
R290 - CAW - Miscellaneous	0	6,707	-6,707	0.00 %	0	80,500	-80,500	0.00 %
R300 - Watermaster	0	6,214	-6,214	0.00 %	41,133	74,600	-33,467	55.14 %
R308 - Reclamation Project	0	1,666	-1,666	0.00 %	0	20,000	-20,000	0.00 %
R309 - GWR Project Reimbursements	0	342,708	-342,708	0.00 %	4,112,541	4,112,500	41	100.00 %
R310 - Other Reimbursements	0	2,441	-2,441	0.00 %	19,776	29,300	-9,524	67.49 %
R320 - Grants	72,255	37,458	34,796	192.89 %	110,297	450,000	-339,703	24.51 %
R510 - Operating Reserve	0	71,130	-71,130	0.00 %	0	853,900	-853,900	0.00 %
<b>Total Revenue:</b>	<b>763,588</b>	<b>1,420,215</b>	<b>-656,627</b>	<b>53.77 %</b>	<b>14,779,817</b>	<b>17,047,800</b>	<b>-2,267,983</b>	<b>86.70 %</b>

**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Expense</b>								
<b>Level1: 100 - Personnel Costs</b>								
1100 - Salaries & Wages	196,210	208,417	12,207	94.14 %	2,223,556	2,502,000	278,444	88.87 %
1110 - Manager's Auto Allowance	462	500	38	92.34 %	3,923	6,000	2,077	65.38 %
1120 - Manager's Deferred Comp	677	700	23	96.74 %	5,754	8,400	2,646	68.50 %
1130 - Unemployment Compensation	0	250	250	0.00 %	0	3,000	3,000	0.00 %
1150 - Temporary Personnel	4,139	4,415	276	93.75 %	44,611	53,000	8,389	84.17 %
1160 - PERS Retirement	19,119	37,443	18,324	51.06 %	457,527	449,500	-8,027	101.79 %
1170 - Medical Insurance	27,205	27,531	325	98.82 %	293,635	330,500	36,865	88.85 %
1180 - Medical Insurance - Retirees	7,760	6,747	-1,012	115.00 %	85,236	81,000	-4,236	105.23 %
1190 - Workers Compensation	3,751	4,240	489	88.46 %	45,660	50,900	5,240	89.70 %
1200 - Life Insurance	354	450	96	78.59 %	3,663	5,400	1,737	67.83 %
1210 - Long Term Disability Insurance	1,161	1,200	39	96.77 %	12,488	14,400	1,912	86.72 %
1220 - Short Term Disability Insurance	230	275	45	83.81 %	2,482	3,300	818	75.21 %
1230 - Other Benefits	80	100	20	80.03 %	1,827	1,200	-627	152.21 %
1260 - Employee Assistance Program	59	125	66	47.02 %	635	1,500	865	42.30 %
1270 - FICA Tax Expense	117	566	449	20.69 %	4,908	6,800	1,892	72.17 %
1280 - Medicare Tax Expense	2,720	3,107	387	87.56 %	32,917	37,300	4,383	88.25 %
1290 - Staff Development & Training	1,432	3,074	1,641	46.60 %	10,527	36,900	26,373	28.53 %
1300 - Conference Registration	0	283	283	0.00 %	3,571	3,400	-171	105.04 %
1310 - Professional Dues	338	258	-79	130.70 %	1,712	3,100	1,388	55.23 %
1320 - Personnel Recruitment	0	167	167	0.00 %	695	2,000	1,305	34.74 %
<b>Total Level1: 100 - Personnel Costs:</b>	<b>265,813</b>	<b>299,847</b>	<b>34,034</b>	<b>88.65 %</b>	<b>3,235,325</b>	<b>3,599,600</b>	<b>364,275</b>	<b>89.88 %</b>
<b>Level1: 200 - Supplies and Services</b>								
2000 - Board Member Compensation	1,890	3,782	1,892	49.98 %	24,975	45,400	20,425	55.01 %
2020 - Board Expenses	0	666	666	0.00 %	12,154	8,000	-4,154	151.92 %
2040 - Rent	1,863	1,933	70	96.40 %	20,520	23,200	2,680	88.45 %
2060 - Utilities	2,617	3,232	615	80.98 %	28,343	38,800	10,457	73.05 %
2120 - Insurance Expense	4,138	3,749	-390	110.39 %	48,389	45,000	-3,389	107.53 %
2130 - Membership Dues	0	2,882	2,882	0.00 %	31,297	34,600	3,303	90.45 %
2140 - Bank Charges	419	333	-85	125.61 %	4,446	4,000	-446	111.14 %
2150 - Office Supplies	1,197	1,716	519	69.77 %	12,696	20,600	7,904	61.63 %
2160 - Courier Expense	244	675	431	36.16 %	4,595	8,100	3,505	56.73 %
2170 - Printing/Photocopy	0	783	783	0.00 %	490	9,400	8,910	5.21 %
2180 - Postage & Shipping	500	533	33	93.79 %	5,328	6,400	1,072	83.25 %
2190 - IT Supplies/Services	364	8,330	7,966	4.37 %	106,836	100,000	-6,836	106.84 %
2200 - Professional Fees	16,550	29,280	12,730	56.52 %	269,282	351,500	82,218	76.61 %
2220 - Equipment Repairs & Maintenance	0	625	625	0.00 %	3,931	7,500	3,569	52.41 %
2235 - Equipment Lease	947	1,166	219	81.22 %	11,753	14,000	2,247	83.95 %
2240 - Telephone	3,517	3,798	281	92.59 %	40,039	45,600	5,561	87.81 %
2260 - Facility Maintenance	3,883	3,565	-318	108.92 %	32,507	42,800	10,293	75.95 %
2270 - Travel Expenses	3,285	2,882	-403	113.99 %	17,379	34,600	17,221	50.23 %

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
2280 - Transportation	6,848	2,216	-4,632	309.05 %	31,621	26,600	-5,021	118.88 %
2300 - Legal Services	25,346	33,320	7,974	76.07 %	292,325	400,000	107,675	73.08 %
2380 - Meeting Expenses	156	575	419	27.16 %	2,025	6,900	4,875	29.35 %
2420 - Legal Notices	0	308	308	0.00 %	135	3,700	3,565	3.65 %
2460 - Public Outreach	75	473	398	15.84 %	2,668	5,700	3,032	46.81 %
2480 - Miscellaneous	0	250	250	0.00 %	516	3,000	2,484	17.21 %
2500 - Tax Administration Fee	0	1,666	1,666	0.00 %	20,727	20,000	-727	103.64 %
2900 - Operating Supplies	1,197	1,599	403	74.83 %	12,588	19,200	6,612	65.56 %
<b>Total Level1: 200 - Supplies and Services:</b>	<b>75,037</b>	<b>110,338</b>	<b>35,301</b>	<b>68.01 %</b>	<b>1,037,564</b>	<b>1,324,600</b>	<b>287,036</b>	<b>78.33 %</b>
<b>Level1: 300 - Other Expenses</b>								
3000 - Project Expenses	235,341	476,760	241,419	49.36 %	2,482,288	5,723,700	3,241,412	43.37 %
4000 - Fixed Asset Purchases	132,117	72,254	-59,862	182.85 %	309,257	867,400	558,143	35.65 %
5000 - Debt Service	65,164	19,159	-46,005	340.12 %	132,183	230,000	97,817	57.47 %
5500 - Election Expenses	0	583	583	0.00 %	6,863	7,000	137	98.04 %
6000 - Contingencies	0	6,248	6,248	0.00 %	0	75,000	75,000	0.00 %
6500 - Reserves	0	435,026	435,026	0.00 %	0	5,220,500	5,220,500	0.00 %
<b>Total Level1: 300 - Other Expenses:</b>	<b>432,623</b>	<b>1,010,031</b>	<b>577,408</b>	<b>42.83 %</b>	<b>2,930,591</b>	<b>12,123,600</b>	<b>9,193,009</b>	<b>24.17 %</b>
<b>Total Expense:</b>	<b>773,472</b>	<b>1,420,215</b>	<b>646,743</b>	<b>54.46 %</b>	<b>7,203,480</b>	<b>17,047,800</b>	<b>9,844,320</b>	<b>42.25 %</b>
<b>Report Total:</b>	<b>-9,884</b>	<b>0</b>	<b>-9,884</b>		<b>7,576,337</b>	<b>0</b>	<b>7,576,337</b>	

**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

**For Fiscal: 2017-2018 Period Ending: 05/31/2018**

**Fund Summary**

<b>Fund</b>	<b>May Activity</b>	<b>May Budget</b>	<b>Variance Favorable (Unfavorable)</b>	<b>Percent Used</b>	<b>YTD Activity</b>	<b>Total Budget</b>	<b>Variance Favorable (Unfavorable)</b>	<b>Percent Used</b>
24 - MITIGATION FUND	123,753	0	123,753		862,387	0	862,387	
26 - CONSERVATION FUND	-139,539	0	-139,539		1,069,568	0	1,069,568	
35 - WATER SUPPLY FUND	5,902	0	5,902		5,644,383	0	5,644,383	
<b>Report Total:</b>	<b>-9,884</b>	<b>0.02</b>	<b>-9,884</b>		<b>7,576,337</b>	<b>0</b>	<b>7,576,337</b>	



Monterey Peninsula Water Management Dist

**Statement of Revenue Over Expense - No Decimals**  
**Group Summary**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Fund: 24 - MITIGATION FUND</b>								
<b>Revenue</b>								
R120 - Property Taxes Revenues	0	41,645	-41,645	0.00 %	524,353	500,000	24,353	104.87 %
R130 - User Fees	212,861	196,006	16,855	108.60 %	2,271,246	2,353,000	-81,754	96.53 %
R160 - Well Registration Fee	200	0	200	0.00 %	2,475	0	2,475	0.00 %
R180 - River Work Permit Application	0	0	0	0.00 %	25	0	25	0.00 %
R190 - WDS Permits Rule 21	600	4,665	-4,065	12.86 %	17,610	56,000	-38,390	31.45 %
R230 - Miscellaneous - Other	4,251	833	3,418	510.32 %	19,251	10,000	9,251	192.51 %
R250 - Interest Income	338	417	-78	81.18 %	6,187	5,000	1,187	123.73 %
R290 - CAW - Miscellaneous	0	633	-633	0.00 %	0	7,600	-7,600	0.00 %
R310 - Other Reimbursements	0	2,357	-2,357	0.00 %	19,776	28,300	-8,524	69.88 %
R320 - Grants	72,255	12,468	59,786	579.50 %	90,297	150,000	-59,703	60.20 %
R510 - Operating Reserve	0	8,538	-8,538	0.00 %	0	102,500	-102,500	0.00 %
<b>Total Revenue:</b>	<b>290,505</b>	<b>267,563</b>	<b>22,942</b>	<b>-108.57 %</b>	<b>2,951,220</b>	<b>3,212,400</b>	<b>-261,180</b>	<b>91.87 %</b>

**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Expense</b>								
<b>Level1: 100 - Personnel Costs</b>								
1100 - Salaries & Wages	75,724	82,034	6,310	92.31 %	887,360	984,800	97,440	90.11 %
1110 - Manager's Auto Allowance	92	100	8	92.34 %	785	1,200	415	65.38 %
1120 - Manager's Deferred Comp	135	142	6	95.60 %	1,151	1,700	549	67.69 %
1130 - Unemployment Compensation	0	100	100	0.00 %	0	1,200	1,200	0.00 %
1150 - Temporary Personnel	0	267	267	0.00 %	2,970	3,200	230	92.80 %
1160 - PERS Retirement	7,516	15,627	8,111	48.09 %	189,769	187,600	-2,169	101.16 %
1170 - Medical Insurance	11,059	11,204	145	98.71 %	118,152	134,500	16,348	87.85 %
1180 - Medical Insurance - Retirees	3,104	2,699	-405	115.00 %	34,186	32,400	-1,786	105.51 %
1190 - Workers Compensation	2,184	2,499	315	87.38 %	27,714	30,000	2,286	92.38 %
1200 - Life Insurance	145	200	55	72.66 %	1,600	2,400	800	66.69 %
1210 - Long Term Disability Insurance	466	483	17	96.42 %	5,042	5,800	758	86.94 %
1220 - Short Term Disability Insurance	93	108	16	85.43 %	1,004	1,300	296	77.26 %
1230 - Other Benefits	32	42	10	76.83 %	710	500	-210	142.08 %
1260 - Employee Assistance Program	24	50	26	47.92 %	257	600	343	42.84 %
1270 - FICA Tax Expense	47	242	195	19.40 %	3,706	2,900	-806	127.79 %
1280 - Medicare Tax Expense	1,082	1,216	134	89.00 %	13,787	14,600	813	94.43 %
1290 - Staff Development & Training	420	991	571	42.37 %	4,279	11,900	7,621	35.95 %
1300 - Conference Registration	0	117	117	0.00 %	1,177	1,400	223	84.04 %
1310 - Professional Dues	0	67	67	0.00 %	532	800	268	66.49 %
1320 - Personnel Recruitment	0	67	67	0.00 %	345	800	455	43.08 %
<b>Total Level1: 100 - Personnel Costs:</b>	<b>102,123</b>	<b>118,253</b>	<b>16,130</b>	<b>86.36 %</b>	<b>1,294,525</b>	<b>1,419,600</b>	<b>125,075</b>	<b>91.19 %</b>
<b>Level1: 200 - Supplies and Services</b>								
2000 - Board Member Compensation	756	1,516	760	49.87 %	9,990	18,200	8,210	54.89 %
2020 - Board Expenses	0	267	267	0.00 %	4,862	3,200	-1,662	151.92 %
2040 - Rent	850	883	33	96.23 %	9,357	10,600	1,243	88.28 %
2060 - Utilities	1,053	1,299	246	81.05 %	11,638	15,600	3,962	74.60 %
2120 - Insurance Expense	1,655	1,499	-156	110.39 %	19,355	18,000	-1,355	107.53 %
2130 - Membership Dues	0	908	908	0.00 %	10,179	10,900	721	93.38 %
2140 - Bank Charges	167	133	-34	125.62 %	1,868	1,600	-268	116.77 %
2150 - Office Supplies	479	675	196	70.98 %	4,957	8,100	3,143	61.20 %
2160 - Courier Expense	98	267	169	36.61 %	1,838	3,200	1,362	57.44 %
2170 - Printing/Photocopy	0	150	150	0.00 %	56	1,800	1,744	3.13 %
2180 - Postage & Shipping	200	217	17	92.34 %	2,199	2,600	401	84.57 %
2190 - IT Supplies/Services	146	3,332	3,186	4.37 %	41,900	40,000	-1,900	104.75 %
2200 - Professional Fees	6,620	11,712	5,092	56.52 %	106,577	140,600	34,023	75.80 %
2220 - Equipment Repairs & Maintenance	0	250	250	0.00 %	1,572	3,000	1,428	52.41 %
2235 - Equipment Lease	407	466	59	87.32 %	5,054	5,600	546	90.25 %
2240 - Telephone	1,462	1,516	54	96.44 %	16,885	18,200	1,315	92.77 %
2260 - Facility Maintenance	1,553	1,449	-104	107.17 %	13,153	17,400	4,247	75.59 %
2270 - Travel Expenses	853	791	-61	107.76 %	3,630	9,500	5,870	38.21 %

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
2280 - Transportation	5,549	858	-4,691	646.69 %	28,805	10,300	-18,505	279.66 %
2300 - Legal Services	4,441	10,662	6,222	41.65 %	36,484	128,000	91,516	28.50 %
2380 - Meeting Expenses	62	217	154	28.82 %	765	2,600	1,835	29.44 %
2420 - Legal Notices	0	133	133	0.00 %	54	1,600	1,546	3.38 %
2460 - Public Outreach	20	191	171	10.68 %	910	2,300	1,390	39.55 %
2480 - Miscellaneous	0	100	100	0.00 %	199	1,200	1,001	16.58 %
2500 - Tax Administration Fee	0	483	483	0.00 %	3,537	5,800	2,263	60.98 %
2900 - Operating Supplies	0	183	183	0.00 %	556	2,200	1,644	25.26 %
<b>Total Level1: 200 - Supplies and Services:</b>	<b>26,371</b>	<b>40,158</b>	<b>13,787</b>	<b>65.67 %</b>	<b>336,380</b>	<b>482,100</b>	<b>145,720</b>	<b>69.77 %</b>
<b>Level1: 300 - Other Expenses</b>								
3000 - Project Expenses	10,742	71,699	60,956	14.98 %	398,975	861,100	462,125	46.33 %
4000 - Fixed Asset Purchases	27,516	16,443	-11,073	167.34 %	56,208	197,400	141,192	28.47 %
5500 - Election Expenses	0	233	233	0.00 %	2,745	2,800	55	98.04 %
6000 - Contingencies	0	2,499	2,499	0.00 %	0	30,000	30,000	0.00 %
6500 - Reserves	0	18,277	18,277	0.00 %	0	219,400	219,400	0.00 %
<b>Total Level1: 300 - Other Expenses:</b>	<b>38,258</b>	<b>109,151</b>	<b>70,893</b>	<b>35.05 %</b>	<b>457,928</b>	<b>1,310,700</b>	<b>852,772</b>	<b>34.94 %</b>
<b>Total Expense:</b>	<b>166,752</b>	<b>267,563</b>	<b>100,810</b>	<b>62.32 %</b>	<b>2,088,833</b>	<b>3,212,400</b>	<b>1,123,567</b>	<b>65.02 %</b>
<b>Total Revenues</b>	<b>290,505</b>	<b>267,563</b>	<b>22,942</b>	<b>-108.57 %</b>	<b>2,951,220</b>	<b>3,212,400</b>	<b>-261,180</b>	<b>-91.87 %</b>
<b>Total Fund: 24 - MITIGATION FUND:</b>	<b>123,753</b>	<b>0</b>	<b>123,753</b>		<b>862,387</b>	<b>0</b>	<b>862,387</b>	

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Fund: 26 - CONSERVATION FUND</b>								
<b>Revenue</b>								
R120 - Property Taxes Revenues	0	104,131	-104,131	0.00 %	1,310,881	1,250,000	60,881	104.87 %
R130 - User Fees	101,355	97,046	4,308	104.44 %	1,034,227	1,165,000	-130,773	88.77 %
R150 - Permit Processing Fee	19,814	14,578	5,237	135.92 %	235,471	175,000	60,471	134.55 %
R200 - Recording Fees	2,122	2,466	-344	86.04 %	21,048	29,600	-8,552	71.11 %
R210 - Legal Fees	228	1,333	-1,105	17.11 %	5,370	16,000	-10,630	33.56 %
R250 - Interest Income	504	417	88	121.01 %	9,629	5,000	4,629	192.57 %
R270 - CAW - Rebates	0	21,650	-21,650	0.00 %	281,445	260,000	21,445	108.25 %
R320 - Grants	0	18,326	-18,326	0.00 %	20,000	220,000	-200,000	9.09 %
R510 - Operating Reserve	0	200	-200	0.00 %	0	2,400	-2,400	0.00 %
<b>Total Revenue:</b>	<b>124,023</b>	<b>260,146</b>	<b>-136,124</b>	<b>-47.67 %</b>	<b>2,918,071</b>	<b>3,123,000</b>	<b>-204,929</b>	<b>93.44 %</b>



**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Expense</b>								
<b>Level1: 100 - Personnel Costs</b>								
1100 - Salaries & Wages	47,829	53,662	5,833	89.13 %	525,664	644,200	118,536	81.60 %
1110 - Manager's Auto Allowance	92	100	8	92.34 %	785	1,200	415	65.38 %
1120 - Manager's Deferred Comp	135	142	6	95.60 %	1,151	1,700	549	67.69 %
1130 - Unemployment Compensation	0	67	67	0.00 %	0	800	800	0.00 %
1150 - Temporary Personnel	4,139	3,932	-207	105.27 %	39,266	47,200	7,934	83.19 %
1160 - PERS Retirement	4,410	8,747	4,336	50.42 %	101,967	105,000	3,033	97.11 %
1170 - Medical Insurance	6,965	7,597	632	91.68 %	75,808	91,200	15,392	83.12 %
1180 - Medical Insurance - Retirees	2,173	1,891	-282	114.90 %	23,820	22,700	-1,120	104.93 %
1190 - Workers Compensation	183	225	42	81.52 %	2,083	2,700	617	77.13 %
1200 - Life Insurance	85	100	15	85.47 %	851	1,200	349	70.92 %
1210 - Long Term Disability Insurance	291	325	34	89.43 %	3,092	3,900	808	79.27 %
1220 - Short Term Disability Insurance	58	75	17	77.04 %	614	900	286	68.27 %
1230 - Other Benefits	22	25	3	89.64 %	497	300	-197	165.76 %
1260 - Employee Assistance Program	15	33	18	45.26 %	164	400	236	41.01 %
1270 - FICA Tax Expense	33	83	50	39.39 %	434	1,000	566	43.36 %
1280 - Medicare Tax Expense	690	800	109	86.32 %	7,886	9,600	1,714	82.15 %
1290 - Staff Development & Training	1,008	1,191	184	84.59 %	4,804	14,300	9,496	33.60 %
1300 - Conference Registration	0	67	67	0.00 %	1,454	800	-654	181.70 %
1310 - Professional Dues	0	125	125	0.00 %	763	1,500	737	50.90 %
1320 - Personnel Recruitment	0	50	50	0.00 %	273	600	327	45.46 %
<b>Total Level1: 100 - Personnel Costs:</b>	<b>68,128</b>	<b>79,235</b>	<b>11,107</b>	<b>85.98 %</b>	<b>791,375</b>	<b>951,200</b>	<b>159,825</b>	<b>83.20 %</b>
<b>Level1: 200 - Supplies and Services</b>								
2000 - Board Member Compensation	529	1,058	529	50.02 %	6,993	12,700	5,707	55.06 %
2020 - Board Expenses	0	183	183	0.00 %	3,403	2,200	-1,203	154.69 %
2040 - Rent	229	233	4	98.20 %	2,527	2,800	273	90.25 %
2060 - Utilities	715	883	168	81.00 %	7,328	10,600	3,272	69.13 %
2120 - Insurance Expense	1,159	1,050	-109	110.39 %	13,549	12,600	-949	107.53 %
2130 - Membership Dues	0	1,250	1,250	0.00 %	12,980	15,000	2,021	86.53 %
2140 - Bank Charges	117	92	-26	127.88 %	1,135	1,100	-35	103.14 %
2150 - Office Supplies	335	491	156	68.21 %	3,759	5,900	2,141	63.72 %
2160 - Courier Expense	68	192	123	35.66 %	1,326	2,300	974	57.64 %
2170 - Printing/Photocopy	0	508	508	0.00 %	39	6,100	6,061	0.65 %
2180 - Postage & Shipping	140	142	2	98.86 %	1,449	1,700	251	85.23 %
2190 - IT Supplies/Services	102	2,332	2,230	4.37 %	28,949	28,000	-949	103.39 %
2200 - Professional Fees	4,634	8,197	3,563	56.53 %	74,527	98,400	23,873	75.74 %
2220 - Equipment Repairs & Maintenance	0	175	175	0.00 %	1,101	2,100	999	52.41 %
2235 - Equipment Lease	227	325	98	69.98 %	2,855	3,900	1,045	73.22 %
2240 - Telephone	922	1,016	95	90.70 %	11,016	12,200	1,184	90.29 %
2260 - Facility Maintenance	1,087	933	-154	116.54 %	8,983	11,200	2,217	80.21 %
2270 - Travel Expenses	982	1,416	434	69.33 %	5,335	17,000	11,665	31.38 %

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
2280 - Transportation	144	500	356	28.85 %	732	6,000	5,268	12.20 %
2300 - Legal Services	3,233	5,998	2,765	53.91 %	30,143	72,000	41,857	41.87 %
2380 - Meeting Expenses	44	183	140	23.85 %	607	2,200	1,593	27.59 %
2420 - Legal Notices	0	58	58	0.00 %	38	700	662	5.40 %
2460 - Public Outreach	23	133	110	17.24 %	848	1,600	752	53.03 %
2480 - Miscellaneous	0	67	67	0.00 %	139	800	661	17.41 %
2500 - Tax Administration Fee	0	475	475	0.00 %	8,843	5,700	-3,143	155.14 %
2900 - Operating Supplies	1,197	1,266	69	94.52 %	11,643	15,200	3,557	76.60 %
<b>Total Level1: 200 - Supplies and Services:</b>	<b>15,887</b>	<b>29,155</b>	<b>13,267</b>	<b>54.49 %</b>	<b>240,247</b>	<b>350,000</b>	<b>109,753</b>	<b>68.64 %</b>
<b>Level1: 300 - Other Expenses</b>								
3000 - Project Expenses	99,997	104,386	4,389	95.80 %	614,977	1,253,100	638,123	49.08 %
4000 - Fixed Asset Purchases	79,548	42,150	-37,398	188.73 %	199,983	506,000	306,017	39.52 %
5500 - Election Expenses	0	167	167	0.00 %	1,922	2,000	78	96.08 %
6000 - Contingencies	0	1,749	1,749	0.00 %	0	21,000	21,000	0.00 %
6500 - Reserves	0	3,305	3,305	0.00 %	0	39,700	39,700	0.00 %
<b>Total Level1: 300 - Other Expenses:</b>	<b>179,545</b>	<b>151,757</b>	<b>-27,789</b>	<b>118.31 %</b>	<b>816,882</b>	<b>1,821,800</b>	<b>1,004,918</b>	<b>44.84 %</b>
<b>Total Expense:</b>	<b>263,561</b>	<b>260,146</b>	<b>-3,415</b>	<b>101.31 %</b>	<b>1,848,503</b>	<b>3,123,000</b>	<b>1,274,497</b>	<b>59.19 %</b>
<b>Total Revenues</b>	<b>124,023</b>	<b>260,146</b>	<b>-136,124</b>	<b>-47.67 %</b>	<b>2,918,071</b>	<b>3,123,000</b>	<b>-204,929</b>	<b>-93.44 %</b>
<b>Total Fund: 26 - CONSERVATION FUND:</b>	<b>-139,539</b>	<b>0</b>	<b>-139,539</b>		<b>1,069,568</b>	<b>0</b>	<b>1,069,568</b>	

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Fund: 35 - WATER SUPPLY FUND</b>								
<b>Revenue</b>								
R100 - Water Supply Charge	0	283,220	-283,220	0.00 %	3,347,036	3,400,000	-52,964	98.44 %
R120 - Property Taxes Revenues	0	-1	1	0.00 %	0	0	0	0.00 %
R130 - User Fees	50,713	48,083	2,629	105.47 %	632,601	577,000	55,601	109.64 %
R140 - Connection Charges	34,559	24,992	9,567	138.28 %	498,677	300,000	198,677	166.23 %
R220 - Copy Fee	0	0	0	0.00 %	99	0	99	0.00 %
R230 - Miscellaneous - Other	261	833	-572	31.29 %	2,159	10,000	-7,841	21.59 %
R250 - Interest Income	2,636	1,666	970	158.20 %	15,387	20,000	-4,613	76.93 %
R260 - CAW - ASR	0	52,929	-52,929	0.00 %	0	635,400	-635,400	0.00 %
R265 - CAW - Los Padres Reimbursement	260,893	54,983	205,910	474.50 %	260,893	660,000	-399,107	39.53 %
R290 - CAW - Miscellaneous	0	6,074	-6,074	0.00 %	0	72,900	-72,900	0.00 %
R300 - Watermaster	0	6,214	-6,214	0.00 %	41,133	74,600	-33,467	55.14 %
R308 - Reclamation Project	0	1,666	-1,666	0.00 %	0	20,000	-20,000	0.00 %
R309 - GWR Project Reimbursements	0	342,708	-342,708	0.00 %	4,112,541	4,112,500	41	100.00 %
R310 - Other Reimbursements	0	83	-83	0.00 %	0	1,000	-1,000	0.00 %
R320 - Grants	0	6,664	-6,664	0.00 %	0	80,000	-80,000	0.00 %
R510 - Operating Reserve	0	62,392	-62,392	0.00 %	0	749,000	-749,000	0.00 %
<b>Total Revenue:</b>	<b>349,061</b>	<b>892,506</b>	<b>-543,446</b>	<b>-39.11 %</b>	<b>8,910,526</b>	<b>10,712,400</b>	<b>-1,801,874</b>	<b>83.18 %</b>

**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

For Fiscal: 2017-2018 Period Ending: 05/31/2018

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
<b>Expense</b>								
<b>Level1: 100 - Personnel Costs</b>								
1100 - Salaries & Wages	72,657	72,721	64	99.91 %	810,532	873,000	62,468	92.84 %
1110 - Manager's Auto Allowance	277	300	23	92.34 %	2,354	3,600	1,246	65.38 %
1120 - Manager's Deferred Comp	406	417	10	97.52 %	3,452	5,000	1,548	69.05 %
1130 - Unemployment Compensation	0	83	83	0.00 %	0	1,000	1,000	0.00 %
1150 - Temporary Personnel	0	217	217	0.00 %	2,376	2,600	224	91.37 %
1160 - PERS Retirement	7,193	13,070	5,877	55.04 %	165,790	156,900	-8,890	105.67 %
1170 - Medical Insurance	9,181	8,730	-451	105.17 %	99,675	104,800	5,125	95.11 %
1180 - Medical Insurance - Retirees	2,483	2,157	-326	115.09 %	27,230	25,900	-1,330	105.13 %
1190 - Workers Compensation	1,384	1,516	132	91.28 %	15,863	18,200	2,337	87.16 %
1200 - Life Insurance	123	150	27	81.90 %	1,212	1,800	588	67.31 %
1210 - Long Term Disability Insurance	404	392	-13	103.27 %	4,354	4,700	346	92.64 %
1220 - Short Term Disability Insurance	80	92	12	87.43 %	863	1,100	237	78.47 %
1230 - Other Benefits	26	33	8	76.83 %	619	400	-219	154.71 %
1260 - Employee Assistance Program	20	42	22	47.35 %	213	500	287	42.69 %
1270 - FICA Tax Expense	38	242	204	15.52 %	768	2,900	2,132	26.50 %
1280 - Medicare Tax Expense	948	1,091	143	86.86 %	11,243	13,100	1,857	85.82 %
1290 - Staff Development & Training	5	891	887	0.54 %	1,445	10,700	9,256	13.50 %
1300 - Conference Registration	0	100	100	0.00 %	941	1,200	259	78.44 %
1310 - Professional Dues	338	67	-271	506.45 %	417	800	383	52.11 %
1320 - Personnel Recruitment	0	50	50	0.00 %	77	600	523	12.91 %
<b>Total Level1: 100 - Personnel Costs:</b>	<b>95,562</b>	<b>102,359</b>	<b>6,798</b>	<b>93.36 %</b>	<b>1,149,425</b>	<b>1,228,800</b>	<b>79,375</b>	<b>93.54 %</b>
<b>Level1: 200 - Supplies and Services</b>								
2000 - Board Member Compensation	605	1,208	603	50.07 %	7,992	14,500	6,508	55.12 %
2020 - Board Expenses	0	217	217	0.00 %	3,889	2,600	-1,289	149.59 %
2040 - Rent	784	816	32	96.07 %	8,635	9,800	1,165	88.12 %
2060 - Utilities	849	1,050	201	80.88 %	9,378	12,600	3,222	74.43 %
2120 - Insurance Expense	1,324	1,200	-125	110.39 %	15,484	14,400	-1,084	107.53 %
2130 - Membership Dues	0	725	725	0.00 %	8,139	8,700	561	93.55 %
2140 - Bank Charges	134	108	-26	123.68 %	1,443	1,300	-143	111.00 %
2150 - Office Supplies	383	550	167	69.69 %	3,979	6,600	2,621	60.29 %
2160 - Courier Expense	78	217	139	36.05 %	1,431	2,600	1,169	55.05 %
2170 - Printing/Photocopy	0	125	125	0.00 %	394	1,500	1,106	26.26 %
2180 - Postage & Shipping	160	175	15	91.47 %	1,680	2,100	420	80.00 %
2190 - IT Supplies/Services	116	2,666	2,549	4.37 %	35,986	32,000	-3,986	112.46 %
2200 - Professional Fees	5,296	9,371	4,075	56.51 %	88,178	112,500	24,322	78.38 %
2220 - Equipment Repairs & Maintenance	0	200	200	0.00 %	1,258	2,400	1,142	52.41 %
2235 - Equipment Lease	313	375	62	83.39 %	3,844	4,500	656	85.42 %
2240 - Telephone	1,133	1,266	133	89.51 %	12,139	15,200	3,061	79.86 %
2260 - Facility Maintenance	1,243	1,183	-60	105.05 %	10,370	14,200	3,830	73.03 %
2270 - Travel Expenses	1,451	675	-776	215.02 %	8,415	8,100	-315	103.89 %

**EXHIBIT 9-E**

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**Statement of Revenue Over Expense - No Decimals****For Fiscal: 2017-2018 Period Ending: 05/31/2018**

Level...	May Activity	May Budget	Variance Favorable (Unfavorable)	Percent Used	YTD Activity	Total Budget	Variance Favorable (Unfavorable)	Percent Used
2280 - Transportation	1,155	858	-297	134.64 %	2,084	10,300	8,216	20.24 %
2300 - Legal Services	17,672	16,660	-1,012	106.07 %	225,698	200,000	-25,698	112.85 %
2380 - Meeting Expenses	50	175	125	28.55 %	652	2,100	1,448	31.07 %
2420 - Legal Notices	0	117	117	0.00 %	43	1,400	1,357	3.09 %
2460 - Public Outreach	32	150	118	21.18 %	910	1,800	890	50.56 %
2480 - Miscellaneous	0	83	83	0.00 %	178	1,000	822	17.81 %
2500 - Tax Administration Fee	0	708	708	0.00 %	8,347	8,500	153	98.20 %
2900 - Operating Supplies	0	150	150	0.00 %	389	1,800	1,411	21.60 %
<b>Total Level1: 200 - Supplies and Services:</b>	<b>32,778</b>	<b>41,025</b>	<b>8,247</b>	<b>79.90 %</b>	<b>460,938</b>	<b>492,500</b>	<b>31,562</b>	<b>93.59 %</b>
<b>Level1: 300 - Other Expenses</b>								
3000 - Project Expenses	124,602	300,675	176,073	41.44 %	1,468,336	3,609,500	2,141,164	40.68 %
4000 - Fixed Asset Purchases	25,053	13,661	-11,391	183.39 %	53,066	164,000	110,934	32.36 %
5000 - Debt Service	65,164	19,159	-46,005	340.12 %	132,183	230,000	97,817	57.47 %
5500 - Election Expenses	0	183	183	0.00 %	2,196	2,200	4	99.82 %
6000 - Contingencies	0	1,999	1,999	0.00 %	0	24,000	24,000	0.00 %
6500 - Reserves	0	413,444	413,444	0.00 %	0	4,961,400	4,961,400	0.00 %
<b>Total Level1: 300 - Other Expenses:</b>	<b>214,819</b>	<b>749,122</b>	<b>534,303</b>	<b>28.68 %</b>	<b>1,655,781</b>	<b>8,991,100</b>	<b>7,335,319</b>	<b>18.42 %</b>
<b>Total Expense:</b>	<b>343,158</b>	<b>892,506</b>	<b>549,348</b>	<b>38.45 %</b>	<b>3,266,143</b>	<b>10,712,400</b>	<b>7,446,257</b>	<b>30.49 %</b>
<b>Total Revenues</b>	<b>349,061</b>	<b>892,506</b>	<b>-543,446</b>	<b>-39.11 %</b>	<b>8,910,526</b>	<b>10,712,400</b>	<b>-1,801,874</b>	<b>-83.18 %</b>
<b>Total Fund: 35 - WATER SUPPLY FUND:</b>	<b>5,902</b>	<b>0</b>	<b>5,902</b>		<b>5,644,383</b>	<b>0</b>	<b>5,644,383</b>	
<b>Report Total:</b>	<b>-9,884</b>	<b>0</b>	<b>-9,884</b>		<b>7,576,337</b>	<b>0</b>	<b>7,576,337</b>	

**EXHIBIT 9-E**

**Statement of Revenue Over Expense - No Decimals**

**For Fiscal: 2017-2018 Period Ending: 05/31/2018**

**Fund Summary**

<b>Fund</b>	<b>May Activity</b>	<b>May Budget</b>	<b>Variance Favorable (Unfavorable)</b>	<b>Percent Used</b>	<b>YTD Activity</b>	<b>Total Budget</b>	<b>Variance Favorable (Unfavorable)</b>	<b>Percent Used</b>
24 - MITIGATION FUND	123,753	0	123,753		862,387	0	862,387	
26 - CONSERVATION FUND	-139,539	0	-139,539		1,069,568	0	1,069,568	
35 - WATER SUPPLY FUND	5,902	0	5,902		5,644,383	0	5,644,383	
<b>Report Total:</b>	<b>-9,884</b>	<b>0.02</b>	<b>-9,884</b>		<b>7,576,337</b>	<b>0</b>	<b>7,576,337</b>	

**ITEM: PUBLIC HEARING****13. CONSIDER FIRST READING OF ORDINANCE NO. 179 CLARIFYING RULES RELATED TO THE REBATE PROGRAM, PERMITS, AND WATER WASTE (CEQA: Exempt pursuant to CEQA Guidelines Section 15301)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David A. Stoldt, General Manager</b>	<b>Program/ Line Item No.:</b>	<b>N/A</b>
<b>Staff Contact:</b>	<b>Stephanie Locke</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Approval: Counsel has reviewed this ordinance.**

**Committee Recommendation: The Water Demand Committee discussed the conceptual ordinance on July 10, 2018.**

**CEQA Compliance: This ordinance is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 15301, Existing Facilities, for modifications to Rule 141, as these amendments relate to replacement of existing facilities with less water intensive uses.**

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**SUMMARY:** Draft Ordinance No. 179 (**Exhibit 13-A**) makes minor changes to existing rules. The primary impetus for the ordinance is the need to make amendments to the Rebate Program to support the District's HEART (High Efficiency Applied Retrofit Targets) effort. HEART is funded by a Proposition 1 Integrated Regional Water Management Disadvantaged Community Involvement Program grant from the Department of Water Resources (DWR) to the Central Coast Funding Area (CCFA). The HEART project is focused on the City of Seaside's Disadvantaged Communities (DAC) and will provide free or low-cost installations of water efficient toilets, showerheads and faucet aerators, High Efficiency Clothes Washers, High Efficiency Dishwashers, leak detection and repairs, dish squeegees, dye tablets for toilets, etc. The amendments proposed in this ordinance allow Multi-Family Dwellings located in the Disadvantaged Communities to receive Rebates for purchase and installation of more than 20 toilets on a Site.

Ordinance No. 179 also includes the following:

1. Rule 11 edit to "Legal Parcel" definition.
2. Rule 23 clarification that past and future water use should be done according to the methodology codified in Rule 24.
3. Rule 23 notice that Major Landscapes audited by a Certified Landscape Irrigation Auditor require corrections noted in the audit to be made prior to the District's final inspection.
4. Rule 23 exemption by GM for fire service hardships and add requirement to deed restrictions. Exemptions must know that rationing enforcement could result in a Flow Restrictor.

5. Rule 141 is amended to include leases of High Efficiency Clothes Washers in Common Laundry Rooms and to allow Multi-Family Dwelling Units in the DAC to receive Rebates for more than 20 High Efficiency Toilets.
6. Rule 162-B-5 is amended to exempt non-MPWRS Wells from the Wednesday/Saturday watering days and to encourage Well irrigators located in urban areas to display signage that indicates the water used for irrigation is from a Well or other Source of Supply on the Site.

**RECOMMENDATION:** Staff recommends the Board approve the first reading of Ordinance No. 179.

**EXHIBIT**

**13-A** Draft Ordinance No. 179 - Clarifying Rules Related to the Rebate Program, Permits, and Water Waste



**EXHIBIT 13-A***1st READING DRAFT***ORDINANCE NO. 179**

**AN ORDINANCE OF THE BOARD OF DIRECTORS OF  
THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
CLARIFYING RULES RELATED TO THE REBATE PROGRAM, PERMITS,  
AND WATER WASTE**

**FINDINGS**

1. The Monterey Peninsula Water Management District (District or Water Management District) is charged under the Monterey Peninsula Water Management District Law with the integrated management of the ground and surface water resources in the Monterey Peninsula area.
2. The Water Management District has general and specific power to cause and implement water conservation activities as set forth in Sections 325 and 328 of the Monterey Peninsula Water Management District Law.
3. The Monterey Peninsula Water Management District has found and determined that it is in the best interests of the Monterey Peninsula Water Management District and its inhabitants to define, implement and enforce water efficient plumbing standards and requirements for the conservation of Potable water supplies. Retrofit or replacement of existing plumbing fixtures lessens consumption of the limited water resources available on the Monterey Peninsula. Installation of water efficient plumbing fixtures reduces the burden of new, expanded or modified uses on the water resources.
4. This ordinance clarifies the Rule 23 process for estimating water demand prior to application for a Water Permit, clarifies that corrections noted in a Major Landscape Project audit shall be completed prior to a final inspection by the District, and authorizes the General Manager to exempt projects that demonstrate an Undue Hardship from the requirement to install separate water lines in the meter box to supply domestic and fire suppression systems.
5. Amendments to the Rule 141 Rebate Program are necessary to support the District's HEART (High Efficiency Applied Retrofit Targets) program. HEART is funded by a Proposition 1 Integrated Regional Water Management Disadvantaged Community Involvement Program grant from the Department of Water Resources (DWR) to the

Central Coast Funding Area (CCFA). The HEART project is focused on the City of Seaside's Disadvantaged Communities (DAC) and will provide free or low-cost installations of water efficient toilets, showerheads and faucet aerators, High Efficiency Clothes Washers, High Efficiency Dishwashers, leak detection and repairs, dish squeegees, dye tablets for toilets, etc. Outreach activities include education and outreach to DAC property owners, managers and renters. DAC residents benefit through site assessments and completion of appliance retrofits. Program participants should lower water/energy usage and lower bills. The amendments proposed in this ordinance allow Multi-Family Dwellings located in the Disadvantaged Communities to receive Rebates for purchase and installation of more than 20 toilets on a Site.

6. Ordinance No. 178 incentivized retrofits completed prior to January 1, 2019, when Senate Bill 407 (Padilla) requires certain retrofits. Property owners/managers are encouraged to use the Rebate Program to facilitate conversion of older toilets to High Efficiency or Ultra High Efficiency Toilets and replacement of older Clothes Washers with High Efficiency Clothes Washers.
7. This ordinance allows Rebates for High Efficiency Clothes Washers in Common Laundry Rooms that are leased from a vendor. Water savings from Multi-Family Residential retrofits is estimated to save up to 60 percent of the pre-retrofit water use. There are approximately 10,500 Multi-Family Dwelling Units in the DAC area, as determined by MPWMD in consultation with the California American Water Company and the Seaside Municipal Water District. Assuming 50% of these units are served by common-area laundries, the overall market potential for water savings in this area are anticipated to exceed 126 AFY.
8. Common Laundry Rooms provide excellent opportunities for water conservation because the frequency of use for each Clothes Washer is much greater than in-home machines. While an in-home machine averages only 4 to 6 loads per week, common area machines often wash 20 to 50 loads per week per Clothes Washer.
9. Most older coin-operated Clothes Washers have a Water Factor rating of 12 to 14 (top loaders); using 35 to 45 gallons per load. Newer water efficient models have a Water Factor rating of 4 to 8, using as little as 12 gallons per load.
10. This ordinance is exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 15301, Existing Facilities, for modifications to Rule 141, as these amendments relate to replacement of existing facilities with less water intensive uses.

NOW THEREFORE be it ordained as follows:

## ORDINANCE

### **Section One:            Short Title**

This ordinance shall be known as the 2018 IRWM Grant Support Ordinance of the Monterey Peninsula Water Management District.

### **Section Two:            Purpose**

This ordinance amends and clarifies Rules related to the Rebate Program and permits of the District's Rules.

### **Section Three:            Amendments to Rule 11**

Rule 11 shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face.

LEGAL PARCEL - The term "Legal Parcel" ~~or "Parcel"~~ shall refer ***mean*** to the recorded legal description of a property that qualifies as a buildable legal lot of record under current rules of the applicable land use planning Jurisdiction.

### **Section Four:            Amendments to Rule 23**

1. Rule 23-A-1-e shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face.

e.        The General Manager shall calculate the appropriate Capacity Fee for the Project using Rule 24, Calculation of Water Use Capacity and Capacity Fees. ***Estimation of past and future water use should be done according to the Rule 24 methodology.***

2. Rule 23-A-1-o shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face.

- o. Following Project completion, a final inspection of the Project shall be conducted by the District. *Major Landscape Projects shall be audited by a Certified Landscape Irrigation Auditor and corrections noted in the audit shall be made prior to District inspection.* If the completed Project varies from the permitted Project, application for an amended Water Permit is required. When the completed Project has fewer fixture units than the number permitted (Residential Water Permits), or has a smaller Water Use Capacity than permitted (Non-Residential *and landscape* Water Permits), the Applicant shall not be required to secure the signature of the authorized official of the applicable Jurisdiction on the Water Release Form.
3. Rule 23-B-2-c shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face. The remaining provisions of Rule 23 shall remain unchanged by this ordinance.
- c. All New Structures receiving a Water Permit after January 1, 2009, shall have separate water supply lines that tee off after the Water Meter to supply fire suppression service and domestic service as demonstrated in Figure 23-1, unless the User has separate Water Meters maintained by the Water Distribution System Operator for fire and domestic services. This configuration shall facilitate installation of a Flow Restrictor in the domestic service without interfering with the fire suppression service.

*The General Manager shall have authority to make exceptions to this requirement for Undue Hardship. Exceptions shall be recorded on the property title with notice that rationing enforcement could result in a Flow Restrictor.*

**Section Five:**            **Amendments to Rule 141**

1. Rule 141-A shall be amended by adding the following footnote to the word “purchase” as shown in ***bold italic*** type face:
- A.    **QUALIFYING DEVICES**  
Rebates are available for purchase<sup>4</sup> of the following Qualifying Devices within the boundaries of the Monterey Peninsula Water Management District. Qualifying Devices and the associated Rebate amount are shown in Table XIV-1.

<sup>1</sup> *Rebates are available for High Efficiency Clothes Washers in Common Laundry Rooms that are leased under a contract with a vendor.*

2. Rule 141-C-2 shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face.
  2. No Rebate shall be issued for installation of Qualifying Devices that are required to be installed and maintained by Regulation XIV of the District with the exception of High Efficiency Toilets installed at Sites owned and operated by California Non-Profit Corporations. No Rebate shall be issued for installation of Qualifying Devices that ~~have been used~~ ***were required*** to obtain a Water Permit. Rebates shall be available until the date the retrofit becomes mandatory, such as the date a Change of Ownership or Change of Use occurs or a Water Permit is issued ***unless modified by the Board of Directors***. Rebates shall not be available for Qualifying Devices that have been required to be installed and maintained by local, State, or Federal water conservation programs.
  
3. Rule 141-C-5 shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face.
  5. Rebates shall be available for a maximum of twenty (20) toilets on all Non-Residential Qualifying Properties with the exception of Qualifying Properties owned and operated by a California Non-Profit Corporation ***or that participate in the District's High Efficiency Appliance Retrofit Target (HEART) program.***
  
4. Rule 141-C-5 shall be amended as shown below, with added language as shown in ***bold italic*** type face, and deleted language shown in ~~strikeout~~ type face. The remaining provisions of Rule 141 shall remain unchanged by this ordinance.
  4. Written authorization of the current property owner ***or property manager*** shall be required for Applicants who are not the owners of the property for which a Rebate is requested. The authorization must indicate ~~the property owner's~~ consent to the Applicant receiving a Rebate for installation of the Qualifying Devices. Applications submitted without ~~owner~~ approval will be denied.

**Section Six:            Amendment to Rule 162-B-5, Prohibition on Water Waste**

Rule 162-B-5 shall be amended as shown below, with added language as shown in *bold italic* type face, and deleted language shown in ~~strikeout~~ type face.

5.        Irrigation between 9 a.m. and 5 p.m. on any day, and irrigation on any day other than Saturdays and Wednesdays, except for irrigation overseen by a professional gardener or landscaper who is available on Site and that is not exceeding a maximum two watering days per week. This prohibition applies to hand watering with a hose, and irrigation systems whether spray, drip, or managed by a Smart Controller. Limited hand watering of plants or bushes with a small container or a bucket is permitted on any day at any time. Subsurface Graywater Irrigation Systems may also be operated at any time. An exemption may be given to a Non-Residential establishment whose business requires water in the course of its business practice (e.g. golf courses, nurseries, recreational space, among others) with notification by the business owner to the District, and subject to the approval of the General Manager.

*Irrigation using water from a Well is exempt from the watering day restriction if irrigation is done in an efficient manner. Well irrigators located in urban areas are encouraged to display signage that indicates the water used for irrigation is from a Well or other Source of Supply on the Site.*

**Section Seven:            Publication and Application**

The provisions of this ordinance shall cause the republication and amendment of Rules 11, 23, 141, and 110 of the Monterey Peninsula Water Management District.

**Section Eight:            Effective Date and Sunset**

This ordinance shall take effect at 12:01 a.m. on the 30th day after it has been enacted on second reading.

This Ordinance shall not have a sunset date.

**Section Nine:            Severability**

**DRAFT**

If any subdivision, paragraph, sentence, clause or phrase of this ordinance is, for any reason, held to be invalid or unenforceable by a court of competent jurisdiction, such invalidity shall not affect the validity or enforcement of the remaining portions of this ordinance, or of any other provisions of the Monterey Peninsula Water Management District Rules and Regulations. It is the District's express intent that each remaining portion would have been adopted irrespective of the fact that one or more subdivisions, paragraphs, sentences, clauses, or phrases be declared invalid or unenforceable.

On motion by Director \_\_\_\_\_, and second by Director \_\_\_\_\_, the foregoing ordinance is adopted upon this \_\_\_\_ day of \_\_\_\_\_, 2018, by the following vote:

AYES:

NAYS:

ABSENT:

I, David J. Stoldt, Secretary to the Board of Directors of the Monterey Peninsula Water Management District, hereby certify the foregoing ordinance was duly adopted on the \_\_\_\_ day of \_\_\_\_\_, 2018.

Witness my hand and seal of the Board of Directors this \_\_\_\_ day of \_\_\_\_\_ 2018.

\_\_\_\_\_  
David J. Stoldt, Secretary to the Board





**ITEM: PUBLIC HEARING**

**14. CONSIDER CERTIFICATION OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND ADDENDUM FOR LOS PADRES DAM GRAVEL AUGMENTATION PROGRAM INCLUDING ADOPTION OF CEQA FINDINGS AND MITIGATION MEASURES (CEQA Sections 15063, Initial Study; 15070, Negative Declaration; and 15162(b), Addendum. Adoption is final Board action in the CEQA process.)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David A. Stoldt, General Manager</b>	<b>Program/ Acct. No.:</b>	<b>2-3-8 24-04-785852</b>
<b>Staff Contact:</b>	<b>Larry Hampson</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Approval: Yes.**

**Committee Recommendation: N/A**

**CEQA Compliance: CEQA Sections 15063, Initial Study; 15070, Negative Declaration; and 15162(b), Addendum. Adoption is final Board action in the CEQA process.**

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**SUMMARY:** The Board will consider the Draft Initial Study and Mitigated Negative Declaration (IS/MND) and adoption for the Los Padres Dam Gravel Augmentation Program (the Project) in compliance with the California Environmental Quality Act (CEQA). The IS/MND is available on the District web site at:

<http://www.mpwmd.net/regulations/public-notice/ceqa/>

The Project includes: importation of up to 2,000 tons of gravel and placement of up to 1,500 tons in the Carmel River channel downstream of Los Padres Dam during the low flow season. Material would be placed in the same footprint as similar project completed in 2014. The balance of material not placed into the river in the initial phase would be stockpiled for later use after the river washes material downstream. It is estimated that three to four replenishment projects to import and place up to 1,500 tons during each project could be carried out in a 10-year period.

At the Public Hearing, the Board will consider comments received on the Project and proposed District responses, make findings concerning measures to reduce potential impacts, and determine whether to approve the Project. If the Board approves the Project, a Final IS/MND will be prepared that includes revised text and additions to the Draft IS/MND and a Notice of Determination will be filed concerning the Board's decision. Approval of the Project and Certification of the IS/MND will allow the District to move forward with permit applications to complete the Project.

**RECOMMENDATION:** Staff recommends that the Board take the following actions:

1. Address any written or oral comments received at the Public Hearing;
2. Adopt CEQA Findings (**Exhibit 14-A**) to certify the Final IS/MND and Addendum;

3. Adopt Resolution 2018-15 (**Exhibit 14-B**) certifying the IS/MND and approving the Project;
4. Adopt the Mitigation Measures as described in **Exhibit 14-C**;
5. Direct staff to prepare a Final IS/MND that incorporates all changes made in response to comments received and file a Notice of Determination of approval of the Los Padres Dam Gravel Augmentation Program based on the certified Final IS/MND.

**DISCUSSION:** California American Water has entered into a Memorandum of Agreement with the National Marine Fisheries Service (NMFS) effective January 10, 2018 (MOA) that, among other things, provides for interim gravel replenishment below Los Padres Dam to maintain spawning gravels downstream of Los Padres Dam pending a determination about the future of the dam. Since 1994, MPWMD has had an ongoing program to augment spawning habitat for the benefit of steelhead throughout the Carmel River and has an interest in assisting Cal-Am with gravel replenishment at Los Padres Dam.

MPWMD executed an agreement with Cal-Am to cooperate on the initial phases of the gravel augmentation project. The MOA provides that gravel replenishment amounts, methods and scheduling are to be approved by NMFS. Cal-Am, MPWMD, and NMFS have agreed on a scope of work for the initial phase, which is intended to be completed over a three-year period.

MPWMD's role in the Project will be to act as Lead Agency under CEQA, obtain permits, and supervise placement of the gravel in the field.

In accordance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the District prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) (**Exhibit 14-C**) for the project and published a notice of its intent to adopt the IS/MND on May 14, 2018. The State Clearinghouse received the notice on May 14, 2018 and set the end of the review period at June 12, 2018.

The District received no written comments on the Draft IS/MND (**Exhibit 14-C**). MPWMD notified regulatory agencies of the Public Hearing to be held on the project at the July 16, 2018 MPWMD Board meeting.

The Addendum to the Draft IS/MND is to add the removal of a 100-foot long Alaskan steppass fish ladder that is no longer serviceable (see Figure 1). The ladder consists of concrete walls with a steel grate over the top. The ladder is within the footprint of the area where gravel would be placed and removal would have no additional impact along the active channel. It would be removed with a combination of hand tools (e.g., concrete saw and/or pneumatic jackhammer) and heavy construction equipment to haul material away (the same equipment used to haul gravel into the stream). No additional mitigation measures are necessary to remove the ladder.



**Figure 1 – Abandoned Alaskan steppass fish ladder downstream of Los Padres Dam**

### **CEQA Action**

In compliance with CEQA Guidelines Section 15132, the Final IS/MND will include the following components:

- Revisions to the Draft IS/MND to respond to comments received.
- Revisions as directed by the MPWMD Board of Directors.
- An Addendum to include removal of a non-functional fish ladder

The CEQA Findings (**Exhibit 14-A**) have been prepared to comply with CEQA Article 6 Negative Declaration Process, Sections 15070 to 15075, and Sections 15097 and 15105. The CEQA Findings for the Addendum have been prepared to comply with State CEQA Guidelines Sections 15162 and 15164. The District has determined that the project will not have a significant impact on the environment with implementation of the Mitigation Monitoring and Reporting Program to be included in the Final IS/MND.

### **Next Steps**

The Final IS/MND will be used by the MPWMD Board to comply with CEQA for purposes of carrying out the Project. Once the Notice of Determination is filed with the Monterey County

Clerk and State Office of Planning and Research, other entities may use the certified IS/MND in their decisions about issuing authorizations to carry out the project. These entities include:

U.S. Army – will issue a Section 404 permit under the Clean Water Act.

U.S. Fish and Wildlife Service – will issue a biological opinion under the Endangered Species Act for impacts to California red-legged frogs.

Regional Water Quality Control Board – will issue a Section 401 Water Quality Certification under the Clean Water Act.

California Department of Fish and Wildlife – will issue a Stream Alteration Agreement.

Monterey County – will issue a grading/stockpiling permit.

The National Marine Fisheries Service has issued a biological opinion that includes this project. After all permits are secured, the District will request that Cal-Am contract for delivery and placement of the gravel.

**IMPACT TO DISTRICT RESOURCES:** MPWMD expenses associated with this Project to secure permits will be reimbursed by Cal-Am. MPWMD will contribute in-kind services as Lead Agency and for project management in the field.

## **EXHIBITS**

**14-A** CEQA Findings for Mitigated Negative Declaration

**14-B** Resolution 2018-15 Certifying the Final IS/MND and Approving the Project

**14-C** Draft Initial Study/Mitigated Negative Declaration (view on-line at)

<http://www.mpwmd.net/regulations/public-notices/ceqa/>

**EXHIBIT 14-A****FINDINGS OF ENVIRONMENTAL REVIEW  
LOS PADRES DAM GRAVEL AUGMENTATION PROGRAM**

- 1) FINDING:** The Monterey Peninsula Water Management District (District) Board certified the Environmental Impact Report (EIR) for the Water Allocation Program on November 5, 1990.

**EVIDENCE:** The EIR is on file in the District office.
- 2) FINDING:** On November 5, 1990 the District Board adopted findings which included the mitigation measures described in planning document titled, Five-Year Mitigation Program for Option V -- 16,700 acre-feet (af) Cal-Am Production.

**EVIDENCE:** The Mitigation Plan is on file in the District office.
- 3) FINDING:** Since 1993 and as part of the Mitigation Program, the District has carried out periodic gravel augmentation projects downstream of Los Padres Dam to improve spawning habitat for South-Central California Coast (S-CCC) steelhead.

**EVIDENCE:** Final Evaluation of MPWMD Five-Year Mitigation Program, 1991-1996 on file in the District office; Summary Report, California Coastal Salmon Recovery Program, Agreement No. P0085021, Carmel River Spawning Gravel Injection Project, April 8, 2003; Steelhead Spawning Gravel Enhancement – Below Los Padres Dam, Fisheries Restoration Grant Program (FRGP) - # P1240401,01, Beverly Chaney, Associate Fisheries Biologist, MPWMD, Final Project Report, March 31, 2017.
- 4) FINDING:** The District has documented significant downstream movement of spawning gravel material placed downstream of Los Padres Dam since 2014.

**EVIDENCE:** The above-referenced project report # P1240401,01, March 31, 2017.
- 5) FINDING:** California American Water has entered into a Memorandum of Agreement (MOA) with the National Marine Fisheries Service (NMFS) effective January 10, 2018 (MOA) that, among other things, provides for interim gravel replenishment below Los Padres Dam to maintain spawning gravels downstream of Los Padres Dam pending a determination about the future of the dam.

**EVIDENCE:** The MOA is on file at the District office.
- 6) FINDING:** There is a need to continue to augment spawning gravel in the Carmel River downstream of Los Padres Dam, such as with the Los Padres Gravel Augmentation Program.

**EXHIBIT 14-A**

**EVIDENCE:** The above stated facts.

- 7) **FINDING:** The District followed the Negative Declaration Process outlined in Article 6 of the California Environmental Quality Act (CEQA) Guidelines. The District Board judges that an EIR for the project is unnecessary.

**EVIDENCE:** a) The District published a Public Notice of the Initial Study and Intent to Adopt a Mitigated Negative Declaration on September 30, 2016 in the Monterey Herald;

b) Following receipt of the Initial Study and a Notice of Intent to Adopt a Mitigated Negative Declaration, the State Clearinghouse in the Governors' Office of Planning and Research and the State Clearinghouse posted SCH Number 2018051022 and set a review and comment period from May 14, 2018 through June 12, 2018. The notice can be downloaded at: <http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=725974>

c) The District received no comment letters on the proposed Mitigated Negative Declaration.

d) The Draft Findings, Draft Initial Study/Mitigated Negative Declaration, Responses to Comments, and Mitigation Monitoring and Reporting Program were reviewed by the District Board of Directors in a Public Hearing on July 16, 2018.

The foregoing evidence is on the District web site at: <http://www.mpwmd.net/> and is on file at the District Office, 5 Harris Court, Bldg. G, Monterey, CA.

- 8) **FINDING:** Based on results of a similar project at the site, an initial environmental study, and consideration of comments received to date, the District finds that the proposed project could result in several environmental impacts.

**EVIDENCE:** The District has prepared an Initial Study/Mitigated Negative Declaration (IS/MND) that includes identification of potential impacts. This information is available on the District web site and at the District Office 5 Harris Court, Bldg. G, Monterey, CA 93940.

- 9) **FINDING:** The District finds that although the proposed project may affect the environment, specific measures will be included to mitigate the effects to a less than significant level.

**EVIDENCE:** Potential impacts from the project are described in the IS/MND and mitigation measures are specified in that document.

- 10) **FINDING:** The Mitigated Negative Declaration has been prepared in compliance with the provisions of the CEQA and State CEQA Guidelines, Sections 15070 to 15075, and Sections 15097 and 15105;

**EXHIBIT 14-A**

**EVIDENCE:** The preparation, circulation, and public review of the initial study outlining the environmental impacts and proposed mitigation measures included in the Mitigated Negative Declaration.

- 11) **FINDING:** The Mitigated Negative Declaration reflects the independent judgement of the District Board and each participating Director has reviewed and considered the information contained in the Draft Initial Study/Mitigated Negative Declaration and related documents prior to making the decision on the Los Padres Dam Gravel Augmentation Program.

**EVIDENCE:** As evidenced by the July 16, 2018 Board meeting Packet, each member of the Board received a copy of the Draft Initial Study/Mitigated Negative Declaration, a copy of the District response letters to comments received.

- 12) **FINDING:** The District proposes to carry out removal of an abandoned Alaskan steppass ladder within the footprint of the project that was not described in the Draft Initial Study/Mitigated Negative Declaration;

**EVIDENCE:** Information presented in the July 16, 2018 MPWMD Board meeting packet for adoption of the Mitigated Negative Declaration.

- 13) **FINDING:** The District finds under CEQA Sections 15162 and 15164 that there will be no new and significant impacts from removal of the steppass ladder that have not already been considered, that no additional mitigation measures are necessary to carry out the work, and that an Addendum should be prepared;

**EVIDENCE:** Information presented in the July 16, 2018 MPWMD Board meeting packet for adoption of the Mitigated Negative Declaration.

- 14) **FINDING:** The District finds that the Mitigated Negative Declaration and Addendum is substantively adequate. The District finds that there is no substantial evidence that the proposed Los Padres Dam Gravel Augmentation Program will cause a significant effect for the reason that the project shall be constructed together with the specified mitigation measures, and these measures shall avoid any significant environmental effect.

**EVIDENCE:** The above stated facts.





**EXHIBIT 14-B****RESOLUTION 2018-15**

**A RESOLUTION OF THE BOARD OF DIRECTORS  
OF THE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
CERTIFYING FINDINGS OF ENVIRONMENTAL REVIEW  
ADOPTING A MITIGATED NEGATIVE DECLARATION  
AND  
APPROVING THE LOS PADRES DAM GRAVEL AUGMENTATION PROGRAM**

WHEREAS, The Monterey Peninsula Water Management District (MPWMD) is committed to mitigating the environmental impact of diversions from the Carmel River Basin; and

WHEREAS, The MPWMD certified an Environmental Impact Report (EIR) for its Water Allocation Program and adopted a Mitigation Program as part of the EIR; and

WHEREAS, Since 1993, and as part of the Mitigation Program, the District has carried out periodic gravel augmentation projects downstream of Los Padres Dam to improve spawning habitat for South-Central California Coast (S-CCC) steelhead.; and

WHEREAS, Los Padres Dam continues to trap spawning gravels and deprive downstream areas of gravels used by South-Central California Coast (S-CCC) steelhead for spawning; and

WHEREAS, The District has followed guidelines of the California Environmental Quality Act (CEQA) and prepared an Initial Study comprised of an environmental checklist and review of the impacts of a Program to augment spawning gravel downstream of Los Padres Dam; and

WHEREAS, The District published a Notice of Intent to Adopt a Mitigated Negative Declaration and circulated the Draft Initial Study/Mitigated Negative Declaration for the Los Padres Gravel Augmentation Program (the Project) in accordance with CEQA requirements; and

WHEREAS, The District responded to comments received on the IS/MND at a Public Hearing on July 16, 2018 and directed that a Final IS/MND be prepared that incorporates responses to comments;

WHEREAS, The District determined that removal of an abandoned Alaskan steep pass fish ladder within the Project site is a technical change that will have no new impacts and will require no new mitigation measures;

WHEREAS, The District has incorporated mitigation measures into the Project that will reduce potential impacts to a less than significant level;

WHEREAS, The District has prepared Findings of Environmental Review based on the Draft Initial Study/Mitigated Negative Declaration and comments received;

NOW THEREFORE, BE IT RESOLVED:

We, the Board of Directors of the Monterey Peninsula Water Management District, certify the Findings of Environmental Review as a true and accurate statement of the environmental impacts from the Project; and

Adopt a Mitigated Negative Declaration and Addendum for the Project based on the Initial Study/Mitigated Negative Declaration for the Project which found that, although the Project could have a significant effect on the environment, mitigation measures can be included that will reduce the potential impacts to less than significant levels;

Adopt the mitigation measures described for the Project;

Approve the project, direct staff to prepare a Final IS/MND, and file a Notice of Determination for the Project.

AYES:

NAYS:

ABSENT:

I, David J. Stoldt, Secretary to the Board of Directors on the Monterey Peninsula Water Management District, hereby certify that the foregoing is a resolution duly adopted on the 16th day of July, 2018.

Witness my hand and seal of the Board of Directors this \_\_\_\_ day of \_\_\_\_\_, 2018.

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David J. Stoldt, Secretary to the Board



## NOTICE OF PUBLIC REVIEW AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

**Project Name:** Los Padres Dam Gravel Augmentation Program

**Lead Agency:** Monterey Peninsula Water Management District

**Location:** Carmel River, Monterey County, California

**Review Period:** May 18 – June 18, 2018

**Public Hearing to Consider the Project:** Monday July 16, 2018, beginning at 7 p.m. in the District Conference Room located at 5 Harris Court, Bldg. G, Monterey CA 93940

**Project Description:** The Monterey Peninsula Water Management District (District) desires to continue a gravel augmentation program to enhance spawning and rearing habitat for steelhead downstream of Los Padres Dam (LPD) by periodically placing imported gravel downstream of the dam. The goal is to increase the amount of available spawning and rearing habitat in the main stem of the Carmel River downstream of the dam, which is located about 25 River Miles (RM) upstream of the Pacific Ocean in Monterey County. Gravel augmentation would occur along the stream bank of the river for approximately 0.3 mile downstream of the dam spillway. The staging area and gravel stockpile area for the project is located in a field adjacent to the Los Padres Dam access road, at RM 25 and approximately 1.5 miles upstream of the confluence with Cachagua Creek. The project coordinates are latitude 36.32162700N: longitude -121.40036000E.

Gravel augmentation would occupy the footprint of a similar project completed by MPWMD in 2014 under the California Department of Fish and Wildlife Fisheries Restoration Grant Program.

The initial project in this program is to import up to 2,000 tons of gravel and place up to 1,500 tons in the river channel during the low flow season. Material would be placed in the same footprint as the 2014 project (i.e., along the stream edge), but would be placed carefully with heavy construction equipment. The balance of material not placed into the river in the initial phase would be stockpiled for later use after the river washes material downstream. It is estimated that three to four replenishment projects to import and place up to 1,500 tons during each project could be carried out in a 10-year period.

**Mitigated Negative Declaration:** In accordance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines, the District has prepared a Draft Initial Study/Mitigated Negative Declaration (IS/MND) for the project. The District has determined that the project will not have a significant impact on the environment with implementation of mitigation measures as noted in the Draft IS/MND.

**Public Comment Period:** The public and all affected agencies are hereby invited to review the Draft IS/MND and submit written comments by 5 p.m., Monday, June 18, 2018. The Draft IS/MND is currently available for review on the District's website (<http://www.mpwmd.net/regulations/public-notices/ceqa/>) or in hardcopy at the District's office at 5 Harris Court, Building G (Ryan Ranch), Monterey, California 93940.

Comments should be submitted to Larry Hampson, District Engineer, at the address below, by email at [larry@mpwmd.net](mailto:larry@mpwmd.net), or by phone at (831) 658-5620.



**DRAFT  
MITIGATED NEGATIVE DECLARATION**

**LOS PADRES DAM GRAVEL AUGMENTATION PROJECT**

The District Engineer has reviewed the proposed project described below to determine whether it could have a significant effect on the environment as a result of project completion. “Significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

**NAME OF PROJECT:** Los Padres Dam Gravel Augmentation Program

**PROJECT FILE NUMBER:**

**PROJECT DESCRIPTION:** The proposed project is located along the Carmel River immediately downstream of Los Padres Dam, approximately 19 miles southeast of Monterey in Monterey County. The site is on the eastern side of the Santa Lucia Mountains, which are part of the Pacific Coast Range system. The Carmel Valley is sparsely populated. Carmel Valley Village (population 4,325 in 2013) is the furthest upstream populated place, approximately 7 miles northwest of the proposed project location.

The Los Padres Dam (LPD) has been a known fish passage impediment for both upstream and downstream migrating South-Central California Coast (S-CCC) steelhead as well as impacting the downstream habitat by blocking the natural sediment supply. S-CCC steelhead were listed as a threatened species under the Endangered Species Act by the National Marine Fisheries Service (NMFS) in 1997. Most of the streams in the Carmel River watershed have been designated as critical habitat for S-CCC steelhead. Due to the presence of diversions and water supply facilities along the Carmel River by California American Water (Cal-Am), as a first step towards protecting S-CCC steelhead, NMFS strongly encouraged Cal-Am in 2013 to resolve the fish passage and other potential take issues at LPD. In January 2018, NMFS and Cal-Am signed a Memorandum of Agreement that included a requirement that Cal-Am carry out gravel augmentation at Los Padres Dam to improve steelhead spawning habitat downstream of the dam.

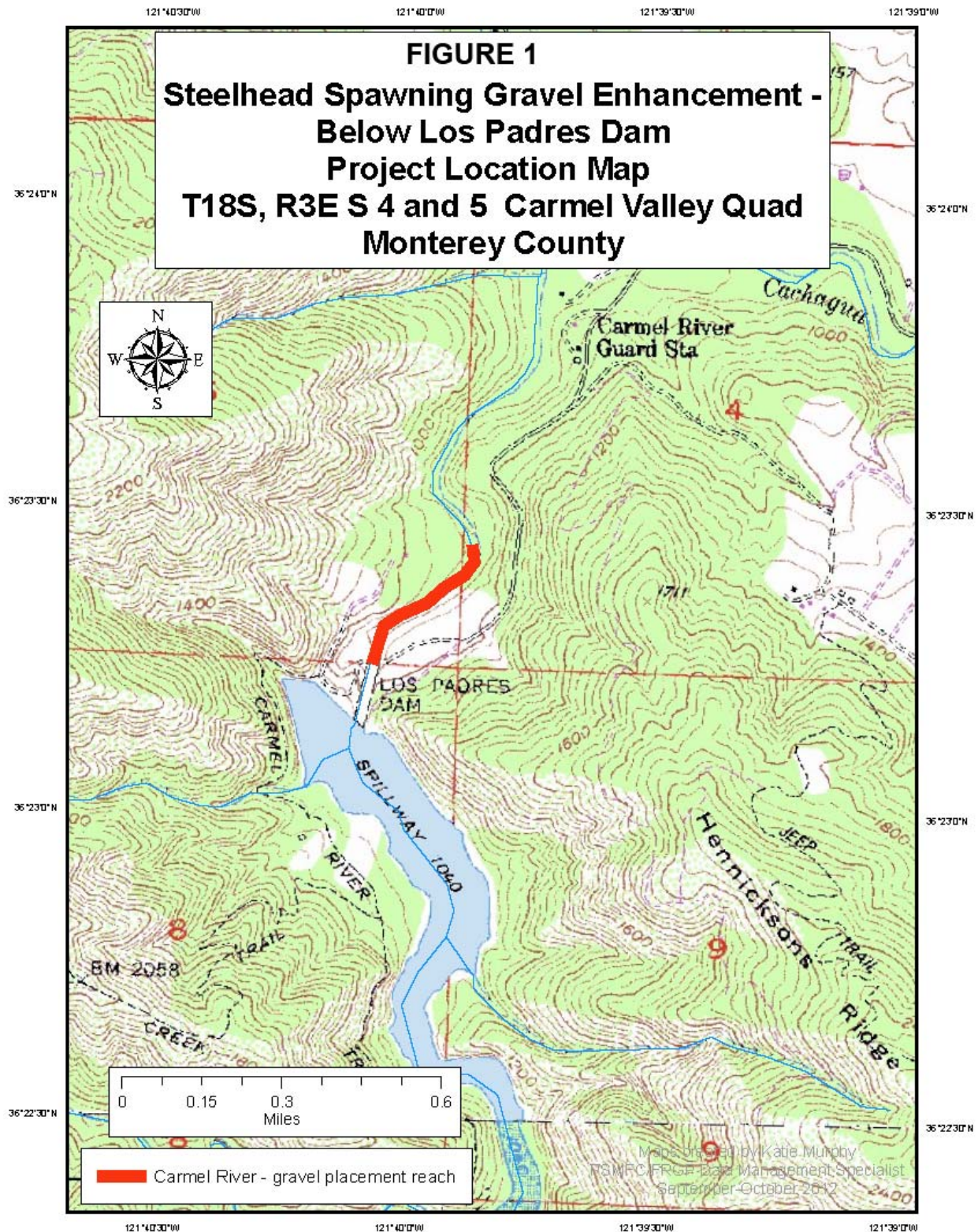
Subsequently, the Monterey Peninsula Water Management District (MPWMD or District) entered into an agreement with Cal-Am to assist with the gravel augmentation program by becoming Lead Agency under the California Environmental Quality Act (CEQA) and to supervise the project in the field.

The District has carried out similar projects along the Carmel River since 1993 with the most recent project completed in 2014 at the proposed project site show in Figure 1. The 2014

project, which consisted of importation and placement of 1,500 tons of spawning gravel, was one of the projects carried out under the California Department of Fish and Wildlife (CDFW) 2013 Fisheries Restoration Grant Program (FRGP). CDFW, as Lead Agency for the FRGP, approved a Mitigated Negative Declaration (SCH Number: 2012122042) on June 10, 2014.

The District now desires to continue a gravel augmentation program to enhance spawning and rearing habitat for steelhead downstream of Los Padres Dam (LPD) by periodically placing imported gravel downstream of the dam. The goal is to increase the amount of available spawning and rearing habitat in the main stem of the Carmel River downstream of the dam, which is located about 25 River Miles (RM) upstream of the Pacific Ocean in Monterey County. Gravel augmentation would occur along the stream bank of the river for approximately 0.3 mile downstream of the dam spillway. The staging area and gravel stockpile area for the project is located in a field adjacent to the Los Padres Dam access road, at RM 25 and approximately 1.5 miles upstream of the confluence with Cachagua Creek. The project coordinates are latitude 36.32162700N: longitude -121.40036000E.

Gravel augmentation would occupy the footprint of a similar project completed by MPWMD in 2014 under the California Department of Fish and Wildlife Fisheries Restoration Grant Program. The initial phase in this program is to import up to 2,000 tons of gravel and place up to 1,500 tons in the river channel during the low flow season. Gravel would be placed in the same footprint as the 2014 project (i.e., along the stream edge), but would be placed carefully with heavy construction equipment (as opposed to the method used in 2014 to catapult the material with a conveyor from a cliff overlooking the plunge pool). The balance of material not placed into the river initially would be stockpiled for use in a subsequent year after gravel is transported downstream by the river. It is anticipated that periodic replenishment projects would occur to import additional material and place up to 1,500 tons of gravel at the site during each replenishment project. It is estimated that three to four replenishment projects could be carried out in a 10-year period.



**PROJECT LOCATION & ASSESSORS PARCEL NO.:** The project coordinates are latitude 36.32162700N: longitude -121.40036000E. APN 418-191-003

**APPLICANT CONTACT INFORMATION:**

Larry Hampson, District Engineer [larry@mpwmd.net](mailto:larry@mpwmd.net), phone (831) 658-5620  
Monterey Peninsula Water Management District  
P.O. Box 85, Monterey, California 93942

**FINDING**

The District Engineer finds the project described above will not have a significant effect on the environment in that the attached initial study identifies one or more potentially significant effects on the environment for which the District, before public release of this draft Mitigated Negative Declaration, has agreed to include measures that clearly mitigate the effects to a less than significant level.

**MITIGATION MEASURES INCLUDED IN THE PROJECT TO REDUCE POTENTIALLY SIGNIFICANT EFFECTS TO A LESS THAN SIGNIFICANT LEVEL**

- I. **AESTHETICS** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- II. **AGRICULTURE RESOURCES** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- III. **AIR QUALITY** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- IV. **BIOLOGICAL RESOURCES** – The project could have a significant impact on these resources, therefore the following mitigation measures are proposed to reduce the potential impact to a less than significant level.

The Carmel River at the project location supports spawning by steelhead in the winter and spring. To mitigate for potential effects to spawning, work near the stream will be carried out in the low flow season between June 15 to October 15. Actual project start and end dates will be coordinated with CDFW and NMFS. Placement of material along the stream edges would be with a backhoe or loader. No equipment will need to work in the live stream.

California red-legged frogs (CRLF) may be present at the site. CRLF were listed as a threatened species under the ESA in 1996 by the U.S. Fish and Wildlife Service (USFWS). To mitigate for any potential effects to CRLF, a qualified biologist will carry out a survey prior to commencement of project work as described by USFWS protocol. If any CRLF are found within the vicinity of the project work, they would be moved to an approved site along the river.

Raptors may be present near the site. A qualified biologist will conduct a survey for raptors prior to commencement of work. If any raptors are found in the vicinity, CDFW and/or the USFWS will be consulted about an appropriate buffer to establish between raptors and the work along the river.

- V. **CULTURAL RESOURCES** – The project will not have a significant impact on this resource, therefore no mitigation is required.

- VI. GEOLOGY AND SOILS** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- VII. HAZARDS AND HAZARDOUS MATERIALS** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- VIII. HYDROLOGY AND WATER QUALITY** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- IX. LAND USE AND PLANNING** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- X. MINERAL RESOURCES** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XI. NOISE** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XII. POPULATION AND HOUSING** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XIII. PUBLIC SERVICES** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XIV. RECREATION** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XV. TRANSPORTATION / TRAFFIC** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XVI. UTILITIES AND SERVICE SYSTEMS** – The project will not have a significant impact on this resource, therefore no mitigation is required.
- XVII. MANDATORY FINDINGS OF SIGNIFICANCE** – The project will not substantially reduce the habitat of a fish or wildlife species, be cumulatively considerable, or have a substantial adverse effect on human beings, therefore no additional mitigation is required.



**PUBLIC REVIEW PERIOD**

Before 5:00 p.m. on June 18, 2018, any person may:

1. Review the Draft Mitigated Negative Declaration (MND) as an informational document only; or
2. Submit written comments regarding the information, analysis, and mitigation measures in the Draft MND. Before the MND is adopted, District staff will prepare written responses to any comments, and revise the Draft MND, if necessary, to reflect any concerns raised during the public review period. All written comments will be included as part of the Final MND.

MPWMD will hold a Public Hearing to consider approval of this project on Monday July 16, 2018, beginning at 7 p.m. in the District Conference Room located at 5 Harris Court, Bldg. G, Monterey CA 93940.

Larry Hampson, District Engineer

Circulated on: May 18, 2018

Adopted on: \_\_\_\_\_

## CEQA Environmental Checklist

### PROJECT DESCRIPTION AND BACKGROUND

Project Title:	Los Padres Dam Gravel Augmentation Program
Lead agency name and address:	Monterey Peninsula Water Management District, P.O. Box 85, Monterey CA 93942
Contact person and phone number:	Larry Hampson, (831) 658-5620
Project Location:	Los Padres Dam, Carmel River, Monterey County
Project sponsor's name and address:	Monterey Peninsula Water Management District, P.O. Box 85, Monterey CA 93942
General plan description:	
Zoning:	
Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation.)	<p>MPWMD (District) desires to continue a gravel augmentation program to enhance spawning and rearing habitat for steelhead downstream of Los Padres Dam (LPD) by periodically placing imported gravel downstream of the dam. The goal is to increase the amount of available spawning and rearing habitat in the main stem of the Carmel River downstream of the dam, which is located about 25 River Miles (RM) upstream of the Pacific Ocean in Monterey County. Gravel augmentation would occur along the stream bank of the river for approximately 0.3 mile downstream of the dam spillway. The staging area and gravel stockpile area for the project is located in a field adjacent to the Los Padres Dam access road, at RM 25 and approximately 1.5 miles upstream of the confluence with Cachagua Creek. The project coordinates are latitude 36.32162700N: longitude -121.40036000E.</p> <p>This project is nearly identical to a gravel augmentation project carried out in 2014 at this site under the California Department of Fisheries Restoration Grant Program</p> <p>The initial project in this program is to import up to 2,000 tons of gravel and place up to 1,500 tons in the river channel during the low flow season. Material would be placed in the same footprint as the 2014 project (i.e., along the stream edge), but would be placed carefully with heavy construction equipment. The balance of material not placed in the channel in the initial phase would be stockpiled for use after the river washes material downstream. Subsequent periodic projects would be carried out to place up to 1,500 tons of gravel at the site during each replenishment project. It is estimated that three to four replenishment projects could be carried out in a 10-year period.</p>
Surrounding land uses and setting; briefly describe the project's surroundings:	The proposed project is located along the Carmel River at Los Padres Dam, approximately 19 miles southeast of Monterey. The site is on the eastern side of the Santa Lucia Mountains, which are part of the Pacific Coast Range system. The Carmel Valley is sparsely populated. The town of Carmel Valley

	<p>Village (population 4,325 in 2013) is the furthest upstream populated place, approximately 7 miles northwest of the proposed project location.</p>
<p>Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):</p>	<p>U.S. Army Corps of Engineers, National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Regional Water Quality Control Board, California Department of Fish and Wildlife, Monterey County</p>
<p>Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?</p> <p>Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission’s Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.</p>	<p>No; however, this area has previously been exhaustively surveyed and extensive consultation with California Native Americans traditionally and culturally affiliated with the project area occurred in the early 1990s. There are no known cultural resources at the site proposed for gravel augmentation.</p>

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:**

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 3 for additional information.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials	<input type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Tribal Cultural Resources	<input type="checkbox"/>	Utilities/Service Systems
<input type="checkbox"/>	Mandatory Findings of Significance				

**DETERMINATION:**

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

<b>Signature:</b>	<b>Date:</b>
<b>Printed Name: Larry Hampson, District Engineer</b>	<b>For: MPWMD</b>

**CEQA Environmental Checklist**

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**II. AGRICULTURE AND FOREST RESOURCES:**

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IV. BIOLOGICAL RESOURCES:** Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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Inspection of the site by a qualified biologist for migratory bird species and California red-legged frog surveys at the project site will be conducted by a qualified biologist at least two weeks before the onset of activities.

Gravel will be transferred from the stockpile to the river using a backhoe or loader, which will deposit the gravel downstream of Los Padres Dam. Work in the stream will be restricted to June 15 to October 15. Actual project start and end dates will be coordinated with the California Department of Fish and Wildlife and the National Marine Fisheries Service.

**V. CULTURAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of dedicated cemeteries?                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**VI. GEOLOGY AND SOILS:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**IX. HYDROLOGY AND WATER QUALITY:** Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. LAND USE AND PLANNING:</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XI. MINERAL RESOURCES:</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XII. NOISE:** Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIII. POPULATION AND HOUSING:** Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XV. RECREATION:**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVII. TRIBAL CULTURAL RESOURCES:** Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**XVIII. UTILITIES AND SERVICE SYSTEMS:**

Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**XIX. MANDATORY FINDINGS OF SIGNIFICANCE**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("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)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



**ITEM: PUBLIC HEARING**

**15. CONSIDER APPROVAL OF A CEQA ADDENDUM TO THE MITIGATED NEGATIVE DECLARATION FOR THE SLEEPY HOLLOW STEELHEAD REARING FACILITY UPGRADE (CEQA: Approve Addendum to the Mitigated Negative Declaration for the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Under CEQA Guideline Sections 15162 and 15164)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item:</b>	<b>N/A N/A</b>
<b>Prepared By:</b>	<b>Larry Hampson and Thomas Christensen</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review: Yes**

**Committee Recommendation: N/A**

**CEQA Compliance: Addendum to EIR under CEQA Guidelines Sections 15162 and 15164**

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**SUMMARY:** The Board will consider Addendum No. 3 to the Mitigated Negative Declaration (MND) for the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade (Facility Upgrade) in compliance with the California Environmental Quality Act (CEQA) to allow disposal of up to 2,000 cubic yards of excavated material from the Facility Upgrade. The original design for the project anticipated balancing cut and fill for facility improvements on site; however, after review by Monterey County, the project was re-designed which resulted in excess cut material that cannot be placed at the Sleepy Hollow Facility.

MPWMD and California American Water staff identified a suitable site to place the material on a parcel owned by Cal-Am adjacent to the Facility Upgrade parcel, approximately  $\frac{3}{4}$  of a mile from the Facility Upgrade Project site (see **Figure 1**). Impacts due to construction activities and mitigation measures at the Facility Upgrade site were previously considered with the MND. Impacts from transport and disposal of excavated material are similar to impacts considered for construction activities at the Project site. There would be no new impacts or mitigation measures required for disposal of material generated by the Project; however, an Addendum should be prepared for the additional activity. Findings of Environmental Review are attached as **Exhibit 15-A**.

**RECOMMENDATION:** Staff recommends that the Board adopt Resolution No. 2018-16 (**Exhibit 15-B**) approving the Addendum to the Mitigated Negative Declaration (MND) for the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade.

**DISCUSSION:** MPWMD, Cal-Am, the California Department of Fish and Wildlife (CDFW), the National Marine Fisheries Service (NMFS), and the California State Coastal Conservancy

(SCC) have been cooperating to upgrade the Sleepy Hollow Steelhead Rearing Facility (facility), which is situated in unincorporated Monterey County on the west bank of the Carmel River about 1 mile downstream of the former San Clemente Dam location. The project will allow for future changes in water supply, sediment, and debris flow that may affect the facility operations.

Up to approximately 2,000 cubic yards of excavated material could be generated from the facility upgrade project improvements. Based on geotechnical investigations and visual inspection of the Facility Upgrade site, excavated material will most likely consist of silty sand and sandy gravel. The proposed disposal sites are previously disturbed areas adjacent to the Carmel River where Cal-Am had located a surface water treatment plant (Filter Plant). The site was considered a non-contributing resource within the historical district established for the San Clemente Dam Reroute Project.

After completion of the San Clemente Dam Removal and Carmel River Reroute Project, the Filter Plant and residence (Site A in Figure 1 below) were removed, the site was regraded to a relatively flat profile, and reseeded with native grasses. Site A is about 10,400 square feet (< 0.25 acre) and contains disturbed soils comprised of silty sand, gravel, cobble, and some boulders characteristic of terrace areas adjacent to the Carmel River. Site B, where a water tank was removed, is about 2,900 square feet. Both sites are similar to the Facility Upgrade with upland grasses adjacent to oak habitat.

Potential impacts from the earthmoving activity will be similar to the impacts associated with other activities at the Facility Upgrade including impacts to air quality and sensitive species in upland habitats. Earthmoving activity that covers more than 2.2 acres per day and uses typical earthmoving equipment (scraper, loader, bulldozer, dump truck, etc.) would have potentially significant impacts; however, as described above, the disposal site is < 0.5 acre. All appropriate measures to reduce impacts to less than significant described in the adopted Mitigation and Monitoring Program would apply to the hauling and disposal of material at Sites A and B.

#### CEQA Action Required

CEQA Guidelines section 15162 “Subsequent EIRs and Negative Declarations” and 15164 “Addendum to an EIR or Negative Declaration” apply to this action. Under Section 15162, there are no new significant environmental effects or new mitigation measures necessary from the proposed earthmoving activity. The proposed earthmoving activity constitutes a technical change that under CEQA Section 15164 allows the Board to adopt an addendum to the existing MND, which has been amended by previous Addenda. The addendum for earthmoving activity consists of this staff note, Findings of Environmental Review (**Exhibit 15-B**), and Resolution 2018-16.

These are the previous actions that constitute the CEQA record:

**November 14, 2016** – the District Board approved the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project (Project) Initial Study/Mitigated Negative Declaration. Documents for this action are available at the District office or on the web at: <http://www.mpwmd.net/asd/board/boardpacket/2016/20161114/12/Item-12.htm>

**January 25, 2017** – the District Board approved Addendum No. 1 to correct the description of the distinct population segment (DPS) of steelhead in the Carmel River. Documents for this action are available at the District office or on the web at:

<http://www.mpwmd.net/asd/board/boardpacket/2017/20170125/13/Item-13.htm>

**November 30, 2017** – the State Coastal Conservancy, as a Responsible Agency, adopted Addendum No. 2 to revise Mitigation Measure BIO-MM-1 for potential impacts to aquatic habitat from the placement of a concrete base and cone screen at the river intake for the SHSRF. Documents for this action are available at the District office or on the web at:

<http://www.mpwmd.net/wp-content/uploads/SHSRF-Addendum-No-2-all.pdf>



**Figure 1 – Sleepy Hollow Facility Upgrade site and disposal sites A and B**

**EXHIBITS**

**15-A** Draft Findings of Environmental Review for Addendum No. 3

**15-B** Draft Resolution 2018-16 Certifying Addendum No. 3

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**EXHIBIT 15-A**

**FINDINGS OF ENVIRONMENTAL REVIEW  
ADDENDUM NO. 3 TO SLEEPY HOLLOW STEELHEAD REARING FACILITY  
RAW WATER INTAKE AND WATER SUPPLY SYSTEM UPGRADE**

- 1) **FINDING:** The Monterey Peninsula Water Management District (District) Board certified the Initial Study/Mitigated Negative Declaration (IS/MND) and Mitigation and Monitoring Program for the Sleepy Hollow Steelhead Rearing Facility (SHSRF) Raw Water Intake and Water Supply System Upgrade Project (Project) on November 14, 2016.

**EVIDENCE:** The IS/MND and Mitigation and Monitoring Program and related documents are on file in the District office.

- 2) **FINDING:** The District followed the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164 to correct the description of the distinct population segment (DPS) of steelhead in the Carmel River on January 25, 2017.

**EVIDENCE:** The Addendum No. 1 is on file in the District office.

- 3) **FINDING:** The State Coastal Conservancy, as a Responsible Agency, on November 30, 2017 followed the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164 to determine that an Addendum to modify the approved Project by revising Mitigation Measure BIO-MM-1, which addresses potential impacts to aquatic habitat from the placement of a concrete base and cone screen at the river intake for the SHSRF.

**EVIDENCE:** The Addendum No. 2 is on file in the District office.

- 4) **FINDING:** The District followed the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164 to determine that an Addendum to allow earthmoving from the Project site to an adjacent parcel is appropriate as no new mitigation measures would be required from potential impacts and this modification would not result in a measurable increase in environmental impacts over what was previously analyzed in the November 14, 2016, IS/MND. The Addendum No. 3 was reviewed by the District Board of Directors at their July 16, 2018 meeting.

**EVIDENCE:** The Agenda, Addendum, and supporting documents for the July 16, 2018 Board Meeting are on file in the District office.

- 5) **FINDING:** The Addendum reflects the independent judgement of the District Board and each participating Director has reviewed and considered the information contained in the Addendum and related documents prior to making the decision on the Addendum.

**EVIDENCE:** Each Director on the Board received a copy of the Mitigated Negative Declaration as evidenced by the July 16, 2018 Board meeting packet.

- 6) **FINDING:** The District finds that the proposed modifications to the approved Project would not result in a measurable increase in environmental impacts over what was previously analyzed in the November 14, 2016, IS/MND and subsequent Addenda, and no new mitigation measures would be required.

**EVIDENCE:** The above stated facts.



**EXHIBIT 15-B****RESOLUTION 2018-16**

**A RESOLUTION OF THE BOARD OF DIRECTORS  
OF THE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
CERTIFYING ADDENDUM NO. 3 TO THE MITIGATED  
NEGATIVE DECLARATION FOR THE SLEEPY  
HOLLOW STEELHEAD REARING FACILITY RAW  
WATER INTAKE AND WATER SUPPLY SYSTEM UPGRADE**

WHEREAS, The Monterey Peninsula Water Management District (MPWMD) is committed to mitigating the environmental impact of diversions from the Carmel River Basin; and

WHEREAS, The MPWMD certified an Initial Study/Mitigated Negative Declaration (IS/MND) and Mitigation and Monitoring Program for the Sleepy Hollow Steelhead Rearing Facility (SHSRF) Raw Water Intake and Water Supply System Upgrade Project (Project) and approved the Project on November 14, 2016; and

WHEREAS, The MPWMD approved Addendum No. 1 to correct the description of the distinct population segment (DPS) of steelhead in the Carmel River on January 25, 2017; and

WHEREAS, The State Coastal Conservancy, as a Responsible Agency, on November 30, 2017 approved Addendum No. 2 to modify the approved Project by revising Mitigation Measure BIO-MM-1, which addresses potential impacts to aquatic habitat from the placement of a concrete base and cone screen at the river intake for the SHSRF; and

WHEREAS, The District has followed guidelines of the California Environmental Quality Act (CEQA) and prepared Addendum No. 3 to modify the approved Project by allowing the movement and disposal of 2,000 cubic yards of earth onto a parcel adjacent to the Project; and

WHEREAS, The District has prepared Findings of Environmental Review;

NOW THEREFORE, BE IT RESOLVED:

We, the Board of Directors of the Monterey Peninsula Water Management District, certify the Addendum as a true and accurate statement of the environmental impacts of the construction of the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade; and

Adopt an Addendum for the Project which found that the proposed modifications to the approved Project would not result in a measurable increase in environmental impacts over what was previously analyzed in the November 14, 2016, IS/MND, Addendum No. 1, and Addendum No. 2 and no new mitigation measures would be required.

On motion of Director \_\_\_\_\_ and second by Director \_\_\_\_\_ the foregoing resolution is duly adopted this 16<sup>th</sup> day of July 2018 by the following votes:

AYES:

NAYS:

ABSENT:

I, David J. Stoldt, Secretary to the Board of Directors on the Monterey Peninsula Water Management District, hereby certify that the foregoing is a resolution duly adopted on the 16<sup>th</sup> day of July 2018.

Witness my hand and seal of the Board of Directors this \_\_\_\_ day of July 2018.

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David J. Stoldt, Secretary to the Board

**ITEM: PUBLIC HEARING****16. CONSIDER APPROVAL OF A CEQA ADDENDUM TO THE ASR EIR/EA FOR THE BACKFLUSH BASIN EXPANSION (CEQA: Approve Addendum to the ASR EIR/EA for the Backflush Basin Expansion Under CEQA Guideline Sections 15162 and 15164)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item:</b>	<b>N/A</b>
<b>Prepared By:</b>	<b>Maureen Hamilton</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review: Yes****Committee Recommendation: N/A****CEQA Compliance: Addendum to EIR under CEQA Guidelines Sections 15162 and 15164**

**SUMMARY:** Expansion of the ASR Phase 1 (Santa Margarita) backflush basin requires land clearing, excavation, grading, and construction of a second driveway entrance. Construction activity environmental impacts and mitigation measures at the Santa Margarita site were previously considered with the ASR EIR/EA. Impacts from construction of an additional backflush basin at the ASR Water Project 2 (Seaside Middle School) facility were previously considered in the April 2012 Addendum to the ASR EIR/EA.

An evaluation of the environmental impacts due to the Backflush Basin Expansion Project (Project) was prepared (**Exhibit 16-A**). The evaluation found that the Project would not result in any new significant environmental effects that cannot be mitigated with existing, previously identified mitigation measures in the ASR EIR/EA.

**RECOMMENDATION:** Staff recommends that the Board adopt Resolution No. 2018-17 (**Exhibit 16-B**) adopting the Backflush Basin Expansion Addendum as Addendum 4 to the ASR EIR/EA.

**DISCUSSION:** MPWMD's Phase 1 ASR Project, located at 1910 General Jim Moore Boulevard, included construction of two ASR wells and a backflush basin. Construction of a backflush basin sized to accommodate two wells at the Santa Margarita site was environmentally evaluated in the ASR EIR/EA.

On **August 21, 2006** the MPWMD Board adopted Findings, adopted the Mitigation and Monitoring Plan, certified the Final Environmental Impact Report/Environmental Assessment for the Phase 1 ASR Project, and approved the Phase 1 ASR Project on August 21, 2006. Documents for this action are incorporated by reference and are available at the MPWMD office or on the web at: <http://www.mpwmd.net/asd/board/boardpacket/2006/20060821/10/item10.htm>; the Draft ASR EIR/EA is available on the web at: <http://www.mpwmd.net/wp-content/uploads/2015/08/MPWMD-Draft-EIR-EA-3-06.pdf>; and the Final EIR/EA for the Phase 1 ASR Project is available on the web at: [http://www.mpwmd.net/wp-content/uploads/2015/08/FEIR\\_8-21-06.pdf](http://www.mpwmd.net/wp-content/uploads/2015/08/FEIR_8-21-06.pdf).

The ASR Water Project 2, located at 2111 General Jim Moore Boulevard, included construction of two ASR wells and a backflush basin on Seaside Middle School property. The environmental impact due to construction of this second backflush basin was evaluated in the April 2012 Addendum to the Phase 1 ASR EIR/EA; however, the School District would not allow a backflush basin on school grounds and the basin was never constructed. Backflush water is conveyed to the Santa Margarita backflush basin.

On **April 16, 2012** the MPWMD Board approved and adopted the April 2012 Addendum to the Phase 1 ASR EIR/EA, adopted the April 2012 Mitigation Monitoring Plan, and approved the full implementation of ASR Water Project 2 on April 16, 2012. Documents for this action are incorporated by reference and are available at the MPWMD office or on the web at:

<http://www.mpwmd.net/asd/board/boardpacket/2012/20120416/16/item16.htm>

Cal-Am is planning to construct two new ASR wells at the Fitch Park facility as part of the Monterey Peninsula Water Supply Project (MPWSP). The Fitch Park site does not have space to accommodate a backflush basin. Backflush water from the Fitch Park site will be conveyed to the Santa Margarita backflush basin.

The Santa Margarita backflush basin must be expanded to accommodate backflush water from up to six ASR wells on a schedule that is operationally feasible. A map of existing and planned ASR facilities can be found in **Figure 1** at the end of this staff note.

Potential impacts from the earth moving activity to construct and operate the Project will be similar to the impacts associated with other activities at the ASR sites including impacts to air quality, noise, and sensitive species. The environmental evaluation included construction of two sound walls that are not planned for construction in 2018, but may be constructed in the future. All appropriate measures to reduce impacts to less than significant described in the adopted 2006 and 2012 Mitigation and Monitoring Programs would apply to the Project.

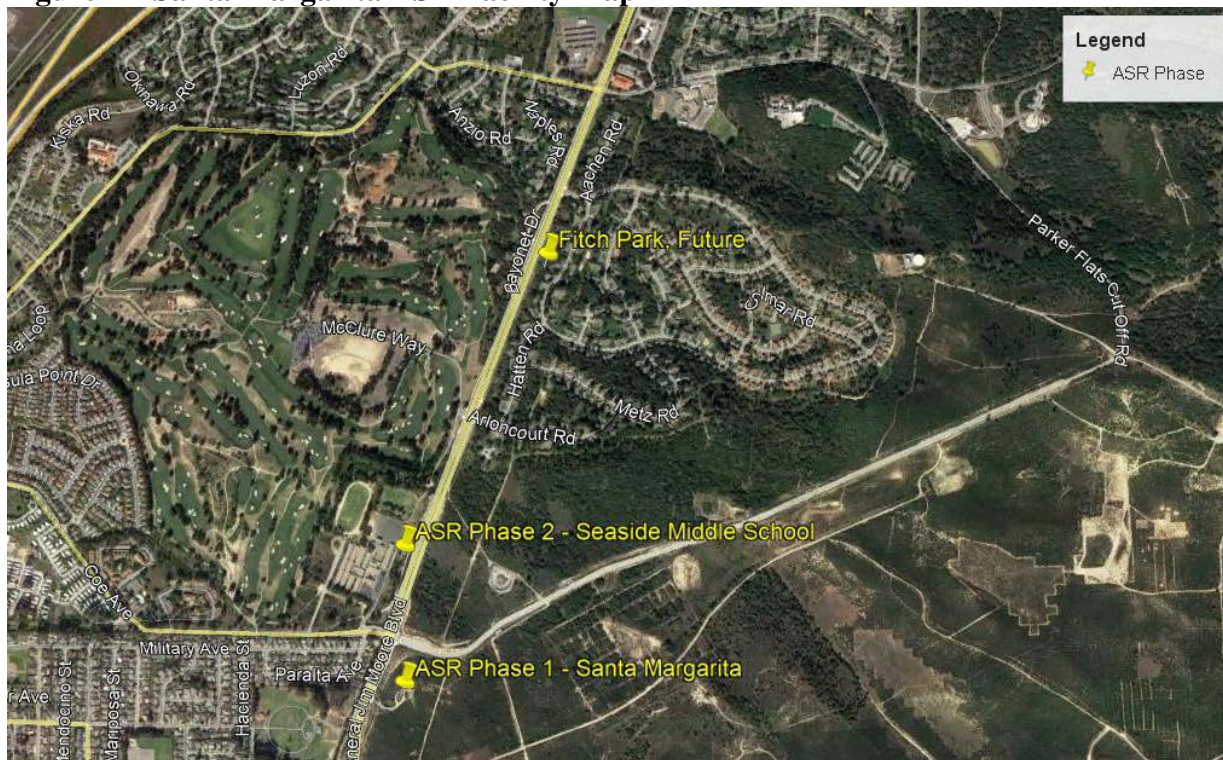
CEQA Guidelines section 15162 “Subsequent EIRs and Negative Declarations” and 15164 “Addendum to an EIR or Negative Declaration” apply to this action. Under Section 15162, there are no new significant environmental effects nor new mitigation measures necessary from the proposed earthmoving activity. The proposed Project constitutes a technical change that under CEQA Section 15164 allows the Board to adopt an addendum to the existing EIR/EA, which has been amended by previous Addenda. The addendum for the Project consists of this staff note, the Backflush Basin Addendum (**Exhibit 16-A**), Findings of Environmental Review and the Resolution (**Exhibit 16-B**).

Additional previous actions that constitute the CEQA record are:

- **June 20, 2016** – the MPWMD Board approved the Hilby Avenue Pump Station and adopted the June 2016 Hilby Avenue Pump Station Addendum as Addendum 2 to the ASR EIR/EA on June 20, 2016 by Resolution No. 2016-12. Documents for this action are incorporated by reference, and are available at the MPWMD office or on the web at: <http://www.mpwmd.net/asd/board/boardpacket/2016/20160620/16/Item-16.htm>
- **February 22, 2017** – The MPWMD Board approved a realignment of a segment of the Monterey Pipeline and adopted the February 2017 Monterey Pipeline Addendum as Addendum 3 to the ASR EIR/EA on February 22, 2017 by Resolution No. 2017-03. Documents for this action are incorporated by reference and are available at the District

office or on the web at:  
<http://www.mpwmd.net/asd/board/boardpacket/2017/20170222/02/Item-2.htm>

**Figure 1 – Santa Margarita ASR Facility Map**



**EXHIBITS**

- 16-A** Addendum No. 4 to the ASR EIR/EA for Backflush Basin Expansion
- 16-B** Resolution 2018-17 Certifying Addendum 4 to the Aquifer Storage and Recovery Area



# **ADDENDUM No. 4**

*TO THE*

## **AQUIFER STORAGE AND RECOVERY PROJECT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT**

*FOR THE*

# **BACKFLUSH BASIN EXPANSION**

**July 11, 2018**

**Prepared for  
Monterey Peninsula Water Management District**

**Prepared by  
Denise Duffy and Associates**



Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

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**LIST OF ATTACHMENTS**

1. Initial Study Checklist for the Backflush Basin Modification to Support Addendum No. 4 to the ASR EIR/EA
2. Air Quality and GHG Calculations Spreadsheets dated July 5, 2018
3. Geotechnical Investigation for New Electrical & Chemical Feed Building prepared by Pacific Crest Engineering as Amended by Update Letter dated February 23, 2018
4. Approved MMRP for the Aquifer Storage and Recovery Project
5. Bid Drawings for Santa Margarita ASR Facility Site Expansion, prepared by MAC Design Associates and Pueblo Water Resources, dated May 25, 2018

Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

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## I. INTRODUCTION

Pursuant to the California Environmental Quality Act, California Public Resources Code Sections 21000 et seq. (CEQA) and the California Environmental Quality Act Guidelines, Title 14, Chapter 3 of the California Code of Regulations (CEQA Guidelines), and in cooperation with other affected agencies and entities, the Monterey Peninsula Water Management District (MPWMD) has prepared this Addendum to the Final Environmental Impact Report/Environmental Assessment for the Monterey Peninsula Water Management District Phase 1 Aquifer Storage and Recovery (ASR) Project (EIR/EA), certified by MPWMD's Board of Directors on August 21, 2006, as modified by:

- Addendum No. 1 to the ASR EIR/EA, which addressed full implementation of ASR Phase 2 and was adopted by MPWMD's Board of Directors on April 16, 2012;
- Addendum No. 2 to the ASR EIR/EA, which addressed the addition of the Hilby Pump Station and was adopted by MPWMD's Board of Directors on June 20, 2016; and,
- Addendum No. 3 to the ASR EIR/EA, which addressed the Monterey Pipeline and was adopted by MPWMD's Board of Directors on February 22, 2017.

MPWMD has prepared this Addendum to the ASR EIR/EA to address the effects of constructing and operating the proposed Backflush Basin Expansion, which would constitute a change to the ASR Project. This Addendum evaluates the proposed expansion of the existing backflush basin at the ASR Santa Margarita site, to accommodate the increased backflush water from nearby existing and planned ASR wells.

The ASR Project entails diversion of "excess" Carmel River winter flows, as allowed under water rights permits issued by the State Water Resources Control Board, which is then treated and transmitted via the CalAm distribution system to specially-constructed injection/recovery wells, known as ASR wells, in the Seaside Groundwater Basin and injected under an authorization from the Environmental Protection Agency (EPA). The excess water is diverted by CalAm wells only during periods when flows in the Carmel River exceed fisheries bypass flow requirements. After treatment to potable drinking water standards, water is then conveyed through CalAm's distribution system to ASR facilities (injection wells) to recharge the over-pumped Seaside Groundwater Basin. Available storage capacity in the Seaside Groundwater Basin serves as an underground reservoir for the diverted water. Water is then pumped back out from the Seaside Groundwater Basin in dry periods to help reduce pumping-related impacts on the Carmel River. This "conjunctive use" more efficiently utilizes local water resources to improve the reliability of the community's water supply while reducing the environmental impacts to the Carmel River and Seaside Groundwater Basins.

This Addendum evaluates whether construction and operation of the proposed expansion of the backflush basin would result in a new significant impact, or an impact that is substantially more severe than the impacts disclosed in the ASR EIR/EA as amended. This Addendum is supported by **Attachment 1, Initial Study Checklist for the Backflush Basin Expansion**, which concludes the following in accordance with CEQA Guidelines Section 15464:

- No new or previously unidentified adverse significant impacts would result from the construction and operation of the Backflush Basin Modification.

Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

- The proposed Backflush Basin Expansion would not result in a substantial increase in the severity of the impacts identified in the ASR EIR/EA.

MPWMD's Board of Directors will consider this Addendum, along with the certified ASR EIR/EA and its Addenda, prior to making a decision on any approvals pertaining to the proposed Backflush Basin Expansion.

## II. PROJECT LOCATION

The existing ASR backflush basin is located in the City of Seaside, southeast of the intersection of General Jim Moore Boulevard and Eucalyptus Road, in an area known as the Santa Margarita Site. **Figure 1. Location Map** shows the location of the facility within the City of Seaside.

## III. PROJECT DESCRIPTION

The project involves the expansion of the existing backflush basin to accommodate the increased backflush water from the existing ASR facility at Seaside Middle School and a planned ASR facility at Fitch Park. The Addendum to the MPWMD Aquifer Storage and Recovery Project Phase 1 EIR/EA dated April 2012, identified a backflush pit at Seaside Middle School; this backflush pit was never built at the Middle School site. Backflush water is conveyed from ASR Wells 3 and 4 located the Seaside Middle School site to the existing Santa Margarita backflush pit. The Proposed Project would allow the backflush pit that was proposed at the Seaside Middle School to be built at the Santa Margarita site via an expansion of the existing backflush pit. Additionally, CalAm is planning on construction ASR Wells 5 and 6 at the future Fitch Park site<sup>1</sup>. Due to land constraint, a backflush basin cannot fit at that site and backflush water will be conveyed to the Santa Margarita site. The Santa Margarita backflush basin is being expanded in lieu of constructing a separate 240,000-gallon backflush basin at Seaside Middle School and Fitch Park sites<sup>2</sup>. To accommodate the increased backflush water on a schedule that is operationally feasible, the backflush basin would be expanded to increase backflush capacity to approximately 750,000-gallon capacity.

Other than providing additional capacity, the expansion of the backflush basin would not change operations of the ASR Project. The Santa Margarita site is currently 1.1 acres, MPWMD proposes to expand this site to approximately 1.9 acres.

New and revised facilities are identified below based upon details from MPWMD and the basis of design information:

- Grading and contouring to facilitate construction and improve access;
- Second driveway on General Jim Moore Boulevard to facilitate Operations and Maintenance activities during construction and major maintenance activities;
- Backflush basin expansion, as noted above;

---

<sup>1</sup> ASR Wells 5 and 6 facilities are evaluated in the Monterey Peninsula Water Supply Project EIR.

<sup>2</sup> Draft ASR EIR/EA dated March 2006 identifies a 240,000-gallon backflush percolation pit, located in the southwest corner of the Santa Margarita site. The terms backflush pit, backflush percolation pit and backflush basin are equivalent.

Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

- New frontage fence; and
- Two new sound walls, not currently proposed, included in anticipation of future works.

Together, these components comprise the Backflush Basin Expansion, or Proposed Project.

Typical earth moving equipment will be used during construction of works including clearing and trenching. All deleterious material and soil must remain onsite due to unexploded ordnance concerns.

Construction is anticipated to begin in August 2018 and will last a maximum of four months. Construction will occur Monday through Friday from 7am to 7pm.

It is estimated that four (4) workers will be required onsite during construction. They would generate eight (8) one-way trips per day. Materials and equipment will also be delivered to the site; however, these deliveries would be minimal (estimated to be about 5 deliveries for the duration of construction). Construction workers will access the site from the existing driveway and will park onsite. Traffic control will be required during the installation of the driveway. Traffic controls will include, at a minimum, measures to ensure safety of pedestrians and bicyclists on General Jim Moore Boulevard.

#### **IV. COMPARISON TO THE CONDITIONS LISTED IN CEQA GUIDELINES SECTION 15162**

This Addendum has been prepared pursuant to CEQA Guidelines Section 15164, which states: "A lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred." CEQA Guidelines Section 15162 establishes the following criteria for the preparation of a Supplemental EIR.

- 1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
- 2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
- 3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
  - a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
  - b) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
  - c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

- d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The following discussion summarizes the reasons why a subsequent or supplemental EIR, pursuant to CEQA Guidelines Section 15162, is not required in connection with approvals for the proposed Backflush Basin Expansion and why an addendum is appropriate.

## V. CHANGES TO THE PROJECT

### 1. Project Background

The ASR EIR/EA and its Addenda did not contemplate the Expansion of the Backflush Basin. The full ASR EIR/EA can be accessed on the MPWMD website, more specifically, online at the following address: <http://www.mpwmd.net/wp-content/uploads/2015/08/MPWMD-Draft-EIR-EA-3-06.pdf>

Addendum No. 1 to that document can be found online at the following address: [http://www.mpwmd.net/asd/board/boardpacket/2012/20120416/16/item16\\_exh16b.pdf](http://www.mpwmd.net/asd/board/boardpacket/2012/20120416/16/item16_exh16b.pdf), Addendum No. 2 can be found here: <http://www.mpwmd.net/asd/board/boardpacket/2016/20160620/16/Item-16-Exh-A.pdf>, and Addendum No. 3 can be found here: [http://www.mcwd.org/docs/agenda\\_minutes/2016-04-18\\_board/Item%209-C%20-%20FINAL%20PUBLIC%20REVIEW%20RUWAP%20Shared%20Pipeline%20Addendum\\_%20No3\\_March%202020%20\(2\).pdf](http://www.mcwd.org/docs/agenda_minutes/2016-04-18_board/Item%209-C%20-%20FINAL%20PUBLIC%20REVIEW%20RUWAP%20Shared%20Pipeline%20Addendum_%20No3_March%202020%20(2).pdf).

### 2. Environmental Effects

As detailed in **Attachment 1, Initial Study Checklist for the Backflush Basin Expansion**, the proposed Backflush Basin Expansion would not result in any new significant environmental effects that cannot be mitigated with existing, previously identified mitigation measures in the ASR EIR/EA and its Addenda. In addition, the proposed Backflush Basin Expansion would not substantially increase the severity of environmental effects identified in the ASR EIR/EA and its Addenda.

### 3. New Information

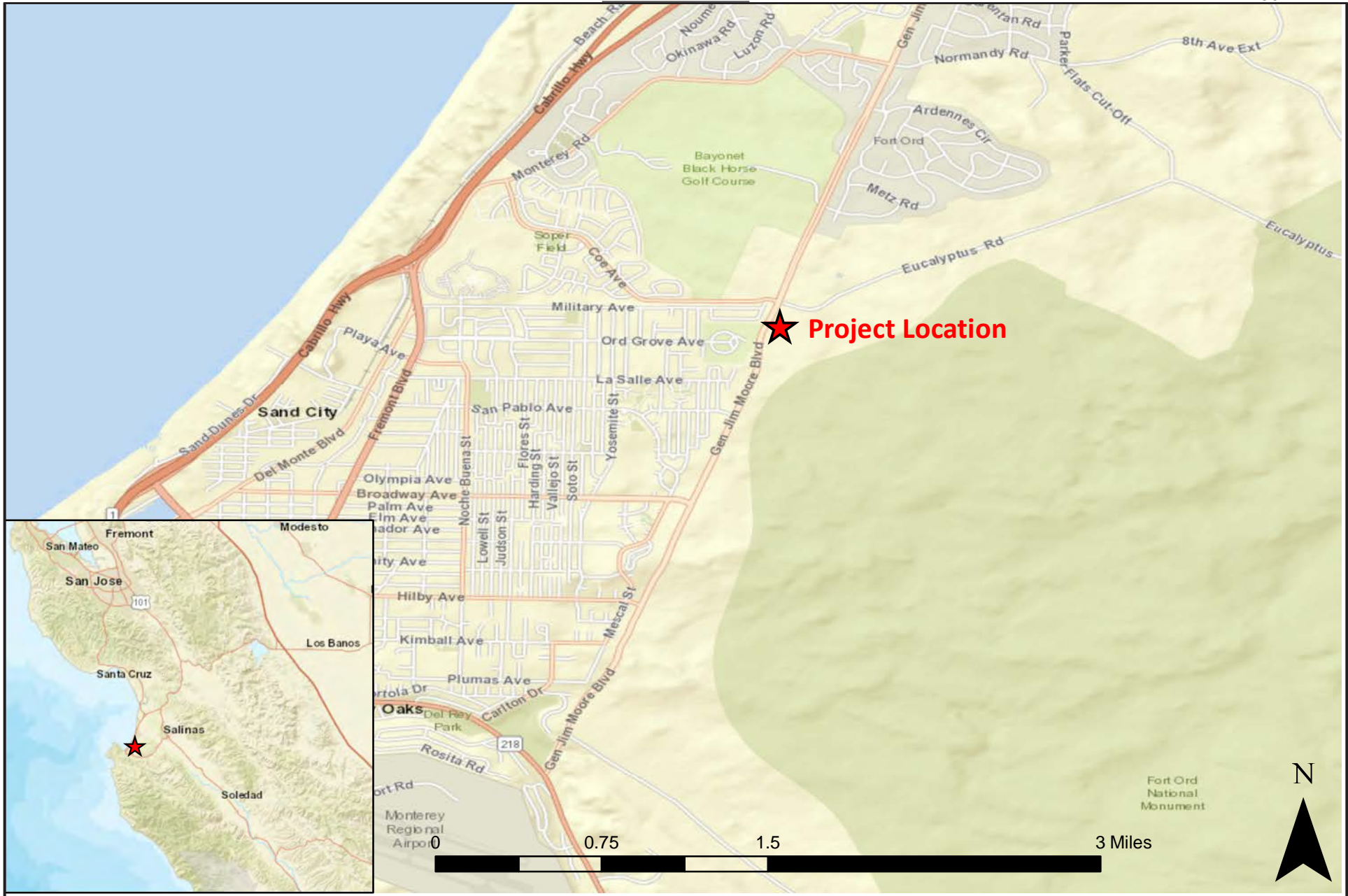
No new information of substantial importance has been identified or presented to MPWMD such that the ASR Project would result in: 1) significant environmental effects not identified in the ASR EIR/EA and its Addenda, or 2) more severe environmental effects than described in the ASR EIR/EA and its Addenda, or 3) require mitigation measures which were previously determined not to be feasible, or mitigation measures that are considerably different from those recommended in the ASR EIR/EA and its Addenda.

### 4. Conclusion

Section 15164 of the CEQA Guidelines states that a lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred. Based on the information in this Addendum, MPWMD has determined that:

Addendum No. 4 to the ASR EIR/EA  
Backflush Basin Expansion

- No new significant environmental effects or a substantial increase in the severity of previously identified significant effects would occur as a result of the construction and operation of the Backflush Basin Expansion;
- No substantial changes have occurred or would occur with respect to the circumstances under which the ASR Project was originally undertaken, which would require major revisions to the previously certified ASR EIR/EA due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and
- No new information of substantial importance has been received or discovered, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous ASR EIR/EA and its Addenda were certified as complete.









# Location Map

July 2018

Addendum No. 4 to the Aquifer Storage and Recovery EIR/EA  
Backflush Basin Modifications

Figure  
**1**



-  Proposed Sound Wall
-  Existing Backflush Basin
-  Proposed Backflush Basin Expansion
-  Proposed Driveway
-  Proposed Grading Area
-  Proposed Retaining Wall

Note: Figure is not to scale, locations are approximate. See site plans prepared by MAC Design Associates for more detailed site drawings.



# Site Plan

July 2018

Addendum No. 4 to the Aquifer Storage and Recovery EIR/EA  
Backflush Basin Modifications

Figure  
**2**



# Surrounding Land Uses

July 2018

Addendum No. 4 to the Aquifer Storage and Recovery EIR/EA  
Backflush Basin Modifications

Figure  
**3**

**ATTACHMENT 1**

**INITIAL STUDY CHECKLIST FOR THE BACKFLUSH BASIN EXPANSION TO  
SUPPORT ADDENDUM NO. 4 TO THE ASR EIR/EA**

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## **I. PROJECT DATA**

**Project Title:** Backflush Basin Expansion

**Lead Agency Name and Address:** Monterey Peninsula Water Management District (MPWMD), 5 Harris Court, Building G, Monterey, CA 93940, Mailing Address is: PO Box 85, Monterey, CA 93942-0085

**Contact Person and Phone Number:** Maureen Hamilton, (831) 658-5622

**Project Proponents:** Monterey Peninsula Water Management District (MPWMD)

**Project Location:** The proposed Backflush Basin Expansion would be located at the existing Santa Margarita ASR Site, which is southeast of the intersection of General Jim Moore Boulevard and Eucalyptus Road in the City of Seaside.

**City of Seaside General Plan Designation:** Low Density Single Family Residential<sup>1</sup>

**Zoning:** Single Family Residential (RS-8)

**Project Description:** MPWMD proposes to expand the existing Backflush Basin to a capacity of 750,000 gallons. In addition, the following site modification will be made in connection with the Backflush Basin expansion:

- Grading and contouring to facilitate construction and improve access;
- Second driveway on General Jim Moore Boulevard to facilitate Operations and Maintenance activities during construction and major maintenance activities;
- Backflush basin expansion, as noted above;
- New frontage fence; and
- Two new sound walls; not currently proposed, included in anticipation of future works.

Together, these components comprise the Backflush Basin Expansion, or Proposed Project.

### **Surrounding Land Uses:**

- North: Eucalyptus Road followed by open space
- South: Open space
- East: Open space
- West: General Jim Moore Boulevard followed by residential and a cemetery

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<sup>1</sup> This parcel is currently designated as Low Density Single Family Residential in the 2003 Seaside General Plan, however, it is designated as "Future Specific Plan" in *Figure 6. General Plan Designations* in the Draft Seaside 2040 General Plan. The Final Seaside 2040 General Plan is expected to be released in late 2018.

## II. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

All of the following environmental factors identified below are discussed within **Section III. Evaluation of Environmental Impacts**. Those that are checked were found to be areas that the full implementation of the proposed Backflush Basin Modification may significantly impact without mitigation. Sources used for analysis of environmental effects are listed in **Section IV. References**.

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Aesthetics                 | <input type="checkbox"/> Agricultural Resources                     | <input type="checkbox"/> Air Quality                        |
| <input type="checkbox"/> Biological Resources       | <input checked="" type="checkbox"/> Cultural Resources              | <input type="checkbox"/> Geology and Soils                  |
| <input type="checkbox"/> Greenhouse Gas Emissions   | <input checked="" type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Hydrology and Water Quality        |
| <input type="checkbox"/> Land Use and Planning      | <input type="checkbox"/> Mineral Resources                          | <input type="checkbox"/> Noise                              |
| <input type="checkbox"/> Population and Housing     | <input type="checkbox"/> Public Services                            | <input type="checkbox"/> Recreation                         |
| <input type="checkbox"/> Transportation and Traffic | <input type="checkbox"/> Utilities and Service Systems              | <input type="checkbox"/> Mandatory Findings of Significance |

## III. EVALUATION OF ENVIRONMENTAL IMPACTS

### 1. Aesthetics

#### EXISTING SETTING

The existing site is located in a disturbed area, south east of the intersection of General Jim Moore Boulevard and Eucalyptus Road in the City of Seaside. The Proposed Project site is not visible from Highway 1 or located near a designated scenic vista. The Proposed Project site is located on the Former Fort Ord. The existing Santa Margarita site is a water infrastructure facility. The surrounding area is primarily open space. The visual quality of the site is considered medium, as it is surrounding primarily by open space which is characteristic of the region’s natural visual amenities. The overall visual sensitivity of the site is considered low, as there are existing water infrastructure facilities within the Proposed Project site.

#### CHECKLIST

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS

- The ASR EIR/EA identified less than significant impacts related to scenic views, degradation of visual character, creation of light and glare during construction activities, and alteration of existing visual character. The ASR EIR/EA identified a significant impact resulting from creation of new light and glare associated with well operation that would be reduced to less than significant with implementation of *Mitigation Measure VIS-3: Incorporate Light-Reduction Measures into the Plan and Design of Exterior Lighting at Well Site*.
- Addendum No. 1 to the ASR EIR/EA also identified a potentially significant impact would result from implementation of ASR Phase 2 related to the creation of new light and glare at the well site, however, this impact would be reduced to less than significant with the implementation of *Mitigation Measure VIS-3: Incorporate Light-Reduction Measures into the Plan and Design of Exterior Lighting at Well Site*.
- Addendum No. 2 to the ARS EIR/EA did not identify any potentially significant aesthetic impacts related to the construction and operation of the Hilby Pump Station.
- Addendum No. 3 to the ARS EIR/EA did not identify any additional potentially significant aesthetic impacts related to the Monterey Pipeline Re-Alignment.

## DISCUSSION

Construction of the Backflush Basin Expansion would last approximately four months. The stockpiled soil<sup>4</sup> generated by excavation of the backflush basin expansion and contouring of the site, the fence, and the sound walls, would be the above ground components of the Proposed Project that would be visible from a public right of way after construction.

**a, b) Less Than Significant Impact.** The proposed Backflush Basin Expansion are not located within a scenic highway corridor. The Proposed Project site is located in an area that offers a scenic vista of the Former Fort Ord to the east, which contains rolling hills vegetated with coastal chaparral.

The soil stockpile would be approximately five (5) feet in height and would be located behind the existing electrical building. The soil stockpile is likely to become revegetated with local plant species over time. The proposed fence would be less than ten (10) feet in height and has been designed in consultation with City of Seaside staff for attractiveness and aesthetic compatibility with future land use. The fence would be minimally visible to motorists and pedestrians traveling on General Jim Moore Boulevard due to the topography of the site. The sound walls would be up to sixteen feet in height. They would be set back a distance from General Jim Moore Boulevard. The final height and material of the proposed sound walls would be approved by the City of Seaside prior to their construction. The proposed concrete driveway and clearing of low-lying vegetation would be located at ground level and would therefore be minimally visible from motorist and pedestrians traveling on General Jim Moore Boulevard. For these reasons the Proposed Project will have a less than significant impact to scenic vista and scenic resources.

**c) Less than Significant Impact.** The Backflush Basin Expansion would result in minimal changes to the visual character of the proposed site, as the existing site is currently disturbed and contains water infrastructure facilities. The proposed modifications would result in a maximum disturbed area of 1.9 acres during construction. After construction is complete, minimal change to the visual character of the

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<sup>4</sup> Due to the potential for hazardous materials within excavated soil, the Fort Ord Reuse Authority (FORA) requires that all soil generated onsite must remain on the parcel.

Initial Study Checklist  
Backflush Basin Expansion

site will be evident, as the expansion of the backflush basin does not involve any above-ground structures. This impact is considered to be less than significant.

**d) No Impact.** The Proposed Project would not introduce any new sources of light and glare, as no new lighting is proposed as part of the project. The Backflush Basin Expansion would have no impact on day or nighttime views due to light or glare.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to aesthetic resources.

**2. Agricultural Resources**

**EXISTING SETTING**

The proposed Backflush Basin Expansion and its surrounding area do not contain agricultural or forest lands.

**CHECKLIST**

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Initial Study Checklist  
Backflush Basin Expansion

<p>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>	<p>Potentially Significant Impact</p>	<p>Less than Significant with Mitigation Incorporated</p>	<p>Less than Significant Impact</p>	<p>No Impact</p>
<p>Farmland, to non-agricultural use or conversion of forest land to non-forest use?</p>				

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- No impacts to agricultural resources were identified in the ASR EIR/EA.
- No impacts to agricultural resources were identified in Addendum No. 1 to the ASR EIR/EA resulting from the implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any potentially significant impacts to agricultural resources resulting from the construction and operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA did not identify any potentially significant impacts to agricultural resources related to the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a-e) No Impact.** The proposed Backflush Basin Expansion site and its surrounding area do not contain agricultural or forest lands. The proposed Backflush Basin Expansion would not convert prime, unique, or farmland of statewide importance to non-agricultural use or involve any other changes that would result in the conversion of farmland, impact a Williamson Act contract, or disrupt any agricultural operations (Monterey County, 2010a). The proposed Backflush Basin Expansion would not convert forest land or timberland or involve any other changes that would result in the conversion or loss of forest land.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to agricultural resources.

**3. Air Quality**

**EXISTING SETTING**

The proposed Backflush Basin Expansion would be located in the North Central Coast Air Basin (Air Basin). The Air Basin covers an area of 5,159 square miles along the central coast of California and is generally bounded by the Monterey Bay to the west, the Santa Cruz Mountains to the northwest, the Diablo Range on the northeast (Denise Duffy and Associates, 2015).

Initial Study Checklist  
Backflush Basin Expansion

The proposed Backflush Basin Expansion area typically has average maximum and minimum winter (i.e., January) temperatures of 60 degrees Fahrenheit (°F) and 43 °F, respectively, while average summer (i.e., July) maximum and minimum temperatures are 68 °F and 52 °F, respectively. The proposed Backflush Basin Expansion site is within close proximity to the coast with temperature variations that are relatively moderate. Precipitation in the proposed Backflush Basin Expansion site averages approximately 20 inches per year (Denise Duffy and Associates, 2015).

The Monterey Bay Air Resources District (MBARD) is the regional agency tasked with managing air quality in the region. Existing levels of air pollutants in the proposed Backflush Basin Expansion area can generally be inferred from ambient air quality measurements conducted by MBARD at its closest station, the Salinas #3 monitoring station, located in the City of Salinas, east of East Laurel Drive and south of Constitution Boulevard. Data monitored at this station shows that although the area currently does not meet state standards for ozone, the number of days per year in exceedance of ozone standards has been decreasing, and the region is on course to meet these standards in the future.

**CHECKLIST**

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA identified less than significant impacts during construction due to short-term emissions of PM10, exposures of sensitive receptors (e.g. Seaside Middle School) to elevated health risks from exposure to diesel particulates, and exposure of sensitive receptors to acrolein health hazards. No significant operational air quality impacts were identified.
- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts related to air quality resulting from construction or operation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA identified a potentially significant impact related to the exposure of sensitive receptors to pollutants during construction of the Hilby Pump Station. This impact could be mitigated to a less than significant level with the implementation of *Mitigation*

Initial Study Checklist  
Backflush Basin Expansion

*Measure AQ-1: Construction Fugitive Dust Control Plan*<sup>5</sup> from the Pure Water Monterey Mitigation Monitoring and Reporting Plan.

- Addendum No. 3 to the ASR EIR/EA did not identify any significant impacts related to air quality resulting from the Monterey Pipeline Re-Alignment.

## DISCUSSION

Emissions would be generated during construction of the Backflush Basin Expansion from the operation of construction equipment and site grading. No additional emissions would result from operation of the Proposed Project, as no additional mechanical or electrical equipment is necessary to operate the expanded backflush basin.

**a) Less than Significant Impact:** CEQA Guidelines Section 15125(b) requires that a project is evaluated for consistency with applicable regional plans, including the Air Quality Management Plan (AQMP). The MBARD is required to update their AQMP once every three years; the most recent update (MBARD, 2017) was approved in March of 2017. This plan addresses attainment of the State ozone standard and federal air quality standard. The AQMP accommodates growth by projecting growth in emissions based on population forecasts prepared by the Association of Monterey Bay Area Governments (AMBAG) and other indicators. Consistency determinations are issued for commercial, industrial, residential, and infrastructure related projects that have the potential to induce population growth. A project is considered inconsistent with the AQMP if it has not been accommodated in the forecast projections considered in the AQMP. The Proposed Backflush Basin Expansion would not cause and/or otherwise induce population growth. In addition, due to lack of operational emissions, it would not cause any long-term adverse air quality effects. As a result, the Proposed Project would not conflict with and/or otherwise obstruct the implementation of MBARD's AQMP. For these reasons, the Proposed Project would have a less than significant impact related to conflicts with air quality plans.

**b, c) Less than Significant Impact:** The MBARD 2016 CEQA Air Quality Guidelines (Guidelines) contains standards of significance for evaluating potential air quality effects of projects subject to the requirements of CEQA. According to MBARD, a project will not have a significant air quality effect on the environment, if the following criteria are met:

Construction of the project will:

- Emit (from all sources, including exhaust and fugitive dust) less than;
  - 137 pounds per day of oxides of nitrogen (NO<sub>x</sub>);
  - 137 pounds per day of reactive organic gases (ROG);
  - 82 pounds per day of respirable particulate matter (PM<sub>10</sub>);
  - 55 pounds per day of fine particulate matter (PM<sub>2.5</sub>); and,
  - 550 pounds per day carbon monoxide (CO).

Operation of the project will:

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<sup>5</sup> Addenda No. 2 and No. 3 to the ASR EIR/EA were joint documents that amended both the ASR EIR/EA and the Pure Water Monterey Groundwater Replenishment Project (PWM) EIR. For this reason, mitigation measures from the PWM EIR were used to mitigate impacts resulting from those projects. However, the Proposed Backflush Basin Expansion covered under this Addendum are not subject to the PWM EIR or associated with this project; mitigation measures from the PWM EIR are not applicable to the Proposed Backflush Basin Expansion.

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Backflush Basin Expansion

- Emit (from all project sources, mobile, area, and stationary) less than;
  - 137 pounds per day of oxides of nitrogen (NO<sub>x</sub>)
  - 137 pounds per day of reactive organic gases (ROG)
  - 82 pounds per day of PM<sub>10</sub>
  - 55 pounds per day of PM<sub>2.5</sub>
  - 550 pounds per day carbon monoxide (CO)
- Not cause or contribute to a violation of any California or National Ambient Air Quality Standard;
- Not result in a cumulatively considerable net increase of any criteria pollutant for with the project region is non-attainment;
- Not exceed the health risk public notification thresholds adopted by the MBARD;
- Not create objectionable odors affecting a substantial number of people; and,
- Be consistent with the adopted federal and state Air Quality Plans (MBAPCD, 2016).

The MBARD CEQA Guidelines for evaluating impacts during construction state that if a project generates less than 82lb/day of PM<sub>10</sub> emissions, the project is considered to have less than significant impacts (see Table 5-1, MBARD, 2016). The Guidelines also state that a project will result in less than significant impacts if daily ground-disturbing activities entail less than 8.1 acres of minimal earthmoving, or less than 2.2 acres of grading and excavation. Construction projects below these acreage thresholds would be below the applicable MBARD 82 lb/day threshold of significance and would constitute a less-than-significant effect for the purposes of CEQA (MBARD, 2016). The construction area of the Backflush Basin Expansion is approximately 1.9 acres, however, construction activities at any given time would occur on much less than 1.9 acres. Construction of the Backflush Basin Expansion would be below the threshold of 2.2 acres of daily grading. As a result, the Proposed Project would result in a less than significant construction-related air quality effect.

The proposed Backflush Basin Expansion would result in temporary increases in emissions of inhalable particulates (PM<sub>2.5</sub> and PM<sub>10</sub>), VOC, and NO<sub>x</sub> associated with construction-related activities, see **Table 1. Construction Air Pollutant Emissions for the Backflush Basin Expansion** below for detailed information on these emissions. See **Attachment 2, Air Quality and GHG Calculations Spreadsheets** for more information. Construction-related fugitive dust emissions associated with the proposed Backflush Basin Expansion would be generated from the Proposed Project site grading and construction. In addition to construction-related fugitive dust, exhaust emissions associated with construction vehicles and equipment would also be generated.

The construction emissions generated by the Modifications would not overlap with construction of other components of the ASR Project because all physical components of that project have already been constructed, therefore the emission associated with the construction of the Backflush Basin Expansion would not add to the construction emissions of the ASR Project, and would not increase the severity of Impacts AQ-1, AQ-2, AQ-3, AQ-4, or AQ-5 identified in the ASR EIR/EA. Construction of the Backflush Basin Expansion would last from August 2018 through October 2018. As shown in **Table 1. Construction Air Pollutant Emissions for the Backflush Basin Expansion**, construction of the Proposed Project would not exceed MBARD thresholds for emissions.

**Table 1. Construction Air Pollutant Emissions for the Backflush Basin Expansion**

	Emissions in Pounds/Day			
	NO <sub>x</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	ROG
Significance Threshold (MBARD)	137*	55	82	137*
Emissions generated by the Backflush Basin Expansion	0.5	0.1	0.2	0.0
Exceed Threshold?	No	No	No	No
Emissions Source: Attachment 2, Air Quality and GHG Calculations Spreadsheets Significance Threshold Source: MBARD, 2016 * Applies to non-typical construction equipment (i.e., well drilling) MBARD has identified that construction projects using typical construction equipment such as dump trucks, scrapers, bulldozers, compactors and front-end loaders that temporarily emit precursors of ozone (i.e., VOC or NO <sub>x</sub> ), are accommodated in the emission inventories of State- and federally-required air plans. Temporary emissions associated with the operation of construction equipment have been accommodated in State- and federally-required air plans				

The proposed Backflush Basin Expansion would not result in a new or substantially more severe significant impact due to air quality emissions during operations. Based upon the minimal level of operational emissions, operation of the Backflush Basin Expansion would not result in emissions that would result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA based on an exceedance or violation of the applicable air quality standards.

**d) Less than Significant Impact:** The proposed Backflush Basin Expansion would be located on Fort Ord Reuse Authority (FORA) owned property, which is currently occupied with similar facilities. The nearest sensitive receptors to the site are approximately 190 feet to the west of the proposed driveway. The Proposed Project may create temporary construction dust given the proximity of the nearest residences. Implementation of the following standard construction best management practices (BMPs) would minimize temporary emissions from construction:

- Water all active construction areas as required with non-potable sources to the extent feasible; frequency should be based on the type of operation, soil, and wind exposure and minimized to prevent wasteful use of water and non-stormwater runoff.
- Prohibit grading activities during periods of high wind (over 15 mph).
- Cover all trucks hauling soil, sand, and other loose materials and require trucks to maintain at least 2 feet of freeboard.
- Hand sweep daily within paved areas.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Enclose, cover, or water daily exposed stockpiles (dirt, sand, aggregate, etc.).
- Replant vegetation in disturbed areas as quickly as possible.
- Provide stabilized construction entrances/exits to limit sediment tracking from the site.

With implementation of the above BMPs, construction of the proposed Backflush Basin Expansion would result in a less than significant impact to sensitive receptors.

**e) No Impact.** No substantial odors would be emitted from the proposed Backflush Basin Expansion site based upon the type of construction activities and project operations proposed.

## CONCLUSION

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to air quality resources.

## 4. Biological Resources

### EXISTING SETTING

The proposed Backflush Basin Modification site is located on the Former Fort Ord on a site referred to as the Santa Margarita Site. Vegetation clearing, grading and excavation activities in support of the Backflush Basin Expansion would result in the modification/removal of two habitat types associated with the Santa Margarita Site. For the purposes of evaluation of biological resources, the total area of vegetation modification or removal is 0.9 acres<sup>6</sup> (0.5 acres of maritime chaparral and 0.4 of ruderal vegetation).

#### Maritime Chaparral

Maritime chaparral is a shrub community dominated by moderate to low-growing evergreen and drought-deciduous shrubs adapted to shallow soils and periodic fires. The characteristic shrub species on the Proposed Project site include woollyleaf manzanita (*Arctostaphylos tomentosa*), chamise (*Adenostoma fasciculata*), deer broom (*Acmispon glaber*), bush monkeyflower (*Mimulus aurantiacus*), black sage (*Salvia mellifera*), and Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*). Several bird species feed and nest in chaparral habitat including orange-crowned warbler (*Vermivora celata*), spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), and California quail (*Callipepla californica*) (Zeiner et al. 1990a). Mammals such as brush rabbit (*Sylvilagus bachmani*), California mouse (*Peromyscus californicus*) and brush mouse (*P. boylii*) will forage and find cover in dense chaparral, whereas narrow-faced kangaroo rat (*Dipodomys venustus*) and Heerman's kangaroo rat (*D. heermanni*) will use sparsely vegetated openings within thick vegetation (Zeiner et al., 1990b). These small mammals are preyed upon by gray fox (*Urocyon cinereoargenteus*), bobcat (*Felis rufus*), spotted skunk (*Spilogale gracilis*), and western rattlesnake (*Crotalis viridis*) (Zeiner et al. 1988, 1990b). Chaparral also provides important foraging habitat and cover for black-tailed deer (*Odocoileus hemionus*). Approximately 0.5 acres of maritime chaparral will be permanently removed from the Proposed Project site.

#### Ruderal Vegetation

A second plant community, ruderal vegetation, occurs between the fenced boundary between the former Fort Ord lands and residential area of Seaside and General Jim Moore Boulevard within the existing backflush basin and between the maritime chaparral and development associated with the City of Seaside. The ruderal community is disturbed and dominated by dense common Hottentot fig (*Carpobrotus edulis*). Approximately 0.4 acres of ruderal vegetation will be permanently removed from the Proposed Project site.

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<sup>6</sup> As previously stated in this document, the total potential area of disturbance is the entire Santa Margarita site, which is 1.9 acres.

Initial Study Checklist  
Backflush Basin Expansion

CHECKLIST

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS

- The ASR EIR/EA identified less than significant impacts for removal and destruction of sensitive vegetation and potential direct mortality or disturbance of protected animal species. The ASR EIR/EA identified significant impacts related to potential disturbance of the Fort Ord Natural Resource Management Area (NRMA) and potential loss of nest trees and disturbance or mortality of migratory birds. *Mitigation Measures BIO-1: Minimize or Prevent Disturbance to Adjacent NMRA and BIO-2: Remove Trees and Shrubs during the Nonbreeding Season for Most Birds (September 1 To February 15)* was identified and implemented to reduce impacts to a less than significant level. The ASR EIR/EA noted that the ASR Project has the potential to affect special status aquatic species within the river corridor of the Carmel River, but has been designed to minimize any adverse impacts. *Mitigation Measures AR-1: Conduct Annual Survey Below River Mile 5.5 and Monitor River Flow in January-June Period, and AR-2: Cooperate to help develop a Project to Maintain, Recover, or Increase Storage in Los Padres Reservoir and If Needed, Continue Funding Program to Rescue and Rea Isolated Juveniles* were identified in the ASR EIR/EA in association with potential impacts to flows for upstream migration and potential impacts to juvenile steelhead rearing habitat. Potential benefits to steelhead and California red-legged frog

Initial Study Checklist  
Backflush Basin Expansion

include the reduction of groundwater pumping along the Carmel River in the dry summer months from the use of the Seaside Groundwater Basin for municipal supply. The net effect of these operational changes will likely increase streamflow and improve environmental conditions along the Carmel River. Thus, the ASR EIR/EA concluded that the ASR Project would be beneficial to steelhead and the California red-legged frog.

- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts to biological resources resulting from implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA identified a potentially significant impact during construction of the Hilby Pump Station related to impacts to Monterey spine flower, a federally threatened species. This impact could be reduced to less than significant levels with the implementation of *Mitigation Measure BT-1a: Implement Construction Best Management Practices from the Pure Water Monterey Mitigation Monitoring and Reporting Plan*.
- Addendum No. 3 to the ASR EIR/EA identified a potentially significant impact resulting from impacts to nesting birds during construction of the Monterey Pipeline. This impact could be mitigated to less than significant levels with the implementation of *Mitigation Measures BT-1a: Implement Construction Best Management Practices, BT-1k: Conduct Pre-Construction Surveys for Protected Avian Species, including, but not limited to, white-tailed kite and California horned lark, and, BT-1m: Minimize Effects of Nighttime Construction Lighting* from the Pure Water Monterey Mitigation Monitoring and Reporting Plan.

## DISCUSSION

**a) Less than Significant Impact:** Vegetation removal for construction of the Backflush Basin Modification would result in the permanent loss of approximately 0.5 acres of maritime chaparral and 0.4 acres of ruderal vegetation.

Construction of the expanded backflush basin, driveway and fence has the potential to result in direct mortality or disturbance of California horned lizard and would result in permanent loss of approximately 0.9 acre of habitat capable of supporting California horned lizard. Although this species is known to occur on the former Fort Ord in small numbers (U.S. Army Corps of Engineers, 1992), it is common throughout the southern portion of the Central Coast Range and occurs in fair numbers throughout the rest of its range in California (Jennings and Hayes, 1994). Because the status of the California horned lizard in the region is relatively abundant, and because a very small area of habitat will be affected, and the species is unlikely to occur in significant numbers in this small area, this impact is considered less than significant.

Construction of the expanded backflush basin, driveway, and fence would result in permanent loss of up to 0.9 acre of habitat potentially containing Monterey spineflower, Sandmat manzanita, Eastwood's goldenbush, and Kellogg's horkelia. These species are scattered across the project site the actual area of plant disturbance cannot be determined. However, the plants are not distributed uniformly across the project site, so the impact would probably be less than 0.9 acre. These impacts are considered less than significant, because the United States Fish and Wildlife Service (USFWS) has determined that development of the borderland development areas would not have a substantial adverse effect on the populations at Fort Ord, if the Habitat Management Plan (HMP) is implemented. The HMP establishes guidelines for the conservation and management of species and habitats on former Fort Ord lands by identifying lands that are available for development, lands that have some restrictions with development, and habitat reserve areas.



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Backflush Basin Expansion

Construction of the expanded backflush basin, driveway, and fence has the potential to result in direct mortality or disturbance of black legless lizard and would result in permanent loss of approximately 0.9 acre of habitat capable of supporting black legless lizard. Direct mortality of black legless lizards and the permanent loss of habitat would be considered a significant impact because the subspecies is rare in California, with a distribution that is restricted to coastal areas in the Monterey Bay region (Stebbins 2003). However, development and implementation of the HMP has provided adequate mitigation for potential impacts to the black legless lizard. Therefore, this impact is less than significant.

Maritime chaparral present within and surrounding the Proposed Project site that provide suitable nesting habitat for migratory birds. Construction or removal of nest trees and shrubs during the nesting period for migratory birds could result in nest abandonment and death of young or loss of reproductive potential at active nests located in the Proposed Project site. Impacts on migratory birds would be considered adverse if the subsequent population decline was large and affected the viability of the local population. Because only a small area of habitat (shrubs within approximately 0.5 acre) will be impacted by the Proposed Project, impacts on migratory birds are considered less than significant.

In order to avoid violation of California Fish and Game Code Sections 3503 (active bird nests), a pre-construction survey by a qualified biologist for active nests would be conducted prior to construction. A qualified biologist shall be retained by the project proponents to conduct pre-construction surveys for nesting raptors and other protected avian species where nesting habitat is identified and within a suitable buffer area if construction commences between February 15 and September 1. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during construction to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of the final construction plans. If active raptor or other protected avian species nests are identified during the preconstruction surveys, the qualified biologist shall notify the project proponents and an appropriate no-disturbance buffer shall be imposed within which no construction activities or disturbance shall take place until the young have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

Construction of the expanded backflush basin, driveway, and fence has the potential to result in direct mortality or disturbance of Monterey dusky-footed woodrat and would result in permanent loss of approximately 0.5 acre of habitat capable of supporting Monterey dusky-footed woodrat. Direct mortality of Monterey dusky-footed woodrat and the permanent and temporary loss of habitat would be considered a significant impact because the species is rare in California, with a distribution that is restricted to appropriate habitat in two California counties (CNDDB, 2005b). However, development and implementation of the HMP has provided adequate mitigation for potential impacts to the dusky-footed woodrat.

**b) Less than Significant Impact:** Construction of the expanded backflush basin, driveway, and fence would result in permanent loss of up to 0.5 acre of maritime chaparral. The project site is within the area designated for development under the Fort Ord HMP, which mitigates for the loss of maritime chaparral habitat through implementation of the Natural Resource Management Area (NRMA). This is consistent with the Draft ASR EIR/EA. Therefore, this impact is considered less than significant.

Initial Study Checklist  
Backflush Basin Expansion

**c) No Impact:** There are no federally protected wetlands as defined by Section 404 of the Clean Water Act within the Proposed Project site therefore there are no impacts to this sensitive habitat as a result of the construction of the Backflush Basin Expansion.

**d) No Impact:** With the possible exception of nesting birds and raptors addressed in a) above, the project will not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

**e, f) Less than Significant Impact:** The proposed ASR Expansion would not conflict with local policies protecting biological resources. No tree removal would be associated with the Proposed Project. The Project site is located within the boundaries of the adopted HMP and is being constructed in compliance with the Conditions of the HMP. This is consistent with the Draft ASR EIR/EA.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to biological resources.

**5. Cultural Resources**

**EXISTING SETTING**

A records search at the Northwest Information Venter of the California Historical Resources Information System (CHRIS) was conducted in 2005 as part of the preparation of the ASR EIR/EA. A review of all of the archaeological sites and surveys within 0.5 mile of the site, historical maps, and the Historic Resources Index was performed. Additionally, historic maps for the site, the National Register of Historic Places, and the California Register of Historical Resources were consulted. The records search at CHRIS did not result in the identification of any previously recorded prehistoric or historic resources within 0.5 mile of the site. The closest prehistoric archaeological site, CA-MNT-699, is located in the coastal dunes.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS

- The ASR EIR/EA found a potentially significant impact due to the potential for discovery of buried unknown cultural deposits and human remains during construction activities; however, *Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities* and *CR-2: Stop Work If Human Remains are Encountered during Construction Activities*, were presented and adopted to reduce potential impacts to a less than significant level.
- Addendum No. 1 to the ASR/EA came to the same conclusion as the ASR EIR/EA. Potentially significant impacts could result from the potential for discovery of buried unknown cultural deposits and human remains during construction activities. These impacts could be reduced to less than significant with the implementation of *Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities* and *CR-2: Stop Work If Human Remains are Encountered during Construction Activities*.
- Addendum No. 2 to the ASR ER/EA also identified a potentially significant impact during construction of the Hilby Pump Station due to the potential for discovery of buried unknown cultural deposits and human remains during construction activities. These impacts could be reduced to less than significant with the implementation of *Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities* and *CR-2: Stop Work If Human Remains are Encountered during Construction Activities*.
- Addendum No. 3 to the ASR EIR/EA identified also identified a potentially significant impact during construction of the Monterey Pipeline Re-Alignment due to the potential for discovery of buried unknown cultural deposits and human remains during construction activities. These impacts could be reduced to less than significant with the implementation of *Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities* and *CR-2: Stop Work If Human Remains are Encountered during Construction Activities*.

## DISCUSSION

**a) No Impact:** The proposed Backflush Basin Expansion would not impact historic resources; there are no documented historical resources on the Proposed Project site or in the vicinity.

**b) Less than Significant Impact with Mitigation:** Ground disturbing activities could potentially unearth unknown archaeological resources. However, the proposed Backflush Basin Expansion area has previously been surveyed for nearby and adjacent projects, and there is a low possibility of archaeological resources to be present at the Proposed Project site. While previously unknown or buried archaeological resources are not anticipated to be encountered during project construction, the implementation of **Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction and CR-2: Stop Work If Human Remains Are Encountered during Construction Activities**, previously approved as part of the ASR EIR/EA and described below, would ensure that potential impacts due to the discovery of previously unknown archaeological resources would be less than significant. As a result, the Backflush Basin Expansion would not result in any new or substantially more severe significant impacts beyond those identified in the ASR EIR/EA. No additional mitigation would be necessary beyond those measures already identified and provided below.

**c) No Impact:** Based on lack of previously identified paleontological resources on the site or in the vicinity, there are no known paleontological resources on the Backflush Basin Modification site that would be disturbed by implementation of the Proposed Project.

**d) Less than Significant Impact with Mitigation:** Implementation of the Backflush Basin Expansion would not be expected to disturb human remains based upon lack of previously identified human remains on the site and in the vicinity. In the unlikely event that human remains are discovered during earthmoving activities, **Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction and CR-2: Stop Work If Human Remains Are Encountered during Construction Activities**, previously approved as part of the ASR EIR/EA and described below, would reduce the potential impact to a less than significant level, included in **Attachment 4**. The Proposed Project would not result in any new or more severe significant impacts than those identified in the ASR EIR/EA. No additional mitigation would be necessary beyond those identified.

## MITIGATION MEASURES

### **Mitigation Measure CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities.**

If buried cultural resources such as chipped stone or groundstone, historic debris, building foundations, or human bone are inadvertently discovered during ground-disturbing activities, the construction contractor will stop work in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include avoidance strategies or mitigation of impacts through data recovery programs such as excavation or detailed documentation.

### **Mitigation Measure CR-2: Stop Work If Human Remains Are Encountered during Construction Activities.**

If human skeletal remains are encountered, the construction contractor will notify CalAm and the county coroner immediately. CalAm will ensure the construction specifications include this order.

If the county coroner determines that the remains are Native American, the coroner will be required to contact the NAHC (pursuant to Section 7050.5 [c] of the California Health and Safety Code) and the County Coordinator of Indian Affairs. A qualified archaeologist will also be contacted immediately.

If human remains are discovered in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of the county has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin:
  - the descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of with appropriate dignity the human remains, and any associated grave goods as provided in Public Resources Code Section 5097.98; or
  - the NAHC was unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the commission.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human

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remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to cultural resources. Because the Modifications could potentially contribute to previously identified significant impacts to unknown cultural resources, **Mitigation Measures CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction and CR-2: Stop Work If Human Remains Are Encountered during Construction Activities** from the previously approved ASR EIR/EA must be implemented.

**6. Geology and Soils**

**EXISTING SETTING**

Pueblo Water Resources prepared a Geotechnical Investigation for the Santa Margarita site in 2009 in preparation for construction of the existing electrical building. They evaluated the proposed Backflush Basin Expansion in an Update Letter to the Geological Investigation dated February 4, 2018. The proposed Backflush Basin Expansion site is located on older coastal dunes. Older coastal dunes are described as weakly consolidated, poorly grading fine to medium grained sand deposits (Pueblo Water Resources, 2009).

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA found that all geologic, soils, and seismicity impacts of the ASR Project would be less than significant.
- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts related to geology and soils.
- Addendum No. 2 did not identify any significant impact related to geology and soils resulting from the construction or operation of the Hilby Pump Station.
- Addendum No. 3 did not identify any significant impact related to geology and soils resulting from the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a, b, c) Less than Significant Impact:** The 2009 Geotechnical Investigation completed by Pueblo Water Resources included as **Attachment 3**, found that it is reasonable to assume that the site will experience significant seismic shaking during the lifetime of the Proposed Project. Since the nearest known active or potentially active fault is mapped approximately 3.6 miles from the site, the potential for ground surface fault rupture is low. Based on review done by Pueblo Water Resources of regional liquefaction maps, the site is located in an area classified as having a low potential for liquefaction. In addition, groundwater was not encountered within the upper 36 feet of the site. Analysis done by Pueblo Water Resources showed that the potential for liquefaction and lateral spreading is low. There is also a low probability for seismically induced landsliding because the site is relatively flat. All recommendations included in the 2009 Geotechnical Investigation and the 2018 Update Letter would be incorporated into the Proposed Project.

**d, e) No Impact:** The proposed Backflush Basin Expansion site is not located on expansive soils and does not involve septic or alternative wastewater disposal systems.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to geology and soils.

**7. Greenhouse Gas Emissions**

**EXISTING SETTING**

Global temperatures are affected by naturally occurring and anthropogenic-generated atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide (Intergovernmental Panel on Climate Change, 2007). Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). Solar

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radiation enters the earth’s atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth’s surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth’s natural climate, known as global warming or global climate change.

Climate change is a cumulative impact; a project contributes to this impact through its incremental contribution of GHG emissions combined with the cumulative increase of all other sources of GHGs. The MBARD’s GHG threshold is defined in terms of carbon dioxide equivalent (CO2e), a metric that accounts for the emissions from various GHGs based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and must implement mitigation measures.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA did not contain an analysis of GHG emissions and climate change, because at the time the ASR EIR/EA was prepared, AB32, the Global Warming Solutions Act and associated updates to the CEQA statutes and guidelines were not in effect. Although an analysis of potential climate change impacts was not completed as part of the ASR EIR/EA, air quality modeling was completed for temporary construction phase impacts. All potential air quality related effects associated with the ASR Project were considered less than significant due to the temporary nature of project emissions.
- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts related to the generation of GHGs resulting from the implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any significant impacts related to the generation of GHGs during construction of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA did not identify a significant impact related to the generation of GHGs resulting from the Monterey Pipeline Re-Alignment.

## DISCUSSION

**a) Less Than Significant Impact:** The MBARD has determined that if a project emits less than 10,000 metric tons per year (MT/yr) CO<sub>2</sub>e that its impact will be less than significant. This calculation is made by combining the estimated greenhouse gas emissions generated by construction, amortized over a 30-year period, with the estimated annual GHG emissions resulting from operation of the project.

Construction of the Proposed Project would result in a one-time emission total of up to 39.2 MT/yr of CO<sub>2</sub>e during the 3-month construction period; therefore, the annual amortized GHG emissions for the construction phase is 1.3 MT/year. The estimated annual greenhouse gas emissions generated by operation of the Proposed Project would be approximately 976.1 MT/year. Therefore, the estimated annual emissions for the entire project is 977.4 MT/year. This falls well below the threshold of 10,000 MT/year and is therefore considered to be less than significant.

**b) No Impact:** The proposed Backflush Basin Expansion would not conflict with any plan, policies, or regulations adopted for the purpose of reducing greenhouse gas emissions. AB32 recommends conjunctive groundwater use projects, such as ASR, as a key strategy for reducing the demand for more energy intensive water supply sources.

## CONCLUSION

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to greenhouse gas emissions.

## 8. Hazards and Hazardous Materials

### EXISTING SETTING

A search of the California Department of Toxic Substances Control, EnviroStor database shows that the site is located on the former Fort Ord, which is an active superfund site pursuant to Government Code Section 65962.5. The Proposed Project site occupies land that was historically used for military training. Because of the former military use at the project site, munition response action was completed to remove Department of Defense (DoD) military munitions, many of which were determined upon evaluation by qualified personnel to be Munitions and Explosives of Concern (MEC). Even with completion of munitions response actions, there is potential for munitions to be encountered. The probability of encountering MEC at the Proposed Project site is considered low (Arcadis, Inc./Weston Solutions, Inc., 2018). No other contaminated cleanup sites are located within the vicinity of the Proposed Project Site (California Department of Toxic Substances Control, 2016). Seaside Middle School is located approximately 0.2 miles from the Proposed Project Site.



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CHECKLIST

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS

- The ASR EIR/EA evaluated hazardous materials impacts of the project and concluded there to be a potentially significant impact related to construction activities occurring on portions of the former Fort Ord associated with historic military use. *Mitigation Measure HAZ-1: Implement MEC Safety Precautions during Grading and Construction Activities at the Project Site* was identified to reduce the potential impact to a less than significant level. The ASR EIR/EA identified less than significant impacts associated with handling of associated materials and public exposure to contaminated drinking water.
- Addendum No. 1 to the ASR EIR/EA did not identify any potentially significant impacts related to hazards and hazardous materials.
- Addendum No. 2 to the ASR EIR/EA did not identify any potentially significant impacts related to hazards and hazardous materials from the construction or operation of the Hilby Pump Station.

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- Addendum No. 3 to the ASR EIR/EA did not identify any potentially significant impacts related to hazards and hazardous materials from the implementation of the Monterey Pipeline Re-Alignment.

## DISCUSSION

**a, b) Less than Significant Impact:** No hazardous materials are expected to be stored onsite during operation of the Proposed Project. During construction, typical construction equipment fluids, including gasoline, diesel, and lubricants for maintaining equipment may be stored onsite. These materials would be handled and stored in compliance with all local, State, and Federal regulations pertaining to hazardous materials. This would constitute a less than significant impact resulting from the routine transport, use, or disposal of hazardous materials and potential release of hazardous materials.

**c) Less than Significant Impact:** The proposed Backflush Basin Expansion are located approximately 0.2 miles from Seaside Middle School. However, construction and implementation of the Proposed Project would not result in exposure of the students or staff to hazardous materials, substances, or wastes. All applicable regulations and policies relevant to hazardous materials transportation and storage would be adhered to. This is a less than significant impact.

**d) Less than Significant Impact with Mitigation:** The Proposed Project site is located within an area that formerly contained live-firing ranges for various weapons, therefore soil disturbance from excavating and grading activities could expose construction workers to hazards. This impact could be reduced to a less than significant level with the implementation of **Mitigation Measure HAZ-1: Implement MED Safety Precautions during Grading and Construction Activities at the Project Site**, included in **Attachment 4**

**e, f) No Impact:** The Proposed Backflush Basin Expansion are not located within two miles of a municipal or private airport. Therefore, no impacts would result due to airport related safety hazards.

**g) Less than Significant Impact:** Implementation of the proposed Backflush Basin Expansion would not interfere with evacuation plans because it involves no construction or operational activities that would fully block transportation pathways.

**h) Less than Significant Impact:** The project site is primarily surrounded by undeveloped lands. While there is potential for wildland fires in such a land use type, the Proposed Project would not increase the risk of wildfires to residents because construction of the Project would not involve any equipment or activities that present a severe fire risk. Implementation of the Proposed Project would not further expose people or structures to wildland fires.

## MITIGATION MEASURE

### **Mitigation Measure HAZ-1: Implement MEC Safety Precautions during Grading and Construction Activities at the Project Site.**

Because of the Proposed Project's location, the following safety precautions are required for onsite activities. The requirements may be modified upon completion of the Munitions Response Remedial Investigation/Feasibility Study (MR RI/FA) process for the munitions response sites.

- All personnel accessing the proposed site will be training in MEC recognition. This safety training is provided by the Army at no cost to the trainee.

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- If an item is discovered that is or could be MEC, it shall not be disturbed. The item shall be reported immediately to the Presidion of Monterey Police Department at 831-242-7851 so that appropriate U.S. Military explosive ordinance disposal personnel can be dispatched to address such MEC as required under applicable law and regulations at the expense of the Army.
- Ground disturbing activities, including perimeter fence installation, will be coordinated with the U.S. Army Corps of Engineers Unexploded Ordinance Safety Specialist so that appropriate construction-related precautions may be provided.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to hazards and hazardous materials. Because the Modifications could potentially contribute to previously identified significant impacts to related to hazardous materials, **Mitigation Measure HAZ-1: Implement MEC Safety Precautions during Grading and Construction Activities at the Project Site**, above from the previously approved ASR EIR/EA must be implemented.

**9. Hydrology and Water Quality**

**EXISTING SETTING**

The proposed Backflush Basin Expansion site is sloped with an elevation of approximately 331 feet above sea level at the northwest side of the site, and an elevation of approximately 360 feet above sea level on the northeast side of the site. The elevation at the bottom of the existing backflush basin is approximately 329 feet above sea level. The majority of the Proposed Project site is pervious surface. Storm runoff from the Project site currently is directed into the existing backflush basin. The Project site does not contain any natural drainages or waterways.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA identified less than significant and beneficial hydrology and water quality impacts of the ASR project.
- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts related to hydrology and water quality resulting from the implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any significant impacts related to hydrology and water quality resulting from the construction or operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA did not identify any significant impacts related to hydrology and water quality resulting from implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a) Less Than Significant Impact:** The proposed Backflush Basin Expansion would be subject to the National Pollutant Discharge Elimination System (NPDES) Construction General Permit and the Municipal Stormwater Permit requirements (including the preparation of a Stormwater Pollution Prevention Plan or SWPPP). MPWMD and their contractors will comply will all applicable water quality standards and waste discharge requirements.

**b) No Impact:** The proposed Backflush Basin Expansion would not deplete groundwater supplies, as it is a component of an aquifer recovery system. In fact, it would provide a greater opportunity for water to percolate into the Seaside Groundwater Basin.

**c, d, e,) Less than Significant Impact:** Implementation of the proposed Backflush Basin Expansion would change the drainage pattern at the Santa Margarita site; proposed grading would change the contour of

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the site and excavate a larger backflush basin to allow for greater percolation. These changes would not, however, increase the amount of erosion or surface runoff in a manner which would result in flooding on- or off-site because all backflush water generated by the ASR wells would remain onsite and would be allowed to percolate into the groundwater in the proposed backflush basin. The Proposed Project would not exceed the capacity of existing or planned stormwater drainage systems because all water generated by the ASR wells would remain onsite.

**f, g, h, i, j) No Impact:** The Proposed Project would not degrade water quality, as it is a water infrastructure project. The proposed Backflush Basin Expansion site does not contain drainages, floodways, or floodplain areas according to the Flood Insurance Rate Maps (FIRM) applicable to the Proposed Project site (FEMA, 2009). The proposed Backflush Basin Expansion does not include residential housing. The proposed Backflush Basin Expansion site is not located within a flood hazard zone, near a dam or levee structure, or located in an area subject to significant seiche, tsunami, or mudflow risk (Monterey County, 2010b and 2010c).

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to hydrology and water quality.

**10. Land Use and Planning**

**EXISTING SETTING**

The proposed Backflush Basin Expansion site is located on Monterey County Assessor Parcel Number (APN) 031-211-001-000 and is owned by Fort Ord Reuse Authority (FORA). The site is also designated as parcel E34 by the U.S. Army Corps of Engineers. It is designated as Low Density Single Family Residential (RLS) in the City of Seaside General Plan (City of Seaside, 2003) and is zoned as Single Family Residential (RS-8) in the City of Seaside Zoning District Map (City of Seaside, 2010).

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA identified less than significant impacts associated with land use compatibility.
- Addendum No. 1 to the ASR EIR/EA did not identify any additional significant impacts related to land use and planning resulting from implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any additional significant impacts related to land use and planning resulting from construction or operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA did not identify any additional significant impacts related to land use and planning resulting from the implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a) No Impact:** Implementation of the proposed Backflush Basin Expansion would not physically divide an established community. The existing facilities and proposed facilities will be contained within a single parcel along an existing roadway.

**b) Less than Significant Impact:** The proposed Backflush Basin Expansion property is designated by the City of Seaside General Plan as Low Density Single Family Residential and the installation of public utility infrastructure would be a compatible use. The Backflush Basin Expansion would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project and City of Seaside policies and ordinances would be adhered to. The Backflush Basin Expansion would not conflict with existing uses. Construction activities would be temporary in nature and would not result in any additional impacts beyond those previously identified in connection with the ASR project.

**c) Less than Significant Impact:** The proposed Backflush Basin Expansion site is located with the boundary of the Fort Ord HMP, for more information on the HMP, see Section 4. Biological Resources. Construction and operation of the proposed re-alignment would not conflict with the measures included in the HMP.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to land use and planning.

**11. Mineral Resources**

**EXISTING SETTING**

The proposed Backflush Basin Expansion site is not located in an area containing mineral resources, therefore a discussion of the existing setting is not included.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- No potential impacts to mineral resources were identified in the ASR EIR/EA.
- No potential impacts to mineral resources were identified in Addendum No. 1 to the ASR EIR/EA resulting from the implementation of ASR Phase 2.
- No potential impacts to mineral resources were identified in Addendum No. 2 to the ASR EIR/EA resulting from construction or operation of the Hilby Pump Station.
- No potential impacts to mineral resources were identified in Addendum No. 3 to the ASR EIR/EA resulting from the implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a, b) No Impact:** The proposed Backflush Basin Expansion site is not located in an area of potential mineral resources; the proposed Backflush Basin Expansion would not impact mineral resources.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to mineral resources.

**12. Noise**

**EXISTING SETTING**

The Proposed Project site is located within an existing water infrastructure site, which is located adjacent to open space and a residential neighborhood. There are currently motors associated with the existing ASR wells currently in operation at the Santa Margarita site, which generate a minimal amount of noise. The closest residences to the proposed Backflush Basin Expansion site are located approximately 190 feet from the proposed driveway.

**CHECKLIST**

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA identified significant noise impacts due to exposure of sensitive receptors to elevated noise and vibration levels during construction activities and increased noise levels during operational phases. The following mitigation measures were identified to reduce impacts to a less than significant level:
  - *Mitigation Measure NZ-1a: Prohibit Ancillary and Unnecessary Equipment During Nighttime Well Drilling Activities*
  - *Mitigation Measure NZ-1b: Employ Noise-Reducing Construction practices to Meet Nighttime Standards*
  - *Mitigation Measure NZ-1c: Prepare a Noise Control Plan*
  - *Mitigation Measure NZ-1d: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking System*
  - *Mitigation Measure NZ-2 – Design Pump Stations to Meet Local Noise Standards*
- Addendum No. 1 to the ASR EIR/EA identified a potentially significant impact resulting from implementation of ASR Phase 2 due to the exposure of noise-sensitive land used to construction noise in excess of applicable standards. This impact would be reduced to less than significant with the implementation of the following mitigation measures:
  - *Mitigation Measure NZ-1a: Prohibit Ancillary and Unnecessary Equipment During Nighttime Well Drilling Activities*
  - *Mitigation Measure NZ-1b: Employ Noise-Reducing Construction Practices to Meet Nighttime Standards*
  - *Mitigation Measure NZ-1c: Prepare a Noise Control Plan*
  - *Mitigation Measure NZ-1d: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking System*
- Addendum No. 2 to the ASR EIR/EA identified potentially significant impacts to nearby residences to noise levels in excess of standards and a temporary increase in ambient noise levels during



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construction of the Hilby Pump Station. These impacts could be reduced to less than significant levels with the implementation of the following mitigation measures:

- *Mitigation Measure NZ-1a: Prohibit Ancillary and Unnecessary Equipment During Nighttime Well Drilling Activities*
- *Mitigation Measure NZ-1b: Employ Noise-Reducing Construction Practices to Meet Nighttime Standards*
- *Mitigation Measure NZ-1c: Prepare a Noise Control Plan*
- Addendum No. 3 to the ASR EIR/EA also identified potentially significant impacts to nearby residences to noise levels in excess of standards and a temporary increase in ambient noise levels during construction of the Monterey Pipeline Re-Alignment. These impacts could be reduced to less than significant levels with the implementation of Mitigation Measures NZ-1a, NZ-1b, and NZ-1c.

## DISCUSSION

**a, d) Less Than Significant Impact:** Project construction would generate temporary increases in noise associated with the use of construction equipment. Project construction could result in the exposure of nearby sensitive receptors to increased noise levels beyond existing conditions. These impacts would, however, be temporary. In addition, adherence to standard construction noise measures would further reduce noise impacts, including reducing the severity of impacts on adjacent noise sensitive uses.

**b) Less than Significant Impact:** The proposed Backflush Basin Expansion would not generate any groundborne vibration.

**c) No Impact:** The components of the Proposed Project would not generate any noise during operation. The existing facilities at the Santa Margarita site currently generate minimal noise. The Proposed Project includes sound walls to lessen the disturbance to nearby sensitive receptors from the existing ASR wells. See **Figure 2** for more details.

**e, f) No Impact:** The proposed Backflush Basin Expansion are not located within two miles of a municipal airport or private airstrip and would not add new sensitive receptors to the site that would be exposed to existing or future nearby noise sources.

## CONCLUSION

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to noise.

## 13. Population and Housing

### EXISTING SETTING

The proposed Backflush Basin Expansion site is located in the City of Seaside. The 2010 U.S. Census population of the City of Seaside was 33,025 persons, and the City's housing stock contains 10,872 occupied residential units, resulting in an average household size of 3.04 persons per household. The estimated population as of January 2014 was 33,534 persons. Based on Association of Monterey Bay Area Governments (AMBAG) projections, population is projected to increase in Seaside by approximately 3,095 people between 2010 and 2020. Based on the 2014 AMBAG Regional Housing Needs Allocation Plan, the total number of housing units which need to be planned in Seaside between 2014 and 2023 in order to

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meet Seaside’s regional housing need allocation was 393 new units, including 95 very low income, 62 low income, 72 moderate income, and 164 above moderate-income households.

**CHECKLIST**

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- No potential impacts to population and housing were identified in the ASR EIR/EA
- No potential impacts to population and housing were identified in Addendum No. 1 to the ASR EIR/EA resulting from implementation of ASR Phase 2.
- No potential impacts to population and housing were identified in Addendum No. 2 to the ASR EIR/EA resulting from the construction and operation of the Hilby Pump Station.
- No potential impacts to population and housing were identified in Addendum No. 3 to the ASR EIR/EA resulting from implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a, b, and c) No Impact.** The proposed Backflush Basin Expansion would not induce population growth or displace existing housing or people. The expansion of the backflush basin is to accommodate water generated by the maintenance of ASR wells that have been evaluated in previous environmental documents. Water generated by the ASR system serves to replace diversions from the Carmel River and is not created an additional source of water.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to population and housing.

**14. Public Services**

**EXISTING SETTING**

The proposed Backflush Basin Expansion would not impact public services; therefore, a discussion of the existing setting is not included.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- No potential impacts to public services were identified in the ASR EIR/EA.
- No potential impacts to public services were identified in Addendum No. 1 to the ASR EIR/EA resulting from implementation of Phase 2.
- No potential impacts to public services were identified in Addendum No. 2 to the ASR EIR/EA resulting from construction or operation of the Hilby Pump Station.
- No potential impacts to public services were identified in Addendum No. 3 to the ASR EIR/EA resulting from implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a) No Impact:** Implementation of the proposed Backflush Basin Expansion would not result in new significant impacts resulting from new or altered governmental facilities, due to the fact that it is a component of a water infrastructure project, and therefore would not increase the use of schools and parks or increase the need for fire and police protection.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to public services.

**15. Recreation**

**EXISTING SETTING**

The proposed Backflush Basin Expansion would not impact recreational resources; therefore, a discussion of the existing setting is not included.

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- No potential impacts to recreation facilities were identified in the ASR EIR/EA.
- No potential impacts to recreational facilities were identified in Addendum No. 1 to the ASR EIR/EA resulting from implementation of Phase 2.
- No potential impacts to recreational facilities were identified in Addendum No. 2 to the ASR EIR/EA resulting from construction or operation of the Hilby Pump Station.
- No potential impacts to recreational facilities were identified in Addendum No. 3 to the ASR EIR/EA resulting from implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a, b) No Impact:** The proposed Backflush Basin Expansion would not result in new significant impacts because there would be no direct or indirect increased use of parks or recreational facilities as part of the Proposed Project. No additional recreational facilities are included in the proposed Backflush Basin Expansion.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to recreation resources.

**16. Transportation and Traffic**

**EXISTING SETTING**

The proposed Backflush Basin Expansion site is located off General Jim Moore Boulevard, near the intersection of Eucalyptus Road and General Jim Moore Boulevard in the City of Seaside. The surrounding

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area is open space and residential with normally light to medium traffic patterns, depending on the time of day. General Jim Moore Boulevard is a major street that is utilized by commuters in the Cities of Seaside, Del Rey Oaks, and Monterey. The closest highways that would potentially be used for materials transport and by construction workers in transit to the Proposed project site are Highway 1, Highway 218, and Highway 68.

**CHECKLIST**

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA found the ASR Project would have the following less than significant impacts to traffic and circulation:
  - temporary construction-related traffic increases,
  - construction phase conflicts with bus service lines and temporary pathway/bikeway closures,
  - increased traffic and level of service degradation from operational phases,
  - an increased demand for parking.

No mitigation measures were required.

- Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts related to traffic and transportation related to implementation of ASR Phase 2.

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- Addendum No. 2 to the ASR EIR/EA did not identify any significant impacts related to traffic and transportation resulting from construction or operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA identified potentially significant impacts related to conflicts with plans and congestion management programs. In addition, the re-alignment of the Monterey Pipeline could potentially result in inadequate emergency access during construction. These impacts could be reduced to less than significant levels with the implementation of *Mitigation Measure TR-2: Traffic Control and Safety Assurance Plan* from the Pure Water Monterey Mitigation Monitoring and Reporting Plan.

## DISCUSSION

**a, b) Less than Significant Impact:** The proposed Backflush Basin Expansion would result in minimal temporary increases in traffic during construction. Construction worker traffic will result from the estimated four workers onsite during the day which could result in up to eight vehicle trips per day from workers (four AM trips and four PM trips). This would not be considered a substantial increase in peak hour trips due to the low volumes and the short duration of the construction period.

Operation and maintenance of the Backflush Basin Expansion would not require additional employee vehicle trips, as there are existing MPWMD facilities at the Santa Margarita site that require routine maintenance. This is considered a less than significant impact.

**c, d, e, f, g) No Impact:** Implementation of the proposed Backflush Basin Expansion would not impact air traffic operations because the nearest airports are over 2 miles away. The proposed Backflush Basin Expansion do not involve any construction within existing roadway travel lanes, bike lanes or near any transit stops, and would not increase hazards based on a design feature or result in emergency access concerns. The proposed second driveway on General Jim Moore Boulevard would provide an additional point of access to the Santa Margarita site for emergency vehicles. During construction, access to the proposed Backflush Basin Expansion site will be provided by an existing driveway off General Jim Moore Boulevard and construction workers will park onsite; therefore, there would be no significant parking or access impacts.

## CONCLUSION

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to transportation and traffic.

## 17. Utilities and Service Systems

### EXISTING SETTING

The Monterey Regional Waste Management District manages the Monterey Peninsula's (including the proposed Backflush Basin Expansion site) solid waste collection, disposal, and recycling system. It also receives most of Monterey County's sewage sludge. The Waste Management District operates the Monterey Peninsula Landfill and a transfer station. Any solid waste generated by Proposed Project construction or operation would be disposed of at the landfill or diverted for recycling or reuse at the materials recovery facility.

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CHECKLIST

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS

- The ASR EIR/EA identified a potentially significant impact related to the temporary disruption of existing underground utilities during construction. This impact could be reduced to a less than significant level with the implementation of *Mitigation Measure PS-2: Coordinate Relocation and Interruptions of Service with Utility Providers during Construction* and *PS-3: Project All Existing Utilities Slated to Remain*. Addendum No. 1 to the ASR EIR/EA did not identify any significant impacts to utilities and service systems resulting from ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any significant impacts to utilities and service systems resulting from the construction and operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA identified a potentially significant impact resulting from solid waste disposal and compliance with regulations related to solid waste during construction of the Monterey Pipeline Re-alignment. These impacts could be reduced to a less than significant level with the implementation of *Mitigation Measure PS-3: Construction Waste Reduction and Recycling Plan* from the Pure Water Monterey Mitigation Monitoring and Reporting Plan.

DISCUSSION

**a, b, c, e) No Impact:** A component of the Proposed Project is to expand the backflush basin at the Santa Margarita site. This will enable MPWMD to dispose of a larger amount of backflush water produced by

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regular maintained of the ASR well system. Water deposited into the backflush basin will either percolate into the Seaside Groundwater Basin or evaporate. The Proposed Project would not generate any additional water that has not already been accounted for in previous environmental documents. The Backflush Basin Expansion would not exceed wastewater treatment requirements of the Regional Water Quality Control Board. Although the backflush basin is intended to store and dispose of backflush water generated by maintenance of the ASR wells, it will also serve as a stormwater retention basin because it is the lowest point of the site. Stormwater captured in the basin will either percolate into the Seaside Groundwater Basin or evaporate. The proposed Backflush Basin Expansion would not result in any new significant impacts or increased severity of previously identified significant impacts from the ASR EIR/EA.

**d) No Impact:** The proposed Backflush Basin Expansion would not require additional water rights or entitlements. The Modifications would enable MPWMD to fully exercise their existing water rights to divert excess flows from the Carmel River for injection into the ASR wells during wet weather periods. MPWMD would be required to comply with all applicable permit conditions.

**f, g) Less than Significant Impact:** The proposed Backflush Basin Expansion would result in a less than significant impact in terms of solid waste generation consistent with the analysis in the ASR EIR/EA and its Addenda.

**CONCLUSION**

The proposed Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts identified in the ASR EIR/EA related to utilities and service systems.

**18. Mandatory Findings of Significance**

**CHECKLIST**

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



**SUMMARY OF IMPACTS IN PREVIOUS DOCUMENTS**

- The ASR EIR/EA found that there would be less than significant cumulative impacts in all issue areas with the exception of NOx and PM10 emissions, noise and vibration generated during construction. Both of these cumulative significant impacts would be reduced to less than significant with the implementation of Mitigation Measure Cume-1: Coordinate with Relevant Local Agencies to Develop and Implement a Phased Construction Plan to Reduce Cumulative Traffic, Air Quality, and Noise Impacts.
- Addendum No. 1 to the ASR EIR/EA did not identify any cumulatively considerable impacts related to implementation of ASR Phase 2.
- Addendum No. 2 to the ASR EIR/EA did not identify any cumulatively considerable impacts related to construction and operation of the Hilby Pump Station.
- Addendum No. 3 to the ASR EIR/EA did not identify any cumulatively considerable impacts related to implementation of the Monterey Pipeline Re-Alignment.

**DISCUSSION**

**a, b, c) Less than Significant Impact:** The Backflush Basin Expansion would not substantially degrade or reduce wildlife species or habitat or impact historic resources, as identified in this analysis. Potential cumulative impacts associated with the Modifications would primarily occur in connection with temporary construction-related effects. As described above, a cumulative analysis for the ASR Project was performed in the ASR EIR/EA and its previous Addenda. Construction and operation of the Backflush Basin Expansion would not result in adverse impacts on human beings, either directly or indirectly; potential impacts would be temporary in nature and mitigated through the implementation of mitigation measures (to the extent they are applicable) previously identified in the ASR EIR/EA. The Backflush Basin Expansion would not result in any new significant impacts or cause an increase in severity of any significant impacts beyond those identified in the ASR EIR/EA and its Addenda.

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**ATTACHMENT 2**

**AIR QUALITY AND GHG CALCULATION SPREADSHEETS**

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ASR Addendum No. 4 - Backflush Basin Modifications - Monterey County, Annual

**ASR Addendum No. 4 - Backflush Basin Modifications  
Monterey County, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	82.70	1000sqft	1.90	82,700.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.6	<b>Precipitation Freq (Days)</b>	55
<b>Climate Zone</b>	4			<b>Operational Year</b>	2019
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

ASR Addendum No. 4 - Backflush Basin Modifications - Monterey County, Annual

Project Characteristics -

Land Use - Lot acreage provided is worse case scenario because it includes the entire Santa Margarita Site. Actual footprint of disturbance will be less.

Construction Phase - No demolition is proposed as part of the project. No new buildings are proposed as part of the project, no architectural coatings are required. This is primarily a grading project.

Grading - Total Acres Graded estimates provided are worst case scenarios, the entire Santa Margarita site is 1.9 acres. The actual area of disturbance will be less.

Demolition - No demolition is proposed as part of the project.

Trips and VMT - It is estimated that 4 workers will be needed for each of the project construction phases.

Architectural Coating - No architectural coatings are required.

Solid Waste - No soil waste will be generated during project operation.

Land Use Change - Vegetation type at project site is maritime chaparral and existing water infrastructure facilities. Grassland present used because it is most similar to maritime chaparral. All vegetation cleared during grading will be replaced using hydroseeding.

Sequestration - No trees will be removed.

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	50.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	PhaseEndDate	9/5/2018	10/17/2018
tblConstructionPhase	PhaseEndDate	6/26/2019	10/31/2019
tblConstructionPhase	PhaseEndDate	8/30/2018	8/8/2018
tblConstructionPhase	PhaseStartDate	8/31/2018	8/9/2018
tblConstructionPhase	PhaseStartDate	6/13/2019	10/18/2019
tblConstructionPhase	PhaseStartDate	8/29/2018	8/1/2018
tblGrading	AcresOfGrading	18.75	1.90
tblGrading	AcresOfGrading	3.00	1.90
tblSolidWaste	SolidWasteGenerationRate	102.55	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	13.00	4.00

**2.0 Emissions Summary**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2018	10-31-2018	0.5317	0.5317
		Highest	0.5317	0.5317

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3806	1.0000e-005	1.0700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1900e-003
Energy	0.0118	0.1069	0.0898	6.4000e-004		8.1300e-003	8.1300e-003		8.1300e-003	8.1300e-003	0.0000	315.1421	315.1421	0.0112	3.9900e-003	316.6126
Mobile	0.2277	0.9920	2.7700	6.5900e-003	0.4769	8.9400e-003	0.4859	0.1282	8.4300e-003	0.1366	0.0000	602.4056	602.4056	0.0350	0.0000	603.2813
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	6.0673	30.1041	36.1714	0.6245	0.0150	56.2534
<b>Total</b>	<b>0.6200</b>	<b>1.0990</b>	<b>2.8609</b>	<b>7.2300e-003</b>	<b>0.4769</b>	<b>0.0171</b>	<b>0.4940</b>	<b>0.1282</b>	<b>0.0166</b>	<b>0.1447</b>	<b>6.0673</b>	<b>947.6538</b>	<b>953.7211</b>	<b>0.6708</b>	<b>0.0190</b>	<b>976.1495</b>



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**2.3 Vegetation**

Vegetation

	CO2e
Category	MT
Vegetation Land Change	0.0000
<b>Total</b>	<b>0.0000</b>

**3.0 Construction Detail**

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Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	8/1/2018	8/8/2018	5	6	
2	Grading	Grading	8/9/2018	10/17/2018	5	50	
3	Paving	Paving	10/18/2019	10/31/2019	5	10	

**Acres of Grading (Site Preparation Phase): 1.9**

**Acres of Grading (Grading Phase): 1.9**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	6.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	5.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	4.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

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3.2 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0168	0.0000	0.0168	8.8000e-003	0.0000	8.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4200e-003	0.0622	0.0242	5.0000e-005		2.8600e-003	2.8600e-003		2.6300e-003	2.6300e-003	0.0000	4.7229	4.7229	1.4700e-003	0.0000	4.7596
<b>Total</b>	<b>5.4200e-003</b>	<b>0.0622</b>	<b>0.0242</b>	<b>5.0000e-005</b>	<b>0.0168</b>	<b>2.8600e-003</b>	<b>0.0197</b>	<b>8.8000e-003</b>	<b>2.6300e-003</b>	<b>0.0114</b>	<b>0.0000</b>	<b>4.7229</b>	<b>4.7229</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>4.7596</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	8.7000e-004	1.8000e-004	0.0000	4.0000e-005	1.0000e-005	5.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1984	0.1984	1.0000e-005	0.0000	0.1986
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.3000e-004	1.1200e-003	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1925	0.1925	1.0000e-005	0.0000	0.1928
<b>Total</b>	<b>1.6000e-004</b>	<b>1.0000e-003</b>	<b>1.3000e-003</b>	<b>0.0000</b>	<b>2.3000e-004</b>	<b>1.0000e-005</b>	<b>2.4000e-004</b>	<b>6.0000e-005</b>	<b>1.0000e-005</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.3909</b>	<b>0.3909</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.3913</b>

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3.2 Site Preparation - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0168	0.0000	0.0168	8.8000e-003	0.0000	8.8000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4200e-003	0.0622	0.0242	5.0000e-005		2.8600e-003	2.8600e-003		2.6300e-003	2.6300e-003	0.0000	4.7229	4.7229	1.4700e-003	0.0000	4.7596
<b>Total</b>	<b>5.4200e-003</b>	<b>0.0622</b>	<b>0.0242</b>	<b>5.0000e-005</b>	<b>0.0168</b>	<b>2.8600e-003</b>	<b>0.0197</b>	<b>8.8000e-003</b>	<b>2.6300e-003</b>	<b>0.0114</b>	<b>0.0000</b>	<b>4.7229</b>	<b>4.7229</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>4.7596</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	8.7000e-004	1.8000e-004	0.0000	4.0000e-005	1.0000e-005	5.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.1984	0.1984	1.0000e-005	0.0000	0.1986
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.3000e-004	1.1200e-003	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1925	0.1925	1.0000e-005	0.0000	0.1928
<b>Total</b>	<b>1.6000e-004</b>	<b>1.0000e-003</b>	<b>1.3000e-003</b>	<b>0.0000</b>	<b>2.3000e-004</b>	<b>1.0000e-005</b>	<b>2.4000e-004</b>	<b>6.0000e-005</b>	<b>1.0000e-005</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.3909</b>	<b>0.3909</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.3913</b>

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3.3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1139	0.0000	0.1139	0.0622	0.0000	0.0622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0374	0.4267	0.1691	3.5000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	32.2337	32.2337	0.0100	0.0000	32.4845
<b>Total</b>	<b>0.0374</b>	<b>0.4267</b>	<b>0.1691</b>	<b>3.5000e-004</b>	<b>0.1139</b>	<b>0.0199</b>	<b>0.1338</b>	<b>0.0622</b>	<b>0.0183</b>	<b>0.0805</b>	<b>0.0000</b>	<b>32.2337</b>	<b>32.2337</b>	<b>0.0100</b>	<b>0.0000</b>	<b>32.4845</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	1.0500e-003	9.3200e-003	2.0000e-005	1.5900e-003	2.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.4000e-004	0.0000	1.6043	1.6043	9.0000e-005	0.0000	1.6065
<b>Total</b>	<b>1.0800e-003</b>	<b>1.0500e-003</b>	<b>9.3200e-003</b>	<b>2.0000e-005</b>	<b>1.5900e-003</b>	<b>2.0000e-005</b>	<b>1.6000e-003</b>	<b>4.2000e-004</b>	<b>1.0000e-005</b>	<b>4.4000e-004</b>	<b>0.0000</b>	<b>1.6043</b>	<b>1.6043</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.6065</b>



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3.3 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1139	0.0000	0.1139	0.0622	0.0000	0.0622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0374	0.4267	0.1691	3.5000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	32.2336	32.2336	0.0100	0.0000	32.4845
<b>Total</b>	<b>0.0374</b>	<b>0.4267</b>	<b>0.1691</b>	<b>3.5000e-004</b>	<b>0.1139</b>	<b>0.0199</b>	<b>0.1338</b>	<b>0.0622</b>	<b>0.0183</b>	<b>0.0805</b>	<b>0.0000</b>	<b>32.2336</b>	<b>32.2336</b>	<b>0.0100</b>	<b>0.0000</b>	<b>32.4845</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0800e-003	1.0500e-003	9.3200e-003	2.0000e-005	1.5900e-003	2.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.4000e-004	0.0000	1.6043	1.6043	9.0000e-005	0.0000	1.6065
<b>Total</b>	<b>1.0800e-003</b>	<b>1.0500e-003</b>	<b>9.3200e-003</b>	<b>2.0000e-005</b>	<b>1.5900e-003</b>	<b>2.0000e-005</b>	<b>1.6000e-003</b>	<b>4.2000e-004</b>	<b>1.0000e-005</b>	<b>4.4000e-004</b>	<b>0.0000</b>	<b>1.6043</b>	<b>1.6043</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.6065</b>

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3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0459	0.0445	7.0000e-005		2.6100e-003	2.6100e-003		2.4100e-003	2.4100e-003	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.5200e-003</b>	<b>0.0459</b>	<b>0.0445</b>	<b>7.0000e-005</b>		<b>2.6100e-003</b>	<b>2.6100e-003</b>		<b>2.4100e-003</b>	<b>2.4100e-003</b>	<b>0.0000</b>	<b>6.0105</b>	<b>6.0105</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>6.0572</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	9.0000e-005	8.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1559	0.1559	1.0000e-005	0.0000	0.1561
<b>Total</b>	<b>1.0000e-004</b>	<b>9.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.1559</b>	<b>0.1559</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1561</b>

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**3.4 Paving - 2019**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0459	0.0445	7.0000e-005		2.6100e-003	2.6100e-003		2.4100e-003	2.4100e-003	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.5200e-003</b>	<b>0.0459</b>	<b>0.0445</b>	<b>7.0000e-005</b>		<b>2.6100e-003</b>	<b>2.6100e-003</b>		<b>2.4100e-003</b>	<b>2.4100e-003</b>	<b>0.0000</b>	<b>6.0105</b>	<b>6.0105</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>6.0572</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	9.0000e-005	8.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1559	0.1559	1.0000e-005	0.0000	0.1561
<b>Total</b>	<b>1.0000e-004</b>	<b>9.0000e-005</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>1.6000e-004</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.1559</b>	<b>0.1559</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.1561</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2277	0.9920	2.7700	6.5900e-003	0.4769	8.9400e-003	0.4859	0.1282	8.4300e-003	0.1366	0.0000	602.4056	602.4056	0.0350	0.0000	603.2813
Unmitigated	0.2277	0.9920	2.7700	6.5900e-003	0.4769	8.9400e-003	0.4859	0.1282	8.4300e-003	0.1366	0.0000	602.4056	602.4056	0.0350	0.0000	603.2813

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	576.42	109.16	56.24	1,271,028	1,271,028
Total	576.42	109.16	56.24	1,271,028	1,271,028

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.526395	0.032321	0.201107	0.146365	0.026644	0.006320	0.017996	0.025422	0.004154	0.003072	0.007973	0.001269	0.000961

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.7222	198.7222	8.9900e-003	1.8600e-003	199.5009
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.7222	198.7222	8.9900e-003	1.8600e-003	199.5009
NaturalGas Mitigated	0.0118	0.1069	0.0898	6.4000e-004		8.1300e-003	8.1300e-003		8.1300e-003	8.1300e-003	0.0000	116.4199	116.4199	2.2300e-003	2.1300e-003	117.1117
NaturalGas Unmitigated	0.0118	0.1069	0.0898	6.4000e-004		8.1300e-003	8.1300e-003		8.1300e-003	8.1300e-003	0.0000	116.4199	116.4199	2.2300e-003	2.1300e-003	117.1117

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.18163e+006	0.0118	0.1069	0.0898	6.4000e-004		8.1300e-003	8.1300e-003		8.1300e-003	8.1300e-003	0.0000	116.4199	116.4199	2.2300e-003	2.1300e-003	117.1117
<b>Total</b>		<b>0.0118</b>	<b>0.1069</b>	<b>0.0898</b>	<b>6.4000e-004</b>		<b>8.1300e-003</b>	<b>8.1300e-003</b>		<b>8.1300e-003</b>	<b>8.1300e-003</b>	<b>0.0000</b>	<b>116.4199</b>	<b>116.4199</b>	<b>2.2300e-003</b>	<b>2.1300e-003</b>	<b>117.1117</b>

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.18163e+006	0.0118	0.1069	0.0898	6.4000e-004		8.1300e-003	8.1300e-003		8.1300e-003	8.1300e-003	0.0000	116.4199	116.4199	2.2300e-003	2.1300e-003	117.1117
<b>Total</b>		<b>0.0118</b>	<b>0.1069</b>	<b>0.0898</b>	<b>6.4000e-004</b>		<b>8.1300e-003</b>	<b>8.1300e-003</b>		<b>8.1300e-003</b>	<b>8.1300e-003</b>	<b>0.0000</b>	<b>116.4199</b>	<b>116.4199</b>	<b>2.2300e-003</b>	<b>2.1300e-003</b>	<b>117.1117</b>

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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	683102	198.7222	8.9900e-003	1.8600e-003	199.5009
<b>Total</b>		<b>198.7222</b>	<b>8.9900e-003</b>	<b>1.8600e-003</b>	<b>199.5009</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	683102	198.7222	8.9900e-003	1.8600e-003	199.5009
<b>Total</b>		<b>198.7222</b>	<b>8.9900e-003</b>	<b>1.8600e-003</b>	<b>199.5009</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3806	1.0000e-005	1.0700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1900e-003
Unmitigated	0.3806	1.0000e-005	1.0700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1900e-003

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1900e-003
<b>Total</b>	<b>0.3806</b>	<b>1.0000e-005</b>	<b>1.0700e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0500e-003</b>	<b>2.0500e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.1900e-003</b>



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**6.2 Area by SubCategory**

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0575					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3230					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1900e-003
<b>Total</b>	<b>0.3806</b>	<b>1.0000e-005</b>	<b>1.0700e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0500e-003</b>	<b>2.0500e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.1900e-003</b>

**7.0 Water Detail**

---

**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	36.1714	0.6245	0.0150	56.2534
Unmitigated	36.1714	0.6245	0.0150	56.2534

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	19.1244 / 0	36.1714	0.6245	0.0150	56.2534
<b>Total</b>		<b>36.1714</b>	<b>0.6245</b>	<b>0.0150</b>	<b>56.2534</b>

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**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	19.1244 / 0	36.1714	0.6245	0.0150	56.2534
<b>Total</b>		<b>36.1714</b>	<b>0.6245</b>	<b>0.0150</b>	<b>56.2534</b>

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

---

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

ASR Addendum No. 4 - Backflush Basin Modifications - Monterey County, Annual

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---

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	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	0.0000	0.0000	0.0000	0.0000

**11.1 Vegetation Land Change**

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	1.9 / 1.9	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**ATTACHMENT 3**

**GEOTECHNICAL INVESTIGATION AS AMENDED BY UPDATE LETTER**

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GEOTECHNICAL INVESTIGATION  
FOR  
NEW ELECTRICAL & CHEMICAL  
FEED BUILDING  
SEASIDE, CALIFORNIA

FOR  
PUEBLO WATER RESOURCES  
VENTURA, CALIFORNIA

BY  
PACIFIC CREST ENGINEERING INC.  
CONSULTING GEOTECHNICAL ENGINEERS  
0922-M242-E12  
APRIL 2009  
[www.4pacific-crest.com](http://www.4pacific-crest.com)

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**Pacific Crest Engineering Inc.** 

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April 30, 2009

Project No. 0922-M242-E12

Pueblo Water Resources  
4478 Market Street, Suite 705  
Ventura, CA 93003

Attention: Mr. Steve Tanner, PE

Subject: Geotechnical Investigation  
New Electrical & Chemical Feed Building  
Santa Margarita Aquifer Storage and Recovery Project  
1110 General Jim Moore Boulevard  
Seaside, California

Dear Mr. Tanner,

In accordance with your authorization, we have performed a geotechnical investigation for the above referenced project located at 1110 General Jim Moore Boulevard, in Seaside, California.

The accompanying report presents our conclusions and recommendations as well as the results of the geotechnical investigation on which they are based. If you have any questions concerning the data, conclusions or recommendations presented in this report, please call our office.

Very truly yours,

**PACIFIC CREST ENGINEERING INC.**



Cara L. Russo  
Staff Geologist



Michael D. Klempes  
President/Principal Geotechnical Engineer  
G.E. 2204  
Exp. 3/31/10

Copies: 4 to Client

## **GEOTECHNICAL INVESTIGATION**

### **PURPOSE AND SCOPE**

This report describes the geotechnical investigation and presents results, including recommendations, for your new electrical and chemical feed building project located at 1110 General Jim Moore Boulevard in Seaside, California. Our scope of services for this project has consisted of:

1. Discussions with you and the members of the design team including Mr. Joe Oliver of the Monterey Peninsula Water District.
2. Review of the pertinent published material concerning the site including County planning maps, preliminary site plans, geologic and topographic maps, and other available literature.
3. The drilling and logging of 2 test borings.
4. Laboratory analysis of retrieved soil samples.
5. Engineering analysis of the field and laboratory results.
6. Preparation of this report documenting our investigation and presenting recommendations for the design of the project.

### **LOCATION AND DESCRIPTION**

The project site is located at 1110 General Jim Moore Boulevard on the east side of the road. Please refer to Figure No. 1, Regional Site Map, for the general vicinity of the project site. The project site is just south of the intersection with Eucalyptus Road and is located at the following coordinates:

Latitude = 36.620227 degrees  
Longitude = -121.816631 degrees

At the time of our site visits, the vicinity of the proposed new electrical and chemical feed building was vacant. The plot was graded, stepped cut, and sloped to the west. A few native plants were scattered about, but the Older Dune Deposits were visible at the ground surface. The site of the proposed project was completely surrounded by a gravel loop. An existing trailer, wood shed on a concrete pad, a metal shed, and wells were present within the same parcel as the proposed new building.

It is our understanding that the project involves the construction of a one-story utility building with a total floor area of approximately 1,200 square feet. The existing building pad consists of a graded and stepped cut pad. The pad at the higher elevation will be excavated an additional 12 to 18 inches from its present location in order to bring the pad to one elevation. The southwestern portion of the building will have a 4 to 5 foot deep basement in the lower section of the building for double containment of fluids and spill control in the storage room. It is our understanding that the basement will be a concrete structure with a concrete slab-on-grade floor.

## **FIELD INVESTIGATION**

### **Soil Borings**

Two 6 inch diameter test borings were drilled on the site on April 17, 2009. The location of the test borings are shown on Figure No. 2, Site Map Showing Test Borings. The drilling method used was hydraulically operated continuous flight augers. A geologist from Pacific Crest Engineering Inc., was present during the drilling operations to log the soil encountered and to choose soil sampling type and locations.

Relatively undisturbed soil samples were obtained at various depths by driving a split spoon sampler 18 inches into the ground. This was achieved by dropping a 140 pound down hole safety hammer through a vertical height of 30 inches. The number of blows needed to drive the sampler for each 6 inch portion is recorded and the total number of blows needed to drive the last 12 inches is reported as the Standard Penetration Test (SPT) value. The outside diameter of the samplers used in this investigation was 3 inches and is noted respectively as "L" on the boring logs. All standard penetration test data has been normalized to a 2 inch O.D. sampler so as to be the SPT "N" value.

The soils encountered in the borings were continuously logged in the field and visually described in accordance with the Unified Soil Classification System (ASTM D2488 (Modified), Figure No. 3). The soil classification was verified and or modified upon completion of laboratory testing.

Appendix A contains the site plan showing the locations of the test borings and the Log of Test Borings presenting the soil profile explored in each boring, the sample locations, and the SPT "N" values for each sample. Stratification lines on the boring logs are approximate as the actual transition between soil types may be gradual.

## **LABORATORY INVESTIGATION**

The laboratory testing program was developed to help in evaluating the engineering properties of the materials encountered on the site. Laboratory tests performed include:

- a. Moisture Density relationships in accordance with ASTM test D2937.
- b. Gradation tests in accordance with ASTM test D1140.
- c. Corrosivity testing including pH, resistivity, chloride concentration, and sulfate concentration.

The results of the laboratory tests are presented on the boring logs opposite the sample tested or within Appendix A.

## **SOIL CONDITIONS**

### **Regional Geologic Maps**

The surficial geology in the area of the project site is mapped as Older Coastal Dunes (Clark, Dupre', and Rosenberg, 1997). The Older Coastal Dunes are described as weakly consolidated, poorly graded fine to medium grained sand deposits. Some of these deposits are covered with a thin lens of eolian deposits. The native soils encountered in the test borings are consistent with this description.

### **Soil Borings**

Our borings encountered a variety of soil including silty sand, sand with silt, and sand. Both test borings were drilled within the footprint of the proposed new electrical and chemical feed building. The following describes the soil conditions encountered within each test boring.

Boring No. 1 encountered brown silty sand in the upper 24 feet. The sand was fine to medium grained, sub-angular to sub-rounded shaped, and poorly graded. Mica flakes were scattered throughout the obtained samples and the samples tended to coarsen with depth. Trace rounded chert pebbles were noted near 6 ½ feet. The surface soils within the cut were fairly well compacted as the density near 3 ½ feet was described as hard. Overall, the density ranged from medium dense to hard. From 24 feet to the maximum explored depth of 36 feet the soil was described as yellowish tan sand. The sand was fine to medium grained with trace coarse grains, sub-angular to sub-rounded shaped, and poorly graded. Mica flakes were scattered throughout the collected samples. The density ranged from medium dense to very dense.

Boring No. 2 encountered dark brown sand with silt in the upper 5 feet. The sand was very fine to medium grained, sub-angular to sub-rounded shaped, and poorly graded. Mica flakes and trace rounded chert pebbles were scattered throughout the obtained sample. Trace granitic gravel was noted near 3 ½ feet. At this depth the density was described as medium dense. From 5 feet to the maximum depth explored of 16 ½ feet the boring encountered dark reddish brown sand with silt. The sand was fine to medium grained with trace coarse grains, sub-angular to sub-rounded shaped, and poorly graded. Mica flakes were scattered

throughout the collected samples. Trace rounded chert pebbles were noted from 11 to 11 ½ feet. At these depths the density was described as medium dense.

Groundwater was not encountered in any of the test borings to a maximum explored depth of 36 feet.

**REGIONAL SEISMIC SETTING**

The seismic setting of the site is one in which it is reasonable to assume that the site will experience significant seismic shaking during the lifetime of the project.

Based upon our review of the fault maps for the for the Monterey area (Clark, Dupre', and Rosenberg, 1997), and the Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada (CDMG, 1998), active or potentially active faults which may significantly affect the site include those listed in the Table No. 1, below.

TABLE No. 1, Faults in the Monterey Bay Area

Fault Name	Distance (miles)	Distance (km.)	Direction	Slip Rate* (mm/yr.)	M <sub>w</sub> Max*
San Andreas – 1906 Segment	21.7	35.0	Northeast	24	7.9
Palo Colorado – Sur	12.0	19.3	Southwest	3	7.0
Rinconada	5.0	8.1	Northeast	1	7.5
Monterey Bay – Tularcitos	3.6	5.8	Southwest	0.5	7.3

\*Source: CDMG, February, 1998

**SEISMIC HAZARDS**

A detailed investigation of seismic hazards is beyond our scope of services for this project. In general however, seismic hazards which may affect project sites in the Monterey Bay area include ground shaking, ground surface fault rupture, liquefaction and lateral spreading, and seismically induced slope instabilities. Geotechnical aspects of these issues are discussed below:

**Ground Shaking**

Ground shaking will be felt on the site. Structures founded on thick soft soil deposits are more likely to experience more destructive shaking, with higher amplitude and lower frequency, than structures founded on bedrock. Generally, shaking will be more intense closer to earthquake epicenters. Thick soft soil deposits large distances from earthquake

epicenters, however, may result in seismic accelerations significantly greater than expected in bedrock. Structures built in accordance with the latest edition of the California Building Code have an increased potential for experiencing relatively minor damage which should be repairable. The seismic design of the project should be based on the 2007 California Building Code (CBC) as it has incorporated the most recent seismic design parameters. The following values for the seismic design of the project site were derived or taken from the 2007 CBC:

TABLE No. 2, The 2007 CBC Seismic Design Parameters

Design Parameter	Specific to Site	Reference (See Note 1)
Site Class	D, Stiff Soil	Table 1613.5.2
Mapped Spectral Acceleration for Short Periods	$S_s = 1.302 \text{ g}$	Fig. 22-3, ASCE 7-05
Mapped Spectral Acceleration for 1-second Period	$S_1 = 0.558 \text{ g}$	Fig. 22-4, ASCE 7-05
Short Period Site Coefficient	$F_a = 1.0$	Table 1613.5.3(1)
1-Second Period Site Coefficient	$F_v = 1.5$	Table 1613.5.3(2)
MCE Spectral Response Acceleration for Short Period	$S_{MS} = 1.302 \text{ g}$	Section 1613.5.3
MCE Spectral Response Acceleration for 1-Second Period	$S_{M1} = 0.837 \text{ g}$	Section 1613.5.3
5% Damped Spectral Response Acceleration for Short Period	$S_{DS} = 0.868 \text{ g}$	Section 1613.5.4
5% Damped Spectral Response Acceleration for 1-Second Period	$S_{D1} = 0.558 \text{ g}$	Section 1613.5.4
Seismic Design Category (See Note 2)	D	Section 1613.5.6

**Note 1:** Design values may also have been obtained by using the Ground Motion Parameter Calculator available on the USGS website at <http://earthquake.usgs.gov/research/hazmaps/design/index.php>. Refer to the "Liquefaction" section for further information on how the Site Class may have been derived.

**Note 2:** Seismic Design Category assumes Class II occupancy per 2007 CBC Table 1604.5. Pacific Crest Engineering Inc. should be contacted for revised Table 2 seismic design parameters if the building has a different occupancy rating from the one assumed.

### Ground Surface Fault Rupture

Ground surface fault rupture occurs along the surficial trace(s) of active faults during significant seismic events. Pacific Crest Engineering Inc. has not performed a specific investigation for the presence of active faults on the project site. Since the nearest known active or potentially active fault is mapped approximately 3.6 miles (approximately 5.8 km) from the site (Clark, Dupre', Rosenberg, 1997, and CDMG, 1998), the potential for ground surface fault rupture at this site is low.

### Liquefaction

Liquefaction tends to occur in loose, saturated fine grained sands, coarse silts or clays with a low plasticity. Based upon our review of the regional liquefaction maps (Dupre' and Tinsley, 1980; Rosenberg, 2001) the site is located in an area classified as having a low potential for liquefaction. We did encounter loose, cohesionless clean sands within our test borings, however, we did not encounter groundwater in the upper 36 feet. Neither did we encounter clays with a Plasticity Index of 7 or lower (refer to the paper "Liquefaction Susceptibility Criteria for Silts and Clays" by Boulanger and Idriss, 2006). The soils encountered in are test borings were generally silty or poorly graded sands that were loose to medium dense near the surface and became very dense with depth.



Generally, we would not expect a significant amount of liquefaction to occur at this site, given the lack of groundwater in the upper 36 feet and the increasing density of the soils with depth. Our site specific investigation of this project site, including the nature of the subsurface soil, the location of the ground water table, and the estimated ground accelerations, leads to the conclusion that the liquefaction potential is low.

**Liquefaction Induced Lateral Spreading**

Liquefaction induced lateral spreading occurs when a liquefied soil mass fails toward an open slope face, or fails on an inclined topographic slope. Our analysis of the project site indicates that the potential for liquefaction to occur is low, and consequently the potential for lateral spreading is also low.

**Landsliding**

Seismically induced landsliding is a hazard with low potential for affecting your site since the site is relatively flat.

## DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

### GENERAL

1. The results of our investigation indicate that from a geotechnical engineering standpoint the property may be developed as proposed provided these recommendations are included in the design and construction.
2. Our laboratory testing indicates that the near surface soils possess low expansive properties. This analysis was based on several sieve analyses and our visual classification of the soils by a Staff Geologist based on the Unified Soil Classification System.
3. Grading and foundation plans should be reviewed by Pacific Crest Engineering Inc. during their preparation and prior to contract bidding.
4. Pacific Crest Engineering Inc. should be notified at least four (4) working days prior to any site clearing and grading operations on the property in order to observe the stripping and disposal of unsuitable materials, and to coordinate this work with the grading contractor. During this period, a pre-construction conference should be held on the site, with at least you or your representative, the grading contractor, a City or County representative and one of our engineers present. At this meeting, the project specifications and the testing and inspection responsibilities will be outlined and discussed.
5. Field observation and testing must be provided by a representative of Pacific Crest Engineering Inc., to enable them to form an opinion as to the degree of conformance of the exposed site conditions to those foreseen in this report, the adequacy of the site preparation, the acceptability of fill materials, and the extent to which the earthwork construction and the degree of compaction comply with the specification requirements. **Any work related to grading or foundation excavation that is performed without the full knowledge and direct observation of Pacific Crest Engineering Inc., the Geotechnical Engineer of Record, will render the recommendations of this report invalid, unless the Client hires a new Geotechnical Engineer who agrees to take over complete responsibility for this report's findings, conclusions and recommendations.** The new Geotechnical Engineer must agree to prepare a Transfer of Responsibility letter. This may require additional test borings and laboratory analysis if the new Geotechnical Engineer does not completely agree with our prior findings, conclusions and recommendations.

### PRIMARY GEOTECHNICAL CONSIDERATIONS

6. The project site is located within a seismically active area and strong seismic shaking is expected to occur within the design lifetime of the project. Improvements should be designed and constructed in accordance with the most current CBC and the recommendations

of this report to minimize reaction to seismic shaking. Structures built in accordance with the latest edition of the California Building Code have an increased potential for experiencing relatively minor damage, which should be repairable, however strong seismic shaking could result in architectural damage and the need for post-earthquake repairs.

## **SITE PREPARATION**

7. The initial preparation of the site will consist of the removal of any existing on-site debris. Septic tanks and leaching lines, if found, must be completely removed. The extent of this soil removal will be designated by a representative of Pacific Crest Engineering Inc. in the field. This material must be removed from the site.

8. Any voids created by removal of tree and root balls, septic tanks, and leach lines must be backfilled with properly compacted native soils that are free of organic and other deleterious materials or with approved imported fill.

9. Any wells encountered shall be capped in accordance with the requirements and approval of the County Health Department. The strength of the cap shall be equal to the adjacent soil and shall not be located within 5 feet of a structural footing.

10. Surface vegetation, tree roots and organically contaminated topsoil should then be removed ("stripped") from the area to be graded. In addition, any remaining debris or large rocks must also be removed (this includes asphalt or rocks greater than 2 inches in greatest dimension). This material may be stockpiled for future landscaping.

11. It is anticipated that the depth of stripping may be 2 to 4 inches, however the required depth of stripping must be based upon visual observations of a representative of Pacific Crest Engineering Inc., in the field. The depth of stripping will vary upon the type and density of vegetation across the project site and with the time of year. Areas with dense vegetation or groves of trees may require an increased depth of stripping.

12. It is possible that there are areas of man-made fill on the project site that our field investigation did not detect. Areas of man-made fill, if encountered on the project site will need to be completely excavated to undisturbed native material. The excavation process should be observed and the extent designated by a representative of Pacific Crest Engineering Inc., in the field. Any voids created by fill removal must be backfilled with properly compacted approved native soils that are free of organic and other deleterious materials, or with approved imported fill.

13. Following the stripping and backfilling of voids, the area should be excavated to the design soil subgrade elevation. The exposed soils in the building and paving areas should be scarified to a minimum depth of 8 inches, moisture conditioned, and compacted as an engineered fill except for any contaminated material noted by a representative of Pacific Crest Engineering Inc. in the field. The moisture conditioning procedure will depend on the

time of year that the work is done, but should result in the soils being 1 to 3 percent over their optimum moisture content at the time of compaction. Compaction of the exposed subgrade soils should extend 5 feet horizontally beyond all slabs, footings and pavement areas.

**Note: If this work is done during or soon after the rainy season, the on-site soils and other materials may be too wet in their existing condition to be used as engineered fill. These materials may require a diligent and active drying and/or mixing operation to reduce the moisture content to the levels required to obtain adequate compaction as an engineered fill. If the on-site soils or other materials are too dry, water may need to be added. In some cases the time and effort to dry the on-site soil may be considered excessive, and the import of aggregate base may be required.**

14. The soil on the project site should be compacted as follows:

- a. In pavement areas the upper 8 inches of subgrade, and all aggregate subbase and aggregate base, should be compacted to a minimum of 95% of its maximum dry density,
- b. In pavement areas all utility trench backfill should be compacted to 95% of its maximum dry density,
- c. All remaining soil on the project site should be compacted to a minimum of 90% of its maximum dry density.

15. The maximum dry density will be obtained from a laboratory compaction curve run in accordance with ASTM Procedure #D1557. This test will also establish the optimum moisture content of the material. Field density testing will be performed in accordance with ASTM Test #D2922 (nuclear method).

16. Native or imported soil used as engineered fill on this project should meet the following requirements:

- a. free of organics, debris, and other deleterious materials,
- b. free of "recycled" materials such as asphaltic concrete, concrete, brick, etc.,
- c. granular in nature, well graded, and contain sufficient binder to allow utility trenches to stand open,
- d. free of rocks in excess of 2 inches in size.

In addition to the above requirements, import fill should have a Plasticity Index between 4 and 12, and a minimum Resistance "R" Value of 30, and be non-expansive.

17. All native and import fill should be placed in maximum 8 inch lifts, before compaction, at a water content which is within 1 to 3 percent of the laboratory optimum value.

18. We recommend field density testing be performed in maximum 2 foot elevation differences. In general terms, we would recommend at least one compaction test per 200 linear feet of utility trench or retaining wall backfill, and at least one compaction test per

2,000 square feet of building or structure area. This is a subjective value and may be changed by the Geotechnical Engineer based on a review of the final project layout and exposed field conditions.

19. Samples of any proposed imported fill planned for use on this project should be submitted to Pacific Crest Engineering Inc. for appropriate testing and approval not less than ten (10) working days before the anticipated jobsite delivery. Imported fill material delivered to the project site without prior submittal of samples for appropriate testing and approval must be removed from the project site.

### **CUT AND FILL SLOPES**

20. All fill slopes should be constructed with engineered fill meeting the minimum density requirements of this report and have a gradient no steeper than 3:1 (horizontal to vertical). Fill slopes should not exceed 15 feet in vertical height unless specifically reviewed by Pacific Crest Engineering Inc. Where the vertical height exceeds 15 feet, intermediate benches must be provided. These benches should be at least 6 feet wide and sloped to control surface drainage. A lined ditch should be used on the bench.

21. Fill slopes should be keyed into the native slopes by providing a 10 foot wide base keyway sloped negatively at least 2% into the bank. The depth of the keyways will vary, depending on the materials encountered. It is anticipated that the depth of the keyways may be 3 to 6 feet, but at all locations shall be at least 2 feet into firm material.

22. Subsequent keys may be required as the fill section progress upslope. Keys will be designated in the field by a representative of Pacific Crest Engineering Inc. See Figure No. 8 for general details.

23. Cut slopes shall not exceed a 3:1 (horizontal to vertical) gradient and a 15 foot vertical height unless specifically reviewed by a representative of Pacific Crest Engineering Inc. Where the vertical height exceeds 15 feet, intermediate benches must be provided. These benches should be at least 6 feet wide and sloped to control surface drainage. A lined ditch should be used on the bench.

24. The above slope gradients are based on the strength characteristics of the materials under conditions of normal moisture content that would result from rainfall falling directly on the slope, and do not take into account the additional activating forces applied by seepage from spring areas. Therefore, in order to maintain stable slopes at the recommended gradients, it is important that any seepage forces and accompanying hydrostatic pressure encountered be relieved by adequate drainage. Drainage facilities may include subdrains, gravel blankets, rock fill surface trenches or horizontally drilled drains. Configurations and type of drainage will be determined by a representative of Pacific Crest Engineering Inc. during the grading operations.

25. The surfaces of all cut and fill slopes should be prepared and maintained to reduce erosion. This work, at a minimum, should include track rolling of the slope and effective planting. The protection of the slopes should be installed as soon as practicable so that a sufficient growth will be established prior to inclement weather conditions. It is vital that no slope be left standing through a winter season without the erosion control measures having been provided.
26. The above recommended gradients do not preclude periodic maintenance of the slopes, as minor sloughing and erosion may take place.
27. If a fill slope is to be placed above a cut slope, the toe of the fill slope should be set back at least 8 feet horizontally from the top of the cut slope. A lateral surface drain should be placed in the area between the cut and fill slopes.

### **EROSION CONTROL**

28. The surface soils are classified as having a high potential for erosion. Therefore, the finished ground surface should be planted with ground cover and continually maintained to minimize surface erosion. For specific and detailed recommendations regarding erosion control on and surrounding the project site, you should consult your civil engineer or an erosion control specialist.

### **FOUNDATIONS - SPREAD FOOTINGS**

29. At the time we prepared this report, the grading plans had not been completed and the structure location and foundation details had not been finalized. We request an opportunity to review these items during the design stages to determine if supplemental recommendations will be required.
30. Considering the soil characteristics and site preparation recommendations, it is our opinion that an appropriate foundation system to support the proposed structures will consist of reinforced concrete spread footings bedded into firm native soil. This system could consist of continuous exterior footings, in conjunction with interior isolated spread footings or additional continuous footings or concrete slabs.
31. Footing widths and depths should be based upon the allowable bearing value but not less than the minimum widths and depths as shown in the table below. The footing excavations must be free of loose material prior to placing concrete. The footing excavations should be thoroughly saturated prior to placing concrete.

TABLE No. 3, Minimum Footing Widths and Depths

Number of Stories	Footing Width	Footing Depth
1	12 inches	12 inches
2	15 inches	18 inches
3	18 inches	24 inches
Multi-story	24 inches	24 inches

**Please note: The minimum footing embedment is measured from the lowest existing and adjacent soil grade and should not include any concrete slab-on-grade, capillary break and sand cushion in the total depth of embedment.**

32. Footings constructed to the given criteria may be designed for the following allowable bearing capacities:

- a. 2,000 psf for Dead plus Live Load
- b. a 1/3rd increase for Seismic or Wind Load

Please note: In computing the pressures transmitted to the soil by the footings, the embedded weight of the footing may be neglected.

33. Expected total settlement due to applied dead and live loads is not expected to exceed 1 inch across the length of the structure, with differential settlement of about 0.5 to 0.6 inches.

34. No footing should be placed closer than 8 feet to the top of a fill slope nor 6 feet from the base of a cut slope.

35. No footing shall be placed on slopes steeper than 4:1 (h:v). If the intent is to place the foundation on sloping ground which exceeds 4:1 (h:v), Pacific Crest Engineering Inc. should be contacted for an alternative pier and grade beam foundation design.

36. All footings should be excavated into firm native soil. No footings shall be constructed with the intent of placing engineered fill against the footing after the footing is poured, and counting that engineered fill as part of the embedment depth of the footing.

37. Footings may be assumed to have a resistance to lateral sliding of 0.35.

38. Footings may be assumed to have a lateral bearing pressure resistance value of 250 psf/ft.

39. All grade beams, thickened slab edges and other foundation elements which impart structure loads to the soil (from dead, live, wind or seismic loads) should be considered "footings" and constructed according to the recommendations of this section, including required depths below lowest adjacent soil grade.

40. Footing excavations must be observed by a representative of Pacific Crest Engineering Inc. before placement of formwork, steel and concrete to ensure bedding into proper material.

41. The footings should contain steel reinforcement as determined by the Project Civil or Structural Engineer in accordance with applicable CBC or ACI Standards.

### **SLAB-ON-GRADE CONSTRUCTION**

42. Concrete slab-on-grade floors may be used for ground level construction on native soil or engineered fill. The upper 8 inches of slab subgrade should be processed and compacted to a minimum of 95% relative dry density.

43. Slabs may be structurally integrated with the footings. If the slabs are constructed as "free floating" slabs, they should be provided with a minimum ¼ inch felt separation between the slab and footing. The slabs should be separated into approximately 15' x 15' square sections with dummy joints or similar type crack control devices.

44. All concrete slabs-on-grade should be underlain by a minimum 4 inch thick capillary break of ¾ inch clean crushed rock (no fines). It is recommended that neither Class II baserock nor sand be employed as the capillary break material.

45. Where floor coverings are anticipated or vapor transmission may be a problem, a vapor/waterproof membrane should be placed between the capillary break layer and the floor slab in order to reduce the potential for moisture condensation under floor coverings. We recommend a high quality vapor retarder at least 10 mil thick and puncture resistant (Stego Wrap or equivalent). The vapor barrier must be a least 10 mil in thickness and meet the specifications for ASTM E 1745, Standard Specification For Water Vapor Retarder A 2-inch layer of moist sand on top of the membrane will help protect the membrane and will assist in equalizing the curing rate of the concrete.

**Please Note: Recommendations given above for the reduction of moisture transmission through the slab are general in nature and present good construction practice. Moisture protection measures for concrete slabs-on-grade should meet applicable ACI and ASTM standards. Pacific Crest Engineering Inc. are not waterproofing experts. For a more complete and specific discussion of moisture protection within the structure, a waterproofing expert should be consulted.**

46. Requirements for pre-wetting of the subgrade soils prior to the pouring of the slabs will depend on the specific soils and seasonal moisture conditions and will be determined by a representative of Pacific Crest Engineering Inc. at the time of construction. It is important that the subgrade soils be properly moisture conditioned at the time the concrete is poured. Subgrade moisture contents should not be allowed to exceed our moisture recommendations for effective compaction, and should be maintained until the slab is poured.



47. Slab thickness, reinforcement, and doweling should be determined by the Project Civil or Structural Engineer. The use of welded wire mesh is not recommended for slab reinforcement.

## UTILITY TRENCHES

48. Utility trenches that are parallel to the sides of the building should be placed so that they do not extend below a line sloping down and away at a 2:1 (horizontal to vertical) slope from the bottom outside edge of all footings.

49. Utility pipes should be designed and constructed so that the top of pipe is a minimum of 24 inches below the finish subgrade elevation of any road or pavement areas. Any pipes within the top 24 inches of finish subgrade should be concrete encased, per design by the Project Civil Engineer.

50. For the purpose of this section of the report, backfill is defined as material placed in a trench starting one foot above the pipe, and bedding is all material placed in a trench below the backfill.

51. Unless concrete bedding is required around utility pipes, free-draining clean sand should be used as bedding. Sand bedding should be compacted to at least 95 percent relative compaction.

52. Approved imported clean sand or native soil should be used as utility trench backfill. Backfill in trenches located under and adjacent to structural fill, foundations, concrete slabs and pavements should be placed in horizontal layers no more than 8 inches thick. This includes areas such as sidewalks, patios, and other hardscape areas. Each layer of trench backfill should be water conditioned and compacted to at least 95 percent relative compaction. Clean sand is defined as 100 percent passing the #4 sieve, and less than 5 percent passing the #200 sieve.

**53. All utility trenches beneath perimeter footing or grade beams should be backfilled with controlled density fill (such as 2-sack sand\cement slurry) to help minimize potential moisture intrusion below interior floors. The width of the plug should be at least three times the width of the footing or grade beam at the building perimeter, but not less than 36 inches. A representative from Pacific Crest Engineering Inc. should be contacted to observe the placement of slurry plugs. In addition, all utility pipes which penetrate through the footings, stemwalls or grade beams (below the exterior soil grade) should also be sealed water-tight, as determined by the Project Engineer or Architect.**

54. A representative from our firm should be present to observe the bottom of all trench excavations, prior to placement of utility pipes and conduits. In addition, we should observe

the condition of the trench prior to placement of sand bedding, and to observe compaction of the sand bedding, in addition to any backfill planned above the bedding zone.

55. Jetting of the trench backfill is not recommended as it may result in an unsatisfactory degree of compaction.

56. Trenches must be shored as required by the local agency and the State of California Division of Industrial Safety construction safety orders.

**LATERAL PRESSURES**

57. Retaining walls with full drainage should be designed using the following criteria:

- a. The following lateral earth pressure values should be used for design:

TABLE No. 4, Active and At-Rest Earth Pressure Values

Backfill Slope (H:V)	Active Earth Pressure (psf/ft of depth)	At-rest Earth Pressure (psf/ft of depth)
Level	30	40
3:1	35	45
2:1	45	55

58. Active earth pressure values may be used when walls are free to yield an amount sufficient to develop the active earth pressure condition (about 1/2% of height). The effect of wall rotation should be considered for areas behind the planned retaining wall (pavements, foundations, slabs, etc.). **When walls are restrained at the top or to design for minimal wall rotation, use the at-rest earth pressure values.**

- a. For resisting passive earth pressure use 250 psf/ft of depth.
- b. A “coefficient of friction” between base of foundation and soil of 0.35.
- c. Exterior or interior wall footings may be designed for an allowable bearing capacity of 2,000 psf for Dead plus Live Load, with a 1/3rd increase for short term loads.
- d. To develop the resisting passive earth pressure, the retaining wall footings should be embedded a minimum of 18 inches below the lowest adjacent grade. There should be a minimum of 5 feet of horizontal cover as measured from the outside edge of the footing.
- e. Any live or dead loads which will transmit a force to the wall, refer to Figure No. 9.

- f. For flexible (yielding) retaining walls, the resultant seismic force on the wall is  $8H^2$  and acts at a point  $0.6H$  up from the base of the wall. This force has been estimated using the Mononobe-Okabe method of analysis as modified by Whitman (1990), and assumes a yielding wall condition.
- g. For rigid (non-yielding) retaining walls, the resultant seismic force on the wall is  $12H^2$  and acts at a point  $0.6H$  up from the base of the wall.

Please note: Should the slope behind the retaining walls be other than shown in Table No.4, supplemental design criteria will be provided for the active earth or at rest pressures for the particular slope angle.

59. The above criteria are based on **fully drained conditions**. Therefore, we recommend that permeable material meeting the State of California Standard Specification Section 68-1.025, Class 1, Type A, be placed behind the wall, with a minimum width of 12 inches and extending for the full height of the wall to within 1 foot of the ground surface. The permeable material should be covered with Mirafi 140N filter fabric or equivalent and then compacted native soil placed to the ground surface. A 4 inch diameter perforated rigid plastic drain pipe should be installed within 3 inches of the bottom of the permeable material and be discharged to a suitable, approved location such as the project storm drain system. The perforations should be located and oriented on the lower half of the pipe. Neither the pipe nor the permeable material should be wrapped in filter fabric. Please refer to Figure No. 10, Typical Retaining Wall Drain Detail.

60. The area behind the wall and beyond the permeable material should be compacted with approved material to a minimum relative dry density of 90%.

## **SURFACE DRAINAGE**

61. Following completion of the project we recommend that storm drainage provisions and performance of permanent erosion control measures be closely observed through the first season of significant rainfall, to determine if these systems are performing adequately and, if necessary, resolve any unforeseen issues.

62. Surface water must not be allowed to pond or be trapped adjacent to the building foundations nor on the building pad nor in the parking areas.

63. All roof eaves should be guttered, with the outlets from the downspouts provided with adequate capacity to carry the storm water from the structures to reduce the possibility of soil saturation and erosion. The connection should be in a closed conduit which discharges at an approved location away from the structures and the graded area. The discharge location should not be located at the top of, or on the face of any topographic slopes. We would recommend a discharge point which is at least 10 feet down slope of any foundation or fill areas.

64. Final grades should be provided with a positive gradient away from all foundations in order to provide for rapid removal of the surface water from the foundations to an adequate discharge point. Soil grades should slope away from foundation areas at least 5 percent for the first 10 feet. Impervious surface areas should slope away from foundations at least 2 percent for the first 10 feet. The Project Civil Engineer, Architect or Building Designer should refer to 2007 CBC Section 1803.3 for further information. Concentrations of surface water runoff should be handled by providing necessary structures, such as paved ditches, catch basins, etc.

65. Cut and fill slopes shall be constructed so that surface water will not be allowed to drain over the top of the slope face. This may require berms along the top of fill slopes and surface drainage ditches above cut slopes. All cut, fill and disturbed native slope areas should be hydro-seeded or other means of erosion control provided, as determined by the Project Civil Engineer.

66. Irrigation activities at the site should not be done in an uncontrolled or unreasonable manner.

67. The building and surface drainage facilities must not be altered nor any filling or excavation work performed in the area without first consulting Pacific Crest Engineering Inc. Surface drainage improvements developed by the project civil engineer must be maintained by the property owner at all times, as improper drainage provisions can produce undesirable affects.

## **PAVEMENT DESIGN**

68. The design of the pavement section was beyond our scope of services for this project. To have the selected pavement sections perform to their greatest efficiency, it is very important that the following items be considered:

- a. Properly scarify and moisture condition the upper 8 inches of the subgrade soil and compact it to a minimum of 95% of its maximum dry density, at a moisture content 1 to 3% over the optimum moisture content for the soil.
- b. Provide sufficient gradient to prevent ponding of water.
- c. Use only quality materials of the type and thickness (minimum) specified. All aggregate base and subbase must meet Caltrans Standard Specifications for Class 2 materials, and be angular in shape. All Class 2 aggregate base should be ¾ inch maximum in aggregate size.
- d. The use of “recycled” materials, such as asphaltic concrete for aggregate base or subbase is not recommended.

- e. Compact the base and subbase uniformly to a minimum of 95% of its maximum dry density.
- f. Use ½ inch maximum, Type “A” medium graded asphaltic concrete. Place the asphaltic concrete only during periods of fair weather when the free air temperature is within prescribed limits by Cal Trans Specifications.
- g. Place ¼ gallon per square yard of SG-70 prime coat over the aggregate base section, prior to placement of the asphaltic concrete.
- h. **Porous pavement systems which consist of porous paving blocks, asphaltic concrete or concrete are generally not recommended due to the potential for saturation of the subgrade soils and resulting increased potential for a shorter pavement life. At a minimum, porous pavement systems should include a layer of Mirafi HP370 geotextile fabric placed on the subgrade soil beneath the porous paving section. These pavement systems should only be used with the understanding by the Owner of the increased potential for pavement cracking, rutting, potholes, etc.**
- i. Maintenance should be undertaken on a routine basis.

**SOIL CORROSIVITY**

69. Corrosivity tests were run on one representative surface soil sample collected on the project site. These results are summarized as follows:

TABLE No.5, Corrosivity Test Summary

Sample	Soil Resistivity	Chloride mg/kg	Sulfate (water soluble)	pH
	Ohm-cm		mg/kg	
2-1-1	3737	8	<5	7.6

70. Cal Trans considers a site to be corrosive to foundation elements if one or more of the following conditions exist at the site:

- a. The soil resistivity is less than 1,000 ohm-cm
- b. Chloride concentration is greater than or equal to 500 mg/Kg (ppm)
- c. Sulfate concentration is greater than or equal to 2000 mg/Kg (ppm)
- d. The soil pH is 5.5 or less

Refer to Cal Trans Corrosion Guidelines, version 1.0 (September, 2003) for additional information.

71. Based on the results of the chloride, sulfate and pH, it appears that the conditions in the shallow existing soil should be assumed to be non-corrosive based on Cal Trans guidelines. The corrosion potential for any imported select fill should also be checked for corrosivity.

72. Please refer to Appendix A for the specific results of the corrosivity testing by the analytical laboratory.

**PLAN REVIEW**

73. We respectfully request an opportunity to review the project plans and specifications during preparation and before bidding to ensure that the recommendations of this report have been included and to provide additional recommendations, if needed. These plan review services are also typically required by the reviewing agency. Misinterpretation of our recommendations or omission of our requirements from the project plans and specifications may result in changes to the project design during the construction phase, with the potential for additional costs and delays in order to bring the project into conformance with the requirements outlined within this report. Services performed for review of the project plans and specifications are considered “post-report” services and billed on a “time and materials” fee basis in accordance with our latest Standard Fee Schedule.

**LIMITATIONS AND UNIFORMITY OF CONDITIONS**

1. This Geotechnical Investigation was prepared specifically for you and for the specific project and location described in the body of this report. This report and the recommendations included herein should be utilized for this specific project and location exclusively. This Geotechnical Investigation should not be applied to nor utilized on any other project or project site. Please refer to the ASFE "Important Information about Your Geotechnical Engineering Report" attached with this report.
2. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that planned at the time, our firm should be notified so that supplemental recommendations can be provided.
3. This report is issued with the understanding that it is the responsibility of the owner, or his representative, to ensure that the information and recommendations contained herein are called to the attention of the Architects and Engineers for the project and incorporated into the plans, and that the necessary steps are taken to ensure that the Contractors and Subcontractors carry out such recommendations in the field.
4. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural process or the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or partially, by changes outside of our control. This report should therefore be reviewed in light of future planned construction and then current applicable codes. This report should not be considered valid after a period of two (2) years without our review.
5. This report was prepared upon your request for our services in accordance with currently accepted standards of professional geotechnical engineering practice. No warranty as to the contents of this report is intended, and none shall be inferred from the statements or opinions expressed.
6. The scope of our services mutually agreed upon for this project did not include any environmental assessment or study for the presence of hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site.

# Important Information About Your Geotechnical Engineering Report

*Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.*

*The following information is provided to help you manage your risks.*

## **Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply the report for any purpose or project except the one originally contemplated.*

## **Read the Full Report**

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

## **A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors**

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,

- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

## **Subsurface Conditions Can Change**

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

## **Most Geotechnical Findings Are Professional Opinions**

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

## **A Report's Recommendations Are *Not* Final**

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual



subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

### **A Geotechnical Engineering Report Is Subject to Misinterpretation**

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

### **Do Not Redraw the Engineer's Logs**

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

### **Give Contractors a Complete Report and Guidance**

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

### **Read Responsibility Provisions Closely**

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that

have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

### **Geoenvironmental Concerns Are Not Covered**

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

### **Obtain Professional Assistance To Deal with Mold**

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

### **Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance**

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

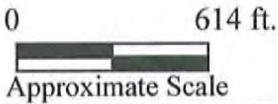


8811 Colesville Road/Suite G106, Silver Spring, MD 20910  
 Telephone: 301/565-2733 Facsimile: 301/589-2017  
 e-mail: info@asfe.org www.asfe.org

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**APPENDIX A**

Regional Site Map  
Site Map Showing Test Borings  
Boring Log Explanation  
Log of Test Borings  
Caltrans Corrosivity Test Summary  
Keyway Detail  
Surcharge Pressure Diagram  
Typical Retaining Wall Drain Detail



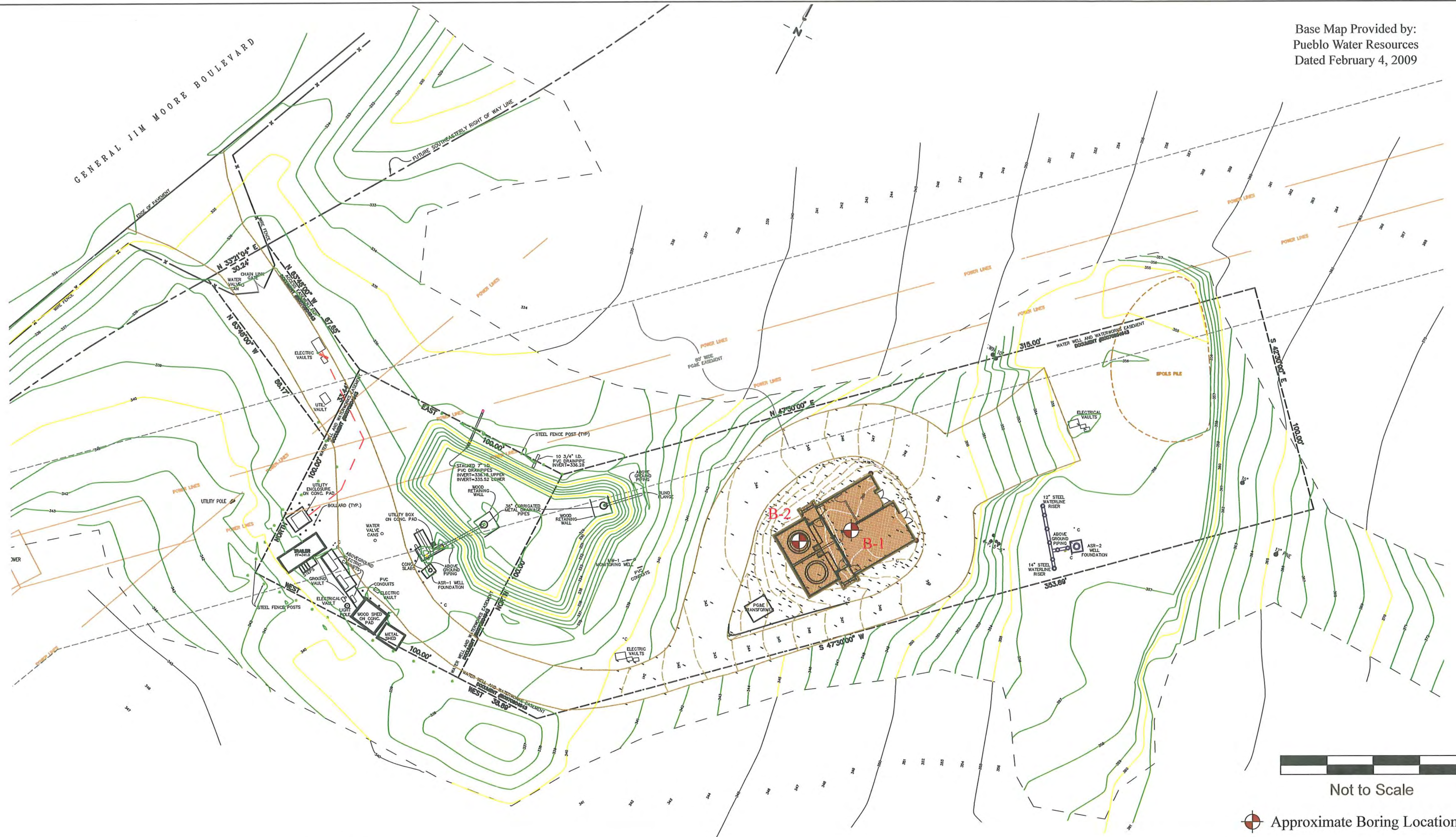
Base Map from Regal Map Company

Pacific Crest Engineering Inc.  
 444 Airport Blvd., Suite 106  
 Watsonville, CA 95076

**Regional Site Map**  
 Electrical & Chemical Feed Building  
 Seaside, California

Figure No. 1  
 Project No. 0922  
 Date: 4/30/09

Base Map Provided by:  
Pueblo Water Resources  
Dated February 4, 2009



Not to Scale

Approximate Boring Location

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Watsonville, CA 95076



Site Map Showing Test Boring Locations  
Electrical and Chemical Feed Building  
Seaside, California

Figure No. 2  
Project No. 0922  
Date: 4/30/09

**UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488 (Modified)**

PRIMARY DIVISIONS		GROUP SYMBOL	SECONDARY DIVISIONS
<b>COARSE GRAINED SOILS</b> MORE THAN HALF OF MATERIAL IS LARGER THAN #200 SIEVE SIZE	<b>GRAVELS</b> MORE THAN HALF OF COARSE FRACTION IS LARGER THAN #4 SIEVE	<b>CLEAN GRAVELS</b> (LESS THAN 5% FINES)	GW Well graded gravels, gravel-sand mixtures, little or no fines
		<b>GRAVELS</b> (MORE THAN 12% FINES)	GP Poorly graded gravels or gravels-sand mixtures, little or no fines
	<b>SANDS</b> MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN #4 SIEVE	<b>CLEAN SANDS</b> (LESS THAN 5% FINES)	GM Silty gravels, gravel-sand-silt mixtures, non-plastic fines
			GC Clayey gravels, gravel-sand-clay mixtures, plastic fines
		<b>SANDS</b> (MORE THAN 12% FINES)	SW Well graded sands, gravelly sands, little or no fines
			SP Poorly graded sands or gravelly sands, little or no fines
<b>FINE GRAINED SOILS</b> MORE THAN HALF OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	<b>SILTS AND CLAYS</b> LIQUID LIMIT IS LESS THAN 35%	SM Silty sands, sand-silt mixtures, non-plastic fines	
		SC Clayey sands, sand-clay mixtures, plastic fines	
		ML Inorganic silts and very fine clayey sand silty sands, with slight plasticity	
	<b>SILTS AND CLAYS</b> LIQUID LIMIT IS BETWEEN 35% AND 50%	CL Inorganic clays of low to medium plasticity, gravelly, sand, silty or lean clays	
		OL Organic silts and organic silty clays of low plasticity	
		MI Inorganic silts, clayey silts and silty fine sands of intermediate plasticity	
	<b>SILTS AND CLAYS</b> LIQUID LIMIT IS GREATER THAN 50%	CI Inorganic clays, gravelly/sandy clays and silty clays of intermediate plasticity	
		OI Organic clays and silty clays of intermediate plasticity	
		MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
		CH Organic clays of high plasticity, fat clays	
<b>HIGHLY ORGANIC SOILS</b>		OH Organic clays of medium to high plasticity, organic silts	
		PT Peat and other highly organic soils	

**BORING LOG EXPLANATION**

Depth, ft.	Sample No. and Type	Symbol	SOIL DESCRIPTION	Unified Soil Classification	SPT "N" Value	Plasticity Index	Dry Density, p.c.f.	Moisture % of Dry Wt.	MISC. LAB RESULTS
1			 ← Ground water elevation						
2	1-1		← Soil Sample Number ← Soil Sampler Size/Type L = 3" Outside Diameter M = 2.5" Outside Diameter T = 2" Outside Diameter ST = Shelby Tube BAG = Bag Sample						
3									
4									
5									

**RELATIVE DENSITY**

SANDS AND GRAVELS	BLOWS/FOOT
VERY LOOSE	0-4
LOOSE	4-10
MEDIUM DENSE	10-30
DENSE	30-50
VERY DENSE	OVER 50

**CONSISTENCY**

SILTS AND CLAYS	BLOWS/FOOT
VERY SOFT	0-2
SOFT	2-4
FIRM	4-8
STIFF	8-16
VERY STIFF	16-32
HARD	OVER 32

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Watsonville, CA 95076

**Boring Log Explanation**  
Electrical & Chemical Feed Building  
Seaside, California

Figure No. 3  
Project No. 0922  
Date: 4/30/09

## EXHIBIT 16-A

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LOGGED BY <u>CLR</u> DATE DRILLED <u>4/17/09</u> BORING DIAMETER <u>6"</u> BORING NO. <u>1</u>									
Depth (feet)	Sample No. and Type	Symbol	Soil Description	Unified Soil Classification	SPT "N" Value	Plasticity Index	Dry Density (pcf)	Moisture % of Dry Wt.	Misc. Lab Results
1			Brown Silty SAND, fine to medium grained, sub-angular to sub-rounded shaped, poorly graded, mica flakes scattered throughout the sample, trace coarse grains scattered throughout the sample, damp, hard, (Older Dune Deposits)	SM	35		121.3	8.9	17.1% Passing #200 Sieve
2	1-1								
3	L								
4									
5	1-2		Color changed to dark reddish brown, trace rounded chert pebbles scattered throughout the sample, damp, medium dense		17		108.7	5.4	
6	L								
7									
8									
9			Color change to yellowish tan, slight decrease in coarseness of sand, very fine to medium grained, slightly damp, medium dense		18		108.4	2.0	
10	1-3								
11	L								
12									
13			Slight reddish tan mottling scattered throughout the sample, slight increase in coarseness of sand, damp, medium dense		19		104.9	4.4	
14	1-4								
15	L								
16									
17			Lack of mottling, slight decrease in coarseness of sand, damp, medium dense		30		100.2	3.5	
18	1-5								
19	L								
20									
21									
22									
23									
24									

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Watsonville, CA 95076

**Log of Test Borings**  
Electrical & Chemical Feed Building  
Seaside, California

Figure No. 4  
Project No. 0922  
Date: 4/30/09

LOGGED BY CLR DATE DRILLED 4/17/09 BORING DIAMETER 6" BORING NO. 1

Depth (feet)	Sample No. and Type	Symbol	Soil Description	Unified Soil Classification	SPT "N" Value	Plasticity Index	Dry Density (pcf)	Moisture % of Dry Wt.	Misc. Lab Results
25	1-6 L		Yellowish tan SAND, fine to medum grained, trace coarse grains, sub-angular to sub-rounded shaped, mica flakes scattered throughout the sample, poorly graded, damp, medium dense, (Older Dune Deposits)	SP	29		94.0	3.7	1.6% Passing #200 Sieve
26									
27									
28	1-7 L		Lack of coarse grains, slightly damp, very dense		50/6"		103.6	4.0	
29									
30									
31	1-8 L		Slightly damp, very dense		50/5"		103.6	4.2	1.8% Passing #200 Sieve
32									
33									
34	Boring terminated at 36 feet. No groundwater encountered.								
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									

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444 Airport Blvd., Suite 106  
Watsonville, CA 95076

**Log of Test Borings**  
Electrical & Chemical Feed Building  
Seaside, California

Figure No. 5  
Project No. 0922  
Date: 4/30/09

**EXHIBIT 16-A**

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LOGGED BY CLR DATE DRILLED 4/17/09 BORING DIAMETER 6" BORING NO. 2

Depth (feet)	Sample No. and Type	Symbol	Soil Description	Unified Soil Classification	SPT "N" Value	Plasticity Index	Dry Density (pcf)	Moisture % of Dry Wt.	Misc. Lab Results
1	2-1 L		Dark brown SAND with Silt, very fine to medium grained, sub-angular to sub-rounded shaped, poorly graded, trace rounded chert pebbles scattered throughout the sample, trace granitic gravel near 3 1/2 feet, mica flakes scattered throughout the sample, damp, medium dense	SP-SM	17				
2									
3									
4									
5	2-2 L		Dark reddish brown SAND with Silt, fine to medium grained, trace coarse grains, sub-angular to sub-rounded shaped, poorly graded, mica flakes scattered throughout the sample, damp, loose, (Older Dune Deposits)	SP-SM	7		110.8	6.4	10.0% Passing #200 Sieve
6									
7									
8	2-3 L		Color change to yellowish tan, trace rounded chert pebbles scattered throughout the sample,, slightly damp, medium dense		19		99.4	2.8	
9									
10									
11									
12	2-4 L		Color change to tan, lack of rounded chert pebbles, slightly damp, medium dense		23		99.2	3.2	
13									
14									
15									
16	Boring terminated at 16 1/2 feet. No groundwater encountered.								
17									
18									
19									
20									
21									
22									
23									
24									



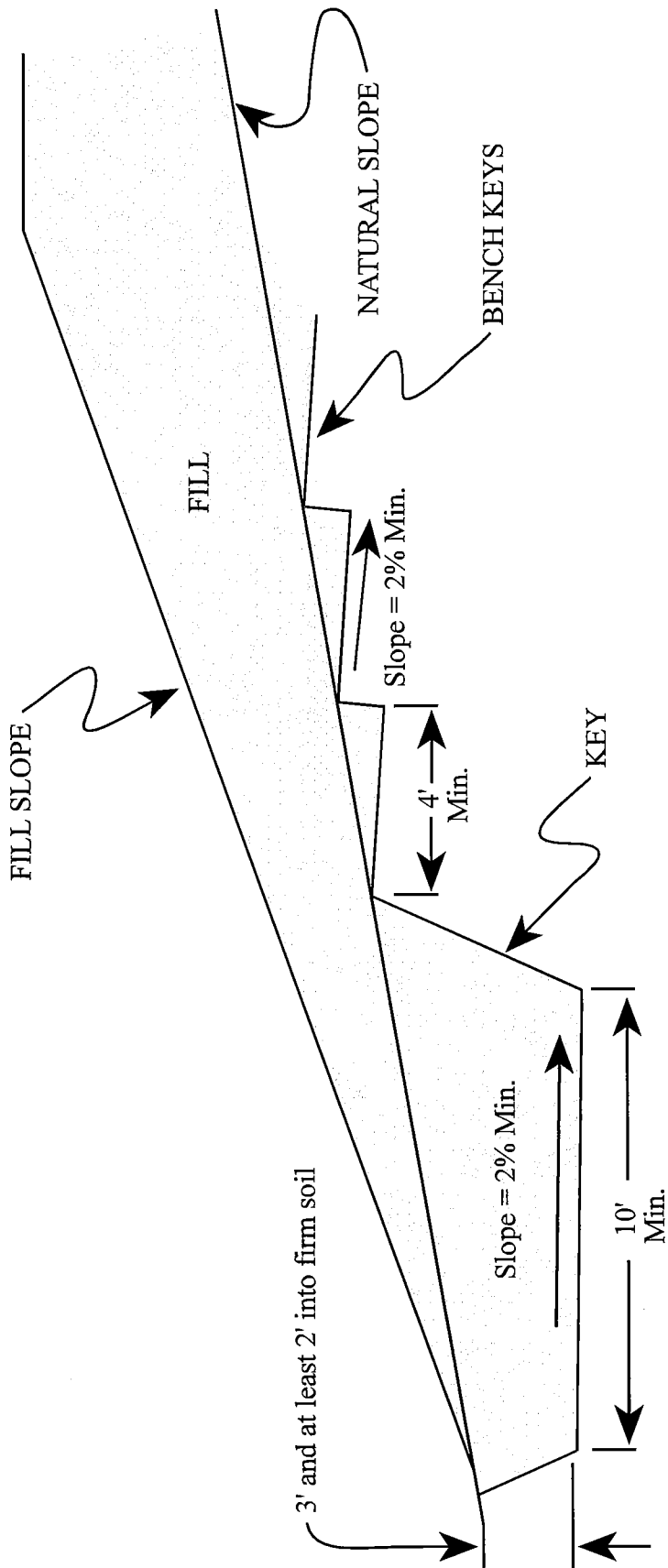


Corrosivity Test Summary

CTL # 416-391 Date: 4/30/2009 Tested By: PJ Checked: PJ  
 Client: Pacific Crest Engineering Project: New Electric & Chemical Feed Building Proj. No: 0922

Boring	Sample Location or ID	Sample, No.	Depth, ft.	Resistivity @ 15.5 °C (Ohm-cm)		Sulfate	Chloride	pH	ORP (Redox) mV	Moisture As Received %	Soil Visual Description
				As Rec.	Minimum						
-	2-1-1	-	-	ASTM G57	Cal 643	Cal 643	Cal 422-mod.	Cal 643	SM 2580B	ASTM D2216	Dark Brown Silty SAND
					3737	<5	<0.0005	7.6	-	9.2	

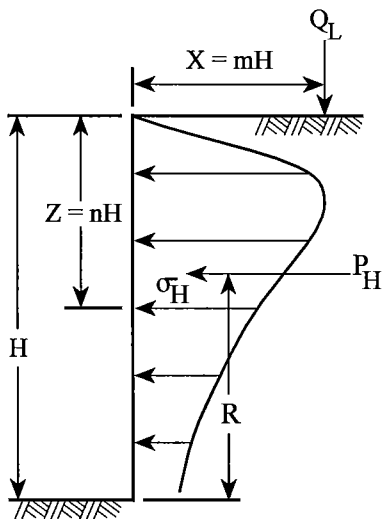
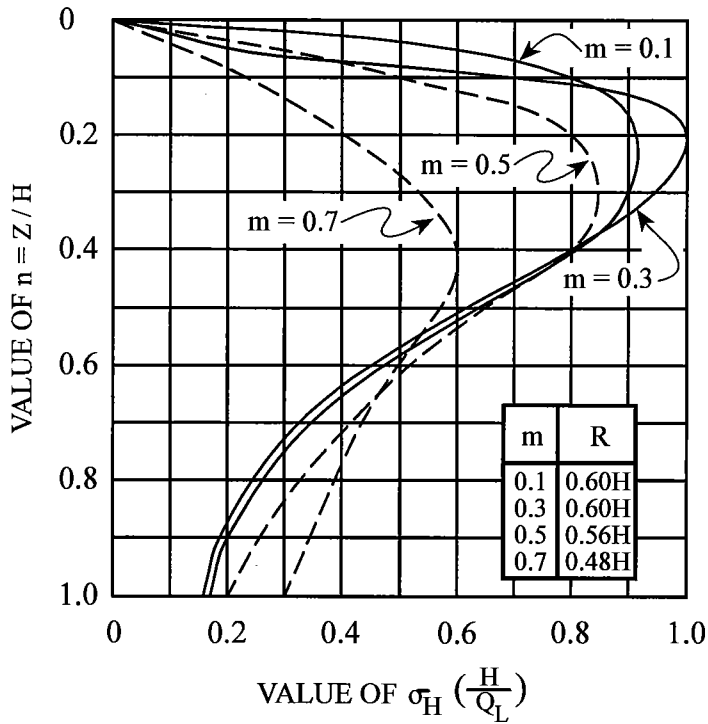
EXHIBIT 16-A



**TYPICAL KEY AND BENCHES**

not to scale

**LINE LOAD**



FOR  $m \leq 0.4$ :

$$\sigma_H \left( \frac{H}{Q_L} \right) = \frac{0.20 n}{(0.16 + n^2)^2}$$

$$P_H = 0.55 Q_L$$

FOR  $m > 0.4$ :

$$\sigma_H \left( \frac{H}{Q_L} \right) = \frac{1.28 m^2 n}{(m^2 + n^2)^2}$$

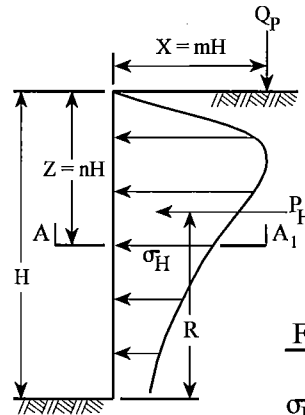
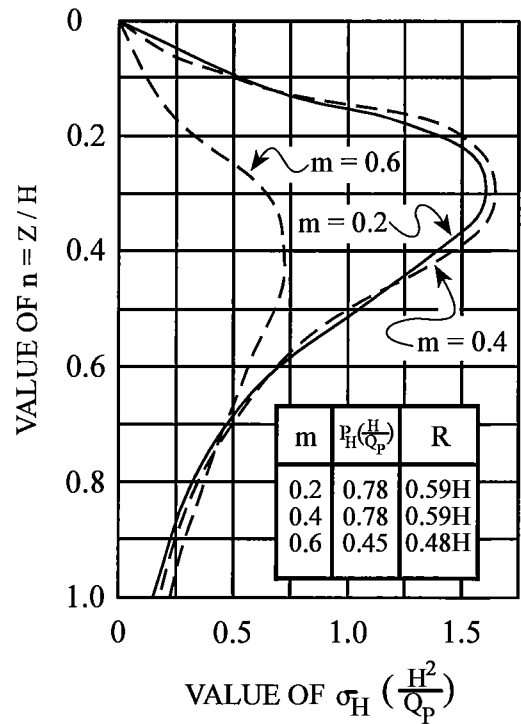
$$\text{RESULTANT } P_H = \frac{0.64 Q_L}{(m^2 + 1)}$$

**PRESSURES FROM LINE LOAD  $Q_L$**

(BOISSINESQ EQUATION MODIFIED BY EXPERIMENT)

REFERENCE: Design Manual  
NAVFAC DM-7.02  
Figure 11  
Page 7.2-74

**POINT LOAD**



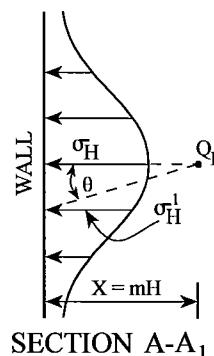
FOR  $m \leq 0.4$ :

$$\sigma_H \left( \frac{H^2}{Q_P} \right) = \frac{0.28 n^2}{(0.16 + n^2)^3}$$

FOR  $m > 0.4$ :

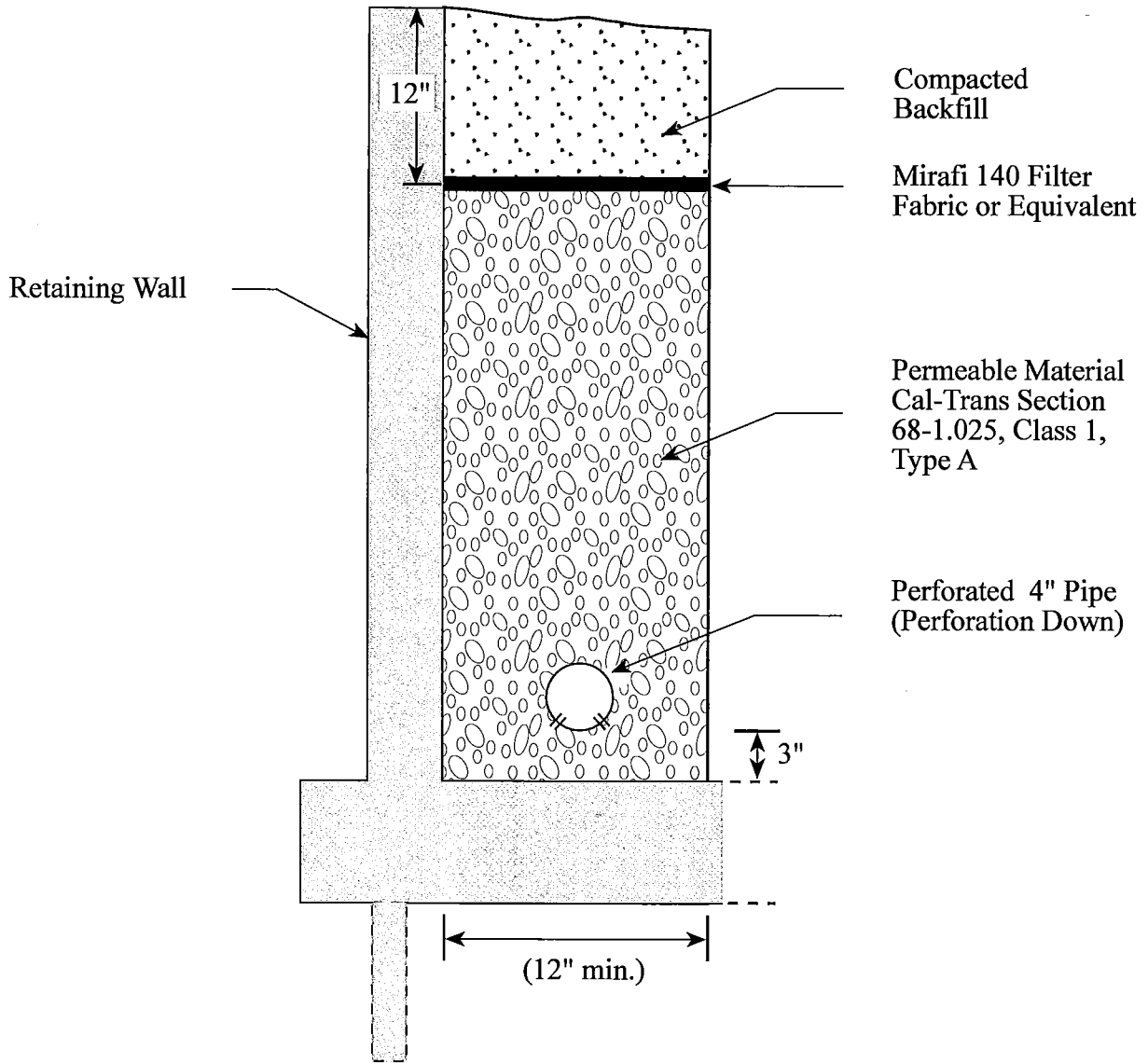
$$\sigma_H \left( \frac{H^2}{Q_P} \right) = \frac{1.77 m^2 n^2}{(m^2 + n^2)^3}$$

$$\sigma_H^1 = \sigma_H \cos^2(1.1 \theta)$$



**PRESSURES FROM POINT LOAD  $Q_P$**

(BOISSINESQ EQUATION MODIFIED BY EXPERIMENT)



Not to Scale

February 4, 2018

Project No. 0922.1-M242-E12

**Revised February 23, 2018**

Mr. Steve Tanner, PE  
Pueblo Water Resources  
4478 Market Street, Suite 705  
Ventura, CA 93003

**Subject: Update to Geotechnical Investigation Report**  
MPWMD – ASR Site Expansion  
Backflush Pit at Santa Margarita Well Site  
1910 General Jim Moore Boulevard  
Seaside, California

**Reference: Pacific Crest Engineering, Inc.**  
Geotechnical Investigation For New Electrical & Chemical Feed Building  
Project No. 0922-M242-E12  
Dated April 30, 2009

Dear Mr. Tanner,

As requested, we are providing this addendum letter to the referenced geotechnical investigation report that was prepared by our firm in 2009. The purpose for this letter is to evaluate the planned improvements in order to develop geotechnical recommendations pertinent to the proposed pond expansion and update our 2009 report to include the most recent CBC design criteria. The recommendations outlined below are based on our review of the referenced soil report, preliminary grading and drainage plans provided by your firm, and a visit to the site on January 30, 2018.

Based on our review of Preliminary Grading and Drainage Plan and Cross Section sheets dated 4/17/17, it is our understanding that the proposed improvements will consist of expanding the existing backflush pit to the north, construction of a CMU wall adjacent to General Jim Moore Boulevard, and construction of a chemical loading rack along the northwest corner of the expanded pond. Also proposed are construction of two 30" treated water lines and

The north and west side of the expanded pond slopes will be constructed of cut and fill. The east side slopes will be comprised entirely of cuts up to 11 feet in height. The proposed pond slopes are currently designed at 1:1 horizontal to vertical.

The CMU wall will screen views from General Jim Moore Boulevard and will retain inboard fills generated as part of the pond expansion. The proposed chemical loading rack will be supported by a reinforced concrete slab and will be accessed by a new AC roadway the connects to the existing entry road. The

new road and chemical loading rack pad will be underlain by fill ranging from approximately one to five feet in depth.

### **UPDATED RECOMMENDATIONS**

Based on our review of the proposed improvement plans, it is our opinion that, except as modified below, the recommendations of our 2009 geotechnical report continue to remain applicable to this project. All recommendations of the 2009 Geotechnical Report and this Update Report should be closely followed during the design and construction phases of the project. Any unexplained discrepancies between the original report and this update should be brought to the immediate attention of the Geotechnical Engineer for clarification.

In our opinion unreinforced 1:1 horizontal to vertical side slopes for the proposed backflush pit are too steep for long term stability under saturated conditions. Side slopes constructed to these gradients without slope reinforcement will be subject to erosion and sloughing, requiring continued maintenance over the lifetime of the project, and could potentially undermine improvements adjacent to the top of slope.

The proposed pond expansion will require raising existing grades along the north and west sides with up to 4 to 5 feet of fill. In addition, existing grades at the base of the expanded pond will be lowered by about 5 to 6 feet. This will create a condition where the pond slopes will be comprised of cut overlain by fill. As recommended in the soil report, fill slopes to be constructed above cut slopes should be set back a minimum of 8 feet horizontally from the top of the cut slope. This is especially important where structural improvements such as the chemical loading rack, new access roads or new utility corridors will come within close proximity to the pond slopes. Alternatively, the slope below the chemical loading rack pad may be constructed of engineered fill at a maximum gradient of 2:1 horizontal. The fill slope should be constructed in accordance with the recommendations of the 2009 geotechnical report and Figure No. 1 attached.

If space constraints preclude the construction of 2:1 fill slopes, the pond slope below the chemical loading rack area may be constructed at a maximum gradient of 1:1 horizontal to vertical provided the slope is designed and constructed as a reinforced soil slope (RSS) with geosynthetic reinforcing. Please refer to Figure No. 2 for a general schematic of a reinforced soil slope. The geosynthetic reinforcement layers should extend a minimum length of 1.0 times the total vertical height of the RSS system, with vertical spacing not exceeding 2 feet. The reinforcing should be wrapped at the slope face with a minimum 3-foot overlap as shown on Figure No. 2. Final spacing, reinforcing type and length should be determined by the project design professional. All engineered fill should be placed and compacted in accordance with the recommendations of our 2009 report. It is anticipated that the onsite soils will be suitable for use as engineered fill for this project.

Reinforced soil slopes should be constructed where ever structural, roadway and/or pipelines will come within 20 feet of the adjacent slope face, or 10 feet beyond the perimeter of the chemical loading rack pad, whichever is greater. The RSS system should be faced with an erosion control blanket as determined by



the project civil engineer. The performance of erosion control measures should be routinely monitored and areas where the geosynthetic has been exposed should be repaired and replanted.

In other areas of the backflush pit expansion where there is low potential for undermining adjacent improvements consideration should be given to constructing side slopes at gradients no steeper than 2:1 horizontal to vertical. Where site constraints preclude these gradients the Owner should be made aware of the potential for erosion, sloughing and long term instability requiring continued maintenance. As a minimum, erosion control measures should be considered for oversteepened pond slopes.

Pipelines or other utility improvements should be setback a minimum of 15 feet horizontally from the outboard edge of all unreinforced slopes. We note that 30" RW line may be in close proximity to the backcut for a RSS slope below the chemical loading rack pad and this will need to be considered when planning backfill methods for the utility trench. Care should be taken not to damage the reinforcing layers when performing earthwork adjacent to RSS slopes.

The proposed CMU wall may be designed and constructed using the lateral earth pressures and foundation design criteria provided in the 2009 geotechnical report for fully drained conditions.

The following updated CBC design criteria should be used in the design of structural improvements for this project. Structural improvements should be designed and constructed in accordance with the recommendations of the 2009 geotechnical report and the most recent CBC requirements as outlined below.

**Table No. 1 - 2016 CBC Seismic Design Parameters<sup>1</sup>**

Seismic Design Parameter	ASCE 7-10 Value
Site Class	D
Spectral Acceleration for Short Periods	$S_s = 1.471g$
Spectral Acceleration for 1-second Period	$S_1 = 0.529g$
Short Period Site Coefficient	$F_a = 1.0$
1-Second Period Site Coefficient	$F_v = 1.5$
MCE Spectral Response Acceleration for Short Period	$S_{MS} = 1.471g$
MCE Spectral Response Acceleration for 1-Second Period	$S_{M1} = 0.794g$
Design Spectral Response Acceleration for Short Period	$S_{DS} = 0.981g$
Design Spectral Response Acceleration for 1-Second Period	$S_{D1} = 0.529g$
Seismic Design Category <sup>2</sup>	D

**Note 1:** Design values have been obtained by using the Ground Motion Parameter Calculator available on the USGS website at <http://earthquake.usgs.gov/hazards/designmaps/usdesign.php>.

**Note 2:** The Seismic Design Category assumes a structure with Risk Category I, II or III occupancy as defined by Table 1604.5 of the 2016 CBC. Pacific Crest Engineering Inc. should be contacted for revised Table 1 seismic design parameters if the proposed structure has a different occupancy rating than that assumed.



This report is issued as an addendum to our April 30, 2009 geotechnical report and should be reviewed in conjunction with that document. Except as modified herein, all recommendations of the April 2009 geotechnical report remain applicable to the design and construction of the project.

We respectfully request an opportunity to review the project plans and specifications during preparation and before bidding to ensure that the recommendations of this report have been included and to provide additional recommendations, if needed. These plan review services are also typically required by the reviewing agency. Misinterpretation of our recommendations or omission of our requirements from the project plans and specifications may result in changes to the project design during the construction phase, with the potential for additional costs and delays in order to bring the project into conformance with the requirements outlined within this report. Services performed for review of the project plans and specifications are considered "post-report" services and billed on a "time and materials" fee basis in accordance with our latest Standard Fee Schedule.

We appreciate the opportunity to be of service. If you have any questions regarding this update letter, please contact our office.

Sincerely,

**PACIFIC CREST ENGINEERING INC.**



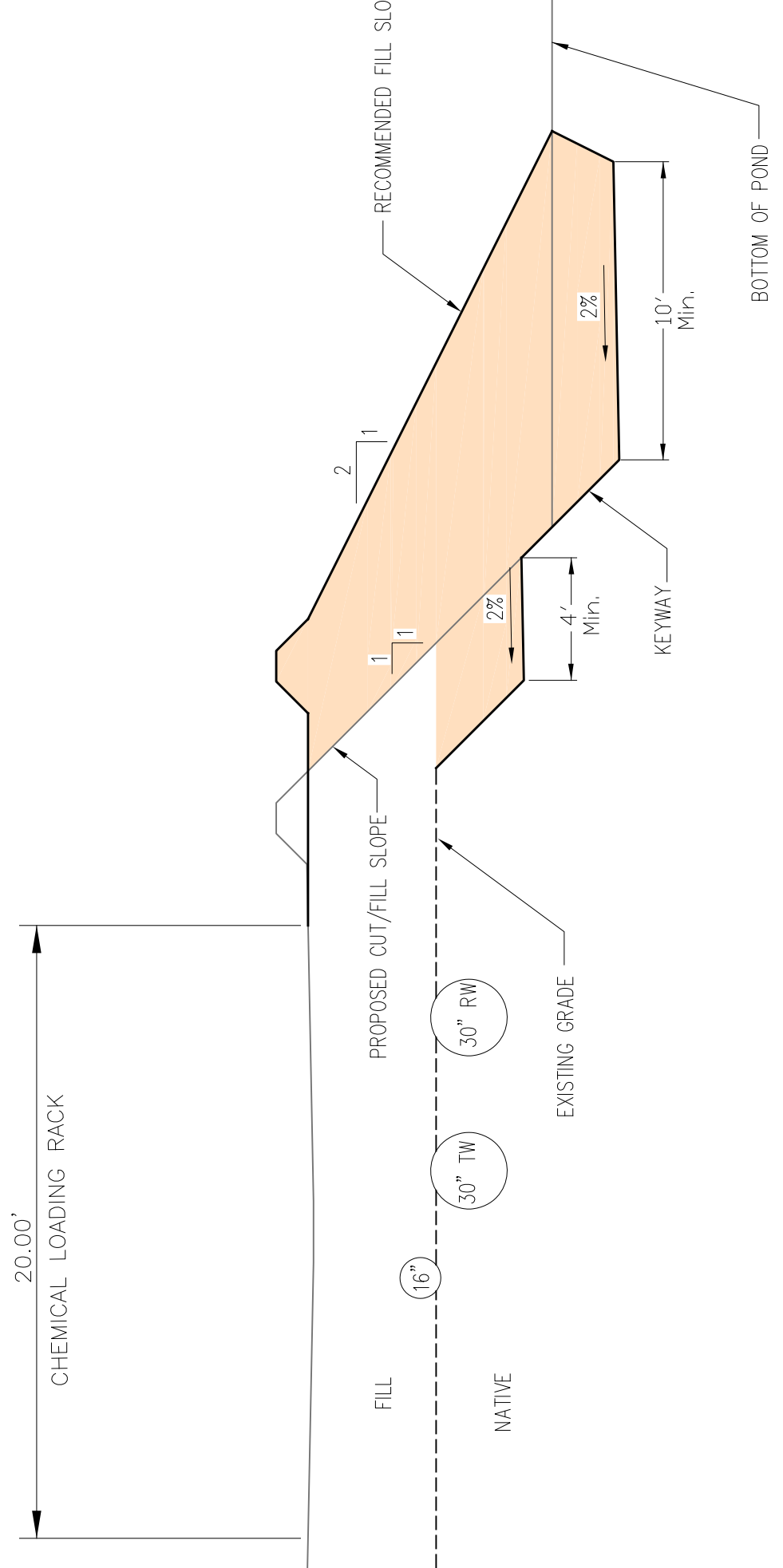
Elizabeth M. Mitchell, GE  
President/Principal Geotechnical Engineer  
GE 2718, Expires 12/13/18

Copies: 2 to Client





**EXHIBIT 16-A**




Drawing No: 349  
**FIGURE 1**

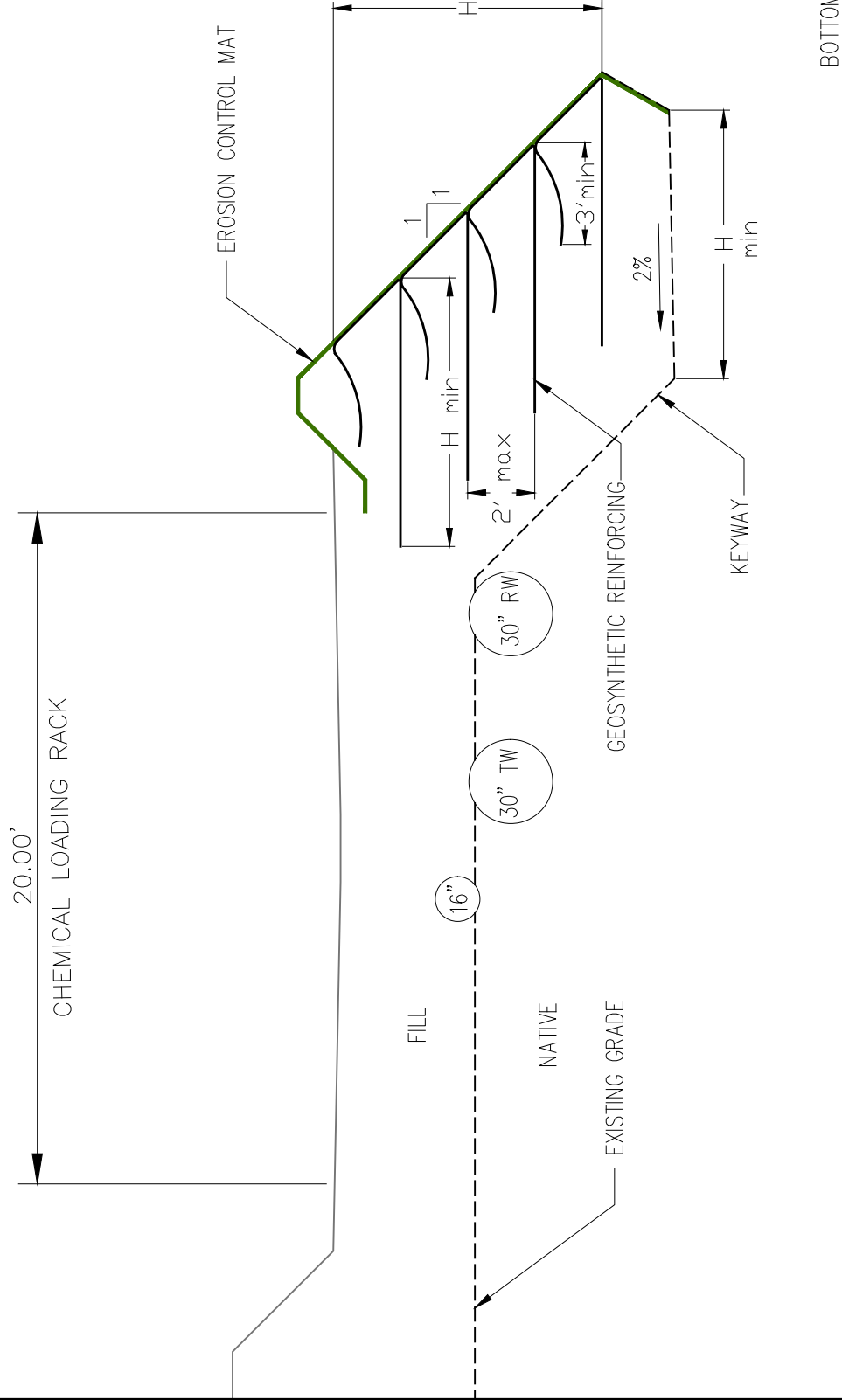
Project No: 0922.1  
 PM: EM  
 Rev: 0

Scale: 1"=5'  
 Drawn By: MJM 2/5/18

SANTA MARGARITA WELL SITE  
 ASR SITE EXPANSION  
 CROSS SECTION A-A'

**Pacific Crest Engineering Inc.**  
  
 444 Airport Blvd., Suite 106  
 Watsonville, CA 95076  
 Ph: (831) 763-6191  
 Fax: (831) 763-6195

**EXHIBIT 16-A**



Drawing No: 350

Project No: 0922.1

**FIGURE 2**

Scale: 1"=5'

Drawn By: MJM 2/23/18

PM: EM

Rev: 0

SANTA MARGARITA WELL SITE  
ASR SITE EXPANSION

CROSS SECTION A-A'

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Fax: (831) 763-6195

**ATTACHMENT 4**

**APPROVED MMRP FOR THE AQUIFER STORAGE AND RECOVERY PROJECT**

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## Chapter 4

# Revised Mitigation Monitoring Plan

CEQA requires that when a lead agency makes findings of significant effects identified in an EIR, it must also adopt a program for reporting and monitoring mitigation measures that were adopted or made conditions of project approval. NEPA requires that the lead agency must include a monitoring and enforcement program for each mitigation measure identified in an EA or Environmental Impact Statement. The objectives of the monitoring are to:

- ensure that mitigation measures are properly implemented,
- provide feedback to agency staff and decision makers about the effectiveness of their actions,
- provide learning opportunities for improving mitigation measures on future projects, and
- identify the need for enforcement action before irreversible environmental damage occurs.

This Mitigation Monitoring Plan (MMP) is designed to ensure that the mitigation measures identified in the EIR/EA are fully implemented. The MMP contains each mitigation measure found in the EIR/EA and is organized by topic in the same order as the contents of the EIR/EA. The agency responsible for monitoring is identified for each measure. The MMP will be considered by the MPWMD in conjunction with project review.

## Vegetation and Wildlife

### **Mitigation Measure BIO-1: Minimize or Prevent Disturbance to Adjacent NRMA**

To prevent disturbance of the adjacent NRMA, management measures will be carried out during project construction and operation to minimize construction effects and the potential for introducing invasive nonnative species. The construction contractor will implement BMPs to prevent the spread outside the construction area of construction materials, oil and fuel, sidecast soil, dust, or water runoff. All invasive nonnative plants, such as iceplant or pampas grass, will be removed from the construction area prior to site disturbance to avoid the spread of plant fragments or seeds. A firebreak consistent with the requirements of the Presidio of Monterey Fire Department and acceptable to the City of

Seaside Fire Department will be located and maintained by MPWMD between the well site and the adjacent NRMA.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

**Mitigation Measure BIO-2: Remove Trees and Shrubs during the Nonbreeding Season for Most Birds (September 1 To February 15)**

Clearing of the site for inspection, maintenance and cleaning, and construction of the well and associated facilities and the pipeline, and subsequent inspection and maintenance and cleaning activities will result in the removal of trees and shrubs that provide suitable nesting habitat for migratory birds. To avoid the loss of active migratory bird nests, tree and shrub removal will be conducted only during the nonbreeding season for migratory birds (generally September 1 to February 15). Removing woody vegetation during the nonbreeding season will ensure that active nests will not be destroyed by removal of trees supporting or adjacent to active nests.

*Monitoring:* Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.

## Aquatic Resources

**Mitigation Measure AR-1: Conduct Annual Survey Below River Mile 5.5 and Monitor River Flow in January–June Period.**

Even though the project impact is beneficial and no mitigation is required, the following mitigation is proposed to ensure adequate monitoring of the lower Carmel River. At the beginning of each diversion season and following each storm with a peak flow greater than 3,000 cfs, MPWMD shall conduct a survey of the river channel below RM 5.5 and identify five specific locations where low flows or the channel configuration could potentially block or impair upstream migration of adult steelhead.<sup>1</sup> During the period from December 1 through May 31 when water is being diverted from the Carmel River and injected into the Seaside Groundwater Basin, MPWMD shall monitor flow at the Highway One Bridge, and water currents, depths, and channel configuration at each of the five sites previously identified. If evidence of impairment or blockage is found, MPWMD shall cease diverting until flow increases or until the channel configuration is modified so as to alleviate the blockage or impairment. In the event that channel conditions improve or deteriorate for more than two seasons, the bypass flow criteria shall be reexamined and may be modified by among between NOAA Fisheries, CDFG, and the MPWMD.

<sup>1</sup> Potential impairment or blockage shall be monitored by measuring water depths at the shallowest points at 2-foot intervals along the crest of riffles. For the purpose of monitoring and assessing the need for channel modifications, the potential for impairment and/or blockage shall be based on the following criteria: **blockage**, if the width and depth of a continuous section is less than 5 feet wide and  $\geq 0.6$  feet deep; **impaired**, if the width and depth of a continuous section is five to ten feet wide and  $\geq 0.6$  feet deep, and **no impairment**, if the width and depth of a continuous section is  $\geq 10$  feet wide and  $\geq 0.6$  feet deep.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during project operation.

**Mitigation Measure AR-2: Cooperate to Help Develop a Project to Maintain, Recover, or Increase Storage in Los Padres Reservoir and If Needed, Continue Funding Program to Rescue and Rear Isolated Juveniles**

To ensure the continued benefit of the Proposed Project to the Carmel River and dependent resources during future low-flow periods, MPWMD will encourage and work with Cal-Am, CDFG, and NOAA Fisheries to investigate and develop a project to improve summer flows and the quality of releases by maintaining, recovering, or increasing storage capacity in the existing Los Padres Reservoir. MPWMD will provide staff expertise and data, as requested. Cal-Am, as owner and operator of Los Padres Dam and Reservoir, is responsible for maintenance of the dam and compliance with existing regulations, including water right conditions. MPWMD will request that Cal-Am develop an updated elevation-capacity curve for Los Padres Reservoir that provides current estimates of the amount of storage capacity available at various elevations in the reservoir area.

In the meantime, MPWMD will continue funding and operation of its program to rescue and rear juvenile steelhead that are stranded downstream of the USGS gaging station at Robles del Rio (RM 14.4). This program is part of MPWMD's mitigation program that was adopted in 1990 when the MPWMD Board certified the MPWMD Water Allocation Program EIR. Without significant progress in maintaining storage capacity in Los Padres Reservoir, the rescue program will be needed in most years.-

*Monitoring:* Cal-Am is responsible for ensuring that this mitigation measure is implemented. Cal-Am will conduct on-site monitoring of Los Padres Reservoir during project operation. MPWMD will provide staff expertise and data, as requested, and continue funding and operation of its program to rescue and rear juvenile steelhead.

## Cultural Resources

**Mitigation Measure CR-1: Stop Work If Buried Cultural Deposits Are Encountered during Construction Activities**

If buried cultural resources such as chipped stone or groundstone, historic debris, building foundations, or human bone are inadvertently discovered during ground-disturbing activities, the construction contractor will stop work in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include avoidance strategies or mitigation of impacts through data recovery programs such as excavation or detailed documentation.

*Monitoring: MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.*

**Mitigation Measure CR-2: Stop Work If Human Remains Are Encountered during Construction Activities**

If human skeletal remains are encountered, the construction contractor will notify MPWMD and the county coroner immediately. MPWMD will ensure the construction specifications include this order.

If the county coroner determines that the remains are Native American, the coroner will be required to contact the Native American Heritage Commission (pursuant to Section 7050.5 [c] of the California Health and Safety Code) and the County Coordinator of Indian Affairs. A qualified Jones & Stokes archaeologist will also be contacted immediately.

If human remains are discovered in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the coroner of the county has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin:
  - the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of with appropriate dignity the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98; or
  - the NAHC was unable to identify a descendent or the descendent failed to make a recommendation within 24 hours after being notified by the commission.

According to the California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the NAHC.

*Monitoring: MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.*



# Surface and Groundwater Hydrology and Water Quality

## **Mitigation Measure GWH-1: Comply with Performance Standards in NPDES Permits**

All construction activities, vehicle storage, and discharges associated with project construction and operation, including well discharges, shall be accomplished in accordance with NPDES permits from the RWQCB to ensure no degradation of surface or groundwater quality. All performance standards contained in the permit will be met.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

## **Mitigation Measure GWH-2: Operate Project in Compliance with SWRCB and DHS Policies**

MPWMD shall operate the Proposed Project in compliance with the SWRCB's Anti-Degradation Policy (Resolution 68-16), and applicable DHS regulations regarding drinking water quality.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during project operation.

## **Mitigation Measure GWH-3: Modify Project Operations as Required by Results of Monitoring**

Groundwater conditions shall be tracked via the MPWMD's existing monthly monitoring program. In the event that any adverse impacts to groundwater conditions occur, MPWMD shall halt operations and consult with the RWQCB to determine appropriate operational changes.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during project operation.

## **Mitigation Measure GWH-4: Operate Project in Compliance With NOAA Fisheries Recommendations and to Reduce Unlawful Diversions**

MPWMD shall operate the Proposed Project in accordance with all of the bypass terms recommended by NOAA Fisheries in its 2002 report, *Instream Flow Needs for Steelhead in the Carmel River, Bypass Flow Recommendations for Water Supply Projects Using Carmel River Waters*. In addition, Cal-Am shall, to the maximum extent feasible, be required to utilize water that is available from the Seaside Basin due to the Proposed Project during the low-flow season from June 1 through November 30 to help reduce unlawful diversions from the Carmel River.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during project operation.

## Noise

### **Mitigation Measure NZ-1a: Prohibit Ancillary and Unnecessary Equipment During Nighttime Well Drilling Activities.**

The project applicant shall ensure that the construction contractor prohibit the use of all ancillary and unnecessary equipment during nighttime hours. The only equipment that will be allowed to operate during nighttime activities would be the drilling and well construction equipment; cleanup and other activities will occur only during daytime activities.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

### **Mitigation Measure NZ-1b: Employ Noise-Reducing Construction Practices to Meet Nighttime Standards.**

The construction contractor will employ noise-reducing construction practices such that nighttime standards (Table 10-3) are not exceeded. Measures that will be used to limit noise include, but are not limited to:

- using noise-reducing enclosures around noise-generating equipment;
- constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission; and
- enclosing equipment.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

### **Mitigation Measure NZ-1c: Prepare a Noise Control Plan.**

The construction contractor will prepare a detailed noise control plan based on the construction methods proposed. This plan will identify specific measurement that will be taken to ensure compliance with the noise limits specified above. The noise control plan will be reviewed and approved by City of Seaside staff before any noise-generating construction activity begins.

*Monitoring:* Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.

### **Mitigation Measure NZ-1d: Disseminate Essential Information to Residences and Implement a Complaint/Response Tracking Program.**

The construction contractor will notify residences within 500 feet of the construction areas of the construction schedule in writing prior to construction.

The construction contractor will designate a noise disturbance coordinator who will be responsible for responding to complaints regarding construction noise. The coordinator will determine the cause of the complaint and will ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator will be conspicuously posted on construction site fences and will be included in the written notification of the construction schedule sent to nearby residents.

*Monitoring: Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.*

### **Mitigation Measure NZ-2: Design Pump Stations to Meet Local Noise Standards.**

MPWMD will design the new pump station and chemical/electrical building so that noise levels do not exceed applicable City of Seaside noise standards and ordinances. Prior to field acceptance, MPWMD will retain an acoustical consultant to measure noise levels from the operating facility. If project-generated noise exceeds the noise ordinance performance standards, additional noise attenuation measures will be implemented to meet the standards. The proposed facility will not receive final acceptance until the required noise standards are met. This measure will be made a condition of the final design review.

*Monitoring: Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.*

## **Hazards and Hazardous Materials**

### **Mitigation Measure HAZ-1: Implement MEC Safety Precautions during Grading and Construction Activities at the Project Site.**

Because of the proposed well site's location, the following safety precautions are required for on-site activities. The requirements may be modified upon completion of the Munitions Response Remedial Investigation/Feasibility Study (MR RI/FS) process for the munitions response sites.

- All personnel accessing the proposed well site will be trained in MEC recognition. This safety training is provided by the U.S. Army at no cost to the trainee. Training may be scheduled by contacting Fort Ord BRAC Office, Lyle Shurtleff at 831-242-7919.
- If an item is discovered that is or could be MEC, it shall not be disturbed. The item shall be reported immediately to the Presidio of Monterey Police Department at 831-242-7851 so that appropriate U.S. military explosive ordnance disposal personnel can be dispatched to address such MEC as required under applicable law and regulations at the expense of the army.

- Ground disturbing activities, including perimeter fence installation, will be coordinated with USACE Unexploded Ordnance Safety Specialist so that appropriate construction-related precautions may be provided (Fisbeck pers. comm.). The USACE Pamphlet EP 75-1-2 entitled *Munitions and Explosives of Concern (MEC) Support During Hazardous, Toxic and Radioactive Waste (HTRW) and Construction Activities*, dated August 1, 2004, which can be found at <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep75-1-2/toc.htm> shall be followed by the USACE Safety Specialist to determine the type of construction oversight that will be needed based on the type of construction activities to be performed.
- Construction activities at the project site are subject to Monterey County Code, Ordinance 5012, Subsection 1 dated 2005, Title 16 “Environment,” Chapter 16.1 “Digging and Excavating on the Former Fort Ord,” which can be found at <http://municipalcodes.lexisnexis.com/codes/montereyco>. This ordinance prohibits excavation, digging, development, or ground disturbance unless an excavation permit is obtained and the permit requirements are followed.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

## Public Services and Utilities

### **Mitigation Measure PS-1: Coordinate Relocation and Interruptions of Service with Utility Providers during Construction**

The construction contractor will contact Underground Service Alert (800/642-2444) at least 48 hours before excavation work begins in order to verify the nature and location of underground utilities. In addition, the contractor will notify and coordinate with public and private utility providers at least 48 hours before the commencement of work adjacent to any utility, unless the excavation permit specifies otherwise. In addition, the service provider will be notified in advance of all service interruptions and will be given sufficient time to notify customers. The timing of interruptions will be coordinated with the providers to ensure that the frequency and duration of interruptions are minimized.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

### **Mitigation Measure PS-2: Protect All Existing Utilities Slated to Remain**

The construction contractor will be responsible for ensuring protection of all utilities slated to remain. All buried lines will be tape-coated in accordance with the requirements of American Water Works Association C214. All new water services, fire services, and water mains will be cathodically protected, in accordance with contract documents. In addition, the contractor will be required to comply with State Department of Health Services criteria for the separation of water mains and sanitary sewers, as set forth in Section 64630, Title 22, of the

California Administrative Code. MPWMD will ensure this measure is included in the contract specifications.

*Monitoring:* MPWMD is responsible for ensuring that this mitigation measure is implemented. MPWMD will conduct on-site monitoring during construction.

## Visual Resources

### **Mitigation Measure VIS-1: Incorporate Light-Reduction Measures into the Plan and Design of Exterior Lighting at Well Site.**

Where lighting is required or proposed, MPWMD will incorporate the following light-reduction measures into the lighting design specifications to reduce light and glare. The lighting design will also meet minimum safety and security standards.

- Luminaires will be the minimum required for property security to minimize incidental light.
- Luminaires will be cutoff-type fixtures that cast low-angle illumination to minimize incidental spillover of light onto adjacent properties and open space. Fixtures that project light upward or horizontally will not be used.
- Luminaires will be focused only where needed (such as building entrances) and should not provide a general “wash” of light on building surfaces.
- Luminaires will be directed away from habitat and open space areas adjacent to the project site.
- Luminaires will provide good color rendering and natural light qualities. Low-pressure sodium and high-pressure sodium fixtures that are not color-corrected will not be used.
- Luminaire mountings will be downcast and the height of poles minimized to reduce potential for backscatter into the nighttime sky and incidental spillover of light onto adjacent properties and open space. Light poles will be no higher than 20 feet. Luminaire mountings will have nonglare finishes.

*Monitoring:* Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.

## Cumulative Impacts

### **Mitigation Measure Cume-1: Coordinate with Relevant Local Agencies to Develop and Implement a Phased Construction Plan to Reduce Cumulative Traffic, Air Quality, and Noise Impacts**

MPWMD will contact local agencies that have projects planned in the same area (i.e., project sites within 1 mile or projects that affect the same roadways) and that have construction schedules that overlap with construction of the Proposed

Project. MPWMD (or their contractor) will coordinate with local agencies responsible for said projects to develop a phased construction plan that includes the following components.

- Evaluate roadways affected by construction activities and minimize roadway and traffic disturbance (e.g., lane closures and detours) and the number of construction vehicles using the roadways. This may involve scheduling some construction activities simultaneously or phasing.
- Prepare compatible traffic control plans for construction projects. If one traffic control plan cannot be prepared, the construction contractor for the Proposed Project and the relevant local agencies (or their construction contractors) will ensure that the traffic control plans for projects affecting the same roadways are compatible. The traffic control plan can be modeled after that required for the Proposed Project in Chapter 2.
- Phase construction activities so  $\text{NO}_x$  and PM10 emissions remain below MPUAPCD thresholds. For medium and large projects (defined as projects that involve construction on a 1-acre site or larger because there is a reasonable likelihood it could contribute to exceeding the MBUAPCD  $\text{NO}_x$  and PM10 emissions thresholds) that will be constructed during the same timeframe, MPWMD and the agencies will develop a phased construction plan so the cumulative  $\text{NO}_x$  emissions remain below 137 pounds per day and the cumulative PM10 emissions remain below 82 pounds per day (or less than 2.2 acres per day is disturbed). The phased construction plan will identify planned construction activities and equipment, anticipated emissions, and a schedule that can be used to estimate daily emissions. The phased construction plan will be reviewed and approved by the MPUAPCD. It will likely be necessary for proponents of other projects to implement  $\text{NO}_x$ -reducing construction practices, as well as dust reduction measures, to ensure  $\text{NO}_x$  and PM10 emissions are at acceptable levels. The dust reduction measures should include all feasible measures contained in Table 8-2 of MBUAPCD's CEQA Air Quality Guidelines (Getchell pers. comm.), which include the following.
  - Limit grading to 8.1 acres per day and grading and excavation to 2.2 acres per day.
  - Water graded / excavated areas at least twice daily. Frequency should be based on the type of operations, soil and wind exposure.
  - Prohibit all grading activities during periods of high wind (over 15 mph).
  - Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
  - Apply nontoxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, and hydro-seed area.
  - Haul trucks shall maintain at least 2'0" of freeboard.
  - Cover all trucks hauling dirt, sand, or loose materials.

- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as soon as possible.
- Cover inactive storage piles.
- Install wheel washers at the entrance to construction sites for all exiting trucks.
- Pave all roads at construction sites.

*Monitoring:* Prior to initiation of construction activities, MPWMD will ensure that this mitigation measure is implemented. MPWMD is responsible for ensuring compliance for the duration of the project.

## Temporary Pipeline Analysis

**Mitigation Measure WLD-1. Comply with U.S. Fish and Wildlife Service Biological Opinion Terms and Conditions.** The U.S. Army will require that any contracts let to construct the proposed temporary pipeline include the U.S. Fish and Wildlife Service BO terms and conditions for Reasonable and Prudent Measures numbers 5, 6, and 7 (U.S. Fish and Wildlife Service 2005, pages 63–65).

*Monitoring:* Prior to initiation of construction activities, Cal-Am will ensure that this mitigation measure is implemented. Cal-Am is responsible for ensuring compliance for the duration of the project.

### **Mitigation Measure WLD-2: Remove Trees and Shrubs during the Nonbreeding Season for Most Birds (September 1 To February 15)**

The placement and removal of the temporary pipeline may result in the trimming of trees and shrubs that provide suitable nesting habitat for migratory birds. To avoid the loss of active migratory bird nests, tree and shrub removal, if necessary, will be conducted only during the nonbreeding season for migratory birds (generally September 1 to February 15). Removing woody vegetation during the nonbreeding season will ensure that active nests will not be destroyed by removal of trees supporting or adjacent to active nests.

If shrub and tree trimming cannot be accomplished before the breeding season, a qualified wildlife biologist will conduct focused nest surveys for active nests of migratory bird species. If active nests are found in the project area, and if construction activities must occur during the nesting period, an appropriate “no-disturbance” buffer around the nest sites will be implemented until the young have fledged (as determined by a qualified biologist).

*Monitoring:* Prior to initiation of construction activities, Cal-Am will ensure that this mitigation measure is implemented. Cal-Am is responsible for ensuring compliance for the duration of the project.

**Mitigation Measure CUL-1: Stop Work if Buried Cultural Deposits Are Encountered during Construction Activities**

If buried cultural resources such as chipped or ground stone, quantities of bone or shell material, or historic debris or building foundations are inadvertently discovered during ground-disturbing activities, work will be stopped within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find. If, after evaluation by a qualified archaeologist, an archaeological site or other find is identified as meeting the criteria for inclusion in the NRHP or the CRHR, Cal-Am will retain a qualified archaeologist to develop and implement an adequate program for investigation, avoidance if feasible, and data recovery for the site, with Native American consultation, if appropriate.

If human skeletal remains are inadvertently encountered during construction of the temporary pipeline, the contractor will contact the Monterey County Coroner immediately. If the county coroner determines that the remains are Native American, the coroner will contact the NAHC, as required by Section 7050.5[c] of the California Health and Safety Code, and the County Coordinator of Indian Affairs. A qualified archaeologist will also be contacted immediately.

*Monitoring:* Cal-Am is responsible for ensuring that this mitigation measure is implemented. Cal-Am will conduct on-site monitoring during construction.

**Mitigation Measure HAZ-1: Provide MEC Training to Construction Workers.**

All construction workers that will enter the project site will receive training from qualified personnel on the identification and avoidance of MEC prior to beginning work.

*Monitoring:* Cal-Am is responsible for ensuring that this mitigation measure is implemented. Cal-Am will conduct on-site monitoring during construction.



**ATTACHMENT 5**

**BID DRAWINGS FOR SANTA MARGARITA ASR FACILITY SITE EXPANSION,  
PREPARED BY MAC DESIGN ASSOCIATES AND PUEBLO WATER RESOURCES,  
DATED MAY 25, 2018**

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GENERAL NOTES

- 1. ALL STATIONING & DISTANCES INDICATED ON THE DRAWINGS ARE BASED ON HORIZONTAL MEASUREMENTS IN FEET.
2. THE CONTRACTOR SHALL NOTIFY THE MPWMD AND CALIFORNIA AMERICAN WATER REPRESENTATIVES AT LEAST 2 WORKING DAYS IN ADVANCE OF ANY WORK WHICH WILL REQUIRE THE INSPECTION SERVICES.
3. "OWNER" SHALL MEAN THE MPWMD. "UTILITY" SHALL MEAN CALIFORNIA AMERICAN WATER COMPANY. "ENGINEER" IS THE MPWMD PROJECT ENGINEER, PUEBLO WATER RESOURCES.
4. AT LEAST 2 WORKING DAYS PRIOR TO ANY EXCAVATION WORK THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AT 1-800-642-2444 FOR LOCATING AND MARKING UNDERGROUND UTILITIES IN THE AREAS OF WORK.
5. THE EXISTING UTILITIES SHOWN AND INDICATED ON THE DRAWINGS ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY, AND ARE BASED ON AVAILABLE UTILITY INFORMATION PROVIDED BY THE UTILITY OWNER AND SELECTED FIELD LOCATING. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR VERIFICATION OF EXISTING UNDERGROUND UTILITIES, WHETHER INDICATED OR NOT ON THE DRAWINGS, PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL PROTECT ALL EXISTING OR NEWLY PLACED UTILITY STRUCTURES AND LINES FROM DAMAGE OR DISRUPTION OF SERVICE DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE NECESSARY TEMPORARY UTILITY SERVICES AND SHALL RESTORE PERMANENT UTILITY SERVICES DISRUPTED BY CONSTRUCTION ACTIVITY.
6. THE CONTRACTOR SHALL EXPOSE ALL EXISTING UTILITY LINES AT LEAST ONE WORKING DAY AHEAD OF PIPE LAYING OPERATION TO VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES. ANY CONFLICTS WILL BE RESOLVED BY THE MPWMD REPRESENTATIVE PRIOR TO PIPE INSTALLATION. IF ANY UNDERGROUND UTILITIES ARE DISCOVERED, THE CONTRACTOR SHALL SUBMIT ACCURATE STAMPED, SIGNED AND DATED DOCUMENTS DESCRIBING THE QUANTITY, SIZE, LOCATION, DEPTH, AND TYPE OF MATERIAL OF FOUND BURIED UTILITIES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING FOR THE PRESENCE OF CONTAMINATED SOIL AND/OR GROUNDWATER DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE MPWMD REPRESENTATIVE IF ANY SUSPECT MATERIALS ARE ENCOUNTERED. CONTACT SHALL BE MADE IMMEDIATELY BY TELEPHONE, WITH WRITTEN NOTIFICATION WITHIN 3 WORKING DAYS.
8. ALL TRENCHING OPERATIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 8 (CAL/OSHA).
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE ON OR OFF THE PROJECT SITE AS A RESULT OF CONSTRUCTION ACTIVITIES INCLUDING THE LACK OF DUST CONTROL AND TRAFFIC CONTROL.
10. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL CERTIFY THAT ALL WORK WAS PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, VARIATIONS SHALL BE DECLARED AND PRESENTED TO THE MPWMD IN WRITING UPON COMPLETION OF CONSTRUCTION, IN THE FORM OF MARKED UP PLANS SHOWING ALL CHANGES.
11. THE ENGINEER AND/OR THE MPWMD REPRESENTATIVE WILL NOT DIRECTLY CONTROL THE PHYSICAL ACTIVITIES OF THE CONTRACTOR OR ANY SUBCONTRACTORS. CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR WORKING CONDITIONS ON THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
12. THE CONTRACTOR SHALL VERIFY WORK IN FIELD AND SHALL SATISFY HIMSELF AS TO THE ACCURACY BETWEEN WORK SET FORTH ON THESE PLANS AND THE WORK REQUIRED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE MPWMD REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.
13. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE PROJECT ENGINEER FOR APPROVAL AND SHALL COORDINATE ALL WORK TO ALLOW VEHICLE ACCESS TO RESIDENCES AND/OR BUSINESSES NEAR THE PROJECT AREA. EXCEPT WHEN A LANE CLOSURE IS IN EFFECT IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN, NO VEHICLES, EQUIPMENT OR MACHINERY ARE ALLOWED TO PARK ON THE SHOULDER OF GENERAL JIM MOORE BOULEVARD AT ANY TIME.
14. ANY AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED TO ORIGINAL CONDITIONS AND HYDROSEEDING SO AS TO RESTORE NATURAL GROWTH, THIS INCLUDES ALL CUT OR FILL SLOPES, HYDROSEED MIX BE NATIVE MIX IN ACCORDANCE WITH REQUIREMENTS ON THE FORMER FORT ORD. A LAYER OF CRETIPEF WEED FREE MULCH, WEED FREE RICE, STERILE BARLEY STRAW, OR OTHER SIMILAR FUNCTIONING PRODUCT SHALL BE INSTALLED FOR EROSION CONTROL. CLEARED DELETERIOUS MATERIAL MUST BE WOODCHIPPED AND USED ON THE SITE AS MULCH.
15. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TEMPORARY CONSTRUCTION WATER APPLICATION FOR WATER USE AND METERING FROM MARINA COAST WATER DISTRICT PHONE NUMBER IS (831) 384-6131.
16. CONSTRUCTION SHALL COMPLY WITH THE 2006 STANDARD PLANS AND SPECIFICATIONS OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION, STATE OF CALIFORNIA, AND THE CITY OF SEASIDE STANDARD DETAILS AS NOTED ON THE CONSTRUCTION PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING COPIES OF SAID DOCUMENTS AND SHALL HAVE THEM AVAILABLE ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
17. WATER LINES, VALVES, AND WATER APPURTENANCES SHALL CONFORM TO THE 2017 STANDARD SPECIFICATIONS AND STANDARD PLANS OF THE CALIFORNIA AMERICAN WATER COMPANY.
18. ALL CONCRETE, REGARDLESS OF USE, SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
19. ALL EARTHWORK AND FOUNDATION CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE GEOTECHNICAL INVESTIGATION. CONTACT THE GEOTECHNICAL ENGINEER AT LEAST 48 HOURS PRIOR TO REQUESTING ON-SITE OBSERVATION OR TESTING SERVICES.
20. THE CONTRACTOR'S WORK SHALL CONFORM TO THE CITY OF SEASIDE'S ORDINANCE REGARDING MUNITIONS & EXPLOSIVES OF CONCERN (MEC).
21. ELECTRICAL AND/OR COMMUNICATIONS CONDUITS SHALL BE NONMETALLIC SCHEDULE 40 P.V.C. PLASTIC RATED 90° C WITH GLUE ON P.V.C. COUPLINGS AND FACTORY MADE ELBOWS AND SWEEPS: CARLON "PLUS40".
22. "OWNER" IS THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT (MPWMD), 5 HARRIS COURT BUILDING G, MONTEREY, CA. 94940. MPWMD SHALL REFER TO MPWMD OR MPWMD REPRESENTATIVE.

GENERAL WATER FACILITIES NOTES

CALIFORNIA-AMERICAN WATER COMPANY STANDARD DRAWINGS NO. A, B, C, D)

APPLICABLE TO CONSTRUCTION OF WATER MAIN AND APPURTENANCES FOR MONTEREY, MONTARA FELTON AND EAST PALO ALTO SERVICE TERRITORIES.

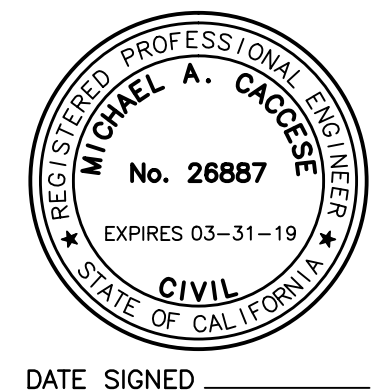
- 1. DEFINITIONS: IN THE FOLLOWING NOTES, UTILITY SHALL MEAN CALIFORNIA-AMERICAN WATER COMPANY, 511 FOREST LODGE ROAD, SUITE 100, MONTEREY, CA. 93950 AND INSTALLER SHALL MEAN ANY DEVELOPER, CONTRACTOR PROPERTY OWNER, FIRM OR PERSON WHO HAS BEEN DULY AUTHORIZED BY MPWMD AND CALIFORNIA-AMERICAN WATER COMPANY TO PERFORM WORK ON THE WATER SYSTEMS AND FACILITIES OWNED AND/OR OPERATED BY CALIFORNIA-AMERICAN COMPANY.
2. PROJECT CONTACT PERSON: FOR MATTERS RELATED TO WORK TO BE PERFORMED BY INSTALLER, PLEASE CONTACT MPWMD, 5 HARRIS COURT, BLDG. "G", ATTN:MAUREEN HAMILTON, MPWMD AT MHamilton@mpwmd.net .
3. INSTALLER REPRESENTATIVE. INSTALLER SHALL ASSIGN AND PROVIDE UTILITY WITH THE NAME AND CONTACT INFORMATION OF A REPRESENTATIVE (JOB FOREMAN) AT THE JOB SITE WHERE THE WORK WILL BE PERFORMED ON UTILITY FACILITIES. INSTALLER'S REPRESENTATIVE IS REQUIRED TO ATTEND ANY PRE-CONSTRUCTION WALK-THROUGH MEETINGS. INSTALLER REPRESENTATIVE IS REQUIRED TO BE ON THE JOBSITE DURING ALL PHASES OF WORK, INCLUDING INSPECTIONS, AND INSTALLER SHALL NOT REPLACE THE REPRESENTATIVE WITHOUT PRIOR APPROVAL FROM UTILITY.
4. STATE AND COUNTY ROAD ENCROACHMENT PERMITS. ANY WORK WITHIN A STATE RIGHT-OF-WAY SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE DEPARTMENT OF TRANSPORTATION (CALTRANS), INCLUDING ENCROACHMENT PERMITS. WORK WITHIN A COUNTY RIGHT-OF-WAY SHALL COMPLY WITH COUNTY REQUIREMENTS, INCLUDING ENCROACHMENT PERMITS. IT SHALL BE INSTALLER'S RESPONSIBILITY TO BE THOROUGHLY FAMILIAR WITH THE STATE AND/OR COUNTY STANDARDS OF WORK REQUIRED AND INCLUDE THE FULL COST OF COMPLIANCE INCLUDING TRAFFIC CONTROL, PERMITS, TRENCH FEES, ETC., IN THE RESPECTIVE BIT ITEMS.

UNAUTHORIZED CHANGES & USES CAUTION: The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

GENERAL WATER FACILITIES NOTES (CONT.)

- 5. OTHER PERMITS. INSTALLER OR HIS REPRESENTATIVE SHALL BE REQUIRED TO VERIFY THE REQUIRED PERMITS FOR THE WORK TO BE PERFORMED AND OBTAIN AND COMPLY WITH ALL NECESSARY PERMITS FOR CONSTRUCTION OF THE WATER SYSTEM, INCLUDING ENCROACHMENT PERMITS, DIGGING AND EXCAVATION ON FORMER FORT ORD PERMIT. INSTALLER IS RESPONSIBLE FOR NOTIFICATION TO MPWMD AND ANY JURISDICTIONAL AGENCIES BEFORE COMMENCEMENT OF WORK.
6. IDENTIFICATION OF BURIED UTILITIES. BEFORE ANY WORK ON UNDERGROUND FACILITIES, INSTALLER SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) OR IDENTIFYING ANY BURIED UTILITIES NEAR THE WORK AREA. USA (PHONE 1-800-642-2444) MUST BE GIVEN A 48 HOUR ADVANCE NOTICE. MPWMD IS ONLY RESPONSIBLE FOR MARKING THOSE WATER FACILITIES OWNED BY MPWMD AND SHALL NOT BE RESPONSIBLE FOR MARKING NEW FACILITIES UNTIL MPWMD ACCEPTS OWNERSHIP. ANY CALLS TO THE MPWMD REGARDING SUCH FACILITIES WILL BE FORWARDED TO THE INSTALLER. ANY DAMAGES TO WATER FACILITIES TO BE OWNED BY MPWMD MUST BE REPORTED TO MPWMD IMMEDIATELY AND MPWMD MUST BE ALLOWED TO INSPECT THE APPROVED REPAIRS OR REPLACEMENTS.
7. WATER SHUTDOWN NOTICES. INSTALLER SHALL NOTIFY UTILITY OR ASSOCIATED COMPANIES 48 HOURS BEFORE COMMENCING CONSTRUCTION AND FOR NOTIFICATION OF WATER SYSTEM SHUT OFF REQUESTS. INSTALLER MUST ENSURE THAT SHUT DOWN TIME WILL NOT EXCEED FOUR (4) HOURS WITHOUT PRIOR UTILITY AUTHORIZATION.
8. INSPECTION NOTICES. WHEN APPLICABLE, INSTALLER SHALL GIVE UTILITY AND CITY OF SEASIDE INSPECTORS 48 HOURS NOTICE (MINIMUM) BEFORE SCHEDULING ANY MEETING OR STARTING CONSTRUCTION, AND 24 HOURS NOTICE (MINIMUM) FOR INSPECTION.
9. VERIFICATION OF DATA AND INFORMATION PROVIDED BY UTILITY. NOTICE IS HEREBY GIVEN TO THE INSTALLER THAT UTILITY HAS MADE ALL REASONABLE EFFORTS TO IDENTIFY THE TYPES, LOCATIONS, SIZES AND DEPTHS OF EXISTING OR PLANNED UNDERGROUND OR ABOVEGROUND UTILITIES, STRUCTURES, ROADS, PIPELINES, HARD ROCK, STRATA, TOPOGRAPHY, ETC. SUCH ITEMS, WHEN DEPICTED ON THE PLANS, HAVE BEEN OBTAINED FROM SOURCES OF VARYING RELIABILITY. THEREFORE, UTILITY AND ASSOCIATED COMPANIES CANNOT ASSUME RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF SAID INFORMATION. INSTALLER SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING FACILITIES BY POT-HOLING ALL WATER LINE CONNECTION POINTS TO CONFIRM SIZE, DEPTH AND MATERIAL TYPE OF EXISTING FACILITIES. IN CASE OF CONFLICT/S, INSTALLER SHALL BRING THE MATTER TO THE ATTENTION OF UTILITY FOR RESOLUTION BEFORE CONTINUING WORK.
10. SURVEYING AND LOCATING. INSTALLER IS RESPONSIBLE FOR ALL REQUIRED SURVEYING AND STAKING, SHOWING THE LOCATION AND GRADES FOR INSTALLING THE WATER SYSTEM. INSTALLER IS RESPONSIBLE FOR PROTECTING AND MAINTAINING ALL SURVEY MONUMENTS AND STAKING WHETHER EXISTING OR DISCOVERED DURING CONSTRUCTION.
11. JOBSITE SAFETY. INSTALLER IS SOLELY RESPONSIBLE FOR ANY CURRENTLY APPLICABLE SAFETY LAW OF ANY JURISDICTIONAL AGENCY. INSTALLER IS ALSO RESPONSIBLE FOR PROJECT SITE SAFETY AND FOR PUBLIC SAFETY INCLUDING TRAFFIC CONTROL, 24-HOURS PER DAY FOR ALL DAYS FROM THE NOTICE TO PROCEED THROUGH THE NOTICE OF COMPLETION.
12. MATERIAL OF CONSTRUCTION. INSTALLER SHALL PROVIDE AND INSTALL ALL MATERIALS AND INSULATION OF THE WATER DISTRIBUTION SYSTEM IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF MPWMD AND CALIFORNIA-AMERICAN WATER COMPANY, WHICH ARE INCORPORATED HEREIN BY REFERENCE, UNLESS OTHERWISE NOTED ON THESE PLANS. MPWMD HAS THE FINAL DECISION ON ALL MATERIALS, INCLUDING BACKFILL, PIPE, FITTINGS, AND VALVES, THAT WILL BE USED FOR PLACEMENT OF ALL WATER FACILITIES INCLUDING ANY NEW WATER MAIN.
13. WORK COORDINATION. INSTALLER IS RESPONSIBLE FOR COORDINATING THEIR WORK WITH ALL OTHER CONTRACTORS TO AVOID ANY CONFLICTS.
14. PIPE AND FITTINGS. UNLESS SURROUNDING GROUND CONDITIONS DICTATE OTHERWISE, ALL HEADER PIPES FROM MAIN TO SERVICE METER SHALL BE 2" PVC, SCHEDULE 80, AND FROM METER TO SERVICE SHALL BE 1" OR 2" TYPE K COPPER. ALL STANDARD WATER MAINS LARGER THAN 12-INCHES SHALL BE CLASS 250, MORTAR LINED, BIT COATED AND POLYWRAPPED DUCTILE IRON. PIPING 12-INCH DIAMETER AND SMALLER SHALL BE AWWA C-900 CLASS 150 OR 200 PVC, UNLESS OTHERWISE NOTED (CLASS 200 PIPE IS REQUIRED WHEN WATER MAIN IS NEAR SEWERS). ALL FITTINGS SHALL BE DUCTILE IRON WITH CEMENT LINED INSIDE AND BITUMINOUS COATED OUTSIDE, WHICH SHALL BE PAINTED WITH POLYGLUE #14 MASTIC. INSTALLER SHALL PROVIDE PIPE AND FITTING MATERIALS SUBMITTAL TO MPWMD FOR APPROVAL BEFORE BEGINNING WORK.
15. FLANGED FITTINGS. ALL FLANGED FITTINGS SHALL BE BOLTED TOGETHER WITH ZINC COATED STEEL NUTS AND BOLTS, GRADE 5 OR BETTER.
16. MECHANICAL JOINTS. USE EBAA MECHANICAL JOINT MEGA-LUGS ON ALL MECHANICAL JOINT FITTINGS.
17. SEPARATION DISTANCE FROM SEWER LINES AND SOURCES OF CONTAMINATION. WATER MAINS SHALL BE LAID IN SEPARATE TRENCHES AS FAR AS POSSIBLE FROM NEARBY SEWER AND STORM DRAIN LINES, C-900 CLASS 200 PVC PIPE OR CLASS 50 DUCTILE IRON PIPE SHALL BE USED (CLASS OR PRESSURE RATING TO BE DETERMINED OR APPROVED BY UTILITY). PLACEMENT OF WATER NEAR OTHER SOURCES OF HYDROCARBON RELATED FACILITIES SHOULD REQUIRE SPECIAL APPROVAL FROM UTILITY. INSTALLER TO IMMEDIATELY INFORM THE UTILITY ENGINEER WHEN INSUFFICIENT SEPARATION CONDITIONS OCCUR (LESS THAN 10- FEET HORIZONTAL OR 1-FOOT VERTICAL).
18. UNDERGROUND PIPE IDENTIFIER. ALL INSTALLATION OF MAINS AND SERVICES SHALL HAVE GREEN COATED #10 GA. STANDARD COPPER WIRE FOR LOCATING.
19. HOT TAPS. ALL TAPPING SLEEVES TO BE MECHANICAL JOINT TYPE OR ALL STAINLESS STEEL CIRCUMFERENCE SEAL TYPE WITH STAINLESS STEEL FLANGE, BOLTS AND NUTS.
20. VALVES. UNLESS OTHERWISE NOTED OR DIRECTED BY UTILITY, INSTALLER SHALL INSTALL GATE VALVES (AWWA C-509) FOR WATER MAINS 12-INCHES OR SMALLER, AND INSTALL BUTTERFLY VALVES (AWWA C504) FOR MAINS LARGER THAN 12-INCHES. ALL VALVES SHALL BE FLANGED TO FITTINGS (CROSS, TEE, ETC.) EXCEPT WHERE MAINS ARE 4- FEET BEHIND SIDEWALK WITH TEES UNDER CORNER RADIUS IN WHICH CASE THE VALVE SHALL BE PLACED IN LINE BEYOND THE RADIUS AND RESTRAINED. GATE VALVES SHALL BE RESILIENT WEDGE, EPOXY COATED WITH S.S. BOLTS. VALVE STEMS SHALL BE PROVIDED FOR VALVES WITH A COVER OF 4- FEET OR GREATER. UNDERGROUND VALVES SHALL HAVE 8" DIAMETER (MINIMUM) VALVE BOX RISER, GRADE VALVE AND METAL LID MARKED "WATER", AS SHOWN ON UTILITY STANDARD DRAWINGS.
21. NOT USED
22. NOT USED
23. CONCRETE THRUST BLOCKS. THRUST BLOCKS SHALL BE INSTALLED WHERE PIPE DEFLECTIONS EXCEED 4 DEGREES PER COUPLING/FITTINGS, AS SPECIFIED BY PIPE MANUFACTURER. USE EBAA MECHANICAL JOINT MEGA-LUGS ON ALL MECHANICAL JOINT FITTINGS. USE EBAA SERIES 1600 PIPE RESTRAINTS IN LIEU OF CONC. THRUST BLOCKS. UTILITY ENGINEER TO ADVISE INSTALLER OF REQUIRED LENGTH OF PIPE TO BE RESTRAINED. CONCRETE THRUST BLOCKS TO BE USED IF RESTRAINTS CANNOT BE UTILIZED.
24. TRENCH DEPTH AND COVER. TRENCH DEPTH SHALL BE SUFFICIENT TO ALLOW TOP OF WATER MAINS 12-INCHES OR LESS TO HAVE A MINIMUM OF 36-INCHES OF COVER UNLESS OTHERWISE DIRECTED BY UTILITY ENGINEER. WATER MAINS OVER 12-INCHES SHALL HAVE A MINIMUM OF 42-INCHES OF COVER.
25. INSPECTION BEFORE BACKFILLING. ALL WATER FACILITIES, INCLUDING MAINS, FITTINGS, VALVES AND SERVICES SHALL BE INSPECTED AND APPROVED BY MPWMD BEFORE BACKFILLING.
26. BACKFILL SOIL COMPACTION TESTING. INSTALLER IS RESPONSIBLE FOR SECURING, COMPENSATING AND MONITORING OF; A STATE CERTIFIED INDEPENDENT SOILS TESTING SERVICE TO PROVIDE COMPACTION TESTING OF ALL BACKFILL WORK. COMPACTION TESTS DOCUMENTING COMPLIANCE WITH MINIMUM COMPACTION REQUIREMENTS WILL BE TAKEN AT 50 FOOT INTERVALS OR PER THE MINIMUM COUNTY REQUIREMENTS, WHICHEVER IS GREATER. ALL TESTING REPORTS SHALL BE SUBMITTED TO UTILITY FOR REVIEW AND APPROVAL AS SOON AS AVAILABLE. TESTING RESULTS FROM A CERTIFIED COUNTY OR CITY REPRESENTATIVE IS PERMITTED WHERE JURISDICTIONAL REQUIREMENTS PROVIDE SUCH COMPACTION TESTING.
27. DISINFECTIONS AND FLUSHING. INSTALLER SHALL PERFORM DISINFECTIONS AND FLUSHING OF NEW WATER SYSTEM/S IN ACCORDANCE WITH CAL-AM STANDARDS AND AWWA C651-14. WITH REGARDS TO THE DISPOSAL OF THE FLUSH WATER, INSTALLER SHALL BE REQUIRED TO COMPLY WITH MPWMD, COUNTY AND STATE NPDES DISCHARGE PERMIT REQUIREMENTS AND SHALL PROVIDE NECESSARY DOCUMENTATION ENSURING COMPLIANCE WHERE APPLICABLE.
28. INSPECTION BEFORE ACTIVATION. ALL WATER FACILITIES, INCLUDING MAINS, FITTINGS, VALVES AND SERVICES SHALL BE INSPECTED AND APPROVED BY MPWMD BEFORE ACTIVATION. INSTALLER SHALL PROVIDE HYDROSTATIC TEST TO BE WITNESSED BY MPWMD REPRESENTATIVE PER UTILITY STANDARDS. UTILITY SHALL COLLECT SAMPLES FOR BACTERIOLOGICAL TESTING. NEW SADDLES AND SERVICES SHALL BE INSTALLED PRIOR TO BACTERIOLOGICAL AND PRESSURE TESTING OF MAIN.
29. AS-BUILT DRAWINGS. INSTALLER SHALL SUBMIT AS-BUILT (RECORD) DRAWINGS OF THE WATER SYSTEM, OR MODIFICATION INSTALLED BY THE INSTALLER. THE AS-BUILT DRAWINGS MUST BE SUBMITTED TO THE MPWMD WITHIN 30 DAYS OF COMPLETION OF CONSTRUCTION, RETENTIONS SHALL BE HELD UNTIL AS-BUILT APPROVAL BY MPWMD.
30. WARRANTY. WARRANTY OF NEW FACILITIES TO BE CONVEYED TO MPWMD SHALL BE FOR A MINIMUM PERIOD OF ONE YEAR FROM DATE OF COMMENCEMENT (OR FINAL ACCEPTANCE).
31. RETURNING PROPERTY TO ORIGINAL CONDITION. INSTALLER SHALL PHOTOGRAPH OR VIDEOTAPE JOB SITE AREA TO DOCUMENT EXISTING CONDITIONS BEFORE BEGINNING WORK TO MINIMIZE UNDUE CLAIMS. INSTALLER IS RESPONSIBLE TO RETURN ALL PROPERTY TO ORIGINAL OR BETTER CONDITION, INCLUDING TRAFFIC MARKINGS. ALL CLAIMS SHALL BE BORNE AND RESOLVED BY INSTALLER OR MPWMD SHALL ADDRESS SAID CLAIM AND MAY DEDUCT ANY COSTS FRO FINAL PAYMENT/RETENTION. A COPY OF THE CLAIM DOCUMENTS SHALL BE SUBMITTED TO MPWMD WITHIN 48 HOURS AFTER RECEIVING ANY SUCH CLAIMS.

THE CONTRACTOR'S WORK SHALL CONFORM TO THE CITY OF SEASIDE'S ORDINANCE REGARDING MUNITIONS & EXPLOSIVES OF CONCERN (MEC).



DATE SIGNED

GRADING AND PAVING NOTES

- 1. ALL WORK SHALL BE IN CONFORMANCE WITH THE FOLLOWING:
(A) PROJECT PLANS AND SPECIFICATIONS
(B) STANDARD SPECIFICATIONS AND STANDARD DETAILS, LATEST EDITION OF THE CITY OF SEASIDE.
(C) APPLICABLE SECTIONS OF THE CALTRANS STANDARD SPECIFICATIONS, LATEST EDITION.
(D) APPLICABLE SWPPP, NOI, AND NPDES REQUIREMENTS FOR THE PROJECT.
(E) FORT ORD REUSE AUTHORITY RIGHT OF ENTRY, CITY OF SEASIDE DIGGING AND EXCAVATING ON THE FORMER FORT ORD PERMIT
(F) AQUIFER STORAGE AND RECOVERY MITIGATION MONITORING PLAN
2. CONTRACTOR SHALL NOTIFY MPWMD, CAL-AM, & THE CITY OF SEASIDE AT LEAST TWO (2) WORKING DAYS BEFORE STARTING GRADING WORK.
3. WORK SHALL CONSIST OF ALL EARTHWORK RELATED TO THE SITE: ALL CLEARING, GRUBBING, STRIPPING, ROUGH GRADING, PREPARATION OF FOUNDATION AND MATERIALS FOR RECEIVING FILLS, EXCAVATION, IMPORT AND/OR EXPORT OF FILL, PROCESSING, PLACEMENT AND COMPACTION OF FILL MATERIALS, PLACEMENT OF SUBSURFACE DRAINS, PLACEMENT OF AGGREGATE BASE MATERIAL, ASPHALT CONCRETE (AC) AND/OR PORTLAND CEMENT CONCRETE (PCC) PAVING, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING AND PAVING TO CONFORM TO THE LINES, GRADES AND SLOPES, AS SHOWN ON THESE PLANS.
4. SITE CONDITIONS: THE CONTRACTOR SHALL VISIT THE SITE, EXAMINE AND NOTE ALL CONDITIONS AS TO THE CHARACTER AND EXTENT OF WORK INVOLVED.
5. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS OR CERTIFICATES AS REQUIRED BY THE CITY.
6. ALL EARTHWORK SHALL BE CONSTRUCTED PER THE GRADING SPECIFICATIONS IN THE GEOTECHNICAL REPORT. ALL SOIL SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE COMPACTION, AS REQUIRED BY THE ASTM TEST DESIGNATIONS D1557, D1556 AND D2992, EXCEPT THE PAVEMENT SUB-GRADE. THE UPPER LAYER OF SUBGRADE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION, THE EXACT DEPTH SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND/OR AS SHOWN ON THESE PLANS.
7. BACKFILL FOR UNDERGROUND UTILITIES PLACED ON THE SITE SHALL CONSIST OF CLEAN SAND MATERIAL (MINIMUM S.E. = 30) TO A MINIMUM OF 12 INCHES OVER THE CONDUIT, UNLESS SHOWN OTHERWISE ON THE PLAN. BACKFILL FOR UNDERGROUND UTILITIES PLACED IN EXISTING STREETS SHALL CONSIST OF CLEAN, IMPORTED SAND MATERIAL (MINIMUM S.E. = 30) AND MEETING THE REQUIREMENTS OF SECTION 19-306C(1) FOR THE FULL TRENCH DEPTH TO THE PAVEMENT SUBGRADE, UNLESS SHOWN OTHERWISE ON THE PLAN. A SAMPLE SHALL BE SUBMITTED FOUR (4) DAYS BEFORE INTENDED USE, FOR REVIEW BY THE ENGINEER. BACKFILL WITHIN THE UTILITY TRENCHES SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% OR 95% DEPENDING UPON THE LOCATION AND BASED UPON THE ASTM TEST DESIGNATIONS D1557, D1556 AND D2992.
8. AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION, THE CONTRACTOR, WHEN HE OR HIS SUBCONTRACTORS ARE OPERATING EQUIPMENT ON THE SITE, SHALL PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE BY WATERING AND/OR TREATING THE SITE OF THE WORK IN SUCH A MANNER THAT WILL CONFINE DUST PARTICLES TO THE IMMEDIATE SURFACE OF THE WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE DONE BY THE DUST FROM HIS OR HER SUBCONTRACTOR'S ACTIVITIES IN PERFORMING THE WORK UNDER THIS CONTRACT. THE PRICES FOR THE VARIOUS ITEMS OF WORK SHALL COVER THIS DUST CONTROL.
9. ALL AGGREGATE SUBBASE AND AGGREGATE BASE MATERIAL AND THE HANDLING AND PLACEMENT THEREOF, SHALL BE IN CONFORMANCE WITH CALTRANS STANDARD SPECIFICATIONS. AGGREGATE SUBBASE SHALL BE CLASS 1. AGGREGATE BASE SHALL BE CLASS 2. (RECLAIMED MATERIAL IS NOT APPROVED FOR USE IN THE CITY). COMPACT TO A MINIMUM OF 95% RELATIVE COMPACTION.
10. A PRIME COAT OF LIQUID ASPHALT, GRADE MC-70, CONFORMING TO CALTRANS STANDARD SPECIFICATIONS, MAY BE APPLIED AT THE APPROXIMATE TOTAL RATE OF 0.25+ GALLONS PER SQUARE YARD TO THE SURFACE OF AGGREGATE BASE PRIOR TO PLACEMENT OF ASPHALT CONCRETE, IF THERE IS TO BE DELAY IN PLACING THE ASPHALT CONCRETE PAVEMENT.
11. ASPHALT CONCRETE (AC) SHALL CONSIST OF A MIXTURE OF SAND, MINERAL AGGREGATE, AND LIQUID ASPHALT, DESIGNATED AS CALTRANS STANDARD SPECIFICATIONS, TYPE B, 1/2" MAXIMUM, MEDIUM GRADING, MIXED IN SUCH PROPORTIONS THAT THE PERCENTAGE BY WEIGHT WILL BE WITHIN:
SIEVE SIZES OPERATING RANGE (% PASSING)
3/4" 100%
1/2" 95%
3/8" 80-95%
NO.4 59-66%
NO.8 43-49%
NO.30 22-27%
NO.200 3-8%
PLUS PAVING ASPHALT, VISCOSITY GRADE AR4000 AT 5 TO 6-1/2% OF THE COMBINED DRY AGGREGATES.
ACTUAL MIX DESIGN SHALL BE SUBMITTED TO THE OWNER'S CIVIL ENGINEER FOR APPROVAL AT LEAST 10 WORKING DAYS PRIOR TO STARTING ANY PAVING WORK.
12. PAINT BINDER OF ASPHALT EMULSION, GRADE CRS-1, CONFORMING TO CALTRANS STANDARD SPECIFICATIONS, SHALL BE APPLIED TO EXISTING ASPHALT CONCRETE SURFACES AND VERTICAL CONCRETE SURFACES TO RECEIVE ASPHALT CONCRETE.
13. MATERIALS AND INSTALLATION OF PORTLAND CEMENT CONCRETE CURB, GUTTER AND SIDEWALK SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CALTRANS STANDARD SPECIFICATIONS AND THE CITY STANDARD SPECIFICATIONS AND DETAILS.
14. EXISTING A.C. SURFACE SHALL BE SAW CUT TO A NEAT STRAIGHT LINE PARALLEL WITH THE STREET CENTERLINE AND THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING, WHEN TRENCHING THROUGH CURB, GUTTER AND SIDEWALK. A SAW CUT WILL BE USED, WHERE EXISTING PAVEMENT IS TRENCHED, REPLACE WITH 3" A.C. AND A.B. MINIMUM OR MATCH THE EXISTING SECTION PLUS 2", WHICHEVER IS GREATER. THE EXPOSED BASE MATERIAL SHALL BE GRADED, RECOMPACTED AND RESEALED PRIOR TO REPAVING.
15. ALL VALVE BOXES AND MANHOLES TO BE SET FLUSH WITH FINISHED GRADE, UNLESS OTHERWISE NOTED.
16. APPROVAL OF THE CITY ENGINEER OR HIS AUTHORIZED REPRESENTATIVE, IS REQUIRED ON COMPLETED WORK PRIOR TO (A) PLACING OF ANY CONCRETE, (B) PLACING OF AGGREGATE BASE, (C) PLACING OF ASPHALTIC CONCRETE, (D) BACK FILLING TRENCHES FOR PIPE, WORK DONE WITHOUT SUCH APPROVAL, SHALL BE AT THE CONTRACTOR'S RISK. SUCH APPROVAL SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PERFORMING THE WORK IN AN ACCEPTABLE MANNER. REVIEW MAY INCLUDE SURVEY OF SUBBASE, BASE, AND AC/PCC FINISHED GRADE TO VERIFY GRADES.
GRADING TOLERANCES SHALL BE AS FOLLOWS:
AREA TOLERANCE
CURB & GUTTER 0.01 FEET
PAVEMENT 0.02 FEET
BASE OR SUBBASE 0.05 FEET
17. PRIOR TO PERFORMING THE FINAL GRADING AND SUB-GRADE COMPACTION FOR THE PAVED AREAS, THE CONTRACTOR SHALL REVIEW THE PROPOSED GRADES WITH THE MPWMD'S ENGINEER AND COMPLY WITH HIS REQUESTS FOR ANY MINOR GRADE CHANGES.
18. NOT USED
19. PAVEMENT MARKERS SHALL CONFORM TO SECTION 85 OF THE CALTRANS STANDARD SPECIFICATIONS AND THE SUPPLEMENTARY CONDITIONS.
20. ALL GRADING SHALL CONFORM TO APPROVED SPECIFICATIONS PRESENTED HEREON OR ATTACHED HERETO IN THE SPECIAL PROVISIONS. ALL GRADING WORK SHALL BE OBSERVED AND APPROVED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL BE NOTIFIED AT LEAST TWO (2) WORKING DAYS BEFORE BEGINNING ANY GRADING. UNOBSERVED AND UNAPPROVED GRADING WORK SHALL BE REMOVED AND REPLACED UNDER OBSERVATION.
21. QUALITY ASSURANCE: FIELD OBSERVATION AND TESTING OF THE EARTHWORK CONSTRUCTION SHALL BE COORDINATED BY THE OWNER'S CIVIL ENGINEER. EARTHWORK THAT IN THE OPINION OF THE ENGINEER, DOES NOT CONFORM TO THE PLANS, SHALL BE REMOVED AND REPLACED OR REWORKED UNTIL, IN THE OPINION OF THE ENGINEER, SATISFACTORY EARTHWORK CONSTRUCTION HAS BEEN OBTAINED. REWORKING, OR REMOVAL AND REPLACEMENT OF EARTHWORK CONSTRUCTION AS DISCUSSED IN THIS PARAGRAPH SHALL BE AT THE SOLE EXPENSE OF THE CONTRACTOR.
22. CAPE SEAL SHALL BE INSTALLED PER CAL TRANS SPECIFICATIONS FOR "DOUBLE SEAL COAT" PER SECTION 37-1.

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Table with 4 columns: REV, DATE, BY, DESCRIPTION. Row 1: B, 5/25/18, MAC, ISSUED FOR BID. Row 2: A, 4/05/18, MAC, 1ST SUBMITTAL.

Table with 2 columns: SCALE, VER. Row 1: HOR. N/A. Row 2: VER. N/A.

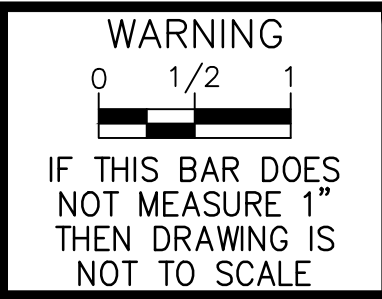


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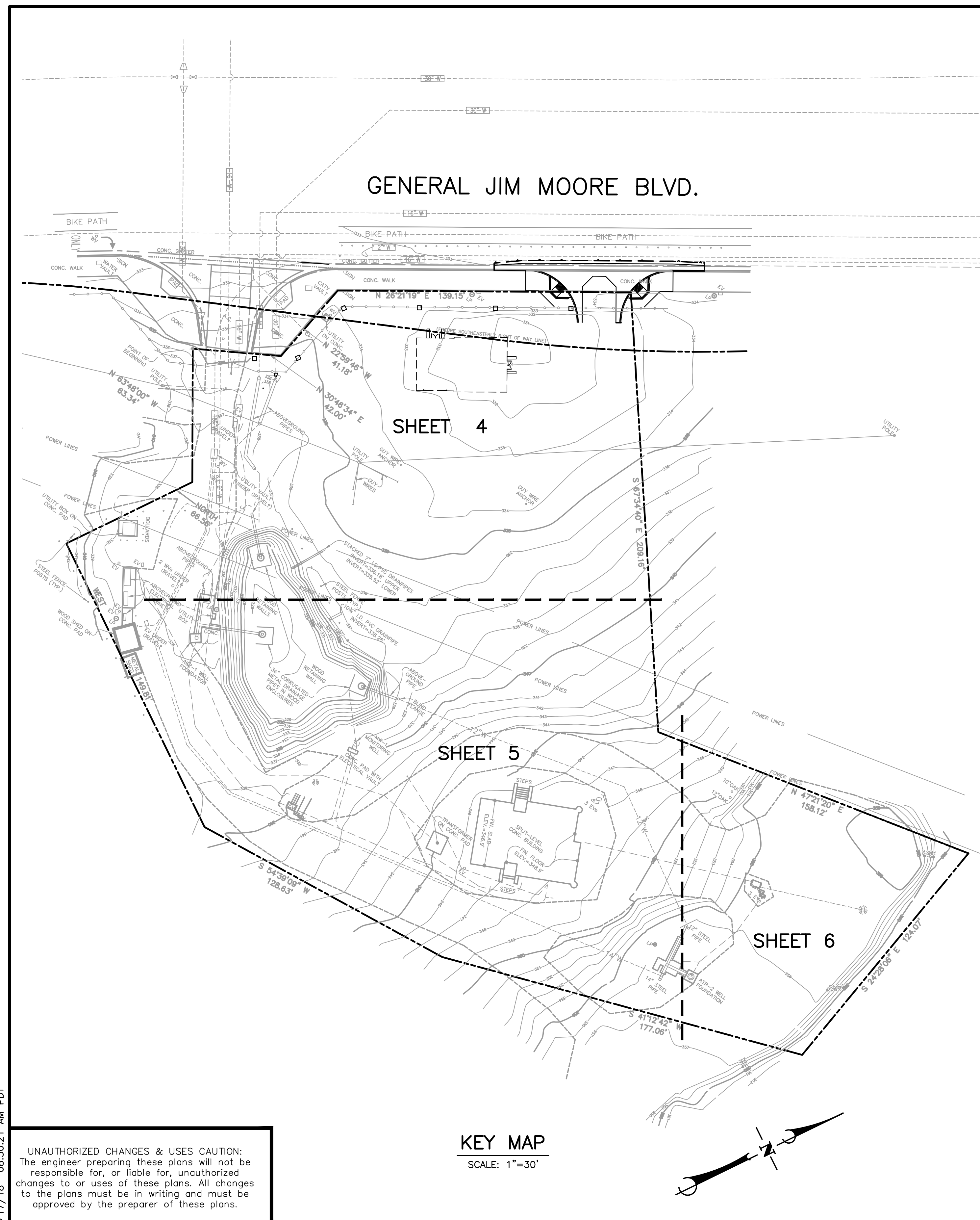
MAC Design Associates logo and contact information: CIVIL ENGINEERING \* LAND PLANNING \* BRIDGE DESIGN, 1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748



Pueblo Water Resources contact information: 4478 Market St., Suite 705, Ventura, CA 93003, (805) 644-0470

GENERAL INFORMATION: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT, SANTA MARGARITA ASR FACILITY SITE EXPANSION, 1910 GENERAL JIM MOORE BOULEVARD

Table with 2 columns: PROJECT NO. W.O. 0451, 1 of 9



**PIPE MATERIAL TABLE**

UTILITY	MATERIAL
WATER	12" - D.I.P. C250 16" - D.I.P. C250 30" - D.I.P. C250 w/RESTRAINED LOCKING GASKETS ALL D.I.P. MORTAR LINED & BITUMINOUS COATED w/RESTRAINED LOCKING GASKETS.
WATER VALVE	GATE VALVE - MAINS 12" & SMALLER BUTTERFLY VALVE - MAINS 12" & LARGER
FITTINGS	M.J. FITTINGS, DUCTILE IRON, CM LINED, W/EBBA IRON MEGALUG RESTRAINTS.

NOTE:  
PIPE AND FITTINGS PRE-PURCHASED AND PROVIDED BY OWNER;  
SEE MATERIALS LIST. ALL MISCELLANEOUS FITTINGS AND APPURTENANCES TO BE PROVIDED BY CONTRACTOR.

**EARTHWORK**

ESTIMATED EARTHWORK QUANTITIES:	CUT	FILL
SITE GRADING	2570 C.Y.	2175 C.Y.
TRENCH GRADING	10 C.Y.	5 C.Y.
SUBTOTAL	2580 C.Y.	2180 C.Y.
SHRINKAGE @ 15%	-400 C.Y.	
TOTAL	2180 C.Y.	2180 C.Y.

IMPORT = 0 C.Y.  
EXPORT = 0 C.Y.

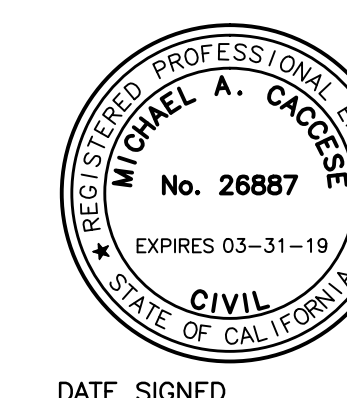
- (1) ESTIMATED QUANTITIES SHOWN ABOVE ARE COMPUTED FROM EXISTING GROUND ELEVATIONS TO THE PROPOSED ELEVATIONS ON THIS PLAN.
- (2) MATERIAL GENERATED THROUGH CLEARING & GRUBBING OPERATIONS WILL BE USED FOR EMBANKMENT AND NOT BE REMOVED FROM THE SITE.
- (3) FOR THE PURPOSE OF THESE EARTHWORK CALCULATIONS, THE PAVEMENT STRUCTURAL SECTION IS ASSUMED TO BE 0.75'.
- (4) NO MATERIAL WILL BE EXPORTED OR IMPORTED FROM THE SITE. THE BERMS LOCATED EASTERLY OF GENERAL JIM MOORE BOULEVARD AND NORTHERLY OF THE PROPOSED POND EXPANSION WILL BE ADJUSTED AS REQUIRED TO ENSURE EARTHWORK WILL BALANCE ONSITE.

**LEGEND**

--- 16"W ---	EXIST. WATER LINE	BLDG	BUILDING
□ EV	EXIST. ELECT. VAULT	C.L.	CENTERLINE
○	EXIST. WATER VALVE	CONT	CONTINUOUS
---	EXIST. FENCE LINE	CTR	CENTER
---	PROPERTY LINE	CMP	CORRIGATED METAL PIPE
---	PROPOSED 30" RAW W.L.	CMU	CEMENT MORTOR UNIT
---	PROPOSED 30" TREATED W.L.	DIA.	DIAMETER
---	PROPOSED STORM DRAIN LINE	DET	DETAIL
---	PROPOSED RETAINING WALL	ELEV	ELEVATION
---	PROPOSED CATCH BASIN	FLG	FLANGE
○	PROPOSED WATER VALVE	STL	STEEL
● DS	PROPOSED DOWNSPOUT	SHT	SHEET
		TF	TOP OF FOOTING
		TW	TOP OF WALL
		TYP	TYPICAL

**INDEX TO DRAWINGS**

1. GENERAL INFORMATION
2. KEY MAP
3. DEMOLITION PLAN
4. FINAL GRADING & DRAINAGE PLAN
5. FINAL GRADING & DRAINAGE PLAN
6. FINAL GRADING & DRAINAGE PLAN
7. CROSS SECTION & DETAILS
8. RETAINING WALL PROFILE & DETAILS
9. EROSION CONTROL PLAN



UNAUTHORIZED CHANGES & USES CAUTION:  
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**KEY MAP**  
SCALE: 1"=30'

REV	DATE	BY	DESCRIPTION
B	5/25/18	MAC	ISSUED FOR BID
A	4/05/18	MAC	1ST SUBMITTAL

SCALE:	HOR. 1"=30'
VER.	N/A

DESIGNED	MAC
DRAWN	TLA
CHECKED	SPT

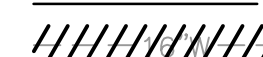
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**PUEBLO water resources**  
4478 Market St., Suite 705  
Ventura, CA 93003  
(805) 644-0470

**KEY MAP**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

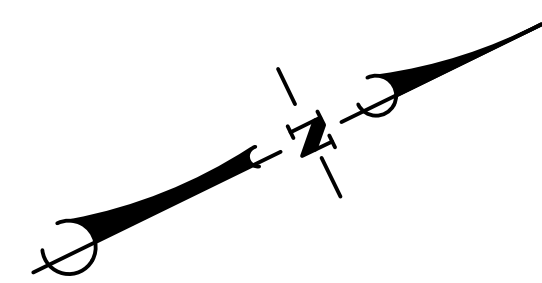
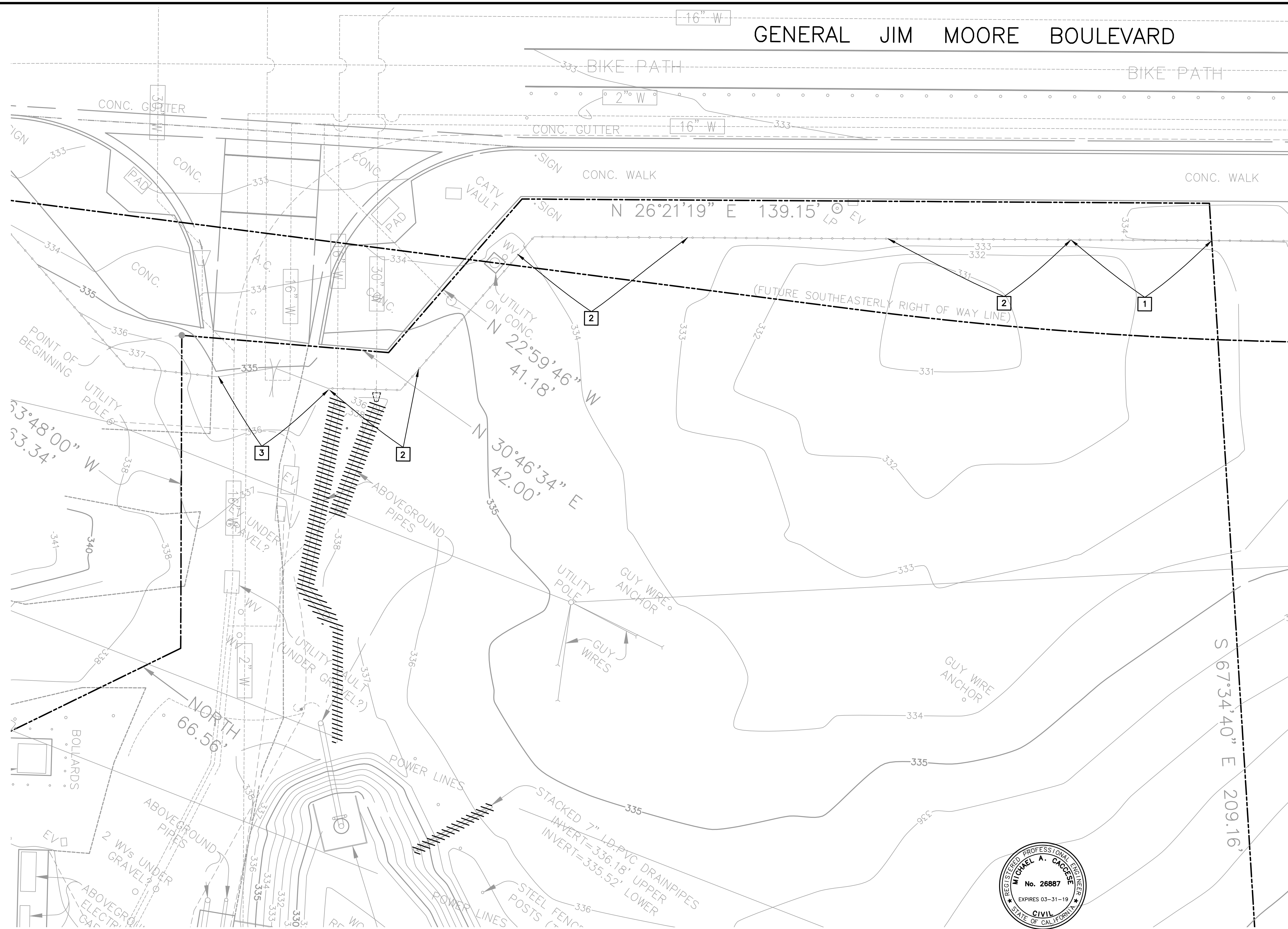
PROJECT NO. W.O. 0451
2 of 9

**LEGEND**

 REMOVE EXIST. UTILITY LINE AND REPLACE AND/OR CONNECT WITH NEW UTILITY PER CONSTRUCTION NOTES ON SHEET 4

**DEMOLITION NOTES**

- 1 REMOVE AND SALVAGE PORTION OF EXISTING FENCE TO CONSTRUCT SECURITY WALL, COLUMNS AND ROADWAY ENTRANCE SEE SHEET 4 FOR FENCE RECONSTRUCTION.
- 2 REMOVE EXIST FENCE
- 3 REMOVE AND SALVAGE EXISTING GATE SEE SHEET 4 FOR GATE AND FENCE RECONSTRUCTION.



SCALE: 1"=10'  
0 10 20 30 40

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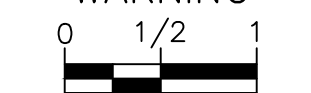


DATE SIGNED \_\_\_\_\_

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SCALE:  
HOR. 1"=10'  
VER. 1"=N/A

**WARNING**  
  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED MAC  
DRAWN TLA  
CHECKED SPT

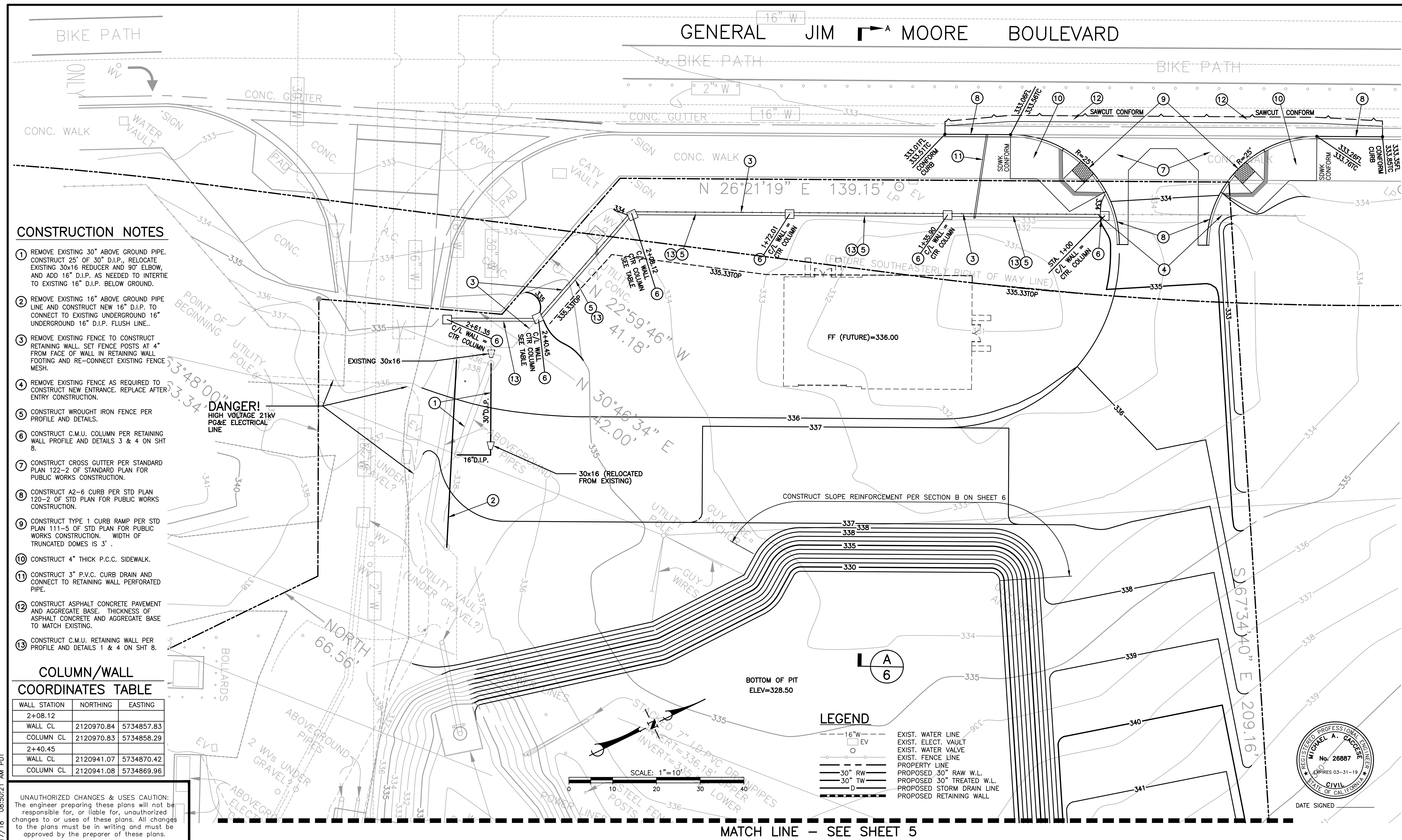
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**DEMOLITION PLAN**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.  
W.O. 0451  
**3 of 9**



**CONSTRUCTION NOTES**

- 1 REMOVE EXISTING 30" ABOVE GROUND PIPE. CONSTRUCT 25' OF 30" D.I.P., RELOCATE EXISTING 30x16 REDUCER AND 90° ELBOW, AND ADD 16" D.I.P. AS NEEDED TO INTERTIE TO EXISTING 16" D.I.P. BELOW GROUND.
- 2 REMOVE EXISTING 16" ABOVE GROUND PIPE LINE AND CONSTRUCT NEW 16" D.I.P. TO CONNECT TO EXISTING UNDERGROUND 16" UNDERGROUND 16" D.I.P. FLUSH LINE.
- 3 REMOVE EXISTING FENCE TO CONSTRUCT RETAINING WALL. SET FENCE POSTS AT 4" FROM FACE OF WALL IN RETAINING WALL FOOTING AND RE-CONNECT EXISTING FENCE MESH.
- 4 REMOVE EXISTING FENCE AS REQUIRED TO CONSTRUCT NEW ENTRANCE. REPLACE AFTER ENTRY CONSTRUCTION.
- 5 CONSTRUCT WROUGHT IRON FENCE PER PROFILE AND DETAILS.
- 6 CONSTRUCT C.M.U. COLUMN PER RETAINING WALL PROFILE AND DETAILS 3 & 4 ON SHT 8.
- 7 CONSTRUCT CROSS GUTTER PER STANDARD PLAN 122-2 OF STANDARD PLAN FOR PUBLIC WORKS CONSTRUCTION.
- 8 CONSTRUCT A2-6 CURB PER STD PLAN 120-2 OF STD PLAN FOR PUBLIC WORKS CONSTRUCTION.
- 9 CONSTRUCT TYPE 1 CURB RAMP PER STD PLAN 111-5 OF STD PLAN FOR PUBLIC WORKS CONSTRUCTION. WIDTH OF TRUNCATED DOMES IS 3'.
- 10 CONSTRUCT 4" THICK P.C.C. SIDEWALK.
- 11 CONSTRUCT 3" P.V.C. CURB DRAIN AND CONNECT TO RETAINING WALL PERFORATED PIPE.
- 12 CONSTRUCT ASPHALT CONCRETE PAVEMENT AND AGGREGATE BASE. THICKNESS OF ASPHALT CONCRETE AND AGGREGATE BASE TO MATCH EXISTING.
- 13 CONSTRUCT C.M.U. RETAINING WALL PER PROFILE AND DETAILS 1 & 4 ON SHT 8.

**COLUMN/WALL COORDINATES TABLE**

WALL STATION	NORTHING	EASTING
2+08.12	2120970.84	5734857.83
WALL CL	2120970.84	5734857.83
COLUMN CL	2120970.83	5734858.29
2+40.45	2120941.07	5734870.42
WALL CL	2120941.07	5734870.42
COLUMN CL	2120941.08	5734869.96

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REV	DATE	BY	DESCRIPTION

SCALE:  
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VER. 1"=N/A

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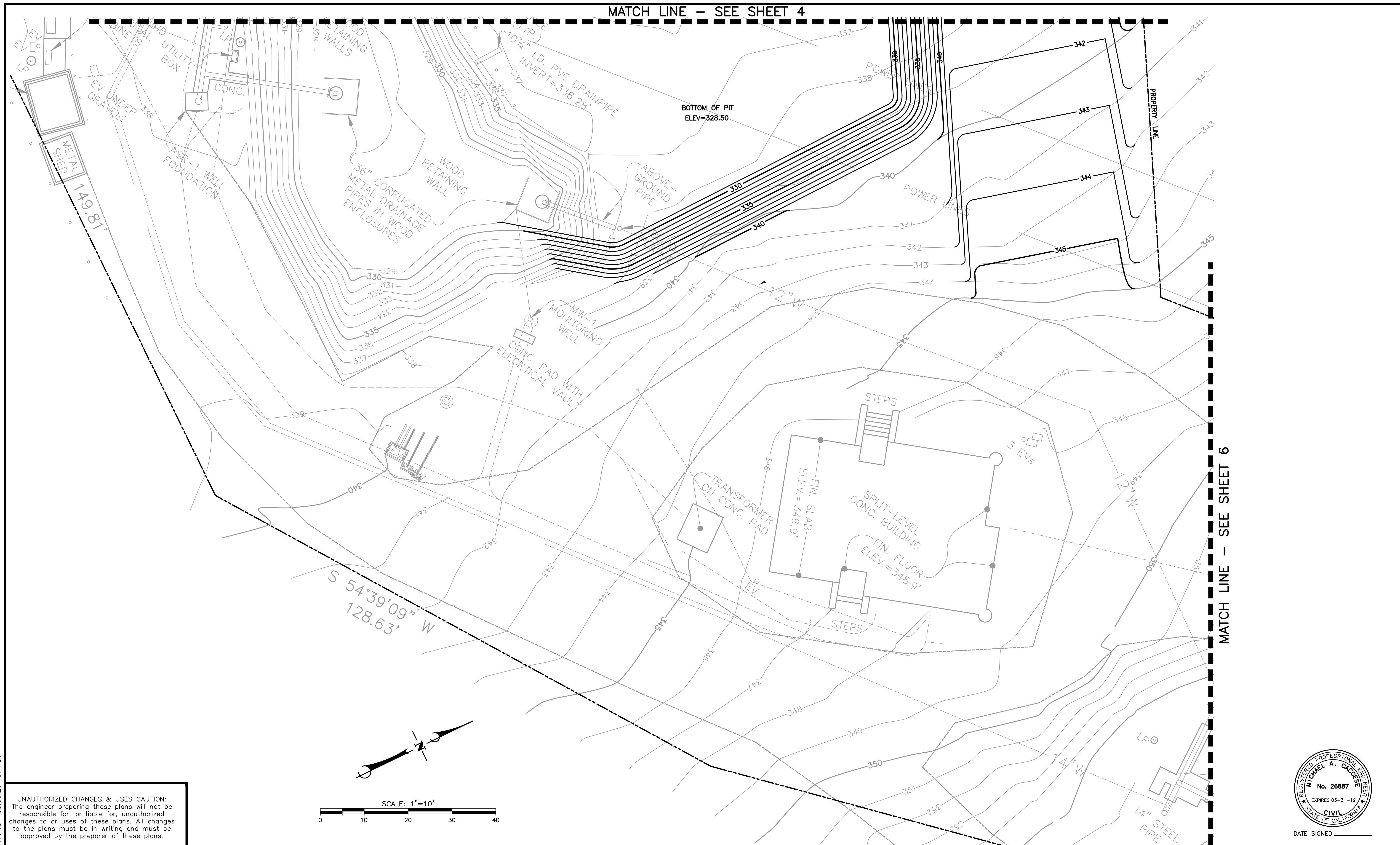


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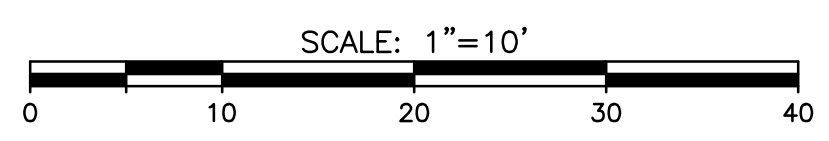
**FINAL GRADING PLAN**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO. W.O. 0451  
**4 of 9**

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VER. N/A

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DESIGNED MAC  
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CHECKED SPT

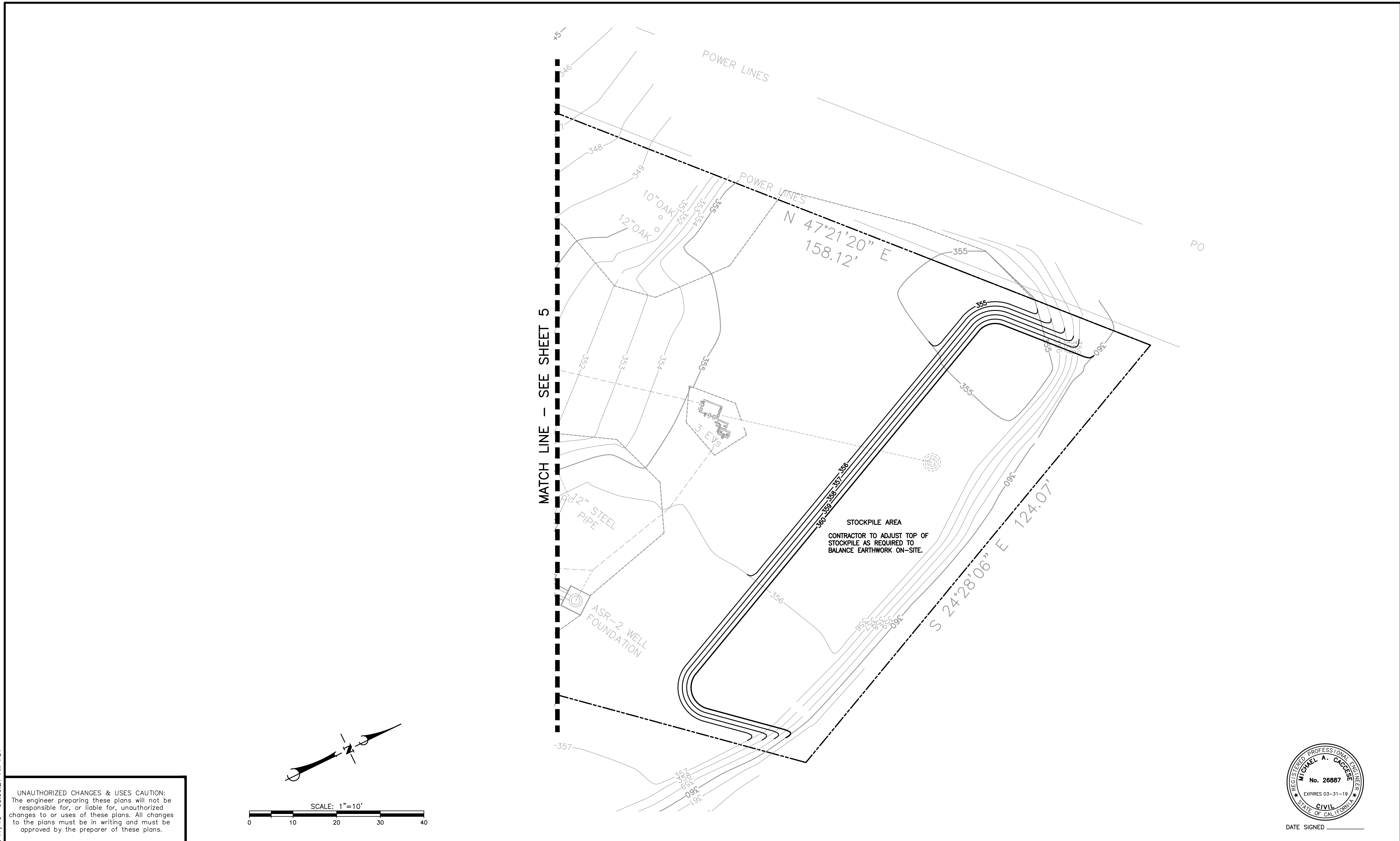
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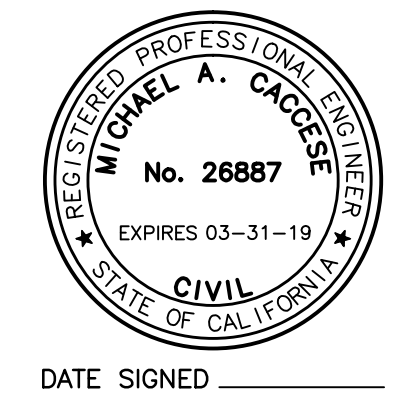
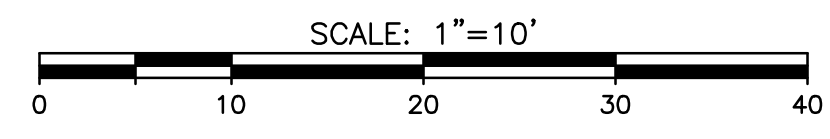
**FINAL GRADING PLAN**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.  
W.O. 0451  
**5 of 9**



MATCH LINE - SEE SHEET 5

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VER. N/A

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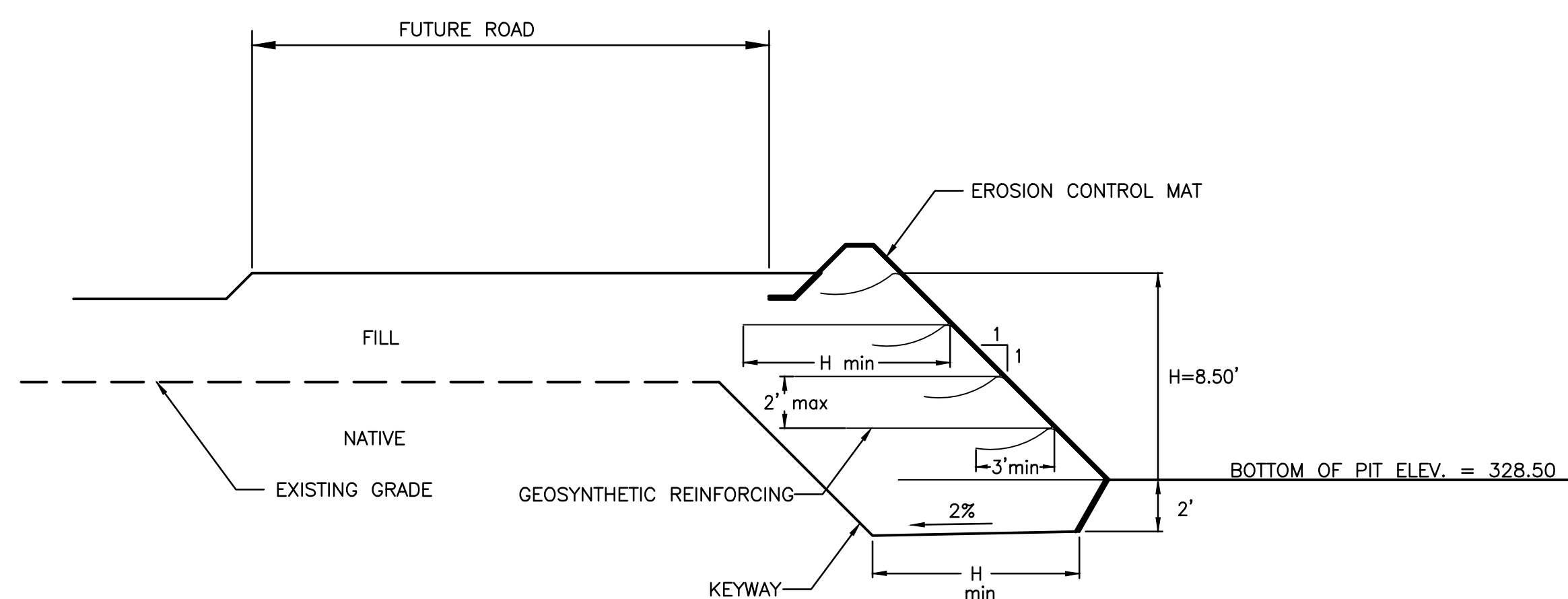


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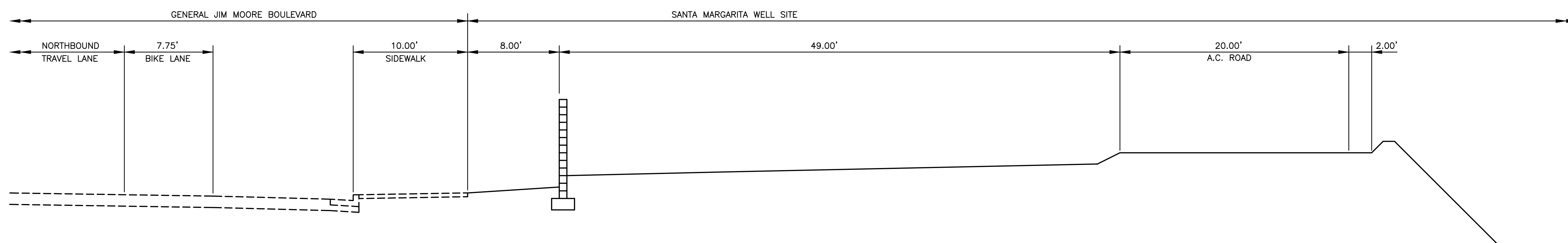
**FINAL GRADING PLAN**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.  
W.O. 0451  
**6 of 9**





**B** SECTION B  
6 SCALE: 1"=5'



**A** SECTION A-A  
6 SCALE: 1"=5'

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SCALE:  
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DESIGNED MAC  
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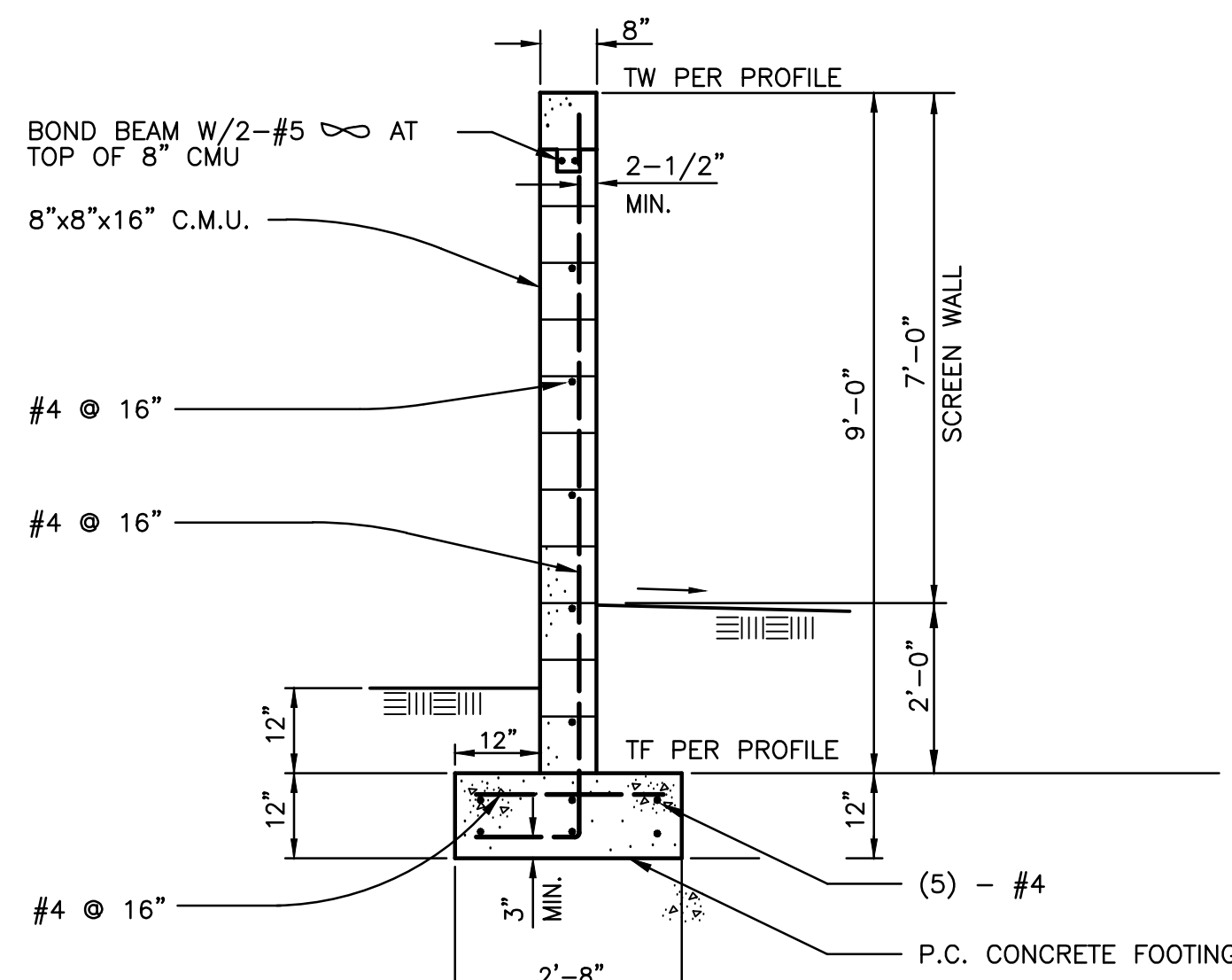
**Pueblo Water Resources**  
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**CROSS SECTION AND DETAILS**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

PROJECT NO.  
W.O. 0451

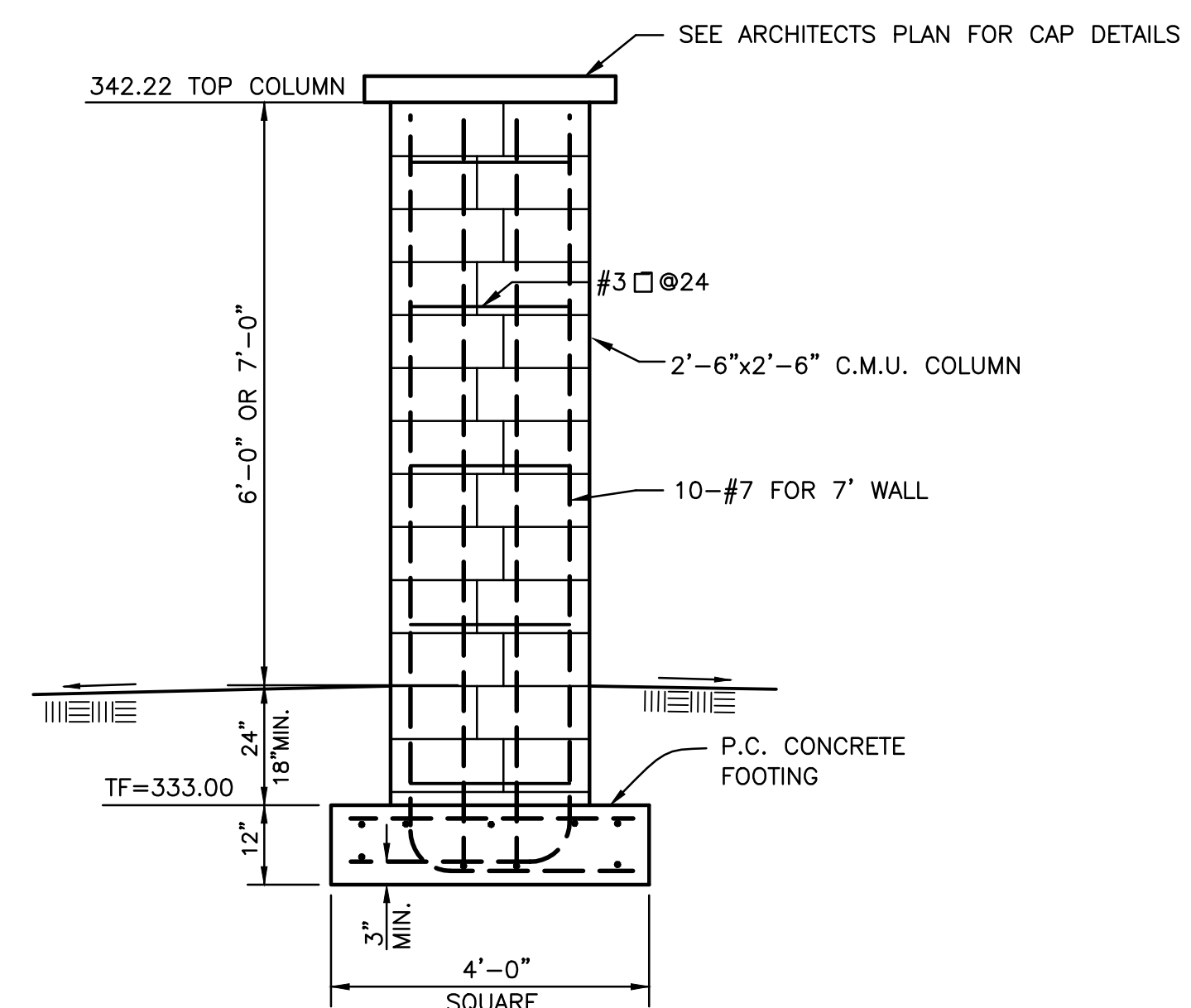
7 of 9

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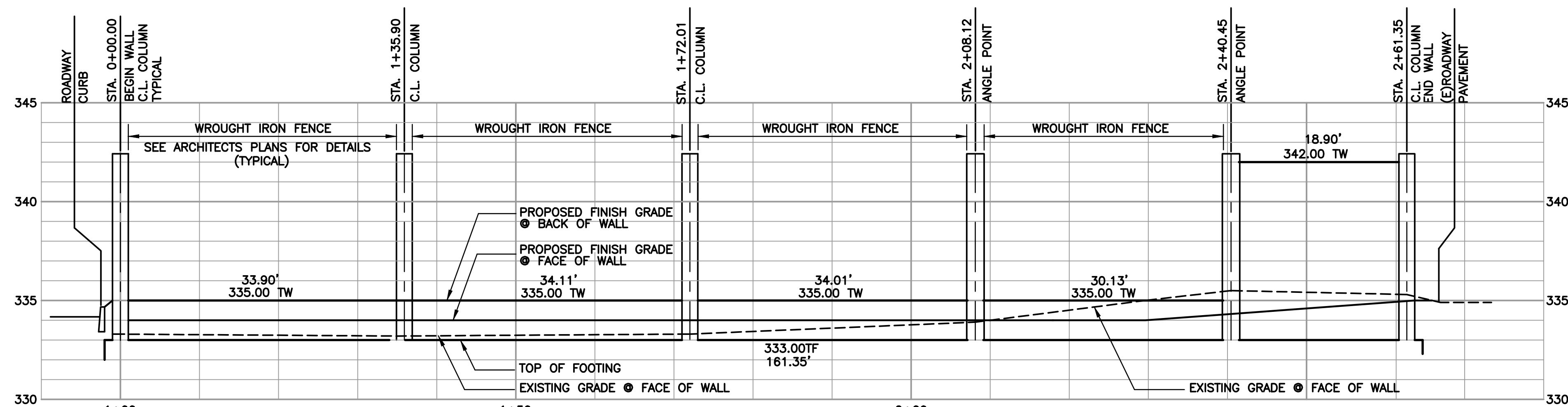
NOTE  
SEE ARCHITECTS PLAN FOR PLASTER COATING  
AND FINISH DETAILS

1  
8  
SCREEN WALL DETAIL  
NO SCALE

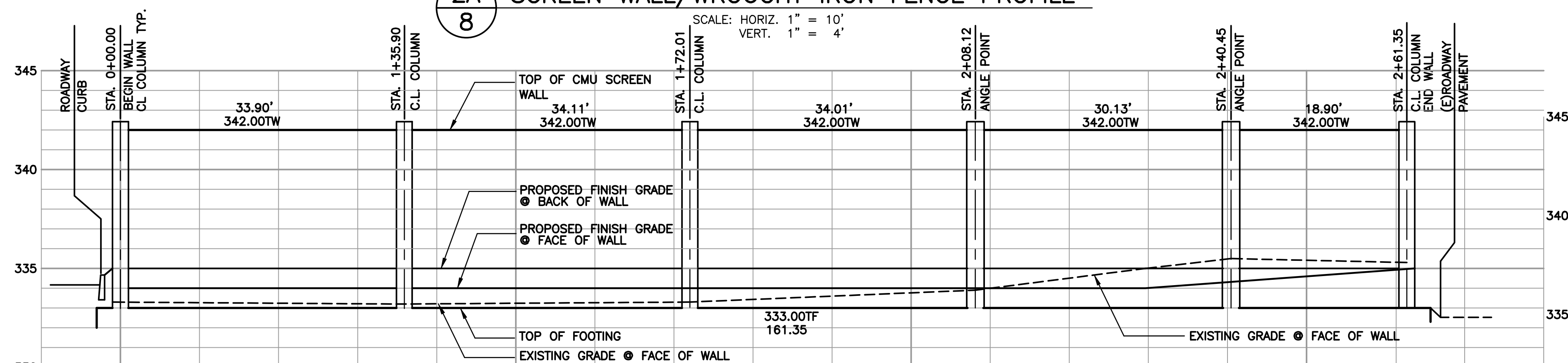


NOTES:  
1. HORIZONTAL REINFORCEMENT FOR COLUMN IS NOT SHOWN.  
SEE COLUMN TYPICAL SECTION (DETAIL "A" THIS SHEET) FOR DETAILS  
2. SEE ARCHITECTS PLAN FOR PLASTER COATING  
AND FINISH DETAILS

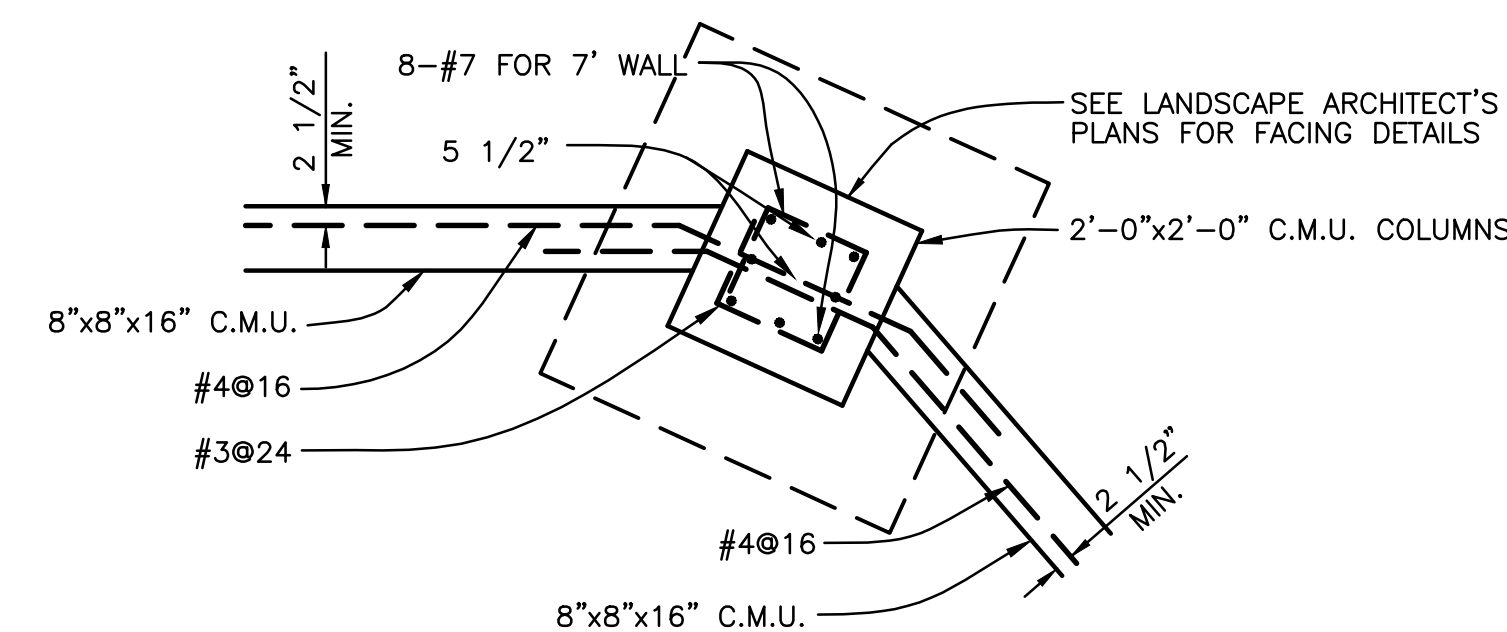
3  
8  
COLUMN DETAIL  
SCALE: 1" = 2'-0"



2A  
8  
SCREEN WALL/WROUGHT IRON FENCE PROFILE  
SCALE: HORIZ. 1" = 10'  
VERT. 1" = 4'

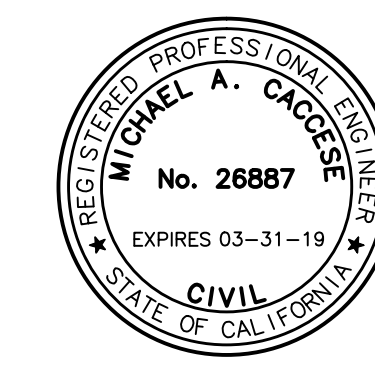


2B  
8  
SCREEN WALL PROFILE  
SCALE: HORIZ. 1" = 10'  
VERT. 1" = 4'



NOTES:  
1. HORIZONTAL REINFORCEMENT IN WALL MUST BE CONTINUOUS THROUGH COLUMN. LAP REINFORCEMENT 40 BAR DIAMETERS MINIMUM.  
2. VERTICAL REINFORCEMENT IN WALL IS NOT SHOWN. SEE SCREEN WALL DETAILS FOR INFORMATION.

4  
7  
COLUMN TYPICAL SECTION  
SCALE: 1" = 2'-0"



DATE SIGNED \_\_\_\_\_

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REV	DATE	BY	DESCRIPTION

SCALE:  
HOR. 1"=10'  
VER. 1"=2'

WARNING  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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DRAWN TLA  
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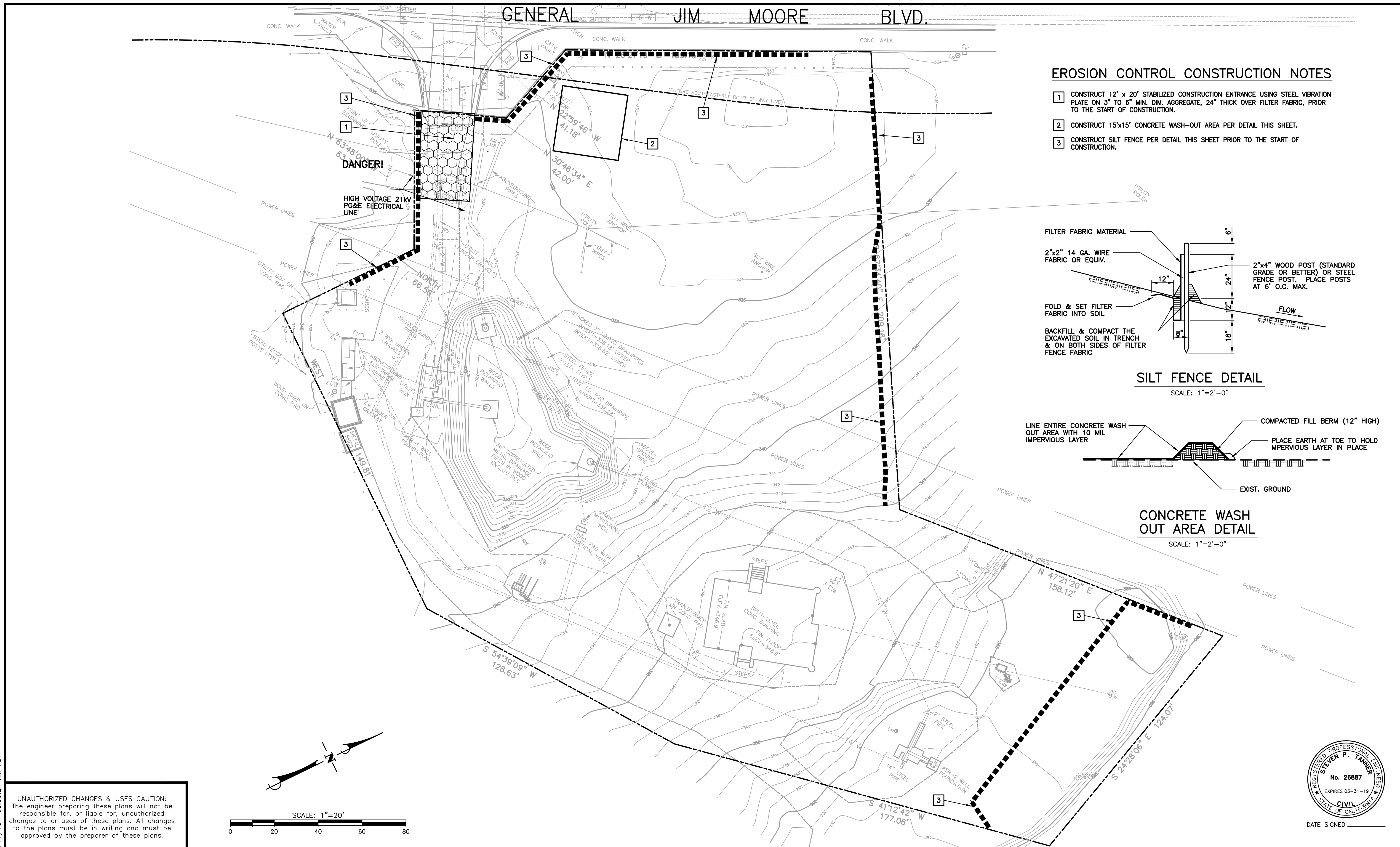


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**RETAINING WALL PROFILE AND DETAILS**  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
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1910 GENERAL JIM MOORE BOULEVARD

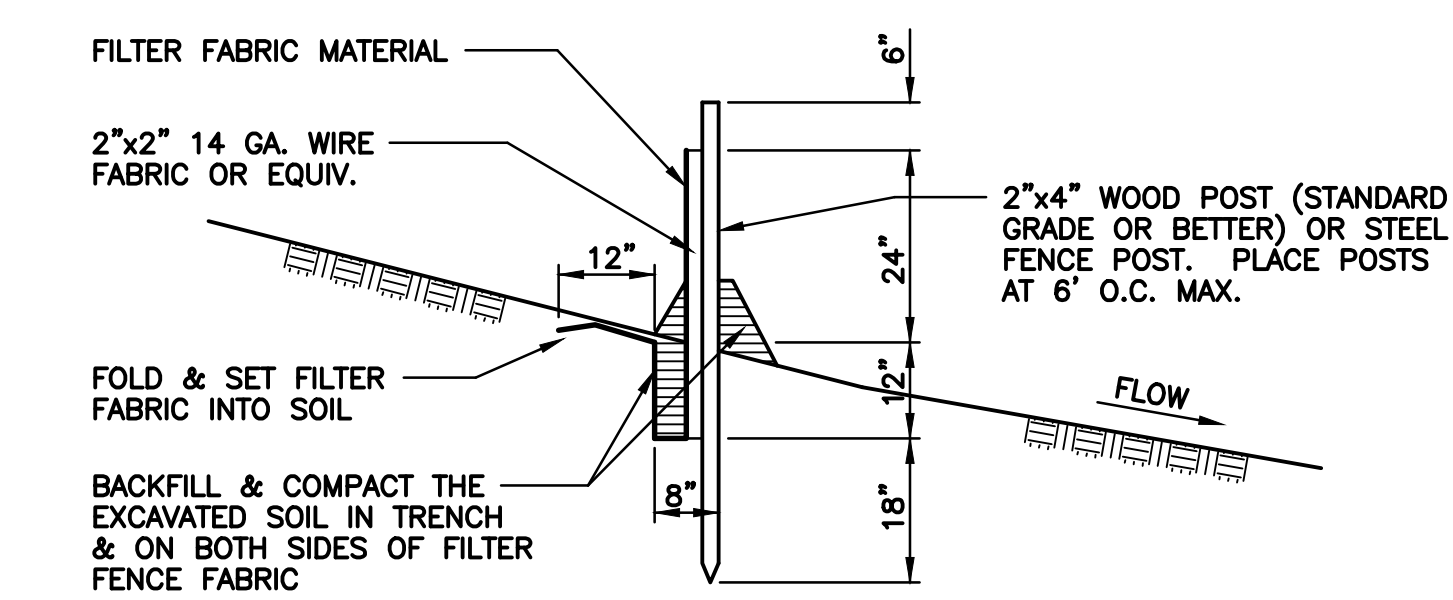
PROJECT NO.  
W.O. 0451

8 of 9

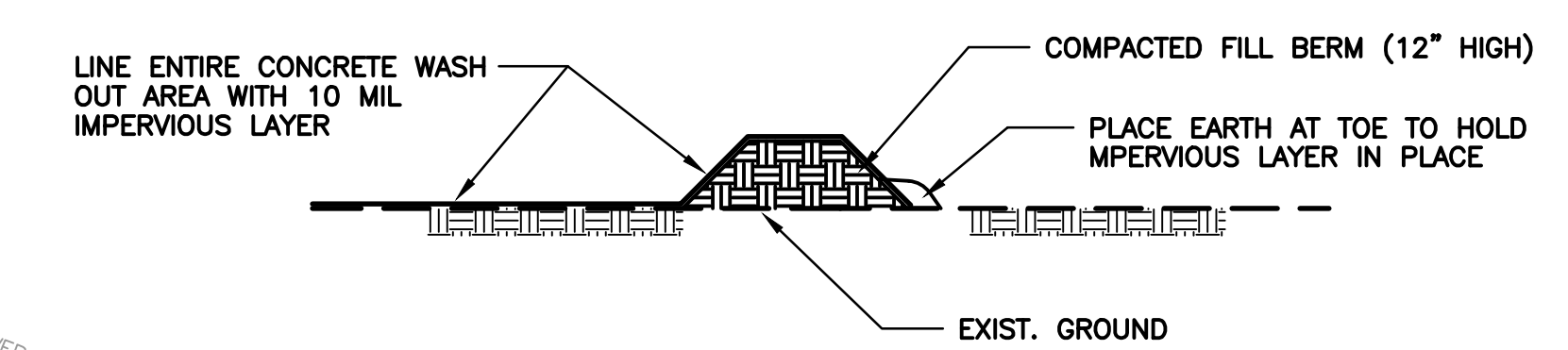


**EROSION CONTROL CONSTRUCTION NOTES**

- 1 CONSTRUCT 12' x 20' STABILIZED CONSTRUCTION ENTRANCE USING STEEL VIBRATION PLATE ON 3" TO 6" MIN. DIM. AGGREGATE, 24" THICK OVER FILTER FABRIC, PRIOR TO THE START OF CONSTRUCTION.
- 2 CONSTRUCT 15'x15' CONCRETE WASH-OUT AREA PER DETAIL THIS SHEET.
- 3 CONSTRUCT SILT FENCE PER DETAIL THIS SHEET PRIOR TO THE START OF CONSTRUCTION.

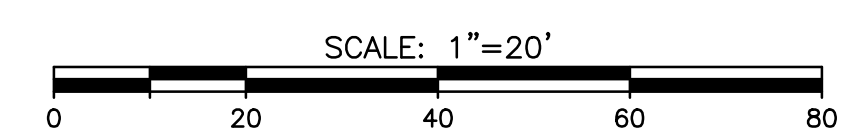


**SILT FENCE DETAIL**  
SCALE: 1"=2'-0"



**CONCRETE WASH OUT AREA DETAIL**  
SCALE: 1"=2'-0"

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SCALE:	HOR. N/A	VER. N/A
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WARNING  
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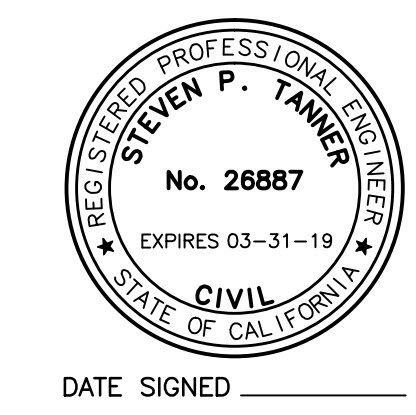
DESIGNED	SPT
DRAWN	TLA
CHECKED	MAC

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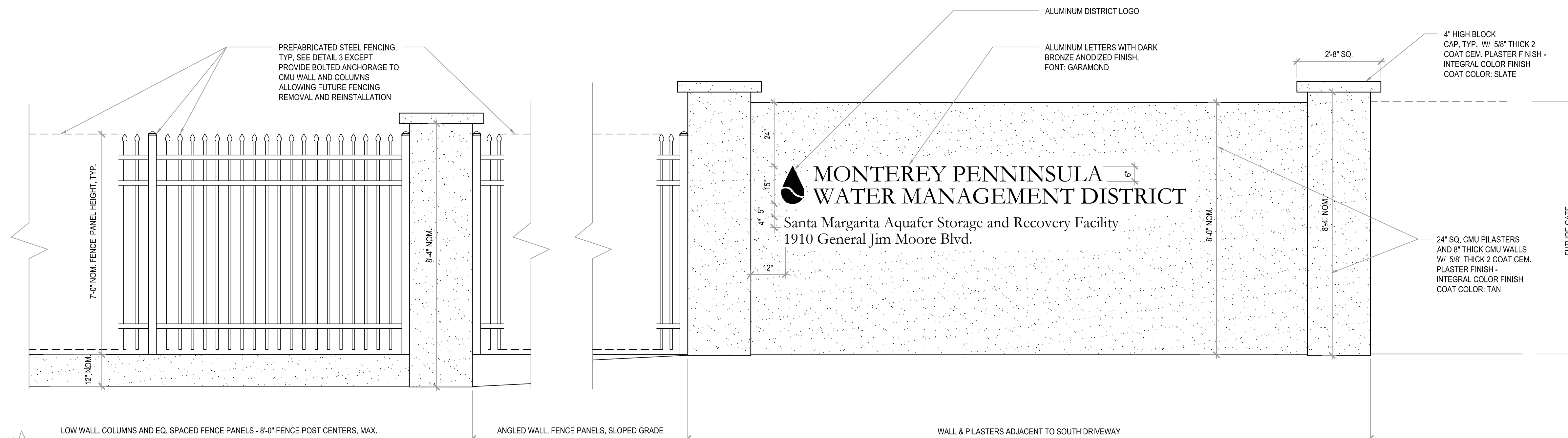


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**EROSION CONTROL**  
**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**  
SANTA MARGARITA ASR FACILITY SITE EXPANSION  
1910 GENERAL JIM MOORE BOULEVARD

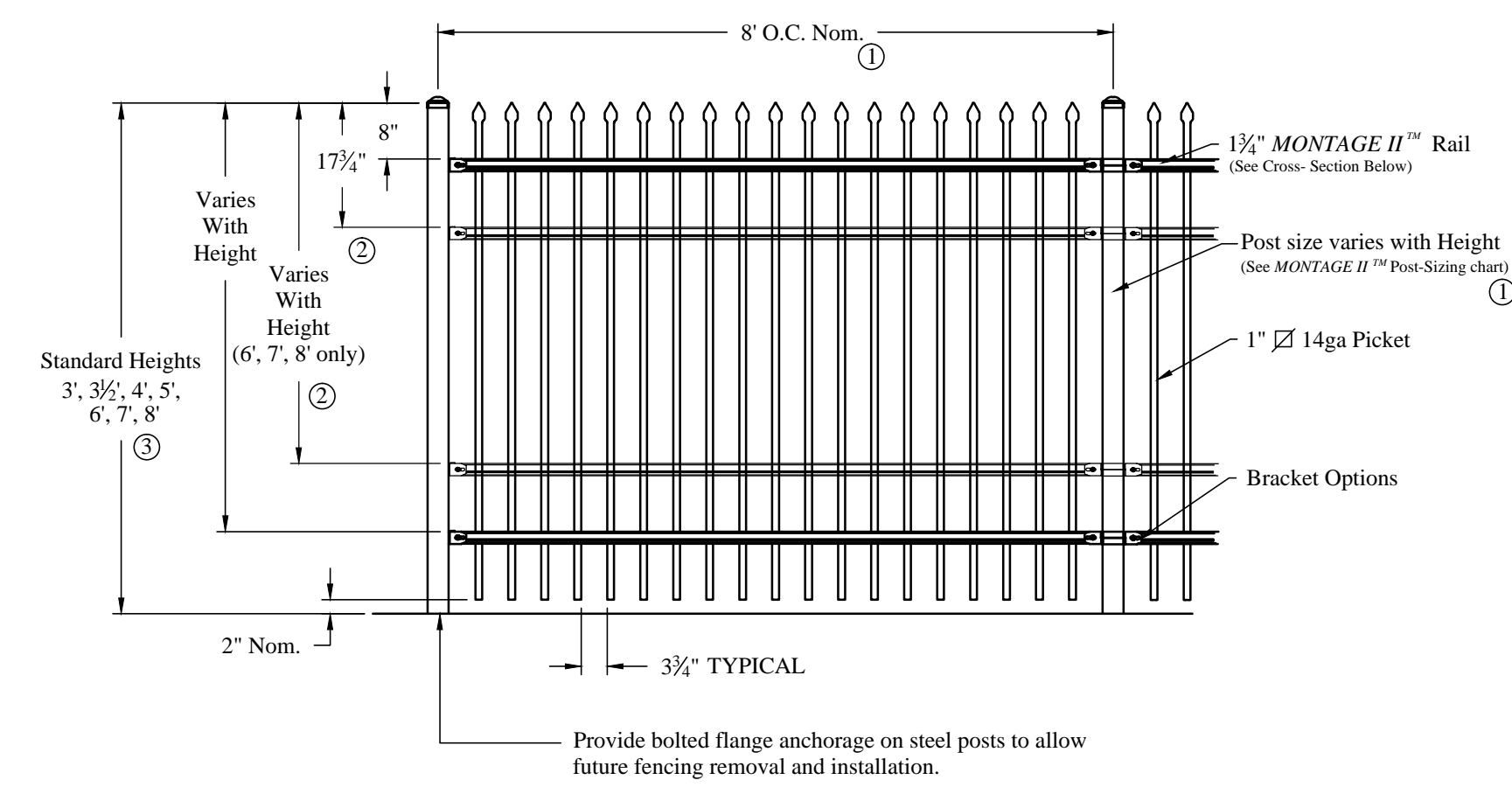
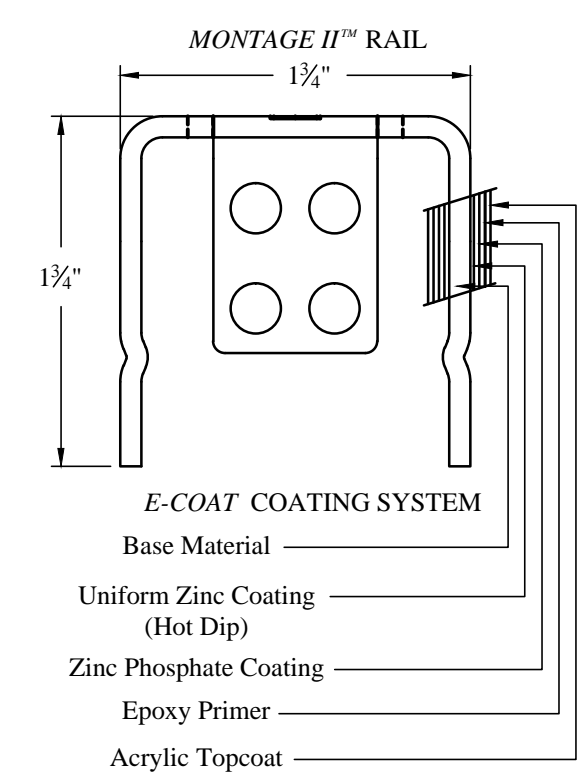


PROJECT NO.  
W.O. 0451  
**9 of 9**

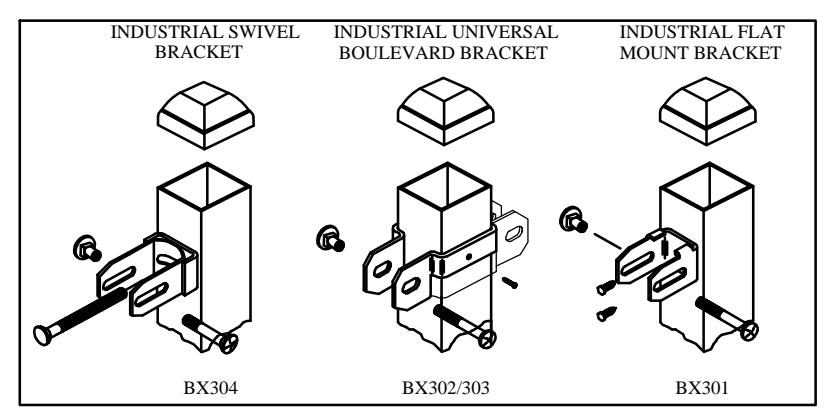


2 COLUMN @ FENCE PANELS  
SCALE: 1/2"=1'-0"

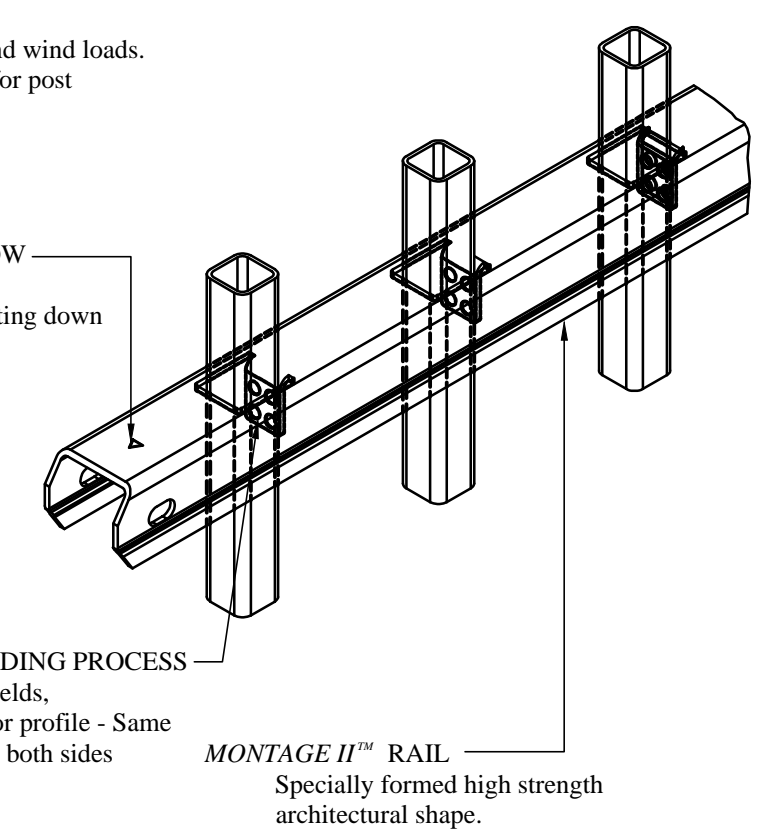
1 PILASTER / WALL @ DRIVEWAY  
SCALE: 1/2"=1'-0"



- NOTES:
- 1.) Post size depends on fence height and wind loads. See MONTAGE II™ specifications for post sizing chart and setting dimensions.
  - 2.) Third & Forth rail optional.
  - 3.) Available in Flush Bottom.



Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.



3 STEEL FENCE PANELS  
SCALE: NO SCALE

MPWMD SANTA MARGURITA PUMP SITE  
FRONTAGE IMPROVEMENTS

JOB NO.:  
18014  
PRINT DATE:  
PLOT DATE: 6.1

CHECKED BY:  
SET ISSUED:

ARCH. DETAIL SHEET 6/

SHEET NAME:

SITE DETAIL:  
SHEET NO.:

A11'

FILE NAME: 18

**EXHIBIT 16-B****RESOLUTION NO. 2018-17****RESOLUTION OF THE BOARD OF DIRECTORS  
OF THE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
CERTIFYING ADDENDUM 4  
TO THE AQUIFER STORAGE AND RECOVERY EIR/EA**

WHEREAS, the Board of Directors of the Monterey Peninsula Water Management District (MPWMD) has directed that its staff pursue Aquifer Storage and Recovery (ASR) as a means to facilitate conjunctive use of local water resources for the benefit of the environment and the community; and

WHEREAS, MPWMD adopted Findings Related to the Certification of the MPWMD Phase 1 Aquifer Storage and Recovery Project EIR and Determining Compliance with the California Environmental Quality Act, adopted the Mitigation and Monitoring Plan, certified the Final Environmental Impact Report/Environmental Assessment (EIR/EA) for the Phase 1 ASR Project, and approved the Phase 1 ASR Project on August 21, 2006; and

WHEREAS, MPWMD approved and adopted the April 2012 Addendum to the Phase 1 ASR EIR/EA, adopted the April 2012 Mitigation Monitoring Plan, and approved the full implementation of ASR Water Project 2 on April 16, 2012; and

WHEREAS, MPWMD approved the Hilby Avenue Pump Station and adopted the June 2016 Hilby Avenue Pump Station Addendum as Addendum 2 to the Aquifer Storage and Recovery Project Environmental Impact Report/Environmental Assessment on June 20, 2016; and

WHEREAS, MPWMD approved a realignment of a segment of the Monterey Pipeline and adopted the February 2017 Monterey Pipeline Addendum as Addendum 3 to the ASR EIR/EA on February 22, 2017; and

WHEREAS, MPWMD has followed guidelines of the California Environmental Quality Act (CEQA) and prepared the Backflush Basin Expansion Addendum to modify the approved ASR Phase 1 Project by allowing expansion of the backflush pit, also called the Santa Margarita backflush basin, constructing a fence, and constructing two sound walls; and

WHEREAS, MPWMD has prepared Findings of Environmental Review for the Backflush Basin Expansion Addendum to the ASR EIR/EA, attached hereto as **Attachment A** and hereby incorporated by reference.

NOW THEREFORE, BE IT RESOLVED:

We, the Board of Directors of the Monterey Peninsula Water Management District, certify the Backflush Basin Expansion Addendum as a true and accurate statement of the environmental impacts of the construction of the Santa Margarita ASR Backflush Basin Expansion Project; and

Adopt the July 2018 Backflush Basin Expansion Addendum as Addendum 4 to the ASR EIR/EA, which found that the proposed modifications to the approved ASR Phase 1 Project would not result in a measurable increase in environmental impacts over what was previously analyzed in the 2006 ASR EIR/EA, the 2012 ASR Phase 2 Addendum, the Hilby Avenue Pump Station Addendum, and the Monterey Pipeline Addendum; and

Directs staff to post a Notice of Determination of this action in accordance with Section 15094 of the CEQA Guidelines.

On motion of Director \_\_\_\_\_ and second by Director \_\_\_\_\_ the foregoing resolution is duly adopted this 16<sup>th</sup> day of July 2018 by the following votes:

AYES:

NAYS:

ABSENT:

I, David J. Stoldt, Secretary to the Board of Directors on the Monterey Peninsula Water Management District, hereby certify that the foregoing is a resolution duly adopted on the 16<sup>th</sup> day of July 2018.

Witness my hand and seal of the Board of Directors this \_\_\_\_ day of July 2018.

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David J. Stoldt, Secretary to the Board

**ATTACHMENT A****FINDINGS OF ENVIRONMENTAL REVIEW  
FOR THE  
BACKFLUSH BASIN EXPANSION ADDENDUM TO THE  
ASR EIR/EA**

- 1) **FINDING:** The Monterey Peninsula Water Management District (MPWMD) Board of Directors adopted the Findings Relating to Certification of the MPWMD Phase 1 Aquifer Storage and Recovery Project EIR and Determining Compliance with the California Environmental Quality Act, adopted the Mitigation Monitoring Plan, certified the Final Aquifer Storage and Recovery (ASR) Environmental Impact Report/Environmental Assessment (EIR/EA) for the Phase 1 ASR Project, and approved the Phase 1 ASR Project on August 21, 2006.

**EVIDENCE:** The ASR EIR/EA and related documents are on file in the MPWMD office.

- 2) **FINDING:** The MPWMD Board of Directors approved and adopted the April 2012 Addendum to the Phase 1 EIR/EA (Addendum 1), adopted the April 2012 Mitigation Monitoring Plan for ASR Water Project 2, and approved the full implementation of ASR Water Project 2 on April 16, 2012.

**EVIDENCE:** Addendum 1 and related documents are on file in the MPWMD office.

- 3) **FINDING:** The MPWMD Board of Directors approved the Hilby Avenue Pump Station and adopted the June 2016 Hilby Avenue Pump Station Addendum as Addendum 2 to the ASR EIR/EA on June 20, 2016

**EVIDENCE:** Addendum 2 and related documents are on file in the MPWMD office.

- 4) **FINDING:** The MPWMD Board of Directors approved a realignment of a segment of the Monterey Pipeline and adopted the February 2017 Monterey Pipeline Addendum as Addendum 3 to the ASR EIR/EA on February 22, 2017.

**EVIDENCE:** Addendum 3 and related documents are on file in the MPWMD office.

- 5) **FINDING:** MPWMD followed the California Environmental Quality Act (CEQA) Guidelines Sections 15162 and 15164 to determine that an Addendum evaluating the environmental effect of the Backflush Basin Expansion Project and future sound walls (together hereinafter referred to as Project) is appropriate based on the following:
- a. The Project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and
  - b. No changes in circumstances have occurred involving new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

- c. No new information of substantial importance which was not known and could not have been known at the time of the previous EIR/EA and Addenda were found.

The MPWMD Board of Directors at their July 16, 2018 meeting reviewed the Backflush Basin Expansion Addendum (Addendum 4).

**EVIDENCE:**

- a. Construction and operation environmental impacts and mitigation measures at the Phase 1 ASR Project site (Santa Margarita) were previously considered with the ASR EIR/EA; and
- b. Impacts from construction of a backflush basin at the ASR Water Project 2 site (Seaside Middle School) were previously considered with Addendum 1; and
- c. The proposed Project requires land clearing, grading, and construction of a second driveway entrance with environmental impacts similar to impacts previously considered in the ASR EIR/EA and subsequent Addenda including impacts to air quality, noise, and sensitive species; and
- d. All appropriate measures to reduce impacts to less than significant described in the adopted ASR EIR/EA and Addendum 1 Mitigation and Monitoring Programs would apply to the Project; and
- e. The proposed Project would not result in any new significant environmental effects that cannot be mitigated with existing, previously identified mitigation measures in the ASR EIR/EA and Addendum 1.
- f. The proposed Project would not substantially increase the severity of environmental effects identified in the ASR/EIR and its Addenda; and
- g. No new information of substantial importance has been identified or presented to MPWMD Board of Directors that the Project would result in significant environmental effects not identified in the ASR EIR/EA and its Addenda, more severe environmental effects than described in the ASR EIR/EA and its Addenda, or require mitigation measures which were previously determined not to be feasible or are considerably different from those recommended in the ASR EIR/EA and its Addenda; and
- h. The Agenda and supporting documents for the July 16, 2018 Board Meeting are on file in the District office.

- 6) FINDING:** Addendum 4 reflects the independent judgement of the MPWMD Board, and each participating Director has reviewed and considered the information contained in the Addendum and related documents prior to making the decision on the Addendum.

**EVIDENCE:** Each Director on the Board received a copy of Addendum 4 and supporting documents as evidenced by the July 16, 2018 Board meeting packet.

- 7) FINDING:** The MPWMD Board finds that the proposed modifications to the approved ASR Phase 1 Project would not result in a measurable increase in environmental impacts over what was previously analyzed in the August 21, 2006 ASR EIR/EA and subsequent Addenda.

**EVIDENCE:** The above stated facts.



**ITEM: PUBLIC HEARING****17. CONSIDER DECLARING MONTEREY COUNTY ZONING ORDINANCE INAPPLICABLE TO THE SLEEPY HOLLOW STEELHEAD REARING FACILITY UPGRADE (CEQA: Does not constitute a "Project" per California Environmental Quality Act (CEQA) Guidelines 15378 (b).)**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David A. Stoldt, General Manager</b>	<b>Program/ Acct. No.:</b>	<b>2-3-1-F 24-04-785812</b>
<b>Staff Contact:</b>	<b>Larry Hampson</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Approval: Yes.****Committee Recommendation: N/A****CEQA Compliance: Does not constitute a project per CEQA guidelines 15378(b) as it is an organizational or administrative activity that will not result in direct or indirect physical changes in the environment.**

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**SUMMARY:** The Board will consider whether to exempt construction activities proposed to upgrade the Sleepy Hollow Steelhead Rearing Facility (SHSRF) from complying with Monterey County zoning ordinances under Government Code Section 53096, which provides for such an exemption for facilities related to the storage and transmission of water. Operation of the SHSRF is a required mitigation for diversion of Carmel River flows for municipal use.

The District submitted an initial application for permits to upgrade the SHSRF to the Monterey County Resource Management Agency (RMA) in March 2017. RMA staff have indicated that the earliest a hearing can be scheduled to consider the project is July 26, 2018, after which there would be a one to three-month period to clear permit conditions before construction could commence.

Construction of the facility upgrade must begin in early August 2018 in order to complete certain construction activities in the channel of the Carmel River prior to October 1, 2018, which is the deadline that the Regional Water Quality Control Board has set to complete work in the channel of the Carmel River. Issuance of permits by Monterey County in late August or September (or later) would not allow the District to complete construction of necessary facilities by the October 1 deadline.

In order to exempt the facility upgrade under Government Code Section 53096, the Board must find that there is no feasible alternative and must vote to do so by four-fifths of its members. For a seven-member Board, six votes would be necessary to approve this action.

**RECOMMENDATION:** Staff recommends that the Board adopt Resolution 2018-18 (**Exhibit 17-A**) declaring Monterey County Zoning Ordinance inapplicable to the Sleepy Hollow Steelhead Rearing Facility Upgrade.

**DISCUSSION:** The Board certified the Allocation Program Environmental Impact Report (EIR) in November 1990 and set limits on how much water the community may use from the Carmel River. A Mitigation Program was adopted to mitigate for impacts associated with the diversion and use of Carmel River flows to meet municipal demand. The Mitigation Program included the construction and operation of the Sleepy Hollow Steelhead Rearing Facility (SHSRF), which is located along the Carmel River about one mile downstream of the former San Clemente Dam site. An 800-foot long channel that simulates natural river conditions is the centerpiece of the facility and has been operated since 1996 to mitigate for the impacts to steelhead due to Carmel River diversions by California American Water and other diverters along the river that dry up the stream in the lower nine miles of the river almost annually. The facility is designed to rear steelhead rescued from reaches of the river before it goes dry. Steelhead are reared for several months at the SHSRF and are returned to the river when it reconnects to the lagoon, usually in late fall or early winter.

With the removal of San Clemente Dam and an increase in debris and sediment load at the facility's water intake, an upgrade is required to replace the intake and make the facility plumbing and filtration capabilities more robust to withstand changing conditions in water quality and quantity. In addition, the National Marine Fisheries Service and the California Department of Fish and Wildlife are requiring the District to operate the facility for longer periods in order to hold fish in the facility until habitat conditions in the river are the best possible for steelhead survival. Because river flows can remain very low during drought periods, the facility may also need to operate year-round, which it is not designed to do currently. In addition to required operation under the Allocation Program EIR, the State Water Resources Control Board has also required that the facility continue to operate as a condition of Order 95-10 and subsequent Cease-and-Desist Orders, which require Cal-Am to reduce unlawful Carmel River diversions and find replacement supplies.

The Facility Upgrade Project includes: 1) temporarily diverting flow in the Carmel River in order to remove the existing intake and install a new intake with erosion protection that will be capable of providing flow to the rearing facility under a variety of adverse conditions; and 2) installing new pumps, plumbing, filters, a building to house facilities, and other upgrades to allow recirculation of a portion of rearing channel flow. The Project includes mitigation measures to reduce potential impacts from the work to a less than significant level.

District staff submitted an initial application to Monterey County in March 2017 for an Amended Use Permit to construct the proposed facility upgrade (original construction of the facility was completed under a 1996 Use Permit issued by the County). There were long delays in processing the facility upgrade application through Monterey County and there were delays in obtaining information and making design changes in response to RMA and Monterey County Water Resources Agency comments on the design. Eventually, in April 2018, the project application was considered complete; however, a hearing on the application is not scheduled until July 26, 2018. After approval of an Amended Use Permit, the County requires an applicant to obtain a grading permit and building permit. In addition, several conditions attached to the draft Amended Use Permit require further County review and approval of several documents and plans before construction can begin. The additional review and approval process by the County was estimated by the County planner to take 30 to 60 days if there are no complications during review. With this

schedule, the soonest the project could start would be late August and more likely late September or later if there are complications in meeting permit conditions.

The facility upgrade has been designed to meet the 2016 California Building Code adopted by the County as well as Monterey County's requirements for facilities built adjacent to the Carmel River. District staff and third-party inspection services will carry out inspections and monitor construction activities to ensure that the project is built according to the design and in compliance with permits issued by the U.S. Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife.

Work in the channel of the Carmel River requires dewatering of a portion of the bottom of the river. There is a limited time during the year when this can occur – usually between July and October when Carmel River flows are at their lowest. At other times of the year, steelhead are migrating through the river and would be impacted by in-channel work or river flows are too high to work in.

It is important to note that the California Department of Fish and Wildlife and the National Marine Fisheries Service have allowed the District to forego operation of the Sleepy Hollow Steelhead Rearing Facility in 2018 to accommodate construction of the upgrade in 2018 in a single phase. This was an unusual action by these agencies, as the alternative to placing fish at SHSRF that are rescued from drying reaches of the river SHSRF is to place them in river reaches with perennial flow, which can result in overcrowding and higher loss of steelhead.

If the facility is required to be operation while an upgrade is carried out, completing the upgrade would require several phases of construction. This would increase costs and the complexity of completing construction and commissioning the project. In addition, staff believe that it may not be possible to run the SHSRF without completion of the upgrade. This is due to the large volume of sand that was introduced to the river at the SHSRF site after the removal of San Clemente Dam. Occasional use of the SHSRF pumps to provide water for routine maintenance in 2017 (a year that the facility was not required to be operated due to year-round flow in the river) resulted in large volumes of sand passing through the system intake in just a few hours. The intake and pumps are not designed for this type of condition.

Staff estimate that construction in the channel bottom could take eight weeks to complete. If construction of the facility upgrade is approved by the MPWMD Board at the July 16, 2018 meeting, it is anticipated that construction would start in early August and would be finished by the October 1 deadline. A later start would compromise the feasibility of completing work in the channel in 2018 and would trigger phasing and additional costs for the project. Completion of the facility upgrade and commissioning operations of the new facilities would likely be delayed into 2020, which would be an undesirable outcome for steelhead.

Staff have concluded that it is not feasible to complete construction activities in the Carmel River channel in 2018, if the project start must wait for the issuance of all Monterey County permits for this project. It is District staff's understanding that RMA staff and MCWRA staff would not object to the District taking an action under Government Code 53096. MCWRA staff stated that the re-design of the facility has satisfied their concern about a potential increase in the 100-year flood

elevation. In addition, the project was re-designed to meet more stringent seismic safety standards recommended in a building-specific geotechnical investigation requested by the County RMA.

#### CEQA and Government Code Action Required

Under Government Code 53096, the governing board of a local agency may declare city or county zoning ordinance inapplicable to a proposed use of property for facilities related to storage or transmission of water. The Board certified the Allocation Program EIR in November 1990 that set a limit on how much water Cal-Am can divert to its system and at the same time adopted a Mitigation Program to mitigate for impacts associated with the diversion and use of Carmel River flow by Cal-Am and others. The Mitigation Program included construction and operation of the SHSRF. Thus, the SHSRF meets the test of being a facility related to transmission of water. The proposed facility upgrade was previously approved by the Board at their November 14, 2016 meeting under a Mitigated Negative Declaration. The Board subsequently amended the Project on January 25, 2017 and July 16, 2018 (see related item in this packet under Public Hearings) and the State Coastal Conservancy amended the Project on November 30, 2017.

It is staff's opinion that it is not feasible to obtain Monterey County permits and complete the project in a timely manner. Completion of the upgrade is necessary to ensure that the facility can operate with changed conditions in the Carmel River due to the removal of San Clemente Dam. A delay in completing the facility upgrade would likely result in harm to steelhead present in drying reaches of the river due to the risk that those steelhead would not be allowed to be placed into perennial flow reaches and create an overcrowding condition.

**IMPACT TO DISTRICT RESOURCES:** There would be reduced costs to the District by not having to pay additional Monterey County fees associated with obtaining permits.

#### **EXHIBIT**

**17-A** Resolution 2018-18 Rendering Monterey County Zoning Ordinance Inapplicable to the Sleepy Hollow Steelhead Rearing Facility Upgrade

**EXHIBIT 17-A****RESOLUTION 2018-18**

**A RESOLUTION OF THE BOARD OF DIRECTORS  
OF THE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
DECLARING MONTEREY COUNTY ZONING ORDINANCE INAPPLICABLE TO THE  
SLEEPY HOLLOW STEELHEAD REARING FACILITY UPGRADE**

WHEREAS, The Monterey Peninsula Water Management District (District) is committed to mitigating the environmental impact of diversions from the Carmel River Basin; and

WHEREAS, The Board certified the Allocation Program Environmental Impact Report in November 1990 that set limits on how much water the community may use from the Carmel River and adopted a Mitigation Program to mitigate for impacts associated with the diversion and use of Carmel River flows; and

WHEREAS, The Mitigation Program included the construction and operation of the Sleepy Hollow Steelhead Rearing Facility; and

WHEREAS, The District certified an Initial Study/Mitigated Negative Declaration (IS/MND) and Mitigation and Monitoring Program for the Sleepy Hollow Steelhead Rearing Facility (SHSRF) Raw Water Intake and Water Supply System Upgrade Project (Project) and approved the Project on November 14, 2016; and

WHEREAS, The District applied to Monterey County in March 2017 for permits to construct the Project and has received a tentative date from Monterey County of July 26, 2018 for an administrative hearing to consider approval of the project; and

WHEREAS, The District must initiate construction of the Project in early August 2018 in order to complete certain improvements prior to October 1, 2018; and

WHEREAS, The District has reason to believe that Monterey County will not be able to issue permits in a manner timely to begin construction of the Project in early August 2018 and complete certain improvements in the channel of the Carmel River before October 1, 2018;

WHEREAS, There is no feasible alternative that would allow construction of the work in the channel of the Carmel River to be completed in 2018.

NOW THEREFORE, BE IT RESOLVED:

We, the Board of Directors of the Monterey Peninsula Water Management District, determine that the Monterey County Zoning Ordinance shall not apply to the construction of the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project.

On motion of Director \_\_\_\_\_ and second by Director \_\_\_\_\_ the foregoing resolution is duly adopted this 16<sup>th</sup> day of July 2018 by the following votes:

AYES:

NAYS:

ABSENT:

I, David J. Stoldt, Secretary to the Board of Directors on the Monterey Peninsula Water Management District, hereby certify that the foregoing is a resolution duly adopted on the 16<sup>th</sup> day of July 2018.

Witness my hand and seal of the Board of Directors this \_\_\_\_ day of July 2018.

\_\_\_\_\_  
David J. Stoldt, Secretary to the Board

**ITEM: ACTION ITEM**

- 18. CONSIDER EXPENDITURE TO CONTRACT FOR CONSTRUCTION AND RELATED SERVICES FOR THE SLEEPY HOLLOW STEELHEAD REARING FACILITY RAW WATER INTAKE AND WATER SUPPLY SYSTEM UPGRADE PROJECT** *(The Board certified the Final Initial Study/Mitigated Negative Declaration for this project and adopted the Mitigation and Monitoring and Reporting Plan on November 14, 2016.)*

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>Yes</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/</b>	<b>Protect Environmental Quality</b>
		<b>Line Item No.:</b>	<b>2-3-1-F</b>
<b>Prepared By:</b>	<b>Larry Hampson</b>	<b>Cost Estimate:</b>	<b>\$2,000,000</b>

**General Counsel Review:** N/A

**Committee Recommendation:** The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.

**CEQA Compliance:** The Board certified the Final Initial Study/Mitigated Negative Declaration for this project and adopted the Mitigation and Monitoring and Reporting Plan on November 14, 2016.

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**SUMMARY:** Staff proposes to complete an upgrade to the Sleepy Hollow Steelhead Rearing Facility (SHSRF) located on the Carmel River, about a mile downstream of the former San Clemente Dam site. The facility upgrade includes a new intake structure in the river, new pumps, a filtering system, disease control, a recirculating aquaculture system, advanced alarm systems and a power upgrade.

The District advertised for bids during the month of June 2018 and received one bid at a cost of \$1,802,835 as shown in **Exhibit 18-A**. Additional work includes setting survey control, inspection and testing, and completing record drawings. Estimated total costs to construct the project are shown in Table 1 below. The District and the State Coastal Conservancy have entered into an agreement to reimburse the District for up to \$1.8 million in expenses associated with the construction of the facility upgrade.

**RECOMMENDATION:** The Board of Directors should approve the following actions:

1. Authorize the General Manager to enter into a contract with Mercer-Fraser Company for construction of the Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project at a cost Not-to-Exceed \$1,802,835.
2. Authorize the General Manager to approve service contracts for associated tasks for up to \$30,000.

3. Authorize the General Manager to approve change orders to the construction and service contracts or for new service contracts for the Project to allow for unforeseen items up to \$157,165.

**DISCUSSION:** An upgrade of the intake at the SHSRF was first identified in 2001 and has been a high priority project to improve management of steelhead since 2005. The National Marine Fisheries Service and the California Department of Fish and Wildlife have requested that MPWMD allow steelhead to remain longer at the facility than current operational capability allows. The upgrade project addresses three conditions that can force a shutdown of the facility: 1) extreme low flow during droughts; 2) increased sediment and debris flow since the removal of San Clemente Dam; and 3) high flows in early winter before steelhead are ready to be released.

Staff has applied for necessary permits from local, state and federal agencies. At their November 14, 2016 meeting, the Board of Directors adopted findings and certified the Initial Study/Mitigated Negative Declaration under CEQA for the Project. MPWMD has also requested an amendment to the operating agreement with California American Water to recognize construction of the new improvements. All authorizations will need to be complete before the Contractor is given a Notice to Proceed with the Project.

The low bidder for the project, Company-Mercer Company, has been involved in several heavy construction projects recently in Northern California. A breakdown of project costs is shown in Table 1 below.

Table 1 – Summary of Costs

Construction	\$ 1,802,835
Sales tax	\$
Survey Control	\$ 10,000
Inspection/testing	\$ 5,000
Record Drawings	\$ 25,000
Contingency	\$ 157,165
<b>Total</b>	<b>\$ 2,000,000</b>

**IMPACTS ON STAFF AND RESOURCES:** Several District staff will be involved in the project assisting with project management, inspections, permit compliance, fish rescue, revegetation, and monitoring. The work will be performed under the direction of the District Engineer.

## **EXHIBIT**

### **18-A Bid for Construction from Mercer-Fraser Company**



**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
MONTEREY COUNTY, CALIFORNIA**

**BID TO PROVIDE SLEEPY HOLLOW STEELHEAD REARING FACILITY RAW  
WATER INTAKE AND WATER SUPPLY SYSTEM UPGRADE**

Monterey Peninsula Water Management District  
5 Harris Court Bldg. G, Monterey CA 93940  
or  
P.O. Box 85, Monterey, CA 93942-0085

Ladies and Gentlemen:

Pursuant to the foregoing Notice Inviting Sealed Bids, the undersigned hereby proposes and binds himself by the District, under this Bid, to execute in accordance with such award, a contract of which this Bid and the Specifications shall be a part, to furnish any and all labor, materials, equipment, and services necessary for satisfactory performance and completing the work set forth in said Specifications within the time hereinafter set forth and at the prices named in this bid as follows\*:



# Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

## Bid Bond

### CONTRACTOR:

(Name, legal status and address)

Mercer Fraser Company  
200 Dinsmore Drive  
Fortuna, CA 95540  
Mailing: P.O. Box 1006, Eureka, CA 95502

### SURETY:

(Name, legal status and principal place of business)

Liberty Mutual Insurance Company  
175 Berkeley Street  
Boston, MA 02116

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

### Mailing Address for Notices

Liberty Mutual Insurance Company  
Attention: Surety Claims Department  
1001 4th Avenue, Suite 1700  
Seattle, WA 98154

### OWNER:

(Name, legal status and address)

Monterey Peninsula Water Management District  
P.O. Box 85  
Monterey, CA 93942-0085

**BOND AMOUNT:** 10% of Bid Amount Ten Percent of Bid Amount

### PROJECT:

(Name, location or address, and Project number, if any)

Sleepy Hollow Steelhead Rearing Facility Raw Water Intake and Water Supply System Upgrade Project  
45 San Clemente Drive, Carmel Valley, California 93924

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 26th day of June, 2018

  
\_\_\_\_\_  
(Witness)

Mercer Fraser Company  
\_\_\_\_\_  
(Principal) (Seal)

Justin Zabel, President

  
\_\_\_\_\_  
(Witness)

Liberty Mutual Insurance Company  
\_\_\_\_\_  
(Surety)

Jon Richard Sullivan, Attorney-in-Fact



**ACKNOWLEDGMENT**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California  
County of Marin )

On June 26, 2018 before me, Karen Rhodes, Notary Public  
(insert name and title of the officer)

personally appeared Jon Richard Sullivan,  
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature *Karen Rhodes* (Seal)



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Donna J. Frowd; Susan J. McGowan; Michael Brophy McGowan; Karen Rhodes; Jon Richard Sullivan; Debbie L. Welsh

all of the city of Novato, state of CA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations; in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of April, 2018.



The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 12th day of April, 2018, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.



COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Upper Merion Twp., Montgomery County
My Commission Expires March 28, 2021
Member, Pennsylvania Association of Notaries

By: Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV - OFFICERS - Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII - Execution of Contracts - SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation - The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization - By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 26th day of June, 2018.



By: Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

Item 6 – Revised Bid Form**BID FORM – Revised May 30, 2018**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
	<b>Mobilization and General Conditions</b>				
1	Mobilization/Demobilization	1	LS	150,000.00	150,000.00
2	Demolition	1	LS	52,000.00	52,000.00
3	Erosion Control, Dewatering & Exclusionary Fencing	1	LS	125,000.00	125,000.00
	<b>River Intake</b>				
4	Concrete Base with Imbedded Pipe <sup>1</sup>	1	LS	12,000.00	12,000.00
	Intake Screen Assembly with Control System in Equipment Building.	1	LS	24,000.00	24,000.00
	Spray Bar and Connection with Site Piping	1	LS	12,520.00	12,520.00
5	Import and Place Crushed Rock <sup>2</sup>	35	TON	149.00	5,215.00
6	Import and Place Riprap <sup>2</sup>	540	TON	90.00	48,600.00
	<b>River Intake Pump Station</b>				
7	Pumps - 30Hp	2	EA	15,000.00	30,000.00
8	Wet Well, Valve Vault, and Flow Meter Vault <sup>3</sup>	1	LS	13,000.00	13,000.00
9	Flow Meter	1	LS	4,500.00	4,500.00
	River Water Process Piping and Connection with Site Piping	1	LS	82,000.00	82,000.00
	<b>Cooling Tower Degas and Gas Conditioning</b>				
14	Cooling Tower Structural Modifications including Concrete for Degas and Gas Conditioning Equipment <sup>4</sup>	1	LS	65,000.00	65,000.00
	Cooling Tower Process Piping	1	LS	12,000.00	12,000.00
	Degas and Gas Conditioning Equipment	1	LS	15,000.00	15,000.00
	Degas and Gas Conditioning Process Piping	1	LS	18,000.00	18,000.00
	<b>Re-use Treatment &amp; Pumping</b>				
18	Diversion Box Structural, Gate, Screen and Process Piping including Connection to Site Piping	1	LS	50,000.00	50,000.00
19	Equipment Building including all related Architectural and Structural <sup>5</sup>	1	LS	180,000.00	180,000.00



Item	Description	Quantity	Unit	Unit Cost	Total Cost
20	Equipment Building Mechanical, Tanks and Process Piping including Connection to Site Piping	1	LS	30,000.00	30,000.00
	Drum Filter (1350 gpm, 40 micron) including Vendor Control System	2	EA	12,000.00	24,000.00
21	Pumps - 20 hp	2	EA	17,000.00	34,000.00
22	UV System Including Vendor Control System	1	LS	27,000.00	27,000.00
23	Reuse System Flow Meter	1	LS	3,500.00	3,500.00
	<b>Sediment Basin</b>				
24	Sediment Basin Structural including Cover	1	LS	112,000.00	112,000.00
25	Sediment Basin Gates and Connection to Site Piping	1	LS	5,000.00	5,000.00
	<b>Site Civil and Piping</b>				
26	Site Process Piping - Intake Screen to Wet Well	1	LS	6,000.00	6,000.00
27	Site Process Piping – Pressure	1	LS	9,500.00	9,500.00
28	Site Process Piping – Gravity Supply Pipe	1	LS	7,500.00	7,500.00
29	Site Process Piping – Gravity Drain Pipe	1	LS	6,000.00	6,000.00
30	Excavation, Earthwork, Trenching and Backfill	1	LS	80,000.00	80,000.00
31	Site Restoration including Landscape and Gravel Surfaces <sup>6</sup>	1	LS	35,000.00	35,000.00
	<b>Electrical and Controls</b>				
32	Site Electrical	1	LS	500,000.00	500,000.00
	Electrical and Controls				
	<b>Transport and Dispose Excess Material</b>				
33	Transport and Dispose Excess Material <sup>7</sup>	1	LS	9,500.00	9,500.00
34	<b>Archeological Monitoring</b>	1	LS	15,000.00	15,000.00
	<b>Total</b>				1,802,835.00

Footnotes - quantities are approximate

1. Item includes excavation of river bottom and streambank = about 400 CY.
2. Estimate only. This item to be paid based on actual tonnage placed and includes excavation and bank restoration.
3. Depth of wet well may vary slightly according to field conditions. See geotechnical investigation. Item includes mechanical appurtenances.

The undersigned has examined the location of the proposed work and/or is familiar with the Specifications and the local conditions in the place where the work is to be done.

The undersigned has checked carefully all the above figures and understands that the District shall not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned understands that the District reserves the right to reject any or all bids, and to waive any irregularities or informalities in bids received. Award shall be made which, in the judgement of the District, is to the best interest of the District. It is agreed that this bid may not be withdrawn within a period of 180 days after the date set for the opening thereof.

In accordance with the Construction Specifications, the undersigned further agrees to so plan the work and prosecute it with such diligence that said work shall be commenced within 10 days after issuance of the notice to proceed, and the work shall be completed within \_\_\_ days from issuance of the notice to proceed.

The undersigned agrees, if awarded the contract, that there shall be paid by the undersigned and all subcontractors under him, to all laborers, workmen, and mechanics employed in the execution of such contract or any subcontract thereunder, not less than the general prevailing rate of per diem wages, and rates for overtime and legal holidays in the locality in which the work is to be performed, as established by the State Director of the Department of Industrial Relations.

The undersigned or his or her subcontractors currently possess and agree to maintain valid **Contractor's Licenses** issued by the State of California necessary to prosecute the work.

Bidder: Mercer-Fraser Company Tax I.D.Number: 94-1111519

Business Address: PO Box 1006 Eureka, CA 95502

List all Contractor's License No.: 105709

Telephone:(707) 443-6371

e-mail: jzabel@mercerfraser.com

By:  Dated: 6/29/18

Title: Justin Zabel, President

This form to be submitted with the bid.

**BIDDER'S EXPERIENCE QUALIFICATIONS**

The Bidder has been engaged in the contracting business, under the present business name for years. Experience in work of a nature similar to that covered in the bid extends over a period of 151 years. **The Bidder must demonstrate successful completion of at least one project involving heavy construction work in a live stream containing steelhead or other salmonid species.**

The bidder, as a contractor, has never failed to satisfactorily complete a contract awarded to him, except as follows:

---

Year	Type of Work	Contract Amount	Location and for Whom Performed
<b>*PLEASE SEE ATTACHED</b>			
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Bidder Mercer-Fraser Company

Signed 

Title Justin Zabel, President

Date 6/29/18

This form to be submitted with the bid.



CONTRACTOR'S EXPERIENCE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
SLEEPY HOLLOW STEELHEAD REARING FACILITY

**Mercer-Fraser Company**

**Past Experience:**

- A. Project Name: Fortuna WWTP Flood Protection
- B. Location: Fortuna, CA
- C. Owner: City of Fortuna
- D. Owner Contact: Merrit Perry
- E. Architect or Engineer: GHD
- F. Architect or Engineer Contact: Rebecca Crow
- G. Construction Manager: Mark Benzinger, Project Manager (707) 443-6371
- H. Description of Project, Scope of Work Performed: Minor concrete demolition, pipe removal and disposal, construction of berms and access ramps, rock slope protection, storm drainage, finished effluent pipeline, pump station, concrete walkways and steps, electrical work, SCADA integration, start-up and testing, finish grading and hydroseeding
- I. Initial Contract Value: \$635,500.00
- J. Final Cost of Construction: \$683,987.00
- K. Original Scheduled Completion Date: 12/11/15
- L. Time Extension Granted (number of days): 140
- M. Actual Date of Completion: 2/20/16
- N. Number and Amount of Stop Notices or Mechanic's Liens Filed: 0
- O. Amount of Liquidated Damages Assessed Against Contractor: 0
- P. Nature and Resolution of Any Claim, Lawsuit, and/or Arbitration Between Contractor and the Owner:  
N/A

CONTRACTOR'S EXPERIENCE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
SLEEPY HOLLOW STEELHEAD REARING FACILITY

**Mercer-Fraser Company**

**Past Experience:**

- A. Project Name: Rohner Creek Flood Control, Seismic & Habitat Improvements
- B. Location: Fortuna, CA
- C. Owner: City of Fortuna
- D. Owner Contact: Merrit Perry
- E. Architect or Engineer: GHD
- F. Architect or Engineer Contact: Jeremy Svehla
- G. Construction Manager: Mark Benzinger, Project Manager (707) 443-6371
- H. Description of Project, Scope of Work Performed: Demolition, debris removal, stream corridor excavation, boulder weirs, habitat structures, alcove log structures, water management, Dust Control, and Environmental protection, stream embankment RSP, soil nail retaining walls, log deflectors, finish grading and hydroseeding
- I. Initial Contract Value: \$4,392,150.00
- J. Final Cost of Construction: \$4,447,475.75
- K. Original Scheduled Completion Date: 10/11/17
- L. Time Extension Granted (number of days): 149
- M. Actual Date of Completion: 03/09/18
- N. Number and Amount of Stop Notices or Mechanic's Liens Filed: 0
- O. Amount of Liquidated Damages Assessed Against Contractor: 0
- P. Nature and Resolution of Any Claim, Lawsuit, and/or Arbitration Between Contractor and the Owner:  
N/A

**EXHIBIT 18-A**

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CONTRACTOR'S EXPERIENCE  
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT  
SLEEPY HOLLOW STEELHEAD REARING FACILITY

**Mercer-Fraser Company**

**Past Experience:**

- A. Project Name: Redcrest Underdrains
- B. Location: Humboldt County, HWY 101, near Redcrest, CA
- C. Owner: State of California-Department of Transportation
- D. Owner Contact: Joaquin Rodriguez
- E. Architect or Engineer: State of California-Department of Transportation
- F. Architect or Engineer Contact:
- G. Construction Manager: Mark Benzinger, Project Manager (707)443-6371
- H. Description of Project, Scope of Work Performed: Rock Slope Protection and Underdrains
- I. Initial Contract Value: \$1,124,406.00
- J. Final Cost of Construction: \$1,109,942.52
- K. Original Scheduled Completion Date: 11/2/15
- L. Time Extension Granted (number of days): 0
- M. Actual Date of Completion: 11/2/15
- N. Number and Amount of Stop Notices or Mechanic's Liens Filed: 0
- O. Amount of Liquidated Damages Assessed Against Contractor: 0
- P. Nature and Resolution of Any Claim, Lawsuit, and/or Arbitration Between Contractor and the Owner:  
N/A

**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

- A. Project Name: Trinity Center Water Treatment Upgrade
- B. Location: Trinity Center, CA
- C. Owner: Trinity Center Mutual Water Company
- D. Owner Contact: Joe Riess (530) 243-2113  
(Name and Phone Number)
- E. Architect or Engineer: Water Works Engineers
- F. Architect or Engineer Contact: Joe Riess (530) 243-2113  
(Name and Phone Number)
- G. Construction Manager on behalf of Owner: Joe Riess (530) 243-2113  
(Name and Phone Number)
- H. Description of Project, Scope of Work Performed: Construction of Water Treatment Plant,  
Steel Tank Reservoirs & Installation of Water Meters at  
all residences
- I. Initial Contract Value: \$2,765,500.00  
(at time of bid award)
- J. Final Cost of Construction: \$2,802,227.00  
(including change orders)
- K. Original Scheduled Completion Date: 365 working days
- L. Time Extensions Granted: N/A  
(Numbers of Days)
- M. Actual Date of Completion: 3/1/14
- N. Number and amount of Stop Notices or Mechanic's Liens filed: 0
- O. Amount of liquidated damages assessed against Contractor: \$0.00
- P. Nature and resolution of any claim, lawsuit, and/or arbitration between Contractor and the Owner: N/A

**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

- A. Project Name: Water Treatment Plant Improvements Project
- B. Location: Redway, CA 95560
- C. Owner: Redway Community Services District
- D. Owner Contact: Ken Dean, Operations Manager (707) 923-3101  
(Name and Phone Number)
- E. Architect or Engineer: Water Works Engineers
- F. Architect or Engineer Contact: Joe Riess, P.E. (530) 243-2113  
(Name and Phone Number)
- G. Construction Manager on behalf of Owner: Joe Riess, P.E. (530) 243-2113  
(Name and Phone Number)
- H. Description of Project, Scope of Work Performed: Improvements to the District's existing infiltration gallery and Water Treatment Plant, and construction of a new 0.46 million gallon welded steel water storage tank.
- I. Initial Contract Value: \$2,130,800.00  
(at time of bid award)
- J. Final Cost of Construction: \$2,300,000.00  
(including change orders)
- K. Original Scheduled Completion Date: January, 2013
- L. Time Extensions Granted: N/A  
(Numbers of Days)
- M. Actual Date of Completion: January, 2013
- N. Number and amount of Stop Notices or Mechanic's Liens filed: 0
- O. Amount of liquidated damages assessed against Contractor: \$0.00
- P. Nature and resolution of any claim, lawsuit, and/or arbitration between Contractor and the Owner: N/A

**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

- A. Project Name: Trinity Village Water Company Water Filtration Facilities
- B. Location: Salyer, CA 95563
- C. Owner: Trinity Village Water Company
- D. Owner Contact: Danny Walsh, President (530) 629-3282  
(Name and Phone Number)
- E. Architect or Engineer: Trinity Valley Consulting Engineers, Inc
- F. Architect or Engineer Contact: Joshua T. McKnight, P.E. (530) 629-3000  
(Name and Phone Number)
- G. Construction Manager on behalf of Owner: Joshua T. McKnight, P.E (530) 629-3000  
(Name and Phone Number)
- H. Description of Project, Scope of Work Performed: Construction of Water Filtration Facilities which includes: clearing and grubbing, site grading, site improvements, installation of piping, pumps, and water tanks. Construction of plant building. Installation of membrane filtration plant, construction of suspended pipe creek crossing. Retrofitting of existing water storage reservoir and all other appurtenance items at the Project site.
- I. Initial Contract Value: \$1,448,726.00  
(at time of bid award)
- J. Final Cost of Construction: \$1,500,000.00  
(include change orders)
- K. Original Scheduled Completion Date: December, 2011
- L. Time Extensions Granted: N/A  
(Numbers of Days)
- M. Actual Date of Completion: December, 2011
- N. Number and amount of Stop Notices or Mechanic's Liens filed: 0
- O. Amount of liquidated damages assessed against Contractor: \$0.00
- P. Nature and resolution of any claim, lawsuit, and/or arbitration between Contractor and the Owner: N/A

**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

A. Project Name: City of Eureka, Martin Slough Interceptor Project, Phase I

B. Location: Eureka, CA

C. Owner: City of Eureka

D. Owner Contact: Kurt Gierlich, City Engineer (707) 441-4183  
(Name and Phone Number)

E. Architect or Engineer: SHN

F. Architect or Engineer Contact: Jeff Nelson, CFO – SHN (707) 441-4855  
(Name and Phone Number) (707) 441-8855

G. Construction Manager on behalf of Owner: Kurt Gierlich, City Engineer  
(Name and Phone Number) (707) 441-4183

H. Description of Project, Scope of Work Performed: 1500 LF – 18” Sewer, 4200 LF 24” Sewer, 800 LF 30” Sewer, 582 LF 42” Sewer, 24’ Deep Bore Bits, Bore & Jacks from 150’ – 400’ LF, Manhole Construction 10’ – 25’ deep, Slough Crossing

I. Initial Contract Value: \$ 4,500,000.00  
(at time of bid award)

J. Final Cost of Construction: \$ 4,600,000.00  
(include change orders)

K. Original Scheduled Completion Date: December 2011

L. Time Extensions Granted: Winter Suspension  
(Numbers of Days)

M. Actual Date of Completion: August 2012

**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

- A. Project Name: Bear River Band Estate, Roadway & Infrastructure Project
- B. Location: Loleta, CA
- C. Owner: Bear River Band of Rohnerville Rancheria
- D. Owner Contact: Leonard Bowman, Chairman (707) 733-1900  
(Name and Phone Number)
- E. Architect or Engineer: Laco Associates
- F. Architect or Engineer Contact: Leonard Oshorne, Project Engineer  
(Name and Phone Number) (707)443-5054
- G. Construction Manager on behalf of Owner: Same  
(Name and Phone Number)
- H. Description of Project, Scope of Work Performed: 40,000 CY Excavation, 11,000 Tons Aggregate Base, 3,500 Tons Asphalt, 4,600 LF PVC Sewer, 7,000 LF 6" Water main, 2,300 LF Storm Drain, 9,000 LF Sidewalk Curb & Gutter, 140 LF 2"x5" RCB Box Culverts.
- I. Initial Contract Value: \$ 2,617,800.00  
(at time of bid award)
- J. Final Cost of Construction: \$ 3,298,692.75  
(include change orders)
- K. Original Scheduled Completion Date: December 2011
- L. Time Extensions Granted:  
(Numbers of Days)
- M. Actual Date of Completion: October 2011



**Mercer-Fraser Company**

PO Box 1006  
Eureka, CA 95502

**Pre-Qualifications / References**

A. Project Name: Bear River Rancheria, Tish-Non

B. Location: Loleta, CA

C. Owner: Bear River Band of Rohnerville Rancheria

D. Owner Contact: Leonard Bowman (Chairman) (707) 443-5054  
(Name and Phone Number)

E. Architect or Engineer: Laco Associates

F. Architect or Engineer Contact: Ben Dolf (707) 443-5054  
(Name and Phone Number)

G. Construction Manager on behalf of Owner: John Berganske, (707) 443-5054  
(Name and Phone Number)

H. Description of Project, Scope of Work Performed: Site Improvements to Water and Wastewater Treatment Facilities, Grading, Construction of Gravel Roadways, Concrete Foundations, Slaps and pedestals, Installation of Wastewater Treatment Package Plant and Appurtenances. Tank Foundation, Concrete Masonry Building, Piping, Manholes, below ground Tanks and vaults.

I. Initial Contract Value: \$ 1,424,000.00  
(at time of bid award)

J. Final Cost of Construction: \$ 1,433,733.00  
(include change orders)

K. Original Scheduled Completion Date: December 2011

L. Time Extensions Granted:  
(Numbers of Days)

M. Actual Date of Completion: November 2011

**SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS**

The subcontractor has been engaged in the contracting business, under the present business name for \_\_\_\_\_ years. Experience in work of a nature similar to that covered in the bid extends over a period of \_\_\_\_\_ years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

\_\_\_\_\_

Please indicate for whom the work was conducted, the type of work, and who can be contacted as a reference for the work:

Year	Type of Work	Contract Amount	Location and for Whom Performed
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please attach additional sheet(s) as needed.

Signed \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_


This form to be submitted with the bid.

**SECURITY FOR COMPENSATION CERTIFICATION**

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract:

6/29/18  
Date

  
(Signature of Bidder) Justin Zabel, President

Business Address:

PO Box 1006  
Eureka, CA 95502  
\_\_\_\_\_

Place of Residence:

200 Dinsmore Drive  
Fortuna, CA 95540  
\_\_\_\_\_

(This certificate must be executed by the successful bidder prior to the award of Contract.)

**FAIR EMPLOYMENT PRACTICES CERTIFICATION**

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

The undersigned, in submitting a bid for performing the following work by Contract, hereby certifies that he has or shall meet the standards of affirmative compliance with Fair Employment Practices requirements of the special provisions contained herein:

6/29/18  
Date

  
(Signature of Bidder) Justin Zabel, President

Business Address:  
PO Box 1006  
Eureka, CA 95502  
\_\_\_\_\_

Place of Residence:  
200 Dinsmore Drive  
Fortuna, CA 95540  
\_\_\_\_\_

(This certification must be executed by the successful bidder prior to the award of the Contract.)

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California )
) ss.
County of Humboldt )

Justin Zabel

being first duly sworn, deposes and says that he or she is President of the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true, and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Signature [Handwritten Signature]

6/29/18
Date

The title of the affidavit provides that it is "to be executed by bidder and submitted with the bid."



**BID ADDENDUM 1 – May 30, 2018**

**SLEEPY HOLLOW STEELHEAD REARING FACILITY RAW WATER INTAKE AND WATER SUPPLY SYSTEM UPGRADE PROJECT**

Item 1 – Labor Code Section 1776 Compliance

*The language below is to be incorporated into the Notice Inviting Sealed Bids and into Section 5 Wage Scale in the Contract for the work.*

“The Contract is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The prime contractor shall post job site notices, as prescribed by regulation. Each contractor and subcontractor shall furnish the records specified in Labor Code Section 1776 directly to the Labor Commissioner, in the manner prescribed under Section 1771.4.”

Item 2 – Add clarification concerning physical and mailing address for bid.

Item 3 – Correct numbering in Contract form, starting with 19.

Item 4 – Correct numbering in Special Conditions starting with 15.

Item 5 – SECTION 02510 – SURFACE RESTORATION

This section is amended as follows:

2.2 SEED

Hydro seeding shall consist of mixing and applying seed, commercial fertilizer and stabilizing emulsion, or any combination thereof, with fiber and water. The Contractor shall supply all materials and equipment and shall apply the hydroseed mix in the locations specified on the construction drawings and as described below.

A. PAYMENT

Payment for this item shall be the price as established in the Bid Schedule. Such payment shall constitute full compensation for all labor, materials, equipment, and all other items necessary and incidental to the completion of the work.

B. ITEMS OF WORK AND CONSTRUCTION DETAILS

The Contractor shall mix seed, emulsion, fiber, and fertilizer in a tank with a built-in continuous agitation system of sufficient operating capacity to produce a homogeneous mixture and a discharge system which will apply the mixture at a continuous and uniform rate. The seed mix



shall be blue wildrye (*Elymus glaucus*) on slopes more than six (6) feet above the channel bottom and creeping wild rye (*Leymus triticoides*) on lower slopes. Seed shall be applied at 10 to 20 pounds per acre. The quantity of water shall be as needed for application, except that when stabilizing emulsion is specified, the ratio of total water to total stabilizing emulsion in the mixture shall be as recommended by the manufacturer of the emulsion. The Contractor shall apply a minimum of 500 pounds of fiber per acre, which shall be mixed and applied with the seed, emulsion, and fertilizer. The fiber shall be furnished and applied at the Contractor's expense.

A dispersing agent may be added to the mixture provided the Contractor furnishes evidence that the additive is not harmful. Any material considered harmful, as determined by the MPWMD, shall not be used. Any mixture containing stabilizing emulsion shall not be applied during rainy weather or when soil temperatures are below 40° F. Pedestrians or equipment shall not be permitted to enter areas where mixtures containing stabilizing emulsion have been applied.

The Contractor shall hydroseed all areas disturbed by grading operations, except for the channel bottom and stream bank areas where riprap is exposed. Where geotextile or other erosion control fabric is to be placed on a slope, the seed mix shall be placed prior to placement of the geotextile. Otherwise, the seed mix shall be placed after all work on the area to be seeded has been completed.



4. Includes all work required to raise cooling tower including new slab and modifications to mechanical and electrical. Includes related excavation with approximate quantities as follows. Excavation = 40 CY. Imported granular structural fill = 13 CY. Concrete = 20 CY. Galvanized = 3 tons.
5. Excavation = 510 CY. Imported Granular Structural = 100 CY. Concrete pad = 107 CY. Foundation walls = 13 CY. Grating and handrail = 80 LF.
6. Approximately 20,000 SF of hydroseeding.
7. Approximately 1,800 CY. See Section 02510, Technical Specifications, Addenda 1.

Plans, Specifications, and bid forms may be secured at no charge from the Monterey Peninsula Water Management District, 5 Harris Court, Bldg. G Street, P. O. Box 85, Monterey, California 93942-0085 or may be downloaded from the District's web page at <http://www.mpwmd.net/who-we-are/project-bids-rfps/>

For further information, please contact Larry Hampson, [larry@mpwmd.net](mailto:larry@mpwmd.net) or at 831-658-5620.

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**ADDENDA/REVISIONS – No. 2**

**BID ADDENDUM 2 – June 7, 2018**

**SLEEPY HOLLOW STEELHEAD REARING FACILITY RAW WATER INTAKE AND  
WATER SUPPLY SYSTEM UPGRADE PROJECT**

**Item 7 – Bid Form Revision**

The footnotes have been revised.

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**ITEM: ACTION ITEMS**

- 19. CONSIDER EXPENDITURE FOR THE SANTA MARGARITA BACKFLUSH BASIN EXPANSION PROJECT CONSTRUCTION AND SUPPORT SERVICES**  
*(CEQA: A Resolution to adopt an addendum to the ASR EIR/EA for this project will be presented to the Board on July 16, 2018 in advance of the request for the Board to approve this project. See agenda item 16.)*

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>Yes</b>
<b>From:</b>	<b>David J. Stoldt General Manager</b>	<b>Program/ Line Item:</b>	<b>Water Supply Projects 35-04-786004</b>
<b>Prepared By:</b>	<b>Maureen Hamilton</b>	<b>Cost Estimate:</b>	<b>\$688,515</b>

**General Counsel Review: N/A**

**Committee Recommendation: The Administrative Committee reviewed this item on July 10, 2018 and recommended approval.**

**CEQA Compliance: A Resolution to adopt an addendum to the ASR EIR/EA for this project will be presented to the Board on July 16, 2018 in advance of the request for the Board to approve this project.**

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**SUMMARY:** Staff proposes to complete the Santa Margarita Backflush Basin Expansion Project (Project) at MPWMD's Santa Margarita site located at 1910 General Jim Moore Boulevard (GJMB) south of Coe Avenue/Eucalyptus Road. The Project work includes:

- tripling the size of the existing backflush basin to accommodate backflush water from up to six Aquifer Storage and Recovery (ASR) wells,
- replacing above-ground pipes with underground pipes to allow space for movement of large construction vehicles,
- construction of a second entrance to facilitate construction during operation,
- and construction of a fence fronting GJMB.

MPWMD advertised for bids to construct the Project on May 30, 2018. Bids were opened on July 2, 2018. The apparent responsible bidder with the lowest responsive bid is Granite Rock Company.

During construction the owner or an owner representative is required to monitor contract compliance and provide quality assurance. Due to limited staff managing multiple projects, staff proposes to enter into a contract for engineering and construction management services for the Project.

The Project site is located on the Fort Ord Reuse Authority (FORA) owned Environmental Services Cooperative Agreement (ESCA) Seaside Munitions Response Area (MRA) property. Right of Entry to construct and operate on the MRA requires unexploded munitions support services during earth disturbing work.

The land to be excavated for the Project contains habitat capable of supporting migratory birds and other special status wildlife. Staff proposes to enter into a contract for biological services to conduct surveys and relocations in order to reduce the potential for harm to wildlife during the Project.

**RECOMMENDATION:** The Board of Directors should take the following action:

1. Authorize the General Manager to enter into a contract with Granite Rock Company for a contract amount of \$479,881, with a 10% contingency to be authorized by MPWMD staff, for a total amount not-to-exceed (NTE) \$527,869.
2. Authorize the General Manager to amend the Pueblo Water Resources (PWR) Agreement for Professional Services to provide engineering and construction management services for Project construction by the amount \$87,304, with a 10% contingency to be authorized by MPWMD staff, for a total amount NTE \$96,034.
3. Authorize the General Manager to amend the FORA Agreement for Professional Services to provide unexploded munitions support services for Project construction by the amount \$50,195, with a 10% contingency to be authorized by MPWMD staff, for a total amount NTE \$55,215.
4. Authorize the General Manager to amend the Denise Duffy & Associates Agreement for Professional Services to provide biological support services for Project construction by the amount \$8,543, with a 10% contingency to be authorized by MPWMD staff, for a total amount NTE \$9,397.

**DISCUSSION:** ASR wells must be backflushed weekly to maintain injection capacity during injection season from December 1 through May 31. Backflush water from Cal Am's Seaside Middle School site is conveyed to MPWMD's Santa Margarita backflush basin because a basin is not permitted on school grounds. Backflush water from two future Cal-Am ASR wells will be conveyed to the Santa Margarita backflush basin because the new ASR site does not have space for a backflush basin. The Santa Margarita backflush basin is not sized to accommodate backflush water from six wells and must be expanded. The expansion will occur within existing approved Santa Margarita site land limits.

Major components of the Project must be constructed from June 1 through November 30 so that construction does not interfere with frequent backflushing operation required during injection season. Due to the limited construction period and land constraint, the backflush basin expansion is scheduled to be constructed this summer.

#### *Construction Contract*

The Project bid documents included two different fencing options in the base bid to encourage competitive pricing. City of Seaside staff will select the fencing option because FORA will deed the land to the City of Seaside in the future. The contract amount will be reduced if the lower price fencing option is selected.

A mandatory pre-bid meeting was held on the June 14, 2018; Granite Rock Company and Monterey Peninsula Engineering attended. A second pre-bid meeting was offered on June 26,

2018 in an effort to encourage additional bidders to encourage competitive pricing; no new potential bidders attended. The bid results are as follows:

<b>Bidder</b>	<b>Bid Amount</b>
Granite Rock Company	\$591,721
Monterey Peninsula Engineering	\$628,000

The contract amount with Granite Rock will be one of the options presented as follows:

<b>Bid Form Options</b>	<b>Bid Amount</b>	<b>Including 10% Contingency</b>
Project works with CMU fence	\$479,881	\$527,869
Project works with Iron fence	\$468,361	\$515,197

The contract would be awarded after Board adoption of the ASR EIR/EA Addendum for this work. Notice to Proceed would be issued after required permits are received. Construction contract bid details can be found in **Exhibit 19-A**.

#### *Engineering and Construction Management Services*

During Project construction, staff or a staff representative is required on-site to conduct engineering and construction management tasks including:

- Coordinate and subcontract special inspection and testing for geotechnical, concrete, rebar, anchors, and survey (\$15,209).
- Traditional construction management and engineering tasks supporting submittals, RFIs, change orders, and progress payment verification (\$39,990).
- Project coordination and closeout tasks including PWR-internal project management, coordination of water line inspection and testing with Cal Am, Notice of Completion, and final Record Drawings (\$21,540)
- Additionally, this amendment will fund stakeholder outreach work to support disinfection facilities design (\$10,565).

Pueblo Water Resources (PWR) has been working with MPWMD since 1998 developing, testing, constructing, and providing Operations and Maintenance services for the Santa Margarita and Seaside Middle School ASR facilities. PWR designed this Project, is designing future works within the Santa Margarita site limits, and is the designer for Cal-Am's future Fitch Park ASR Facility. PWR is uniquely qualified to provide engineering and construction management services for the Project in a manner consistent with Operations and future construction projects.

The agreement payment terms are time and materials. The agreement amendment will be executed only if the Project construction contract is awarded by the Board. Engineering and Construction Management Services proposal details can be found in **Exhibit 19-B**.

#### *FORA Munitions Support Services during Construction*

The Project site is located on FORA-owned ESCA property. The categorization of Right of Entry (ROE) is called a Type 3\_C, which is the most costly ROE since it requires ongoing support and review through the duration of the construction.

MPWMD is required by FORA to fund all consultant and FORA staff costs for the ESCA technical and unexploded munitions support for the pre-construction and construction activities related to the Project. On April 9, 2014, the Board approved a Reimbursement Agreement (RA) with FORA for pre-construction support costs for the proposed Project in the amount of \$24,000. FORA has provided a time and materials estimate of \$50,195 to provide Project construction support services.

An amendment to the 2014 RA will be executed only if the Project construction contract is awarded by the Board. Reimbursement Agreement amendment details can be found in **Exhibit 19-C**.

#### *Biological Support Services during Construction*

To avoid the loss of active migratory bird nests, Staff proposes a nesting bird survey be conducted in advance of clearing for the Project. This practice was followed on the Monterey Pipeline and Pure Water Monterey projects as a mitigation measure to ensure nesting birds are not impacted.

Staff also proposes conducting surveys prior-to and during clearing as a best practice to reduce the potential for harm to the black legless lizard (Lizard) and Monterey dusky-footed woodrat (Rat). If Rat nests are found, the nests will be relocated after young Rats are old enough to survive independently. If Lizards are found, they will be relocated by an experienced biologist.

Survey and nest relocation requires earth disturbance. Because the Project is located on the MRA, biologists must have unexploded munitions training and must take extra care during survey and relocation. Denise Duffy and Associates (DD&A) is uniquely qualified having provided biological services on the Pure Water Monterey Injection Wells Facilities project being constructed on the same land parcel.

The agreement payment terms are time and materials. The agreement amendment will be executed only if the Project construction contract is awarded by the Board. Biological Support Services proposal details can be found in **Exhibit 19-D**.

### **EXHIBITS**

- 19-A** Granite Rock Bid Documents
- 19-B** Proposal for Construction Support and Engineering Services
- 19-C** Draft FORA Agreement No. RA-031814 Amended
- 19-D** ASR Expansion Project Biological Support Services Proposal



**BID TO PROVIDE SANTA MARGARITA BACKFLUSH BASIN EPXANSION  
PROJECT**

Monterey Peninsula Water Management District  
5 Harris Court Bldg G., Monterey, CA 93940 (Monterey County)  
or  
P.O. Box 85, Monterey, CA 93942-0085

Ladies and Gentlemen:

Pursuant to the foregoing Notice Inviting Sealed Bids, the undersigned hereby proposes and binds himself by the District, under this Bid, to execute in accordance with such award, a contract of which this Bid and the Specifications shall be a part, to furnish any and all labor, materials, equipment, and services necessary for satisfactory performance and completing the work set forth in said Specifications within the time hereinafter sent forth and at the prices named in this bid as follows<sup>1</sup>:

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<sup>1</sup> Upon award, this Bid Form shall become a part of the final contract.





Exhibit A

BID FORM

Item	Title	Unit	Estimated Quantity	Unit Price	Total
1	Mobilization	Lump Sum	Lump Sum	\$ 29000 <sup>-</sup>	\$ 29000 <sup>-</sup>
2	16-and 30-inch piping modifications, complete and in place	Lump Sum	Lump Sum	\$ 83400 <sup>-</sup>	\$ 83400 <sup>-</sup>
3A	Wrought Iron Fence w/ CMU Pilasters per Sheets 4, 8 (Det. 1, 2A, 3, 4), & Sheet A111; complete and in place	Linear Feet	160	\$ <del>699<sup>-</sup></del> <del>661<sup>-</sup></del> RJ	\$ <del>111840<sup>-</sup></del> <del>105760<sup>-</sup></del> RJ
3B	Plastered CMU wall w/ CMU Pilasters per Sheets 4, 8 (Det. 1, 2B, 3,4), & A111( Det.1); complete and in place	Linear Feet	160	\$ 771 <sup>-</sup>	\$ 123360 <sup>-</sup>
4	Excavation of percolation pit and site grading, complete in place	Lump Sum	Lump Sum	\$ 85000 <sup>-</sup>	\$ 85000 <sup>-</sup>
5	Construct northern Driveway Entrance, curb, gutter, and paving; and all appurtenances, complete and in place, per Sheet 4 of Plans.	Lump Sum	Lump Sum	\$ 67000 <sup>-</sup>	\$ 67000 <sup>-</sup>
6	Completion of all other work shown on the Plans, complete and in place, including demobilization, site cleanup, and site restoration.	Lump Sum	Lump Sum	\$ 80121 <sup>-</sup>	\$ 80121 <sup>-</sup>
7	Standby Time	Hrs	8	\$ 1500 <sup>-</sup>	\$ 12000 <sup>-</sup>
Total Amount Bid for All Items:					\$ 591,721 <sup>-</sup>
Total In Words: Five Hundred Ninety One Thousand, Seven Hundred Twenty One & 00/100					





The undersigned has examined the location of the proposed work and/or is familiar with the Specifications and the local conditions in the place where the work is to be done.

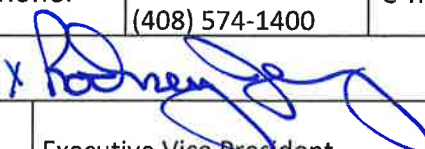
The undersigned has checked carefully all the above figures and understands that the District shall not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned understands that the District reserves the right to reject any or all bids, and to waive any irregularities or informalities in bids received. Award shall be made which, in the judgement of the District, is to the best interest of the District. It is agreed that this bid may not be withdrawn within a period of 90 days after the date set for the opening thereof.

In accordance with the Construction Specifications, the undersigned further agrees to so plan the work and prosecute it with such diligence that said work shall be commenced within 10 days after issuance of the notice to proceed, and the work shall be completed by November 30, 2018.

The undersigned agrees, if awarded the contract, that there shall be paid by the undersigned and all subcontractors under him, to all laborers, workmen, and mechanics employed in the execution of such contract or any subcontract thereunder, not less than the general prevailing rate of per diem wages, and rates for overtime and legal holidays in the locality in which the work is to be performed, as established by the State Director of the Department of Industrial Relations.

The undersigned or his or her subcontractors currently possess and agree to maintain valid **Contractor's Licenses** issued by the State of California necessary to prosecute the work.

Bidder:	Granite Rock Company		Tax I.D. Number:	94-0519560
Business Address:	5225 Hellyer Avenue, Suite 220, San Jose, CA 95138			
List all Contractor's License No.:	22			
Telephone:	(408) 574-1400	e-mail:	estimating@graniterock.com	
By:			Dated:	June 25, 2018
Title:	Executive Vice President			

This form must be submitted with the bid for the bid to be responsive.

*[Faint handwritten notes]*



## Granite Rock Company

Incorporated in the State of California

### OFFICERS OF THE COMPANY

<b>Chairman of the Board</b>	Mark Kaminski 350 Technology Drive Watsonville, CA 95076
<b>President &amp; CEO</b>	Thomas Squeri 350 Technology Drive Watsonville, CA 95076
<b>Vice President &amp; CFO</b>	Stephen Snodgrass 350 Technology Drive Watsonville, CA 95076
<b>Vice President, General Counsel Secretary</b>	Kevin Jeffery 350 Technology Drive Watsonville, CA 95076
<b>Executive Vice President, Construction Division</b>	Rodney Jenny 5225 Hellyer Avenue, Suite 220 San Jose, CA 95138
<b>Executive Vice President, Material Plants Division</b>	Rich Sacher 350 Technology Drive Watsonville, CA 95076
<b>Executive Vice President, Aggregate Division</b>	Henry Ramirez 350 Technology Drive Watsonville, CA 95076
<b>Vice President Human Resource Services</b>	Shirley Ow 350 Technology Drive Watsonville, CA 95076
<b>Vice President Environmental, Quality, Safety, Geology</b>	Charles A. Johnston 350 Technology Drive Watsonville, CA 95076

**Material Supplier / Engineering Contractor  
License #22**

**San Jose Office**  
5225 Hellyer Avenue, Suite 220  
San Jose, CA 95138  
Phone 408.574.1400  
Fax 408.365.8349

**SFO Office**  
875 Mahler Road, Suite 280  
Burlingame, CA 94010  
Phone 650.615.0306  
Fax 650.615.0338

**Concord Office**  
5650 Imhoff Drive, Suite E  
Concord, CA 94520  
Phone 408.574.1400  
Fax 408.365.9548

**Monterey Bay Region**  
P.O. Box 50001  
Watsonville, CA 95077  
Phone 831.768.2700  
Fax 831.768.2701





**CERTIFICATION OF CORPORATE RESOLUTION**

The directors of Granite Rock Company, a corporation organized and existing under the laws of the State of California, duly approved, on March 18, 2017, in accordance with the Articles of Incorporation and Bylaws of the corporation, the following resolution:

RESOLVED, that each of the following persons is fully authorized to sign bid and contract documents on behalf of Granite Rock Company, doing business as Graniterock, and to bind the corporation with respect to such documents:

- |                |                 |
|----------------|-----------------|
| Kevin Jeffery  | Henry Ramirez   |
| Rodney Jenny   | Rich Sacher     |
| Aaron Johnston | Steve Snodgrass |
| Mark Kaminski  | Tom Squeri      |
| Shirley Ow     |                 |

I, Kevin Jeffery, Vice President and Secretary of Granite Rock Company, do hereby certify that I am the Vice President and Secretary of such corporation, and that the above resolution was duly adopted by the Board of Directors of such corporation, and that such resolution has not been revoked or rescinded.

In witness whereof, I have hereunto subscribed my name and affixed the seal of such corporation.

Dated: June 25, 2018

\_\_\_\_\_  
Kevin Jeffery  
Vice President and Secretary

- Monterey County
- San Benito County
- San Mateo County
- Santa Clara County
- Santa Cruz County
- Alameda County
- City and County of San Francisco

Equal Opportunity Employer





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## CONTRACTOR'S EXPERIENCE QUALIFICATIONS

The Bidder as Prime Contractor must have completed at least \$5 million in construction volume within the last 5 years, with at least one project having a contract value of \$500,000, on the following types of projects:

- Pipeline installation involving trenching. At least one project must have included installation of 10-inch or larger ductile iron pipe.
- At least one project including excavation and compaction of at least 2,000 cubic yards of soil.

The Bidder or its subcontractor must have completed at least three CMU wall construction projects at least 6 feet in height, 50 feet in length, providing soil retention function as designed by a professional engineer.

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The Bidder has been engaged in the contracting business, under the present business name for 118 years. Experience in work of a nature similar to that covered in the bid extends over a period of 29 years.


The bidder, as a contractor, has never failed to satisfactorily complete a contract awarded to him, except as follows:

None

The Bidder as Prime Contractor shall list projects meeting the Contractor's Experience Qualifications in the following table for the bid to be considered responsive:

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
	Please see attached Project Experience List.		

Please attach additional sheet(s) as needed.

Bidder Granite Rock Company  
 Signed   
 Title Executive Vice President  
 Date June 25, 2018

*[Faint handwritten signature]*

EXHIBIT 19-A

Date	JOB	Description	Customer	Type of Work (Use Drop Down Menu)	Contact	Phone	Address	Contract Value
2018	6318	D' Benedetto Construction	Jeff D' Benedetto Construction	Overlay - City	Jeff D' Benedetto	(931) 277-0052	Mission 8th Street, Carmel, CA 93923	121,209.00
2018	6307	Fresh Leaf Slab	Mann Packing	Commercial Site Work	Tom Mangino	(831) 422-7405	P.O. Box 690, Salinas, CA 93902	127,505.00
2018	6287	Pacheco Creek Levee Repair	County of San Benito	Earthwork	John Guerin	(831) 846-4170	2501 Technology Parkway, Hollister, CA 95023	446,500.00
2018	6207	Ford Plant	XL Construction	Commercial Site Work	Jeff Seacrist	(408) 592-1989	851 Buckeye Ct., Milpitas, CA 95035	178,763.00
2018	6146	Newton Emergency Cleanup	Newton Construction & Management, Inc.	Earthwork	Darin Terrazas	(805) 208-2982	2436 Broad Street, San Luis Obispo, CA 93403	340,000.00
2018	6096	Moffett Gateway Phase 1	Vance Brown, Inc.	Commercial Site Work	William Williams	(650) 537-0067	3197 Park Blvd., Palo Alto, CA 94306	110,099.00
2018	6088	Big Sur - Emrg. Work at Pfeiffer Canyon Bridge	Golden State Bridge, Inc.	Overlay - Hwy	William Reames	(925) 372-8000	3701 Mallard Drive, Benicia, CA 94510	758,124.00
2018	6046	Aptos High School - New Sidewalk	Palauo Valley Unified School District	Concrete Work	Howard Cohen	(831) 786-2100	394 Green Valley Road, Aptos, CA 94553	804,966.00
2018	6045	Monterey ADA Ramps Phase 4	City of Monterey	Street Reconstruct	Loft Lynn Williamson	(831) 242-8746	550 Pacific St., Monterey, CA 93940	1,197,716.00
2018	6019	Alpine Rd. Trail Improvements	County of San Mateo	Parks	Zack Azmitia	(650) 593-1485	555 County Center, 5th Floor, Redwood City, CA 94063	2,998,366.00
2018	5993	BART Bliss & Antioch Paving	San Francisco Bay Area Rapid Transit District	Overlay - City	Sumit Gunawardena	(510) 484-6550	23rd Floor, 300 Lakeside Dr., Oakland, CA 94612	1,750,900.00
2018	5989	Measure Q Project 2	City of Concord	Overlay - City	Rodney McHale	(925) 671-3028	1950 Parkside Drive, Concord, CA 94519	2,407,017.00
2018	5987	Hwy 129 Emergency Slide Repair	Caltrans - Contract 05-1J0704	Earthwork	Tim Richards	(805) 549-3097	1727 30th St., Sacramento, CA 95816	371,806.00
2018	5958	Hwy 156 San Juan RHMA	Caltrans - Contract 05-1C8704	Parks	Farshad Keckavar	(831) 588-8934	8115 Pruderdale North Rd., Prunedale, CA 93907	5,096,297.00
2018	5957	Chynoweth Ave Green St. Project	City of San Jose	Earthwork	Ellen Yuen	(408) 535-8489	200 East Santa Clara St., San Jose, CA 95113	1,804,372.50
2018	5947	Branciforte Ped Bridge	City of Santa Cruz	Structure Concrete	Nathan Nguyen	(831) 420-5188	809 Center St., Room 201, Santa Cruz, CA 95060	1,618,890.00
2017	6259	Balfour Rd Contra Costa	Contra Costa County	Street Reconstruct	Bernardine Caceres	(408) 573-2486	200 East Santa Clara St., 6th Floor, San Jose, CA 95060	1,618,890.00
2017	6249	SC JOC 17-02 #4 Arastadero Creek	County of Santa Clara	Earthwork	Adelina Huerta	(925) 313-2305	255 Glacier Drive, Martinez, CA 94553	171,381.00
2017	6226	O'Grady CIR Fremont	City of Santa Clara	Earthwork	David Parks	(408) 573-2426	101 Skyport Drive, San Jose, CA 95110	119,002.00
2017	6197	Damon Lane Retaining Wall	City of Saratoga	Structure Concrete	Emma Burkhalter	(408) 868-1274	13777 Fruitvale Ave, Saratoga, CA 95070	275,786.00
2017	6180	Marin County 2017 South	Team Gillotti	CIR	Sean Durenberger	(707) 753-0718	2531 Petaluma Blvd, South, Petaluma, CA 94952	244,350.00
2017	6168	Bike & Safety, Stevens Canyon	County of Santa Clara	Earthwork	Sedegh Sadeghi	(408) 494-1335	101 Skyport Dr., San Jose, CA 95110	617,950.00
2017	6167	SLV Water Dist. - Emergency	San Lorenzo Valley Water District	Water System	Rick Rodgers	(831) 430-4624	13060 CA-9, Boulder Creek, CA 95006	162,715.00
2017	6163	Lakeside Organics	MHK Construction	Commercial Site Work	Steve Lindsay	(831) 246-3588	PO Box 928, Denair, CA 95316	143,100.00
2017	6162	Land Mattathedini	Reggiardo Construction	Commercial Site Work	Tom Reggiardo	(408) 430-9185	307 Dunbarton Rd., Atromas, CA 95004	104,604.00
2017	6195	Special Events Parking	Pebble Beach Company	Earthwork	Tom McMillan	(831) 277-7899	PO Box 1776, Monterey, CA 93953	1,160,780.00
2017	6185	Moffett Fed. Airport Crack Seal	Turner Construction	Commercial Site Work	Nicole Rendor	(408) 891-0015	3030 Frank H. Ogawa, Ste 510, Oakland, CA 94612	1,539,809.00
2017	6152	Regrett Road Slope	City of Cupertino	Structure Concrete	John Raaymakers	(408) 777-3133	10300 Torre Ave, Cupertino, CA 95014	357,418.00
2017	6143	Blanco Rd & Reservation Rd. Inter. Imp.	Newton Construction & Management, Inc.	Street Reconstruct	Darin Terrazas	(805) 208-2982	2436 Broad Street, San Luis Obispo, CA 93403	181,997.00
2017	6138	Loading Dock PCCP CCO 5589	Truebeck Construction	Concrete Work	Gavin Keating	(650) 339-8255	201 Redwood Shores Parkway, Redwood City, CA 94065	169,073.00
2017	6122	Monterey County Parks	American Civil Constructors-West Coast	Overlay - City	Andrew Keough	(707) 746-8028	2990 Bay Vista Court, Benicia, CA 94510	219,574.00
2017	6110	Monterey JOC Boronda Rd. CIR	County of Monterey	CIR	Juan Mesa	(831) 760-9892	168 W. Ailsa St., 2nd Floor, Salinas, CA 93901	160,370.00
2017	6106	Morgan Territory Rd. - Alt. Access Rd	Contra Costa County	Earthwork	Kevin Emigh	(925) 313-2233	255 Glacier Drive, Martinez, CA 94553	99,800.00
2017	6103	Laurel Glen Rd Dewatering	County of Santa Cruz	Earthwork	Carisa Duan	(831) 477-3955	701 Ocean St., Room 410, Santa Cruz, CA 95060	200,382.00
2017	6100	Huntington Farms	Salinas Steel Builders	Commercial Site Work	Matt Humphreys	(831) 424-1647	1165 Terwin Ave., Salinas, CA 93901	135,891.00
2017	6089	El Rancho Corral De Tierra HOA	El Rancho Corral de Tierra HOA	Overlay - City	Mike Morotta	(831) 915-8448	165 West Franklin Street, Monterey, CA 93940	184,220.00
2017	6075	Scotts Valley Kaiser 2	XL Construction	Commercial Site Work	Jim Mason	(831) 226-9067	851 Buckeye Ct., Milpitas, CA 95035	184,220.00
2017	6071	17 Mile Drive Paving	Pebble Beach CSD	Overlay - City	Nick Becker	(831) 680-1618	3101 Forest Lane Road, Pebble Beach, CA 93953	431,800.00
2017	6048	Pleasanton Valley Hopyard CIR	City of Pleasanton	CIR	Huy Ho	(925) 931-5663	123 Main Street, Pleasanton, CA 94566	578,400.00
2017	6047	Pleasanton Valley Ave. & Hopyard	City of Pleasanton	Overlay - City	Huy Ho	(925) 931-5663	123 Main Street, Pleasanton, CA 94566	1,424,869.00
2017	6039	G MAT 2	XL Construction	Commercial Site Work	Jerod Creeese	(408) 240-6053	851 Buckeye Ct., Milpitas, CA 95035	880,930.00
2017	6033	PB Surface Lower Parking Lot	Pebble Beach Company	Water System	George Chelwick	(831) 324-3724	PO Box 1776, Monterey, CA 93953	754,189.00
2017	6027	Santa Cruz Eco Emg Grind & Pave	County of Santa Cruz	Water System	Dawne Harmon	(831) 477-3919	701 Ocean Street, Santa Cruz, CA 95060	417,837.00
2017	6024	Jetbridges SJ Airport	Hensel Phelps	Airports	Richard Lewis	(408) 334-4592	226 Airport Parkway 150, San Jose, CA 95110	384,000.00
2017	6022	Twin Peaks CIR Phase 2	CF Contracting, Inc.	CIR	Coby Friedman	(415) 721-7160	168 W. Ailsa St. 2nd Floor, Salinas, CA 93901	852,819.00
2017	6021	Monterey Co Slide MM 13.5	County of Monterey	Earthwork	Jose Gomez	(831) 755-4816	2525 Van Ness Ave., Suite 210, San Francisco, CA 94109	241,100.00
2017	6011	Clenwood Dr. Emergency Work	County of Santa Cruz	Earthwork	Carisa Duran	(831) 477-3955	701 Ocean St. #410, Santa Cruz, CA 95060	1,309,159.00
2017	5998	Emergency Storm Water & Paving	Pebble Beach Company	Water System	Shawn Casey	(831) 277-7878	PO Box 1776, Monterey, CA 93953	105,507.00
2017	5995	Hwy 17 Slide Repair	Caltrans - Contract 05-1J0804	Earthwork	Tim Richards	(805) 549-3097	1727 30th St., Sacramento, CA 95816	209,977.00
2017	5992	Bike & HWY Imp. Uvas Rd.	Caltrans - Contract 05-1J0804	Earthwork	Sedegh Sadeghi	(408) 494-1335	101 Skyport Drive, San Jose, CA 95110	974,855.00
2017	5991	Bike & HWY Imp. Watsonville Rd. Rd.	County of Santa Clara	Earthwork	Sedegh Sadeghi	(408) 494-1335	101 Skyport Drive, San Jose, CA 95110	749,835.00
2017	5979	Emergency Big Sur	Caltrans - Contract 05-1H7704	Earthwork	Tim Richards	(805) 549-3097	1727 30th St., Sacramento, CA 95816	220,874.00
2017	5978	Fresh Leaf Cadden Yard	Fresh Leaf Farms	Commercial Site Work	Brian Willhoite	(831) 214-9870	25867 Esperanza Rd., Salinas, CA 93907	141,312.00
2017	5965	Mann Packing Parking Lot Repairs	Mann Packing Company	Commercial Site Work	Tom Mangino	(831) 796-2349	PO Box 690, Salinas, CA 93902-0690	107,794.00
2017	5961	Seaport Drive Rehab Vallejo	City of Vallejo	Overlay - City	Gary Cullen	(707) 648-5403	555 Santa Clara St., Vallejo, CA 94590	536,648.00
2017	5956	SJ NE Cargo Switchgear	City of San Jose	Concrete Work	Mark Silva	(408) 392-3641	1701 Airport Blvd, Suite B-1130, San Jose, CA 95110	427,560.00
2017	5942	Dynegy Storm Water & Asphalt Imp.	Dynegy Moss Landing, LLC	Commercial Site Work	Lee Genz	(831) 633-6785	Highway 1 @ Dolan Rd., Moss Landing, CA 95039	133,492.00
2017	5931	Ellis Storm Pipeline	California Water Service Company	Water System	Julie Huynh	(408) 367-8394	1720 North First St., San Jose, CA 95112	1,059,145.00
2017	5930	AC2 Visitor Center Burrito Wrap	Truebeck/Webcor	Commercial Site Work	Todd Leicht	(408) 816-4180	201 Redwood Shores Pkwy, Redwood City, CA 94565	456,365.00
2017	5927	Salispuedes Creek Levee Emerg	County of Santa Cruz	Earthwork	Carisa Duran	(831) 454-2160	701 Ocean Street, Santa Cruz, CA 95060	202,501.00

EXHIBIT 19-A

Date	JOB	Description	Customer	Type of Work (Use Drop Down Menu)	Contact	Phone	Address	Contract Value
2017	5925	PB Co. 2016 Paving	Pebble Beach Company	Overlay - City	Shawn Casey	(831) 277-7878	PO Box 1776, Monterey CA 93953	964,101.00
2017	5922	SC Fall 2016 Overlay CIR	City of Santa Cruz	CIR	Ricardo Valdés	(831) 420-5198	890 Center Street, Room 201, Santa Cruz, Ca 95060	216,556.00
2017	5912	P.B. Co Dry Weather Diversion	Pebble Beach Company	Storm	Tom McMillan	(831) 277-7899	PO Box 1776, Monterey, CA 93953	222,173.00
2017	5904	Blackie Road Holdings LLC	Blackie Road Holdings LLC	Commercial Site Work	Mike Heisinger	(831) 751-3747	1067 'A' Merrill Street, Salinas, CA 93901	124,641.00
2017	5903	Monolith Concrete Pads	Monolith Materials Inc.	Concrete Work	Tommy Allen	(503) 929-9773	1700 Seaport Blvd., Ste 110, Redwood City, CA 94063	175,531.00
2017	5901	SJJA Terminal Roadway Improvement	City of San Jose	Airports	Mark Silva	(408) 392-3641	1701 Airport Blvd., Suite B-1130, San Jose, CA 95110	1,06,714.00
2017	5860	Congress Rd Pipe Replacement	Pebble Beach Company	Overlay - City	Shawn Casey	(831) 277-7878	PO Box 1776, Monterey, CA 93953	104,400.00
2017	5849	Hwy 152 - PCC Slab Replacement	Calltrans - Contract 04-1A2004	Highway Constr. (Non-Olay)	Nilesh Pandya	(408) 592-3433	1727 30th St., Sacramento, CA 95816	1,183,419.00
2017	5847	Dynevig VFD Building	Dynevig Inc.	Commercial Site Work	Kathy Genasci	(831) 633-6642	Highway 1 & Dolan Road, Moss Landing, Ca 95039	257,729.00
2017	5834	Capitolia Street Rehab with CIR	City of Capitola	Commercial Site Work	Kyle Aldridge	(650) 678-2231	1265 Battery St. 3rd Floor, San Francisco, CA 94111	1,081,627.00
2017	5824	Santa Cruz High Stadium Improvements	Santa Cruz City School District	Overlay - City	Steven Jesberg	(831) 475-7300	420 Capitola Ave., Capitola, CA 95010	1,342,068.00
2017	5819	Measure Q Pave Repair 4	City of Concord	Overlay - City	Trevor Miller	(831) 212-6089	405 Old San Jose Road, Soquel, CA 95073	1,389,165.00
2017	5814	Genemtech SSF HS Science Lab	XL Construction	Commercial Site Work	Mario Camorongan	(650) 722-0172	851 Buckeye Ct., Milpitas, CA 95035	376,890.00
2017	5802	Hellver Pavement Rehab	County of Santa Clara	CIR	Khoa Vo	(408) 494-1329	101 Skyport Drive, San Jose, CA 95110	337,404.00
2017	5796	Hwy 1 & Imitin	City of Marina	Highway Constr. (Non-Olay)	Edrie DeLos Santos	(831) 884-1205	209 Cypress Lane, Marina, CA 93933	941,890.00
2017	5796	SJJA Southeast Apron	City of San Jose	Airports	Mark Silva	(408) 392-3641	1701 Airport Blvd., Suite B1, San Jose, CA 95110	6,413,403.00
2017	5774	Pasatempo Golf Course	Bogard Construction	Commercial Site Work	Frank Church	(831) 426-8191	350-A Coral Street, Santa Cruz, CA 95060	1,317,789.00
2017	5760	Buchanan Airport Echo Kilo	County of Contra Costa	Airports	Adelina Huerta	(510) 981-6428	285 Glacier Dr., CC Rich Bldg., Martinez, CA 94553	1,559,961.00
2017	5734	Genesis Parking Structure	Ausim Commercial/XI Construction JV	Commercial Site Work	Matthew Pacilia	(310) 270-8139	851 Buckeye Ct., Milpitas, CA 95035	711,400.00
2017	5712	Hwy 1 Cold Plane & Resurface	Calltrans - Contract 05-1G6704	Overlay - Hwy	Tyler E Lavering	(831) 375-1621	1727 30th St., Sacramento, CA 95816	1,442,943.00
2017	5709	Emergency Montara Beach	Calltrans - Contract 04-1K6504	Earthwork	Marcus Washington	(650) 222-7516	1727 30th St., Sacramento, CA 95816	868,370.00
2017	5708	Palero Levee Emergency Work	County of Santa Cruz	Earthwork	Phavana Aramkul	(831) 758-7903	701 Ocean St., Rm 400, Santa Cruz, Ca 95060	478,746.00
2017	5586	Hwy 101 Greenfield to Gonzales	Calltrans - Contract 05-1F69U4	Highway Constr. (Non-Olay)	Peter Muthwa	(805) 471-2108	1727 30th St., Sacramento, CA 95816	22,809,871.00
2017	5560	Valley Fair Bank of America	McCarthy Builders	Commercial Site Work	Kyle Aldridge	(925) 787-0434	1265 Battery St. 3rd Floor, San Francisco, CA 94111	711,979.00
2016	5894	Kaiser Scotts Valley	XL Construction	Commercial Site Work	Jim Nason	(831) 226-9067	851 Buckeye Ct., Milpitas, CA 95035	134,870.00
2016	5875	Flozin Road CIR	Mountain Cascade	CIR	Shawn Hammond	(916) 496-1665	555 Exchange Ct., Livermore, CA 94550	199,000.00
2016	5840	Flaz Hawkins Hospital	San Benito Health Care District	Commercial Site Work	Tom Bruce	(831) 637-5711	911 Sunset Dr., Hollister, CA 95023	143,777.00
2016	5839	Earthbound Farm Truck/Temp Park	Earthbound Farms	Commercial Site Work	Ricardo Novoa	(831) 970-4426	1721 San Juan Highway, San Juan Bautista, CA 95045	710,850.00
2016	5826	Hartley-Rockville Rd. Shoulder	County of Solano	Overlay - City	Nickolas Burton	(707) 784-6785	675 Texas St., Suite 5500, Fairfield, CA 94533-6342	872,040.00
2016	5818	Measure Q Pave Repair Project 3	City of Concord	Overlay - City	Mario Camorongan	(925) 671-3021	1950 Parkside Dr., Concord, CA 94519	623,333.00
2016	5813	Kaiser Watsonville	XL Construction	Hospital	Jim Nason	(831) 226-9067	851 Buckeye Ct., Milpitas, CA 95035	325,650.00
2016	5795	San Ardo Peachtree Road Bridge	County of Monterey	Structure Concrete	Billy Issa	(831) 735-4800	168 w. Alisal St., Salinas, CA 93901	1,423,356.00
2016	5788	Regnart Creek Erosion	Santa Clara Valley Water District	Structure Concrete	Tom Bramer	(408) 234-9330	5750 Almaden Expressway, San Jose, CA 95118	372,884.00
2016	5783	McElvany - Santana Ranch	McElvany Inc.	Commercial Site Work	Charlie McElvany	(209) 826-1102	13943 Johnson Road, Los Banos, CA 93635	281,325.00
2016	5776	Red Barn Overlay Front & Back	Ken McPhail	Commercial Site Work	Ken McPhail	(831) 682-0207	1000 Highway 101, Aromas, CA 95004	157,867.00
2016	5737	Dynevig Concrete Water Vault	Dynevig Inc.	Commercial Site Work	Kathy Genasci	(831) 633-6642	Highway 1 & Dolan Rd, Moss Landing, CA 95039-0690	146,775.00
2016	5729	Berkeley Street Rehabilitation	City of Berkeley	Street Reconstruct	Wendy Wong	(510) 981-6428	1947 Center St., 4th Floor, Berkeley, CA 94704	5,475,941.00
2016	5722	Moffett Macon Road Improvement	Tumar Construction	Commercial Site Work	Jonathan Haines	(408) 334-3138	950 S. Bascom Ave., Suite 3011, San Jose, CA 95128	1,855,453.74
2016	5718	Bess Residence	Larc Bess	Residential	Lane Bess	(831) 345-4000	725 Mockingbird Ridge Lane, Watsonville, CA 95076	126,174.00
2016	5706	So. San Francisco 2015 Pavement Rehab	South San Francisco	Overlay - City	Robert Hahn	(650) 829-6660	315 Maple Ave., So. San Francisco, CA 94080	1,444,491.00
2016	5693	Gonzales High School	Boyd's Asphalt Services	Schools	Paul Maschmeyer	(831) 737-9877	1950 Burton Ave., Suite A, Salinas, CA 93901	109,400.00
2016	5689	Fresh Leaf Entrance	Fresh Leaf Farms	Commercial Site Work	Brian Willhoite	(831) 214-9870	25867 Esperanza Rd., Salinas, CA 93907	116,738.00
2016	5686	Downtown San Jose BRT Stations	Santa Clara Valley Transportation Agency	Street Reconstruct	Nick Vuksovich	(408) 464-7739	3331 N. First St., Bldg A-2, San Jose, CA 95134	1,650,209.00
2016	5684	D'Arigo Water Line Access	SSB Construction	Commercial Site Work	James Moore	(831) 424-1647	1165 Tervin Ave., Salinas, CA 93901	260,617.00
2016	5678	Hwy 280 S.J Ave Overcrossing	Calltrans - Contract 04-H9004	Structure Concrete	Jose David	(650) 738-3827	585 Linda Mar Blvd., Pacifica, CA 94044	1,400,064.00
2016	5674	AC2 Pond & Water (Vault)	BNBuilders	Commercial Site Work	Stephen Azzi	(650) 350-0197	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	265,945.00
2016	5665	Pacific Elementary School	Pacific Elementary School District	Schools	Roger Knapp	(831) 426-1199	50 Ocean Street, Davenport, CA 95017	129,923.00
2016	5661	Concrete Barrier Super Bowl 50	Noel Lesley Event Services, Inc.	Commercial Site Work	George Denise	(541) 482-1982	1995 Laurelwood Rd., Santa Clara, CA 95054	309,210.00
2016	5649	Lodge at Pebble Beach	Sw nerton Builders	Commercial Site Work	Fred Booshtehri	(408) 567-9755	306 South 'C' Street, Phoenix, OR 97535	467,000.00
2016	5648	Hwy 280 Overlay Woodside	Calltrans - Contract 04-2J0804	Overlay - Hwy	George Denise	(650) 282-7241	1727 30th St., Sacramento, CA 95816	16,899,530.00
2016	5635	VTA Emergency Alum Rock Overlay	Santa Clara Valley Transportation Agency	Structure Concrete	Rodney Cortez	(408) 654-4251	3331 N. First St., Bldg A-2, San Jose, CA 95134	571,664.00
2016	5628	Hwy 1 El Granada	Calltrans - Contract 04-1J5904	Storm	Abdi Abdirreza	(510) 867-6023	1727 30th St., Sacramento, CA 95816	603,287.00
2016	5627	PG & E Edenvale Stework	Turner Construction	Commercial Site Work	Cristina Polk	(415) 515-2149	300 Frank H. Ogawa Plz., Ste 501, Oakland, CA 94612	2,376,110.00
2016	5622	Earthbound Farms - New Collar Expansion	Design Group	Commercial Site Work	Richard Michael	(503) 250-3072	4000 Kruse Way Place Bldg. 3, So., Lake Oswego, OR 97035	152,800.00
2016	5618	Pal Alto High School 2 - Site Concrete	Vance Brown, Inc.	Concrete Work	Jared Holby	(650) 849-9900	3197 Park Blvd., Palo Alto, CA 94306	232,261.00
2016	5605	Pinewood School Concrete	BNBuilders	Concrete Work	Wayne Holman	(831) 726-2136	P.O. Box 792, Aromas, CA 95004	316,902.00
2016	5594	Aromas Community Center	Aromas Community Center Foundation	Earthwork	Moad Laymoun	(408) 254-5838	1007 Knox Ave., San Jose, CA 95122	1,248,548.00
2016	5591	Calltrans Emergency Hwy 17	Calltrans - Contract 04-0K7004	Structure Concrete	Jason Kollar	(650) 392-9547	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	392,796.00
2016	5589	AC2 - Fuel Cell Ex	BNBuilders	Commercial Site Work	Mark Prestien	(415) 963-1502	275 Battery St., Ste 300, San Francisco, CA 94111	141,302.00
2016	5587	Inuit MWB - Asphalt Paving	Haitaway Dinwiddie Construction Company	Commercial Site Work	Mike Janet	(510) 420-3050	120 Vista Ave., Piedmont, CA 94611	479,754.00
2016	5584	Piedmont Pavement Project	City of Piedmont	Street Reconstruct				



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Date	JOB	Description	Customer	Type of Work (Use Drop Down Menu)	Contact	Phone	Address	Contract Value
2016	5582	AC2-1B Roadway & Street Improvement	BNBT Builders	Overlay - City	Samantha Edwards	(650) 227-1957	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	774,543.00
2016	5578	Hwy 87 @ Virginia St.	Caltrans - 04-1SS484	Concrete Work	Enumi Choi	(408) 232-0223	1727 30th St., Sacramento, CA 95816	159,240.00
2016	5577	550 Allerton, Redwood City	South Bay Construction	Commercial Site Work	Bret Scolari	(408) 379-9500	1711 Dell Ave., Campbell, CA 95008	578,287.61
2016	5570	Construct Roadside Pavement	Caltrans - Contract 04-3G6804	Highway Constr. (Non-Olay)	Charles Koos	(916) 654-7028	1727 30th St., Sacramento, CA 95816	741,472.90
2016	5552	South Decoto Green Street - Union	City of Union City	Street Reconstruct	Farooq Azim	(510) 875-5368	34009 Alvarado-Niles Rd., Union City, CA 94587	2,785,000.00
2016	5546	MISC - The Loft	Devcon Construction, Inc.	Commercial Site Work	Mark Avila	(408) 406-8633	690 Gibraltar Dr., Milpitas, CA 95035	1,447,220.00
2016	5545	TSCM - Lane Modifications	BNBuilders	Earthwork	Joe Crummett	(408) 942-9200	690 Gibraltar Dr., Milpitas, CA 95035	974,087.00
2016	5543	AC2 Parking Structure Setwork	BNBuilders	Commercial Site Work	Mike Payne	(650) 392-9547	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	396,938.00
2016	5540	AC2 Parking Structure Utilities	BNBuilders	Commercial Site Work	Matthew Mrizek	(415) 978-1000	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	1,005,691.00
2016	5523	SJJA Airfield Structure	City of San Jose	Structure Concrete	Mark Silva	(415) 397-5151	1701 Airport Blvd., San Jose, CA 95110	4,060,020.00
2016	5519	Independence HS Misc Work	McCarthy Building Companies	Schools	Dan Crosby	(415) 397-5151	1285 Battery St, 3rd Floor, San Francisco, CA 94111	414,893.00
2016	5502	Grossing 900 North Plaza	Vance Brown, Inc.	Commercial Site Work	JC Tovar	(650) 849-9900	3197 Park Blvd., Palo Alto, CA 94306	113,210.00
2016	5500	RW 13-31, 2nd Phase, Hollister	City of Hollister	Airports	Luis Aguilar	(531) 636-4340	420 Hill St., Bldg. C, Hollister, CA 95023	5,720,894.00
2016	5495	Hwy 17 Emergency Caltrans	Caltrans - Contract 05-1F0004	Highway Constr. (Non-Olay)	Bernita Roman	(831) 761-7818	1727 30th St., Sacramento, CA 95816	254,048.00
2016	5488	North San Pedro Streetscape	Barry Swenson Builder	Commercial Site Work	James Brown	(408) 892-1292	777 N. 1st St., 5th Floor, San Jose, CA 95112	4,524,245.00
2016	5481	Alhambra Creek Bridge	City of Martinez	Structure Concrete	Jim Zumwalt	(925) 200-4178	525 Henrietta St., Martinez, CA 94553	2,158,392.01
2016	5483	Palo Alto High School Gym	Vance Brown, Inc.	Schools	Jared Holley	(650) 849-9900	3197 Park Blvd., Palo Alto, CA 94306	1,380,925.00
2016	5449	Richmond Pavement Rehab	City of Richmond	Overlay - City	Tawfic	(510) 621-1612	450 Civic Center Plaza, Richmond, CA 94804	3,812,941.00
2016	5448	Bristol Meyers Squibb 3	BNBuilders	Commercial Site Work	Todd Ahern	(408) 838-4088	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	813,870.00
2016	5448	FHDA Onsite AC Paving	CW Driver	Overlay - City	Norman Yang	(408) 678-2224	2248 North 1st St., San Jose, CA 95131	483,623.00
2016	5384	A. Off-Site Mitigation	Confidentiality Agreement	Street Reconstruct	Tyler Lavering	(831) 262-6572	1 Infinite Loop, Cupertino, CA 95014	660,593.00
2016	5324	Monterey Roads & Bridges - JOC 2015	County of Monterey	Highway Constr. (Non-Olay)	Juan Mesa	(831) 760-9892	168 W. Alisal St., Salinas, CA 93901	1,930,000.00
2016	5130	SJA Signature Hangers	The Weitz Company	Airports	Justin Curless	(602) 769-1393	2111 E. Highland Avenue, Suite 400, Phoenix, AZ 85016	9,124,601.00
2016	5120	RSA Monterey Airport	Monterey Peninsula Airport District	Airports	Chris Morello	(831) 648-7000	200 Fred Kane Drive, Monterey, CA 93940	29,931,754.00
2015	5655	Pebble Beach Event Field Improvements	Pebble Beach Company	Commercial Site Work	Tom McMillin	(831) 277-7899	P.O. Box 1767, Pebble Beach, CA 93953	166,000.00
2015	5617	Zee Aero Pit Excavation	DPR Construction Inc	Commercial Site Work	Kevin Chen	(650) 454-7302	1450 Veterans Blvd., Redwood City, CA 94063	179,683.00
2015	5609	AC2 Office Setwork	BNBuilders/Webcor a JV	Commercial Site Work	Chris Parker	(415) 517-9820	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	812,501.00
2015	5607	Nicholson-Retology	Mark Nicholson, Inc.	Concrete Work	Kurt Nicholson	(408) 637-5728	701 McCray St., Hollister, CA 95023	234,000.00
2015	5606	Stonegate HOA	Stonegate Community Association	Residential	Ron Ross	(831) 277-7878	P.O. Box 1531, Salinas, CA 93901	149,006.00
2015	5599	Moffett Field Hanger 2/8 Runway Repairs	Turner Construction	Airports	Shirley San Diego	(510) 267-8114	300 Frank Ogawa, Suite 300, Oakland, CA 94612	957,346.00
2015	5585	Clayton-Wood Plank Ped Bridges	City of Clayton	Structure Concrete	Mark Janney	(925) 673-7327	6000 Heritage Trail, Clayton, CA 94517	101,780.00
2015	5583	Santee Community Center	Otto Construction	Commercial Site Work	John Bosio	(916) 441-6870	1717 2nd St., Sacramento, CA 95811	160,785.00
2015	5581	Stevens Creek Evelyn Bridge Fish Passage	Santa Clara Valley Water District	Earthwork	Steve Ferranti	(408) 265-2600	5750 Almaden Expressway, San Jose, CA 95118	600,765.00
2015	5553	Post Ranch Phase II	Post Ranch	Custom	Hugh Brownlee	(805) 732-5429	47900 Highway 1, Big Sur, CA 93902	220,295.00
2015	5533	Lawrence Expressway Pavement Rehab	County of Santa Clara	Street Reconstruct	Peter Pascoal	(408) 573-2485	70 West Hedding St., San Jose, CA 95110	3,769,214.50
2015	5526	Marina Truck Facility	Monterey Peninsula Engineering	Commercial Site Work	Peter Taormina	(831) 384-4081	192 Healy Avenue, Marina, CA 93933	637,000.00
2015	5525	Jackson St. Retaining Wall Repair	Town of Los Gatos	Structure Concrete	Janice Chan	(408) 395-3460	41 Miles Ave., Los Gatos, CA 95030	236,125.00
2015	5524	Sonuel Dr. at Rodeo Gulch Bridge Repair	Bayline Cutting & Coring Inc.	Structure Concrete	Juan Arrequin	(510) 827-1000	1635 4th Street, Berkeley, CA 94710	109,385.00
2015	5521	Shadow Mountain/Raggiardo	Matt Raggiardo	Commercial Site Work	Matt Raggiardo	(408) 430-9185	307 Dunbarton Rd., Aromas, CA 95004	104,238.00
2015	5516	Concord-Citywide Bridge Repair	Bayline Cutting & Coring Inc.	Structure Concrete	Juan Arrequin	(510) 527-1000	1635 Fourth Street, Berkeley, CA 94710	125,865.00
2015	5506	Benedetti Diamond- USF Ulrich Field	Build Group, Inc.	Synthetic Field Turf	David Bagley	(408) 6094914	457 Minna St., San Francisco, CA 94103	1,291,310.00
2015	5505	Kaiser Parking Lot - Santa Clara	Whiting-Turner Construction	Hospital	Gabe Ferreras	(925) 765-1805	4690 Chabot Rd., Suite 120, Pleasanton, CA 94588	1,005,610.00
2015	5504	Redwood Grove Bank Stabilization	City of Los Altos	Parks	Dave Brees	(650) 947-2888	1 North San Antonio Road, Los Altos, CA 94022	533,217.00
2015	5503	A. Tantau Parking Structure	Webcor Builders	Concrete Work	Ryan Smith	(650) 248-8608	1751 Harbor Bay Parkway, Alameda, CA m94502	484,162.00
2015	4878	Hwy 101 Capitol Interchange	Santa Clara Valley Transportation Agency	Highway Constr. (Non-Olay)	Sumner Singh	(408) 321-7131	3331 North First Street, Building A, San Jose, CA 95134	21,066,766.00
2015	5497	Fremont Blvd Widening	City of Fremont	Street Reconstruct	Mirabel Aguilar	(510) 494-4761	39550 Liberty St., Fremont, CA 94537	1,346,620.00
2015	5490	UCSC Merrill College Renovations	University of California, Santa Cruz	Structure Concrete	Josh Francis	(831) 459-3845	1156 High Street, Santa Cruz, CA 95064	424,949.00
2015	5480	Capitol Expressway Resurficing	County of Santa Clara	Street Reconstruct	Peter Cruz	(408) 690-9759	101 Skyport Dr., San Jose, CA 95110	757,059.00
2015	5478	Colma Cemetery Sewer Maintenance	Home of Peace Cemetery	Sanitary	Jimmy Pinnocchio	(650) 755-4700	1299 El Camino Real, Colma, CA 94014	169,569.00
2015	5476	Dover Elementary School	West Contra Costa Unified School District	Synthetic Field Turf	Terese Sladowski	(510) 307-4540	1400 South Marina Way, Richmond, CA 94804	480,357.00
2015	5466	Hercon - Mission & Antioinette	Hercon Company, Inc.	Overlay - City	Albert Hernandez Jr.	(949) 766-6770	30211 Avenida De Las Banderos St., Ste 200 Rancho Santa Margarita, CA 92688	473,231.00
2015	5464	Santa Cruz - Loch Lomond Renovation	City of Santa Cruz Water Department	Street Reconstruct	Matt Ziemann	(831) 420-8200	212 Locust St, Ste C, Santa Cruz, CA 95060	105,740.00
2015	5460	Marsh Creek Safety Improvements	County of Contra Costa	Street Reconstruct	Brian Yip	(925) 313-2178	255 Glacier Dr., Martinez, CA 94553	1,839,142.00
2015	5459	Lafayette Road Rehab	City of Lafayette	Street Reconstruct	Matt Luttrupp	(925) 299-3247	3675 Mr. Diablo Blvd., Ste 210, Lafayette, CA 94549	2,596,392.45
2015	5458	SR4 Hercules Overlay	Caltrans - Contract 04-3E3904	Overlay - Hwy	Mian Ashad	(925) 602-9021	2727 Syston Dr., Ste 150, Concord, CA 94518	2,684,050.00
2015	5457	Central Park Ped X-ing Fremont	City of Fremont	Concrete Work	Rene Dalton	(510) 494-4535	39550 Liberty St., Fremont, CA 94538	280,513.00
2015	5455	Oakland HWY 13	Caltrans - Contract 04-3E2304	Overlay - Hwy	Lawrence Loi	(510) 231-7194	1727 30th St., MS-43, Sacramento, CA 95816	599,847.00
2015	5451	Santiana Ranch	McElvany, Inc.	Commercial Site Work	Charlie McElvany	(209) 828-1102	13343 Johnson Rd., Los Banos, CA 93635	890,907.00
2015	5445	Tesla	Mark Wolfman	Commercial Site Work	Mark Wolfman	(831) 899-1403	1831 East Ave., Sand City, CA 93955	201,724.00
2015	5441	Pilarctos Creek Bridge	City of Half Moon Bay	Structure Concrete	John Doughty	(650) 712-6660	501 Main Street, Half Moon Bay, CA 94019	932,310.00
2015	5439	SJ Airport - Airfield Improvement 2015	City of San Jose	Airports	Mark Silva	(408) 392-3641	1701 Airport Blvd., Ste B-1130, San Jose, CA 95110	2,896,387.00

## EXHIBIT 19-A

Date	JOB	Description	Customer	Type of Work (Use Drop Down Menu)	Contact	Phone	Address	Contract Value
2015	5436	Hwy 25 CIR & Overlay	Caltrans - Contract 05-1F8904	CIR	Peter Mutatwa	(831) 663-8925	1727 30th St., Sacramento, CA 95816	2,889,970.00
2015	5430	AC2 Basement Plumbing Ex	United Mechanical	Storm	Tiffany Ingram	(408) 232-9000	2185 Oakland Road, San Jose, CA 95131	120,352.00
2015	5423	Pajaro Valley Public Cemetery	Pajaro Valley Public Cemetery District	Earthwork	Bob Stanford	(831) 722-0310	66 Marin St., Watsonville, CA 95076	704,211.00
2015	5422	Pinewood School Underground	BNBuilders	Schools	Bryan Tybus	(650) 227-1957	201 Redwood Shores Parkway, Foster City, CA 94065	1,082,081.00
2015	5417	Fresh Leaf Paving	BNBuilders	Earthwork	Brian Wilhoite	(831) 214-9870	25867 Esperanza, Sainas CA 93907	213,698.00
2015	5411	Murphy Hill HOA	Fresh Leaf Farms	Residential	Sue Moreland	(831) 726-2506	875 Via Manzana, Aromas, CA 95004	127,501.00
2015	5410	Mira Loma HOA	Murphy Hill Road HOA	Residential	Mark Cleveland	(408) 639-8936	110 East Main St., Los Gatos, CA 95031	470,844.00
2015	5409	Winchester & Lark Intersection Improvement	Bond Pavement Solutions	Street Reconstruct	Melissa Huang	(408) 395-5430	851 Buckeye Ct., Milpitas, CA 95035	243,995.00
2015	5408	Cypress Semiconductor Service Yard	Town of Los Gatos	Structure Concrete	Bryan Eisemann	(905) 674-5877	12345 El Monte Rd., Los Altos Hills, CA 94022	813,790.00
2015	5402	Foothill Loop Road Resurf.	XL Construction	Street Reconstruct	Gina Bailey	(650) 949-6165	168 W. Aisal St., Sainas, CA 93901	1,469,668.00
2015	5397	River Road AC Overlay	County of Monterey	CIR	Jonathan L. Pasqua	(831) 755-4800	1711 Dell Ave., Campbell, CA 95008	962,346.00
2015	5391	Sherman Ave Basement	Scuba Bay Construction	Commercial Site Work	Derick Holstetter	(408) 874-2211	39393 Pacific Street, Hayward, CA 94544	1,050,000.00
2015	5388	Los Altos Hills Pavement Rehab	A B S L Construction	Earthwork	Luis Allende	(510) 727-0900	26379 Fremont Road, Los Altos Hills, CA 94022	180,970.00
2015	5385	D'Arigo Access Road	The Town of Los Altos Hills	Overlay - City	John Chau	(650) 947-2510	1950 Parkside Drive, Concord, CA 94519	1,209,634.00
2015	5383	Dana Street Reconstruction	Scimas Steel Builders	Street Reconstruct	Mark Migliore	(925) 671-4247	1161 Terven Ave., Sainas, CA 93901	703,864.00
2015	5380	Sanco Pipe Signature Hangers - Sub	City of Mountain View	Earthwork	James Moore	(831) 424-1647	500 Castro Street, Mountain View, CA 94039	293,440.00
2015	5379	AC2 Waterline Rework	Sarco Pipelines Inc.	Street Reconstruct	Pey Rodriguez	(650) 903-6527	727 University Ave., Los Gatos, CA 95032	306,971.00
2015	5370	Siebel Golf Complex	BN Builders/Webor JV	Commercial Site Work	Matt Ocon	(650) 277-1957	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	125,528.00
2015	5363	BART Maintenance Complex	Vance Brown, Inc.	Earthwork	Shawn Rankin	(650) 849-9900	3197 Park Blvd., Palo Alto, CA 94305	103,949.00
2015	5362	Holiday Lake Estates 2014 Road Maint.	Sustainable Group Inc.	Commercial Site Work	Roger Wykel	(925) 899-9721	1480 Moraga Rd. Ste 1 374, Moraga, CA 94556	109,930.00
2015	5355	Gilead MSB Grading & Paving	Bord Pavement Solutions Inc.	Overlay - City	Travis Bond	(408) 639-8936	1063 Camino Ricardo, San Jose, CA 95125	190,417.00
2015	5352	Avago Technologies	XL Construction	Commercial Site Work	Tom Southam	(408) 240-6000	851 Buckeye Ct., Milpitas, CA 95035	191,469.00
2015	5350	El Camino Hospital Cancer Center	XL Construction	Commercial Site Work	Mike Higgins	(415) 971-8429	47900 Highway one, Big Sur, CA 93920	277,904.00
2015	5347	Cal Aquatics Center	XL Construction	Earthwork	Kenton Rogers	(408) 240-6000	851 Buckeye Ct. Milpitas, CA 95035	130,275.00
2015	5345	G Nest Bike Locker	Vance Brown, Inc.	Commercial Site Work	Jason Fox	(925) 408-3786	851 Buckeye Ct. Milpitas, CA 95035	116,251.00
2015	5335	Ronda Road Repairs	BNBuilders	Commercial Site Work	Adam Rupp	(650) 444-3659	3197 Park Blvd., Palo Alto, CA 94306	454,568.00
2015	5333	Egleberry Street Resurfacing	City of Gilroy	Commercial Site Work	Mike Becker	(650) 849-9900	851 Buckeye Ct., Milpitas, CA 95035	355,583.00
2015	5330	G Nest Bldg 5 Equipment Yard	XL Construction	Commercial Site Work	David Crowell	(408) 240-6326	851 Blackeye Ct., Milpitas, CA 95035	160,865.08
2015	5329	Monterey County Emerg Wk ML	XL Construction	Commercial Site Work	Tony Castillo	(650) 862-2058	201 Redwood Shores, Redwood City, CA 94065	518,575.00
2015	5328	Edue. Center-Earthwork & Demo	Caltrans - Contract 04-2J4204	Street Reconstruct	Shawn Casey	(831) 277-7878	PO Box 1778, Pebble Beach, CA 93953	129,943.00
2015	5314	ARB Mission & Antoinette	City of Concord	Storm	Alex Tangay	(650) 701-5669	7951 Rosanna St., Gilroy, CA 95021	1,119,155.00
2015	5311	SSB Fresh Leaf	Salmas Steel Builders	Concrete Work	Juan Mesa	(831) 755-8960	851 Blackeye Ct., Milpitas, CA 95035	139,631.00
2015	5309	Construction of Hwy 280 in Cupertino	Caltrans - Contract 04-272044	Highway Constr. (Non-Olay)	Norman Yang	(408) 678-2224	2248 N. First St., San Jose, CA 95131	590,434.00
2015	5306	Terraces of Los Altos	Vance Brown, Inc.	Earthwork	Marcus Washington	(650) 222-7516	1727 30th St., Sacramento, CA 95816	262,340.00
2015	5304	AC2 Basement	Swiferton Builders	Hospital	Stephen Domingo	(925) 671-3021	26000 Commercentre Dr., Lake Forest, CA 92630	823,595.00
2015	5303	Lagunita Dormitory	McCarthy Building Companies	Schools	Dana Ausonio	(831) 424-1647	1161 Terren Ave., Sainas, CA 93901	372,648.00
2015	5301	PBCO - Special Event Parking Lot	Caltrans - Contract 04-4C2004	Overlay - City	Vernon Nguyen	(916) 654-7028	1120 'N' St., Sacramento, CA 95816	4,759,885.00
2015	5293	Saratoga Pavement Management	Caltrans - Contract 04-272044	Highway Constr. (Non-Olay)	Hung Nguyen	(510) 385-7130	1727 30th St., Sacramento, CA 95816	4,606,633.00
2015	5290	Ramp Reconstruct San Mateo County	Vance Brown, Inc.	Earthwork	Doug Mills	(650) 849-9900	3197 Park Blvd., Palo Alto, CA 94306	955,700.00
2015	5286	Hwy 9 Viaduct	Swiferton Builders	Hospital	David Moseley	(408) 567-9785	2880 Lakeside Dr., 300, Santa Clara, CA 95054	304,195.00
2015	5282	Independence H.S. Performing Arts Center	McCarthy Building Companies	Commercial Site Work	Matt Ocon	(650) 477-6437	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	2,356,901.00
2015	5271	High Tension Cable Barrier	Caltrans - Contract 05-1C3304	Highway Constr. (Non-Olay)	Tom Harrell	(510) 435-4914	343 Sansome St., 14th Fl., San Francisco, CA 94104	775,000.00
2015	5247	Wharf Roundabout	City of Santa Cruz	Street Reconstruct	Tom McMillin	(831) 277-7879	P O Box 1767, Pebble Beach, CA 93953	340,000.00
2015	5242	Educare of California	County of Solano	Schools	Shawn Rankin	(650) 776-2765	3197 Park Blvd., Palo Alto, CA 94306	184,663.00
2015	5239	Passenger Safety Improvements	Otto Construction	Schools	Kelley Chaffin	(650) 284-6589	201 Redwood Shores Pkwy, 125, Redwood City, CA 94065	807,787.00
2015	5238	Granite Pavers @ Downtown SJ BART	Santa Clara Valley Transportation Agency	Structure Concrete	Fred Booshehri	(916) 654-7028	1120 'N' Street, Sacramento, CA 95814	480,676.00
2015	5233	Martin Park Expansion	Santa Clara Valley Transportation Agency	Street Reconstruct	Keith Vondra	(510) 290-1063	343 Sansome St., 14th Fl., San Francisco, CA 94104	236,272.00
2015	5230	Stockton Metro Airport	County of San Joaquin	Parks	Al Smith	(408) 535-8350	200 El Santa Clara St., 6th Floor, San Jose, CA 95113	2,869,295.00
2015	5200	Stockton Metro Airport	County of San Joaquin	Airports	Harry Mavrogen	(209) 468-4700	5000 Airport Way, Stockton, CA 95206	3,380,443.00



**SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS**

The subcontractor has been engaged in the contracting business, under the present business name for 35+ years. Experience in work of a nature similar to that covered in the bid extends over a period of 35+ years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

never

The subcontractor shall list projects meeting the pertinent Contractor's Experience Qualifications in the following table for the bid to be considered responsive: cmu wall, 6'(H), 50'(L) (min)

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
2017	Scotts Valley (Garry Swenson)	\$51,850	Shawn Williams (831) 462-3331

Please attach additional sheet(s) as needed.

Bidder Palma Patana  
 Signed for Patana Masonry Corp sec.  
 Title \_\_\_\_\_  
 Date 7-2-2018



SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS

The subcontractor has been engaged in the contracting business, under the present business name for 16 years. Experience in work of a nature similar to that covered in the bid extends over a period of 30 years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

The subcontractor shall list projects meeting the pertinent Contractor's Experience Qualifications in the following table for the bid to be considered responsive:

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
2016	Bakersfield/caltrans Hwy 178	\$126,000	Granite Constn. Bakersfield, CALIF.
2016	Berryessa Flood Project Milpitas, CALIF	\$393,000	Suulutaag Contractors Suisun City, CALIF
2017	VAFB Landfill Lompoc Calif	\$22,372 <sup>00</sup>	OTIE CONTRACTORS Ventura, CALIF.

Please attach additional sheet(s) as needed.

Bidder KCI ENVIRONMENTAL, INC  
 Signed [Signature]  
 Title V.P.  
 Date 7-1-18





**SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS**

The subcontractor has been engaged in the contracting business, under the present business name for 16 years. Experience in work of a nature similar to that covered in the bid extends over a period of 51 years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

The subcontractor shall list projects meeting the pertinent Contractor's Experience Qualifications in the following table for the bid to be considered responsive:

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
2018	SUNNYSLOPE ELEMENTARY HOLLISTER CA	189,855.00	OTTO CONSTRUCTION (916)441-6870
2018	MONTECITO PARK ENTRY MONTEREY CA	14,000.00	GRANITE ROCK COMPANY (408)574-1400
2018	ROAR WINES CASTROVILLE CA	67,679.00	AUSONIO (831)633-3371

Please attach additional sheet(s) as needed.

Bidder

BRADY COMPANY / CENTRAL CALIFORNIA, INC.

Signed

Title TROY LYMAN / SENIOR ESTIMATOR

07/02/2018

Date







### SUBCONTRACTOR'S EXPERIENCE QUALIFICATIONS

The subcontractor has been engaged in the contracting business, under the present business name for 30 years. Experience in work of a nature similar to that covered in the bid extends over a period of 30 years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

NONE

The subcontractor shall list projects meeting the pertinent Contractor's Experience Qualifications in the following table for the bid to be considered responsive:

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
2017	5900 CHYNOWETH	\$ 17,544	GRANITEROCK
2017	MONT. REGIONAL WATER	\$ 12,299	GRANITEROCK
2017	HWY. 35 BARRIER SLAB	\$22,679	GRANITEROCK
2017	HWY. 156 CALTRANS	\$33,453	GRANITEROCK
2017	APTOS H.S. SITEWORK	\$16,420	GRANITEROCK
2017			
2017			

Please attach additional sheet(s) as needed.

Bidder Associated Probar

Signed [Signature]

Title owner

Date 7/2/18





SUBCONTRACTOR’S EXPERIENCE QUALIFICATIONS

The subcontractor has been engaged in the contracting business, under the present business name for 35 years. Experience in work of a nature similar to that covered in the bid extends over a period of 40 years.

The subcontractor has never failed to satisfactorily complete a contract awarded to him, except as follows:

None

The subcontractor shall list projects meeting the pertinent Contractor’s Experience Qualifications in the following table for the bid to be considered responsive:

Year	Project Location and Contracting Firm/ Agency	Contract amount (\$)	Provide Name and Telephone Number of Person(s) That Can Be Contacted Regarding Work
2017	SF Transit - Trans bay	785505	Randy Sheldon 510 435 3640
2016	Oakland Airport Connector - BART	430000	Tony Inocencio 707 310 2213
2017	Fremont BART Warm Spring Ext	1.6 mil	Joseph Pour 602 763 2270
2018	Milpitas BART Berryessa Ext	1.8 mil	Danny 951 203 7716
2017	Oakland BART Contract No. 15PB-120	580000	Anjan 707 310 1752
2016	Caltrans Costa Contract 04-164404	250000	Cale 916 919 5310
2016	Sacramento City College	406576	Jack 916 588 0706

Please attach additional sheet(s) as needed.

Bidder Oliveira Fence  
 Signed Debbie O. Garcia  
 Title President  
 Date 7/2/18

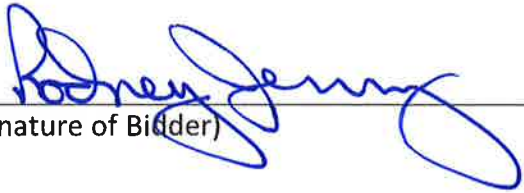


SECURITY FOR COMPENSATION CERTIFICATION

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract:

June 25, 2018  
Date

X   
(Signature of Bidder)

Business Address:

5225 Hellyer Avenue, Suite 220

San Jose, CA 95138

Place of Residence:

California

(This certification must be executed by the successful bidder prior to the award of Contract.)


*[Handwritten signature]*

FAIR EMPLOYMENT PRACTICES CERTIFICATION

TO: MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

The undersigned, in submitting a bid for performing the following work by Contract, hereby certifies that he has or shall meet the standards of affirmative compliance with Fair Employment Practices requirements of the special provisions contained herein:

June 25, 2018  
Date

x   
(Signature of Bidder)

Business Address:

5225 Hellyer Avenue, Suite 220

San Jose, CA 95138

Place of Residence:

California

(This certification must be executed by the successful bidder prior to the award of Contract.)






NONCOLLUSION AFFIDAVIT

State of California \_\_\_\_\_ )  
\_\_\_\_\_ ) ss.  
County of Santa Cruz \_\_\_\_\_ )

Rodney Jenny

Being first duly sworn, deposes and says that her or she is Exec. V.P. of the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true, and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

X   
\_\_\_\_\_  
Signature

June 25, 2018  
\_\_\_\_\_  
Date

The title of the affidavit provides that it is "to be executed by bidder and submitted with the bid."

*[Faint, illegible text, likely bleed-through from the reverse side of the page]*

*[Handwritten signature]*

**CNA INSURANCE COMPANIES**

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BID BOND

KNOW ALL MEN BY THESE PRESENTS: That we

Granite Rock Company Principal,  
and Western Surety Company Surety, are held and firmly bound unto  
Monterey Peninsula Water Management District Obligee,  
in the sum of



Ten percent (10%) of the total amount bid----- Dollars (\$ ----- )  
for the payment of which we bind ourselves, our legal representatives, successors and assigns,  
jointly and severally, firmly by these presents.

WHEREAS, Principal has submitted or is about to submit a proposal to Obligee on a contract  
for

Santa Margarita ASR Backflush Basin Expansion Project

NOW, THEREFORE, if the said contract be awarded to Principal and Principal shall, within  
such time as may be specified, enter into the contract in writing and give such bond or bonds as  
may be specified in the bidding or contract documents with surety acceptable to Obligee; or if  
Principal shall fail to do so, pay to Obligee the damages which Obligee may suffer by reason of  
such failure not exceeding the penalty of this bond, then this obligation shall be void; otherwise to  
remain in full force and effect.

Signed, sealed and dated June 13, 2018.

Granite Rock Company  
(Principal)   
by Steve Snodgrass, Vice President & CFO (Seal)  
Western Surety Company  
(Surety)  
bv   
Joan DeLuca Attorney-in-Fact

G-23054-C

**CNA**

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CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California )
County of Marin )

On June 13, 2018 before me, K. Holtemann, Notary Public
Date Here Insert Name and Title of the Officer
personally appeared Joan DeLuca
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies); and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature [Handwritten Signature]
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Document Date:
Number of Pages: Signer(s) Other Than Named Above:

Capacity(ies) Claimed by Signer(s)

Signer's Name: Signer's Name:
[ ] Corporate Officer -- Title(s): [ ] Corporate Officer -- Title(s):
[ ] Partner -- [ ] Limited [ ] General [ ] Partner -- [ ] Limited [ ] General
[ ] Individual [ ] Attorney in Fact [ ] Individual [ ] Attorney in Fact
[ ] Trustee [ ] Guardian or Conservator [ ] Trustee [ ] Guardian or Conservator
[ ] Other: [ ] Other:
Signer Is Representing: Signer Is Representing:



**POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT**

Know All Men By These Presents, That WESTERN SURETY COMPANY, a South Dakota corporation, is a duly organized and existing corporation having its principal office in the City of Sioux Falls, and State of South Dakota, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

**Lawrence J Coyne, Charles R Shoemaker, Nancy L Hamilton, Roger C Dickinson, Stanley D Loar, Kelly Holtemann, Mark M Munekawa, Nerissa S Bartolome, Joan DeLuca, Yvonne Roncagliolo, Thomas E Hughes, Patrick R Diebel, Alicia Dass, Individually**

of San Francisco, CA, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

**- In Unlimited Amounts -**

and to bind it thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the corporation and all the acts of said Attorney, pursuant to the authority hereby given, are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law printed on the reverse hereof, duly adopted, as indicated, by the shareholders of the corporation.

In Witness Whereof, WESTERN SURETY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 17th day of August, 2017.



WESTERN SURETY COMPANY

*Paul T. Bruffat*  
Paul T. Bruffat, Vice President

State of South Dakota }  
County of Minnehaha } ss

On this 17th day of August, 2017, before me personally came Paul T. Bruffat, to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is the Vice President of WESTERN SURETY COMPANY described in and which executed the above instrument; that he knows the seal of said corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

My commission expires  
June 23, 2021



*J. Mohr*  
J. Mohr, Notary Public

**CERTIFICATE**

I, L. Nelson, Assistant Secretary of WESTERN SURETY COMPANY do hereby certify that the Power of Attorney hereinabove set forth is still in force, and further certify that the By-Law of the corporation printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said corporation this 13th day of June, 2018.



WESTERN SURETY COMPANY

*L. Nelson*  
L. Nelson, Assistant Secretary

**Authorizing By-Law****ADOPTED BY THE SHAREHOLDERS OF WESTERN SURETY COMPANY**

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the shareholders of the Company.

Section 7. All bonds, policies, undertakings, Powers of Attorney, or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, and Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or agents who shall have authority to issue bonds, policies, or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile.





July 5, 2014  
Project No. 12-0045

Monterey Peninsula Water Management District  
5 Harris Court, Building G  
Monterey, California 93940

Attention: Maureen Hamilton, Project Manager

Subject: Proposal for Construction Support and Engineering Services – Santa Margarita ASR Site Expansion Project

Dear Ms. Hamilton:

In accordance with your request, Pueblo Water Resources, Inc. (PWR) is pleased to submit this proposal in association with the ongoing Monterey Peninsula ASR Project. Presented in this proposal is a detailed scope of work, estimated costs, and schedule to provide engineering and construction management services for the expansion of the Santa Margarita ASR Facility at 1910 General Jim Moore Blvd. in Seaside, CA.

### **PURPOSE AND SCOPE**

The purpose of the proposed work is to provide construction support and construction management services related to the Santa Margarita ASR Facility expansion project. The tasks presented in this proposal are intended to supplement the existing design engineering and hydrogeologic services which are currently being performed by Pueblo, and include the following.

- Preconstruction assistance and Stakeholder coordination
- Construction observation and Management Support
- Internal Project Management
- Project closure and Record Drawing documentation

### **Scope of Services**

#### **Task 1 – Project Contract Award and Preconstruction Assistance**

This task includes assisting District staff with the project-related items associated with bid award and preconstruction activities. These activities cover the time period between contract award and the commencement of construction work. Specific work items in this task include the following:



- Review and confirmation of contractor schedule
- Attend a Preconstruction Meeting
- Develop suitable exhibits for a presentation to the Seaside City Council for the architectural and site improvements
- Attend a meeting at Seaside City Council to present the project work as an informational agenda item.

For this task we assume that a contract award will be made by the MPWMD Board in a timely manner, and no contract award disputes will arise.

### **Task 2 – Construction Observation and Construction Management Support**

This task includes assisting the District with the oversight and management of construction activities by the contractor, and act as liaison between the contractor and the District. Services under this task are envisioned to include the following:

- Compliance monitoring for UXO requirements, Mitigation Monitoring Plan requirements, Grading and Excavating on the Former Fort Ord permit conditions, and Encroachment Permit conditions.
- Review and coordinate approval of Contractor schedules.
- Coordinate review and responses for submittals and RFIs.
- Documentation of field quantities.
- Review of progress payment requests.
- Review and evaluation of Change Order requests.
- Maintain photographic and video records of construction progress.
- Coordinate Geotechnical inspection and testing.
- Coordinate special inspections and testing for concrete, masonry, rebar, and anchor placement.
- Coordinate inspection, isolation, flushing, and testing of water lines with Cal-Am.
- Develop final project Punch List and Final Project Inspection records.
- Review redline drawings.

As project construction progresses, the magnitude of on-site services may expand due to unforeseen subsurface conditions, archeological, environmental, ordnance discoveries, or other issues; our proposed on-site observations schedule assumes approximately 16 hours/week of field time for 10 weeks. Adjustments to field schedule and scope of observation services may be warranted as the project progresses.

### **Task 3 – Project Management (Internal)**

This task consists of overall project management, including the preparation of routine project correspondence, invoices, and monthly budget status updates. Effective project communication is critical for the success of the project. In consultation with the District, a project e-mail distribution list will be established through which routine project status reports will



be provided. Pueblo will maintain a log of action items and correspondence to ensure routine procedural items do not become critical path project delays.

**Task 4 – Project Closure and Record Drawing Documentation**

Upon completion of contractor punch list items and final project acceptance inspection, Pueblo will coordinate and document final project conditions and records for District reference files. Activities performed under this task will include the following:

- Provide a final topographic record of survey for the full parcel to serve as a record of contract work and as a reference for future phases of site development.
- Prepare final Record Drawings documenting the as-built conditions of project construction. The drawings will be stamped by the project Engineer of Record.
- Provide a Letter of Substantial Completion for the project documenting the satisfactory completion of the work, and any project anomalies or issues to be addressed in subsequent phases of construction.

Materials will be finalized in electronic format (pdf) wherever possible, and two hardcopies of the project binder will be provided.

**Services Not Included**

Services which are (or may be) necessary for the completion of this project, which are not included in our proposal include the following:

- Water-quality sampling and analyses for water discharges or potable water system compliance (assumed District and/or CAW provided);
- Construction of any site facilities;
- Permit fees;
- Cost of water, electricity, or other utilities;
- Any others items not specifically included in PWR’s scope of services.

**Estimated Fees and Schedule**

Based on the scope of services presented herein, we estimate the fees for our services will be \$87,304; which will be billed on a time-plus-expenses basis in accordance with our current Fee Schedule (attached). An estimated fee summary worksheet is also attached summarizing the estimated man-hours and costs per task/work item.

We understand that in order to authorize this work, your Board must first approve a formal contract amendment. Based on our current workload, we believe that we can commence work within one week of your authorization; based on our estimates of project schedule, we believe the work will be completed by the end of calendar year 2018.

Monterey Peninsula Water Management District  
Monterey Peninsula ASR Project – Engineering and Construction Management  
July 5, 2018 (12-0045)

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We appreciate the opportunity to provide assistance to the District on this important water supply project. If you require additional information regarding this or other matters, please call us.

Sincerely,

PUEBLO WATER RESOURCES, INC.



Stephen P. Tanner, P.E.

Principal Engineer

RCM:SPT

Attachments: 2018 Fee Schedule  
Fee Estimation Spreadsheet



MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

Professional Services for MPWMD ASR Expansion - Engr & CM

Fiscal Year 2017-2018

PWR Project No.: 12-0045

ESTIMATED FEE SUMMARY

LABOR		Principal Professional	Senior Professional	Project Professional	Drafting	Hours by Task	Estimated Task Cost
Task No.	Task Description	Hourly Fee					
		\$205	\$180	\$175	\$135		
1	Stakeholder Presentations and Coordination	24			12	36	\$6,540
2	Construction Management Support	48		144	10	202	\$36,390
3	Project Management and Coordination	16	-	12		28	\$5,380
4a	Project closure and Record Drawings	16		10	8	34	\$6,110
4b	Phase 3b base topographic survey	6	-	-	4	10	\$1,770
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
		-	-	-	-		
Hours by Labor Category:		110	0	166	34		
Costs by Labor Category:		\$22,550	\$0	\$29,050	\$4,590		
<b>Total Labor Hours:</b>						<b>310</b>	
<b>Total Labor Costs:</b>						<b>\$56,190</b>	

OTHER DIRECT COSTS (ODC's)					
Task No.	Item	Units	Unit Price	No. of Units	Fee
	Vehicle	Daily	\$75	18	\$1,350
	Travel Per Diem	Daily	\$150	15	\$2,250
					\$0
					\$0
					\$0
<b>Subtotal ODCs:</b>					<b>\$3,600</b>

OUTSIDE SERVICES					
Task No.	Item	Units	Unit Price	No. of Units	Fee
1	Architectural renderings for Seaside presentation	LS	\$3,500	1	\$3,500
2	Survey & staking	LS	\$2,875	1	\$2,875
2	Geotechnical Inspection & Testing (Compaction)	LS	\$7,500	1	\$7,500
2	Special Inspection & testing (conc/rebar/anchors)	LS	\$2,850	1	\$2,850
4	Post construction topographic survey	LS	\$7,200	1	\$7,200
<b>Subtotal Outside Services:</b>					<b>\$23,925</b>
<b>Subtotal Outside Services w/ Markup (15%):</b>					<b>\$27,514</b>

COST SUMMARY	
Labor	\$56,190
Other Direct Costs	\$3,600
Outside Services	\$27,514
<b>Subtotal:</b>	<b>\$87,304</b>
<b>TOTAL ESTIMATED PROJECT COST:</b>	<b>\$87,304</b>



**PUEBLO WATER RESOURCES, INC  
2018 FEE SCHEDULE**

***Professional Services***

Principal Professional.....	\$205/hr
Senior Professional.....	\$190/hr
Project Professional.....	\$175/hr
Staff Professional.....	\$145/hr
Technician.....	\$135/hr
Illustrator.....	\$120/hr
Word Processing.....	\$100/hr

***Other Direct Charges***

Subcontracted Services.....	Cost Plus 15%
Outside Reproduction.....	Cost Plus 15%
Travel Expenses.....	Cost Plus 15%
Per Diem* .....	\$150/day
Vehicle .....	\$75/day

***Equipment Charges***

Drilling Fluid Test Kit.....	\$100/day, \$400/week
Field Water Quality Meter (Hach DR890).....	\$75/day, \$275/week
Orion ORP/pH/Temp Probe.....	\$75/day, \$275/week
Water Level Probes (In-Situ Mini-Troll/Level Troll).....	\$100/day, \$300/week
Fuji Ultrasonic Flowmeter.....	\$200/day, \$750/week

\*Regionally and seasonally specific to project.

## Agreement No. RA-031814 Amended

**Agreement for Professional Services**

This Agreement for Professional Services (hereinafter referred to as "Agreement") is by and between **Monterey Peninsula Water Management District** (hereinafter referred to as "MPWMD") and the **Fort Ord Reuse Authority**, a political subdivision of the State of California (hereinafter referred to as "FORA").

The parties agree as follows:

1. SERVICES. Subject to the terms and conditions set forth in this Agreement, FORA shall provide MPWMD with services associated with property acquisition as described in **ATTACHMENT "A"**. Such services will be at the direction of FORA and/or their designees.

2. TERM. FORA shall commence work under this Agreement effective on **June 28, 2018**, and will diligently perform the work under this Agreement until December 31, 2020 or until the maximum amount of the compensation as noted below is reached. The term of the Agreement may be extended upon mutual concurrence and amendment to this Agreement.

3. COMPENSATION AND OUT OF POCKET EXPENSES. The overall maximum amount of compensation to FORA over the full term of this Agreement is not-to-exceed **\$50,195 (Fifty Thousand One Hundred and Ninety-Five Dollars)** including out of pocket expenses without written consent of both parties. MPWMD shall pay FORA for services rendered pursuant to this Agreement at the times and in the manner set forth in **ATTACHMENT "A."**

MPWMD will reimburse FORA for all costs associated with the preparation review and approval of all required MPWMD closure documents. FORA will coordinate the required services and billing at their cost or for contractors and regulatory oversight FORA's contract rate plus 15% overhead to handle FORA accounting costs as set forth in **ATTACHMENT "A."**

4. FACILITIES AND EQUIPMENT. MPWMD facilities and service requirements are limited to the areas shown on the attached site map known as **ATTACHMENT "C."**

5. GENERAL PROVISIONS. The general provisions set forth in **ATTACHMENT "B"** are incorporated into this Agreement. In the event of any inconsistency between said general provisions and any other terms or conditions of this Agreement, the other term or condition shall control only insofar as it is inconsistent with the General Provisions.

6. ATTACHMENTS. All Attachments referred to herein are attached hereto and are by this reference incorporated herein.

- **ATTACHMENT A** – Scope of Services
- **ATTACHMENT B** – General Provisions
- **ATTACHMENT C** – Site Map

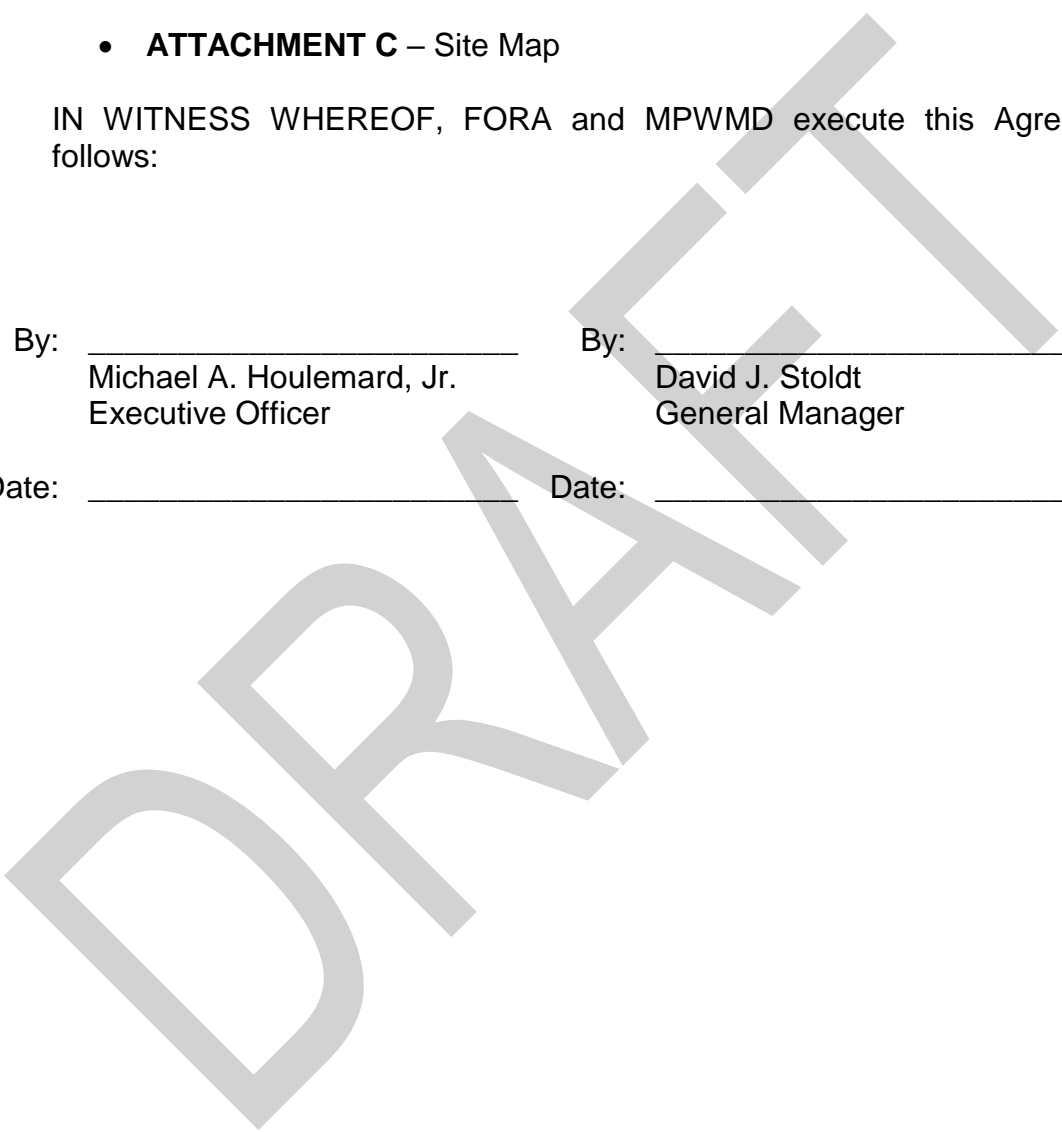
IN WITNESS WHEREOF, FORA and MPWMD execute this Agreement as follows:

By: \_\_\_\_\_  
Michael A. Houlemard, Jr.  
Executive Officer

By: \_\_\_\_\_  
David J. Stoldt  
General Manager

Date: \_\_\_\_\_

Date: \_\_\_\_\_





## ATTACHMENT A

## SCOPE OF SERVICES

The Scope of Services enables the **Fort Ord Reuse Authority** (FORA) to provide the **Monterey Peninsula Water Management District** (MPWMD) with the services of the FORA Real Property and Facilities Manager, the FORA Senior Project Manager, FORA Special Counsel and their engineering/munitions remediation contractors, ARCADIS and Weston Solutions and other contractors, as required and at FORA's discretion, to assist MPWMD to:

- Provide guidance regarding the process for acquisition and transfer of lands adjacent to the Santa Margarita Aquifer Storage and Recovery (ASR) site that are for the planned expansion of the ASR site, for which the MPWMD has an easement from the Army.
- Review, prepare and process appropriate closure documents required by the US Environmental Protection Agency (EPA), California Department of Toxic Substance Control (DTSC), Army, City of Seaside, and any other agencies, to enable implementation of the planned extension of the Santa Margarita ASR site.
- Review, prepare, and process the Right of Entry as may be required for implementation of the planned site extension work.
- Provide UXO Construction Support Services to support MPWMD contractors during construction activities that require ground disturbing activities including but not limited to; underground excavations, grading soils, borings, cuts and fill as part of the site extension work.
- Provide MPWMD with Unexploded Ordnance (UXO) Construction Support during construction activities including but not limited to:
  - A. Final Construction Support Plan completion,
  - B. On-call construction support for one 24- and/or one 48-hour emergency response activities in the event a suspect munition is encountered (Anomaly avoidance and on-call/on-location construction support was not requested)
  - C. UXO Construction Support related project coordination/management/set-up,
  - D. UXO Munitions Recognition and Safety Training,
  - E. Meetings/conference calls (as requested by FORA and or MPWMD),
  - F. Construction Support Plan memoranda (if required), and
  - G. After-action reporting..

FORA billings for its staff, contractors and the estimated services of the US EPA and California DTSC shall be submitted quarterly at the first of the quarter for any work performed in the previous quarter and shall be paid in full by MPWMD within forty-five (45) days of receipt of the billing statement.

FORA will provide the following services of:

- A. FORA ESCA Senior Program Manager at the rate of \$134.32 per hour.
- B. FORA ESCA Program Coordinator at the rate of \$83.94 per hour.
- C. FORA Accountant at the rate of \$46.67 per hour.
- D. FORA Executive Officer at the rate of \$238.49 per hour
- E. FORA Controller at the rate of \$126.30 per hour.
- F. FORA Special Counsel at the rate of \$355.00 per hour.

FORA shall arrange for and provide the service of the following at FORA's cost plus 15% to cover FORA Accounting and Administrative costs:

- A. ARCADIS
- B. Weston Solutions
- C. U.S. EPA
- D. California DTSC
- E. Other contracting or agency services if needed

The services above are to be provided to support MPWMD's needs for:

- Site visits as required;
- Participating in UXO escorts meetings as required;
- Reviewing MPWMD documents and plans as required;
- Reviewing MPWMD and its contractor's requests(s) to enter the FORA Environmental Services Cooperative Agreement (ESCA) property and developing/approving any Right of Entry, as may be required; and
- Participating in U.S. EPA, California DTSC, Army, City of Seaside and other agency meetings as required.

**ATTACHMENT B****GENERAL PROVISIONS**

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1. INDEPENDENT Contractor. At all times during the term of this Agreement, FORA shall be an independent Contractor and shall not be an employee of MPWMD. MPWMD's rights are limited to those specified in this Agreement.

2. TIME. FORA shall devote such services pursuant to this Agreement as may be reasonably necessary for satisfactory performance of FORA'S obligations pursuant to this Agreement. FORA shall adhere to the Schedule of Activities shown in **ATTACHMENT "A"**.

3. FORA NO AGENT. Except as MPWMD may specify in writing, FORA shall have no authority, express or implied to act on behalf of MPWMD in any capacity whatsoever as an agent. FORA shall have no authority, express or implied, pursuant to this Agreement, to bind MPWMD to any obligation whatsoever.

4. PERSONNEL. FORA shall assign only competent personnel to perform services pursuant to this Agreement. In the event that MPWMD, in its sole discretion, at anytime during the term of this Agreement, desires the removal of any person or persons assigned by FORA, FORA shall remove any such person immediately upon receiving notice from MPWMD of the desire of MPWMD for the removal of such person or person.

5. STANDARD OF PERFORMANCE. FORA shall perform all services required pursuant to this Agreement in the manner and according to the standards observed by a competent practitioner of the profession in which FORA is engaged in the geographical area in which FORA practices his profession. All products and services of whatsoever nature, which FORA delivers to MPWMD pursuant to this Agreement, shall be prepared in a substantial, first-class, and workmanlike manner, and conform to the standards of quality normally observed by a person practicing in FORA'S profession.

6. CANCELLATION OF AGREEMENT. Either party may cancel this Agreement at any time for its convenience, upon written notification. FORA shall be entitled to receive full payment for all services performed and all costs incurred to the date of receipt of written notice to cease work. FORA shall be entitled to no further compensation for work performed after the date of receipt of written notice to cease work and all prior completed work products shall become the property of MPWMD.

7. PRODUCTS OF CONTRACTING. All completed work products of FORA, once accepted, shall be the property of MPWMD. MPWMD shall have the right to use the data and products for research and academic purposes.

8. INDEMNIFY AND HOLD HARMLESS. FORA and MPWMD are to indemnify, defend, and hold harmless each other, their officers, agents, employees and volunteers from all claims, suits, or actions of every name, kind and description, brought forth on account of injuries to or death of any person or damage to property arising from or connected with the willful misconduct, negligent acts, errors or omissions, ultra-hazardous activities, activities giving rise to strict liability, or defects in design by each other or any person directly or indirectly employed by or acting as agent for each other in the performance of this Agreement, including

the concurrent or successive passive negligence of each other, their officers, agents, employees or volunteers.

It is understood that the duty of FORA and MPWMD to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code. Acceptance of insurance certificates and endorsements required under this Agreement does not relieve FORA and MPWMD from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall apply whether or not such insurance policies have been determined to be applicable to any of such damages or claims for damages.

9. PROHIBITED INTERESTS. No employee of FORA shall have any direct financial interest in this Agreement. This Agreement shall be voidable at the option of MPWMD if this provision is violated.

DRAFT

MPWMD Santa Margarita Well Site Map







**Denise Duffy & Associates, Inc.**  
PLANNING AND ENVIRONMENTAL CONSULTING

June 28, 2018

Maureen Hamilton

*Subject: ASR Expansion Biological Monitoring*

Dear Maureen:

Denise Duffy & Associates, Inc. (DD&A) is pleased to submit a Scope of Work (SOW) and Cost Estimate to perform biological support services for Monterey Peninsula Water Management District (MPWMD) ASR Expansion Project (project). DD&A will provide pre-construction surveys, and biological monitoring, to ensure project remains in compliance with the California Environmental Quality Act (CEQA) environmental documentation. If the attached SOW and Cost Estimate are acceptable, please sign the attached Task Order form and DD&A will schedule the work accordingly.

Sincerely,

A handwritten signature in black ink, which appears to read "Matt Johnson", is written over a horizontal line.

Matt Johnson, Project Manager  
DENISE DUFFY & ASSOCIATES, INC.

**SCOPE OF WORK**

**Task 1. Pre-Construction Kick-Off Meeting**

DD&A will attend a pre-construction kick-off meeting with MPWMD and the project contractor prior to the start of construction. This task includes coordination for this meeting and preparation of any materials necessary to facilitate the meeting.

**Task 2. Pre-Construction Surveys and Reporting**

DD&A will conduct pre-construction surveys for potential rare, listed, or other sensitive species prior to commencement of project construction. Surveys will be conducted within the work area and all access routes, including appropriate buffer distances as described below, to avoid and minimize incidental take, confirm previous observations, identify any areas occupied by listed or sensitive species, and clearly mark all resources to be avoided by project activities.

*Monterey Dusky-Footed Woodrat*

DD&A will conduct a pre-construction survey of the project area and a 25-foot buffer at least 5 days prior to any surface disturbing actions for Monterey dusky-footed woodrat nests (MDFW). All nests will be identified, and their locations mapped and flagged to be avoided during construction activities.

*Nesting Bird Species*

For project activities, including vegetation pruning, that begin between February 15 and September 1, a qualified DD&A biologist will conduct pre-construction surveys for nesting birds and to identify active nests on and within 500 feet of the project area with direct line of sight to the proposed work areas. The surveys will be conducted no more than 14 days prior to the beginning of any construction activities between February 15 and September 1. A second survey will be conducted no more than 48 hours prior to the beginning of any construction activities between February 15 and September 1.

DD&A will provide to MPWMD the results of the pre-construction surveys for all species.

**Assumptions:** DD&A assumes that all pre-construction wildlife surveys will return with a negative finding. If special status wildlife species are identified during the pre-construction survey effort, coordination with USFWS/CDFW and relocation of individuals may require a budget amendment. If, for any reason, construction does not begin within the permit designated survey windows, additional surveys may be required.

**Task 3. Construction Phase Biological Monitoring**

DD&A will provide construction phase biological monitoring for the project during vegetation removal to relocate special-status species if there are observed within the project site.

**Assumptions:** This SOW assumes that the duration of vegetation removal will be two, if the vegetation removal duration exceeds this schedule a budget amendment may be required.

**BUDGET**

The costs per task to complete the ASR Expansion Project Biological Support Services are detailed in the attached spreadsheet. The total budget of \$8,543.00 is a not-to-exceed total and is to be billed by task.



<b>ASR Expansion Biological Monitoring Estimated Budget</b>						
	<b>Staff</b>	<b>Senior Environmental Scientist</b>	<b>Asst Scientist</b>	<b>Graphics/GIS</b>	<b>Administrative</b>	<b>DD&amp;A Costs by Task</b>
	<b>Hourly Rate</b>	<b>\$128.00</b>	<b>\$94.00</b>	<b>\$100.00</b>	<b>\$61.00</b>	
<b>Task 1</b>	<b>Pre-Construction Kick-off Meeting</b>	8	4		2	<b>\$1,522</b>
<b>Task 2</b>	<b>Preconstruction Wildlife Survey and Report</b>	10	30	6	2	<b>\$4,822</b>
<b>Task 3</b>	<b>Biological Monitoring During Vegetation Removal</b>	6	24		2	<b>\$3,146</b>
<b>Total Hours by Staff</b>		<b>16</b>	<b>54</b>	<b>6</b>	<b>4</b>	
<b>Subtotal for DD&amp;A Labor</b>		<b>\$2,048</b>	<b>\$5,076</b>	<b>\$600</b>	<b>\$244</b>	<b>\$7,968</b>
<b>Estimated Expenses:</b>						
Mileage, copying, supplies, GIS and phone						<b>\$500</b>
Administrative Fee						<b>\$75</b>
<b>TOTAL ESTIMATED COST</b>						<b>\$8,543</b>



**ITEM: INFORMATIONAL ITEMS/STAFF REPORTS****20. LETTERS RECEIVED****Meeting Date: July 16, 2018** **Budgeted: N/A****From: David J. Stoldt,  
General Manager** **Program/  
Line Item No.: N/A****Prepared By: Arlene Tavani** **Cost Estimate: N/A****General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines section 15378.**

A list of letters that were submitted to the Board of Directors or General Manager and received between June 11, 2018 and July 10, 2018 is shown below. The purpose of including a list of these letters in the Board packet is to inform the Board and interested citizens. Copies of the letters are available for public review at the District office. If a member of the public would like to receive a copy of any letter listed, please contact the District office. Reproduction costs will be charged. The letters can also be downloaded from the District's web site at [www.mpwmd.net](http://www.mpwmd.net).

<b>Author</b>	<b>Addressee</b>	<b>Date</b>	<b>Topic</b>
Mark Fogelman	Eileen Sobeck – copy to David Stoldt	6/29/18	May 9, 2018 Petition to Modify Board Resolution 2016-0040
Mary L. Adams	Larry Hampson	6/15/18	Nomination of Gary Briant to the Carmel River Advisory Committee
John Moore	Arlene Tavani – to MPWMD Board	6/13/18	Comment Letter-Proposed Recycled Water Amendment









**EXHIBIT 21-A**

FINAL MINUTES

**Monterey Peninsula Water Management District  
Administrative Committee  
June 11, 2018**

**Call to Order**

The meeting was called to order at 3:36 PM in the District Conference Room.

Committee members present: Brenda Lewis – Chair (arrived at 3: 42 PM)  
Andrew Clarke  
Ralph Rubio

Staff present: Suresh Prasad, Administrative Services Manager/Chief Financial Officer  
Stephanie Locke, Water Demand Manager  
Larry Hampson, Water Resources & Engineering Manager/District Engineer  
Kevan Urquhart, Sr. Fisheries Biologist  
Maureen Hamilton, Water Resources Engineer  
Mark Dudley, Information Technology Manager  
Sara Reyes, Sr. Office Specialist

**Oral Communications**

None

**Items on Board Agenda for June 18, 2018**

1. **Consider Adoption of Minutes of May 14, 2018 Committee Meeting**  
On a motion by Rubio and second by Clarke, the minutes of the May 14, 2018 meeting were approved on a vote of 2 – 0 by Rubio and Clarke. Director Lewis was absent for this item.
2. **Consider Approval of Service Agreement for the Provision of Election Services with Monterey County Registrar of Voters for November 6, 2018 General Election**  
On a motion by Clarke and second by Rubio, the committee recommended the Board enter into the agreement with the Registrar of Voters for the provision of election services. The motion was approved on a vote of 2 – 0 by Clarke and Rubio. Director Lewis was absent for this item.
3. **Consider Approval of Expenditure for Phone System and Server Network Upgrade**  
On a motion by Rubio and second by Clarke, the committee recommended the Board authorize expenditure of funds to purchase and upgrade the phone system, network cabling, server room relocation, and server room air conditions at a not-to-exceed price of \$60,000. The motion was approved on a vote of 2 – 0 by Rubio and Clarke. Director Lewis was absent for this item.
4. **Authorize Expenditure for Software Maintenance Agreements for FY 2018-2019**  
On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize expenditures not-to-exceed \$96,575 to purchase the items presented in the table. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.

<b>Product</b>	<b>Price</b>
ESRI ArcGIS Standard concurrent	\$4,400
ESRI ArcGIS Standard stand-alone	1,650
ESRI Extensions	2,500
Latitude Geographics GeoCortex	6,000
ESRI EDN	1,650
ArcGIS Server Two Core	1,400
Server networking	3,500
Backup, antivirus and MS office	9,500
Docuware (Financial)	8,000
Tyler Technologies (Financial)	22,500
GovInvest (Financial)	6,500
Accela Support (Water Demand)	30,000
<b>TOTAL</b>	<b>\$97,600</b>

**5. Consider Approval of Amendment No. 2 to Agreement with Regional Government Services Authority for Management and Administrative Services**

On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize the General Manager or Administrative Services Manager/CFO to sign Amendment No. 2 to existing Agreement with RGS to provide management and administrative services for an amount not-to-exceed \$70,000. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.

**6. Consider Expenditure for Temporary Agency Employee to Assist with Electronic Document Storage During FY 2018-2019**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board authorize the expenditure of funds for a local staffing agency to provide an individual, or successive individuals if necessary, for six months to perform scanning project for the District. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**7. Consider Approval of Agreement with Lynx Technologies for Geographic Information System (GIS) Services**

On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize the General Manager or the Administrative Services Manager/CFO to enter into an agreement with Lynx Technologies to provide GIS services for an amount not-to-exceed \$35,000. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.

**8. Authorize Funds to Contract for Limited-Term Field Positions During FY 2018-2019**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board authorize the expenditure of funds to hire several limited-term Water Resources Assistants for up to a total of 1,5000 hours of work, several Fisheries Aides for up to 1,000 hours between July 1, 2017 and June 30, 2018. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**9. Consider Approval of Three Temporary Field Staff Positions Funded through the Interagency Contract Between MPWMD and NMFS to Provide for a Cooperative Research and Monitoring Projects**



On a motion by Rubio and second by Clarke, the committee voted to recommend the Board approve three temporary field staff positions for cooperative research and monitoring projects with the NOAA/NMFS for fiscal year 2018-2019. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

- 10. Consider Renewal of Standard License Agreement with CoreLogic Information Solutions, Inc.**  
On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize expenditure of up to \$14,000 to continue use of CoreLogic’s RealQuest Professional services. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.
- 11. Approve Expenditure to Corporation Service Company – Recording Fees**  
On a motion by Rubio and second by Clarke, the committee voted to recommend the Board approve the expenditure of up to \$100,000 for recording fees for the Fiscal Year 2018-2019. The motion was approved on a 3 - 0 vote by Rubio, Clarke and Lewis.
- 12. Consider Expenditure for Water Conservation Messaging Materials**  
On a motion by Rubio and second by Clarke, the committee voted to recommend the Board support an expenditure of up to \$25,000 to renew the District’s stock of water conservation signage. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.
- 13. Consider Funding Rebates in the California American Water System Between July 1, 2018 and the Availability of Funding from the Cal-Am General Rate Case**  
On a motion by Clarke and second by Rubio, the committee voted to recommend the Board support the continued front funding of rebates from the General Fund pending approval of Cal-Am’s GRC budget. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.
- 14. Consider Continuance of Contract with Zone 24x7 for Water Demand Database Improvements and Maintenance**  
On a motion by Rubio and second by Clarke, the committee voted to recommend authorizing the General Manager or the Chief Financial Officer to enter into an agreement with Zone 24x7 for an amount of \$60,000. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.
- 15. Consider Expenditure to Amend Contract with Pueblo Water Resources to Provide Hydrogeologic Review for Water Distribution System Permits**  
On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize the General Manager to amend the current District professional services contract with Pueblo for a not-to-exceed amount of \$2,000 for FY 2018-2019. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.
- 16. Consider Approval to Purchase Expendable PIT Tags and Other Disposable Tagging Supplies for the Remainder of Calendar Year 2018**  
On a motion by Rubio and second by Clarke, the committee voted to recommend the Board authorize additional expenditure of budgeted funds in the amount of \$12,000 for FY 2017-2018 and \$8,000 for FY 2018-2019 to cover solely the costs of expendable/disposable PIT tags and tagging supplies, not including other miscellaneous ongoing operational expenses to support the program. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**17. Consider Authorizing the General Manager to Increase the Level of Indemnification in a Right-of-Entry and Project Permission Agreement with Quail Lodge, Inc. for the Carmel River Bank Stabilization Project at Rancho San Carlos Road**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board authorize the General Manager to negotiate with Quail Lodge, Inc. to increase the level of indemnification for Quail Lodge, Inc. up to \$30,000. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**18. Consider Funding an Addendum to the MPWMD Aquifer Storage and Recovery Project Environmental Impact Report/Environmental Assessment**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board authorize the General Manager to contract with Denise Duffy and Associates for preparation of an Addendum to the ASR EIR/EA for the proposed Project in an amount not-to-exceed \$17,185 with a 10% contingency for a total authorization not-to-exceed \$19,652. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**19. Consider Funding a Storm Water Pollution Prevention Plan Development and Monitoring Services for ASR Expansion**

On a motion by Clarke and second by Rubio, the committee voted to recommend the Board authorize the General Manager to enter into a contract with Schaaf and Wheeler for development of a SWPPP in an amount not-to-exceed \$15,000. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.

**20. Consider Renewal of Contract with JEA & Associates for Legislative and Administrative Services**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board approve the contract with JEA & Associates for a not-to-exceed amount of \$35,000 for Fiscal Year 2018-2019. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**21. Consider Renewal of Contract with the Ferguson Group for Legislative and Administrative Services**

On a motion by Rubio and second by Clarke, the committee voted to recommend that the Board authorize the General Manager to enter into an agreement with the Ferguson Group for FY 2018-2019. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**22. Consider Renewal of Contract for District Public Outreach and Communications Services with TBC Communications and Media**

On a motion by Clarke and second by Rubio, the committee voted to recommend the Board approve a contract with TBC Communications & Media. The motion was approved on a 3 – 0 vote by Clarke, Rubio and Lewis.

**23. Consider Adoption of Resolution 2018-12 Certifying Compliance with State Law with Respect to the Levying of General and Special Taxes, Assessments, and Property-Related Fees and Charges**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board adopt Resolution 2018-12 and authorize the County of Monterey for collection of Water Supply Charge on the property tax bill. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**24. Consider Adoption of Resolution 2018-13 Establishing Article XIII (B) Fiscal Year 2018-2019 Appropriations Limit**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board adopt Resolution 2018-13 - Establishing an Appropriations Limit for Fiscal Year 2018-2019 in the amount of \$1,718,220. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**25. Consider Adoption of Resolution 2018-14 Update to Rule 24, Table 3, Capacity Fee History**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board adopt Resolution 2018-14 – Update to Rule 24, Table 3, Capacity Fee History. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**26. Consider Authorization to Provide Funds to Monterey One Water for the Pure Water Monterey Project**

On a motion by Clarke and second by Rubio, the committee voted to recommend the Board approve authorization of \$2 million from reimbursement of preconstruction costs to be reserved as contingency for Monterey One Water to be used towards the Pure Water Monterey Project.

**27. Consider Adoption of Treasurer’s Report for April 2018**

On a motion by Rubio and second by Clarke, the committee voted to recommend the Board adopt the April 2018 Treasurer’s Report and financial statements, and ratification of the disbursements made during the month. The motion was approved on a 3 – 0 vote by Rubio, Clarke and Lewis.

**28. Review Draft June 18, 2018 Board Meeting Agenda**

A revised agenda was distributed to the committee for their review. The committee made no changes.

**Adjournment**

The meeting was adjourned at 4:40 PM.

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**EXHIBIT 21-B**

**FINAL MINUTES**  
**Water Demand Committee of the**  
**Monterey Peninsula Water Management District**  
*April 18, 2018*

**Call to Order**

The meeting was called to order at 3:35 pm in the MPWMD conference room.

**Committee members present:** Andy Clarke, Chair  
 Jeanne Byrne  
 Molly Evans

**Committee members absent:** None

**Staff members present:** David Stoldt, General Manager  
 Stephanie Locke, Water Demand Division Manager  
 Gabriela Ayala, Conservation Analyst  
 Arlene Tavani, Executive Assistant

**District Council present:** No

**Comments from the Public:** No comments.

**Action Items**

1. **Consider Adoption of November 20, 2017 Committee Meeting Minutes**  
On a motion by Byrne and second of Evans, minutes of the November 20, 2017 committee meeting were adopted unanimously on a vote of 3 – 0 by Byrne, Clarke and Evans.

**Discussion Items**

2. **Discuss Group I and Group II Non-Residential Water Use Factors**  
 The committee discussed the issue. A summary of their comments is presented here. (a) Group 1 and Group II could be combined under the Group II water use factor because they are likely similar. (b) Combining groups could save staff time and be more equitable for property owners. (c) Could charge a fee to move from a Group I use to a Group II use. (d) Suggest remove “dry cleaner with on-site laundry” from Group II. (e) Develop a stronger definition of “restaurant.” (f) Concerned that water use would increase by allowing a site with the previous use of a futon store to take on a Group II use. (g) Grandfather properties with Group I uses to the Group II factor. (h) Calculate the water use per square foot of a space based on its actual water use, and then compare that to the District’s factor for the use. The savings could be identified and allocated to the change in the factor. (i)

On average, implementation of Best Management Practices at a business with a Group II use will reduce the water use to that of a Group I category.

**3. Discuss Conservation Offset Program**

The committee reviewed the questions for discussion presented in the staff note. There was consensus regarding the following: (a) Project Specifications: project could be either District or developer designed. (b) Offset or credit ratio: continue with the District practice of allocating 15% of savings to benefit the river and 10% for a District reserve. (c) Permanence: offset benefits should accrue permanently. (d) Additionality: consensus that a project must create new water savings or supply that would not/is not expected to have happened anyway, either through District conservation programs, building code changes, expected customer behavior, etc. (e) An ordinance could be developed and brought to the Board after a determination is made on Condition 2 of Order 2009-0060.

**4. Discuss Fire Service Requirement**

The committee discussed this item. A summary of their comments follows. (a) Continue with current requirement. (b) Consider a deed restriction along with the current requirement. (c) Develop a waiver (determined by the General Manager) for those circumstances where the optimal installation cannot be implemented.

**Set Next Meeting Date:** No future meeting date was scheduled.

**Adjournment:** The meeting was adjourned at 5:10 pm.

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**ITEM: INFORMATIONAL ITEM/STAFF REPORTS****22. MONTHLY ALLOCATION REPORT****Meeting Date: July 16, 2018** **Budgeted: N/A****From: David J. Stoldt,  
General Manager** **Program: N/A**  
**Line Item No.:****Prepared By: Gabriela Ayala** **Cost Estimate: N/A****General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.**

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**SUMMARY:** As of June 30, 2018, a total of **24.721** acre-feet (**7.2%**) of the Paralta Well Allocation remained available for use by the Jurisdictions. Pre-Paralta water in the amount of **35.923** acre-feet is available to the Jurisdictions, and **28.932** acre-feet is available as public water credits.

**Exhibit 22-A** shows the amount of water allocated to each Jurisdiction from the Paralta Well Allocation, the quantities permitted in June 2018 (“changes”), and the quantities remaining. The Paralta Allocation had one debit in June 2018.

**Exhibit 22-A** also shows additional water available to each of the Jurisdictions and the information regarding the Community Hospital of the Monterey Peninsula (Holman Highway Facility). Additional water from expired or canceled permits that were issued before January 1991 are shown under “PRE-Paralta.” Water credits used from a Jurisdiction’s “public credit” account are also listed. Transfers of Non-Residential Water Use Credits into a Jurisdiction’s Allocation are included as “public credits.” **Exhibit 22-B** shows water available to Pebble Beach Company and Del Monte Forest Benefited Properties, including Macomber Estates, Griffin Trust. Another table in this exhibit shows the status of Sand City Water Entitlement and the Malpaso Water Entitlement.

**BACKGROUND:** The District’s Water Allocation Program, associated resource system supply limits, and Jurisdictional Allocations have been modified by a number of key ordinances. These key ordinances are listed in **Exhibit 22-C**.

**EXHIBITS****22-A** Monthly Allocation Report**22-B** Monthly Entitlement Report**22-C** District’s Water Allocation Program Ordinances





**EXHIBIT 22-A**  
**MONTHLY ALLOCATION REPORT**  
**Reported in Acre-Feet**  
**For the month of June 2018**

Jurisdiction	Paralta Allocation*	Changes	Remaining	PRE-Paralta Credits	Changes	Remaining	Public Credits	Changes	Remaining	Total Available
Airport District	8.100	0.000	5.197	0.000	0.000	0.000	0.000	0.000	0.000	5.197
Carmel-by-the-Sea	19.410	0.001 Cr	1.398	1.081	0.000	1.081	0.910	0.000	0.182	2.661
Del Rey Oaks	8.100	0.000	0.000	0.440	0.000	0.000	0.000	0.000	0.000	0.000
Monterey	76.320	0.000	0.263	50.659	0.000	0.030	38.121	0.000	2.325	2.618
Monterey County	87.710	0.000	10.717	13.080	0.000	0.352	7.827	0.000	1.775	12.844
Pacific Grove	25.770	0.000	0.000	1.410	0.000	0.022	15.874	0.000	0.133	0.155
Sand City	51.860	0.000	0.000	0.838	0.000	0.000	24.717	0.000	23.373	23.373
Seaside	65.450	0.111	7.146	34.438	0.000	34.438	2.693	0.000	1.144	42.728
<b>TOTALS</b>	<b>342.720</b>	<b>0.110</b>	<b>24.721</b>	<b>101.946</b>	<b>0.000</b>	<b>35.923</b>	<b>90.142</b>	<b>0.000</b>	<b>28.932</b>	<b>89.576</b>

Allocation Holder	Water Available	Changes this Month	Total Demand from Water Permits Issued	Remaining Water Available
Quail Meadows	33.000	0.000	32.320	0.680
Water West	12.760	0.000	9.372	3.388

\* Does not include 15.280 Acre-Feet from the District Reserve prior to adoption of Ordinance No. 73.



**EXHIBIT 22-B**  
**MONTHLY ALLOCATION REPORT**  
**ENTITLEMENTS**  
**Reported in Acre-Feet**  
**For the month of June 2018**

**Recycled Water Project Entitlements**

Entitlement Holder	Entitlement	Changes this Month	Total Demand from Water Permits Issued	Remaining Entitlement/and Water Use Permits Available
Pebble Beach Co. <sup>1</sup>	228.260	0.600	31.431	196.829
Del Monte Forest Benefited Properties <sup>2</sup> (Pursuant to Ord No. 109)	136.740	0.393	50.539	86.201
Macomber Estates	10.000	0.000	9.595	0.405
Griffin Trust	5.000	0.000	4.829	0.171
<b>CAWD/PBCSD Project Totals</b>	<b>380.000</b>	<b>0.993</b>	<b>96.394</b>	<b>283.606</b>

Entitlement Holder	Entitlement	Changes this Month	Total Demand from Water Permits Issued	Remaining Entitlement/and Water Use Permits Available
City of Sand City	206.000	0.000	4.353	201.647
Malpaso Water Company	80.000	0.078	9.315	70.685
D.B.O. Development No. 30	13.950	0.000	1.088	12.862
City of Pacific Grove	66.000	0.000	0.000	66.000
Cypress Pacific	3.170	0.000	3.170	0.000

Increases in the Del Monte Forest Benefited Properties Entitlement will result in reductions in the Pebble Beach Co. Entitlement.



## EXHIBIT 22-C

### **District's Water Allocation Program Ordinances**

**Ordinance No. 1** was adopted in September 1980 to establish interim municipal water allocations based on existing water use by the jurisdictions. Resolution 81-7 was adopted in April 1981 to modify the interim allocations and incorporate projected water demands through the year 2000. Under the 1981 allocation, Cal-Am's annual production limit was set at 20,000 acre-feet.

**Ordinance No. 52** was adopted in December 1990 to implement the District's water allocation program, modify the resource system supply limit, and to temporarily limit new uses of water. As a result of Ordinance No. 52, a moratorium on the issuance of most water permits within the District was established. Adoption of Ordinance No. 52 reduced Cal-Am's annual production limit to 16,744 acre-feet.

**Ordinance No. 70** was adopted in June 1993 to modify the resource system supply limit, establish a water allocation for each of the jurisdictions within the District, and end the moratorium on the issuance of water permits. Adoption of Ordinance No. 70 was based on development of the Paralta Well in the Seaside Groundwater Basin and increased Cal-Am's annual production limit to **17,619** acre-feet. More specifically, Ordinance No. 70 allocated 308 acre-feet of water to the jurisdictions and 50 acre-feet to a District Reserve for regional projects with public benefit.

**Ordinance No. 73** was adopted in February 1995 to eliminate the District Reserve and allocate the remaining water equally among the eight jurisdictions. Of the original 50 acre-feet that was allocated to the District Reserve, 34.72 acre-feet remained and was distributed equally (4.34 acre-feet) among the jurisdictions.

**Ordinance No. 74** was adopted in March 1995 to allow the reinvestment of toilet retrofit water savings on single-family residential properties. The reinvested retrofit credits must be repaid by the jurisdiction from the next available water allocation and are limited to a maximum of 10 acre-feet. This ordinance sunset in July 1998.

**Ordinance No. 75** was adopted in March 1995 to allow the reinvestment of water saved through toilet retrofits and other permanent water savings methods at publicly owned and operated facilities. Fifteen percent of the savings are set aside to meet the District's long-term water conservation goal and the remainder of the savings are credited to the jurisdictions allocation. This ordinance sunset in July 1998.

**Ordinance No. 83** was adopted in April 1996 and set Cal-Am's annual production limit at **17,621** acre-feet and the non-Cal-Am annual production limit at **3,046** acre-feet. The modifications to the production limit were made based on the agreement by non-Cal-Am water users to permanently reduce annual water production from the Carmel Valley Alluvial Aquifer in exchange for water service from Cal-Am. As part of the agreement, fifteen percent of the historical non-Cal-Am production was set aside to meet the District's long-term water conservation goal.

**Ordinance No. 87** was adopted in February 1997 as an urgency ordinance establishing a community benefit allocation for the planned expansion of the Community Hospital of the Monterey Peninsula (CHOMP). Specifically, a special reserve allocation of 19.60 acre-feet of production was created exclusively for the benefit of CHOMP. With this new allocation, Cal-Am's annual production limit was increased to **17,641** acre-feet and the non-Cal-Am annual production limit remained at **3,046** acre-feet.

**Ordinance No. 90** was adopted in June 1998 to continue the program allowing the reinvestment of toilet retrofit water savings on single-family residential properties for 90-days following the expiration of Ordinance No. 74. This ordinance sunset in September 1998.

**Ordinance No. 91** was adopted in June 1998 to continue the program allowing the reinvestment of water saved through toilet retrofits and other permanent water savings methods at publicly owned and operated facilities.

**Ordinance No. 90 and No. 91** were challenged for compliance with CEQA and nullified by the Monterey Superior Court in December 1998.

**Ordinance No. 109** was adopted on May 27, 2004, revised Rule 23.5 and adopted additional provisions to facilitate the financing and expansion of the CAWD/PBCSD Recycled Water Project.

**Ordinance No. 132** was adopted on January 24, 2008, established a Water Entitlement for Sand City and amended the rules to reflect the process for issuing Water Use Permits.

**Ordinance No. 165** was adopted on August 17, 2015, established a Water Entitlement for Malpas Water Company and amended the rules to reflect the process for issuing Water Use Permits.

**Ordinance No. 166** was adopted on December 15, 2015, established a Water Entitlement for D.B.O. Development No. 30.

**Ordinance No. 168** was adopted on January 27, 2016, established a Water Entitlement for the City of Pacific Grove.

**ITEM: INFORMATIONAL ITESM/STAFF REPORTS****23. QUARTERLY WATER USE CREDIT TRANSFER STATUS REPORT****Meeting Date: July 16, 2018 Budgeted: N/A****From: David J. Stoldt, General Manager Program/ Line Item No.: N/A****Prepared By: Gabriela Ayala Cost Estimate: N/A****General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.**

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Information about Water Use Credit transfer applications will be reported as applications are received. There are no pending Water Use Credit transfer applications.







#### D. CII Compliance with Water Efficiency Standards

Effective January 1, 2014, all Non-Residential properties were required to meet Rule 143, Water Efficiency Standards for Existing Non-Residential Uses. To verify compliance with these requirements, property owners and businesses are being sent notification of the requirements and a date that inspectors will be on Site to check the property. This month, District inspectors performed **20** inspections. Of the **20** inspections certified, **13 (65%)** were in compliance. **None** of the properties that passed inspection involved more than one visit to verify compliance with all water efficiency standards; the remainder complied without a reinspection.

MPWMD is forwarding its CII inspection findings to California American Water (Cal-Am) for their verification with the Rate Best Management Practices (Rate BMPs) that are used to determine the appropriate non-residential rate division. Compliance with MPWMD's Rule 143 achieves Rate BMPs for indoor water uses, however, properties with landscaping must also comply with Cal-Am's outdoor Rate BMPs to avoid Division 4 (Non-Rate BMP Compliant) rates. In addition to sharing information about indoor Rate BMP compliance, MPWMD notifies Cal-Am of properties with landscaping. Cal-Am then conducts an outdoor audit to verify compliance with the Rate BMPs. During June 2018, MPWMD referred **four** properties to Cal-Am for verification of outdoor Rate BMPs.

#### E. Water Waste Enforcement

In response to the State's drought emergency conservation regulation effective June 1, 2016, the District has increased its Water Waste enforcement. The District has a Water Waste Hotline 831-658-5653 or an online form to report Water Waster occurrences at [www.mpwmd.net](http://www.mpwmd.net) or [www.montereywaterinfo.org](http://www.montereywaterinfo.org). There were **three** Water Waste responses during the past month. There were **no** repeated incidents that resulted in a fine.

## II. WATER DEMAND MANAGEMENT

#### A. Permit Processing

District Rule 23 requires a Water Permit application for all properties that propose to expand or modify water use on a Site, including New Construction and Remodels. District staff processed and issued **115** Water Permits in June 2018. **Eight** Water Permits were issued using Water Entitlements (Pebble Beach Company, Malpasos Water, etc.). **No** Water Permits involved a debit to a Public Water Credit Account.

All Water Permits have a disclaimer informing applicants of the Cease and Desist Order against California American Water and that MPWMD reports Water Permit details to California American Water. All Water Permit recipients with property supplied by a California American Water Distribution System will continue to be provided with the disclaimer.

District Rule 24-3-A allows the addition of a second bathroom in an existing Single-Family Dwelling on a Single-Family Residential Site. Of the **115** Water Permits issued in June, **fourteen** were issued under this provision.

#### B. Permit Compliance

District staff completed **72** Water Permit final inspections during June 2018. **Seven** of the final inspections failed due to unpermitted fixtures. Of the **46** passing properties, **28**

passed inspection on the first visit. In addition, **nine** pre-inspection were conducted in response to Water Permit applications received by the District.

### C. Deed Restrictions

District staff prepares deed restrictions that are recorded on the property title to provide notice of District Rules and Regulations, enforce Water Permit conditions, and provide notice of public access to water records. In April 2001, the District Board of Directors adopted a policy regarding the processing of deed restrictions. In the month of June, the District prepared **79** deed restrictions. Of the **115** Water Permits issued in June, **54 (47%)** required deed restrictions. District staff provided Notary services for **72** Water Permits with deed restrictions.

## III. JOINT MPWMD/CAW REBATE PROGRAM

Participation in the rebate program is detailed in the following chart. The table below indicates the program summary for Rebates for California American Water Company customers.

REBATE PROGRAM SUMMARY		June-2018				2018 YTD	1997 - Present
I. <u>Application Summary</u>							
A.	Applications Received	112				729	25,578
B.	Applications Approved	76				528	19,961
C.	Single Family Applications	110				678	23,172
D.	Multi-Family Applications	2				32	1,263
E.	Non-Residential Applications	0				16	341
II. <u>Type of Devices Rebated</u>		Number of devices	Rebate Paid	Estimated AF	Gallons Saved	2018 YTD Quantity	2018 YTD Estimated AF
A.	High Efficiency Toilet (HET)	3	225.00	0.125244	40,811	55	4,300.00
B.	Ultra Low Flush to HET	25	1650.00	0.250000	81,463	143	10,575.00
C.	Ultra HET	0	0.00	0.000000	0	11	1,399.00
D.	Toilet Flapper	0	0.00	0.000000	0	3	45.00
E.	High Efficiency Dishwasher	12	1500.00	0.036000	11,731	96	14,750.00
F.	High Efficiency Clothes Washer	37	18396.70	0.595700	194,109	239	120,589.76
G.	Instant-Access Hot Water System	2	399.00	0.000000	0	10	1,998.99
H.	On Demand Systems	1	100.00	0.000000	0	2	200.00
I.	Zero Use Urinals	0	0.00	0.000000	0	0	0.00
J.	High Efficiency Urinals	0	0.00	0.000000	0	0	0.00
K.	Pint Urinals	0	0.00	0.000000	0	0	0.00
L.	Cisterns	2	375.75	0.000000	0	14	21,015.75
M.	Smart Controllers	0	0.00	0.000000	0	5	659.00
N.	Rotating Sprinkler Nozzles	0	0.00	0.000000	0	0	0.00
O.	Moisture Sensors	0	0.00	0.000000	0	0	0.00
P.	Lawn Removal & Replacement	0	0.00	0.000000	0	2	2,435.00
Q.	Graywater	0	0.00	0.000000	0	0	0.00
R.	Ice Machines	0	0.00	0.000000	0	0	0.00
III. <u>Totals: Month; AF; Gallons; YTD</u>		82	22646.45	1.006944	328,114	580	177,967.50
						2018 YTD	1997 - Present
IV. <u>Total Rebated: YTD; Program</u>						177,967.50	6,115,960.09
V. <u>Estimated Water Savings in Acre-Feet Annually*</u>						8.171710	550.497285

\* Retrofit savings are estimated at 0.041748 AF/HET; 0.01 AF/UHET; 0.01 AF/ULF to HET; 0.003 AF/dishwasher; 0.0161 AF/residential washer; 0.0082 AF/100 square feet of lawn removal.



**ITEM: INFORMATIONAL ITEMS/STAFF REPORTS****25. CARMEL RIVER FISHERY REPORT FOR JUNE 2018**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>David J. Stoldt, General Manager</b>	<b>Program/ Line Item No.:</b>	<b>N/A</b>
<b>Prepared By:</b>	<b>Beverly Chaney</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.**

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**AQUATIC HABITAT AND FLOW CONDITIONS:** Releases from Los Padres Reservoir were reduced in June to maintain storage as the inflow dropped to summer levels. River flows in the lower river remained above the long-term daily median, but fish rescues were started in late June as rearing conditions for juvenile steelhead dropped to “fair” below the narrows. All lower valley tributaries are dry at the confluence.

Mean daily streamflow at the Sleepy Hollow Weir dropped from 28 to 16 cfs (monthly mean 21.3cfs) resulting in 1,270 acre-feet (AF) of runoff, while mean daily streamflow at the Highway 1 gage dropped from 23 to 4 cfs (monthly mean 12.1 cfs), resulting in 717 AF of runoff.

There were 0.00 inches of rainfall in June as recorded at Cal-Am’s San Clemente gauge. The rainfall total for WY 2018 (which started on October 1, 2017) is 13.52 inches, or 64% of the long-term year-to-date average of 21.05 inches.

**CARMEL RIVER LAGOON:** The lagoon mouth is now closed for the summer and the water surface level remained relatively stable, ranging from approximately 9.8 to 11.2 feet above mean-sea-level (see graph below).

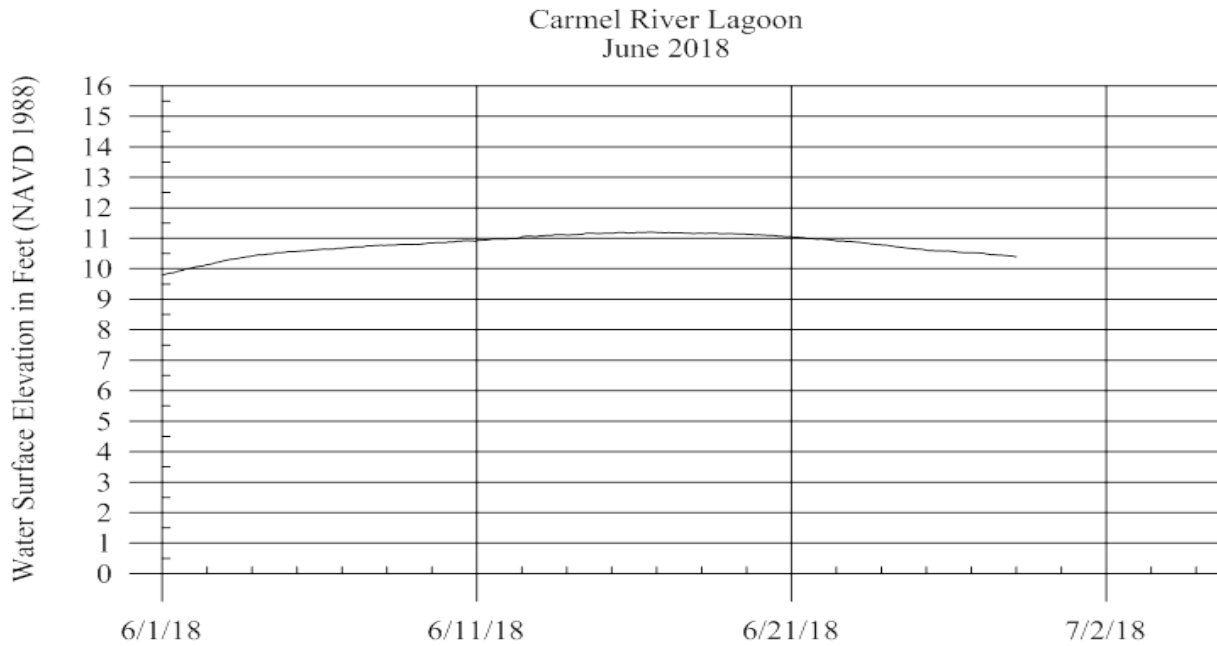
Water quality depth-profiles were conducted at five sites on June 5 while the lagoon was closed and a river inflow was 19 cfs. Steelhead rearing conditions at all sites were generally “good” down to 1.5 meters depth and “fair” in the deeper locations, with salinity increasing with depth (0.6-29 ppt), temperature ranging from 64-73 degrees F, and dissolved oxygen (DO) levels of 4-8 mg/l.

**LIFE CYCLE MONITORING:**

Tributary Rescues – Staff conducted nine fish rescues in two tributaries (Cachagua and Garza Crs.) in June, collecting a total of 1,911 young-of-the-year (YOY) and age 1+ juvenile fish that were released into the Carmel River. As of June 30<sup>th</sup>, 2,164 fish have been rescued from the tribs, including 1,856 YOY, 295 1+, 13 mortalities (0.6%), 152 fish were tagged, and there were 21 recaptures (in Potrero Cr.).

Mainstem Carmel River Rescues - Staff began mainstem rescues on June 25<sup>th</sup> at the Highway 1 Br. As of June 30<sup>th</sup>, 288 fish have been rescued, including 100 YOY, 185 1+, 3 mortalities (1.0%), 233 fish were tagged, and there was 1 recapture.

Tagging – Rescued fish larger than 65 mm are now being tagged with Passive Integrated Transponder (PIT) tags. District staff is currently operating four PIT tag arrays on the Carmel River in a partnership between the District and the National Marine Fisheries Service (NMFS). Data is being collected for future analysis and reporting.



**ITEM: INFORMATIONAL ITEMS/STAFF REPORTS****26. QUARTERLY CARMEL RIVER RIPARIAN CORRIDOR MANAGEMENT PROGRAM REPORT**

<b>Meeting Date:</b>	<b>July 16, 2018</b>	<b>Budgeted:</b>	<b>N/A</b>
<b>From:</b>	<b>Dave Stoldt, General Manager</b>	<b>Program/ Line Item No.:</b>	<b>N/A</b>
<b>Prepared By:</b>	<b>Thomas Christensen and Larry Hampson</b>	<b>Cost Estimate:</b>	<b>N/A</b>

**General Counsel Review: N/A****Committee Recommendation: N/A****CEQA Compliance: This action does not constitute a project as defined by the California Environmental Quality Act Guidelines Section 15378.**

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**IRRIGATION OF RIPARIAN VEGETATION:** The supplemental watering of riparian restoration plantings has resumed for the summer season in 2018 at five Monterey Peninsula Water Management District (District) riparian habitat restoration sites. The following irrigation systems were in use May through June: deDampierre, Trail and Saddle Club, Begonia, Schulte, and Schulte Bridge.

**Water Use in Acre-Feet (AF)**  
(preliminary values subject to revision)

January - March 2018	0.82 AF
April - June 2018	<u>3.43</u>
Year-to-date	4.25 AF

**MONITORING OF RIPARIAN VEGETATION:** Starting in June 2018, staff recorded monthly observations of canopy vigor on target willow and cottonwood trees to provide an indication of plant water stress and corresponding soil moisture levels. Four locations (Rancho Cañada, San Carlos, Valley Hills, and Schulte) are monitored monthly for canopy ratings based on a scale from one to ten. This scale evaluates characteristics such as yellowing leaves and percentages of defoliation (see scale on **Exhibit 26-A**). A total of 12 willows and 12 cottonwoods at these locations provide a data set of established and planted sample trees that are representative of trees in the Carmel River riparian corridor. Combined with monthly readings from the District's array of monitoring wells and pumping records for large-capacity Carmel Valley wells in the California American Water service area, the District's monitoring provides insight into the status of soil moisture through the riparian corridor.

Current monitoring results for the 2018 monitoring season to date show that riparian vegetation is below threshold moisture stress levels. At present, the Carmel River is still flowing to the Lagoon and providing plenty of water for established plants along the riparian corridor. The graph in

**Exhibit 26-A** shows average canopy ratings for willows and cottonwoods in selected restoration sites in lower Carmel Valley. The graph in **Exhibit 26-B** shows impacts to water table elevations.

The types of monitoring measurements made during June 2018 are as follows:

**Monitoring Measurement**

Canopy ratings	(See <b>Exhibit 26-A</b> for trends.)
Groundwater levels (monitoring wells)	(See <b>Exhibit 26-B</b> for trends.)
Groundwater pumping (production wells)	

**OTHER TASKS PERFORMED SINCE THE APRIL 2018 QUARTERLY REPORT:**

1. **Carmel River Vegetation Management Project Notification:** On April 15, 2018, District staff notified the U.S. Army Corps of Engineers, NOAA Fisheries, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board of thirteen sites that are scheduled for vegetation management activities this fall. A total of approximately 1,800 square feet of stream encompassing approximately 0.04 acres in the channel bottom will be affected by this year's project. The goal of the vegetation management activities is to reduce the risk of streambank erosion along riverfront properties where vegetation encroachment could potentially divert river flows into streambanks during high flow periods.
2. **Riparian Irrigation Tune-up:** District staff (Mark Bekker and Daniel Atkins) have been tuning up multiple irrigation systems along the Carmel River that are designed to water new mitigation plantings for Vegetation Management. Tune-ups include replacement of clogged emitters, leak repair, and trouble shooting well pumps and pressure tanks.

**EXHIBITS**

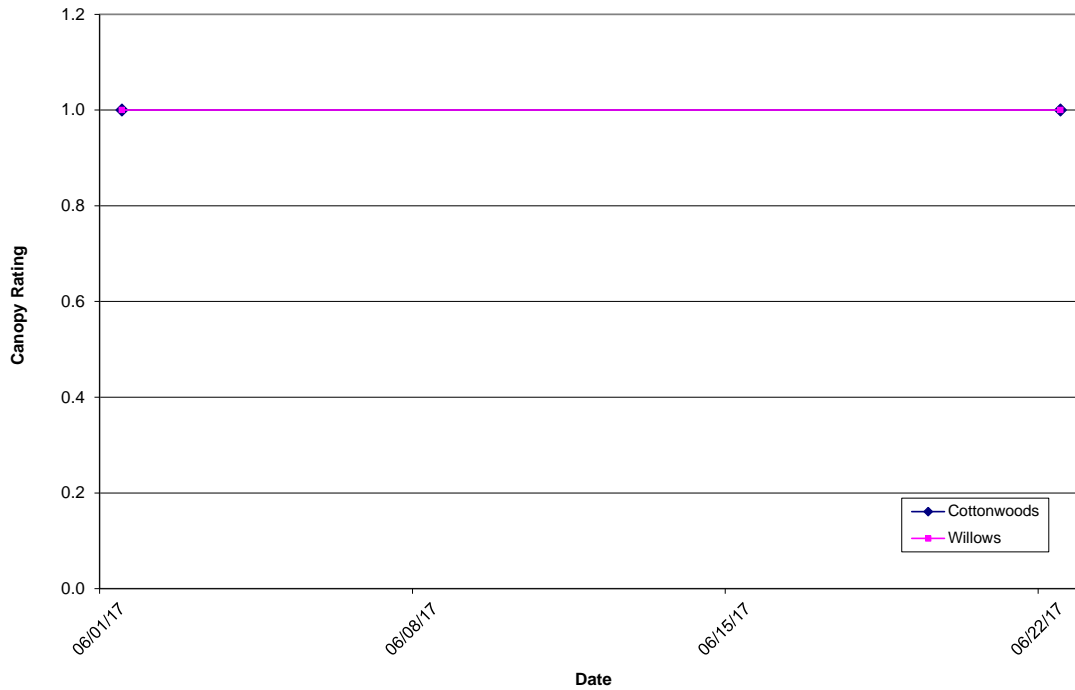
**26-A** Average Willow and Cottonwood Canopy Rating

**26-B** Depth to Groundwater



**EXHIBIT 26-A**

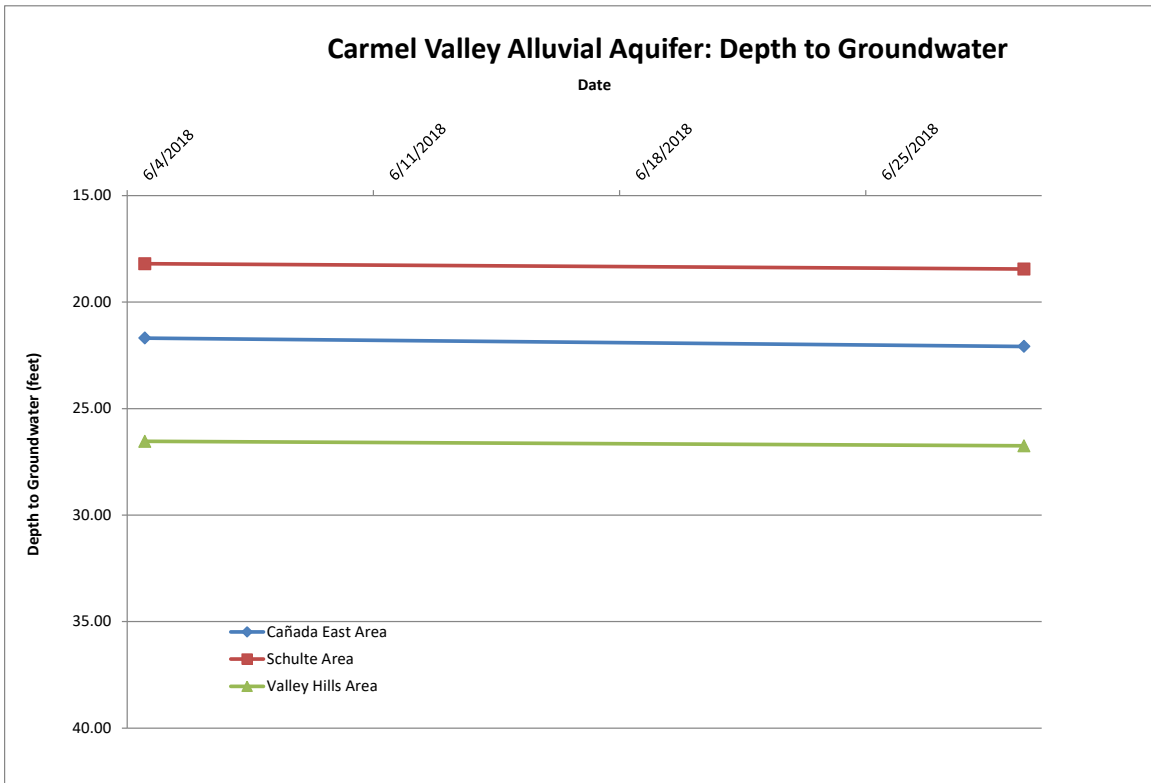
**Carmel River Riparian Vegetation:  
Average Canopy Rating for Cottonwoods and Willows**



Canopy Rating Scale		Stress Level
1=	Green, obviously vigorous	none, no irrigation required
2=	Some visible yellowing	low, occasional irrigation required
3=	Leaves mostly yellowing	moderate, regular irrigation required
4=	< 10% Defoliated	moderate, regular irrigation required
5=	Defoliated 10% to 30%	moderate, regular irrigation required
6=	Defoliated 30% to 50%	moderate to high, additional measures required
7=	Defoliated 50% to 70%	high stress, risk of mortality or canopy dieback
8=	Defoliated 70% to 90%	high stress, risk of mortality or canopy dieback
9=	> 90% Defoliated	high stress, risk of mortality or canopy dieback
10=	Dead	consider replanting



**EXHIBIT 26-B**









**EXHIBIT 27-A**

**Monterey Peninsula Water Management District  
Water Supply Status  
July 1, 2018**

<b>Factor</b>	<b>Oct to Jun 2018</b>	<b>Average To Date</b>	<b>Percent of Average</b>	<b>Water Year 2017</b>
<b>Rainfall</b> (Inches)	13.52	20.95	65%	32.22
<b>Runoff</b> (Acre-Feet)	31,376	66,298	47%	193,013
<b>Storage</b> <sup>5</sup> (Acre-Feet)	29,580	30,820	96%	31,554

**Notes:**

1. Rainfall and runoff estimates are based on measurements at San Clemente Dam. Annual rainfall and runoff at Sleepy Hollow Weir average 21.1 inches and 67,246 acre-feet, respectively. Annual values are based on the water year that runs from October 1 to September 30 of the following calendar year. The rainfall and runoff averages at the Sleepy Hollow Weir site are based on records for the 1922-2017 and 1902-2017 periods respectively.
2. The rainfall and runoff totals are based on measurements through the dates referenced in the table.
3. Storage estimates refer to usable storage in the Monterey Peninsula Water Resources System (MPWRS) that includes surface water in Los Padres and San Clemente Reservoirs and ground water in the Carmel Valley Alluvial Aquifer and in the Coastal Subareas of the Seaside Groundwater Basin. The storage averages are end-of-month values and are based on records for the 1989-2017 period. The storage estimates are end-of-month values for the dates referenced in the table.
4. The maximum storage capacity for the MPWRS is currently 37,639 acre-feet.





## Production vs. CDO and Adjudication to Date: WY 2018

(All values in Acre-Feet)

Year-to-Date Values	MPWRS				Water Projects and Rights				
	Carmel River Basin <sup>2, 6</sup>	Seaside Groundwater Basin		MPWRS Total	ASR Recovery	Table 13 <sup>7</sup>	Sand City <sup>3</sup>	Water Projects and Rights Total	
		Coastal	Laguna Seca						Ajudication Compliance
Target	5,956	1,100	0	1,100	<b>7,056</b>	0	227	200	<b>427</b>
Actual <sup>4</sup>	5,234	1,965	220	2,185	<b>7,419</b>	0	153	140	<b>292</b>
Difference	722	-865	-220	-1,085	-363	0	74	60	<b>135</b>
WY 2017 Actual	4,797	1,535	200	1,735	<b>6,532</b>	591	491	181	<b>1,263</b>

1. This table is current through the date of this report.
2. For CDO compliance, ASR, Mal Paso, and Table 13 diversions are included in River production per State Board.
3. Sand City Desal, Table 13, and ASR recovery are also tracked as water resources projects.
4. To date, 530 AF and 153 AF have been produced from the River for ASR and Table 13 respectively.
5. All values are rounded to the nearest Acre-Foot.
6. For CDO Tracking Purposes, ASR production for injection is capped at 600 AFY.
7. Table 13 diversions are reported under water rights but counted as production from the River for CDO tracking.

## Monthly Production from all Sources for Customer Service: WY 2018

(All values in Acre-Feet)

	Carmel River Basin	Seaside Basin	ASR Recovery	Table 13	Sand City	Mal Paso	Total
Oct-17	532	396	0	0	14	3	945
Nov-17	421	331	0	0	3	3	758
Dec-17	399	339	0	0	26	1	765
Jan-18	400	267	0	0	25	7	699
Feb-18	413	264	0	0	21	7	704
Mar-18	374	189	0	98	0	7	667
Apr-18	579	91	0	55	3	7	735
May-18	740	113	0	0	25	0	878
Jun-18	692	197	0	0	23	8	919
Jul-18							
Aug-18							
Sep-18							
<b>Total</b>	<b>4,551</b>	<b>2,185</b>	<b>0</b>	<b>153</b>	<b>140</b>	<b>42</b>	<b>7,071</b>
<b>WY 2017</b>	<b>3,707</b>	<b>1,735</b>	<b>591</b>	<b>491</b>	<b>181</b>	<b>69</b>	<b>6,774</b>

1. This table is produced as a proxy for customer demand.
2. Numbers are provisional and are subject to correction.

## Rationing Trigger: WY 2018

12 Month Moving Average <sup>1</sup>	9,935	10,130	Rule 160 Production Limit
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1. Average includes production from Carmel River, Seaside Basin, Sand City Desal, and ASR recovery produced for Customer Service.



California American Water Production by Source: Water Year 2018

	Carmel Valley Wells <sup>1</sup>						Seaside Wells <sup>2</sup>						Total Wells			Sand City Desal		
	Actual		Anticipated <sup>3</sup>		Under Target		Actual		Anticipated		Under Target		Actual	Anticipated	Acre-Foot Under Target	Actual	Anticipated	Under Target
	Upper acre-feet	Lower acre-feet	Upper acre-feet	Lower acre-feet	Upper acre-feet	Lower acre-feet	Coastal acre-feet	LagunaSeca acre-feet	Coastal acre-feet	LagunaSeca acre-feet	Coastal acre-feet	LagunaSeca acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet	acre-feet
Oct-17	0	532	0	550	0	18	368	29	350	0	-18	-29	928	900	-28	14	25	11
Nov-17	0	421	0	383	0	-38	301	30	350	0	49	-30	752	733	-19	3	25	22
Dec-17	0	399	0	728	0	329	315	24	100	0	-215	-24	738	828	90	26	25	-1
Jan-18	0	400	0	673	0	273	247	19	100	0	-147	-19	667	773	106	25	25	0
Feb-18	0	413	0	559	0	146	242	22	100	0	-142	-22	677	659	-18	21	25	4
Mar-18	183	630	0	716	-183	86	170	18	100	0	-70	-18	1002	816	-186	0	25	25
Apr-18	0	824	0	881	0	58	71	20	100	0	29	-20	914	981	67	3	25	22
May-18	0	740	0	985	0	245	85	28	100	0	15	-28	853	1,085	232	25	25	0
Jun-18	0	692	0	1,044	0	352	166	31	47	0	-119	-31	889	1,091	203	23	25	2
Jul-18																		
Aug-18																		
Sep-18																		
<b>To Date</b>	<b>183</b>	<b>5,051</b>	<b>0</b>	<b>6,519</b>	<b>-183</b>	<b>1,468</b>	<b>1,965</b>	<b>220</b>	<b>1,347</b>	<b>0</b>	<b>-618</b>	<b>-220</b>	<b>7,419</b>	<b>7,866</b>	<b>447</b>	<b>140</b>	<b>225</b>	<b>85</b>

Total Production: Water Year 2018

	Actual	Anticipated	Acre-Foot Under Target
Oct-17	942	925	-17
Nov-17	755	758	3
Dec-17	764	853	89
Jan-18	692	798	106
Feb-18	698	684	-14
Mar-18	1,002	841	-161
Apr-18	917	1,006	89
May-18	878	1,110	232
Jun-18	911	1,116	205
Jul-18			
Aug-18			
Sep-18			
<b>To Date</b>	<b>7,559</b>	<b>8,091</b>	<b>532</b>

1. Carmel Valley Wells include upper and lower valley wells. Anticipate production from this source includes monthly production volumes associated with SBO 2009-60, 20808A, and 20808C water rights. Under these water rights, water produced from the Carmel Valley wells is delivered to customers or injected into the Seaside Groundwater Basin for storage.
2. Seaside wells anticipated production is associated with pumping native Seaside Groundwater (which is regulated by the Seaside Groundwater Basin Adjudication Decision) and recovery of stored ASR water (which is prescribed in a MOA between MPWMD, Cal-Am, California Department of Fish and Game, National Marine Fisheries Service, and as regulated by 20808C water right).
3. Negative values for Acre-Foot under target indicates production over targeted value.



# Supplement to 7/16/18 MPWMD Board Packet

Attached are copies of letters received between June 11, 2018 and July 10, 2018. These letters are listed in the July 16, 2018 Board packet under Letters Received.

<b>Author</b>	<b>Addressee</b>	<b>Date</b>	<b>Topic</b>
Mark Fogelman	Eileen Sobeck – copy to David Stoldt	6/29/18	May 9, 2018 Petition to Modify Board Resolution 2016-0040
Mary L. Adams	Larry Hampson	6/15/18	Nomination of Gary Briant to the Carmel River Advisory Committee
John Moore	Arlene Tavani – to MPWMD Board	6/13/18	Comment Letter-Proposed Recycled Water Amendment

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# MONTEREY COUNTY



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## BOARD OF SUPERVISORS

MARY L. ADAMS, SUPERVISOR – FIFTH DISTRICT

1200 Aguajito Road, Suite #1, Monterey, CA 93940

E-mail: District5@co.monterey.ca.us

Phone: (831) 647-7755

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MPWMD

June 15, 2018

Larry Hampson, District Engineer  
Monterey Peninsula Water Management District  
Post Office Box 85  
Monterey, CA 93942

Dear Mr. Hampson:

It is my pleasure to nominate Mr. Gary Briant for 2-year re-appointment as my representative on the Monterey Peninsula Water Management District's Carmel River Advisory Committee.

Mr. Briant was born and raised in Carmel and currently lives at 37 Paso Hondo in Carmel Valley. Since moving to Paso Hondo, Mr. Briant has become active in the community, starting an unofficial neighborhood association through which he distributes information to over 40 households. Mr. Briant has a personal interest ensuring the health and safety of the Carmel River. This interest increased in 2017, when his family was unfortunate enough to be one of five households flooded when the river breached.

I am confident you will find Mr. Briant to be a positive addition to the committee. Gary can be reached at (831) 601-9215 or [gsbriant@hotmail.com](mailto:gsbriant@hotmail.com) should you require additional background information.

Sincerely,

Mary L. Adams

Fifth District Supervisor, County of Monterey  
Director, MPWMD Board of Directors

## Arlene Tavani

---

**From:** John Moore <jmoore052@gmail.com>  
**Sent:** Wednesday, June 13, 2018 8:47 AM  
**To:** Arlene Tavani  
**Subject:** Re: "Comment Letter-Proposed Recycled Water Amendment"

Please give this to the board and note that we are looking into obtaining our own in vivo bioassay analysis of the PWM final product.JMM

On Mon, Jun 11, 2018 at 6:26 PM, John Moore <jmoore052@gmail.com> wrote:

Attn: Jeanine Townsend, Clerk to the Board:

My name is John M. Moore. I reside at 836 2d st. Pacific Grove Ca. I am a resident within the California American Water Co, a customer and resident within the agencies that comprise Pure Water Monterey(PWM), a recycling project approved and under construction. A description of the project is attached as Scan 102. PWM is in the process of initiating an EIR for an expansion in the size of the project.

I have reviewed the Proposed Recycled Water Amendment in detail and have several criticisms:

1. The proposal is unrelated to the politics that demonize the characterization of a real Ca. Recycling project and it does not require verification of the truthfulness of the sponsoring agencies. As a result, PWM, for just one example represented to the Regional Board and the Dept. of Drinking Water(DDW), that the PWM project was/is an Indirect Potable Reuse (IPR), but nothing could be further from the truth.

The only evidence about whether the project was/is an IDP or a Direct Potable Reuse (DPR) is Letter M from the EIR, attachment 101, a letter by the Technical Program Manager of the Seaside Basin Watermaster (an adjudicated basin). He is in charge of the day to day operations of the basin in accepting drinking water into the basin and permitting owners of the water to extract their share. The letter proves that the PWM project is a DPR project and it did not qualify for a permit as an IDP.

So what was the misrepresentation by PWM? It claimed that because the water was required to sit in the Basin for two months, that constituted a Barrier that qualified the project as IDP; in short, per PWM the final delivery of the treated water to a well or basin is also a barrier. While the water does obtain minimal dilution in the basin, there is no leeching thru sands, several aquifers, extreme dilution etc. for five years, like the Orange Water District IDP project. PWM says, well the two months will allow it to test the water for that time. But if it is not a barrier, the required tests are for a DPR, and those tests are a part of this process, i. e., under development.

In Exhibit M, the Technical operator, Bob Jaques, made some telling points: First, In para 1. he notes that all water injected into the basin will be extracted shortly thereafter. So it is not a cleansing barrier that could qualify as an IDP. Second, he noted in para. 8 that two of the new water sources, Blanco Drain and the Reclamation Ditch both have a high level of contamination, a broad spectrum of pesticides, as well as metals and bacterial organisms. He then said: "The design of the GWR Project Treatment Facilities should address this in order to ensure that the plant is reliably able to produce water of suitable quality for 'direct injection'(emphasis mine) into the SGWB, 'which serves as a potable water supply to the public'(emphasis mine)." But, there are no DPR tests; that is what this process is about. Mr. Jaques has just informed me that the tests required before treated water may be injected into the basin by PWM will be dictated by the DDW. But of course, as set forth above, PWM expects to apply the current tests for an IDR.

I note that the proposed definition of a Barrier set forth in the proposed regulations would prohibit the PWM project from qualifying as an IDR.

2. The proposed Regulations do not deal with a PWM situation where two highly toxic but different water sources are mixed before treatment(human sewage from the city of Salinas and highly toxic agriculture waste).

4 There is not even an IDR example of the recycling of agriculture waste for potable purposes, anywhere, let alone mixing it with sewage without any examination by trained toxicologists about the toxic effects of that mixing. Because PWM claims IDR status, there are no specific tests for this unique mix after treatment and before injection into the water supply. But there are several additional reasons(below) that comprehensive testing must be required before treated water from severely toxic sources (like PWM) is mixed with other drinking water.

3. Another criticism is that the proposed regulations imply that the Experts Report concluded that DPR can now be allowed on a case by case basis pursuant to the proposed regulations. A careful reading of that report implies that significant research and development must be concluded before DPR is permitted. The caveats by the experts are many and well founded.

4. If you are still reading this, you may be thinking, "yes, in fairness, the PWM project is quite challenging." Let me add to the drama and additional reasons that the project is unsafe. The Seaside Basin, the repository of the treated drinking water is located in Fort Ord a sandy, former U.S. Army base. The Basin sits below a Super Fund Toxic site that has decades of Infantry, tank and Artillery training, going back to pre WWII. I attach a few pages from Letter S(Scan 106) to the project EIR that details the toxic sources. After heavy rains, water on the two Ft. Ord golf courses disappears within a few hours. Where does it go?

The Basin is located in several earthquake faults, including the San Andreas fault. Because of the sandy soils, liquifaction of water-laden sediments(the soil turns into liquid) in the vadose zone(the soil from the basin to ground level) could contaminate the basin with Fort Ord debris, chemicals and whatnot. There is no alternate source of water.

I refer you to attachment 104, from the proposed regs. 5.2.4.8." Peak Attenuation of Short Term Pulses of Chemicals Likely to Persist Through Advanced Treatment."The section has to do with unexpected events, like an industrial spill and questions how this might (or not) work. It concludes with: "How this would Work is a research Question?" In the case of the PWM DPR project, we bloody well better get on that, or babies will die!

5. I refer you to attachment 100. It is a 2016 comment letter from the three toxicology scientist that were on the 2010 Science Advisory Panel(SAP). The comment was because the proposed regs. did not adopt Bioassays as part of the safety tests for DPR and as set forth in the letter they made compelling arguments that in vivo bioassay testing is critical if DPR is to produce safe drinking water. In vivo is expensive, because it involves assaying live organisms from live animals. It actually assays a cell and identifies discrete parts for pathogens(in vitro tests dead samples and is not as helpful).

Now that you have been exposed to real life, the PWM project, you should reconsider the omission of in vivo bioassay tests. Could any sane adult allow treated wastewater from the PWM project to be injected into the drinking water of the Seaside Basin w/o in vivo bioassay testing? I am a rate payer and I say, get those tests. We will pay for them. BTW, the credentials of the three SAP members are very impressive. Listen to them.

6.I refer you to attachment 105. It is the face page of the DDW acceptance of the Final Engineering Report for the PWM project. para, 1. confirms that approval was granted on the assumption that the project was in fact an IPR project in fact, not one just based on a trick, claiming that a repository of treated drinking water was an IPR qualifying barrier.

7. The wealth of opinions from the experts that study the Toxicology of recycled wastewater is that neither IPR nor DPR is safe. I could attach dozens of examples, but will limit it to Scan 107, which is typical. Can you imagine how such experts would react to the PWM project. But of course the agencies pursuing such dangerous projects never hire honest qualified experts. The safety expert for the PWM EIR prepared a written report that based her opinion on asserted examples of projects and studies that she argued showed that the PWM process was safe. Not a single existing project had source water as toxic as the PWM sources. As for studies, she cited the Rand study which showed a 73% increase in liver cancer by those that drank recycled water as an article

positive to the PWM project. I checked her company out in Dun and Bradstreet: at the time of her EIR report 5 she had two employees, she and her mother.

8. There is a very critical factor missing from the proposed regs. The standards in the Regs must be so secure about the recycled water's safety for potable purposes that forced users like me do not need to worry about the safety of the water. They are not close. At this time very few of the forced users of the PWM mix are even faintly aware of the dangerous PWM project. Cal Am has informed me that there will not be a source of water free from the PWM mix. There was no vote and when the true nature of the project becomes public, chaos should result. What adds to the insult is the the human waste and agriculture wastewater sources come from areas out side the Cal Am water district, so their residents will not be forced to drink the worrisome mix. WE ARE ENTITLED TO KNOW THAT OUR DRINKING WATER IS SAFE !

As Dr. Oppenheimer stated, it may be years before the toxicity is discovered. A recent report about the Michigan contamination of the seventies, indicates that even three generations after actual exposure to the public in the seventies, the toxic effects continue to show in the subsequent generations, tho they were not actually exposed to the contaminants.

I have had this home for about twenty years. Unless the PWM project is made safe, I will be forced to move.  
John M. Moore



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FRIEDMAN/  
& / SPRINGWATER LLP

JUL 03 2018

MPWMD

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June 29, 2018

**BY OVERNIGHT DELIVERY**

Ms. Eileen Sobeck  
Executive Director  
State Water Resources Control Board  
1001 "I" Street  
Sacramento, CA 95814

Re: **May 9, 2018 Petition to Modify Board Resolution 2016-0040**

Dear Ms. Sobeck:

I write on behalf of this firm's client, the Marina Coast Water District ("MCWD") to address certain matters raised in a letter sent to you dated June 7, 2018 by Robert Donlan on behalf of the California-American Water Company ("Cal-Am"). Mr. Donlan's letter provided Cal-Am's response to the above-captioned Petition, which seeks modification of Resolution 2016-0040 to include a parallel set of milestones for Cal-Am's compliance with the requirements of the Board's operative Cease and Desist Order ("CDO") with respect to the Carmel River. MCWD is one of the ten petitioners in the above-captioned matter. Mr. Donlan's letter of June 7, 2018 first came to our client's attention by way of its attachment to a filing that was presented by Cal-Am to the California Public Utilities Commission ("CPUC") on June 19, 2018. His letter states that Cal-Am was not served with the Petition; however, Cal-Am and other interested parties were served with a report by the Planning and Conservation League Foundation to the CPUC, which attached a copy of the Petition, on May 9, 2018, the same day the Petition was filed.

As far as MCWD can discern, Cal-Am's letter is driven in large part by an unfounded fear that Cal-Am would somehow be "prejudiced" in its ability to effectively report on CDO compliance efforts if the Board were to accept the May 9, 2018 Petition for consideration, on the ground that the Board's acceptance of the Petition would bar *ex parte* communication concerning matters raised in the Petition. As far as MCWD is aware, Cal-Am's ongoing periodic public reports of its CDO compliance would not constitute "ex parte" communications in a new petition proceeding to consider alternate CDO compliance

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& / SPRINGWATER LLP

Ms. Eileen Sobeck  
June 29, 2018  
Page 2

milestones.<sup>1</sup> Nor should the Board's consideration of the new Petition in any way impede Cal-Am's continued ability to comply with the existing requirements of the operative CDO.

Besides mischaracterizing the Petition, which speaks for itself and which does *not* seek to delay or influence the CPUC's processes in any way, Mr. Donlan's letter [at the top of page 2] admits that:

. . . Cal-Am does not oppose the concept of adding parallel milestones to the Amended CDO tied to alternative water supply projects that, like the MPWSP, are designed to reliably meet the near- and long-term water demands on the Monterey Peninsula.

Mr. Donlan's letter then rejects the proposal for an expanded Pure Water Monterey ("PWM") project, based solely upon Cal-Am's continued misrepresentation of its actual water demand. His letter argues that an expanded PWM project cannot bridge the gap between Cal-Am's legal supply and its severely inflated water demand numbers. As discussed below, and based upon evidence already received in the CPUC proceeding record, the expansion of PWM coupled with the PWM project currently under construction and Cal-Am's other post-December 31, 2021 water sources will reliably meet the near- and long-term water demands on the Monterey Peninsula.

As to demand and supply issues, the June 7th letter, similar to Cal-Am's arguments to the CPUC, proceeds on the false premise that maximum monthly water demand should drive demand estimates for Cal-Am's Monterey District.<sup>2</sup> Thus, the letter perpetuates the false assumption that a total supply of 14,275 acre-feet per year ("AFY") must be secured by Cal-Am, which would include Cal-Am's proposed desalination project. (June 7, 2018 letter, pp. 3-4 and fn. 7.) However, Cal-Am's actual monthly and annual demand data reveal a system demand of approximately 9,500 AFY.<sup>3</sup> Cal-Am's contention that its system would

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<sup>1</sup> Indeed, Cal-Am's response to the May 9, 2018 petition could itself be considered an impermissible *ex parte* communication, due to Cal-Am's apparent failure to promptly provide its response to seven of the ten petitioners (MCWD, Monterey One Water, LandWatch Monterey County, the Sierra Club, Citizens for Just Water, the Public Trust Alliance ("PTA") and Public Water Now ("PWN")). (See June 7, 2018 response letter, pp. 6-7.) As noted above, MCWD did not receive Mr. Donlan's letter until it was attached to a CPUC filing, twelve days after it was initially transmitted.

<sup>2</sup> *But see* Cal. Code Regs., tit. 22, § 64554, subds. (a), (b) (maximum monthly demand is to be utilized by systems that do not have daily demand data available, for purposes of calculating estimated peak hourly demand and sufficiency of supply sources).

<sup>3</sup> See <https://www.watersupplyproject.org/system-delivery>.

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experience a shortfall in supply if its desalination project is not approved, especially in years when no Aquifer Storage and Recovery (“ASR”) supply is available, is not supported by its own data. The argument that there would be a shortfall of as much as 4,281 AFY – apparently based on assumed sources of supply other than ASR and desalination that total 9,994 AFY – is still premised on the false assumption that 14,275 AFY constitutes its customers’ actual demand volume. (June 7, 2018 letter, pp. 3-4.<sup>4</sup>)

In other words, Cal-Am is asking the Board to discount the validity and utility of parallel milestones for expansion of the PWM project based on the false claim that its annual demand is 14,275 AFY, which is over fifty percent higher than its Monterey District’s current average annual demand as revealed by its own data. ( $9,500 \times 1.50 = 14,250$ .)<sup>5</sup> Cal-Am’s argument that it cannot satisfy its near- and long-term demand with available legal supply or even with an expanded PWM project is ironic, given its representations to the CPUC in its ratemaking proceedings that rate restructuring is required to offset a steep and likely permanent decline in customer demand over recent years. The Board and the CPUC should look to the past five years of uncontested updated monthly demand data as provided by Cal-Am itself for the most accurate picture of monthly and annual demand in Cal-Am’s Monterey District.<sup>6</sup> The propriety of this approach is strongly reinforced by the recent enactment of Senate Bill No. 606 and Assembly Bill No. 1668, Water Management Planning, as well as the Governor’s Executive Orders B-40-17 (April 7, 2018) and B-37-16 (May 9, 2016), making conservation a permanent policy in California.

Moreover, Mr. Donlan’s June 7, 2018 letter asserts that the Petition does not establish that Petitioners are in any way aggrieved, so as to require the Board’s intervention. (June 7, 2018 letter, p. 4.) The letter asserts that the possibility of delay in CDO compliance raised in the Petition would simply be a self-perpetuating condition that is insufficient to support review by the Board. (*Ibid.*) To the contrary, several of the Petitioners long ago

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<sup>4</sup> The first page of Revised Att. A to the June 7, 2018 letter incorrectly sums the monthly volume of certain non-ASR, non-desalination sources at 552 acre-feet instead of 834 acre-feet ( $834 \times 12 = 9,994$ ).

<sup>5</sup> Cal-Am’s chart showing purported insufficient supply in summer months reflects demand at 14,275 AFY “long-term” and apparent present “system” demand at 12,270 AFY, a figure which is still inflated by nearly 30% beyond actual average annual system demand of 9,500 AFY. (June 7, 2018 letter, second page of Revised Att. A.) Cal-Am could have instead provided the Board with an accurate demand vs. supply analysis that utilizes its actual monthly demand numbers from recent years, available at <https://www.watersupplyproject.org/system-delivery>. Under such a scenario, even in a very dry winter without any Carmel River ASR and without any desalination supply, it appears there would still be sufficient winter surplus for ASR storage to provide adequate supply in higher-demand summer months.

<sup>6</sup> See <https://www.watersupplyproject.org/system-delivery>.

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demonstrated their aggrieved status due to Cal-Am's decades of illegal withdrawals from the Carmel River, and they have been advocating before the Board in that regard for many years. (See Order WR 95-10, pp. 7-8 (complaints of Sierra Club and Monterey Peninsula Water Management District ("MPWMD")); Order WR 2009-0060, p. 4 (intervening parties include MPWMD, Planning and Conservation League Foundation ("PCLF"), PTA, Sierra Club).) Additionally, other petitioners are necessarily interested in Cal-Am's successful CDO compliance as evidenced by their participation in recent proceedings modifying the CDO. (Order WR 2016-016, p. 13 (Sierra Club and PCLF commenting) and p. 6 (link to record, which includes comments from MCWD, PCLF, Sierra Club, MPWMD, Monterey Peninsula Regional Water Authority, PTA and PWN).) Accordingly, most of the current Petitioners are aggrieved by any further delay in Cal-Am's compliance with the Board's operative Carmel River CDO, which Cal-Am asserts could arise from delay or denial of Cal-Am's request for a Certificate of Public Convenience and Necessity from the CPUC for its proposed desalination project. Therefore, Petitioners' grievances could be fully addressed by implementation of the parallel milestones suggested in the Petition, which would provide Cal-Am, the CPUC and the parties to the CPUC proceeding an opportunity to address the proposed expansion of the PWM project.

Not only would the expansion of PWM meet the near- *and* long-term water demands on the Monterey Peninsula, the capital costs for expanded PWM (Scenario B) would be about 25% of the capital costs for Cal-Am's desalination project, the expanded PWM's annual operating costs and greenhouse gas emissions would be substantially less mainly due to less electricity demand, adverse impacts to the City of Marina's beaches and to MCWD's groundwater supplies would be eliminated, and treated sewage effluent that is now being discharged to the Monterey Bay National Marine Sanctuary would be diverted for beneficial use.

The Board's Order WR 2016-016 and Resolution 2016-0040 extended the operative CDO deadline from December 31, 2016 to December 31, 2021 and provided interim compliance milestones for Cal-Am. (See Order WR 2016-016, p. 19.) Now, the Petitioners have suggested reasonable parallel milestones for Cal-Am to avoid missed MPWSP milestones for the final three years of the extended period to achieve full CDO compliance and to meet the new CDO deadline. The Petition is offered as a viable parallel path for compliance with the CDO, not for purposes of interfering with or influencing the CPUC's decisionmaking processes or procedures. In MCWD's view, this viable parallel path, should be explored by the Board, and it would be beneficial to Cal-Am and the Petitioners alike, as well as for Carmel River habitat and species, including steelhead.

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Sincerely,



Mark Fogelman

cc (via U.S. Mail):

Felicia Marcus,

Chair of the Board

Steven Moore, Vice Chair of the Board

Tam M. Doduc, Board Member

Dorene D'Adamo, Board Member

E. Joaquin Esquivel, Board Member

Michael A.M. Lauffer,

Board Chief Counsel

Steven Westhoff, Board Counsel

Eric Oppenheimer, Chief Deputy Director

Erik Ekdahl, Deputy Director

Robert Donlan

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