MEETING NOTICE AND AGENDA

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, November 16, 2022
MEETING TIME: 1:30 p.m.

IN KEEPING WITH GOVERNOR NEWSOMS EXECUTIVE ORDERS N-29-20 AND N-35-20, THE TECHNICAL ADVISORY COMMITTEE MEETING WILL BE CONDUCTED BY TELECONFERENCE AND WILL NOT BE HELD IN THE MONTEREY ONE WATER OFFICES.

YOU MAY ATTEND AND PARTICIPATE IN THE MEETING AS FOLLOWS:
JOIN FROM A PC, MAC, IPAD, IPHONE OR ANDROID DEVICE (NOTE: ZOOM APP MAY NEED TO BE DOWNLOADED FOR SAFARI OR OTHER BROWSERS PRIOR TO LINKING) BY GOING TO THIS WEB ADDRESS:
https://us02web.zoom.us/j/89486942014?pwd=bUFFNURhSFZSVXJRY2RjKzlleVN5QT09
If joining the meeting by phone, dial this number:
+1 669 900 9128 US (San Jose)

If you encounter problems joining the meeting using the link above, you may join from your Zoom screen using the following information:
Meeting ID: 894 8694 2014
Passcode: 902943

OFFICERS
Chairperson: Jon Lear, MPWMD
Vice-Chairperson: Tamara Voss, MCWRA
MEMBERS

California American Water Company | **City of Del Rey Oaks** | **City of Monterey**
City of Sand City | **City of Seaside** | **Coastal Subarea Landowners**
Laguna Seca Property Owners | **Monterey County Water Resources Agency**
Monterey Peninsula Water Management District

The next regular meeting is tentatively planned for Wednesday January 11, 2023 at 1:30 p.m. That meeting will likely also be held via teleconference.

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SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	2.A
AGENDA TITLE:	Make Findings Required Under AB 361 Regarding Holding Meetings Via Teleconference
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

As discussed at prior TAC meetings, in order to remain in compliance with AB 361 the TAC needs to adopt certain findings every 30 days in order to keep meeting remotely.

One action required at today's meeting is to readopt the same findings the TAC adopted at its November 17 meeting, namely that:

(1) The Governor's proclaimed state of emergency is still in effect,
(2) The TAC has reconsidered the circumstances of the state of emergency, and
(3) The Monterey County Health Officer continues to recommend social distancing measures for meetings of legislative bodies.

I recommend that the TAC again adopt these three findings.

ATTACHMENTS:	None
RECOMMENDED ACTION:	Approve Making the Findings Described Above

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	2.B
AGENDA TITLE:	Approve Minutes from the August 10, 2022 Meeting
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Draft Minutes from this meeting were emailed to all TAC members. Any changes requested by TAC members have been included in the attached version.

ATTACHMENTS:	Minutes from this meeting
RECOMMENDED ACTION:	Approve the minutes

D-R-A-F-T
MINUTES

Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
August 10, 2022
(Meeting Held Using Zoom Conferencing)

Attendees: TAC Members

City of Seaside – Nisha Patel
California American Water – Tim O'Halloran
City of Monterey – Cody Hennings
Laguna Seca Property Owners – Wes Leith
MPWMD – Jon Lear
MCWRA – Tamara Voss
City of Del Rey Oaks – John Gaglioti
City of Sand City – Leon Gomez
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager – Robert Jaques
Administrative Officer Assistant – Michael Paxton

Consultants
Montgomery & Associates – Pascual Benito, Bill DeBoer
Wallace Group – Rick Riedl

Others
Cal Am – Josh Stranton
MPWMD – Maureen Hamilton

The meeting was convened at 1:34 p.m.

1. Public Comments and Roll Call

There were no public comments. Ms. Voss conducted the roll call with the members listed above being in attendance.

2. Administrative Matters:

A. Make Findings Required Under AB 361 Regarding Holding Meetings Via Teleconference

Mr. Jaques briefly summarized the agenda packet materials for this item. A motion was made by Mr. O'Halloran, seconded by Mr. Gaglioti, to adopt the findings contained in the agenda packet. The motion passed with Mr. Leith voting no.

B. Approve Minutes from the July13, 2022 Meeting

On a motion by Mr. O'Halloran, seconded by Mr. Gomez, the minutes were unanimously approved as presented, with Mr. Lear abstaining.

C. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion.

D. Update on Issues Concerning Well ASR-1

Mr. Jaques summarized the agenda packet materials for this item. Mr. Gaglioti thanked Mr. Jaques for providing this information. There was no other discussion.

3. Presentation on Additional Replenishment Water Evaluations Using Different Assumptions

Mr. Jaques introduced this item.

Mr. Gaglioti had joined the meeting by phone and was concerned that he might lose the connection due to the location he was in. He said that if there is a vote on this issue he would vote in favor of sending the material to the Board for their information at the September Board meeting.

Using the attached PowerPoint slides Mr. Benito presented the work done on the additional replenishment water evaluations using different assumptions. He noted that the new work compares the Baseline and 1,000 AFY replenishment water scenarios that were evaluated in the January 2022 work, to the amount of replenishment water needed under the revised assumptions that are described in the August Technical Memorandum.

Mr. Benito reported that water levels rise or fall depending on whether the inflow is greater than or less than the outflow. This work focused on the water budget for the Northern Coastal Subarea, plus the Pure Water Monterey Expansion area to the east. In this subarea, inflows include injected water, and outflows include pumping, both of which are controllable activities. Flows to or from adjacent areas are head - dependent and not directly controllable.

As deep aquifer water levels rise, more water is lost to the Monterey Subbasin and to the offshore area. During prolonged drought periods, larger amounts of net outflow occur because the amounts of water that are injected are reduced and the amount of water pumped generally increases. This lowers groundwater levels, but it also reduces outflows to adjacent areas that are down gradient, and increases inflows from those that are up-gradient.

In this Technical Memorandum the shallow aquifer includes all the unconfined aquifers including the Aromas, Dunes Sands, and Paso Robles.

Some of the principal conclusions from this work include:

- On average about 3,200 acre-feet per year of <u>additional</u> recharge water above the amount in the 1,000 AFY scenario would be needed under the revised assumptions to achieve protective water levels.
- Shallow Aquifer:
    - Factors having significant impact include rainfall and reduction in shallow aquifer pumping.
    - Pure Water Monterey vadose zone wells provide the biggest increase in groundwater levels. Outflows to the Monterey Subbasin and the offshore area increase as groundwater levels rise.
- Deep Aquifer:
    - Outflows to the Monterey Subbasin increase as groundwater levels rise in the deep aquifer.

Mr. O'Halloran and Mr. Gaglioti thanked Mr. Benito for an excellent presentation on a very complex set of conditions. Mr. Gaglioti said he would be submitting some questions of his own in writing to Mr. Benito at a later date.

A motion was made by Mr. Gaglioti, seconded by Mr. O'Halloran to send the information contained in this Technical Memorandum forward to the Board along with the January 2022 work. Mr. Lear reported that MPWMD feels that assumptions 2, 3, and 6 on page 25 of the agenda packet are not accurate.

The motion passed on the following vote:

Yes-Mr. O'Halloran, Ms. Patel, Mr. Hennings, Ms. Voss, Mr. Gaglioti, and Mr. Gomez
No - Mr. Lear, and Mr. Leith

4. Approve the Monitoring and Management Program (M&MP) for FY 2023

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Lear and Ms. Voss recommended that if other parameters start to indicate possible seawater intrusion, sampling and analysis for barium and iodide be resumed.

A motion was made by Ms. Voss, seconded by Mr. O'Halloran, to approve the Monitoring and Management Program for FY 2023. The motion passed unanimously.

5. Approve the FY 2023 Monitoring and Management Program (M&MP) Operations and Capital Budgets

A motion was made by Mr. Lear, seconded by Ms. Voss, to approve the Monitoring and Management Program Operations and Capital Budgets for FY 2023. The motion passed unanimously.

6. Update on Monitoring Wells FO-9 and FO-10 and Approval of RFS No. 2022-05 with Montgomery & Associate Regarding Replacement of Well FO-9 Shallow

Mr. Jaques summarized the agenda packet materials for this item.

Mr. O'Halloran questioned whether or not well FO-9 Shallow was located on Army property. He said he thought the property had been transferred to the City of Seaside. Mr. Lear responded that as far as he knew it was still on Army property. In order to perform the destruction work at well FO-9 Shallow he had to get an easement and permission to access the site from the Army to do the work. Ms. Patel said that she would research the ownership of the property at this location.

With regard to potentially locating the replacement well on the City of Seaside golf course property, Ms. Patel said that she will talk with her upper management next week to see if this will be acceptable to the City. She will also see if the existing well FO-9 Shallow is still on Army property or whether it is now on City of Seaside property.

With regard to the replacement well for well FO-9 Shallow, Ms. Voss said she felt that locating the replacement well on the City of Seaside golf course property would be satisfactory, as it is reasonably close to the location of the former FO-9 Shallow well and this would make it easier to get the necessary permissions to do that work.

Mr. Lear said he was not sure how reliable the FO-9 Shallow well monitoring data has been in recent years, because we do not know how long the casing leakage has been occurring which would compromise the analytical data.

On a motion by Ms. Voss, seconded by Mr. O'Halloran, RFS 2022 – 05 with Montgomery and Associates was unanimously approved, with Tasks 1 and 2 to be authorized at this time. There was brief discussion about determining whether or not the existing well FO-9 Shallow is on Army property. If it is no longer on Army property, and it is now on City of Seaside property, the replacement well could

potentially be located closer to the existing well. If the property is still owned by the Army, the well could more readily be located on the City of Seaside golf course property.

7. Schedule

Mr. Jaques highlighted his expectation that there would not be a need for TAC meetings in either September or October. Therefore, unless there is a change, the next TAC meeting would be on the 3rd Wednesday of November, i.e. November 16, 2022.

8. Other Business

There was no other business.

The meeting adjourned at 3:23 PM.

REPLENISHMENT MODELING

WATER BUDGET ANALYSIS & ALTERNATIVE SUPPLY & DEMAND SCENARIO

MONTGOMERY & ASSOCIATES

Presented to the Seaside Basin TAC August 10th, 2022

Pascual Benito Ph.D.

OUTLINE

- Objectives
- Recap of Previous Modeling
- Water Budget Analysis of Baseline Scenario and 1,000-AFY Replenishment Scenario
- Alternative Scenario 1:
  - Alternate Supply & Demand Assumptions
  - Additional Replenishment Needed
- Conclusions
- What is the new Normal Water Year?

OBJECTIVES

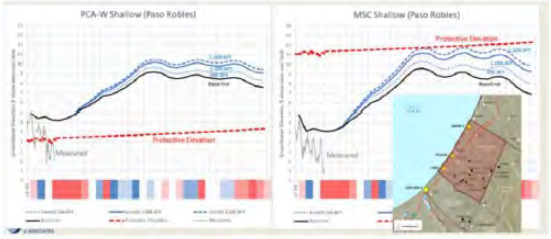
- Aquifer-by-Aquifer Water Budget Analysis to understand trends and changes in net flows to/from the Basin
  - How much water is flowing to Offshore Region? To Monterey Subbasin?
- Develop alternative Supply & Demand scenario based on Cal-Am UWMP and updated City of Seaside assumptions (referred to as Alternative Scenario 1)
- Use water budget approach to estimate effects of different demand/supply assumptions on volume of replenishment needed

UPDATED BASELINE SIMULATION RECAP

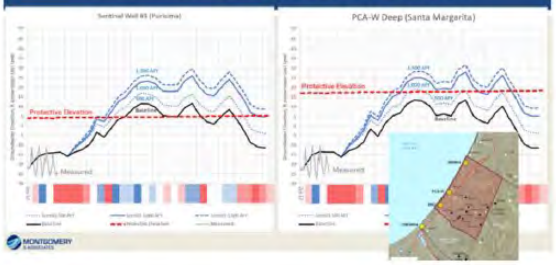
- WY 2018-2021: actual pumping, injection & hydrology

- WY 2022-2050: projected pumping, all planned projects, PWM & ASR injection tied to cycled historical hydrology
- Mean Sea Level rise of 1.3 ft by 2050
- No GSP projects in neighboring subbasins (e.g. assume no rise in water levels in Monterey Subbasin)

BASELINE + 1,000 AFY SIMULATION WATER LEVELS



SIMULATED DEEP GROUNDWATER LEVELS



YEARS TO REACH PROTECTIVE ELEVATION

- Number of Years (from WY2024) for Average Water Level to Reach Protective Elevation

Scenario	Sentinel 3 (Deep)	PCA-W (Deep)	MSC (Deep)	PCA-W (Shallow)	MSC (Shallow)	CDM MW-4 (Shallow)
Baseline	7	not reached	not reached	already reached	not reached	already reached
1) 500 AFY	6	9	9	already reached	not reached	already reached
2) 1,000 AFY	5	7	8	already reached	11*	already reached
3) 1,500 AFY	3	6	6	already reached	10	already reached
4) 1,500 AFY + Q Redist.	3	7	7	already reached	9	already reached

*within 3/4 foot

PERCENT OF TIME PROTECTIVE ELEVATIONS MAINTAINED

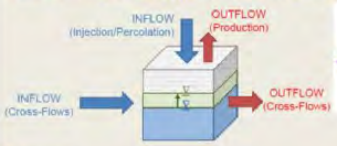
- Percent of years (WY2024-2048) that average water level achieves protective elevation

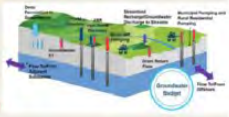
Scenario	Sentinel 3 (Deep)	PCA-W (Deep)	MSC (Deep)	PCA-W (Shallow)	MSC (Shallow)	CDM MW-4 (Shallow)
Baseline	52%	not reached	not reached	100%	not reached	100%
1) 500 AFY	72%	12%	8%	100%	not reached	100%
2) 1,000 AFY	88%	56%	52%	100%	4%*	100%
3) 1,500 AFY	88%	72%	88%	100%	20%	100%
4) 1,500 AFY + Q Redist.	84%	84%	84%	100%	40%	100%

*within 3/4 foot

WATER BUDGET ANALYSIS

- INFLOWS –OUTFLOWS = CHANGE IN STORAGE
- A Change in Storage represent a change in groundwater levels
- Net Inflows > Net Outflows for water levels to rise





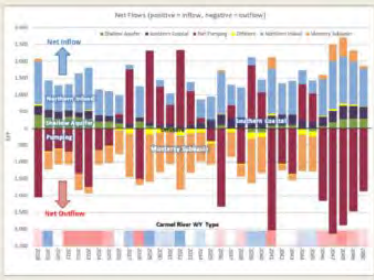
WATER BUDGET ZONES

Focus on Northern Coastal Subarea extended to include PWM Expansion Project Area

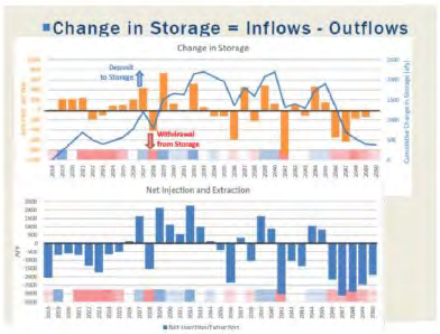
DEEP AQUIFER FLOW COMPONENTS

- NET PUMPING = PWM_{Inj} + ASR_{Inj} + $Replenishment_{Inj}$ - Total Production
- Head Dependent Cross-Flows To/From:
  - Monterey Subbasin
  - Offshore Region
  - Flow to/from Northern Inland Subarea
  - Shallow Aquifer
  - Southern Coastal Subarea

For each flow component:
NET IFLOW = TOTAL INFLOW – TOTAL OUTFLOW
(Positive = a net inflow, Negative = a net outflow)



DEEP AQUIFER BASELINE NET FLOWS



DEEP AQUIFER BASELINE NET FLOWS

Net Pumping is the driver for changes in water levels in the Deep Aquifer

UNCONFINED AQUIFERS FLOW COMPONENTS

- Deep Percolation
  - infiltration of rainfall, irrigation return flow & system losses
- PWM Vadose Zone Recharge (VZW Wells + Perc Ponds)
- Pumping from Extraction Wells
- Head Dependent Cross-Flows To/From:
  - Monterey Subbasin
  - Offshore Region
  - Flow to/from Northern Inland Subarea
  - Shallow Aquifer
  - Southern Coastal Subarea

For each flow component
NET FLOW = TOTAL INFLOW – TOTAL OUTFLOW
(Positive = a net inflow, Negative = a net outflow)

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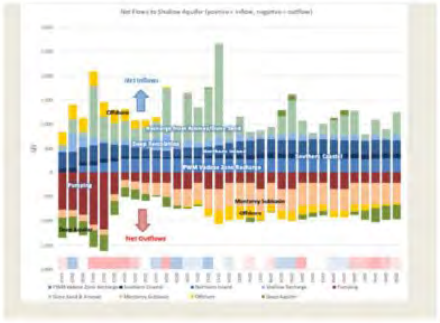
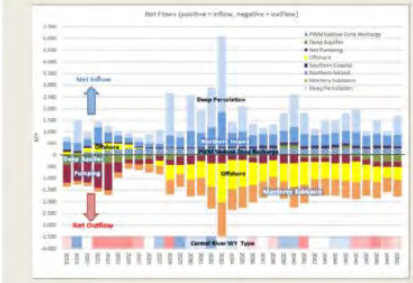
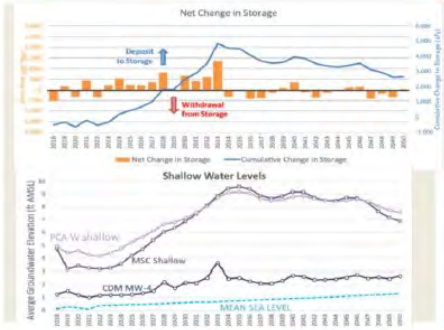


BASELINE NET FLOWS: SHALLOW AQUIFER
(Paso Robles Only)

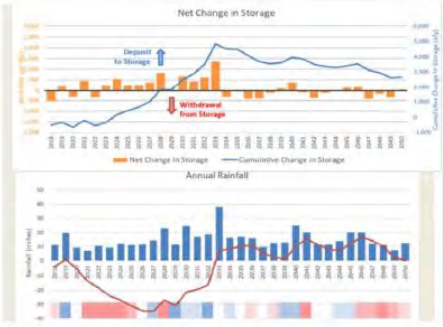


BASELINE NET FLOWS: UNCONFINED AQUIFERS*

*Aromas + Dune Sands and Paso Robles Combined



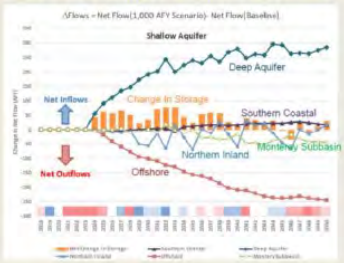
SHALLOW AQUIFER BASELINE NET FLOWS



BASELINE SHALLOW AQUIFER CHANGE IN STORAGE

Percolation from Rainfall (direct and via the Aromas Sands and Older Dune Deposits) is the primary driver for the increase in shallow water level

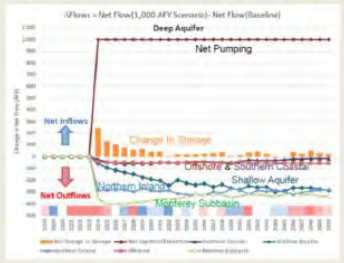
1,000-AFY Replenishment Scenario



CHANGE IN NET FLOW FROM BASELINE SCENARIO

Unconfined Aquifers Combined (Paso Robles + overlying Aromas + Dune Sands)

1,000-AFY Replenishment Scenario



CHANGE IN NET FLOW FROM BASELINE SCENARIO

Deep Aquifer

ALTERNATIVE SCENARIO 1: CAL-AM ASSUMPTIONS

1. 15 AF per day will be used as the average daily amount of ASR diversion, not the 20 acre-feet per day that was used in the January 2022 modeling (but will keep same cycled hydrology)
2. 2020 Urban Water Management Plan (UWMP) demand figures rather than MPWMD's demand figures will be used projected water demands
3. MPWSP Desalination Plant begins operation in 2030 in accordance with the UWMP. [The UWMP assumes the Desal plant will produce 6,252 AFY for the Monterey Peninsula].
4. Cal Am's in-lieu repayment of 700 AFY will begins operation in 2030, in accordance with the UWMP. [For comparison, the original baseline assumes the repayment period starts in 2024, concurrent with the PWM Expansion project.]
5. Pure Water Monterey Expansion Project will begin operation in 2024, the same as previously simulated
6. To provide a factor of safety, the amount of water that the PWM Expansion Project will deliver will be reduced from 5,700 acre-feet to the "Minimum Allotment" of 4,600 acre-feet per year as set forth in the "Amended and Restated Water Purchase Agreement" executed between Cal Am, MPWMD, and M1W in late 2021
7. Cal-Am will make-up any shortfall between supply and demand by over pumping its Seaside Basin allocation of 1,474 AFY. [If the Desal Plant is built in 2030, even though PWM Expansion is assumed to have reduced deliveries per Cal Am assumption 6 above, there will be no supply shortfall after 2030 because the UWMP indicates that the expected capacity of the Desal plant is sufficient to make up for the reduced PWM Expension deliveries.]

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ALTERNATIVE SCENARIO 1

- City of Seaside
  1. Assume City of Seaside golf courses use 491.4 AFY of recycled water
  2. Assume City pumps an in-lieu amount of 491.4 AFY from the deep aquifer from a new well located generally in the location of the Lincoln-Cunningham Park in Seaside
  3. Convert 26 AFY of golf course allocation from Alternate Producers (APA) to Standard Producers (SPA). New golf course APA allocation = 540 – 26 = 514 AFY
  4. Remaining unused balance of 514 – 491.4 = 22.6 AFY would be held as a reserve and/or for flushing of greens and tee boxes
- Baseline accounts for conversion to recycled water, but only re-allocated 301.1 AFY to supply Campus Town Development via Seaside Muni#4
- So assume full APA allocation is now pumped, this leaves 514 – 301.1 = 212 AFY of additional pumping that needs to be included

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REDUCED ASR AND PWM INJECTION

- 25% Reduction in ASR Injection Volumes and 20% Reduction in PWM Expansion

Carmel River Water Year Type	Average Number Diversion Days per Year	Average ASR Diversions w/20 AFD Capacity (AFY)	Average ASR Diversions w/15 AFD Capacity (AFY)
Extremely Wet	142	2,840	2,130
Wet	125	2,500	1,875
Above Normal	105	2,100	1,575
Normal	64	1,280	960
Below Normal	33	660	495
Dry	19	380	285
Critically Dry	3	60	45

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ASR & PWM INJECTION

Baseline

Alternative Scenario 1

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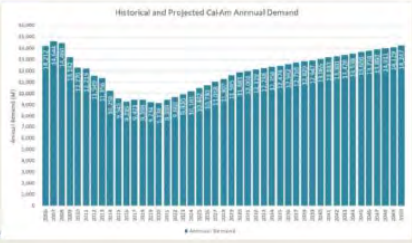
HISTORICAL & PROJECTED SYSTEM DEMAND



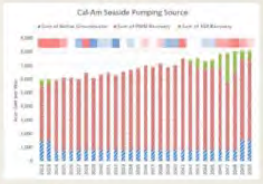
PROJECTED SYSTEM DEMAND AND SUPPLY SOURCE

Baseline

Alternative Scenario 1

SEASIDE PUMPING BY WATER SOURCE

Baseline



Alternative Scenario 1

NET PWM & ASR INJECTION = INJECTION–RECOVERY)

Baseline

Alternative Scenario 1

NET PUMPING = PWM_{INJ} + ASR_{INJ} – TOTAL PUMPING

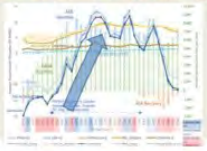
Baseline

Alternative Scenario 1

HYBRID WATER BUDGET APPROACH

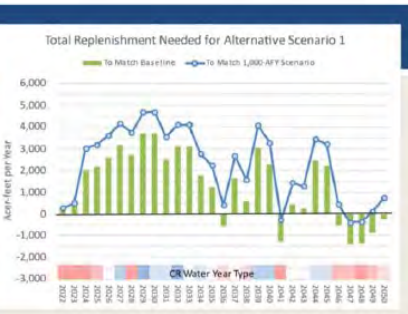
Net Recharge = PWM_{Inj} + ASR_{Inj} + $Replenishment_{Inj}$ - Total Production

- As Supply (ASR + PWM) & Demand (Cal-Am + Seaside) assumptions are changed, varying amounts of Replenishment water will be needed to achieve the same groundwater level rise as in the Baseline or 1,000-AFY Replenishment Scenario



HYBRID WATER BUDGET APPROACH

Additional Replenishment Water Needed = Net Recharge (Baseline Scenario) - Net Recharge (Alternative Scenario 1)



CONCLUSIONS

Water Budget Analysis

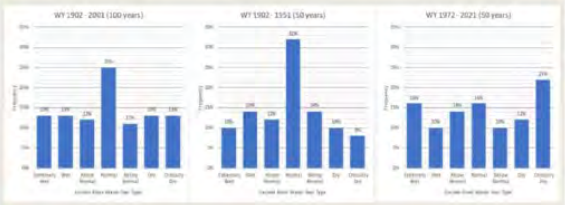
- Shallow Aquifer
  - Biggest Drivers for Increasing Groundwater Levels in the Shallow Aquifer
    - Recharge from percolation of rainfall & irrigation return flows
    - Reduction in Shallow Aquifer pumping
    - PWM vadose zone recharge
    - Net ASR and PWM Deep Injection not significant drivers
- Unconfined Aquifers and Deep Aquifer
  - Outflows to Monterey Subbasin will increase as water levels in Seaside Basin rise (assuming levels in Monterey Subbasin do not also rise)
- Net inflow from the offshore region reverses to a net outflow in all aquifers as water levels increase, with largest net outflows occurring in Aromas Sands and Dune Deposits

CONCLUSIONS

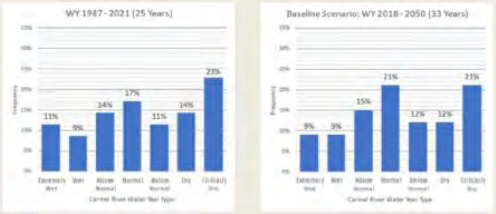
Alternative Scenario 1

- Without additional replenishment (~2,800 AFY), the water level increases seen in the Baseline Scenario would not occur under Alternative Scenario 1
- An average of approximately 3,800 AFY of additional replenishment needed from 2024-2035 to achieve same level of protective elevations as in the January 2022 1,000-AFY Replenishment Scenario that used Baseline assumptions.
- After 2030, during drought periods the MPWSP Desal supply is offsetting what would have otherwise been pumping of groundwater to recover banked ASR or PWM water in the Baseline Scenario

WHAT IS THE NEW NORMAL?



WHAT IS THE NEW NORMAL?



QUESTIONS & DISCUSSION

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	Nonmember 16, 2022
AGENDA ITEM:	2.C
AGENDA TITLE:	Results from Martin Feeney's October 2022 Induction Logging of the Sentinel Wells
PREPARED BY:	Robert Jaques, Technical Program Manager

Attached are plots of the induction logging data from the October 2022 Sentinel Well logging event.

Mr. Feeney reports that the October 2022 data shows no detectable change in formation conductivity – a proxy for seawater intrusion. Thus, the induction logging does not show any indication of the start of seawater intrusion in any of the formations within which production wells are located (primarily the Paso Robles and Santa Margarita formations).

When Mr. Feeney accessed Sentinel Well No. 3 to start the logging process, he found that the datalogger cable had detached from the plug to which it is attached at the top of the well, and that the datalogger had fallen down the well. To avoid the possibility of pushing the datalogger down further into the well, or getting the induction logging tool intertwined with the datalogger support cable, he elected not to log this well.

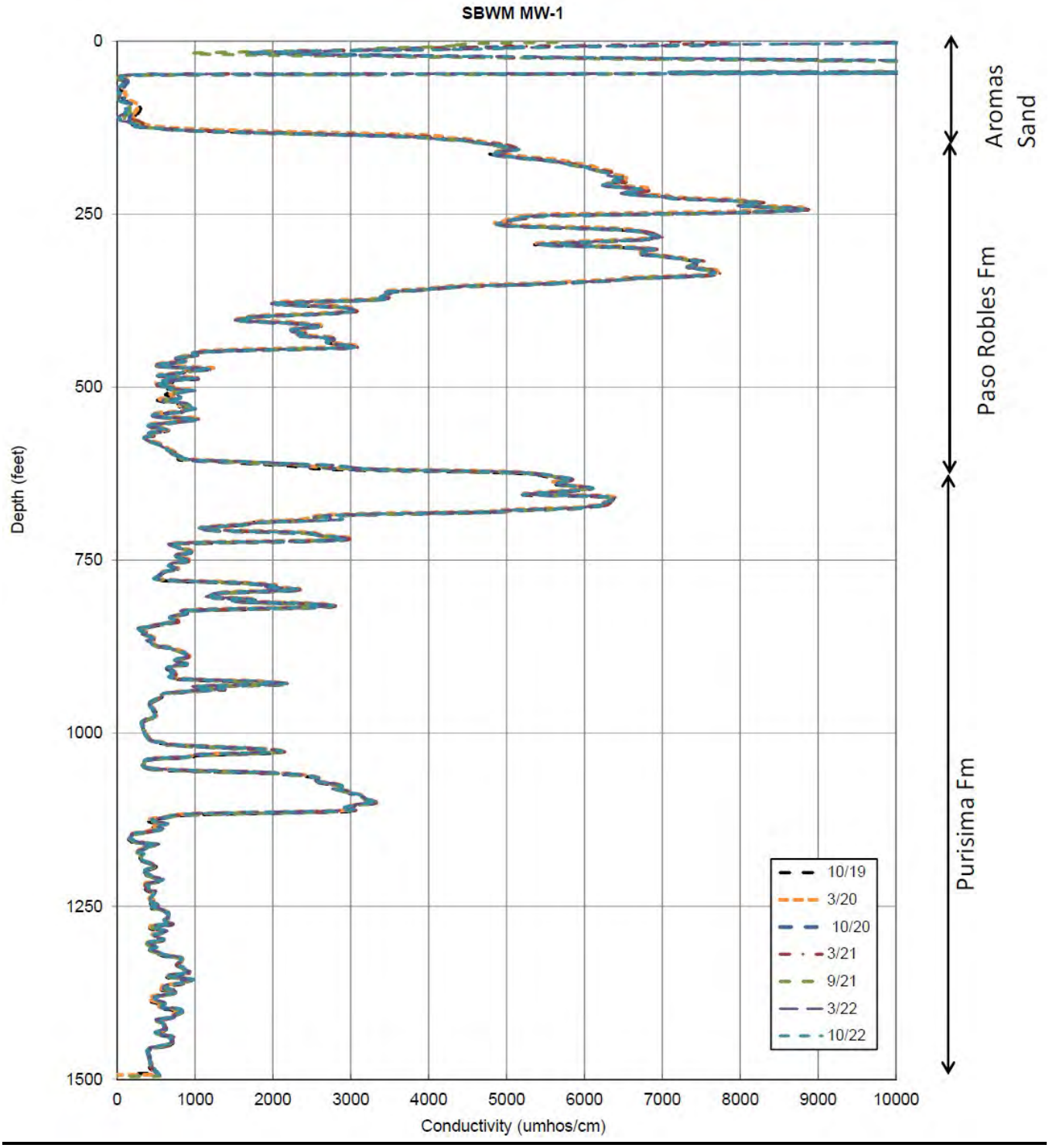
I have asked Mr. Lear to install a new datalogger in this well, using one that is in inventory, so we can continue to get ongoing water level measurements there. He reports that there will be approximately two months of water level data that will be missed by not having the old datalogger.

Mr. Feeney believes the old datalogger will by now have fallen to the bottom of the well, and that he can resume induction logging of this well next October. He also expects that the old datalogger will have been damaged by being submerged at the bottom of the well where the pressure would exceed that which the datalogger is designed to withstand. Thus it would be unlikely that any data could be retrieved from it even if it were recovered.

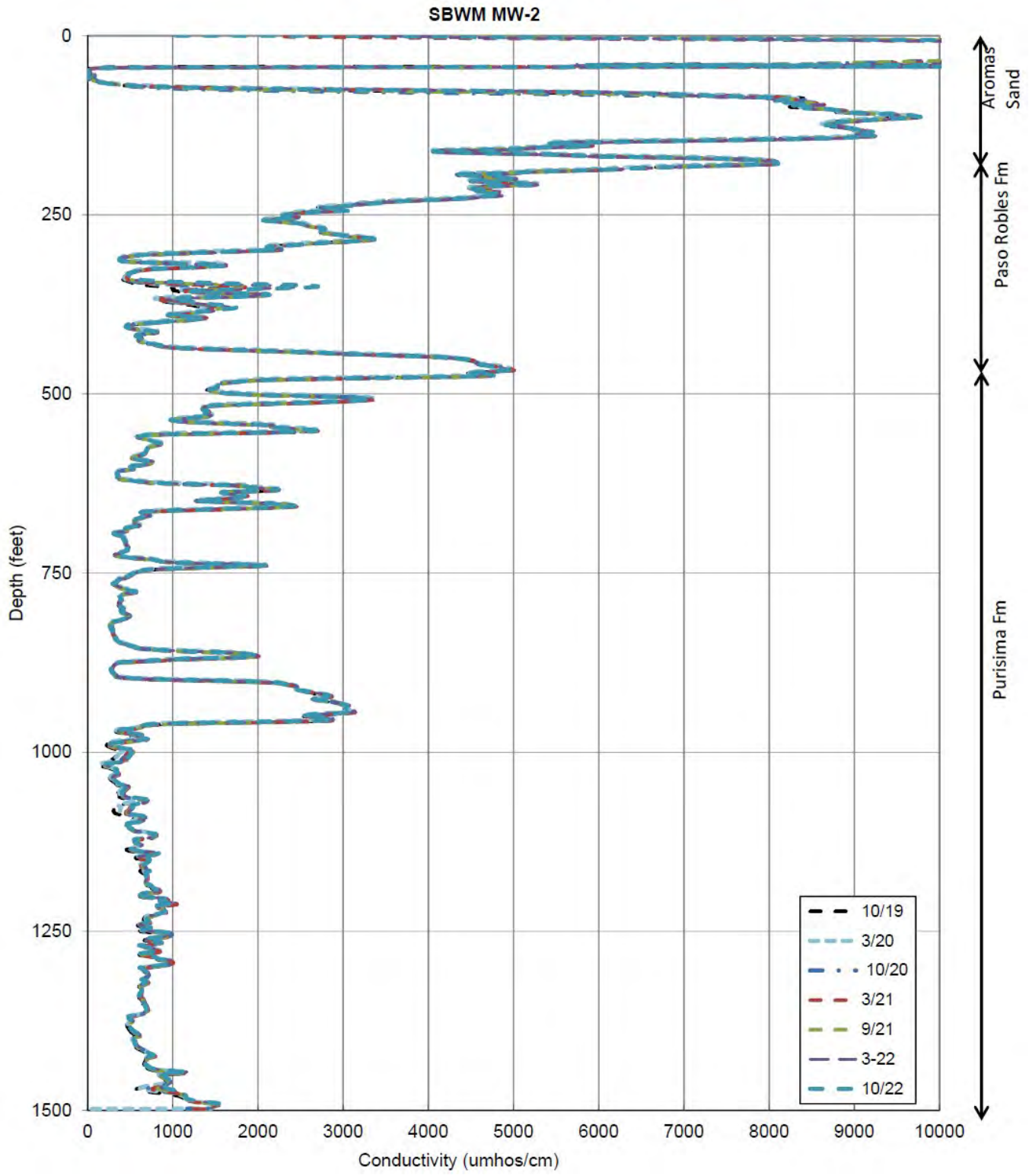
On a related topic, Mr. Feeney provided copies of induction logs taken from another of his clients who has its own sentinel wells along the coast. These are examples of how induction logging will look if seawater intrusion starts to occur, and demonstrates the value of performing induction logging.

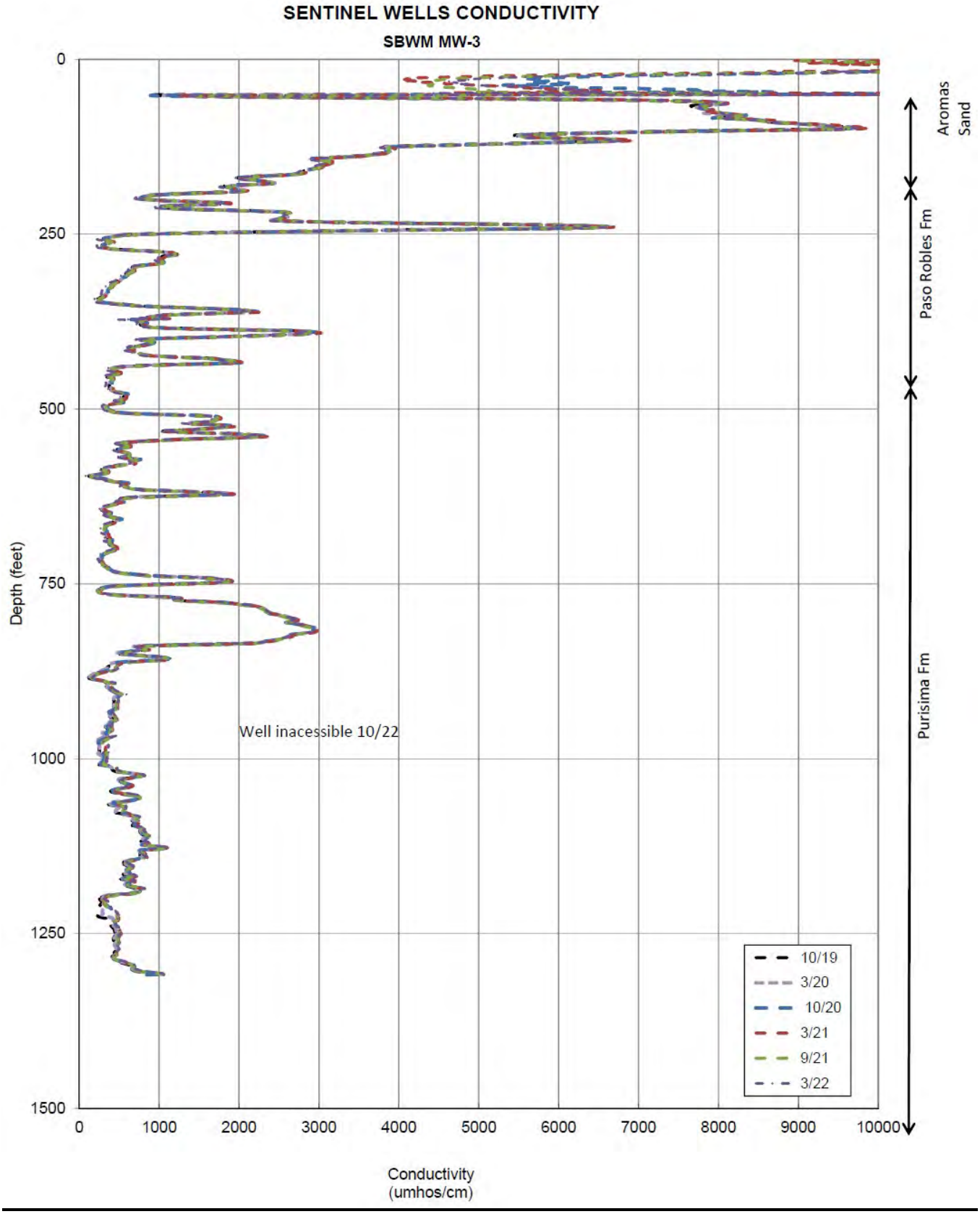
ATTACHMENTS:	1. Induction Logging Results from Watermaster's Sentinel Wells 2. Induction Logging Results from Another Coastal Monitoring Program
RECOMMENDED ACTION:	None required – information only

SENTINEL WELLS CONDUCTIVITY

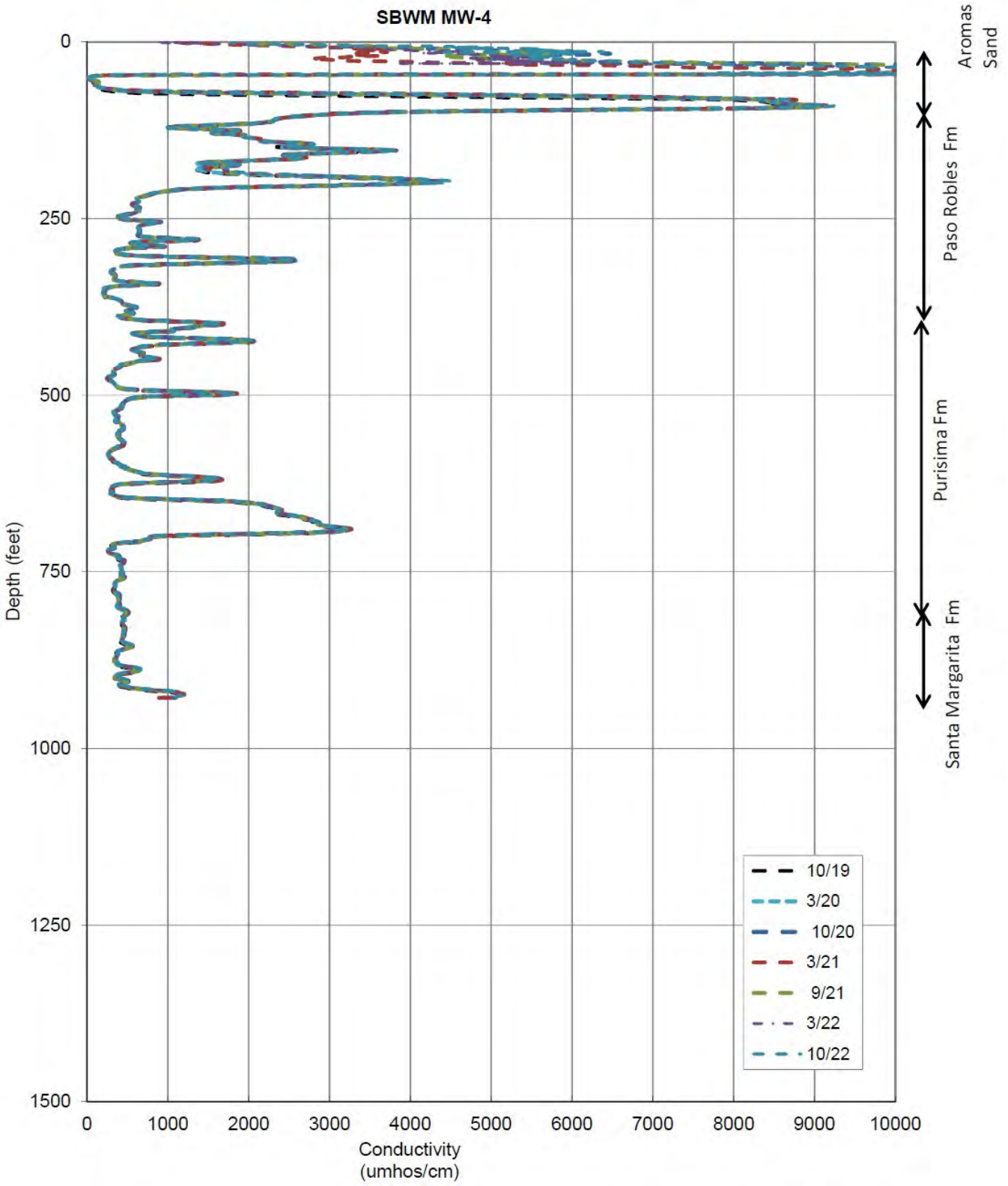


SENTINEL WELLS CONDUCTIVITY

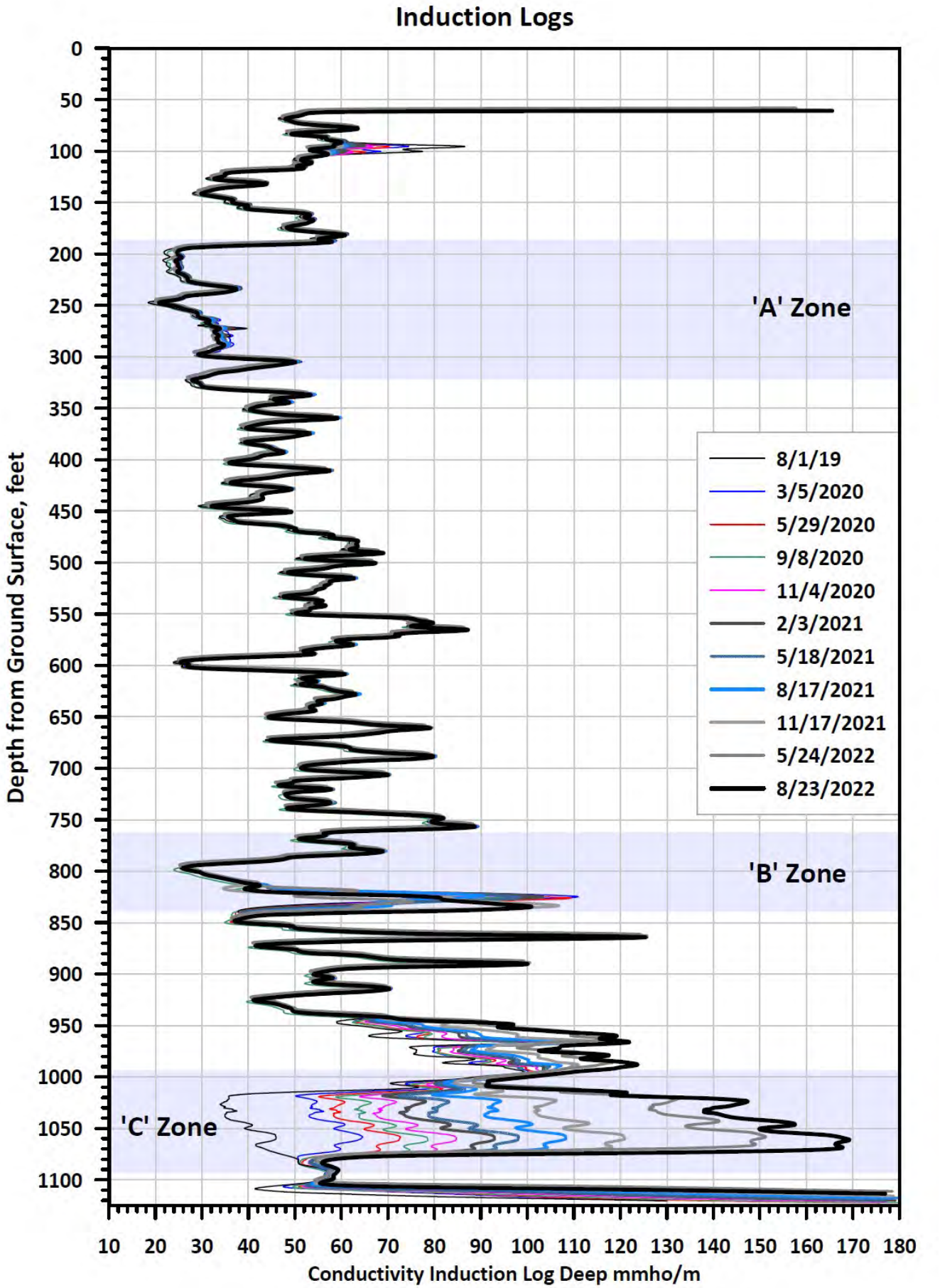


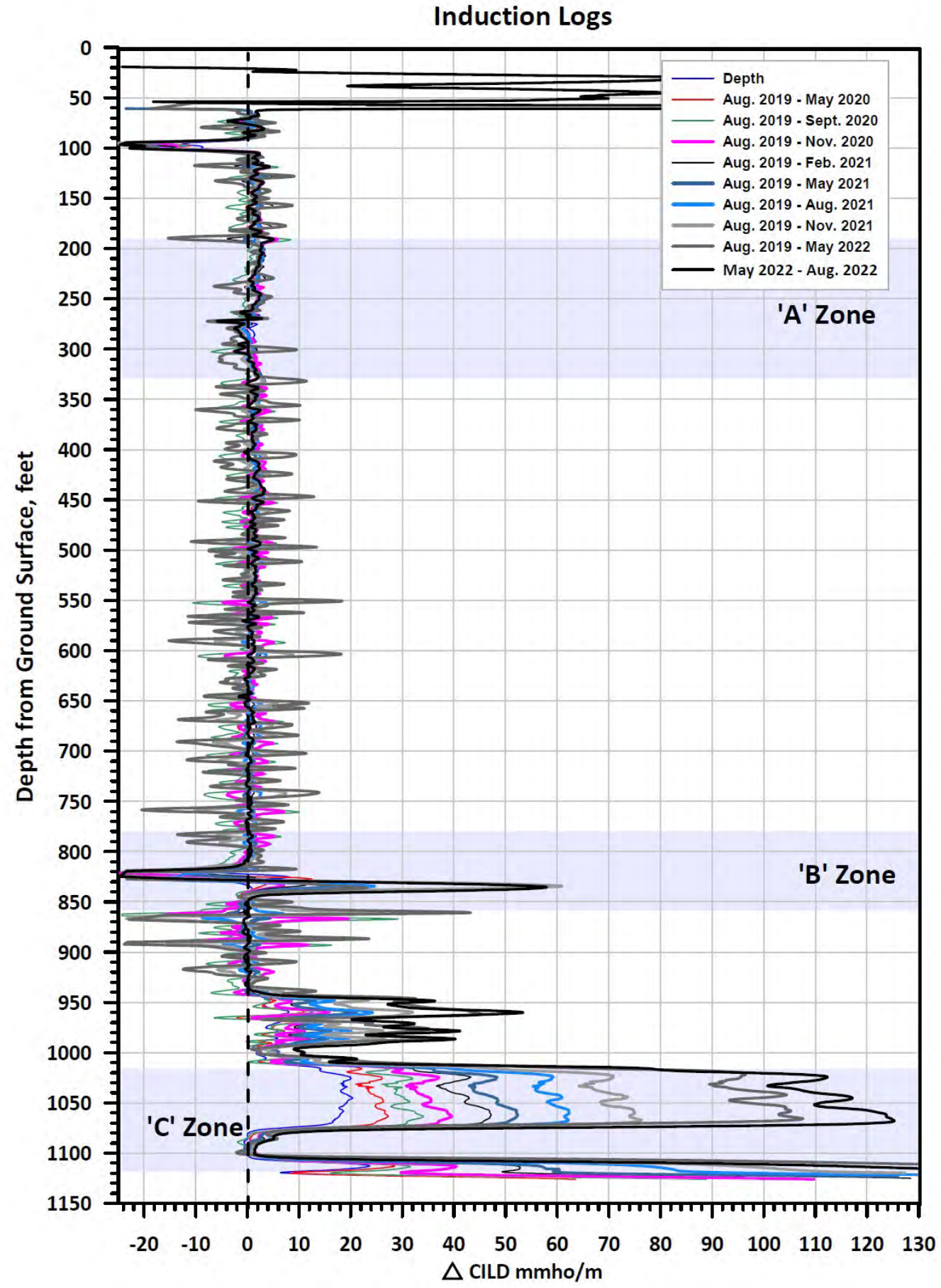

SENTINEL WELLS CONDUCTIVITY
SBWM MW-3
Depth (feet)
0
250
500
750
1000
1250
1500
Well inacessible 10/22
Aromas Sand
Paso Robles Fm
Purisima Fm
10/19
3/20
10/20
3/21
9/21
3/22
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity (umhos/cm)

SENTINEL WELLS CONDUCTIVITY



Examples of Logging from Other Sentinel Wells Along the Coast




Induction Logs
Depth
Aug. 2019 - May 2020
Aug. 2019 - Sept. 2020
Aug. 2019 - Nov. 2020
Aug. 2019 - Feb. 2021
Aug. 2019 - May 2021
Aug. 2019 - Aug. 2021
Aug. 2019 - Nov. 2021
Aug. 2019 - May 2022
May 2022 - Aug. 2022
'A' Zone
'B' Zone
'C' Zone
Depth from Ground Surface, feet
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
-20
-10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
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SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	2.D
AGENDA TITLE:	Sustainable Groundwater Management Act (SGMA) Update
PREPARED BY:	Robert Jaques, Technical Program Manager

At the State level:
DWR issued updated flight-line mapping showing where the upcoming AEM flights will be. Per our request, they adjusted the flight-lines within the Seaside Basin to provide more useful information for Montgomery & Associates to use in the groundwater model and potentially in other work they do for us. A copy of the revised DWR flight-lines is attached. Also attached is a blow-up of the Seaside Basin area, prepared by Georgina King, showing the revised flight lines compared to the previous version. The yellow lines are the original ones and the blue lines are the revised ones. She notes that they have moved the offshore lines closer to the coastline as we requested, and that there is another line added that goes over Sentinel Well 1 and FO-10. That may have been requested by EKI on behalf of MCWD for the Monterey Subbasin.

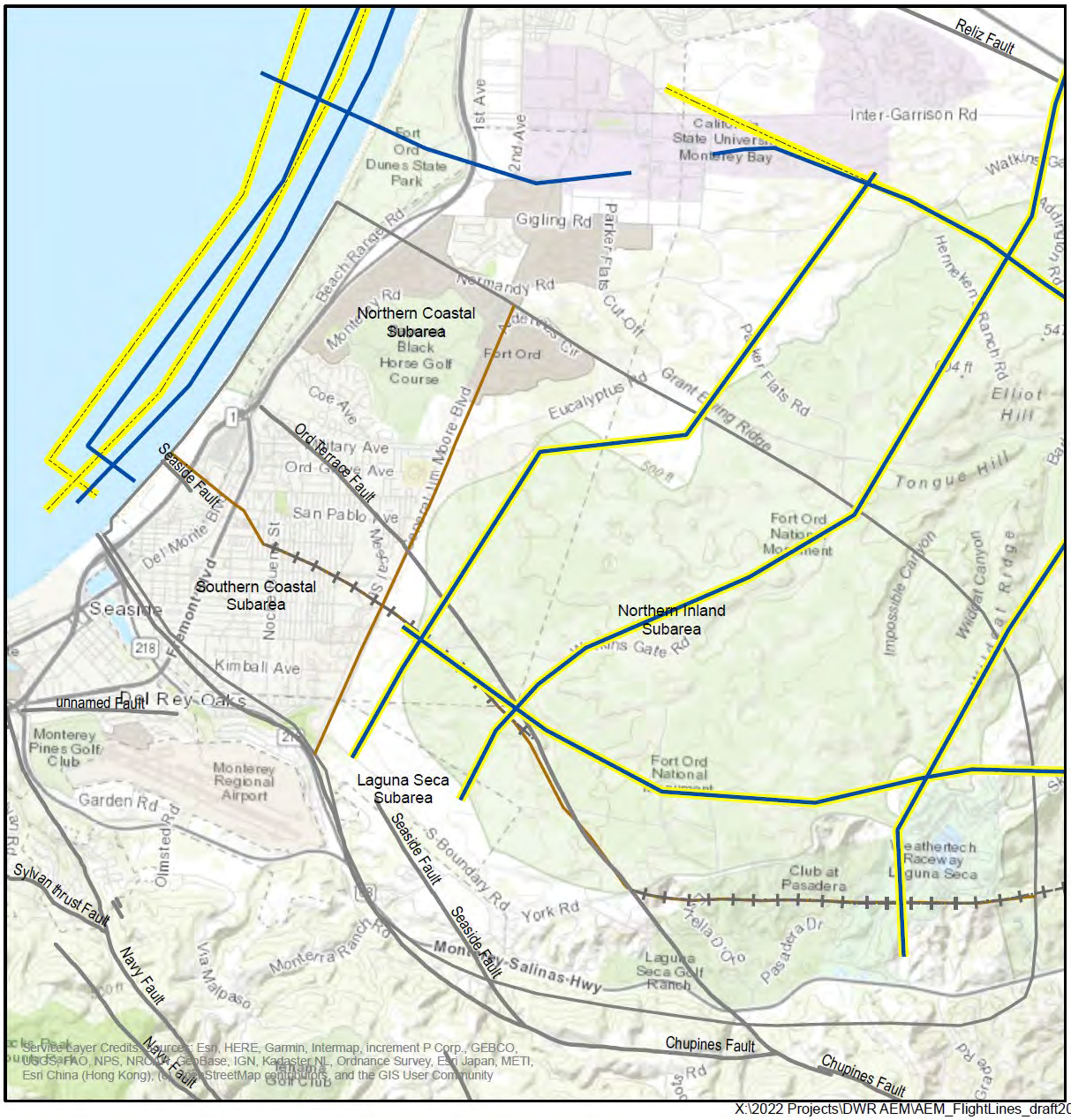
The schedule calls for the AEM flights over the Seaside Basin to occur during the time period November 6th-17th.

At the Monterey County level:
Attached are summaries of meetings held in August, September, and October, 2022.

ATTACHMENTS:	Flight-line Maps and Meeting Summaries
RECOMMENDED ACTION:	None required – information only

Updated DWR Flight-line Map

Blow-up of Seaside Basin Flight-lines



X:\2022 Projects\DWR AEM\AEM_FlightLines_draft20220928.mxd

EXPLANATION

Adjudicated Seaside Groundwater Basin Boundary

- Basin Boundary
- Subarea Boundary
- Laguna Seca Anticline
- Faults
- Fightlines_MontereyBay_DWRDraft20221011
- Fightlines_MontereyBay_DWRDraft20220928

N

0 0.5 1 1.5 2

Miles

MONTGOMERY & ASSOCIATES

SUMMARY OF
PURE WATER MONTEREY, AND
SALINAS VALLEY AND
MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS
IN AUGUST 2022

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

SVBGSA Advisory Committee Meeting August 18, 2022:

This meeting was largely to acquaint new members of this Committee with the Integrated Implementation Plan that is being developed by the SVBGSA. The integrated plan takes the information from each of the separate subbasin GSPs and consolidates it into a single document so that inter-subbasin issues can be identified and addressed in the individual GSPs. It also enables persons or parties of interest to review the important findings and recommendations of the individual GSPs without having to read each of the voluminous GSPs. The information discussed at this meeting was largely information that had been previously presented in earlier Advisory Committee meetings. Nothing of direct impact on the Seaside Basin was discussed.

Several of the Committee members expressed concerns about certain of the content and understandability of the integrated plan, and were reluctant to "receive" the plan which they felt might indicate that they were "approving" the plan. The consultants preparing the integrated plan were asked to address these concerns as the plan is updated. A motion was made for the Advisory Committee to support the plan, and the motion failed on a split vote. A substitute motion was made and passed on a split vote to report to the Board that the Advisory Committee does not support the plan. Because of the significance of the motion and the lack of direct impact one way or the other on the Watermaster, I abstained on that vote. Donna Meyers, the Executive Officer of the SVBGSA, said she would take the plan to the Board for its information and report the Committee's lack of support for it.

Attached is a copy of the table of contents of this plan, and a few of the pages from it that are of interest to the Watermaster.

Salinas Valley Groundwater Integrated Implementation Plan

Salinas Valley Basin
Groundwater Sustainability Agency

August 2022

Prepared by:

MONTGOMERY & ASSOCIATES
Water Resource Consultants

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LIST OF FIGURES

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3.5.10 Flow Between the Monterey and Seaside Subbasins

The inter-subbasin flow estimates for the boundary between the Monterey Subbasin and the Seaside Subbasin is derived from the MBGWFM. Groundwater flows both directions across this boundary. The MBGWFM historical water budget shows an average net groundwater flow of 900 AF/yr. flowing from the Seaside Subbasin into the Monterey Subbasin. Of the 900, AF/yr., 1,300 AF/yr. flows from the Seaside Subbasin into the Marina/Ord Area, and 400 AF/yr. flows from the Corral de Tierra Area into the Seaside Subbasin. These values differ from the estimates produced by the Seaside Watermaster modeling due to differing time periods and modeling assumptions.

The boundary between the Seaside Subbasin and the Monterey Subbasin is jurisdictional, and groundwater flows across this boundary unimpeded. The boundary is based on a assumed groundwater flow divide in the shallower aquifers, and therefore generally represents a divergent flow at the boundary. Since this boundary was drawn, additional data has been collected, pumping patterns have shifted, and models suggest there is flow between subbasins.

3.5.11 Inter-Subbasin Flow Summary

Figure 3-14 shows a map summarizing the historical average annual inter-subbasin flow rates in AF/yr.

4.3.7 Summary of SMC and Current Status

SVBGSA is partially or entirely responsible for compliance with SGMA in the 6 subbasins of the Salinas Valley. While SVBGSA and its partner GSAs completed GSPs for each subbasin, it recognizes the interdependence among the subbasins and developed this Salinas Valley IIP to describe the Salinas Valley as a whole, highlight how the GSPs align, and provide a basis for the SVBGSA to implement the subbasin GSPs in coordination with partner GSAs in an integrated manner. SVBGSA is responsible for reaching sustainability in each subbasin independently; however, the Salinas Valley is hydraulically connected, and implementation of management actions and projects must acknowledge and account for that connection.

This IIP shows how the SMC in the Salinas Valley subbasin GSPs align for each sustainability indicator. It compares 2020 groundwater conditions in each subbasin to the subbasin's respective minimum thresholds it seeks to avoid, and the measurable objectives it is aiming for. Table 4-4 summarizes which subbasins would have an undesirable result for each sustainability indicator based on 2020 groundwater conditions.

- Groundwater elevations generally decreased slightly from the prior year, with most wells showing elevations above their minimum thresholds but still below their measurable objectives. The number of wells with groundwater levels below the minimum threshold would constitute an undesirable result in the 180/400-Foot Aquifer, Eastside, Langley, and Monterey Subbasins.
- Groundwater storage is determined directly or indirectly using groundwater levels as a proxy, as well as seawater intrusion if present in the subbasin. Therefore, 2020 conditions would constitute an undesirable result in the 180/400-Foot Aquifer, Eastside, Langley, and Monterey Subbasins.
- In 2020, seawater intrusion continued to advance inland of the minimum threshold the 180/400-Foot Aquifer Subbasin, and therefore it would constitute an undesirable result. There was insufficient data to determine 2020 conditions in the Monterey Subbasin.
- There were some additional wells where groundwater quality that degraded beyond regulatory standards in 2020. All subbasins had groundwater quality minimum threshold exceedances except the Forebay Subbasin; however, none of these were directly caused by GSA management action(s), and therefore no subbasins would have an undesirable result.
- No subsidence was detected, and therefore no subbasins would have an undesirable result.
- No subbasins had an undesirable result for depletion of ISW in 2020; however, there was a lack of data in the Langley Subbasin and Corral de Tierra Area. There are no locations of ISW in the Eastside Subbasin.

Table 4-4. 2020 Groundwater Conditions Compared to Undesirable Results

	Groundwater Levels	Seawater Intrusion	Groundwater Storage	Groundwater Quality	Land Subsidence	Depletion of ISW
180/400	X	X	X	✓	✓	✓
Monterey	X	Lack of data	X	✓	✓	✓ (Lack of data in Corral)
Langley	X	✓	X	✓	✓	Lack of data
Eastside	X	✓	X	✓	✓	No ISW
Forebay	No SWI SMC	No SWI SMC	✓	✓	✓	✓
Upper Valley	No SWI SMC	No SWI SMC	✓	✓	✓	✓

SUMMARY OF PURE WATER MONTEREY, AND SALINAS VALLEY AND MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS IN SEPTEMBER 2022

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

Pure Water Monterey Water Quality and Operations Committee Meeting September 28, 2022:

The following topics were presented and discussed at this meeting:

- No water quality exceedances were reported during the most recent reporting period, and all regulatory requirements were met. However, some of the manganese levels have been higher in recent months due to the use of a high flowrate when purging (flushing) some of the monitoring wells. The flushing procedure has been revised to use lower flushing flowrates to avoid this problem in the future.
- During Water Year 2022 as of August 31, 2022 3,318 acre-feet of water has been injected.
- Deep Injection Wells No. 3 and 4 are injecting. One at 1,400 gallons per minute and the other at 400 gallons per minute. Tracer studies are to be conducted on these wells per the request of the Division of Drinking Water. Initially the tracer study will be intrinsic, but this will be followed by an extrinsic tracer study. Results from these studies are expected to be available in the first quarter of 2023.
- A new Monitoring and Reporting Program was received in September from the RWQCB. It relaxes from monthly to quarterly many of the monitoring parameters. Due to this, the Water Quality and Operations Committee will be meeting quarterly from this point on.
- Well ASR-4 has sometimes experienced high mercury levels. In order to get this well permitted for Cal Am to use it, treatment for removal of mercury will be needed. A skid-mounted mercury removal treatment process will be added soon. The Cal Am representative said that approval for the mercury treatment process has not yet been received. It uses a proprietary media for absorbing and removing mercury.
- I asked if there was any update on the ASR-1 well issues. Mr. Lear said that meetings with Cal Am and other parties involved in this have been held to seek a resolution, but he was not aware of their progress or status. The Cal Am representative reiterated that ASR-1 is not currently available for production by Cal Am. They are hoping to get well ASR-4 permitted to use in lieu of ASR-1.

SUMMARY OF PURE WATER MONTEREY, AND SALINAS VALLEY AND MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS IN OCTOBER 2022

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

Groundwater Workshop: Overview of Demand Management, October 31, 2022:

Derrik Williams of M&A presented a PowerPoint discussion of the topic of Demand Management, which is one of the Management Actions many of the Groundwater Sustainability Plans (GSPs) include. Much of what he presented covered things that have been discussed over the years by the Watermaster TAC and Board, as well as some things that are not applicable to the Seaside Basin. A few points he made that are of interest to the Watermaster included:

- Demand Management does not necessarily include or imply restricting water pumping by producers. It can include such things a fallowing portions of agricultural land to reduce irrigation amounts, conservation, determining how to share available water resources (groundwater, surface water, imported water, recycled water, etc.), allocating available resources to the pumpers, etc.
- The initial phase of implementing Management Actions is to develop a framework for them including reaching agreement among the involved parties (producers, growers, governmental entities, non-governmental entities, etc.) on such things as definitions of terms, how such actions would be funded, timelines for implementation, agreements on "water allocations" (these are not the same as "water rights"), actions to remedy breaches of agreements, and other general planning-type issues.
- Going through the process described above can be a lengthy process - sometimes many months or even a year or more. He cited some Central Valley GSAs that have already started this process and how long it has been taking them to advance to the actual start of implementation.
- "Water rights" cannot be prescribed in a GSP, they can only be prescribed in an Adjudication, such as is the case in the Seaside Basin. I found this to be surprising and a bit disappointing.
- "Water Allocations" that are agreed to in the implementation of GSPs are just that – agreements by producers to only pump within their allocated amounts. Under the Sustainable Groundwater Management Act (SGMA), if they exceed their allocations there apparently is no legal recourse by the GSA to enforce or penalize them for doing that.

I was left with the impression that it could be a long time before actions that may be taken in the subbasins adjacent to the Seaside Basin will have any potentially beneficial impact on the Seaside Basin.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	2.E
AGENDA TITLE:	Update on Security National Guarantee (SNG) Well
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Many months ago water quality sampling indicated that chloride levels were rising in the SNG well. The well owner (Mr. Ghandour) was contacted and he was asked to look into whether the well casing was leaking and allowing salty water from a shallow aquifer to flow downward into the Paso Robles aquifer and cause the higher chloride level. He responded that he would look into this, but that the property was in the midst of litigation and he was prevented by the Court from doing any work on the well until the litigation was concluded. In late fall of 2021 he reported that he was awaiting the Court Ruling on the Project, which he expected he would get in late January 2022. He went on to say that the physical trial had ended, but now briefs were being prepared for filing, and that as soon as he gets the Court Order and finalizes the title, he can jump on fixing the well.

On October 7, 2022 I again spoke with Mr. Ghandour and asked for an update. He reported to me that the final Court Decision came out in August 2022 (the one he expected would come out in January of 2022) from the late 2021 trial which was on "Phase 1" issues (I don't know what all the Phase 1 issues were but apparently some of the issues pertained to who has title to the property). He said that SNG found the Decision to be unacceptable and filed an appeal with the State Appellate Court on September 26, 2022. Since an appeal had been filed, the planned trial on "Phase 2" issues (which includes damages and other things) was taken off the calendar by the Court.

Mr. Ghandour said he sent an email to the other parties to the litigation in early October notifying them that in spite of the Court process now being delayed by what will probably be a lengthy time (for the appeal process) the SNG well needs to be repaired. He asked them to agree to having that work done. Thus far he had not received their reply. So in summary the well problem cannot be remedied unless/until the other litigants agree for that to proceed prior to the Court appeal trial occurring, or the completion of the litigation process, whichever comes first.

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	3
AGENDA TITLE:	Discuss and Provide Input on the 2022 Seawater Intrusion Analysis Report (SIAR)
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Montgomery & Associates has completed preparing the Seawater Intrusion Analysis Report (SIAR) for Water Year 2021 and the Executive Summary, which contains conclusions and recommendations, is attached. The complete SIAR is lengthy, so rather than including it in this agenda packet it will be posted on the Watermaster's website so TAC members wishing to review the entire document could do so.

The SIAR examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin. In spite of these factors, the previous SIARs stated that neither the Piper nor the Stiff Diagrams nor any of the other parameters indicated the presence of seawater intrusion in the existing monitoring wells. The 2022 SIAR reports that the evaluation of the data from the sampling and monitoring program continues to indicate that seawater intrusion is <u>not</u> occurring.

The 2020 SIAR reported on increases in chloride concentrations at monitoring wells FO-9 Shallow and FO-10 Shallow. The cause of the increase in well FO-9 Shallow was determined to be due to a casing leakage allowing water from the overlying Dunes Sands deposit to leak downward to the location where the Paso Robles aquifer (the Shallow) water quality samples were being collected. That well has since been destroyed by MPWMD and is currently not in service. The reason for the increase in well FO-10 Shallow is not known at this time, but will likely be investigated by the MCWDGSA as it implements the GSP for the Marina-Ord subarea of the Monterey Subbasin.

A representative from Montgomery & Associates will participate in today's TAC meeting to provide an oral summary of the report and to respond to questions by TAC members.

ATTACHMENTS:	Executive Summary from the 2022 SIAR
RECOMMENDED ACTION:	Discuss and either modify or approve the SIAR and forward the document to the Board with the TAC's recommendation for approval

MONTGOMERY
& ASSOCIATES
Water Resource Consultants

November 8, 2022

Seaside Groundwater Basin
2022 Seawater Intrusion Analysis Report

Prepared for:

Seaside Groundwater Basin Watermaster

Monterey County, California

Prepared by:

Montgomery & Associates

1970 Broadway, Suite 225

Oakland, CA 94602

MONTGOMERY & ASSOCIATES

EXECUTIVE SUMMARY

This report fulfills part of the annual reporting requirements contained in the Seaside Groundwater Basin Adjudication (California American Water v. City of Seaside, Monterey County Superior Court, Case Number M66343). The annual report addresses the potential for, and extent of, seawater intrusion in the Seaside Groundwater Basin (Basin).

Seawater intrusion may occur under basic hydrogeologic conditions as a wedge beneath fresh groundwater, or in more complex hydrogeology with various intrusion interfaces among the different aquifers. Continued pumping in excess of recharge and freshwater inflows, coastal groundwater levels well below sea level, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Basin.

Seawater intrusion is typically identified through regular chemical analyses of groundwater which can identify geochemical changes in response to seawater intrusion. No single analysis definitively identifies seawater intrusion, however by examining various analyses it is possible to ascertain when fresh groundwater mixes with seawater. At low chloride concentrations, it is often difficult to identify incipient seawater intrusion. This is due to the natural variation in fresh water chemistry at chloride concentrations below 1,000 milligrams per liter (mg/L). Mixing trends between groundwater and seawater are more easily defined when chloride concentrations exceed 1,000 mg/L. Common geochemical indicators of seawater intrusion are cation and anion ratios, chloride trends, sodium/chloride ratios, and electric induction logging.

As noted in the previous 3 Seawater Intrusion Analysis Reports (SIARs) (M&A, 2019; M&A, 2020; M&A, 2021), monitoring well FO-10 Shallow, located outside and just north of the Basin, has experienced sustained chloride increases and currently has a sodium/chloride molar ratio below 0.86, which may suggest a seawater chloride source. Induction logging of this well took place in March 2021 and confirmed chloride concentrations in groundwater but was inconclusive as to whether this results from seawater intrusion (Feeney, 2021). Following this development, analysis of historical records conducted in February 2022 discovered that a 1,300 foot long 2-inch diameter steel tremie pipe had been stuck in the FO-10 borehole since its construction in 1997 (Feeney, 2022). The presence of this steel pipe, which conducts electricity through the borehole and may be allowing water to travel between upper and lower zones, explains the inconclusive results from the March 2021 induction logging. It is suggested that FO-10 Shallow and FO-10 Deep be destroyed and replaced to maintain robust water quality monitoring in the area. Sentinel Well induction logs, now performed annually, remain stable over the historical record. No data collected in Water Year (WY) 2022 indicate that seawater intrusion is occurring within the Basin.

Based on the findings of this report, ongoing detrimental groundwater conditions that pose a direct threat of seawater intrusion are:

- Both the Paso Robles and Santa Margarita aquifers in the Seaside Groundwater Basin are susceptible to seawater intrusion. The Paso Robles aquifer is in direct hydrogeologic connection with Monterey Bay, and seawater will eventually flow into it if inland groundwater levels continue to be below sea level. The Santa Margarita aquifer may not be in direct connection with Monterey Bay. If that is the case, then seawater intrusion will take longer to appear because the pathway for seawater into that aquifer will be longer as seawater would need to move through the clay rich deposits overlying that aquifer before entering the aquifer itself and thereafter make its way into the Santa Margarita aquifer. It is not if, but when, seawater intrusion into these aquifers will occur if protective water elevations are not achieved.

- Santa Margarita aquifer groundwater levels in the Northern Coastal subarea continue to be below sea level. WY2022 second quarter (winter/spring) coastal groundwater levels in that aquifer are more than 40 feet below sea level, and the fourth quarter (summer/fall) levels are more than 60 feet below sea level. Pumping depressions expanded both vertically and spatially from the previous year in both the Paso Robles and Santa Margarita aquifer systems.

- Groundwater levels remain below protective elevations in all Santa Margarita protective elevation monitoring wells (MSC deep, PCA-W Deep, and sentinel well SBWM-3), and 2 of 3 Paso Robles protective elevation monitoring wells (MSC Shallow and PCA-W Shallow). All 3 Santa Margarita monitoring wells' groundwater elevations are at the lowest in their historical records. Monitoring Elevations at PCA-W shallow were above protective elevations in early WY2020 but have since dropped below. Besides CDM-MW4, all wells for which protective elevations have been established declined in elevation from the previous year.

Data that indicate that seawater intrusion is not occurring are described in the bulleted items below:

- Most groundwater samples for WY2022 from depth-discreet monitoring wells generally plot in a single cluster on Piper diagrams, with no water chemistry changes towards seawater. Increased chloride in recent measurements at FO-10 Shallow, north of the Basin, has shifted how this wells plots on Piper diagrams over the past 3 years. Currently, it appears to be shifting towards a chlorinated water type. As described above, induction logging of this well was inconclusive as to whether seawater intrusion is causing this change in water quality due to the presence of an abandoned steel pipe in the borehole

since the well's construction. This steel pipe may also be serving as a conduit to allow groundwater flow between aquifer zones. Groundwater quality in FO-10 Shallow should continue to be monitored closely to identify if further increases occur, and it is suggested that both FO-10 Shallow and FO-10 Deep be destroyed and replaced to maintain a water quality record in the area.

- In some production wells, groundwater quality plots differently on Piper diagrams compared to monitoring wells. This may be a result of mixed water quality from both the Paso Robles and Santa Margarita aquifers in which these wells are perforated. None of the production wells' groundwater qualities are indicative of seawater intrusion.
- None of the Stiff diagrams for monitoring and production wells show the characteristic chloride spike that typically indicates seawater intrusion in Stiff diagrams. The Stiff diagram for monitoring well FO-10 Shallow shows a slightly different shape than other Paso Robles aquifer wells because of increased chloride.
- Chloride concentration trends are stable for most monitoring wells, except FO-10 Shallow which experienced a 48 mg/L increase in chloride concentrations in WY2020 and has risen by another 8 mg/L since then. However, the sustained elevated concentrations in themselves do not indicate seawater intrusion. As noted above, recent induction logging of the well was unable to provide data with regard to whether seawater intrusion is the source of the elevated chloride level, and the well's integrity for water quality sampling may be compromised by a steel tremie pipe stuck in the borehole since 1997.
- Sodium/chloride molar ratios in most monitoring wells remained constant or increased over the past year. The sodium chloride ratio in 2 of the 3 samples taken at FO-10 Shallow in WY2022 were lower than what has been seen historically at the location. The ratio from 5 of the 7 samples tested since September 2020 are below 0.86. A sodium/chloride ratio less than 0.86 signifies a potential seawater chloride source. It is likely the groundwater quality changes in FO-10 Shallow are permanent and the well should continue to be monitored consistently to track if chloride concentrations increase further. If the well is destroyed and replaced due to the stuck steel pipe mentioned above, water quality from the replacement well should similarly be closely monitored to evaluate changes in chloride over time.
- Maps of chloride concentrations for the Paso Robles aquifer do not show chlorides increasing towards the coast. Santa Margarita aquifer chloride concentration maps show that the highest chloride concentrations are limited to coastal monitoring wells PCA-West Deep and MSC Deep, but these are not indicative of seawater intrusion since their concentrations are less than 155 mg/L and they do not have increasing trends. Two wells, Pasadera Golf- Paddock and Ord Terrace Shallow, sustained a >20 mg/L chloride

increase from WY2021, but as evidenced by their distance from the coast this is not a result of seawater intrusion.

- Induction logging data at the coastal Sentinel Wells do not show historical or recent changes over time that are indicative of seawater intrusion.

Other important findings from the analysis contained in this report are:

- Due to its distance from the coast, seawater intrusion is not an issue of concern in the Laguna Seca subarea. However, groundwater levels in the eastern Laguna Seca subarea have historically declined at rates of 0.6 feet per year in the Paso Robles aquifer, and up to 4 feet per year in the Santa Margarita aquifer. These declines have occurred since 2001, despite triennial reductions in allowable pumping. The cause of the declines is due in part to the Natural Safe Yield of the subarea being too high and in part due to the influence of wells east of the Seaside Basin. In WY2022, groundwater elevations in the area appeared to experience some stabilization and recovery, potentially correlated with a cessation of pumping from CAWC's Laguna Seca Subarea wells. This recovery has continued in WY2022.
- Native groundwater production in the Seaside Groundwater Basin for WY2022 was 2,870 acre-feet, which is 43 acre-feet more than WY2021 but 129 acre-feet less than the Decision-ordered Operating Yield for WY2022 of 3,000 acre-feet. Despite WY2022 being a very dry year, recovery of 3,683 acre-feet of recycled water from PWM helped offset pumping. Native groundwater production was below the Decision-estimated Natural Safe Yield of 3,000 acre-feet for the third year in the historical record, largely due to increased injection of highly treated recycled water.

The following recommendations should be implemented to monitor and track seawater intrusion.

1. Following identification of a compromised well casing, monitoring well FO-9 Shallow was destroyed to prevent leakage of higher chloride water into the underlying aquifer. In accordance with current plans, a similarly constructed monitoring well will replace the destroyed well to ensure continuity of groundwater level measurements from this location. It is anticipated that a new well will be constructed in 2023.
2. The discovery of a 1,300-foot steel tremie pipe in the FO-10 borehole complicates evaluation of water quality at the location and may act as a conduit allowing groundwater to flow between overlying sediments and the underlying aquifers. These wells are outside of the Basin, yet still provide critical information regarding the extent of seawater intrusion north of the Basin in the Monterey Subbasin. Therefore, it is recommended that MPWMD develop plans to destroy both FO-10 Shallow and FO-10 Deep, and that MCWD install similarly constructed monitoring wells to maintain a continuous water quality record at the location. Because seawater intrusion cannot be

excluded as the source of increasing chloride concentrations at FO-10 Shallow over the past several years, groundwater quality sampling at this well should continue at the increased quarterly frequency until the well is destroyed. When the well is replaced, the replacement well should likewise be sampled at a quarterly frequency. As detailed in the Monterey Subbasin GSP (MCWDGSA and SVBGSA, 2022) Section 9.4.7, additional monitoring wells may be installed in both the Lower 180-Foot and 400-Foot Aquifer and the Deep aquifers of the Monterey Subbasin. The proposed location for these wells is in an identified data gap area northeast of FO-10 Shallow (see Monterey Subbasin GSP Figures 7-7 and 7-8). When these wells are installed, they may provide additional insight into potential seawater intrusion in the area.

3. Seawater intrusion is a threat to the Basin, and data must be collected and analyzed regularly to identify incipient intrusion. Maps, graphs, and analyses like those found in this report should continue to be developed every year.

4. It is important to remain vigilant and to closely monitor groundwater quality even though seawater intrusion has not yet been observed in monitoring or production wells in the Basin. As outlined in the most recent Basin Management Action Plan (M&A, 2018a), it is important that the Watermaster continues to promote projects to obtain replenishment water for the Basin that is not extracted out as water supply.

5. Based on the WY2020's SIAR recommendation, groundwater elevation data from the Carmel River water Aquifer Storage and Recovery project (ASR) and PWM monitoring wells are now incorporated into the analysis of groundwater elevations. Although the Watermaster asked for this data to be provided, data from the PWM monitoring wells was not provided for this year's analysis. As these and any future projects are implemented, groundwater levels, groundwater flow directions, and potentially groundwater quality will change. It is important that data from monitoring wells associated with these projects be evaluated in future SIARs.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	4
AGENDA TITLE:	Discuss and Provide Input on the Preliminary Draft Watermaster 2022 Annual Report
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The Watermaster submits an Annual Report to the Court after the end of each Water Year to fulfill one of its obligations under the Court Decision that created the Watermaster.

A Preliminary Draft Annual Report for 2022 is being presented to the TAC for its review and input at today's TAC meeting. Due to its large file size, a complete copy of the Preliminary Draft 2022 Annual Report cannot be included with the agenda packet. However, a copy of the body of the Preliminary Draft is attached. A copy of the complete Preliminary Draft Annual Report is being posted on the Watermaster's website for anyone that would like to examine the entire document.

At today's meeting I will review with the TAC the principal components of the Preliminary Draft and provide an opportunity for the TAC to raise questions, provide input, and provide suggested edits to the document.

ATTACHMENTS:	Preliminary Draft 2022 Annual Report (Body only)
RECOMMENDED ACTION:	Provide input to the Technical Program Manager regarding any edits to the Preliminary Draft Annual Report that the TAC wishes to propose

SEASIDE BASIN WATERMASTER ANNUAL REPORT – 2022

PRELIMINARY DRAFT

January 5, 2023

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SEASIDE BASIN WATERMASTER

ANNUAL REPORT – 2022

Integral to the Superior Court Decision (Decision) rendered by Judge Roger D. Randall on March 27, 2006 is the requirement to file an Annual Report. This 2022 Annual Report is being filed on or before January 15, 2023, consistent with the provisions of the Decision. as amended by the Order Amending Judgment filed March 29, 2018.

This Annual Report addresses the specific Watermaster functions set forth in Section III. L. 3. x. of the Decision. In addition, this Annual Report includes sections pertaining to:

- Water quality monitoring and Basin management
- Information that the Watermaster would otherwise include within a Case Status Conference Statement, including:
    - A summary of basin conditions and important developments concerning the management of the Basin
    - Planned near- and long-term actions of the Watermaster
    - Information concerning the status of regional water supply issues
    - Management activities that may bear on the Basin's wellbeing.

A. Groundwater Extractions

The schedule summarizing the Water Year 2022 (WY 2022) groundwater production from all the producers allocated a Production Allocation in the Seaside Groundwater Basin is provided in Attachment 1, "Seaside Groundwater Basin Watermaster, Reported Quarterly and Annual Water Production from the Seaside Groundwater Basin for all Producers Included in the Seaside Basin Adjudication During Water Year 2022." Water Year 2022 is defined as beginning October 1, 2021 and ending on September 30, 2022.

B. Groundwater Storage

Monterey Peninsula Water Management District (MPWMD), in cooperation with California American Water (CAWC), operates the Seaside Basin Aquifer Storage and Recovery (ASR) program. Under the ASR program, CAWC diverts water from its Carmel River sources during periods of flow in excess of NOAA-Fisheries' bypass flow requirements, and transports the water through the existing CAWC distribution system for injection and storage in the Seaside Basin at the MPWMD's Santa Margarita ASR site and CAWC's Seaside Middle School ASR site. During WY 2022, 71acre-feet was diverted and stored in the Seaside Basin under the ASR program. Rainfall in the area was about 63% of normal, and Carmel River flow was about 34% of normal.

Based upon production reported for WY 2022, the following Standard Producers are entitled to Free and Not-Free Carryover Credits to WY 2023 in accordance with the Decision, Section III. H. 5:

Producer	Free Carryover Credit (Acre-feet)	Not-Free Carryover Credit (Acre-feet)
Granite Rock	222.49	27.12
DBO Development	410.44	38.98 (-2.31 transfer)
Calabrese (Cypress)	15.28	1.58 (-3.17 transfer)
CAWC	00.00	104.97 (+5.48 transfer)
City of Seaside Muni	00.00	00.00

C. Amount of Artificial Replenishment, If Any, Performed by Watermaster
Per the Decision, "Artificial Replenishment" means the act of the Watermaster, directly or indirectly, engaging in contracting for Non-Native Water to be added to the Groundwater supply of the Seaside Basin through Spreading or Direct Injection to offset the cumulative Over-Production from the Seaside Basin in any particular Water Year pursuant to Section III.L.3.j.iii. It also includes programs in which Producers agree to refrain, in whole or in part, from exercising their right to produce their full Production Allocation where the intent is to cause the replenishment of the Seaside Basin through forbearance in lieu of the injection or spreading of Non-Native Water (referred to herein as "In-lieu Replenishment").

During Water Year 2022 the Watermaster did not indirectly engage in In-lieu Replenishment of the Basin. No non-native water was made available to the Basin during Water Year 2022 under the April 7, 2010 Memorandum of Understanding and Agreement entered into by Watermaster with the City of Seaside for its golf course irrigation program creating in-lieu replenishment water.

As reported in the 2019 Annual Report, on September 4, 2019 the City of Seaside filed a motion with the Court seeking the Court's approval of the City's request for a Storage and Recovery Agreement for in-lieu storage and recovery of water. On October 25, 2019 the Court approved the City's request. Court documents pertaining to the City's request were contained in Attachment 15 of the 2019 Annual Report. On February 5, 2020 the Watermaster executed a Storage and Recovery Agreement with the City of Seaside, a copy of which was included in Attachment 7 of the 2020 Annual Report.

D. Leases or Sales of Production Allocation and Administrative Actions
As reported in the 2019 Annual Report, in WY2019 a transfer or assignment of water allocation was activated, as provided for in the Cypress Pacific Investors (CPI), successor to Muriel L. Calabrese 1987 Trust, front-loading delivery of water agreement that was contained in Attachment 14 of the 2019 Annual Report. Per the agreement, CPI leases to California American Water Company (CAWC) 8.0 AF of water (subject to reduction per the formulas in the Decision) for the purpose of producing such water from, or moving the production of such water to, the inland wells operated by CAWC and for delivery of such water by CAWC to one or more CPI properties. In WY 2017 CPI assigned its entire Standard Production Allocation water right to CAWC effective October 1, 2016.

As discussed in Attachment 13 of the 2018 Annual Report, in 2019 Security National Guarantee (SNG) indicated it intended to convert a portion of its Alternative Production Allocation to Standard Production. However, SNG subsequently decided not to make such a conversion.

During WY 2022 the Watermaster Board made changes to section 16.2 of the *Rules and Regulations* regarding replenishment assessment review.

During WY 2022 the Watermaster Board was comprised of the following Members and Alternates:

MEMBER	ALTERNATE	REPRESENTING
Director Paul Bruno	N/A	Coastal Subarea Landowner
Christopher Cook	Tim O'Halloran	California American Water
Wesley Leith	N/A	Laguna Seca Subarea Landowner
Director George Riley	Director Alvin Edwards	MPWMD
Mayor Mary Ann Carbone	City Manager	City of Sand City
Supervisor Wendy Askew	Supervisor Mary Adams	Monterey County (MCWRA)
Councilmember John Gaglioti	Council Member Scott Donaldson	City of Del Rey Oaks
Councilmember Dan Albert	Mayor Clyde Roberson	City of Monterey
Mayor Ian Oglesby	Council Member Jon Wizard	City of Seaside

E. Use of Imported, Reclaimed, or Desalinated Water as a Source of Water for Storage or as a Water Supply for Lands Overlying the Seaside Basin

The CAWC/MPWMD ASR Program operated in WY 2022 and 70.55 acre-feet of water was injected into the Basin as Stored Water Credits and 0 acre-feet was extracted.

As reported in the 2019 Annual Report, the Watermaster issued a Storage and Recovery Agreement to CAWC and MPWMD governing the injection and recovery of water from the Pure Water Monterey (PWM) Project. A copy of the agreement was included in Attachment 13 of the 2019 Annual Report. The quantities of water that were stored and recovered in accordance with that Agreement during WY 2022 are reported in the lower portion of the spreadsheet in Attachment 1.

F. Violations of the Decision and Any Corrective Actions Taken

Section III. D. of the Decision enjoins all Producers from any Over-Production beyond the Operating Yield in any Water Year in which the Watermaster declares that Artificial Replenishment is not available or possible. Section III. L. 3. j. iii. requires that the Watermaster declare the unavailability of Artificial Replenishment in December of each year, so that the Producers are informed of the prohibition against pumping in excess of the Operating Yield.

In WY 2021 the Watermaster implemented a final ramp-down in production to achieve the Basin's Decision-established Natural Safe Yield of 3,000 AFY. The Watermaster made its declaration regarding the availability of Artificial Replenishment Water, and the Total Usable

Storage Space of the Basin, for WY 2022 at its Board meeting of January 5, 2022. Copies of these declarations are contained in Attachment 2.

Total pumping for WY 2022 did not exceed the Operating Yield (OY) of the Basin, and did not exceed the Natural Safe Yield (NSY) of the Basin.

G. Watermaster Administrative Costs

The total estimated Administrative costs through the end of Fiscal Year 2022 amounted to $75,000 including a $25,000 dedicated reserve. Costs include the Administrative Officer salary and legal counsel fees. The "Fiscal Year 2022 Administrative Fund Report" and "Fiscal Year 2022 Operations Fund Report" are provided in Attachment 3.

H. Replenishment Assessments

At its meeting of October 5, 2022 the Watermaster Board determined that beginning with WY 2023 the Natural Safe Yield Replenishment Assessment unit cost should be updated to $3,461 per acre-foot, and the Operating Yield Replenishment Assessment unit cost should be updated to $865 per acre-foot. The Agenda transmittal which explains the basis of calculation for these new unit costs is contained in Attachment 4.

Alternative and Standard Producers report their production amounts from the Basin to the Watermaster on a quarterly basis.

Based upon the reported production for WY 2022, the City of Seaside's Replenishment Assessment for its Municipal System for Overproduction in excess of its share of the Natural Safe Yield is $38,116.08, and for overproduction in excess of its share of the Operating Yield is $9,529.02. The City of Seaside did not exceed its Alternative Production Allocation for its Golf Course System production.

Mission Memorial Park's Replenishment Assessment for Overproduction in excess of its share of the Natural Safe Yield is $9,607.87, and for overproduction in excess of its share of the Operating Yield is $2,401.97.

Based upon its reported production for WY 2021, Mission Memorial Park (Alderwoods)'s Replenishment Assessment for Overproduction in excess of its share of the Natural Safe Yield was $46,488.32, and for overproduction in excess of its share of the Operating Yield was $11,626.02. In early January 2022 Mission Memorial Park, through its attorney, filed a writ with the Court asking that its WY 2021 replenishment assessment be waived. Mission Memorial Park's attorney subsequently placed a hold on the writ and requested to appeal directly to the Watermaster to have its Replenishment Assessment either waived or reduced. At its September 7, 2022 meeting the Watermaster Board heard testimony from Mission Memorial Park's Manager Lorrie Muriel and Mission Memorial Park's Legal Counsel Steve Gurnee that provided details of what led to their inadvertent 2021 over-production, and actions now being taken to avoid any future over-production. The Board felt that the circumstances presented by Mission Memorial Park and the fact that in the past they had in every year pumped substantially less than the amount of their allocation warranted consideration. The Board then passed a motion to reduce the $58,114.34 2021 Mission Memorial Park over-production replenishment assessment to $25,000, payable over time, and required Mission Memorial Park to submit an action plan on how it would avoid future over-production.

To help avoid any future inadvertent over-production by any producer, the Watermaster will be sending to each Watermaster party on an annual basis a description of the Watermaster, the party's assigned production allocation, and the over-production fee schedule.

A summary of the calculations for Replenishment Assessments for WY 2022 is contained in Attachment 5. Credits against Replenishment Assessments are contained in Attachment 6.

I. All Components of the Watermaster Budget

The Watermaster budget has four separate funds: Administrative Fund; Monitoring & Management–Operations; Monitoring and Management–Capital Fund and; Replenishment Fund. Copies of the budgets for Fiscal Year 2023 are contained in Attachment 6.

The Watermaster Board is provided monthly financial status reports on all financial activities for each month with year-to-date totals.

J. Water Quality Monitoring and Basin Management

Water Quality Analytical Results

Groundwater quality data continued to be collected and analyzed on a quarterly basis during WY 2022 from the enhanced network of monitoring wells. The low-flow sampling method implemented in 2009 continued to be used in 2022 and is expected to continue to be used in the future to improve the efficiency of sample collection. Except as discussed below regarding Monitoring Well FO-9 Shallow and induction logging of the Sentinel Wells, no modifications to the quarterly data collection frequency from the enhanced network of monitoring wells were made during WY 2021.

It was intended to sample the Watermaster's Sentinel Well No. 5, located at Camp Huffman on the former Fort Ord, in WY 2022, based on the plan to monitor it once every five years. However, through a scheduling oversite the well was not sampled in WY 2022. It is scheduled to be sampled in WY 2023, and once every five years thereafter.

Monitoring and Management Program for the Upcoming Year

The 2023 Monitoring and Management Program (M&MP) contained in Attachment 8 includes the same types of basin management activities that have been conducted in prior years.

Most of the differences between the 2022 M&MP and the 2023 M&MP are relatively minor, with the exception of Task I. 2. b. 3 (Collect Water Quality Samples). Barium and chloride data has been collected under this Task for the past ten years. The Watermaster's hydrogeologic consultants (Montgomery & Associates) reported that barium and iodide have been used to discriminate between sources of saline water if it is observed, but not to identify incipient seawater intrusion which can be identified without barium or iodide data. Since discriminating the source of salinity may be unnecessary, as a cost-saving measure it would be satisfactory to discontinue sampling for these parameters. If increasing salinity levels are detected, and if it is important to discriminate the source of salinity, then sampling for barium and iodide could be resumed at that time.

Discontinuing analyzing for these two parameters would result in an annual cost savings of approximately $2,160. The TAC therefore recommended discontinuing the analysis for these parameters, and the language in Task I. 2. b. 3 was revised to reflect this.

In 2007 the Watermaster constructed four of what are called "Sentinel Wells" along the coast. The purpose of these wells is to serve as a means of detecting the possible intrusion of seawater into the Seaside Basin aquifers, and induction logging technology is employed at these wells for this purpose. Induction logging is a process by which changes in conductivity, an indicator of possible seawater intrusion, are measured in the soil surrounding these wells. If a trend in increasing conductivity is detected, it would be an indication that seawater intrusion is occurring.

Induction logging was initially performed on a quarterly basis, with the intent that in subsequent years it might be feasible to reduce the induction logging frequency if a good correlation between the induction logging data from year-to-year was found to exist. In 2010, after several years of induction logging that showed the same results and showed no indication of seawater intrusion, the induction logging frequency was reduced to semi-annually.

The induction logging data has been virtually identical each year since logging began in 2007, and has shown no detectable change in formation conductivity. For this reason it was felt by Martin Feeney, the Watermaster's consultant who has performed all of the induction logging, that the frequency of induction logging of these wells could be further reduced from semi-annually to annually. His recommendation was concurred with by Montgomery & Associates, the Watermaster's primary hydrogeologic consultants. This recommendation was then approved by the Watermaster's TAC and Board and is reflected in the description and cost of Task I.2.b.3 in the 2023 Monitoring and Management Program. Reducing the frequency of induction logging would result in an annual cost savings of approximately $9,500.

The 2023 Monitoring and Management Program (M&MP) Budgets contained in Attachment 8 cover the same types of basin management activities that have been conducted in prior years.

The following are the principal revisions from the 2022 M&MP Budget:

Tasks Involving MPWMD Montgomery & Associates: The scopes-of-work for both MPWMD and Montgomery & Associates are essentially unchanged from 2022. However, both will have hourly-rate increases in 2023, so the costs of the Tasks in which they are involved will all reflect somewhat higher dollar amounts in 2023 compared to 2022. MPWMD's costs are expected to be about $920 higher in 2023 and Montgomery & Associates' costs are expected to be about $1,690 higher in 2023.

Task I.2.a.1 (Conduct Ongoing Data Entry/Database Maintenance Enhancement: The costs for an outside contractor to maintain the Watermaster's website are covered in this line-item. The Watermaster's Administrative Officer asked that in 2023 the format on the website be converted from its current format to the WordPress format which reportedly is now the industry standard for websites. If at some time in the future maintenance of the website passes to a different contractor, it would be much more expensive to have the current format maintained. In addition, the graphics being developed for the Watermaster's Public Awareness Committee are better suited for WordPress than the current format. Included in the budget for this Task is $5,000 to make the format conversion, and an additional $100/month (from

$200/month in 2022 to $300/month in 2023) for the contractor to maintain the website. The contractor's $200 monthly fee has not been increased in many years.

Task I.2.b.3 (Collect Water Quality Samples): As reported earlier in this Annual Report, Task I.2.b.3 reflects the cost savings from reducing the induction logging of the Sentinel Wells from twice per year to once per year, and the cost savings from eliminating sampling for barium and iodide in the three monitoring wells where these two parameters have been historically monitored. These combined cost savings are over., $10,000.

Task I.3.a.3 (Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions): The amount budgeted for this Task is unchanged from the 2022 amount. Included in this Task is an estimated $30,000 to perform additional Flow Direction/Flow Velocity analyses, if the Board wishes to perform such work, and $30,000 for other work the Board may wish to undertake related to basin management.

Summary:

As a result of the changes described above, as indicated by the right-hand column titled "Comparative Costs from 2022 Budget" in the M&MP Operations Budget in Attachment 6, the proposed 2023 Budget is $10,052 higher ($324,930 - $314,878) than the 2022 Budget. It is anticipated that a new well to replace monitoring well FO-9 Shallow will be constructed in 2023, and the costs to install that well are included in the 2023 M&MP Capital Budget. The 2022 M&MP Capital Budget will cover the costs to plan and design that well, which is expected to be performed in late 2022.

Basin Management Database

Pertinent groundwater resource data obtained from a number of sources has been consolidated into the Watermaster's database to allow more efficient organization and data retrieval. No modifications or enhancements to the database are planned in FY 2023.

Enhanced Monitoring Well Network

The Seaside Basin M&MP uses an Enhanced Monitoring Well Network to fill in data gaps in the previous monitoring well network used by the Monterey Peninsula Water Management District (MPWMD), and others, in order to improve the basin management capabilities of the Watermaster. The Enhanced Monitoring Well Network has been described in detail in previous Watermaster Annual Reports. It continues to be used to obtain additional data that is useful to the Watermaster in managing the Basin.

As reported in the 2021 Annual Report, monitoring well FO-9 Shallow had developed a leak in its casing and had to be destroyed to prevent cross-aquifer contamination. A Capital Project for the estimated Watermaster share of the replacement cost was included in the 2022 M&MP Capital Budget. Using money from the 2022 Capital Project budget, the Watermaster issued a contract to its consultant Montgomery & Associates to perform the planning and design work for a replacement well. The 2023 M&MP Capital Budget included the cost to have the replacement well installed in 2023. Efforts were underway in late 2022 to develop a three-party cost-sharing agreement (between MPWMD, the Watermaster, and MCWD) for the costs to replace the well.

Basin Management Action Plan (BMAP)

The BMAP constitutes the basic plan for managing the Seaside Groundwater Basin. The BMAP identifies both short-term actions and long-term strategies intended to protect the groundwater resource while maximizing the beneficial use of groundwater in the basin. It provides the Watermaster a logical set of actions that can be undertaken to manage the basin to its Safe Yield.

The Watermaster's first BMAP was completed in 2009 and was approved by the Watermaster Board at its February 2009 meeting. The Executive Summary from that BMAP was contained in Attachment 9 of the 2009 Annual Report, and the complete document is posted on the Watermaster's website at: http://www.seasidebasinwatermaster.org/Other/BMAP_FINAL_5-Feb-2009.pdf.

Over the nine years since the 2009 BMAP was completed, the Watermaster collected much groundwater level and quality data, and conducted various studies to improve the understanding of the basin. This improved understanding was incorporated into a 2019 Updated BMAP to facilitate ongoing responsible management of the groundwater resource. The Watermaster Board approved the 2019 Updated BMAP at its June 5, 2019 meeting. The Executive Summary from that document was contained in Attachment 7 of the 2019 Annual Report, and the complete document is posted on the Watermaster's website at: http://www.seasidebasinwatermaster.org/Other/BMAP%20Final_07192019.pdf .

One of the findings in the Updated BMAP is that the Natural Safe Yield (NSY) of the Basin is 2,370 AFY, which is lower than the Adjudication Decision's initially-established 3,000 AFY. Another finding was that the Total Usable Storage Space of the Basin was increased from 52,030 acre-feet to 104,170 acre-feet as reported on page 52 of the Updated BMAP. This is partly due to an error in the 2009 estimate in which the deficit volume was subtracted, thereby resulting in a lower combined volume than it should have been; and partly because a different protective elevation contour map was used in this updated estimation.

Attachment 10 of the 2019 Annual Report contains a Memo titled "Seaside Groundwater Basin Natural Safe Yield Allocations to Producers." The Memo describes how the Adjudication Decision allocated water rights to each of the Producers (both Standard and Alternative Producers), and the water rights that each Producer would have after all of the Adjudication Decision-required ramp-downs in pumping have been completed. The Memo also briefly describes the water rights impacts that would result from lowering the NSY of the Basin from 3,000 AFY to 2,370 AFY.

As discussed in the Memo, the approach used to make these calculations is based on the assumption that the Adjudication Decision contemplated that all of the Basin's NSY comes from the Laguna Seca and the Coastal Subareas, and that none of it comes from the Northern Inland Subarea. Two options for arriving at the water rights for each Producer are presented in the Memo. As noted in the Memo, there are some inconsistencies in the Adjudication Decision which complicate the calculation of water rights after the Adjudication Decision-mandated ramp-downs in pumping are completed.

The Memo contains a set of ramp-down calculations for a basin-wide NSY of 3,000 AFY, because 3,000 AFY had been the ramp-down figure that was developed when CAWC was sizing its Monterey Peninsula Water Supply Project. That analysis led to the conclusion that CAWC's ultimate water right in the Basin would be 1,474 AFY, based on a basin-wide Natural

Safe Yield of 3,000 AFY. This calculation approach was approved by Judge Randall in his Order dated 9 February 2007. Therefore, it was appropriate to include the ramp-down analysis leading to CAWC's 1,474 AFY of ultimate water right. Also contained in the Memo is a set of ramp-down calculations for a basin-wide NSY of 2,913 AFY, based on a slightly different interpretation of the Adjudication Decision.

The Memo provided to the Watermaster Board all of the necessary background information and calculations for use in determining which of the two ramp-down figures (3,000 AFY or 2,913 AFY) should be used when the next (and presumably final) ramp-down was set to occur in WY 2021. At its meeting of June 5, 2019 the Watermaster Board determined that there should be a final ramp-down to 3,000 AFY in WY 2021 and that water allocations to each Producer should be assigned as shown in Table 7 of Attachment 10 in the 2019 Annual Report, after all pumping ramp-downs have been completed. The Board reached this decision in part because ramping-down to 3,000 AFY would cause less hardship on the Alternative Producers by not requiring them to ramp-down along with the Standard Producers, and because ramping down to 2,913 AFY would provide negligible additional benefit and would require both the Standard and Alternative Producers to ramp-down.

In conjunction with updating the BMAP, Montgomery & Associates and Todd Groundwater (a hydrogeologic consultant the Watermaster used to perform a peer review of a draft version of the Updated BMAP) recommended that at some point in the future the Watermaster change to a different approach (Sustainable Yield) rather than continuing to use the Natural Safe Yield approach that was used in the Adjudication Decision, for basin management purposes.

Attachment 11 in the 2019 Annual Report contains a discussion of the pros and cons of using the Sustainable Yield approach vs. the Natural Safe Yield approach. The Watermaster Board considered the information contained in that attachment at its June 5, 2019 meeting and made the following determinations:

- A Sustainable Yield analysis should not be performed at this time.
- The concept of using the Sustainable Yield approach to replace the Natural Safe Yield approach should be revisited after the Groundwater Sustainability Plans (GSP) for the subbasins within the Salinas Valley Groundwater Basin (notably the Monterey and 180/400-Foot Aquifer Subbasins) have been completed, and their impacts on the Seaside Groundwater Basin have been determined. The status of those GSPs is discussed below in the section of this Annual Report titled "Sustainable Groundwater Management Act."
- If something is learned, or events occur, that would warrant performing a Sustainable Yield analysis sooner, the Board should revisit the decision at that time.

The Watermaster Board revisited this topic at its September 1, 2021 meeting, and concluded the following:

- Sustainable Yield (SY) is a technically superior Basin management approach compared to the Natural Safe Yield (NSY) approach used in the Decision, and an SY analysis should be performed at some point in time.
- Because of the historical over pumping from the Basin, regardless of the approach that is used for Basin management, be it NSY or SY, even reducing pumping levels to match either the NSY or SY pumping levels will not achieve protective groundwater elevations. This is because these approaches only seek to stabilize groundwater levels and do not take into account that the Basin would still be at risk of seawater intrusion at some time in the future. An additional source(s) of water (replenishment water) that can

be injected into the Basin to raise groundwater levels, and to maintain them at protective water levels, will be necessary regardless of which approach is used for Basin management.

- In view of the expense and complexity of changing to the SY approach, the Board concluded that making this change would not be justified until a source for this replenishment water has been secured.

Seawater Intrusion Response Plan

HydroMetrics LLC (now Montgomery and Associates) was hired by the Watermaster to prepare a long-term Seawater Intrusion Response Plan (SIRP), as required in the M&MP.

The Final SIRP was approved by the Watermaster Board in 2009 and a summary of the Seawater Intrusion Contingency Actions from the SIRP were contained in Attachment 10 of the 2009 Annual Report. The complete document may be viewed and downloaded from the Watermaster's website at: http://www.seasidebasinwatermaster.org/.

When water quality sampling from monitoring well FO-9 Shallow in late 2020 and again in early 2021 appeared to indicate that seawater intrusion might have been detected in the Paso Robles aquifer in the vicinity of that well, the SIRP was immediately reviewed to determine what steps should be taken in response to that finding. However, subsequent investigation of that well led to the determination that the increased chloride levels in the water quality sampling of that well were due to a casing leakage, and not from seawater intrusion in the Paso Robles aquifer as initially feared. Consequently, no actions to implement the SIRP were taken and no modifications to the SIRP were made in 2022.

Seawater Intrusion Analysis Report

The Seawater Intrusion Analysis Report (SIAR) examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin.

The Watermaster retained Montgomery & Associates to prepare the WY 2022 SIAR required by the M&MP. The WY 2022 SIAR provided an analysis of data collected during that Water Year.

Based on an evaluation of geochemical indicators in prior years, seawater intrusion has not historically been observed in existing monitoring and production wells in the Seaside Basin. However, as noted in the previous two SIAR reports (2019 and 2020), two monitoring wells in the Watermaster's network have experienced increased chloride concentrations. One of these, monitoring well FO-10 Shallow, is north of and outside of the Seaside Basin, and the other, monitoring well FO-9 Shallow, is just inside the northern boundary of the Northern Coastal Subarea of the Seaside Basin. Induction logging of both wells was performed by Mr. Martin Feeney, a hydrogeologic consultant to the Watermaster, in March 2021 to evaluate if seawater intrusion was evident.

A structural failure (leaking casing) was identified in monitoring well FO-9 Shallow. This caused the well to act as a conduit to allow shallow intruded groundwater in the dune sands to flow into the well and potentially into underlying aquifers. To prevent further leakage of poorer quality water, Well FO-9 Shallow was destroyed in 2021.

The induction logging of Well FO-10 Shallow confirmed the presence of higher chloride concentrations in the groundwater, but was inconclusive as to whether this was a result of seawater intrusion. However, it was subsequently learned, though communications with Mr. Joe Oliver of MPWMD who documented the installation of well FO-10 in 1996, that a long section of steel tremie pipe had to be abandoned in the well during construction. Mr. Feeney explained that the presence of this steel pipe interfered with the induction logging and prevented the logging from providing accurate information about the aquifer surrounding the well. He said this explains why the 2021 induction log differs so much from the 1996 elog. Based on this information, Mr. Feeney concluded that well FO-10 Shallow might also be allowing leakage to occur from the shallower Aromas or Dunes Sands formation into the Paso Robles aquifer below. One of the actions listed in the Monterey Subbasin GSP is for MCWD to install monitoring wells near the northern boundary of the Seaside Subbasin. Although work to destroy and replace monitoring well FO-10 Shallow is not mentioned, MCWD may wish to perform such work in order to restore that well for its monitoring purposes.

Induction logs of the Sentinel Wells remained stable over the historical record.

There continue to be ongoing detrimental groundwater conditions within the Basin that pose a potential threat of seawater intrusion. Groundwater levels below sea level, the cumulative effect of pumping in excess of recharge and freshwater inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion has the potential to occur in the Seaside Groundwater Basin. However, No data collected in Water Year (WY) 2022 indicate that seawater intrusion is occurring within the Seaside Groundwater Basin.

The SIAR is lengthy, but the full *Executive Summary Section* from it is provided in Attachment 7. A complete copy of the document is posted for viewing and downloading from the Watermaster's website at: http://www.seasidebasinwatermaster.org/. All recommendations contained in the SIAR are being or will be carried out and are included in the budgeted activities contained in Attachment 6 and described in Attachment 8.

Geochemical Impact Assessments

When new sources of water are introduced into an aquifer, with each source having its own unique water quality, there can be chemical reactions that may have the potential to release minerals into solution which have previously been attached to soil particles, such as arsenic or mercury, and thus into the water itself. This has been experienced in some other locations where changes in water quality occurred as a result of water being injected into an aquifer.

MPWMD's consultant (Pueblo Water Resources) has been using geochemical impact assessments to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program. As discussed in the 2018 Annual Report under the heading titled "Monitoring and Management Program Work Plan for the Upcoming Year," in order to predict whether there will be groundwater quality changes that will result from the introduction of desalinated water, additional ASR water (under the Monterey Peninsula Water Supply Project), and advanced wastewater treatment (AWT) water under the Pure Water

Monterey Project (PWM) geochemical impact assessments have been, or will be, performed by Pueblo Water Resources for use in the areas of the Basin where injection of these new water sources will occur. A description of this work was provided in Attachment 11 of the 2018 Annual Report.

In 2019 an assessment of the geochemical impacts of injecting AWT water from the PWM was performed. A Technical Memorandum describing that work is contained in Attachment 12 of the 2019 Annual Report. The assessment found that if the quality of the PWM AWT water is maintained within the ranges set forth in the Division of Drinking Water (DDW) Operations Report, there will be no adverse geochemical impacts on the aquifers within the Seaside Basin.

In 2022 no additional geochemical impact assessments needed to be performed, since the desalination plant component of the Monterey Peninsula Water Supply Project was still in the process of obtaining the permits necessary to move forward.

Sustainable Groundwater Management Act (SGMA)

As reported in the 2015 Annual Report the Watermaster Board determined that the Watermaster should monitor the development of the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) and the State Department of Water Resources' (DWR) development of SGMA regulations with the intent to collaborate with these entities as appropriate.

At the State Level:

During 2022 DWR did not issue any new regulations, or revisions to prior regulations, that impacted the Seaside Groundwater Basin or the Watermaster. In March of 2022 the Watermaster submitted to DWR the reporting information required of it, as an adjudicated basin, under SGMA.

At the Monterey County level:

As reported in the 2018 Annual Report, the SVBGSA, the Marina Coast Water District (MCWD), and the City of Marina all submitted Notifications with DWR to serve as the GSA for overlapping portions of the Monterey and/or the 180/400-foot aquifer subbasins. The SVBGSA, MCWD, and the City of Marina embarked on processes to address and resolve these overlaps.

In its notification to DWR, the City of Marina proposed becoming the GSA for the portion of the 180/400-foot Subbasin lying within the City's jurisdictional boundaries. However, since this overlapped with the SVBGSA's proposal to be the GSA for that area, DWR concurred with the SVBGSA's proposal, as authorized by SGMA, to have the County of Monterey be the GSA for that area. The County then delegated authority to prepare the GSP for that area to the SVBGSA. The SVBGSA submitted its GSP for the 180/400-foot Subbasin to DWR in January 2020. DWR approved the plan, with additional recommended actions, later that year. This plan is being updated annually by the SVBGSA.

Development of the GSP for the Monterey Subbasin was started in 2020. A Draft version of this plan was completed jointly by the SVBGSA and the MCWD GSA and submitted to DWR for its review in early 2022. This plan breaks the Monterey Subbasin into these two Management Areas:

- Marina-Ord Area: This Management Area consists of the lands within the City of Marina and the former Fort Ord. The MCWD GSA will be the GSA for this Management Area.
- Corral de Tierra Area: This Management Area consists of the remainder of the subbasin, which is generally south of State Route 68 and includes a parcel located between the City of Marina and the former Fort Ord. The SVBGSA will be the GSA for this Management Area.

The Watermaster participated in the Monterey Subbasin GSP Committee that the SVBGSA formed to provide input pertaining to the Corral de Tierra Area during development of this GSP. In 2020 the Watermaster's Technical Program Manager, jointly with Montgomery & Associates, made a PowerPoint presentation to that Committee describing issues of mutual concern between the Corral de Tierra area and the Seaside Groundwater Basin. The presentation highlighted the impacts that pumping in the Corral de Tierra area is having on groundwater levels in the Laguna Seca Subarea of the Seaside Basin. The Watermaster also participated in the stakeholders group formed by the MCWD GSA to provide input during the development of the Marina-Ord Area portion of this plan.

In addition, the Watermaster participated in the development of the SVBGSA's other GSPs through its membership on the SVBGSA's Advisory Committee. Although these GSPs have now all been completed in draft form and submitted to DWR, the Watermaster continues to participate as a member of the SVBGSA's Advisory Committee. The Watermaster's participation in these committees and stakeholder groups helps to ensure that there is close coordination between the SVBGSA, MCWD GSA, and the Watermaster on matters of mutual interest.

K. Information that the Watermaster Would Otherwise Include within a Case Status Conference Statement

This Section was added to the Annual Report beginning in 2018 year as directed by the Court in its Order Amending Judgment filed March 29, 2018. It is formatted to contain the topic headings below, which were requested by the Court in its March 29, 2018 Order.

Summary of Basin Conditions and Important Developments Concerning the Management of the Basin

The condition of the Basin is discussed in the *Water Quality*, *Seawater Intrusion Analysis Report*, and *Basin Management Action Plan* subheadings in Section J of this Annual Report.

In summary, the *2022 Seawater Intrusion Analysis Report*, which analyzes the water quality data collected under the Watermaster's sampling program, reported that while conditions exist within the Basin that pose a risk of seawater intrusion, none of the data collected in WY 2022 indicate that seawater intrusion has actually occurred.

The 2019 updated *Basin Management Action Plan* found that in spite of recent pumping at levels less than the Decision-established Natural Safe Yield of 3,000 AFY, water levels in some portions of the Basin are continuing to drop. It is expected that once the desalination plant component of the MPWSP becomes operational, or if that plant is not constructed but an expansion of the PWM project is constructed, and CAWC is able to further reduce its pumping from the Basin by 700 AFY through its 25-year overpumping repayment program, the rate of drop in groundwater levels will be at least partially mitigated. However, unless the Basin is

replenished to raise groundwater levels to protective elevations, the Basin will remain vulnerable to seawater intrusion.

As the Groundwater Sustainability Plans (GSPs) were developed under the State's Sustainable Groundwater Management Act (SGMA), the Watermaster became more aware of the impact of adjacent groundwater basins on the Seaside Groundwater Basin. In the context of the Salinas Valley Groundwater Basin, as recognized and defined by the DWR, each basin within that larger Basin is referred to as a "subbasin". Therefore, in this section of this Annual Report the Seaside Basin is referred to as the "Seaside Subbasin." The GSP for the Monterey Subbasin (which abuts the Seaside Subbasin to the north and east) made it clear that:

- The portion of the Monterey Subbasin to the east of the Seaside Subbasin (referred to as the Corral de Tierra/Toro Subarea) will not be able to achieve sustainability as defined under the SGMA without the importation of additional sources of water supply.
- The portion of the Monterey Subbasin to the north of the Seaside Subbasin (referred to as the Marina-Ord Subarea) will not be able to achieve sustainability unless the subarea immediately to the north (the 180/400-foo Aquifer Subbasin) raises its groundwater levels high enough to stop seawater from intruding that subbasin.
- There is significant loss of groundwater from the Seaside Subbasin to the Monterey Subbasin because the groundwater levels in the Monterey Subbasin are lower than those in the Seaside Subbasin.

Planned Near and Long-term Actions of the Watermaster

Near-term actions are described in the 2023 Monitoring and Management Program discussed in Section J and Attachment 8 of this Annual Report.

Long-term actions will include:

- Continuing to carry out the duties and responsibilities assigned to the Watermaster by the Decision
- Continuing to coordinate with the Monterey County Water Resources Agency in their development of an updated hydrogeologic model of the Salinas Valley Basin, as discussed under the *Coordination of Watermaster's Seaside Groundwater Model with Salinas River Basin Model* subheading in Section J of the 2018 Annual Report (Note: In 2020 completion of this model was delayed and was still being completed as of the date of preparation of this 2022 Annual Report. The Watermaster will continue to coordinate with the Monterey County Water Resources Agency on this, once the model is completed and promulgated. However, it was found that the Salinas River Basin model did not adequately address groundwater conditions in the Monterey Subbasin, and for this reason MCWD retained a hydrogeologic consultant (EKI Environment and Water) to develop a new model for the Monterey Subbasin. This new model was used in the preparation of the GSP for that subbasin, including the Marina-Ord and Corral de Tierra subareas. As discussed above under the *Sustainable Groundwater Management Act (SGMA)* subheading in Section J, the Watermaster participated in the development of that GSP, and its hydrogeologic consultant (Montgomery & Associates) actively interfaces with EKI Environment and Water to ensure that there is hydrogeologic agreement between the new Monterey Subbasin model and the Watermaster' Seaside Basin model.

- Continuing to coordinate with the SVBGSA to develop measures to aid in groundwater management of the Laguna Seca Subarea, as discussed under the *Sustainable Groundwater Management Act* subheading in Section J of this Annual Report.
- Creating and activating a "Public Awareness Committee" of the Watermaster Board to educate decision makers and the public in general about the risk of seawater intrusion that the Seaside Basin faces, and the need to replenish the Basin to raise groundwater levels high enough to keep that from occurring, in addition to ensuring the Basin has sufficient groundwater resources to supply customer demands.

Information Concerning the Status of Regional Water Supply Issues

MPWSP

Implementation of the Monterey Peninsula Water Supply Project (MPWSP) continues to be vigorously pursued by California American Water.

In mid-November 2019 the California Coastal Commission held a hearing on CAWC's application for a Coastal Development Permit for construction of the portions of the MPWSP located within the coastal zone. The Commission received public input at that hearing but deferred taking action on the application until early 2020. That action was originally scheduled for the Commission's May 2020 meeting, but was rescheduled to a September 2020 meeting by Commission staff, who stated that they needed more time to adequately evaluate all of the documents that had been submitted. Just prior to the scheduled September 2020 Commission meeting date, CAWC decided to withdraw its application in order to see if it could negotiate modifications to the project with the opposing parties that would address their concerns and objections. On November 5, 2020 CAWC formally resubmitted its application for a Coastal Development Permit with the Coastal Commission. The Coastal Commission requested that CAWC submit additional information in order for the Commission to deem the application to be complete.

On December 3, 2020 the Coastal Commission sent a Notice of Incomplete Application, identifying certain additional information needed to consider the application complete. On March 5, 2021 CAWC submitted a partial response to the Coastal Commission's Notice of Incomplete, noting that additional information on the few remaining requested items would be submitted shortly. CAWC supplemented that response on May 19, 2021. On June 18, 2021, the Coastal Commission responded, acknowledging the responses and requesting certain additional information before the application could be considered complete. CAWC submitted the additional information, and in August of 2022 the Coastal Commission notified CAWC that is application was now complete. The Coastal Commission set a November 17, 2022 hearing date to consider approval of the application.

In early October 2022 the MPWMD Water Supply Planning Committee discussed adopting a policy position opposing construction of the MPWSP desalination plant. Instead of adopting such a position, the Committee opted to support a resolution that would cite MPWMD's authority to approve or deny CAWC's plan to introduce desalination plant water into the ground water supply. The MPWMD Board of Directors approved such a resolution (Resolution No. 2022-31) at its October 17, 2022 meeting.

Also in early October 2022 the MPWMD Board approved a contract with firm to provide public outreach services. Shortly after that, an unsolicited series of emails began being sent out from MPWMD to a large list of addressees urging recipients to voice their objection to the desalination plant at the November 17, 2022 Coastal Commission meeting.

In early October 2022 CAWC announced a phasing plan for the MPWSP. The application to the California Coastal Commission called for development of ocean slant wells to supply a 6.4 million gallon per day desalination plant. CAWC is now proposing a multi-phase plan to develop needed water supplies with the first phase of the desalination facility producing 4.8 million gallons per day.

Approval by the Coastal Commission is the last major permit needed to allow construction of the project to begin. The schedule on the MPWSP website has not been updated since CAWC anticipated getting its Coastal Development Permit approved in December 2018. If the Coastal Commission approves CAWC's resubmitted Coastal Development Permit at the November 17, 2022 hearing, and if the same time periods for implementation of the project which are shown on the last posted schedule are accurate, the MPWSP desalination plant could become operational in early 2025.

PWM

Construction work on Monterey One Water's (M1W) Pure Water Monterey (PWM) recycled water project in Marina was completed in late 2019, and the Advanced Water Treatment plant began producing water in early 2020. Water began being injected into the Seaside Groundwater Basin in February 2020. In WY 2022, during the time period of October 1, 2021 through August 31, 2022 a total of 3,318 acre-feet of water had been injected.

The Title 22 Indirect Potable Reuse (IPR) Groundwater Replenishment regulations require that the water from the PWM project be retained underground no less than two months before it reaches the closest downgradient drinking water well. This is referred to as the Response Retention Time, and is intended to provide sufficient response time to identify a treatment failure and a quick response.

Underground retention time can be determined in three ways: (1) numerical modeling, (2) an intrinsic tracer study, or (3) an added (extrinsic) tracer study. A different credit factor for removal of pathogens is applied to each of these estimation methods to reflect the accuracy of the method. The credit factor indicates the amount of pathogen log removal per month that is credited for the time the injected water is retained underground before it is extracted for supply purposes. For numerical modeling, the factor is 0.5, for an intrinsic tracer study, the factor is 0.67, and for an extrinsic tracer study, the factor is 1.0. So for example, if numerical modeling indicated it would take 4 months for injected water to reach a supply well, 2 logs of pathogen removal would be credited. But if an intrinsic tracer study indicated this same 4 months of retention time, 2.68 logs of pathogen removal would be credited, and for an extrinsic tracer study that indicated this same 4 months, 4 logs of pathogen removal would be credited.

M1W performed an extrinsic tracer study that started in October 2021 and was completed in early 2022. The study demonstrated that the PWM water was qualified to get the full credit for underground retention time (factor of 1.0). At the time of preparation of this Annual Report, M1W had submitted to DDW the findings from its extrinsic tracer study and was awaiting DDW's approval of it .

Before the intrinsic tracer study was done, the numerical modeling predicted that the underground detention time would be 10.8 months before the water would reach ASR Wells 1 and 2. Once the intrinsic tracer study was completed, and the model was calibrated with data from this tracer study, the model showed that the shortest travel time from Deep Injection Well No.1 to ASR Monitoring Well No. 1 (adjacent to ASR Wells 1 and 2) was only 2.5 months. ASR-1 had been offline since February 2021, for independent reasons.

On September 14, 2021 the State Division of Drinking Water (DDW) issued a letter to Cal-Am stating that "the drinking water source designation of ASR Well 01 (ASR-1) has been changed from active to inactive." MPWMD reported that the inactive status remains in effect today and could only be removed if available data clearly demonstrated that the recycled water reaching ASR-1 when the well is in extraction mode meets at least a12-log virus reduction, the minimum underground retention time required by the recycled water regulations of 2 months, and all other applicable recycled water regulations. MPWMD went on to say that they did not believe that the Division of Drinking Water would accept the data and analysis by the M1W team to demonstrate minimum underground retention time without significant reduction of PWM injection capacity. And further, that they did not find any substantial rationale for changing the source designation of ASR-1 to active at this time or the foreseeable future.

Discussions between CAWC, MPWMD, and M1W were initiated in 2022 to discuss CAWC's concerns that it might not have sufficient pumping capacity, with ASR-1 no longer available as a supply well, to meet its customer's demands. The Watermaster participated in those discussions to monitor the issue. In October 2022 a teleconference discussion among these parties was held and progress was reported on work being done to address this situation. It focused on getting well ASR-4 permitted for use so it could be used in place of ASR-1 as a supply well. ASR-4 has been found to high a level of concentration of mercury that is above the drinking water standard. Therefore, CAWC was in the process of installing a mercury removal treatment unit so it could be permitted for use as a supply well. Installation of the mercury removal unit was expected to occur in November 2022, and that the well would become available as a supply well shortly thereafter.

In late 2021 M1W was also applying to the Division of Drinking Water to obtain additional pathogen reduction credits for certain of the treatment processes the PWM AWT provides, but which had not been previously used in determining the AWT's reduction credits. As of the date of preparation of this Annual Report, M1W reported that they had been approved by DDW to receive additional log reduction credits for chloramine due to the residual in the pipeline and the contact time during conveyance. They went on to report that they were still working on optimizing those credits. However, they consider additional credits to be "icing on the cake," since they consistently meet the regulatory requirement of 12-logs of virus reduction with their reverse osmosis and ultraviolet advanced oxidation treatment processes and underground retention time.

Public Buyout of CAWC's Water System

Voters approved Measure J in the November 2018 general election. That Measure instructed the Monterey Peninsula Water Management District to undertake a feasibility study on the public takeover of CAWC's Monterey Water System.

The 2021 Annual Report provided background information describing MPWMD's work on this matter and the status of its application to the Local Agency Formation Commission (LAFCO). LAFCO needs to approve the activation of MPWMD's latent powers in order for MPWMD to proceed with the acquisition process. This 2022 Annual Report updates the status of MPWMD's actions on this matter.

As reported in the 2021 Annual Report, at its December 6 meeting, on a 5 to 2 vote, LAFCO passed a resolution denying MPWMD's application to activate its latent powers in order to acquire CAWC's Monterey Water System, but directed its staff to prepare a new draft resolution laying out the Commission's reasons for denying the proposed latent powers activation. On January 5, 2022, the Commission, on a 5 to 2 vote, adopted the revised resolution denying the proposed activation of MPWMD's latent powers.

On January 31, 2022 MPWMD filed a formal Application for Reconsideration of LAFCO's disapproval of MPWMD's proposed activation of latent powers. At its February 28, 2022 meeting LAFCO denied MPWMD's Application for Reconsideration.

MPWMD indicated it would be considering taking legal action to try to overturn LAFCO's denial, and initiated litigation against LAFCO on April 1, 2022 as set forth in Monterey County Superior Court Case No. 22CV000925. A series of documents were subsequently submitted by the involved parties, hearings were held, and the next case management conference on the litigation is scheduled for January 10, 2023.

Management Activities that May Bear on the Basin's Wellbeing

1. *Water Conservation.* From a water conservation standpoint, customers of CAWC are doing an exceptional job. CAWC's Monterey system has one of the highest levels of voluntary conservation in the state. There has essentially been no back-off in conservation following the end of mandatory conservation that occurred after the wet winter of 2016-2017.

2. *Storm Water and Recycled Water.* Storm water and recycled water are both components of the Pure Water Monterey (PWM) project that is being implemented by Monterey One Water (M1W). CAWC has already contracted to receive 3,500 AFY of PWM recycled water for injection into, and recovery from, the Seaside Basin. M1W, in coordination with others, is pursuing the PWMX project to expand the delivery capacity of the PWM project by using additional sources of recycled water and storm water.

Work to design the PWMX project is underway. However, construction of that project is dependent on the execution of the amended Water Purchase Agreement between MPWMD, CAWC, and M1W. If that agreement is executed, construction could begin as early as 2022, with the potential for the expansion project to become operational as early as 2024.

3. *Sustainable Groundwater Management Act.* Coordination between the Watermaster and the SVBGSA and the MCWD GSA is ongoing and is discussed in more detail above under Section J of this Annual Report. That coordination will aid in groundwater management of the Laguna Seca and Corral de Tierra subareas.

4. Climate Change. Higher seawater levels could exacerbate seawater intrusion concerns, which punctuates the importance of monitoring and long-term management to avoid seawater

intrusion. From a water supply perspective, reliance on groundwater with sustainable management is ideal because the resource is a reservoir and therefore not subject to sharp fluctuations in availability resulting from year-to-year precipitation amounts as is the case with surface water supplies. Updating of the Watermaster's *Groundwater Model* in 2018 (discussed in Section J of the 2018 Annual Report) and *Basin Management Action Plan* in 2019 (discussed in Section J of the 2019 Annual Report) incorporated projected impacts from climate change and sea level rise.

5. *New Technical Issues or Activities.*
   - Stormwater Projects Being Evaluated in the Monterey Peninsula Stormwater Resource Plan (SWRP).

As reported in the 2018 Annual Report, Monterey One Water as the lead entity coordinated the development of a Stormwater Resource Plan (SWRP) for the Monterey Peninsula, Carmel Bay, and South Monterey Bay (Monterey Peninsula) Integrated Regional Water Management Plan (IRWMP) area.

The purpose of the SWRP is to identify opportunities to capture stormwater that could be utilized as new water supply sources for the Monterey Peninsula and provide additional water quality and environmental benefits. Some of those projects have the potential to minimally benefit the Seaside Basin, and are discussed in the 2019 Updated Basin Management Action Plan.

Of the seven priority projects that were identified in the SWRP, several projects have been able to receive funding and are proceeding as described below.

City of Seaside: The Del Monte Manor project in the City of Seaside received grant in the amount of approximately $560,000 to complete the project, and the project was completed in 2022. This will divert stormwater that is captured in this area into the sanitary sewer so that it can become recycled water from the M1W Regional Wastewater Treatment Plant.

City of Sand City: The City of Sand City has two green street retrofit projects. They are the West End Stormwater Improvement Projects on Contra Costa Street and Catalina Street. The Contra Costa Street project is funded by an SWRCB Proposition 1 Stormwater Grant (technical assistance and implementation) and the Catalina Street project is funded by a DWR Proposition 1 IRWMP Grant. At the time of preparation of this 2022 Annual Report, both of these projects were in design at the 30% to 90% level with construction anticipated to occur in late 2023 or early 2024. They are described in more detail below:

- West End Stormwater Improvement Project – Contra Costa Street

Project Description

The West End Stormwater Improvement Project is a retrofit of an existing major collector street, Contra Costa Street between Olympia Avenue and Redwood Avenue. The Project will integrate Low Impact Development (LID) strategies to address flood control, water quality, and meet several community objectives. The Project proposes to install bioretention facilities (i.e. urban rain gardens), trash capture, permeable pavement, landscaping, and subsurface infiltration chambers and will improve pedestrian and Americans with Disability Act (ADA) access throughout the corridor. The Project will improve urban storm water runoff quality, augment groundwater quantity, provide climate change adaptation, reduce flooding, and create urban green space. The City developed the Project with a grant from the State Water Resources

Control Board Proposition 1 Technical Assistance Funding Program for disadvantaged communities.

- West End Stormwater Improvement Project – Catalina Street

Project Description

The West End Stormwater Improvement Project is a retrofit of an existing minor collector street, Catalina Street, between Olympia Ave. and Ortiz Avenue. The Project will integrate Low Impact Development (LID) strategies to address flood control, water quality, and meet several community objectives. The Project proposes to install bioretention facilities (i.e. urban rain gardens), trash capture, permeable pavement, landscaping, and subsurface infiltration chambers and will improve pedestrian and Americans with Disability Act (ADA) access throughout the corridor. The Project will improve urban storm water runoff quality, augment groundwater quantity, provide climate change adaptation, reduce flooding, and create urban green space. The conceptual design of the Project was funded through a Proposition 1 Stormwater Technical Assistance grant which the City was previously awarded. Construction of the Project will be funded through a Proposition 1 Round 1 Integrated Regional Water Management (IRWM) Grant.

Note: Both Projects are designed to capture, treat, and infiltrate urban storm water runoff to reduce the amount of pollutants such as metals, bacteria, nutrients, and trash that are currently being discharged into the Monterey Bay. Both Projects will increase the reliability of the Seaside Groundwater Basin through infiltration of treated storm water and will incorporate City and regional objectives for economic vitality, community livability, and environmental equity. In addition, the Project will improve regional water self-reliance and strengthen collaborative efforts between local agencies to provide sustainable water resources. The City obtained community input regarding storm water management priorities which influenced the design of the Projects.

City of Monterey:

Oliver Street Stormwater Diversion Project

The City of Monterey applied to the MPWMD for a funding grant to help with the costs of development work for the Olivier Street Stormwater Diversion Project, also referred to as Lighthouse Tunnel Diversion Project and Monterey Tunnel Stormwater Diversion Project. The Project will divert urban drainage from an existing storm drain, currently discharging untreated to the Monterey Bay National Marine Sanctuary, to an existing City sanitary sewer utility for treatment at M1W's Regional Wastewater Treatment Plant. This diversion would provide 10-12 acre-feet of dry weather source water for water recycling at the time of year when source water is not abundant, and reduce a point source discharge into Monterey Bay. MPWMD approved a grant of $25,000 for costs to plan and design this project at its October 17, 2022 Board meeting. The City is now coordinating with MPWMD to submit an application for State funding to construct the project, once its design has been completed.

Lake El Estero Urban Diversion Project

The City of Monterey has received State funding for this project and is beginning to work on the design and permitting for it. Currently, storm water that flows into Lake El Estero is periodically pumped into Monterey Bay to avoid flooding. This project will divert a portion of that pumped flow into the sanitary sewer so that it can become recycled water from the M1W Regional Wastewater Treatment Plant.

6. Reduction in Pumping in the Laguna Seca Subarea
In late 2020 CAWC completed construction of an intertie pipeline that enables it to serve the customers in its Bishop and Ryan Ranch Units in the Laguna Seca Subarea with water from its Main System. With the completion of this pipeline, CAWC has been able to discontinue pumping from the Laguna Seca Subarea to serve those customers. This is expected to reduce total pumping from the Laguna Seca Subarea by about 28%.

6. Obtaining Replenishment Water. As described in Section J under the subheading "Basin Management Action Plan," portions of the Seaside Basin have groundwater levels below sea level. Therefore, even with the pumping reductions achieved to date the Basin will remain vulnerable to seawater intrusion. Replenishing the Basin by injecting water and leaving it in the Basin, rather than withdrawing it as is done in the ASR and PWM projects, could help to raise groundwater levels high enough to protect the Basin against seawater intrusion.

Replenishment water could potentially be obtained from either the MPWSP's desalination plant, or the proposed PWMX project, during their initial years of operation when projected water demands will be less than the production capacities of either of these projects. The replenishment water would be obtained by operating either of these projects at their full capacities and injecting the excess water into the Basin. Doing this would increase the operational costs of those projects, and funds to cover those costs would be needed.

Research was performed to determine if there were any State or Federal funding programs that could provide money to purchase replenishment water. It was found that all of those programs only provide funding for planning, design, and construction of projects, but not for operational costs once the projects are constructed. In view of this, efforts were initiated by the Watermaster in 2021 to see if funds to cover these costs could be generated through some form of fee mechanism. Initial meetings involving the Watermaster, MPWMD, M1W, and CAWC led to the conclusion that MPWMD had the legal authority to levy fees to help pay for replenishment of the Basin. Further meetings to pursue obtaining replenishment water were expected to be held in 2022. However, no such meetings occurred because the Watermaster was having modeling performed (as described below) to better identify the quantities of replenishment water that would be needed.

Studies performed for the Watermaster in 2022 pertaining to the need for replenishment water to raise ground water levels in the Seaside Subbasin to protect it against seawater intrusion concluded:

- Under a "best case" scenario based on future water demand projections, Aquifer Storage and Recovery (ASR) injection rates, and Pure Water Monterey Expansion (PWMX) injection rates prepared by MPWMD, 1,000 acre-feet-per-year (AFY) of water would need to be injected into the Seaside Basin every year to replenish it and raise groundwater levels high enough to prevent seawater intrusion from occurring.
- Under a more "conservative" scenario based on future water demand projections and the timing of start-up of CAWC's desalination plant contained in CAWC's 2020 Urban Water Management Plan, ASR and PWMX injection rates with a built-in margin of safety, and revised water demands for the City of Seaside's golf courses proposed by Cal Am and the City of Seaside, the amount needed would be 3,600 AFY every year.
- Unless replenishment water in these quantities is added annually, the Seaside Basin will be at risk of seawater intrusion, and that risk will increase each year that groundwater levels continue to fall and remain below sea level.

- Implementation of the PWMX project does not accomplish this, and an additional source of replenishment water will be needed. The only other potential source of replenishment water will be from desalination.

The entire Technical Memorandum describing the work that led to these conclusions is posted on the Watermaster's website at this link: http://www.seasidebasinwatermaster.org/Other/ExcecSummary_and%20TMs_Replenishment_Modeling_WaterBudget_and_AlternateScenario_Analysis%20_BOARD_DRAFT_20220901pdf.pdf.

A summary of this Technical Memo is contained in Attachment 9.

Studies performed for the Watermaster in 2022 pertaining to the directions and inland velocities that seawater intrusion into the Seaside Subbasin would move, if intrusion should occur, concluded:

- Under current conditions inland seawater intrusion encroachment of 250 ft/yr could occur.
- Periods of prolonged drought with no ASR injection increases inland travel rates and the risk of seawater intrusion.
- The number of critically dry rainfall years has greatly increased in the last 50 years compared to the prior 50 years of data. Critically dry years now exceed the number of "normal rainfall" years thus becoming the "new norm".

These studies highlight the vulnerability of the Seaside Subbasin to seawater intrusion, and the need for replenishment water to raise groundwater levels within the Seaside Subbasin to prevent that from occurring.

The entire Technical Memorandum describing the work that led to these conclusions is posted on the Watermaster's website at this link: http://www.seasidebasinwatermaster.org/Other/Flow%20Direction-Flow%20Velocity%20Tech%20Memo%20Final%20Version%202-25-22.pdf

Information and graphics from this Technical Memo are contained in Attachment 10.

L. Conclusions and Recommendations

The Seaside Basin Watermaster Board has worked diligently to meet all of the Court's established deadline dates. All of the Phase 1 Scope of Work activities, which are described in the "Implementation Plan for the Seaside Basin Monitoring and Management Program" dated March 7, 2007, have been completed. At the Watermaster Board meeting held on October 5, 2022 the Board adopted the FY 2023 budgets contained in Attachment 6, which support carrying out all elements of the 2023 Seaside Groundwater Basin Monitoring and Management Program (M&MP). The M&MP is contained in Attachment 8 and describes the activities that the Watermaster plans to conduct during Fiscal Year 2023.

As described in Section J above, information from the Enhanced Monitoring Well Network is being utilized to detect seawater intrusion. The response actions described in the Watermaster's Seawater Intrusion Response Plan, which was contained in the 2009 Annual Report, will be implemented if seawater intrusion is detected within the Basin.

As of the date of preparation of this 2022 Annual Report, no future status conferences with the Court have been scheduled.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE
** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	5
AGENDA TITLE:	Approve Initial RFSs for Montgomery & Associates, MPWMD, Martin Feeney, and Todd Groundwater for 2023
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY: Attached are the proposed initial contracts for each of the Watermaster's consultants that are expected to work on M&MP activities in 2023. Montgomery & Associates (M&A), Martin Feeney, and Todd Groundwater are currently working under a master form of agreement with the Watermaster called a "Professional Services Agreement" (PSA). Actual work assignments are made through the issuance of Requests for Service (RFS) under the umbrella language of the PSA. MPWMD is working under a Master Agreement that MPWMD developed in 2021. Rather than RFSs, this new Master Agreement calls for actual work assignments to be made through the issuance of "Scopes of Work" (SOW) under the umbrella language of the Master Agreement.

The attached RFSs and the one SOW constitute the proposed initial 2023 work assignments for each of these consultants as follows:

- Montgomery & Associates RFS No. 2023-01 covering their providing general hydrogeologic consulting services and for providing assistance in preparing documents that the Watermaster will need to submit to fulfill its reporting requirements under the Sustainable Groundwater Management Act.
- Montgomery & Associates RFS No. 2023-02 covering their preparing the 2023 SIAR.
- MPWMD SOW No. 2023-01 covering their anticipated 2023 M&MP tasks, and covering their obtaining water quality and water level data from private producers who ask the Watermaster collect this data for them. The costs for the latter work are reimbursed by the private producers, and there is no net cost to the Watermaster for performing that work. During 2023 there may be some minor adjustments in the work since the replacement well for Monitoring Well FO-9 Shallow will hopefully be completed in mid- to late-2023 and could at that point begin being monitored by MPWMD. There may also be some minor adjustments as Marina Coast Water District (MCWD) begins getting involved in acquiring data and information it needs to carry out its GSP for the Marina-Ord portion of the Monterey Subbasin. My efforts to this point have been to ask them to contract directly with MPWMD to provide them the information they need, and for the Watermaster to thereby not be involved in those costs. MCWD has also said it would like to cost-share with the Watermaster in acquiring water level and water quality data for wells that the Watermaster currently monitors, but which are within the boundaries of the Monterey Subbasin, not the Seaside Subbasin. These are wells FO-10S, FO-10D, CDM MW-1, and Sentinel Wells 1 and 2. If we are able to share with MCWD in the costs for monitoring these wells, there will be a considerable cost-savings to the Watermaster.
- Martin Feeney RFS No. 2023-01 covering his performing induction logging of certain of the Watermaster's monitoring wells and providing that data to MPWMD and Montgomery & Associates. This work also includes performing some maintenance on the Sentinel Wells.
- Martin Feeney RFS No. 2023-02 covering his providing general hydrogeologic consulting services.
- Todd Groundwater RFS No. 2023-01 covering their providing general hydrogeologic consulting services.

These consultants have reviewed the cost and scope details of these proposed contracts and their input has been included in the attached versions of the contracts.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE
**** * * AGENDA TRANSMITTAL FORM * * ****

AGENDA ITEM:	5 (Continued)

If geochemical modeling needs to be performed on Cal Am's desalination plant water in 2023, and if that indicates the need to develop mitigation measures for possible adverse impacts from introducing non-native water into the Basin, I will develop an additional RFS for Montgomery & Associates during 2023 to use the Seaside Basin Groundwater Model to provide information to MPWMD's consultant (Pueblo Water Resources) to use in performing that geochemical modeling to develop such mitigation measures. Funds for this additional RFS have been included in the M&MP Operations Budget for 2023. When and if drafted, the RFS would come to the TAC for approval before going to the Board.

These contracts are on today's agenda to provide the TAC with the opportunity to raise questions or make suggestions for changes to the scopes-of-work or costs before they are presented to the Board for approval at the Board's December meeting, in order to ensure the contacts can be in effect at the start of 2023.

ATTACHMENTS:	6 - Proposed Consultant Contracts for FY 2023 (2 RFSs – Montgomery & Associates, 2 RFSs – Martin Feeney, 1 RFS – Todd Groundwater, 1 SOW - MPWMD)
RECOMMENDED ACTION:	Discuss and either modify or approve the proposed contracts

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2023

RFS NO. 2023-01
(To be filled in by WATERMASTER)

TO: Cameron Tana
Montgomery & Associates
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: General hydrogeologic consulting and document preparation services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2023, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 22,744.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V, COMPENSATION.

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to interpretation of water level and water quality data collected by WATERMASTER, BMAP and SIRP implementation issues, and preparation of documents for WATERMASTER's use in fulfilling its Sustainable Groundwater Management Act reporting requirements.

Providing these services will likely involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, most of which will be attended remotely. These TAC meetings do not include special TAC or other meetings which may be required as part of performing other work which may be authorized under other RFSs issued to PROFESSIONAL by WATERMASTER. Any such other scope and cost proposals will incorporate costs for those meetings.

The Tasks in WATERMASTER's 2023 Monitoring and Management Program (M&MP) to which this RFS No. 2023-01 pertains are:

M. 1. c & M.1. d - Preparation and Attendance of Meetings
M. 1. e - Peer Review of Documents and Reports
M.1.g – Sustainable Groundwater Management Act Documentation Preparation

ESTIMATED COSTS

Tasks M.1.c, M.1.d, and M.1.e: General Consulting Services will consist of working on these Tasks and attending some TAC and other meetings either remotely or in-person in Monterey, as requested by WATERMASTER.

$20,280 in labor, travel, and incidental costs of this RFS No. 2023-01 are allocated to performing work on these Tasks.

Task M.1.g: Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the WATERMASTER in conjunction with preparing its own Annual Reports. However, information regarding changes in basin storage is not currently generated. PROFESSIONAL will provide an estimate of the change in basin storage under this RFS No. 2023-01.

$2,464 in labor costs of this RFS No. 2023-01 are allocated to performing work for Task M.1.g.

All work under this RFS No. 2023-01 will be billed at the following hourly rates, including all markups and other direct costs:

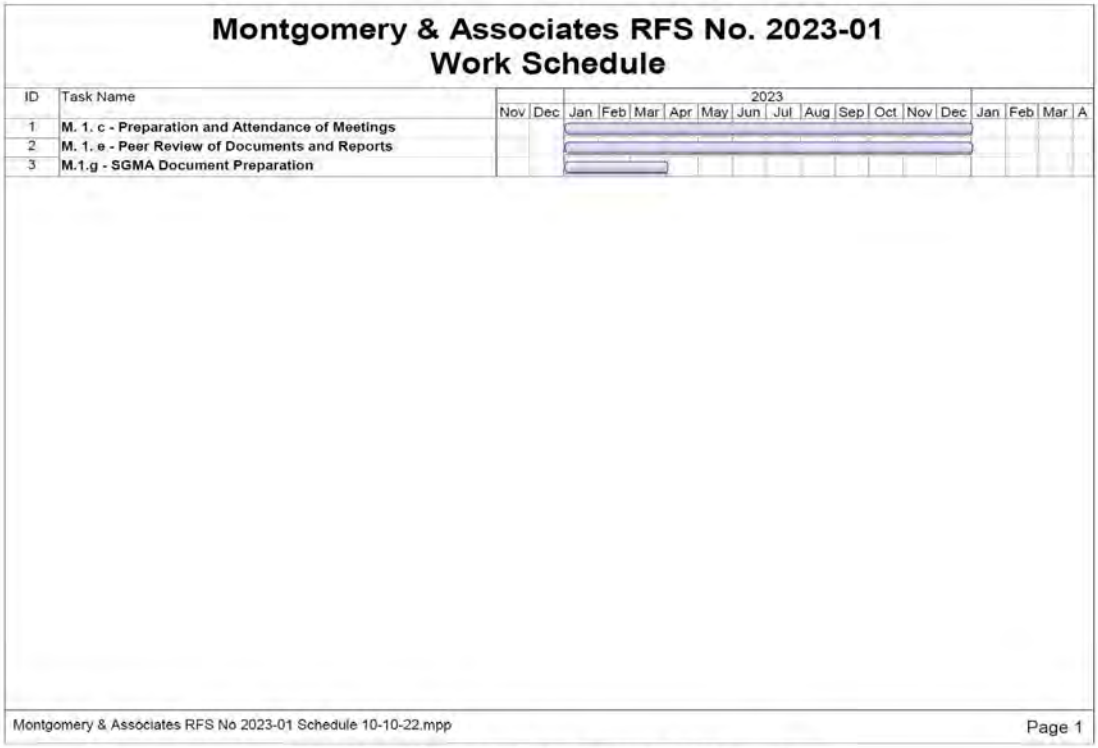
Derrik Williams = $275.00/hour Georgina King = $228.00/hour Staff = $160.00/hour

The total cost authorized by this RFS No. 2023-01 is $22,744.00.

These costs are summarized in the table below.

Task	Hours			Costs		
	Derrik Williams $275/hr	Georgina King $228/hr	Staff $160/hr	Consulting Fees	Expenses	Total Costs
Prepare 2023 Change in Storage Calculation per SGMA Requirements	0	8	4	$2,464	$0	$2,464
General Consulting	24	60	0	$20,280	$0	$20,280
TOTALS	**24**	**68**	**4**	**$22,744**	**$0**	**$22,744**

ATTACHMENT 2
SCHEDULE



SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2023

RFS NO. 2023-02
(To be filled in by WATERMASTER)

TO: Cameron Tana
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2023. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2023, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 27,176.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 3 for Detailed Breakdown of Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

The scope consists of providing professional consulting services to WATERMASTER for preparation of the 2023 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2022 SIAR will be incorporated directly into the 2023 SIAR.

Preparing the 2023 SIAR will involve analyzing all water quality data at the end of Water Year 2023 (October 1, 2022 to September 30, 2023) and producing semi-annual (2^{nd} and 4^{th} quarters 2023) chloride concentration maps for each aquifer in the Basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. Second and fourth quarter groundwater elevation maps will also be produced. The annual EM logs will be analyzed to identify changes in seawater wedge locations. A determination of whether there is any evidence of seawater intrusion will be made, and recommendations will be included as warranted.

Water level and water quality data for WY 2023 will be provided to PROFESSIONAL in MS Access format. PROFESSIONAL will put this data into a report format and will include it as an attachment to the 2023 SIAR.

A Draft 2023 SIAR will be provided to WATERMASTER in electronic (not printed) form for review. WATERMASTER will provide its review comments and those of its TAC members through direct discussions with PROFESSIONAL at a TAC meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. In addition to these oral comments, some TAC members may also provide recommended editorial changes electronically directly to PROFESSIONAL. These comments will be addressed in a Final 2023 SIAR. PROFESSIONAL will also present the Final version of the SIAR to the Board at a meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. A CD containing an electronic version of the entire Final 2023 SIAR in MS Word will be provided to WATERMASTER. No printed copies of the 2023 SIAR will be required.

ATTACHMENT 2

Montgomery & Associates RFS No. 2023-02
Work Schedule

ID	Task Name	2023 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
1	**I.4.c Annual Seawater Intrusion Analysis Report (SIAR)**																		
2	HydroMetrics Provides Draft SIAR to Watermaster											◆ 11/7							
3	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)											◆ 11/15							
4	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 12/6						

Montgomery RFS No 2023-02 Schedule 10-3-22.mpp Page 1

ATTACHMENT 3

DETAILED BREAKDOWN OF ESTIMATED COSTS

Note: Regardless of the use of the term "Estimated Cost" in this RFS, if the work of this RFS is to be compensated for using Lump Sum Payment method, it is understood and agreed to by PROFESSIONAL that the Total Price listed on page 1 of this RFS is binding and limiting as defined in Section V of the Agreement.

2023 Seawater Intrusion Analysis Report

Task	Hours		Costs		
	Georgina King $228/hr	Staff $160/hr	Consulting Fees	Expenses	Total Costs
Prepare 2023 SIAR, including added appendices for groundwater levels and quality	32	108	$24,576	$0	$24,576
Prepare for and Attend One TAC Meeting and One Board Meeting Online to Present Results of SIAR	10	2	$2,600	$0	$2,600
TOTALS	**42**	**110**	**$27,176**	**$0**	**$27,176**

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2023 **RFS NO.** 2023-01
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose:
Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2023 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2023-01 shall be completed in accordance with the schedule described in Attachment 1.

Method of Compensation: Time and Expense Payment Method (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 11,013.30 (See Attachment 2 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Authorized by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2023-01

Background:
Performance of the work of RFS No. 2023-01 will require compliance with the State Department of Parks and Recreation Right of Entry Permit contained in Attachment 3. The document contained in Attachment 3 was issued in 2020, but was amended in 2022 to extend the term into 2023. PROFESSIONAL agrees to comply with the requirements of the Right of Entry Permit in conjunction with PROFESSIONAL's performance of this work.

Note: Sentinel Well No. 4 is located within the fenced compound of Marina Coast Water District's (MCWD's) Ord Village Pump Station. Access to perform induction logging of Sentinel Well No. 4 will be impacted by the demolition of that pump station, which is scheduled to take place in late 2022. Once the demolition is completed, the California Department of Parks and Recreation requires MCWD to restore the pump station site and the access road to that site. The restoration work will include removing the pavement materials from the access road and planting native vegetation to restore the pump station site and the access road. The van used by the induction logging contractor may still be able to drive to the well site, however, this will not be known until the restoration work is completed. If the van is not longer able to drive to the well site, logging can still be performed by parking the van on a paved road that will still exist near the pump station site, and, by using tripods and sheaves, running the induction logging cable from the van's location to the well site. In addition, to ensure that the well itself does not become overgrown with vegetation, a short riser pipe will need to be added to the existing at-grade well access box after the demolition is complete. The costs for this additional work will not be accurately known until sometime in mid-2023, shortly prior to the scheduled October 2023 logging event. Once those costs are known, an addendum to this RFS will need to be issued to increase the RFS amount accordingly.

Scope of Work
This RFS No. 2023-01 authorizes PROFESSIONAL to perform the work described in PROFESSIONAL's Proposal for Hydrogeologic Services, dated October 6, 2022 and contained in Attachment 2, with the following clarifications and/or additions:

PROFESSIONAL will collect water level data from the wells identified as SBWM-1, SBWM-2, SBWM-3, and SBWM-4. PROFESSIONAL will also perform induction logging on each of these wells. These wells are commonly referred to as WATERMASTER's Sentinel Wells. Water level data collection and induction logging will be performed on each of these wells as described below and according to the schedule described below:

Induction Logging
Induction logging will be performed on each of the four Sentinel Wells annually in September.

Water Level
Water levels in each of the four Sentinel Wells will be continuously measured by data loggers and will be downloaded annually when induction logging is being performed.

PROFESSIONAL will transmit the digital water level data to the Monterey Peninsula Water Management District (MPWMD), Montgomery and Associates, and to the WATERMASTER promptly after the data is acquired, so that (1) MPWMD can use that data in preparing its reports to the WATERMASTER and (2) Montgomery and Associates and the WATERMASTER will be made promptly aware of the data. Digital induction data will also be provided to MPWMD, Montgomery and Associates, and to the WATERMASTER as soon as it becomes available to PROFESSIONAL. Digital induction data will also be reduced and presented graphically and provided to Montgomery and Associates for use by Montgomery and Associates in preparing reports for the WATERMATER.

ATTACHMENT 2

Martin B. Feeney
Consulting Hydrogeologist

P.G. 4634
C.E.G. 1454
C.Hg 145

October 6, 2022

Seaside Basin Watermaster
PO Box 51502
Pacific Grove CA.
93950

Attention: Bob Jaques, PE

Subject: Sentinel Well Data Collection Program 2023 – Proposal for Hydrogeologic Services

Dear Bob:

Following up on our discussions, I'm pleased to provide this proposal to assist the Seaside Basin Watermaster (Watermaster) with data collection from the Sentinel Wells for the upcoming year. Presented in this proposal is an outline of the data collection plan and an estimate of associated costs.

Based on the previously collected data and the opinion of other qualified hydrogeologists, the data collection program for the Sentinel Wells will be reduced from semi-annual induction logging to annual. The data collection program will now include annual induction logging and continuous water level data collection. The program previously included depth-specific downhole water quality sampling, however, the data proved unreliable and this portion of the program was terminated. The subcontractor for the induction logging remains unchanged.

The components of this program are as follows:

Data collection from each well:

- Annual down-loading of water level data logger.
- Annual induction logging (September/October)
- Transmittal of water level data to Monterey Peninsula Water Management District personnel.
- Processing of induction log data and presentation

The well vaults that protect the Sentinel Wells continue to need maintenance to remain functional. This could include painting of the vault covers, repairing stripped threads for the bolts that hold down the covers, and general cleaning. Costs of these services are included in this proposal.

It is understood that, as in the past, the Monterey Peninsula Water Management District (District) will share some of the data collection and analysis tasks of the overall data collection program. The District will collect water level data from the array of data loggers on the all but the fall quarter. Water level data from the data loggers will be collected as part of this scope of services only when induction logging is performed. Collected water level data will be transmitted to the District for compilation and processing. Induction logging data will continue to be compiled and processed by this author.

Annual costs for the data collection program are estimated at $ 11,013 inclusive of outside services. Cost is up from previous year due to an additional increase in the service charge and mileage for Pacific Surveys. Also the vaults are in bad shape and need maintenance. A breakdown of costs is presented in the table below.

P.O. Box 23240, Ventura, CA 93002 ♦ **Phone: 831-915-1115** ♦ e-mail mfeeney@ix.netcom.com

SENTINEL WELLS LOGGING/SAMPLING WL DATA COLLECTION PROGRAM
2023

Pacific Surveys	Unit Cost	Number	Semi-Annual Cost	# per annum	Annual Cost
Service Charge	1435.2	1	1435.2	1	$ 1,435.20
Induction Logging	1.01	5310	5363.1	1	$ 5,363.10
E-file generation/transmittal	115	1	115	1	$ 115.00
mileage	500	1	500	1	$ 500.00
					$ 7,413.30
Professional Services (hrs)					
Well Vault Maintainance	175	8	1400	1	$ 1,400.00
Supervise Logging/Download Data Loggers	175	8	1400	1	$ 1,400.00
Process Induction Data	200	2	400	1	$ 400.00
Transmit Water Level Data	200	1	200	1	$ 200.00
per diem	200	1	200	1	$ 200.00
					$ 3,600.00
				Total	$ 11,013.30

The opportunity to present this proposal is appreciated. Please call if you have any questions.

Sincerely,

Martin B. Feeney

ATTACHMENT 3

RIGHT OF ENTRY PERMIT	Agency: Department of Parks and Recreation Project: Fort Ord Dunes State Park – Monitoring Wells

This Right of Entry Permit (Permit) is made and entered into this 1st day of August 2020, between the State of California, acting by and through its Department of Parks and Recreation, hereinafter called State, and Seaside Groundwater Basin Watermaster hereinafter called Permittee; State and Permittee may hereinafter be referred to as a Party, or collectively the Parties.

RECITALS

- **Whereas**, the State owns, operates and maintains the State Park known as Fort Ord Dunes State Park, in the County of Monterey, State of California; and
- **Whereas**, Permittee has applied to State for permission to access Fort Ord Dunes State Park for purposes of carrying out Permittee's Monitoring Wells project (the Project); and
- **Whereas**, the State desires to accommodate Permittee's application for permission to enter Fort Ord Dunes State Park for purposes of the Project.

TERMS AND CONDITIONS

Now therefore, the State by this Permit hereby grants to the Permittee permission to enter upon State's property, conditioned upon the agreement of the Parties that this Permit does not create or vest in Permittee any interest in the real property herein described or depicted, that the Permit is revocable and non-transferable, and that the Permit is further subject to the following terms and conditions:

1. **Project Description:** By this Permit, the State hereby grants to the Permittee permission to enter onto those lands depicted and/or described on **Exhibit A** (the Property), attached hereto and herein incorporated by this reference, solely for the purpose of monitoring four (4) wells twice yearly, and as described in the completed Project Evaluation Form, **Exhibit B**, attached hereto.

2. **Permit Subject to Laws and Regulatory Agency Permits:** This Permit is expressly conditioned upon Permittee's obtaining any and all regulatory permits or approvals required by the relevant regulatory agencies for the Project and Permittee's use of the Property, and upon Permittee's compliance with all applicable municipal, state and federal laws, rules and regulations, including all State Park regulations. Permittee shall, at Permittee's sole cost and expense, comply with the Project Description, and requirements and mitigations contained in the Environmental Document.

   Prior to commencement of any work, Permittee shall obtain all such legally required permits or approvals and submit to the State full and complete copies of all permits and approvals, including documentation related to or referenced in such permits and approvals, along with the corresponding agency contact and telephone numbers, and related California Environmental Quality Act (CEQA) and/or National Environmental Policy Act (NEPA) documentation as applicable.

3. **Term of Permit:** This Permit shall only be for the period beginning on August 1, 2020, and ending on August 1, 2021, or as may be reasonably extended by written mutual agreement of the Parties.

4. **Consideration:** Fee waived.

5. **Permit Subject to Existing Claims:** This Permit is subject to existing contracts, permits, licenses, encumbrances and claims which may affect the Property.

6. **Waiver of Claims and Indemnity:** Permittee waives all claims against State, its officers, agents and/or employees, for loss, injury, death or damage caused by, arising out of, or in any way connected with the condition or use of the Property, the issuance, exercise, use or implementation of this Permit, and/or the rights herein granted. Permittee further agrees to protect, save, hold harmless, indemnify and defend State, its officers, agents and/or employees from any and all loss, damage, claims, demands, costs and liability which may be suffered or incurred by State, its officers, agents and/or employees from any cause whatsoever, arising out of, or in any way connected with this Permit, exercise by Permittee of the rights herein granted, Permittee's use of the Property and/or the Project for which this Permit is granted, except those arising out of the sole active negligence or willful misconduct of State. Permittee will further cause such indemnification

and waiver of claims in favor of State to be inserted in each contract that Permittee executes for the provision of services in connection with the Project for which this Permit is granted.

7. **Contractors:** Permittee shall incorporate the terms, conditions and requirements contained herein when contracting out all or any portion of the work permitted hereunder. Permittee shall be responsible for ensuring contractor/subcontractor compliance with the terms and conditions contained herein. Failure of Permittee's contractors to abide by State's terms and conditions shall constitute default by Permittee (see DEFAULT paragraph below) allowing State to terminate this Permit and seek all legal remedies.

8. **Insurance Requirements:** As a condition of this Permit and in connection with Permittee's indemnification and waiver of claims contained herein, Permittee shall maintain, and cause its contractors to maintain, a policy or policies of insurance as follows:

General Provisions Applying to All Policies

A. **Coverage Term** – Coverage needs to be in force for the complete term of the contract. If insurance expires during the term of the contract, a new certificate must be received by the State at least ten (10) days prior to the expiration of this insurance. Any new insurance must still comply with the original terms of the contract.

B. **Policy Cancellation or Termination & Notice of Non-Renewal** – Contractor is responsible to notify the State within five business days before the effective date of any cancellation, non-renewal, or material change that affects required insurance coverage. In the event Contractor fails to keep in effect at all times the specified insurance coverage, the State may, in addition to any other remedies it may have, terminate this Contract upon the occurrence of such event, subject to the provisions of this Contract.

C. **Deductible** – Contractor is responsible for any deductible or self-insured retention contained within their insurance program.

D. **Primary Clause** – Any required insurance contained in this contract shall be primary, and not excess or contributory, to any other insurance carried by the State.

E. **Insurance Carrier Required Rating** – All insurance companies must carry a rating acceptable to the Office of Risk and Insurance Management. If the Contractor is self-insured for a portion or all of its insurance, review of financial information including a letter of credit may be required.

F. **Endorsements** – Any required endorsements requested by the State must be physically attached to all requested certificates of insurance and not substituted by referring to such coverage on the certificate of insurance.

G. **Inadequate Insurance** – Inadequate or lack of insurance does not negate the contractor obligations under the contract.

H. **Satisfying an SIR** - All insurance required by this contract must allow the State to pay and/or act as the contractor's agent in satisfying any self-insured retention (SIR). The choice to pay and/or act as the contractor's agent in satisfying any SIR is at the State's discretion.

I. **Available Coverages/Limits** - All coverage and limits available to the contractor shall also be available and applicable to the State.

J. **Subcontractors** - In the case of Contractor utilization of subcontractors to complete the contracted scope of work, contractor shall include all subcontractors as insured's under Contractor and insurance or supply evidence of insurance to The State equal to policies, coverages and limits required of Contractor.

COMMERCIAL GENERAL LIABILITY:
Commercial General Liability Insurance covering bodily injury and property damage in a form and with coverage that are satisfactory to the State. This insurance shall include personal and advertising injury liability, products and completed operations, and liability assumed under an insured contract. Coverage shall be written on an occurrence basis in an amount of not less than $1,000,000 per occurrence. Annual aggregate limit shall not be less than $2,000,000. **The State of California, its officers, agents, and employees are to be covered as additional insureds with respect to liability arising out of work or operations.**

AUTOMOBILE LIABILITY INSURANCE:

Automobile Liability Insurance covering all owned, non-owned, and hired vehicles with a combined single limit of not less than $1,000,000 for bodily injury and property damage. **The State of California, its officers, agents, and employees are to be covered as additional insureds with respect to liability arising out of work or operations.**

WORKERS COMPENSATION AND EMPLOYERS LIABILITY:
Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease. **The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the State of California.**

9. **Reservation of Rights:** State reserves the right to use the Property in any manner, provided such use does not unreasonably interfere with Permittee's rights herein.

10. **Access Limits and Conditions:** Access to the Property shall be limited to the access designated by State.

11. **Notice of Work:** Any required notices to State shall be sent to the State authorities in charge of Fort Ord Dunes State Park named below. At least forty-eight (48) hours prior to any entry upon the Property for any of the purposes hereinabove set forth, Permittee shall provide the State contact[s] named below with written notice of Permittee's intent to enter the Property. Permittee shall also notify the State contact[s] listed below in writing at least -eight (48) hours prior to any change in the Project schedule or cessation or completion of work. Should State personnel need to contact Permittee, State shall notify Permittee's contact person listed below:

STATE:
Contact: Brent C. Marshall, District Superintendent

District: Monterey District

Address: 2211 Garden Road
Monterey, CA 93940
Telephone: 831-649-2836

PERMITTEE'S CONTACT:
Contact: Seaside Groundwater Basin Watermaster
Robert S. Jaques, email: bobj83@comcast.net
Address: PO Box 51502 Pacific Grove, CA 93950
Telephone: 831-375-0517

12. **Limits of Work:** In no event shall this Permit authorize work in excess or contrary to the terms and conditions of any regulatory agency permit or approval. Under no circumstances, whether or not authorized by any regulatory agency, other permit or any person or entity other than State, shall work exceed that which is authorized by this Permit.

13. **Public Safety:** Permittee shall erect orange plastic temporary construction fencing and appropriate signage prior to commencement of work to prevent public access to the construction zone. Permittee shall remove such fencing within two (2) days after the completion of work. Permittee shall take, and shall cause its contractors or subcontractors to take, any and all necessary and reasonable steps to protect the public from harm in connection with the Project or implementation of this Permit.

14. **Compliance with Project Requirements:**

Permittee's activities conducted under this Permit shall comply with all State and Federal environmental laws, including, but not limited to, the Endangered Species Act, CEQA, and Section 5024 of the Public Resources Code.

Any of Permittee's archaeological consultants working within the boundaries of the Property shall submit a DPR 412A permit application to the District cultural resource specialist for approval prior to commencing any archaeological or cultural investigations of the Property.

Permittee shall immediately advise State's contact person if any new site conditions are found during the course of permitted work. State will advise Permittee if any new historical resources (including archaeological sites), special status species, threatened/endangered species protocols, or other resource issues are identified within the Project site. Permittee shall abide by District Superintendent or designee's instructions to protect the resource(s) during the permitted work or risk revocation of the Permit.

Permittee shall make all excavation activities on the Property available to the State archaeologist for observation and monitoring. During excavation, the State archaeological monitor may observe and report to the State on all excavation activities. State archaeological monitor shall be empowered to stop any construction activities as necessary to protect significant cultural resources from being disturbed.

In the event that previously unknown cultural resources, including, but not limited to, dark soil containing shell, bone, flaked stone, groundstone, or deposits of historic trash are encountered during Project construction by anyone, work will be suspended at that specific location, and the Permittee's work will be redirected to other tasks, until a State archaeologist or professionally qualified designee has evaluated the find and implemented appropriate treatment measures and disposition of artifacts, as appropriate, in compliance with all applicable laws and department resource directives.

If human remains are discovered during the Project, work will be immediately suspended at that specific location and the District Superintendent or designee shall be notified by Permittee. The specific protocol, guidelines and channels of communication outlined by the California Native American Heritage Commission (NAHC), and/or contained in Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.9 et seq., will be followed. Those statutes will guide the potential Native American involvement in the event of discovery of human remains.

If resource monitoring is required to be performed by State staff, the Permittee shall provide a written work schedule to the State at least 48 hours in advance of the work. Permittee shall provide reasonable advance notice of and invite the District Superintendent or designee to any preconstruction meetings with the prime contractor or subcontractors.

15. **Restoration of Property:** Permittee shall complete the restoration, repair, and revegetation of the Property in consultation with, and to the satisfaction of, the State Environmental Scientist within one (1) year after completion of the Project or the expiration or termination of this Permit, whichever comes first. This obligation shall survive the expiration or termination of this Permit.

16. **Performance Bond:** If required by State in order to ensure that Permittee performs and completes its obligations in accordance with the terms of the Permit, Permittee shall obtain a Performance Bond in the amount of from a surety duly licensed in the State of California. Permittee shall provide State with a copy of such insurance bond.

17. **Right to Halt Work:** The State reserves the right to halt work and demand mitigation measures at any time, with or without prior notice to Permittee, in the event the State determines that any provision contained herein has been violated, or in the event that cessation of work is necessary to prevent, avoid, mitigate or remediate any threat to the health and safety of the public or state park personnel, or to the natural or cultural resources of the state park.

18. **Use Restrictions:** The use of the Property by Permittee, including its guests, invitees, employees, contractors and agents, shall be restricted to the daytime hours between sunrise and sunset on a day-by-day basis, unless otherwise approved in advance in writing by State. No person shall use or occupy the Property overnight.

    Activities on the Property shall be conducted only in a manner which will not interfere with the orderly operation of the state park. Permittee shall not engage in any disorderly conduct and shall not maintain, possess, store or allow any contraband on the Property. Contraband includes, but is not limited to: any illegal alcoholic beverages, drugs, firearms, explosives and weapons.

    Roads and trails where motorized vehicles are normally prohibited may be used for vehicle access by Permittee, its employees, agents or contractors for patrol, maintenance or repair purposes only, and only to the extent specified by State, and shall be otherwise subject to all other conditions and/or restrictions of this Permit and any applicable laws, state park regulations and state park policies.

    Permittee shall not use or allow the Property to be used, either in whole or in part, for any purpose other than as set forth in this Permit, without the prior written consent of the State.

19. **State's Right to Enter:** At all times during the term of this Permit and any extension thereof, there shall be and is hereby expressly reserved to State and to any of its agencies, contractors, agents, employees, representatives, invitees or licensees, the right at any and all times, and any and all places, to temporarily enter upon said Property to survey, inspect, or perform any other lawful State purposes.

    Permittee shall not interfere with State's right to enter.

20. **Protection of Property:** Permittee shall protect the Property, including all improvements and all natural and cultural features thereon, at all times at Permittee's sole cost and expense, and Permittee shall strictly adhere to the following restrictions:

(a) Permittee shall not place or dump garbage, trash or refuse anywhere upon or within the Property, except in self-contained trash receptacles that are maintained to State's satisfaction by Permittee.

(b) Permittee shall not commit or create, or suffer to be committed or created, any waste, hazardous condition or nuisance in, on, under, above or adjacent to the Property.

(c) Permittee shall not cut, prune or remove any vegetation upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(d) Permittee shall not disturb, move or remove any rocks or boulders upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(e) Permittee shall not grade or regrade, or alter in any way, the ground surface of the Property, except as herein permitted, or subsequently approved in writing by the District Superintendent.

(f) Permittee shall not bait, poison, trap, hunt, pursue, catch, kill or engage in any other activity which results in the taking, maiming or injury of wildlife upon the Property, except as identified in the Project description and herein permitted or subsequently approved in writing by the District Superintendent.

(g) Permittee shall not use, create, store, possess or dispose of hazardous substances (as defined in the California Hazardous Substances Act) on the Property except as herein permitted, or subsequently approved in writing by the District Superintendent.

(h) Permittee shall exercise due diligence to protect the Property against damage or destruction by fire, vandalism and any other causes.

21. **Default:** In the event of a default or breach by Permittee of any of the terms or conditions set forth in this Permit, State may at any time thereafter, without limiting State in the exercise of any right of remedy at law or in equity which State may have by reason of such default or breach:

(a) Maintain this Permit in full force and effect and recover the consideration, if any, and other monetary charges as they become due, without terminating Permittee's right to use of the Property, regardless of whether Permittee has abandoned the Property; or

(b) Immediately terminate this Permit upon giving written notice to Permittee, whereupon Permittee shall immediately surrender possession of the Property to State and remove all of Permittee's equipment and other personal property from the Property. In such event, State shall be entitled to recover from Permittee all damages incurred or suffered by State by reason of Permittee's default, including, but not limited to, the following:

(i) any amount necessary to compensate State for all the detriment proximately caused by Permittee's failure to perform its obligations under this Permit, including, but not limited to, compensation for the cost of restoration, repair and revegetation of the Property, which shall be done at State's sole discretion and compensation for the detriment which in the ordinary course of events would be likely to result from the default; plus

(ii) at State's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

22. **State's Right to Cure Permittee's Default:** At any time after Permittee is in default or in material breach of this Permit, State may, but shall not be required to, cure such default or breach at Permittee's cost. If State at any time, by reason of such default or breach, pays any sum or does any act that requires the payment of any sum, the sum paid by State shall be due immediately from Permittee to State at the time the sum is paid. The sum due from Permittee to State shall bear the maximum interest allowed by California law from the date the sum was paid by State until the date on which Permittee reimburses State.

23. **Revocation of Permit:** The State shall have the absolute right to revoke this Permit for any reason upon ten (10) days written notice to Permittee. Written notice to Permittee may be accomplished by electronic or facsimile transmission, and the notice period set forth in this paragraph shall begin on the date of the electronic or facsimile transmission, or, if sent by mail, on the date of delivery. If Permittee is in breach of the Permit or owes money to the State pursuant to this Permit, any prepaid monies paid by Permittee to State shall be held and applied by the State

as an offset toward damages and/or amounts owed. Nothing stated herein shall limit the State's exercise of its legal and equitable remedies.

24. **Recovery of Legal Fees:** In any action brought to enforce or interpret any provisions of this Permit or to restrain the breach of any agreement contained herein, or for the recovery of possession of the Property, or to protect any rights given to the State against Permittee, and in any actions or proceedings under Title 11 of the United States Code, if the State shall prevail in such action on trial or appeal, the Permittee shall pay to the State such amount in attorney's fees in said action as the court shall determine to be reasonable, which shall be fixed by the court as part of the costs of said action.

25. **Voluntary Execution and Independence of Counsel:** By their respective signatures below, each Party hereto affirms that they have read and understood this Permit and have received independent counsel and advice from their attorneys with respect to the advisability of executing this Permit.

26. **Reliance on Investigations:** Permittee declares that it has made such investigation of the facts pertaining to this Permit, the Property and all the matters pertaining thereto as it deems necessary, and on that basis accepts the terms and conditions contained in this Permit. Permittee acknowledges that State has made, and makes, no representations or warranties as to the condition of the Property, and Permittee expressly agrees to accept the Property in its as-is condition for use as herein permitted.

27. **Entire Agreement:** The Parties further declare and represent that no inducement, promise or agreement not herein expressed has been made to them and this Permit contains the entire agreement of the Parties, and that the terms of this agreement are contractual and not a mere recital.

28. **Warranty of Authority:** The undersigned represents that they have the authority to, and do, bind the person or entity on whose behalf and for whom they are signing this Permit and the attendant documents provided for herein, and this Permit and said additional documents are, accordingly, binding on said person or entity.

29. **Assignment:** This Permit shall not be assigned, mortgaged, hypothecated, or transferred by Permittee, whether voluntarily or involuntarily or by operation of law, nor shall Permittee let, sublet or grant any license or permit with respect to the use and occupancy of the Property or any portion thereof, without the prior written consent of State.

30. **Choice of Law:** This Permit will be governed and construed by the laws of the State of California.

STATE OF CALIFORNIA
Department of Parks and Recreation

By: Brent C. Marshall
Name: Brent C. Marshall
Title: District Superintendent

SEASIDE GROUNDWATER BASIN WATERMASTER

By: Robert Jaques
Name: Robert S. Jaques
Title:
Address: PO Box 51502 Pacific Grove, CA 93950
Phone: 831-375-0517

FEENEY RFS No. 2023-01 Page 11

State of California - Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Project Name _____

PROJECT EVALUATION (PEF)

PROJECT CONCEPT

PROJECT TITLE		PARK UNIT NAME & NUMBER
Right of Entry Permit - Monitoring Wells		Fort Ord Dunes SP
DISTRICT NAME & NUMBER		FACILITY NUMBER
Monterey District 720		
PROJECT MANAGER & TITLE	PHONE NUMBER	EMAIL
Stephen Bachman, Sr Park & Rec Spec	831-649-2862	stephen.bachman@parks.ca.gov
DISTRICT PROJECT MANAGER & TITLE	PHONE NUMBER	EMAIL
PROJECT BID DATE	CONSTRUCTION START DATE	FUNDING SOURCE & PCA #
n/a	n/a	n/a

PROJECT DESCRIPTION

Identify the scope of the project in detail, including its purpose, location, and potential impacts. If the ground is to be disturbed, describe the depth and extent of excavation. Describe the existing site conditions, including previous development. Note if work will impact or extend beyond park property. Indicate if work will be done in conjunction with, or as part of, other projects. (Use additional pages if necessary.)

Issue Right of Entry Permit to the Seaside Groundwater Basin Watermaster for continued access to four (4) monitoring wells at Fort Ord Dunes State Park. Access is only for monitoring wells twice yearly. See attached map for wells locations.

SECTOR SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL

SECTOR SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL	TITLE	DATE
[signature]	SPS II	7/27/2020

DISTRICT SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL

DISTRICT SUPERINTENDENT OR DESIGNEE CONCEPT APPROVAL	TITLE	DATE

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name 0

PROJECT EVALUATION (PEF)

DOCUMENTS ATTACHED

- ☑ 7.5 minute (quad) map of project area (***Required***)
- ☑ Site Map (***Required*** - *Scale should show relationship to existing buildings, roads, landscape features, etc.)*
- ☑ Graphics *(Specify - photos, diagrams, drawings, cross-sections, etc.)*
- ☑ DPR 727 Accessibility Review & Comment Sheet *(Note: Environmental Coordinator will send PEF to the Accessibility Section for review & comment)*
- ☐ Sea-Level Rise Worksheet *(for coastal park units)*
- ☐ Other (Specify):

REGULATORY REQUIREMENTS

IS AN APPLICATION, PERMIT, OR CONSULTATION REQUIRED?

	YES	MAYBE	NO
PRC 5024 - Historical Review/Archaeological Review	☐	☐	☑
Native American Consultation	☐	☐	☑
Coastal Development Permit	☐	☐	☑
CDFW Stream Alteration Permit	☐	☐	☑
State & Federal Endangered Species Consultation	☐	☐	☑
DPR Right to Enter or Temporary Use Permits	☐	☐	☑
US Army Corps of Engineers 404 Permit	☐	☐	☑
Regional Water Quality Control Board (RWQCB) Permit	☐	☐	☑
National Pollutant Discharge Elimination System Permit	☐	☐	☑
Stormwater Management Plan	☐	☐	☑
Encroachment Permit *(Specify Agency)*:	☐	☐	☑
Other *(Specify)*:	☐	☐	☑

DEPARTMENT POLICY COMPLIANCE

	YES	NO
HAS A GENERAL PLAN BEEN APPROVED FOR THE UNIT?	☑	☐
If YES, is the project consistent with the GP?	☑	☐
If NO, what is the project justification?		
Is it a temporary facility? (No permanent resource commitment)	☐	☐
Health and Safety project?	☐	☐
Is it a Resource Management Project?	☐	☐
Is it repairing, replacing, or rehabilitating an existing facility?	☐	☐
IS THE PROJECT WITH A CLASSIFIED SUBUNIT?		
Natural Preserve	☐	☑
Cultural Preserve	☐	☑
State Wilderness	☐	☑
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S CULTURAL RESOURCE MANAGEMENT DIRECTIVES? DOM CHAPTER 1600	☑	☐
IS THE PROJECT CONSISTENT WITH THE DEPARTMENT'S OPERATIONS MANUAL CHAPTER 0300, NATURAL RESOURCES?	☑	☐

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

RESOURCES

Explain all 'Yes' or 'Maybe' answers in the 'Evaluation and Comments' section (reference by letter and number). Attach additional pages, if necessary.

YES	MAYBE	NO	**A. EARTH** - *WILL THE PROJECT:*
☐	☐	☑	1. Create unstable soil or geologic conditions?
☐	☐	☑	2. Adversely affect topographic features?
☐	☐	☑	3. Adversely affect any unusual or significant geological features?
☐	☐	☑	4. Increase wind or water erosion?
☐	☐	☑	5. Adversely affect sand deposition or erosion of a sand beach?
☐	☐	☑	6. Expose people, property or facilities to geologic hazards or hazardous waste?
☐	☐	☑	7. Adversely affect any paleontological resource?

YES	MAYBE	NO	**B. AIR** - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect general air quality or climatic patterns?
☐	☐	☑	2. Introduce airborne pollutants that may affect plant or animal vigor or viability?
☐	☐	☑	3. Increase levels of dust or smoke?
☐	☐	☑	4. Adversely affect visibilty?

YES	MAYBE	NO	**C. WATER** - *WILL THE PROJECT:*
☐	☐	☑	1. Change or adversely affect movement in marine or fresh waters?
☐	☐	☑	2. Change or adversely affect drainage patterns or sediment transportation rates?
☐	☐	☑	3. Adversely affect the quality or quanity of groundwater?
☐	☐	☑	4. Adversely affect the quantity or quality of surface waters?
☐	☐	☑	5. Expose people or property to flood waters?
☐	☐	☑	6. Adversely affect existing or potential aquatic habitat(s)?

YES	MAYBE	NO	**D. PLANT LIFE** - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect any native plant community?
☐	☐	☑	2. Adversely affect any unique, rare, endangered, or protected plant species?
☐	☐	☑	3. Introduce a new species of plant to the area?
☐	☐	☑	4. Adversely affect agricultural production?
☐	☐	☑	5. Adversely affect the vigor of any tree?
☐	☐	☑	6. Encourage the growth or spread of exotic (non-native) species?
☐	☐	☑	7. Interfere with established fire management plans or practices?

YES	MAYBE	NO	**E. ANIMAL LIFE** - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect any native or naturalized animal population?
☐	☐	☑	2. Adversely affect any unusual, rare, endangered, or protected species?
☐	☐	☑	3. Adversely affect any animal habitat?
☐	☐	☑	4. Introduce or encourage the proliferation of any non-native species?

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

YES	MAYBE	NO	F. CULTURAL RESOURCES - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect a prehistoric or historic archaeological site or tribal cultural resource?
☐	☐	☑	2. Adversely affect a prehistoric or historic building, structure or object?
☐	☐	☑	3. Cause an adverse physical or aesthetic effect on an eligible or contributing building, structure, object, or cultural landscape?
☐	☐	☑	4. Diminish the informational or research potential of a cultural resource?
☐	☐	☑	5. Increase the potential for vandalism or looting?
☐	☐	☑	6. Disturb any human remains?
☐	☐	☑	7. Restrict access to a sacred site or inhibit the traditional religious practice of a Native American community?

YES	MAYBE	NO	G. AESTHETIC RESOURCES - *WILL THE PROJECT:*
☐	☐	☑	1. Adversely affect a scenic vista or view?
☐	☐	☑	2. Significantly increase noise levels?
☐	☐	☑	3. Adversely affect the quality of the scenic resources in the immediate area or park-wide?
☐	☐	☑	4. Create a visually offensive site?
☐	☐	☑	5. Be incompatible with the park design established for this unit or diminish the intended sense of "a special park quality" for the visitor?

YES	MAYBE	NO	H. RECREATIONAL RESOURCES - *WILL THE PROJECT:*
☑	☐	☐	1. Be in a public use area?
☐	☐	☑	2. Have an adverse effect on the quality of the intended visitor experience?
☐	☐	☑	3. Have an adverse effect on the quality or quantity of existing or future recreational opportunities or facilities?
☐	☐	☑	4. Have an adverse effect on the accessibility of recreational facilities (e.g. ADA requirements)?

YES	MAYBE	NO	I SEA-LEVEL RISE AND EXTREME EVENTS (COASTAL UNITS ONLY):
☐		☑	1. Has this project been evaluated for potential impacts from sea-level rise, coastal storm surge, and other extreme events, using the Department's Sea-Level Rise and Extreme Events Guidance Document or an equivalent process? *Please attach the Sea-Level Worksheet or other detailed evaluation.*
☐	☐	☑	2. Based on the evaluation described above, will the project be adversely impacted by frequent flooding or permanent inundation during its expected lifetime?
☐	Non-coastal unit		

EVALUATION AND COMMENTS

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

ENVIRONMENTAL SCIENTIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

FINDINGS:

☐ No Impact

☒ Project Conditions necessary, see below

☐ Potential Significant Impact

EXPLANATION AND COMMENTS:

Vehicles must stay on established routes, minimize vegetation disturbance, and avoid protected species and their habitat.

SIGNATURE *Matthew Allen*	PRINTED NAME Matthew Allen
TITLE SENIOR ENVIRONMENTAL SCIENTIST	DATE 8/27/2020

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

HISTORIAN COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

FINDINGS:

☒ No PRC 5024 necessary (explain below)

☐ PRC 5024 attached, project approved as written

☐ PRC 5024 attached, conditions necessary

☐ PRC 5024 attached, mitigations and/or significant impacts

EXPLANATION AND COMMENTS:

No historical resources at the monitoring well sites. There will be no impacts to surrounding historical resources as a result of the project either.

SIGNATURE MATT BISCHOFF	PRINTED NAME MATT BISCHOFF
TITLE HISTORIAN III	DATE 7/28/20

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

ARCHAEOLOGIST COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

Findings:

☐ No PRC 5024 necessary (provide justification) ☐ PRC 5024 attached; project approved as written

☐ PRC 5024 attached, conditions necessary ☐ PRC 5024 attached; mitigations and/or potential significant impacts

Explanation/Comments: No archaeological resources are known or expected at the well sites or within path of travel to the well sites. No archaeological resources will be disturbed by well-monitoring

SIGNATURE Rae Schwaderer	PRINTED NAME RAE SCHWADERER
TITLE ASSOCIATE ARCHAEOLOGIST	DATE 8/04/2020

TRIBAL LIAISON COMMENTS AND SIGNATURE (REQUIRED FOR ALL FINDINGS)

☒ Reviewer is Designated District/Service Center/Division Tribal Liaison of Designee

☐ NAHC Listed Tribe(s) contacted (attach correspondence record for contact and findings) No tribes contacted.
- ☐ DN 2007-05 Tribal Consultation Only
- ☐ AB52 Consultation Initiated

FINDINGS:

☒ Project action does not have potential to affect "tribal cultural" resources (explain). No tribal cultural resources will be affected by this ROE permit to monitor wells.

Check more than 1 box if tribes offering differing responses, and describe all consultation below.

☐ Tribe(s) did not respond.

☐ Tribe(s) approved project as written.

☐ Tribe(s) approved project with treatment or conditions.

☐ Tribe(s) and DPR unable to reach mutual agreement on treatment or conditions.

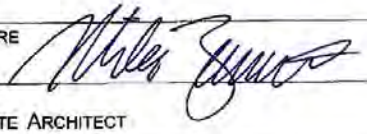
SIGNATURE Rae Schwaderer	PRINTED NAME RAE SCHWADERER
TITLE ASSOCIATE ARCHAEOLOGIST	DATE 8/04/2020

PROJECT EVALUATION (PEF)

Project Title: Fort Ord Dunes SP – Well Monitoring ROE Permit

COMMENTS:

I have no comments.

SIGNATURE 	PRINTED NAME MIKE ZUCCARO
TITLE ASSOCIATE ARCHITECT	DATE AUGUST 3, 2020

State of California - The Resources Agency
CALIFORNIA STATE PARKS

Project Name ROE - Monitoring Wells

PROJECT EVALUATION (PEF)

ENVIRONMENTAL COORDINATOR REVIEW

YES	MAYBE	NO	CUMULATIVE IMPACTS
☐	☐	☑	1. Will the project be conducted in conjunction with or at the same time as other projects at the park?
☐	☐	☑	2. Will the project be part of a series of inter-related projects?
☐	☐	☑	3. Are there any other projects that must be completed for any part of this project to become operational?
☐	☐	☑	4. Are there any other projects (including deferred maintenance) that have been completed or any probable future projects that could contribute to the cumulative impacts of this project?
☐	☐	☑	5. Are any of the projects that relate to work outside of the General Plan?

COMMENTS:

RECOMMENDATION:

- ☐ Not a project for the purposes of CEQA compliance.
- ☐ Project is covered activity under DOM 0600 (Figure F) that does not require Notice of Exemption.
- ☐ Project is covered activity under previously prepared CEQA document; SCH # _____
- ☑ Project is exempt. Notice of exemption will be prepared.
- ☐ A Negative Declaration should be prepared.
- ☐ A Mitigated Negative Declaration should be prepared.
- ☐ An EIR should be prepared.
- ☐ AB52 Consulation Initiated. See Tribal Liaison Section.

SIGNATURE Jill Poudrette PRINTED NAME Jill Poudrette

TITLE DISTRICT ENVIRONMENTAL COORDINATOR DATE 9/1/2020

DISTRICT SUPERINTENDENT REVIEW

I acknowledge any constraints placed on the project as a result of the specialists' comments above and recommend the project proceed.

DISTRICT SUPERINTENDENT APPROVAL SIGNATURE | TITLE | DATE

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2023

RFS NO. 2023-02
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Blair Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Consultation and other hydrogeologic services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2023.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $4,000.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for derivation of this Total Price).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____.
PROFESSIONAL

ATTACHMENT 1

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to, interpretation of water level and water quality data, and seawater intrusion analysis issues.

Providing these services will likely involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) and /or Board meetings, most of which will be attended telephonically or via Zoom.

Consulting services will be provided at the rate of $200/hour. Related other direct costs (such as travel costs) will be billed at actual cost. Services under this RFS No. 2023-02 will only be provided when specifically requested by WATERMASTER.

The total cost authorized by this RFS No. 2023-02 is $4,000.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2023

RFS NO. 2023-01
(To be filled in by WATERMASTER)

TO: Gus Yates
Todd Groundwater
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2023.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: $ 4,000.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ Date: _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____.
PROFESSIONAL

ATTACHMENT 1

Scope of Work

On an ongoing and as-requested basis PROFESSIONAL will provide hydrogeologic consulting services to WATERMASTER on groundwater modeling and related topics. These may include, but not be limited to, responding to questions regarding the Seaside Basin Model that HydroMetrics WRI and Montgomery & Associates has prepared for WATERMASTER, assisting in the interpretation of modeling results, and other related activities.

Providing these services may involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, some of which may be attended telephonically or via Zoom.

Estimated Costs

Consulting services provided under this RFS No. 2023-01, including attending meetings either remotely or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2023, including all markups and other direct costs.

The total cost authorized by this RFS No. 2023-01 is $4,000.00.

SEASIDE BASIN WATERMASTER
SCOPE OF WORK

Note: The work described in this Scope of Work (SOW) will be performed in accordance with the terms and conditions set forth in the Master Services Agreement for Groundwater Monitoring and Database Services (Agreement) executed between the Monterey Peninsula Water Management District (DISTRICT) and the Seaside Groundwater Basin Watermaster (WATERMASTER), with an effective date of January 1, 2022.

DATE: January 1, 2023

SOW NO. 2023-01.
(To be filled in by WATERMASTER)

TO: Jonathan Lear
DISTRICT

FROM: Robert Jaques.
WATERMASTER

Services Needed and Purpose:
Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2023 (M&MP) (See detailed Scope of Work in Attachment 1).

Schedule:
The work of this SOW No. 2023-01 shall be completed in accordance with the column titled "Schedule" in Table 1 of Attachment 1.

Method of Compensation:
Time and Material Payment Method (As defined in Section 6 of the Agreement).

Total Price Authorized by this SOW:
$ 64,297.00 (See Attachment 1 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section 6 of the Agreement (Payment of Services).

Requested by: _____ Date:_____.
WATERMASTER

Agreed to by: _____ Date:_____.
DISTRICT

ATTACHMENT 1

Detailed Scope of Work for SOW No. 2023-01

Background:

This SOW No. 2023-01 authorizes DISTRICT to perform certain work on certain of the Tasks described in the WATERMASTER's 2023 M&MP. The Task numbers listed in the first column of Table 1 below correspond to the Task numbers in the 2023 M&MP. The Task numbers listed in the second column of Table 1 correspond to DISTRICT's task numbering system.

The wells from which water level and water quality data are to be obtained are listed below in Table 2.

Table 1. Scope of Work and Costs							
WATERMASTER M&MP Task No.	DISTRICT Task No.	Description	Time	Rate	Cost	Comments	Schedule
I.2.b.2	1	**Collect Monthly Water Levels**					
		Collect Monthly Water levels at 20 wells	96	113	$10,848		Ongoing
I.2.b.2	2	**Collect Quarterly Water Levels**					
		Collect Quarterly Water levels at 8 wells	32	113	$3,616		Ongoing
I.2.b.3	3	**Collect Quarterly Water Quality Samples**					
		Collect 7 Water Quality Samples Quarterly (28 total Samples)	48	113	$5,424		Ongoing
		Order bottles and COC to Laboratory	4	113	$452		
I.2.b.3	4	**Collect Annual Water Quality Samples**					
		Collect 12 Water Quality Samples Annually	16	113	$1,808		Ongoing
		Order bottles and COC to Laboratory	1.5	113	$170		
		RMA/Procure Replacement pump and Deploy (replaces one pump)	8	113	$904	Only if necessary	
I.2.a.1	5	**Enter Water Level Data QA/QC**					
		Enter Qa/QC 272 Water Level Measurements Collected by MPWMD	20	170	$3,400		Ongoing
		Enter Qa/QC 264 Water Level Measurements Reported to Watermaster	20	170	$3,400		Ongoing
I.2.a.1	6	**Enter Water Quality Data QA/QC**					
		Enter Qa/QC 40 Water Quality Samples Collected by MPWMD	40	170	$6,800		Ongoing
		Enter Qa/QC 12 Water Quality Samples Reported to Watermaster	16	170	$2,720		Ongoing
I.2.b.7	7	**Upload Water Level Data to CASGEM**					
		Upload 536 Water Level Measurements to DWR Database	24	170	$4,080		Ongoing
I.2.b.6	8	**Provide Data Tabulation for SIAR Appendix**					
		Tabulate and Transfer Water Level and Quality Data to Watermaster Consultant	16	223	$3,568		November-23
N/A	9	**Respond to Data Requests**					
		Produce Data Requests as Necessary	10	223	$2,230	Only if necessary	
I.2.b.2	10	**Annual Data Logger Downloads and Data Transfer**					
		Download Loggers Field Work	24	113	$2,712		
		Transfer data	4	223	$892		October-23
		Exchange logger if not working RMS process (replaces one logger)	4	113	$452	Only if necessary	
		Answer questions re transferred logs	2	223	$446	Only if necessary	
		Program and Deploy New Data Logger	2	113	$226	Only if necessary	
I.2.b.3	11	**Water Quality Sample for Camp Huffman**					
		Air lift samples from Camp Huffman Deep and Shallow	6	113	$678		
		Air lift samples from Camp Huffman Deep and Shallow	6	223	$1,338		
N/A	N/A	**Administrative Staff**					
		Create Billings and Cut Checks to Water Quality Laboratory	8	89	$712		Ongoing

Table 1. Summary						
WATERMASTER M&MP Task No.	DISTRICT Task No.	Item	Quantity	Rate	Subtotal	
		Labor (Hours)	407.5		$56,876	
I.2.b.2 and I.2.b.3	1, 2, 3, 4, and 10	Estimated Fleet Support (Mileage)	850	0.59	$502	
I.2.b.3	3 and 4	Watermaster Standard Panel Laboratory Analysis (Number of Analyses)	40	135	$5,400	
		Air Compressor Rental (Camp Huffman)	1	150	$150	
I.2.b.3	3 and 4	Fuel (CO_2 Bottle) to run sample pump	10	25	$250	
I.2.b.3	3 and 4	Replacement Low Flow Pump	1	900	$900	Only if necessary
I.2.b.2	1, 2, and 10	Replacement Data Logger	1	850	$850	Only if necessary
		TOTAL			**$64,927**	

If necessary total = $6,008

Note: Fleet Support, Laboratory Fees, Co2 Bottle Exchange, Data Loggers, and Sample Pumps are estimated costs. Direct costs incurred by District will be passed through to the Watermaster according to Time and Expense method

Table 2. Wells to be Monitored

Monthly Water Levels

1 MSC - Shallow
2 MSC - Deep
3 FO 10 (S)
4 FO 10 (D)
5 CDM MW-1
6 CDM MW-2
7 CDM MW-3
8 CDM MW-4
9 Plumas 1990 Test
10 K-Mart
11 MW-BW-08A
12 MW-BW-09
13 Sand City Public Works
14 CAW Granite Construction
15 Cypress Pacific
16 Sand City - Design Center
17 DBO - Target
18 MMP - MM Production
19 PCA West (S)
20 PCA West (D)

Quarterly Water Levels

1 SBWM MW-1
2 SBWM MW-2
3 SBWM MW-3
4 SBWM MW-4
5 Camp Huffman (S)
6 Camp Huffman (D)
7 Shea
8 Laguna Seca Driving Range

Quarterly Water Quality Sampling

1 PCA W (S)
2 PCA W (D)
3 MSC (S)
4 MSC (D)
5 FO 09 (D)
6 FO 10 (S)

Annual Water Quality Sampling

1 PCA E (S)
2 PCA E (D)
3 Ord Terrace (S)
4 FO 10 (D)
5 CAW Del Monte Observation
6 Sand City Public Works
7 Laguna Seca County Park #2
8 York School
9 Laguna Seca Golf New #12
10 Pasadera Main Gate
11 Cypress Pacific
12 MMP - MM Production
13 Camp Huffman (S and D) (Every 5 years starting in 2023)

Water Level Data Reported to Watermaster

1 SNG
2 LSCP
3 Nicolas
4 City of Seaside
5 Cal Am

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	6
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Schedule of the activities being performed by the Watermaster, its consultants, and the public entity (MPWMD) which are performing certain portions of the work.

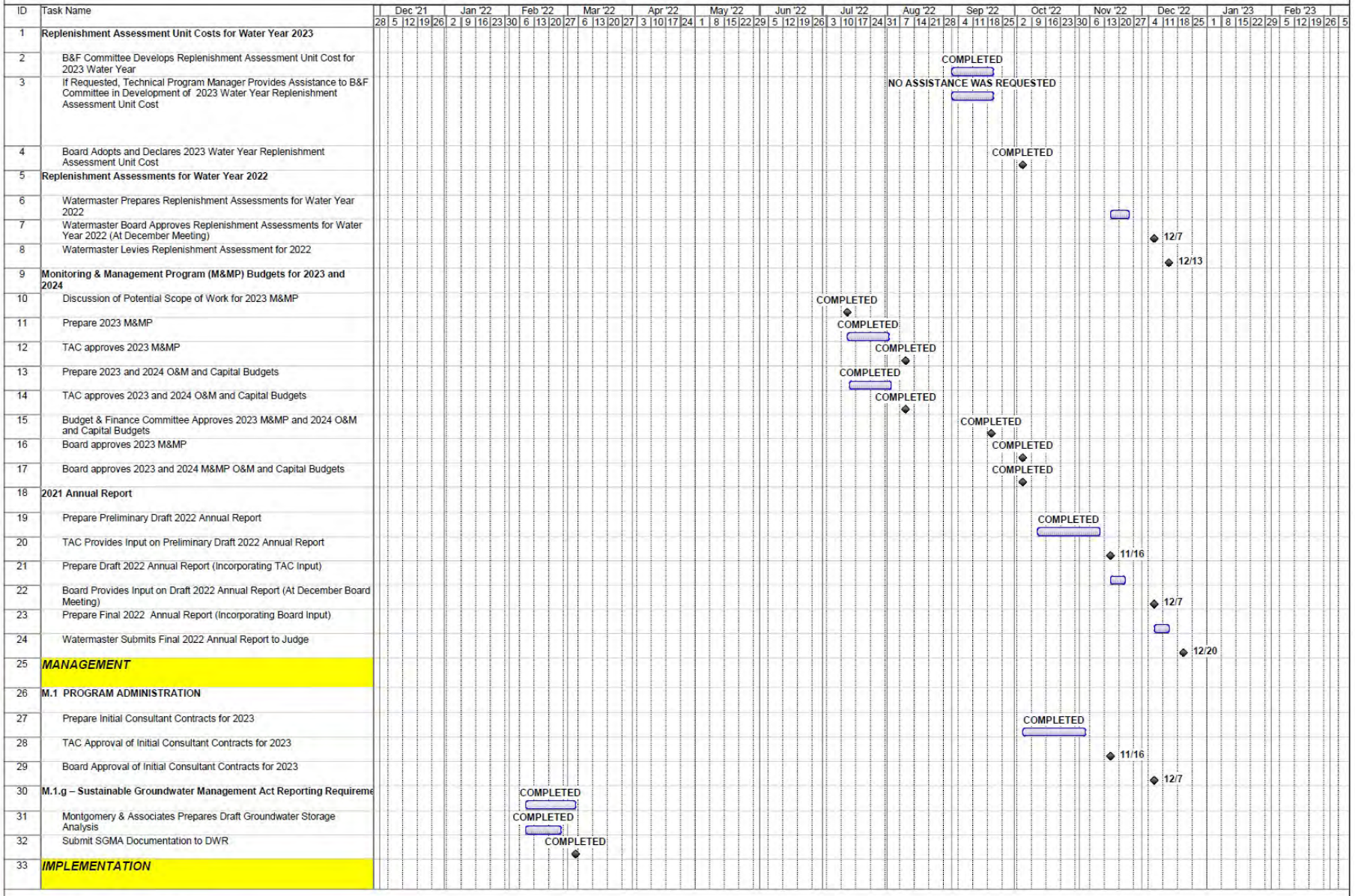
Attached are the updated schedule for 2022 activities, and the proposed schedule for 2023 activities.

Some activities which may be needed in 2023, such as further geochemical modeling if the MPWSP desalination plant begins construction or if groundwater modeling is needed to assess the impacts of the Groundwater Sustainability Plan for the Monterey Subbasin, will be added during the year if necessary.

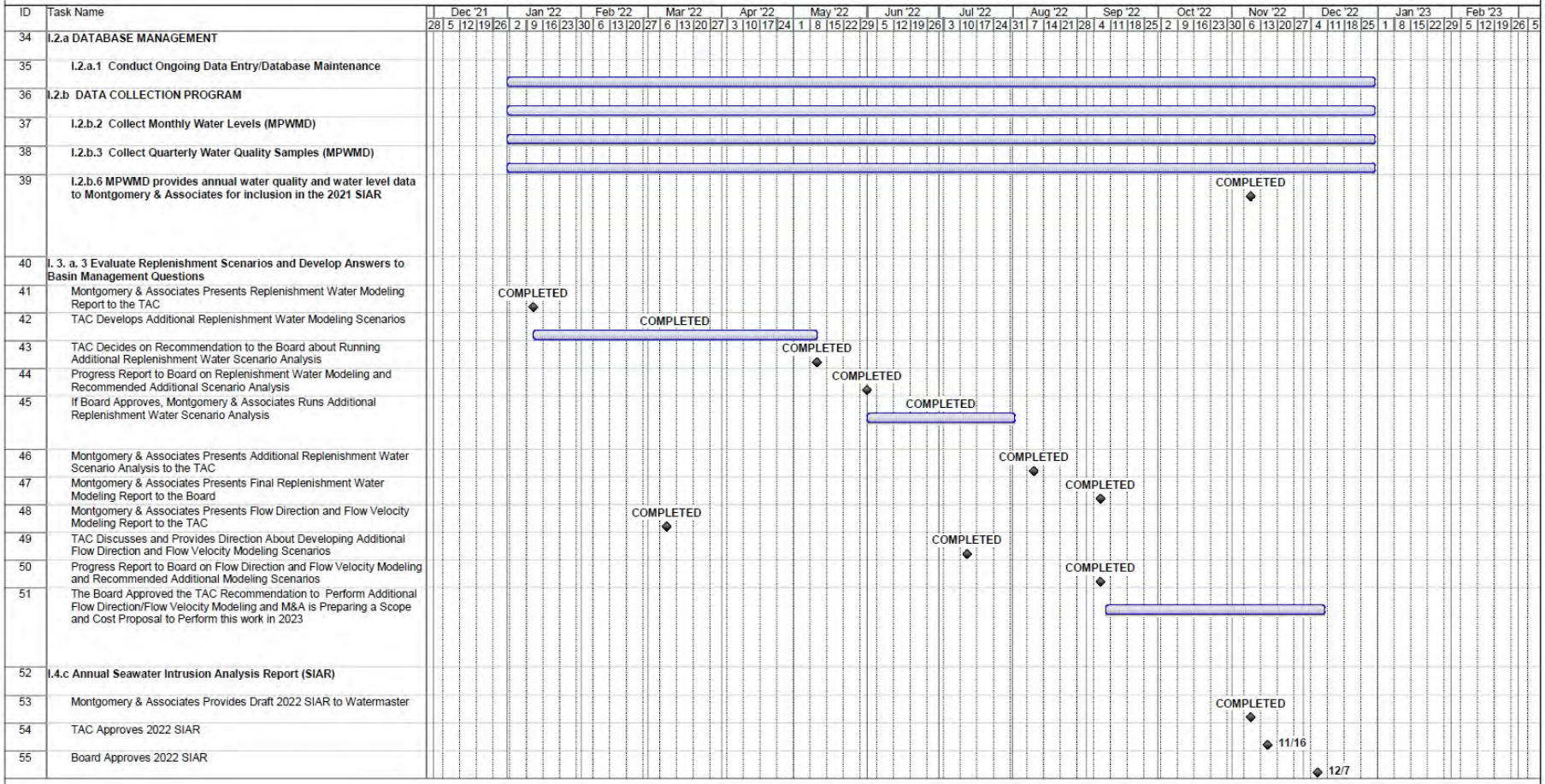
There is no pressing business that the TAC needs to conduct in December, so the next TAC meeting will be on Wednesday January 11, 2023.

ATTACHMENTS:	1. Schedule of Work Activities for FY 2022 2. Proposed Schedule of Work Activities for FY 2023
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedules

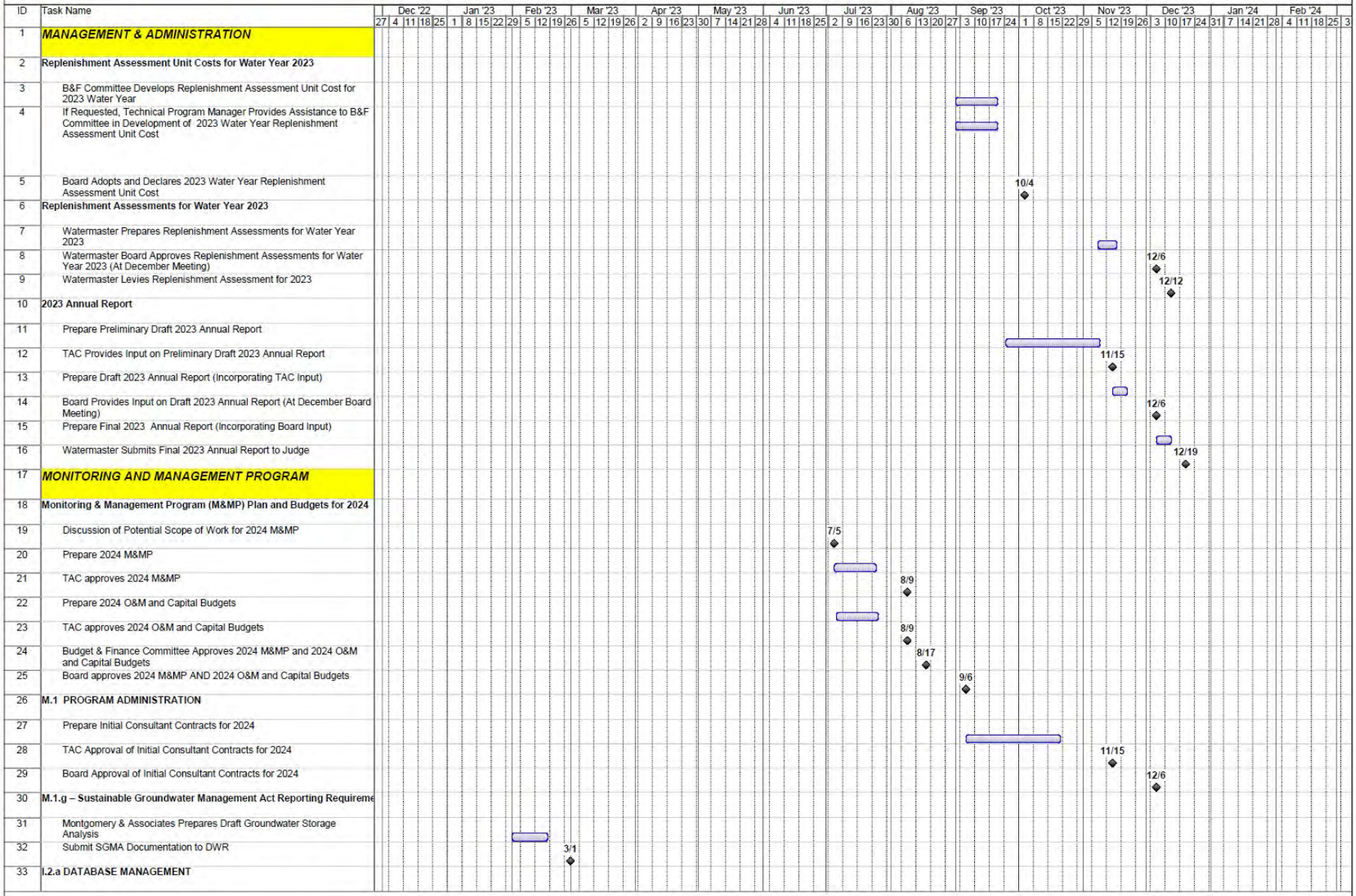
Seaside Basin Watermaster
2022 Monitoring and Management Program
Work Schedule



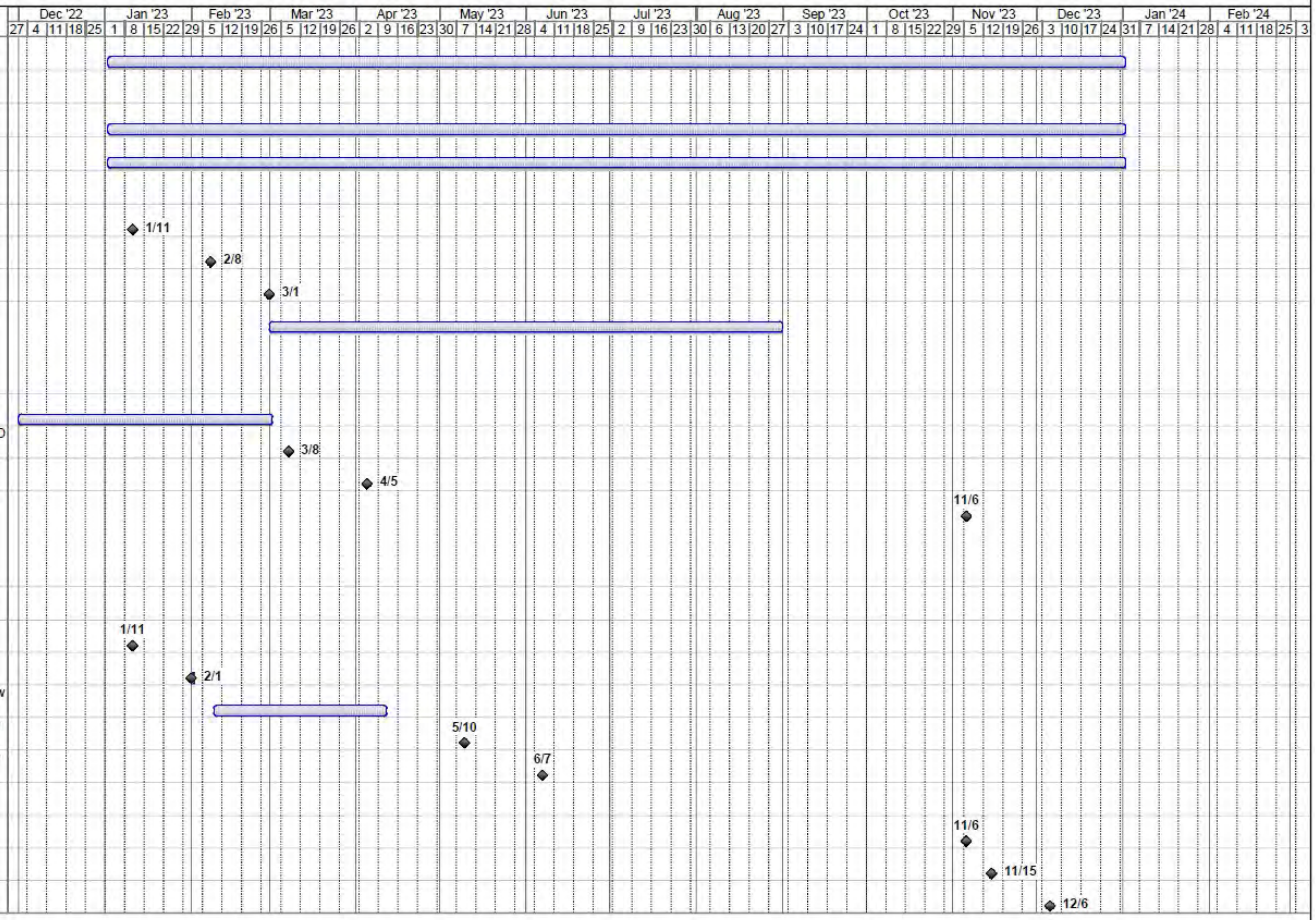
Seaside Basin Watermaster
2022 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2023 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2023 Monitoring and Management Program
Work Schedule



SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	November 16, 2022
AGENDA ITEM:	7
AGENDA TITLE:	Other Business
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:
The "Other Business" agenda item is intended to provide an opportunity for TAC members or others present at the meeting to discuss items not on the agenda that may be of interest to the TAC.

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only