MEETING NOTICE AND AGENDA

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, December 11, 2024

MEETING TIME: 1:30 p.m.

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/85897927124?pwd=hG1wDtHzwLsPgZlKsHNFxbWDlRPbZr.1

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: 858 9792 7124
Passcode: 506151
TAC Member Teleconferencing Information is on the Next Page

OFFICERS
Chairperson: Jon Lear, MPWMD
Vice-Chairperson: Kim Shirley, City of Del Rey Oaks
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		

TAC MEMBER TELECONFERENCING INFORMATION

NAME	ENTITY	LOCATION
Amy Woodrow	Monterey County Water Resources Agency	5 Carriage Way, Durham, NH.
Kim Shirley	City of Del Rey Oaks	4 Baxter Place, Del Rey Oaks, CA
Andreas Baer	City of Seaside	Engineering Trailer, 440 Harcourt Avenue Seaside, CA
Tim O'Halloran	California American Water	511 Forest Lodge Rd. Suite 100 Pacific Grove, CA
Cody Hennings	City of Monterey	Orca Conference Room, 735 Pacific Street #B, Monterey CA
Jon Lear	Monterey Peninsula Water Management District	5 Harris Court, Bldg. G, Monterey, CA
Leon Gomez	City of Sand City	City Hall in Sand City, 1 Pendergrass Way, Sand City, CA 93955
Paul Bruno	Coastal Subarea Landowners	192 Healy Ave, Marina, CA
Eric Tynan	Laguna Seca Subarea Landowners	11528 Castro Street, Castroville, CA. 95012

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	2.A
AGENDA TITLE:	Approve Minutes from the November 13, 2024 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
November 13, 2024

Attendees: TAC Members

City of Seaside – Dan Meewis
California American Water – David Pezzini
City of Monterey – No Representative
Laguna Seca Property Owners – No Representative
MPWMD – No Representative
MCWRA – Amy Woodrow
City of Del Rey Oaks – Kim Shirley
City of Sand City –Leon Gomez
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager-Bob Jaques

Others
MCWD – Patrick Breen

The meeting was convened at 1:35 p.m. by Ms. Shirley who Chaired the meeting as the Vice Chair, due to the absence of Mr. Lear, the Chair.

1. Public Comments

There were no public comments.

2. Administrative Matters:

A. Approve Minutes from the August 14, 2024 Meeting

On a motion by Mr. Pezzini, seconded by Mr. Gomez, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Shirley asked about the quantities of water expected to be produced by the seawater extraction barrier desalination plant, if that project is constructed. She also asked if the Seaside Basin would be able to purchase desalinated water from that plant. Mr. Jaques responded that if the plant were constructed large enough to meet the 180/400-Foot Aquifer Subbasin's GSP Seawater Intrusion Measurable Objective, it would need to extract about 100,000 AFY and the plant would be expected to produce about 70,000 AFY of desalinated water. Mr. Jaques said that some months ago he had requested that the Seaside Basin be included in the list of potential recipients of such water, but was told that the SVBGSA was only planning to provide desalinated water to entities within its jurisdictional boundaries. The Seaside Basin is not within those boundaries. Mr. Jaques went on to say that as this project is further developed, if it is found to be financially and otherwise viable, the Watermaster should again make this request in a more formal manner.

Mr. Pezzini asked if the Watermaster would get a copy of the feasibility study for this project when it becomes available, and Mr. Jaques said he would obtain a copy.

3. Approve Initial RFSs for Montgomery & Associates, MPWMD, Martin Feeney, and Todd Groundwater for 2025

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

A motion was made by Mr. Pezzini, seconded by Ms. Woodrow, to approve all of these contracts and the motion passed unanimously.

4. Schedule

Mr. Jaques reported that there were no schedule updates from the prior schedule.

5. Other Business

There was no other business.

The meeting adjourned at 1:44 p.m.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	2.B
AGENDA TITLE:	Sustainable Groundwater Management Act (SGMA) Update
PREPARED BY:	Robert Jaques, Technical Program Manager

At the State level:
Since the last TAC meeting I have not received anything from the State that impacts the Watermaster.

At the Monterey County level:
Attached are summaries of meetings held in November 2024.

ATTACHMENTS:	Meeting Summaries and Draft Report
RECOMMENDED ACTION:	None required – information only

SUMMARY OF
PURE WATER MONTEREY, AND
SALINAS VALLEY AND
MARINA COAST WATER DISTRICT GROUNDWATER SUSTAINABILITY AGENCY ZOOM MEETINGS
IN NOVEMBER 2024

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

180/400-Foot Aquifer Subbasin GSP Implementation Committee Meeting, November 21, 2024:
They did not have a quorum, but proceeded with a discussion of the non-action informational item. A presentation was made by Duncan MacEwan of ERA Economics (SVBGSA's Demand Management consultant) on demand management concepts and the "Planning for Uncertainty" public workshops they will be (or are already) holding on demand management.

- They will conduct an economic analysis of the demand management alternatives
- They will quantify costs and benefits of the alternatives
- Alternatives they have identified are:
    - Land repurposing
    - Reduced pumping (voluntary)
    - Irrigation and production practices
    - Urban (M&I) conservation
    - Rotational fallowing (voluntary)
    - Fallow bank (voluntary)
    - Alternative crops Land retirement (voluntary)
    - Recycled water Tiered fees
    - Education /Water use data
    - Other?
- They described case studies they had done of some of these alternatives that are being implemented in other GSAs
    - Madera County GSA: Voluntary Land Repurposing Program
        - Voluntary Fallow Banking
    - Napa Valley Subbasin GSA: Groundwater Pumping Reduction (GPR) Program
        - Reduced pumping (voluntary)
        - Irrigation and production practices
        - Urban (M&I) conservation
        - Recycled water
        - Education
        - Water use data
    - Madera County GSA: Multibenefit Land Repurposing Program (MLRP)
        - Land repurposing
        - Irrigation and production practices
        - Alternative crops
    - Vina Subbasin GSA: Extend Orchard Replacement Program (EORP)
        - Rotational fallowing (voluntary)
- They described some Pricing Examples in use in other GSAs
    - Colusa Subbasin – GSP development included an evaluation of incentives to switch from groundwater to surface water in selected areas. Included potential for informal market
    - PV Water – Recharge Net Metering Program with an Incentive-driven rebate program

- Sonoma – GSP fees set based on estimated water use. There were issues with fairness, and with effectiveness of price to reduce demand
- Their next steps will be to begin the economic analysis:
  - Develop baseline economic data
  - Outreach
  - Continue to support discussion for demand management options

There were numerous questions from Committee members and members of the public about how these programs are funded, incentives, feasibility, practicality, etc.

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	2.C
AGENDA TITLE:	Results from Fall 2024 Induction Logging of the Sentinel Wells
PREPARED BY:	Robert Jaques, Technical Program Manager

The logging performed on October 29, 2024 and was supervised by Cory Steinmetz of MPWMD. Mr. Steinmetz is familiar with these wells and had received a tutorial from Mr. Feeney on how to download and plot the attached induction logging results.

Mr. Steinmetz commented that this year the PCA East and PCA West Deep wells were added to the survey. During the PCA East survey, the induction tool made it down all but the last 30 ft of the well. At the PCA West well, refusal was experienced at 388 feet. The logger surveyed the well from 388 ft to the surface, and that data will be included in the 2024 Seawater Intrusion Analysis Report. For reference, also attached are the depth-to-geologic units for all surveyed wells. 388 feet in the PCA West well is deep enough into the Paso Robles Formation to see the areas where conductivity has previously been rising.

Mr. Steinmetz also commented that after a quick look at the data, Sentinel Wells No. 1 and No.2 are showing the same upward trend in conductivity over time in select zones that was noticed last year. He did not notice any obvious increases in Sentinel Wells No. 3 and No.4 compared to last year.

I asked Mr. Feeney, who have managed the induction logging for many years, to also review the data and provide his comments. This was Mr. Feeney's reply:

- I have reviewed the 2024 induction logs. Generally, they look good and the data are consistent with past logging results.
- The data files contain some negative values at the bottom. These are invalid. He typically deleted them when he was plotting the results.
- The spikes toward the bottom of the induction log for PCA East are the metal casing centralizers. He typically deleted that data because it makes a gap in the trace.
- The increase in conductivity in Sentinel Well No. 2 at about 375' does not appear in Sentinel Well No. 1. Both of these wells are located outside of the Seaside Basin.
- He agrees with Mr. Steinmetz that the data shows no conductivity increases in Sentinel Wells No. 3 or 4.
- The "noise" in the bottom of Sentinel Well No. 3 shown [in the November 2023 data] is the old transducer cable. [As noted above that cable was fished out in the summer of 2024 and the noise does not appear in the 2024 data].

Last year a group of our hydrogeologic consultants met to discuss the findings of the 2023 induction logging results. Some of their principal conclusions were:

- The group agreed that conductivity in SBWM-1, 2 and 4 appeared to be increasing over time in defined zones in the Paso Robles. It was noted that the conductivity increases translate to no more than 100 mg/L increase in TDS (for reference drinking water limit is 500 mg/L)
- The closest production well to SBWM-4 that is pumping from the Paso Robles Aquifer is the Coe Avenue Well (Golf Course well) about 0.7 miles away. All the golf course irrigation wells are screened

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

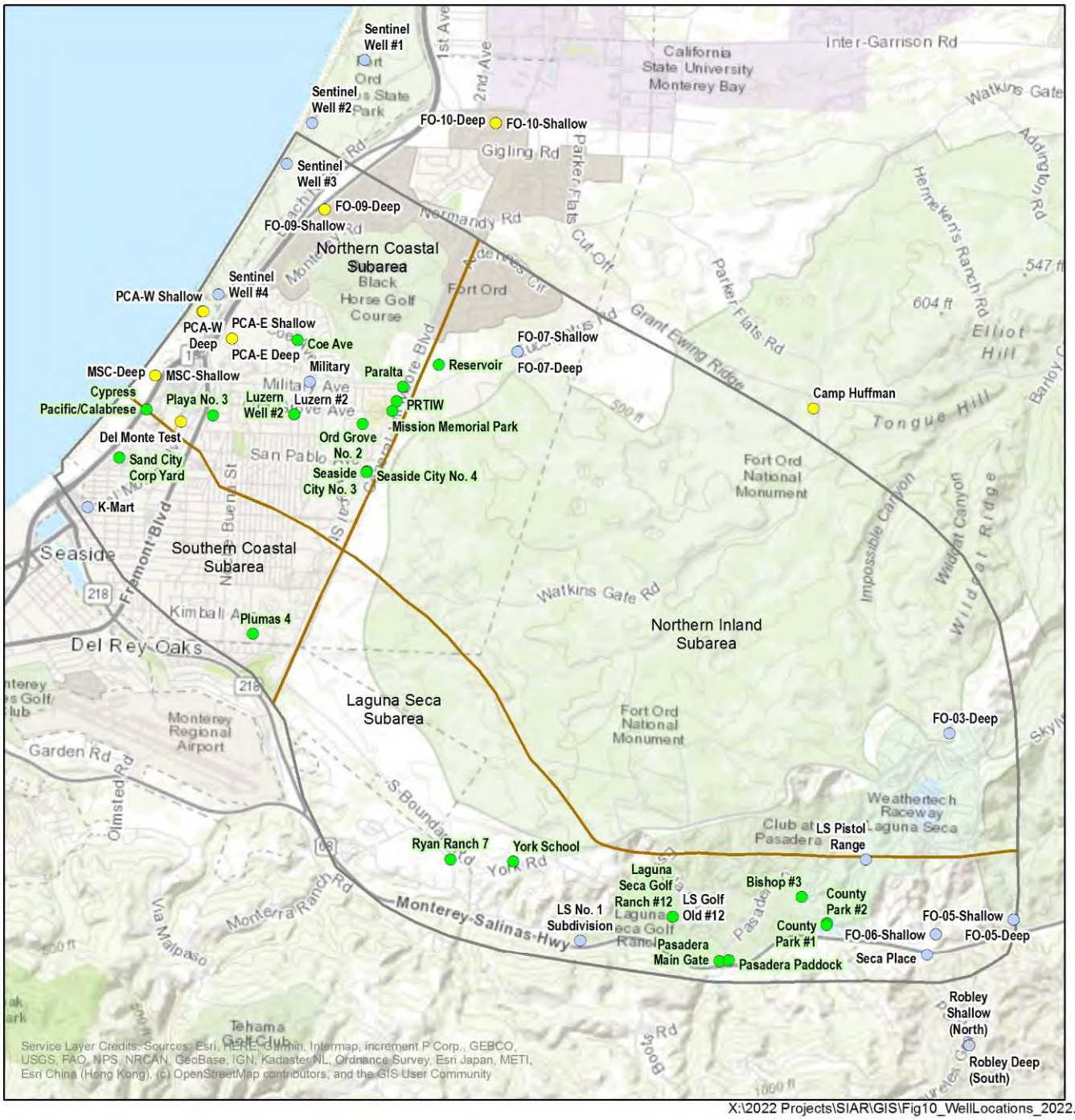
AGENDA ITEM:	2.C (Continued)

at least in part in the shallow (Paso Robles) aquifer. Almost all of CalAm's production wells are screened in both the shallow and deep aquifers.

- All agreed SBWM-3, which had a logger and cable lost in the bottom of the well, should have these fished out and relogged. [This was performed in late summer of 2024 and a new logger and cable were installed.]
- Induction logging of PCA-West Shallow could potentially be performed to see if increased conductivity is also occurring in the Paso Robles at that location. Unfortunately, PCA-W Shallow is screened deeper than the zone where the increasing conductivity is in SBWM-4, so it was not logged..
- The group decided that immediate action is not required yet because the conductivity increases have been small so far.

The *2024 Seawater Intrusion Analysis Report* (see Agenda Item 3) reports that over the past 17 years that induction logging has been performed, there has been steadily increasing conductivity (and thus increasing TDS) at some depth zones in the upper portions of the Paso Robles aquifer, but not at the depths where any of the production wells are screened. Given the collective conclusion of our experts that no action is required at this time due to the relatively small conductivity increases in recent years, it appears the only action needed will be to continue to monitor this apparent trend as future induction logging is performed to try to ascertain whether or not it is significant.

ATTACHMENTS:	1. Maps showing locations of the Sentinel Wells 2. Induction Logging Results from Watermaster's Sentinel Wells and PCA-West Deep and PCA-East Deep, including the 2024 logging results. For the Sentinel Wells the plots also show the induction logging results from prior years, all plotted on the same graphs for ease of comparison. Areas of continued concern in the 2024 logging are circled to highlight them, and expansions of those portions of the plots are included.
RECOMMENDED ACTION:	None required – information only



X:\2022 Projects\SIAR\GIS\Fig10_WellLocations_2022.mxd

EXPLANATION

- Monitoring Wells used for Groundwater Levels
- Monitoring Well with Water Level and Quality Data
- Production Well with Water Level and Quality Data

Adjudicated Seaside Groundwater Basin Boundary

- Basin Boundary
- Subarea Boundary

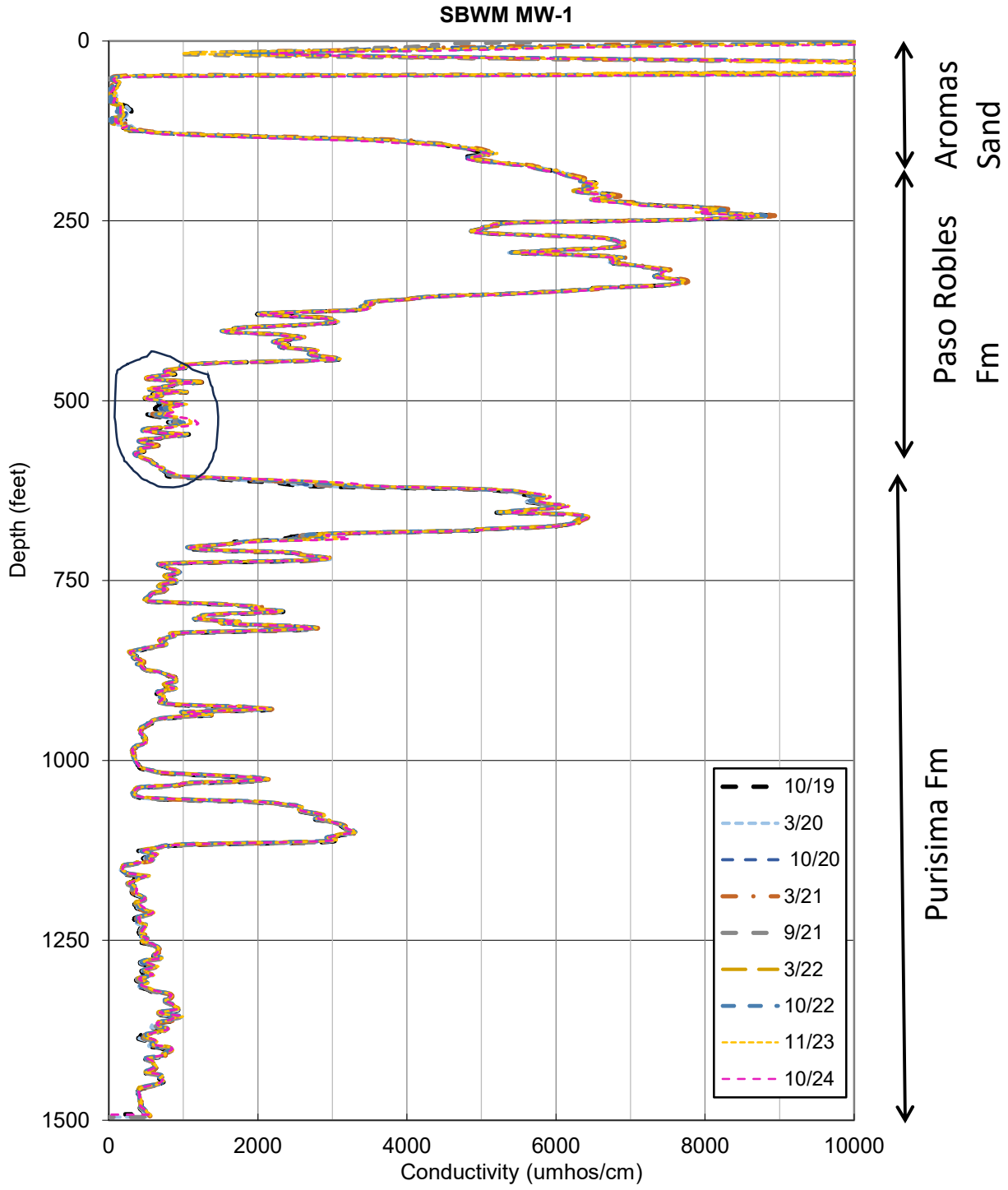
N

0 0.5 1 1.5 2

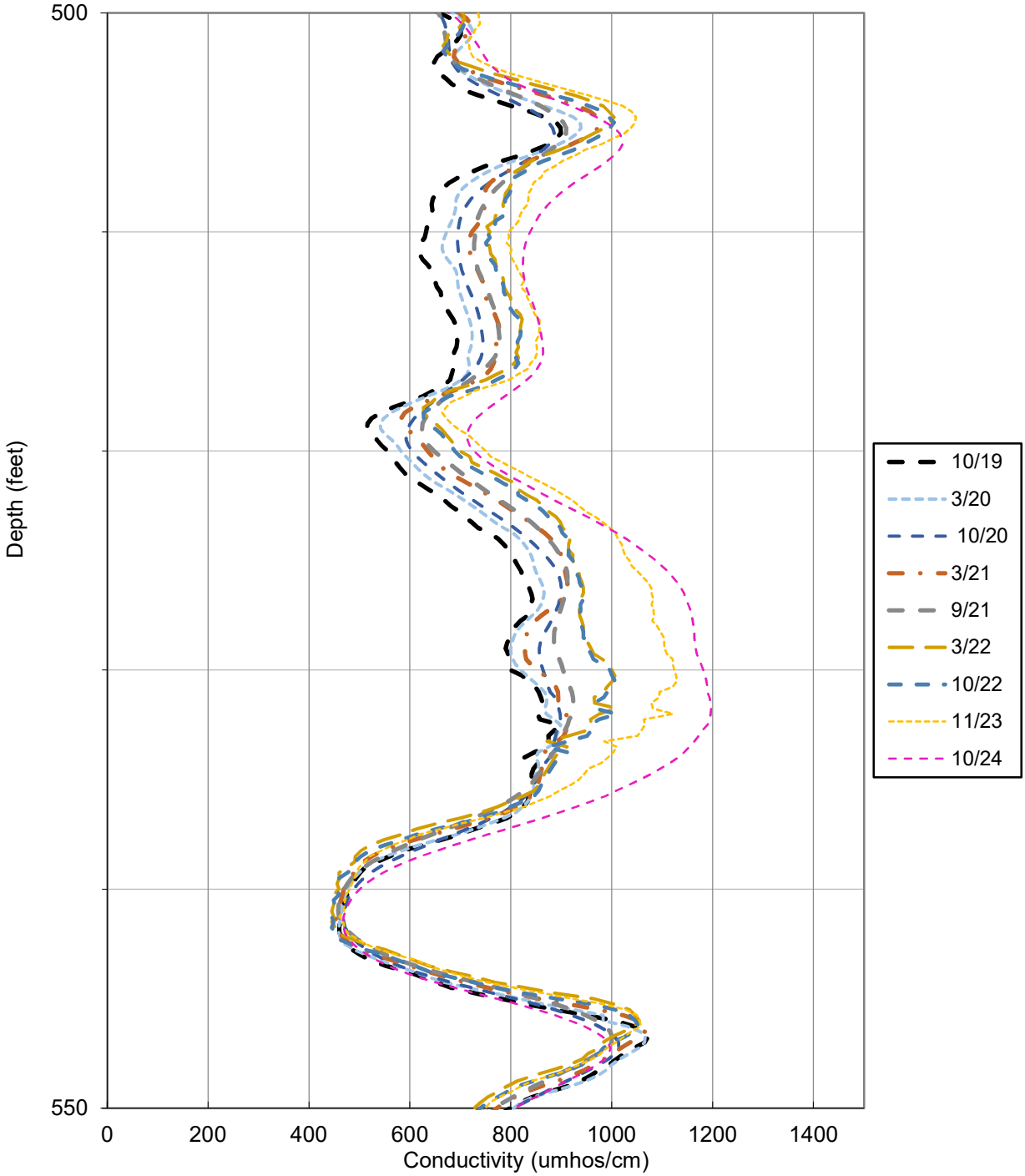
Miles

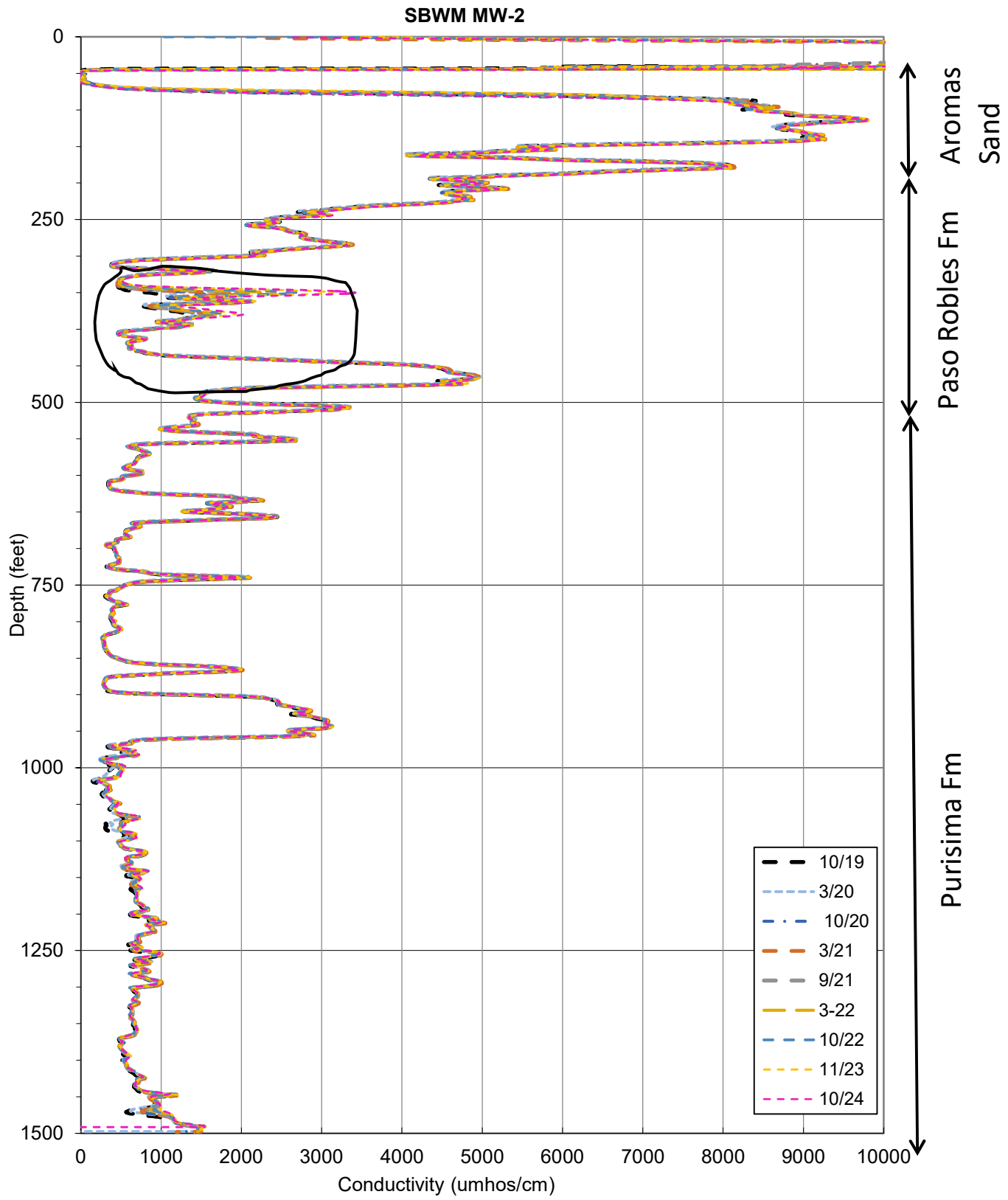
Orthophoto base from HJW (1999), 1:36,000 scale imagery

FIGURE 1

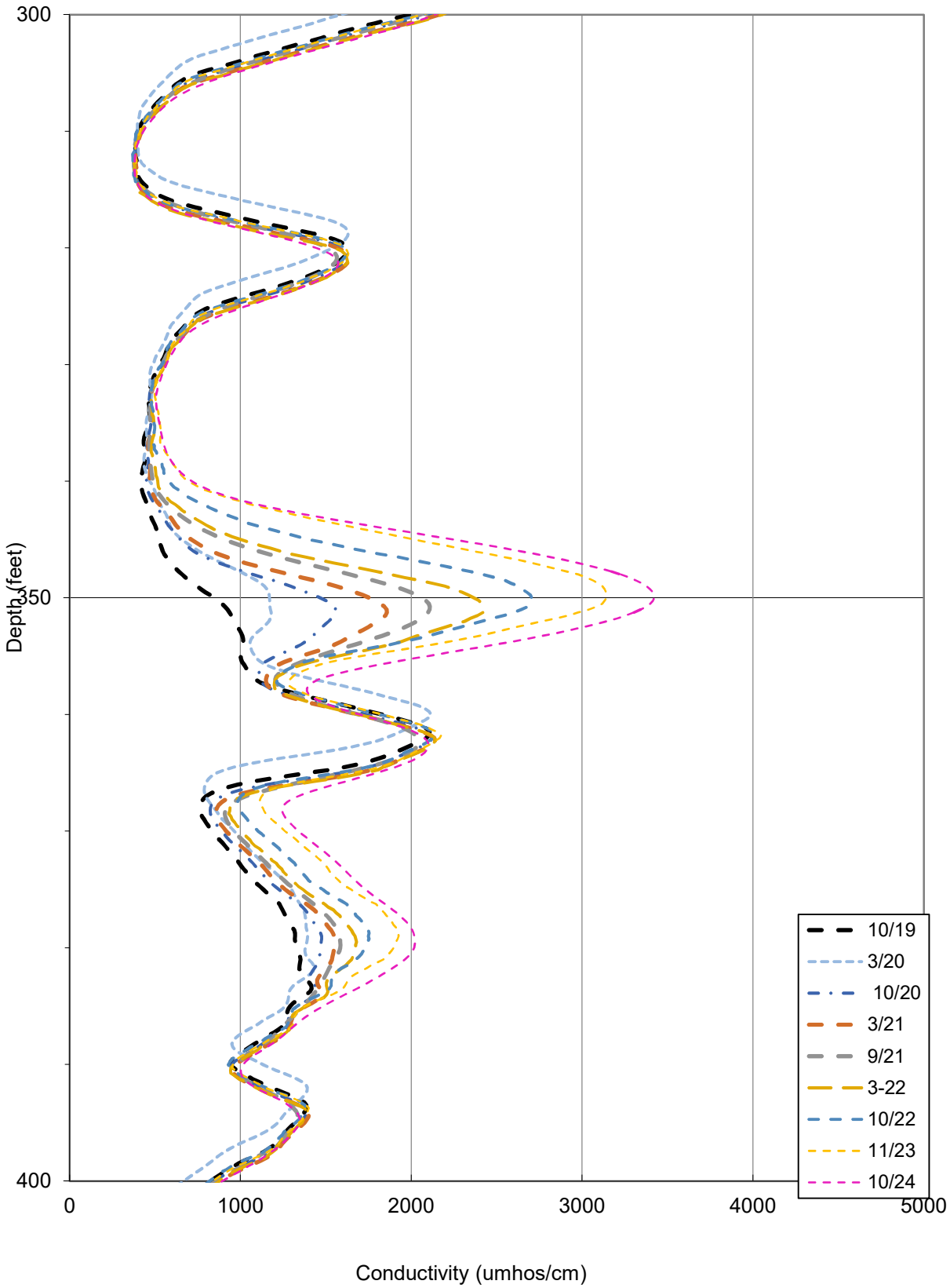

SBWM MW-1
Depth (feet)
0
250
500
750
1000
1250
1500
0
2000
4000
6000
8000
10000
Conductivity (umhos/cm)
10/19
3/20
10/20
3/21
9/21
3/22
10/22
11/23
10/24
Aromas Sand
Paso Robles Fm
Purisima Fm

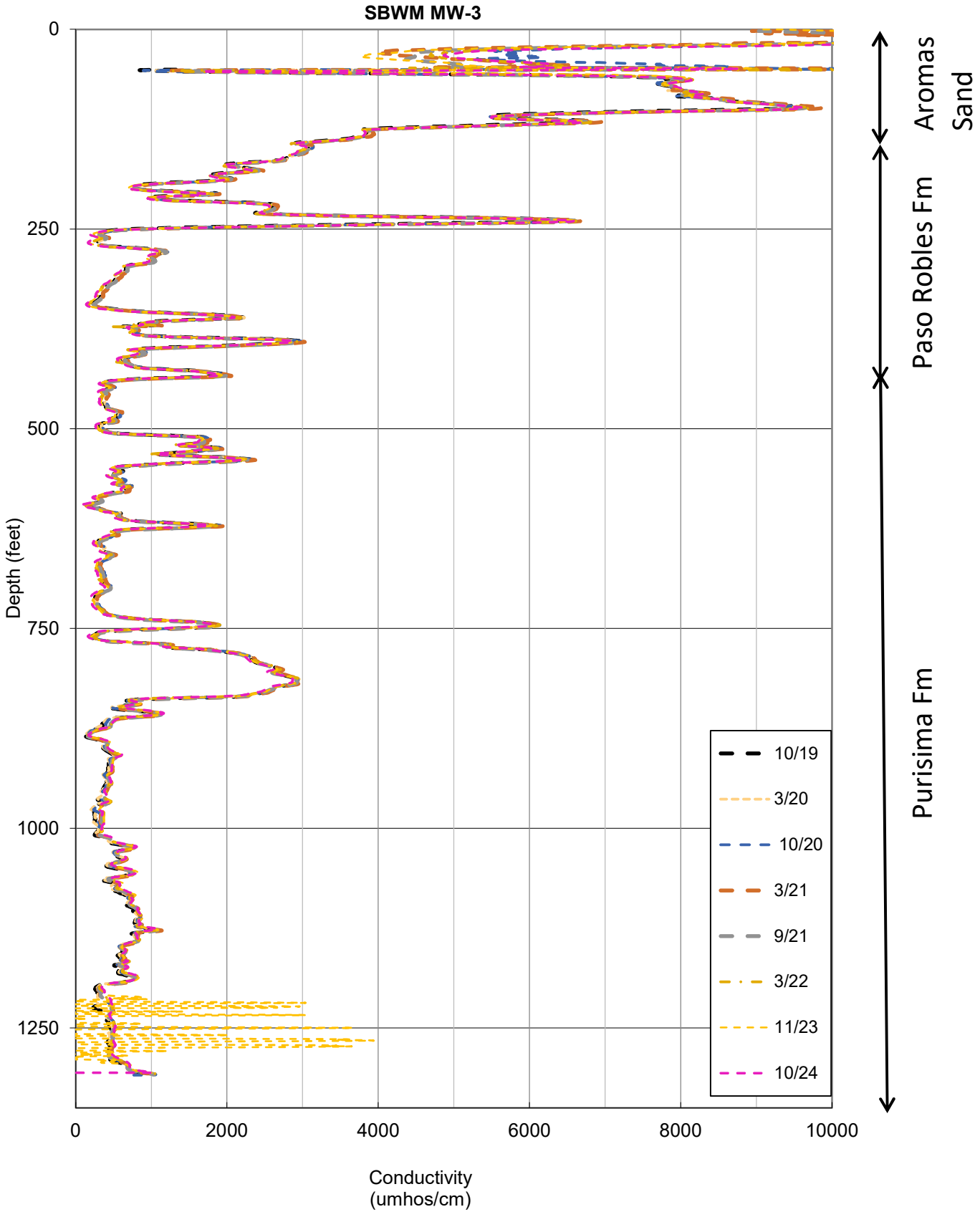
SBWM MW-1
Area of Interest Enlarged

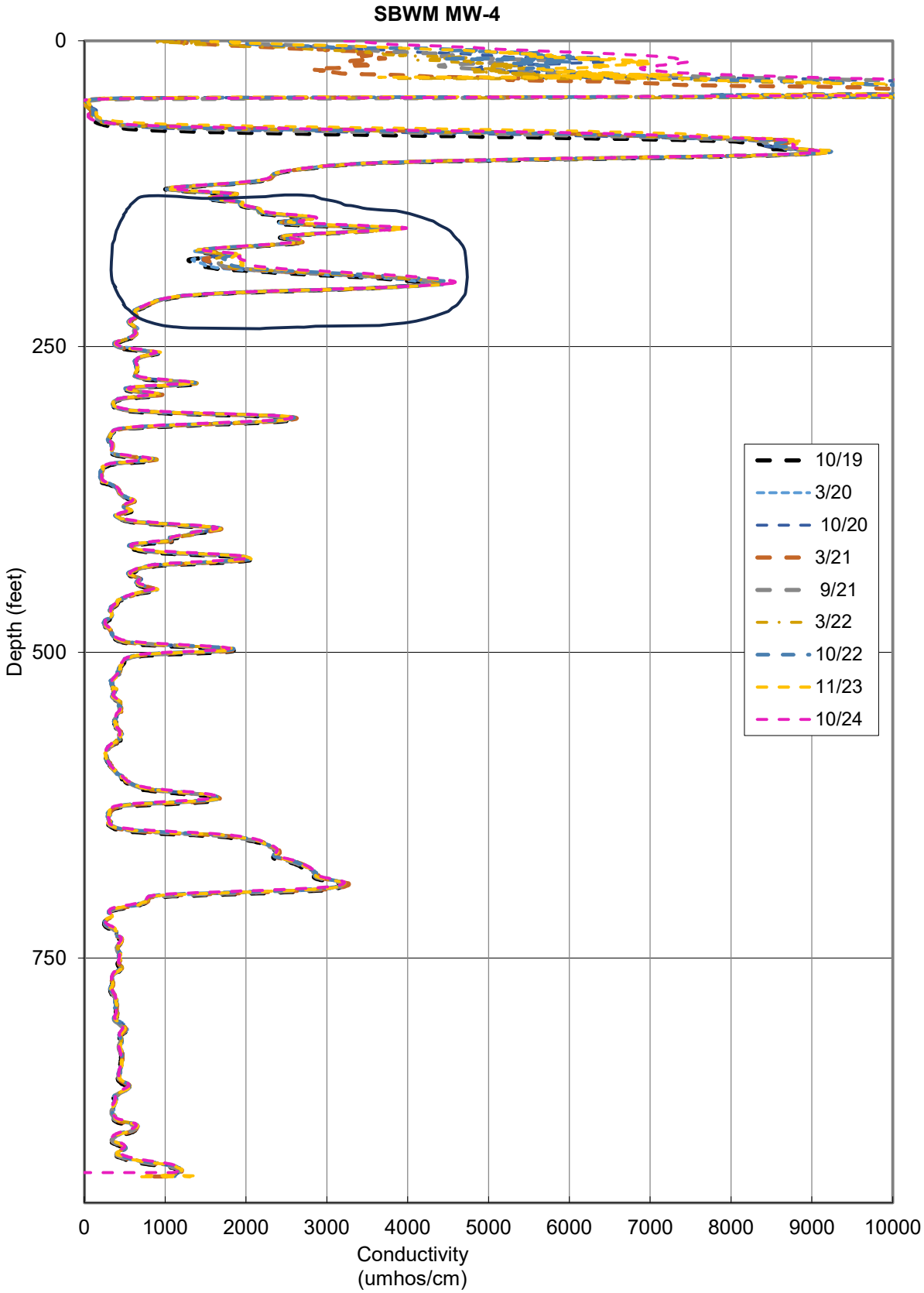



SBWM MW-2
Depth (feet)
0
250
500
750
1000
1250
1500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity (umhos/cm)
10/19
3/20
10/20
3/21
9/21
3-22
10/22
11/23
10/24
Aromas Sand
Paso Robles Fm
Purisima Fm

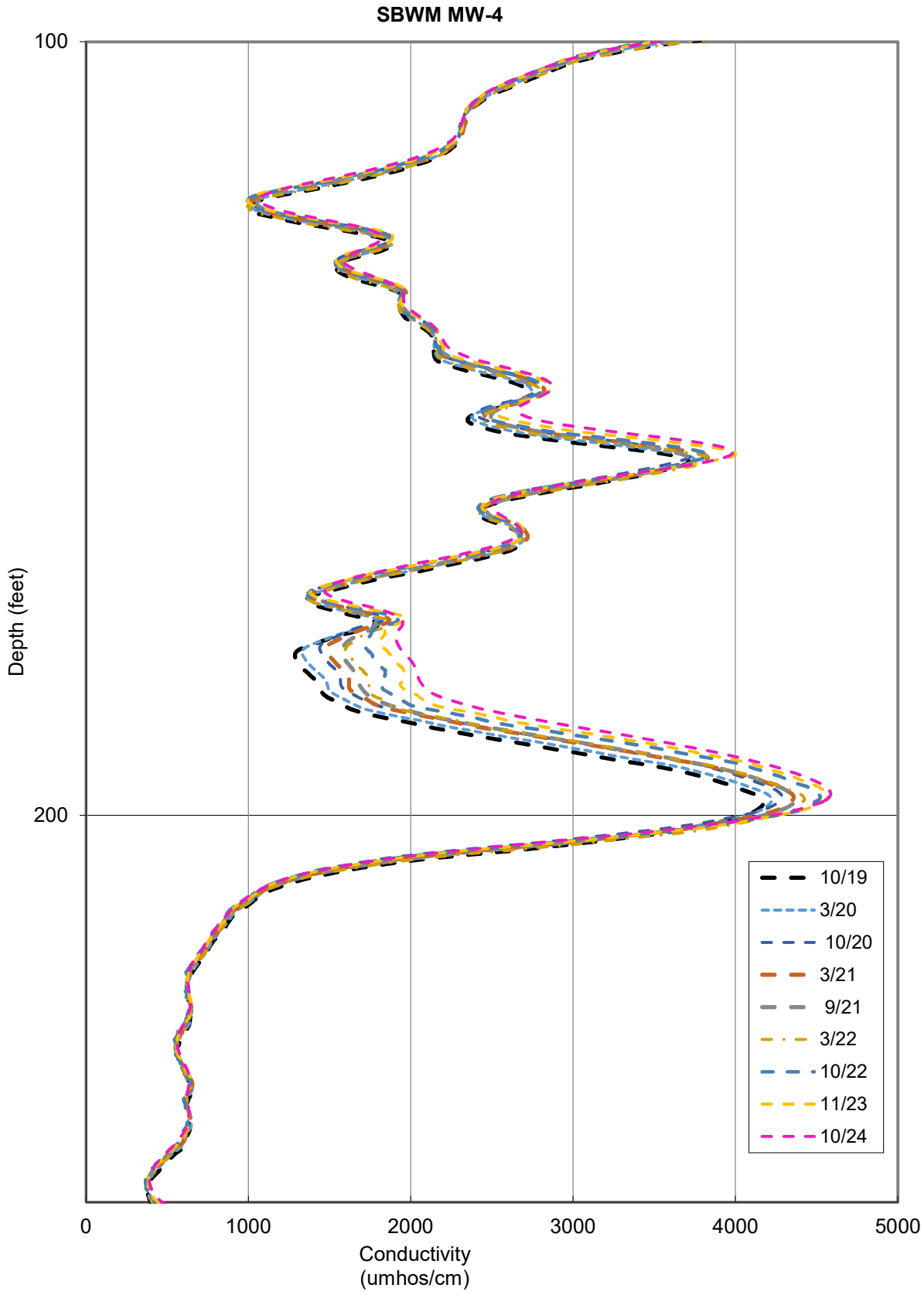
SBWM MW-2
Area of Interest Enlarged

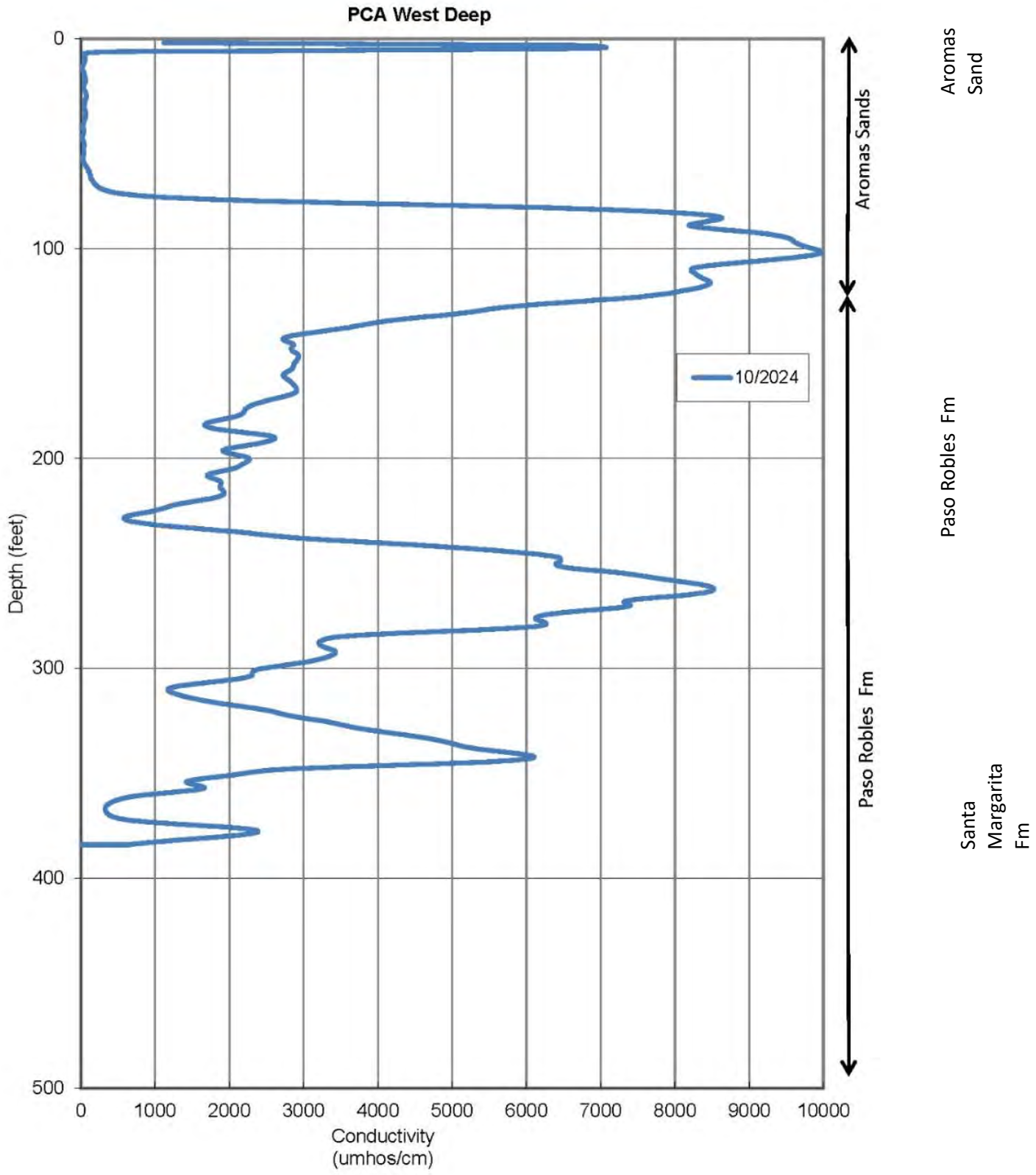


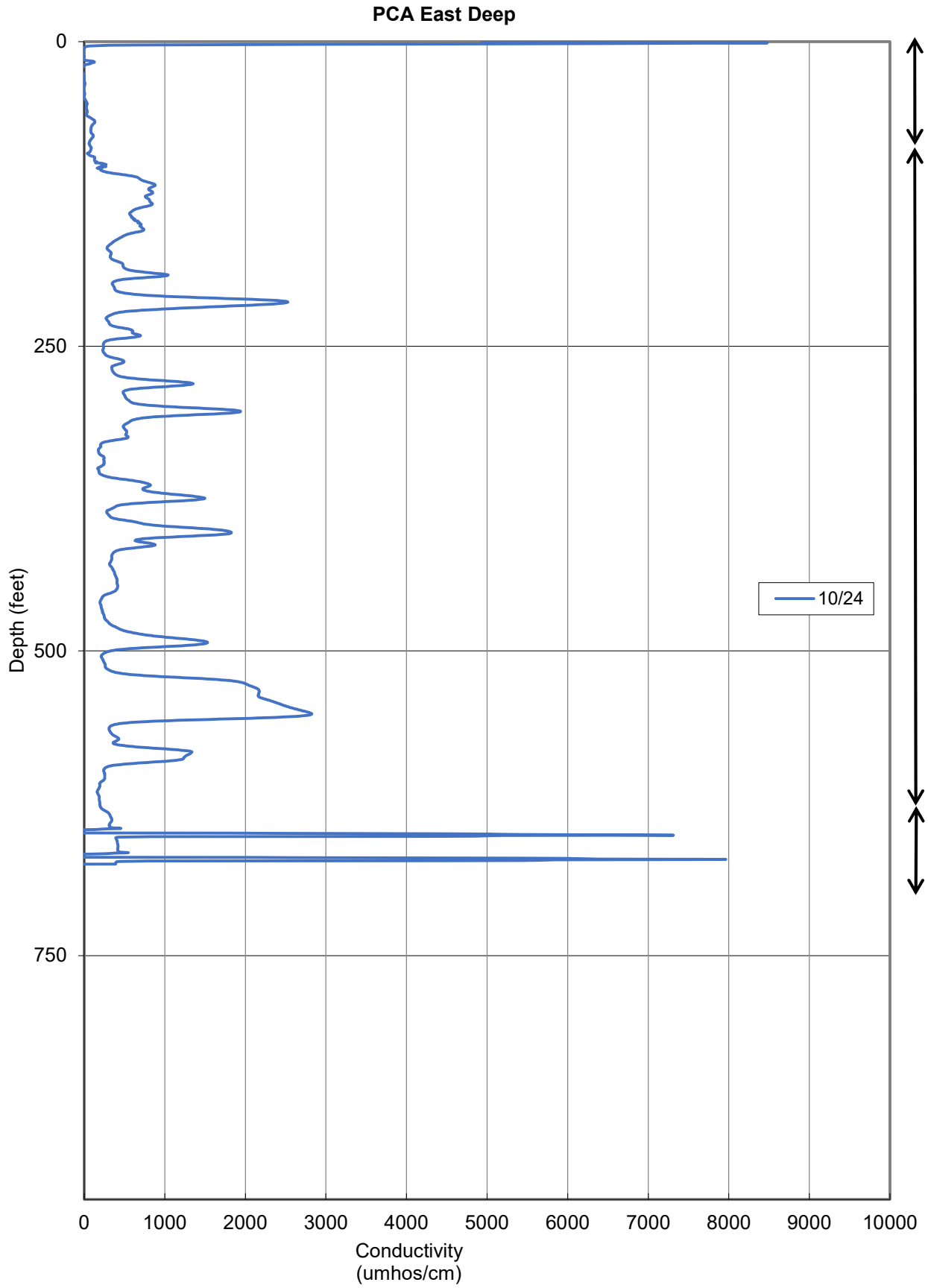

SBWM MW-3
Depth (feet)
0
250
500
750
1000
1250
0
2000
4000
6000
8000
10000
Conductivity
(umhos/cm)
10/19
3/20
10/20
3/21
9/21
3/22
11/23
10/24
Aromas
Sand
Paso Robles Fm
Purisima Fm


SBWM MW-4
0
250
500
750
Depth (feet)
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity
(umhos/cm)
10/19
3/20
10/20
3/21
9/21
3/22
10/22
11/23
10/24

SBWM MW-4
Area of Interest Enlarged




PCA West Deep
Depth (feet)
0
100
200
300
400
500
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity
(umhos/cm)
10/2024
Aromas Sands
Paso Robles Fm
Aromas
Sand
Paso Robles Fm
Santa
Margarita
Fm


PCA East Deep
0
250
500
750
Depth (feet)
10/24
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
Conductivity
(umhos/cm)

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

**** * * AGENDA TRANSMITTAL FORM * * ****

MEETING DATE:	December 11, 2024
AGENDA ITEM:	2.D
AGENDA TITLE:	Update on SNG Well
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

As reported and discussed at several TAC meetings in prior months, the Security National Guaranty (SNG) well, located in the dunes area in the northern portion of Sand City, is believed to have a deteriorating steel casing that is allowing seawater intruded shallow groundwater to leak downward into the deeper aquifer. Because of litigation in progress the well owner reported that he was not allowed to do any work to repair or destroy the well.

In the late summer of 2024 the Watermaster Board directed its legal counsel to contact the Court where the litigation is being conducted, and to ask that the well owner be allowed to proceed with repairs or destruction of the well prior to the completion of that litigation. As of November 2024 legal counsel has had limited success in making progress on this issue, but did report that it is their understanding that SNG is now working with Craig Evans Pump Testing Services to investigate the well and determine next steps. Legal counsel is also continuing to press for more rapid action.

ATTACHMENTS:	None
RECOMMENDED ACTION:	None required – information only

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	3
AGENDA TITLE:	Discuss and Provide Input on the 2024 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 2024 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 is being posted on the Watermaster's website so TAC members wishing to review the entire document could do so. The website link is: https://seasidegroundwaterbasinwatermaster.wpcomstaging.com/wp-content/uploads/2024/12/WY2024-Entire-Seawater-Intrusion-Analysis-Report-for-posting.pdf

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 2024 SIAR reports that the evaluation of the data from the sampling and monitoring program continues to indicate that seawater intrusion is not occurring.

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 2024 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

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.

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 Seaside 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 determine 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 freshwater 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.

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.

Data collected in WY 2024 from monitoring and production wells do not indicate seawater intrusion is occurring within the Seaside Groundwater Basin. However, induction logging shows incremental increases in conductivity over time in Sentinel wells SBWM-1, 2, and 4 within zones of the upper Paso Robles Formation that are not screened in nearby monitoring wells. Continual increases in conductivity may be a precursor to seawater intrusion.

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

- 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. It is uncertain whether the Santa Margarita aquifer is in direct connection with Monterey Bay. If it is not in direct connection, then seawater intrusion will take longer as seawater in the Paso Robles aquifer would need to move down through the clay rich deposits overlying the Santa Margarita aquifer before entering the aquifer itself and making its way into Santa Margarita production wells. It is not if, but when, seawater intrusion into these aquifers will occur if protective water elevations are not achieved.

- Sentinel wells SBWM-1 and SBWM-2, located north of the Seaside Basin, and SBWM-4, located in the Northern Coastal subarea where most of the Seaside Basin's groundwater extraction occurs, exhibit overall increases in conductivity over time within defined coarser-grained zones of the upper Paso Robles Formation. It is believed the increased conductivity in the shallow portions of SBWM-1 and SBWM-2 are associated with the mapped extent of seawater intrusion emanating from the Salinas Valley Basin shown on Figure 21. Since SBWM-3 does not have increasing conductivity in the upper Paso Robles Formation like the other three Sentinel wells, the cause of increasing conductivity in SBWM-4 may be different than SBWM-1 and SBWM-2 to the north. Evaluation of SBWM-4 conductivity data collected prior to 2019 indicates conductivity has been increasing within this zone from at least 2007 when induction logging started. An estimate of the total dissolved solids (TDS) increase associated with the logged change in conductivity in SBWM-4 since 2007 is approximately 1,000 mg/L. The Secondary Drinking Water limit is 500 mg/L. This indicates a significant salinity increase in the upper Paso Robles Formation. An induction log performed on monitoring well PCA-West Deep—located 780 feet southwest of SBWM-4—to verify increasing conductivity in this area does indicate high salinity within the upper Paso Robles Formation. However, several years of logs are needed to compare against the first baseline before it can be determined if conductivity is increasing at that well too.
- Groundwater levels in some portions of both the Paso Robles and Santa Margarita aquifers in the Northern Coastal subarea continue to be below sea level year-round. Groundwater levels below sea level create hydraulic conditions causing onshore flow. WY 2024 fourth quarter (summer/fall) groundwater levels in the Santa Margarita aquifer are approximately 20 feet below sea level. The Northern Coastal subarea pumping depression in the Santa Margarita aquifer is similar to last year. The pumping depression in the Paso Robles aquifer is slightly reduced from last year's pumping depression.
- Groundwater levels remain below protective elevations in all three Santa Margarita aquifer protective elevation monitoring wells (MSC deep, PCA-W Deep, and Sentinel well SBWM-3), and in one of the three Paso Robles aquifer protective elevation monitoring wells (MSC Shallow). All three Santa Margarita monitoring well

groundwater elevations continued increasing from WY 2022 which had the lowest levels on record. Groundwater elevations at all three Paso Robles protective elevation monitoring wells also increased. In WY 2024, PCA-West Shallow rose above the protective elevation for the first time since WY 2017. The increase is due to Bayonet/Blackhorse golf courses irrigation switching from locally pumped groundwater to recycled water.

The following evidence from this report demonstrates that seawater intrusion has not been detected in monitoring and production wells from which groundwater quality samples are collected:

- Most groundwater samples for WY 2024 from depth-discreet monitoring wells generally plot in a single cluster on Piper diagrams, with no water chemistry changes toward seawater.
- In some production wells, groundwater quality plots on Piper diagrams are different than groundwater quality in monitoring wells. This may be a result of mixed water quality because these wells are perforated in both the Paso Robles and Santa Margarita aquifers. 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 FO-10 Deep, which showed a spike of increased chloride in WY 2022, returned to a shape consistent with its historical shape.
- Maps of chloride concentrations for the shallow aquifer do not show chlorides increasing toward 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 160 mg/L and they do not have increasing trends.

Other important findings from the analysis contained in this report include the following:

- It is evident from comparing the long-term groundwater level trends of PCA-West Shallow and PCA-East Shallow, both in the Paso Robles aquifer, that golf course irrigation pumping is the cause of groundwater levels falling below protective elevations at PCA-West Shallow over the past 6 years. Using recycled water for golf course irrigation has allowed shallow groundwater levels to recover to above the protective elevations at PCA-West Shallow in WY 2024.
- 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 shallow aquifers, and up to 4 feet per year in the deep aquifers. These declines have occurred since 2001 despite triennial reductions in allowable pumping and CAWC ceasing pumping its Ryan Ranch and Bishop wells. The cause of the declines is the subarea's limited groundwater inflows and natural recharge compounded by the influence of wells pumping east of the Seaside Basin in the Monterey Subbasin Corral de Tierra Management Area. Since WY 2021, groundwater elevations in the area have appeared to experience some stabilization and recovery, potentially correlated with a cessation of pumping at California American Water Company's (CAWC) Ryan Ranch and Bishop wells.

- Native groundwater production in the Seaside Basin for WY 2024 was 2,350 acre-feet, which is 177 acre-feet more than WY 2023 and 650 acre-feet less than the Decision-ordered Operating Yield of 3,000 acre-feet. In addition to WY 2024 being an above average year for rainfall, recovery of 3,355 acre-feet of recycled water from Pure Water Monterey and use of recycled water at the Bayonet/Blackhorse golf courses helped offset pumping of native groundwater. As outlined in the Basin Management Action Plan (M&A, 2018a), it is vital the Watermaster continues to identify ways to reduce pumping native groundwater and/or to recover groundwater elevations with water that is left in the Seaside Basin and is not extracted out as water supply.

It is important to remain vigilant and to closely monitor groundwater quality at different depths through the Seaside Basin's aquifers. Although existing monitoring and production wells are not detecting seawater intrusion, it does not mean seawater intrusion is not occurring. The discovery of increasing conductivity in specific zones in the Sentinel wells that are not screened in nearby monitoring wells illustrates this fact. Using geophysical methods such as induction logging and electromagnetic surveys to identify salinity provides a more complete "scan" of the depth of the Seaside Basin that discreetly screened wells cannot provide.

Based on the findings of this report, the following recommendations should be implemented to monitor and track potential seawater intrusion.

1. **Actions Regarding Increased Conductivity Observed in Induction Logs in SBWM-1, SBWM-2, and SBWM-4**

    - EKI and Marina Coast Water District Groundwater Sustainability Agency (MCWD GSA) should be informed that Sentinel wells SBWM-1 and SBWM-2 continue to show increases in conductivity from 520-540 and 340-390 feet bgs respectively in defined coarser-grained zones in the upper Paso Robles aquifer. These monitoring wells are located outside of the Seaside Basin and are within the Marina-Ord Management Area of the Monterey Subbasin.

- Annual induction logs in PCA-West Deep and PCA-East Deep should continue to be performed to expand the area being monitored by geophysical methods.

- The Watermaster should consider performing land-based subsurface electromagnetic geophysics in the vicinity of SBWM-4 and PCA-West Deep, if feasible, to see if such data will add to the hydrogeologic understanding of this area.

2. **Verify Chloride Concentrations and Water Chemistry in the 140 – 200 foot Zone of SBWM-4**

   It is recommended that options for verifying seawater intrusion occurring in the Paso Robles Formation at or near SBWM-4 continue be evaluated in WY 2025. This may involve finding a site for a new monitoring well, adapting an existing well, evaluating the feasibility of using a Cone Penetration Testing (CPT) drill rig to non-intrusively collect once-off groundwater quality samples at specified depths without needing a permanent well, or some other solution. The fall 2024 induction logging results at SBWM-4 show that conductivity has been stable over the past year, however the Watermaster should continue to conduct induction logging at PCA-W Deep and PCA-E Deep and explore options to see if it would be feasible to monitor groundwater quality in the affected zone.

3. **Destroy the SNG Well**

   It is recommended that the privately owned SNG well be destroyed if it is found, as believed, to have a leaking casing that is allowing high salinity water to flow down from the seawater intruded Dune Sands into the Paso Robles Formation where the well is likely screened. In early 2021, the chloride concentration from water pumped from the well was 8,660 mg/L.

4. **Destroy and Replace FO-10 Shallow and FO-10 Deep**

   It is recommended that FO-10 Shallow and FO-10 Deep be destroyed and replaced to maintain continuous water quality monitoring and to prevent cross contamination between the Paso Robles and Santa Margarita aquifers and the overlying Dune Sands. These wells are located outside of the Seaside Basin, so destruction would need to be

conducted by the well owner, MPWMD, and replacement wells would need to be installed by the MCWD GSA.

5. **Continue to Analyze and Report on Water Quality Annually**

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

SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	4
AGENDA TITLE:	Discuss and Provide Input on the Preliminary Draft Watermaster 2024 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 2024 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 2024 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. The website link to this is: https://seasidegroundwaterbasinwatermaster.wpcomstaging.com/wp-content/uploads/2024/12/Preliminary-Draft-2024-Annual-Report-241128-for-Posting-1.pdf

The purpose of this Agenda item is to provide an opportunity for the TAC to raise questions, provide input, and/or provide suggested edits to the document.

ATTACHMENTS:	Preliminary Draft 2024 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 – 2024

PRELIMINARY DRAFT

January 9, 2025

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SEASIDE BASIN WATERMASTER

ANNUAL REPORT – 2024

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 2024 Annual Report is being filed on or before January 15, 2025, 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 2023 (WY 2024) 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 2024." Water Year 2024 is defined as beginning October 1, 2023 and ending on September 30, 2024.

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 2024, 1,519 acre-feet was diverted and stored in the Seaside Basin under the ASR program. Rainfall in the area was about 114% of normal, and Carmel River flow was about 122% of normal.

Based upon production reported for WY 2024, the following Standard Producers are entitled to Carryover Credits to WY 2025 in accordance with the Decision, Section III. H. 5:

Producer	Carryover Credit (Acre-feet)
Granite Rock	284.99
DBO Development	509.01 (-2.31 transfer)
Calabrese (Cypress)	19.13 (-3.17 transfer)
CAWC	1,339.93 (+5.48 transfer)
City of Seaside Muni	46.81

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 2024 the Watermaster did not indirectly engage in In-lieu Replenishment of the Basin.

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. 757.85 AF of non-native water was made available to the Basin during Water Year 2024 under this Storage and Recovery Agreement. The 757.85 AF accrues as a storage credit for any future City of Seaside Municipal or Golf Course use per the agreement.

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 2024 the Watermaster Board did not make any changes to the *Rules and Regulations.*

During WY 2024 the Watermaster Board was comprised of the following Members and Alternates:

MEMBER	ALTERNATE	REPRESENTING
Director Paul Bruno	Director John Gaglioti	Coastal Subarea Landowner
Tim O'Halloran	David Pezzini	California American Water
Director John Gaglioti	Director Paul Bruno	Laguna Seca Subarea Landowner
Director George Riley	Director Alvin Edwards	MPWMD
Mayor Mary Ann Carbone	City Manager Vibeke Norgaard	City of Sand City
Supervisor Wendy Askew	TBD	Monterey County (MCWRA)
Councilmember Kim Shirley	TBD	City of Del Rey Oaks
Councilmember Kim Barber	Mayor Tyller Williamson	City of Monterey
Mayor Ian Oglesby	Mayor Pro Tem David R. Pacheco	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 2024 and 1,518.54 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 2024 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 2024 at its Board meeting of January 3, 2024. Copies of these declarations are contained in Attachment 2.

Total pumping for WY 2024 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 2024 amounted to $100,000 including a $25,000 dedicated reserve. Costs include three Administrative Officer salaries and legal counsel fees. The "Fiscal Year 2024 Administrative Fund Report" and "Fiscal Year 2024 Operations Fund Report" are provided in Attachment 3.

H. Replenishment Assessments

At its meeting of November 6, 2024 the Watermaster Board determined that beginning with WY 2025 the Natural Safe Yield Replenishment Assessment unit cost should be updated to $4,845.21 per acre-foot, and the Operating Yield Replenishment Assessment unit cost should be updated to $1,211.30 per acre-foot. The spreadsheet that was included with the agenda transmittal for the November 6, 2024 meeting, and 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 productions for WY 2024, no replenishment assessments were made.

A summary of the calculations for Replenishment Assessments for WY 2024 is contained in Attachment 5.

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. At its meeting of November 6, 2024 the Watermaster Board approved these budgets for Fiscal Year 2025, and copies of these budgets 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 2024 from the enhanced network of monitoring wells. The low-flow sampling method implemented in 2009 continued to be used in 2023 and is expected to continue to be used in the future to improve the efficiency of sample collection.

Monitoring and Management Program for the Upcoming Year

The 2025 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 proposed revisions between the 2024 and 2025 Monitoring and Management Programs are relatively minor, but:

A new Task I.2.b.8 has been added to perform subsurface electromagnetic imaging in the vicinity of Sentinel Well No. 4 to see if it can help to determine if seawater intrusion is beginning to occur in that part of the Seaside Basin.

Task I.3.a includes the potential updating of the Watermaster's Seaside Basin Ground Water Model in 2025, in order for it to coordinate more closely with the updated model being prepared for the adjacent Monterey Subbasin.

Task I.3.a.3 has been updated to reflect Cal Am's updated schedule for the Monterey Peninsula Water Supply Project's desalination plant.

Task I.4.e includes updating the Seawater Intrusion Response Plan in response to the induction logging results from Sentinel Well No. 4.

The 2025 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 comments and/or principal revisions from the 2024 M&MP Budget:

Technical Program Manager: Although the Groundwater Sustainability Plan for the adjacent Monterey Subbasin has been completed and was submitted in early 2022 by the Salinas Valley Basin and the Marina Coast Water District Groundwater Sustainability Agencies, there will continue to be regular meetings of their GSP-related committees that I serve on representing the Watermaster. Also, there will likely be further work related to obtaining replenishment water for the Basin. Therefore, I anticipate that the 2025 workload will be similar to that of 2024, so the proposed line-item budget amount has been maintained at $75,000 in 2025.

Tasks Involving MPWMD and Montgomery & Associates: The scopes-of-work for both MPWMD and Montgomery & Associates are essentially unchanged from 2024. However, both will have hourly-rate increases in 2025, so the costs of the Tasks in which they are involved reflect somewhat higher dollar amounts in 2025 compared to 2024.

Task I.2.b.8: This Task has been added to perform a pilot test of subsurface electromagnetic imaging in the vicinity of Sentinel Well No. 4. Induction logging of that well shows what appears to be increasing conductivity in some of the subsurface strata that could be an indication that seawater is beginning to intrude inland in this location. Subsurface electromagnetic imaging has the potential to aid in this determination. This Task adds $15,500 to the Budget.

Task I.3.a.1: This is to update the groundwater modeling of the Seaside Basin. Significant changes in the understanding of the hydrogeology of the Monterey Subbasin, which abuts the Seaside Basin, have been identified through work being conducted by the Salinas Valley Basin and Marina Coast Water District Groundwater Sustainability Agencies. They project having an updated model of the Monterey Subbasin in late 2024. In order for the Watermaster to have a model to incorporate that new information and to more closely coordinate with the updated Monterey Subbasin model, it may be desirable to update the Watermaster's modeling work in 2025. The existing Seaside Basin Model was last updated in 2018 at a cost of approximately $55K. However, that update only consisted of inputting more recent groundwater measurements (water level, production, etc.) but no changes to the actual model itself were made. The proposed updating work would be a much more complex and vigorous undertaking,

with a commensurate significantly higher cost. The consultant (Montgomery & Associates) has provided a ballpark cost range of $100K to $150K to update the existing Seaside Basin Model. However, discussions with Montgomery and Associates and the TAC may lead to the conclusion that rather than simply updating the existing Seaside Basin Model, there may be a more useful and cost-effective way to prepare a model that incorporates the newer information and data and better integrates with the modeling being done in the other subbasins of the Salinas Valley Basin. The Budget includes $125K for this Task (midpoint of ballpark cost range).

In order to determine the most cost-effective approach to update the Model, in 2024 Montgomery & Associates will be asked under the attached RFS No. 2024-03 to evaluate the options available for doing this. The 2024 M&MP Operations Budget included *Task I.3. e. - Seaside Basin Geochemical Model* to perform geochemical analyses of injecting desalinated water from the Monterey Peninsula Water Supply Project's desalination plant, if that plant was going to be constructed in 2024. Construction of that plant is not scheduled to occur in 2024, so the $10,000 included for that Task will not be utilized in 2024. A budget transfer of this $10,000 to *Task I.3.a.1- Update the Existing Model,* which had a zero budget in 2024, will be made to provide funding to perform this evaluation, the cost of which will not exceed $10,000. There will be no increase in the total amount of the 2024 M&MP Operations Budget as a result of making this budget transfer.

In the 2018 Model update, the cost was shared between the Watermaster, MPWMD, and M1W. The Watermaster paid 50% of the cost and the two other agencies collectively paid the other 50%. If this model updating work is undertaken in 2025, efforts will be made to cost-share as was done with the 2018 update.

Task I.4.e: This is to update the Seawater Intrusion Response Plan (SIRP) which was prepared in 2009 and has not been updated since then. The update would include incorporating more recent groundwater data, updating implementation triggers, updating the Contingency Actions currently described in the SIRP in an effort to make them more practical and straightforward, and establishing an approach to incorporate geophysical data as a seawater intrusion indicator and/or trigger. This work will add $25,481 to the Budget.

As a result of the changes described above, as indicated by the right-hand column titled "Comparative Costs from 2024 Budget" in Attachment 1, the proposed 2025 Budget is $185,192 higher ($478,973 -$293,781) than the 2024 Budget.

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 2025.

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. During 2024, in response to concerns that

induction logging of the Sentinel Wells and in particular Sentinel Well No.4 might be showing the start of an increasing trend in conductivity, two additional wells were added for induction logging. These are wells PCA-W Deep and PCA-E Deep. The induction logging results are discussed in the Seawater Intrusion Analysis Report.

As discussed in the 2023 Annual Report, the Security National Guaranty (SNG) well located in the dunes area in the northern portion of Sand City is suspected to have a casing leak that is allowing salty water from a shallow aquifer to flow downward into the Paso Robles aquifer. The well owner reported that the development project on this 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 2024 the Watermaster Board directed its legal counsel to contact the Court where the litigation was being conducted to request that the well be repaired now, rather than waiting until after the litigation is completed. The Watermaster's legal counsel reported that the attorney representing the development project had contacted them once they were notified that this action was going to be taken. In November 2024 the Watermaster's legal counsel reported that it was their understanding that SNG is still working with Craig Evans Pump Testing Services to investigate the well and determine next steps. Counsel went on to say they were pressuring for more rapid action. As of the date of preparation of this Annual Report the matter was still being pursued, but the well remained unrepaired.

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 the Executive Summary from that BMAP was contained in Attachment 9 of the 2009 Annual Report. The BMAP was updated in 2019 and the Executive Summary from the updated BMAP was contained in Attachment 7 of the 2019 Annual Report. These complete documents are posted on the Watermaster's website.

In the 2024 Annual Report there is a discussion regarding the Natural Safe Yield (NSY) of the Basin, and whether the Watermaster should 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. At its September 1, 2021 meeting the Watermaster Board discussed this topic, 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.

As discussed below in Section K under the subheading titled "*Obtaining Replenishment Water*" efforts are underway by the Watermaster to obtain replenishment water. At such time as a firm plan to accomplish this has been developed, the Watermaster will revisit the issue of changing to the Sustainable Yield approach.

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/.

Due to the observation of increasing conductivity in the 2023 induction logging in some of the shallower formations near the coastline, it was determined that in 2025 it would be appropriate to update the 2009 SIRP. The update would include incorporating data that has been obtained since 2009 and examining technology and techniques that could potentially be used to make the SIRP more practical and useful.

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 2022 Annual Report included a discussion of two monitoring wells which 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, was just inside the northern boundary of the Northern Coastal Subarea of the Seaside Basin. As reported in the 2023 Annual Report, the original monitoring well FO-9 Shallow was destroyed and was replaced with a new FO-9 Shallow monitoring well in late 2023. Also as reported in the 2023 Annual Report, further investigation of Well FO-10 Shallow led to the conclusion that it might be allowing leakage to occur from the shallower Aromas or Dunes Sands formation into the Paso Robles aquifer below. In late 2024 MCWD reported that it is installing additional monitoring wells (one of the projects in its GSP), and will also be video inspecting monitoring wells FO-10 and FO-11, in an effort to determine why higher chloride levels are being detected in the groundwater samples from the deep aquifer at this location.

The Watermaster retained Montgomery & Associates to prepare the WY 2024 SIAR required by the M&MP. The WY 2024 SIAR provided an analysis of data collected during that Water Year.

There continue to be ongoing detrimental groundwater conditions within the Basin that pose a potential threat of seawater intrusion. Although in recent years pumping from the Basin has been reduced to less than the Basin's Natural Safe Yield of 3,000 AFY, groundwater levels in some parts of the Basin continue to be below sea level. This, coupled with the ongoing seawater intrusion in the nearby Salinas Valley, suggests that seawater intrusion has the potential to occur in the Seaside Groundwater Basin. Induction logging in the Sentinel Wells near the coast are showing a trend toward increasing TDS in some of the upper portions of the Paso Robles aquifer. However, no data collected in Water Year (WY) 2024 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. All of the 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.

The 2022 Annual Report includes a discussion of geochemical impact assessments pertaining to the introduction of desalinated water, additional ASR water, and advanced wastewater treatment (AWT) water under the Pure Water Monterey Project (PWM).

In 2024 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 complying with permit conditions 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 2024 DWR did not issue any new regulations, or revisions to prior regulations, that impacted the Seaside Groundwater Basin or the Watermaster. In March of 2024 the Watermaster submitted to DWR the reporting information required of it, as an adjudicated basin, under SGMA.

At the Monterey County level:

The 2022 Annual Report includes a discussion of the formation of the Groundwater Sustainability Agencies (GSAs) involved in the development and implementation of the GSP for the Monterey Subbasin. The Watermaster participated in the development of the Monterey Subbasin GSP and continued monitoring the implementation of that GSP in 2023. In late 2024 the Watermaster's request to the SVBGSA to become a member of the Monterey Subbasin GSP Implementation Committee was approved, and starting with the October 16, 2024 meeting of that Committee the Watermaster became an active member of it. The Watermaster also continued monitoring the implementation of the GSP for the 180/400-Foot Aquifer Subbasin GSP, since that subbasin has a direct impact on groundwater conditions in the Monterey Subbasin. Its participation as a member of the SVBGSA's Advisory Committee, and the MCWDGSA's Stakeholder Group, helps to ensure that there is close coordination between the SVBGSA, MCWDGSA, and the Watermaster on matters of mutual interest. Monthly summary reports of meetings of those groups are provided to the Watermaster's Technical Advisory Committee and Board by the Watermaster's Technical Program Manager.

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 *2024 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 2024 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-foot 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.

During 2024 the SVBGSA obtained new and more accurate data on the stratigraphy of the Monterey Subbasin as it developed its Hydrogeologic Conceptual Model (HCM) for the Salinas Valley Basin. This data provided a better understanding of the hydrogeology of the Corral de Tierra/Toro Subarea, and will be useful in better understanding the hydrogeologic interactions between these parts of the Monterey Subbasin and the Seaside Subbasin.

Planned Near and Long-term Actions of the Watermaster

Near-term actions are described in the 2024 Monitoring and Management Program discussed in Section J and Attachment 8 of this Annual Report.

Near-term actions (to be carried out in 2025) include:

- Updating the Watermaster's Seaside Basin Groundwater Model
- Updating the Watermaster's Seawater Intrusion Response Plan

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, the SVBGSA, and the MCWDGSA:
  - In their development of updated hydrogeologic models to ensure that there is hydrogeologic agreement between those models and the Watermaster' Seaside Basin model, and
  - Continuing to coordinate with the SVBGSA to develop measures to aid in groundwater management of the Laguna Seca Subarea.
- Conducting meetings of the ad hoc "Replenishment Ad Hoc Committee" of the Watermaster Board to:
  - Develop information about potential sources and quantities of replenishment water
  - Identify potential funding mechanism options for the purchase of replenishment water

Information Concerning the Status of Regional Water Supply Issues

MPWSP

1. Implementation of the Monterey Peninsula Water Supply Project (MPWSP) continues to be actively pursued by CAWC. CAWC received approval of the project from the

Coastal Commission in November 2022. The MPWSP 4.8 MGD desalination plant is currently anticipated to be operational in 2028.

2. The California Public Utilities Commission (CPUC) is in the process of deliberations on CAWC's request to update supply and demand estimates for the MPWSP. The CPUC extended the statutory deadline for completion of the proceeding until March 2025. Sometime thereafter the CPUC is expected to reach a decision on this matter.

PWM

1. Construction work on the Monterey One Water (M1W) and Marina Coast Water District (MCWD) Pure Water Monterey (PWM) recycled water project in Marina was completed in late 2019, and the Advanced Water Treatment (AWT) plant began producing water in early 2020. Water began being injected into the Seaside Groundwater Basin in February 2020. In WY 2024 a total of 3,676.03 acre-feet of water was injected. Of this amount, 3,356.96 acre-feet was available to CAWC for extraction and 319.07 acre-feet was added to the operating reserve. Cal Am only actually extracted 3,355 acre-feet.
2. On September 14, 2021 the State Division of Drinking Water (DDW) issued a letter to CAWC stating that "the drinking water source designation of ASR Well 01 (ASR-1) has been changed from active to inactive." DDW issued this letter because tracer studies indicated that the minimum retention time requirement for water injected by the PWM project was likely not being met for this well. That inactive status remains in effect today since no changes were made in the operation of the PWM project that would enable the status to revert to "active."
3. During WY 2023 CAWC continued to work on getting well ASR-4 permitted for use so it could be used in place of ASR-1 as a supply well. Because ASR-4 had been found to have a mercury concentration level above the drinking water standard, CAWC installed a mercury removal treatment unit so it could be permitted for use as a supply well. The Mercury Treatment system has been approved by DDW, California American Water is currently working on startup and commissioning of the well and treatment system.
4. CAWC is in the process of constructing EW-1 and EW-2 as part of the Pure Water Monterey Expansion Project. EW-1 has been drilled and EW-2 is under construction. These wells are anticipated to be complete and online in late 2025.

Public Buyout of CAWC's Water System

- As discussed in the 2022 Annual Report, the Local Agency Formation Commission (LAFCO) passed a resolution denying MPWMD's application to activate its latent powers in order to acquire CAWC's Monterey Water System. MPWMD filed an Application for Reconsideration of LAFCO's disapproval, and LAFCO denied MPWMD's Application.
- MPWMD initiated litigation against LAFCO on April 1, 2022 as set forth in Monterey County Superior Court Case No. 22CV000925. Numerous filings were made by the parties involved in the litigation, and the case was heard in late September 2023. A "Statement of Intended Decision" was issued by the Court on October 25, 2023 which essentially ruled in favor of MPWMD and reversed LAFCO's earlier disapproval. LAFCO has appealed that decision, and Appeal briefings will be filed in coming months. A hearing schedule will be set in 2025. In addition LAFCO has entered into an indemnification agreement with CAWC.
- At its meeting on October 10, 2023 the MPWMD Board voted to approve a "resolution of necessity" authorizing MPWMD to move ahead with the forced acquisition of the

CAWC system and convert it to government ownership. On December 15, 2023 the MPWMD filed an eminent domain complaint in Monterey County Superior Court to first determine the District's "right to take" and then ultimately the value of CAWC, and to acquire it. As of the data of preparation of this Annual Report a trial date had not been set.

- On February 26, 2024, Cal Am filed a demurrer motion asking the Monterey County Superior Court to dismiss the MPWMD lawsuit seeking a government takeover of the company's Monterey Peninsula water system through eminent domain. The motion argues that the District's lawsuit fails to meet fundamental legal requirements necessary to proceed with such a significant action and should be dismissed. Cal Am's motion asserts that the District lacks legal authorization from both the California Legislature and the Monterey County LAFCO to become the retail water service provider on the Monterey Peninsula. In addition, CAWC asserts that the District's lawsuit improperly seeks to take property outside the boundaries of the District's territory.
- On August 25th, 2024 the Judge issued a tentative decision which could allow the MPWMD to continue their eminent domain takeover attempt. Although the Judge provided a tentative decision, prior facts presented by CAWC resulted in Judge Vallarta delaying a potential final decision until a hearing which was held on November 19. At that hearing (actually a case management conference) two milestones were established by the Judge:
  - Cal-Am's deadline to file an Answer to Demurrer will be December 13, 2024.
  - Given that the case is not at issue until the Answer is filed, a joint request was made that the Court set another case management conference, and it was set for March 4, 2025, at 9:30 a.m.

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 has been implemented by M1W and MCWD. CAWC has already contracted to receive 3,500 AFY of PWM recycled water for injection into, and recovery from, the Seaside Basin. As discussed above, 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. Construction contracts for the initial components of the PWMX project were issued in late 2023 by M1W. The current schedule for that project indicates the project is expected to become operational in late 2025, and would deliver an additional 2,250 AFY of recycled water.

3. *Sustainable Groundwater Management Act.* Coordination between the Watermaster and the SVBGSA and the MCWDGSA 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 Seaside Basin.

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.

Subsequently a Greater Monterey County SWRP (GMCSWRP) was prepared to cover a larger geographic area and fulfill the SWRCB's requirements for being eligible to receive grant funds for stormwater-related projects. The GMCSWRP was prepared by *Coastal Conservation and Research, Inc.* with funding support from a State Water Resources Control Board Proposition 1 Storm Water Planning Grant. *Coastal Conservation and Research* worked collaboratively with the Monterey Regional SWRP planning team to ensure consistency between the two plans and to explore possibilities for coordination and partnerships. The GMCSWRP can be accessed at *https://www.greatermontereyirwmp.org/wp-content/uploads/2023/02/Greater-Monterey-County-SWRP_Final-Plan_2023_01_20_low-res.pdf.*

One project described in the GMCSWRP pertinent this Annual Report identifies an opportunity to capture stormwater and/or industrial wastewater from the City of Salinas that could be utilized as new water supply source for the PWM. This is referred to as the *Salinas Project to Enhance Regional Stormwater Supply (SPERSS) Design Project.* The City of Salinas provided this update on the SPERSS:

The SPERRS project is for the purpose of constructing stormwater improvements at existing facilities to increase water supply reliability and reduce nonpoint source pollution in the Salinas region and the Monterey Peninsula. Project tasks include:

Salinas Treatment Plant No. 1 (Phase 2A)

Plans are at 95% with an expected bid date in December 2024

- Trash capture device upstream of the Salinas Stormwater Pump Station.
- M1W assessed the integrity of an abandoned in place 33-inch pipeline which was previously used to convey industrial wastewater from the food processors in the City of Salinas to the Industrial Wastewater Treatment Facility, and submitted the necessary reports.
- Modifications to Existing Stormwater PS, 2-new flow meters to measure flows diverted to existing 33-inch pipeline and to existing 42-inch IWW pipeline; two (2) new diversion MHs.
- Pipeline to convey runoff from the existing stormwater pump station to a diversion manhole, valves and accessories and Electrical/Instrumentation work associated with Stormwater Diversion.

Industrial Wastewater Treatment Facility (Phase 2B)

Project bids were opened on October 15, 2024. Bids received were higher than available funds.

- New diversion structure.
- New influent pump station. – Three Submersible Pumps
- New Electrical Building to house all electrical/instrumentation components.
- New Emergency Generator
- Pipeline from the new influent pump station to the existing aeration lagoon.
- New Flow Meter
- Pipeline to divert excess flow from the new influent pump station to the existing emergency storage basin.
- Three vertical turbine pumps at the existing influent pump station to divert stormwater flow to Pond 1.
- Pipeline from existing influent pump station to the existing percolation Pond No. 1
- Site Improvements.

Phase 2A and 2B will be combined and a reduced scope developed to fit within the available funds. The combined project is expected to be bid in December.

A November 2024 article by Kevin Dayton in the *Salinas Valley Chamber of Commerce Business Journal* provided amplifying background information related to this topic:

- City of Salinas Industrial Wastewater to the Castroville Seawater Intrusion Project (2013)
  Established during World War II, the Salinas Industrial Wastewater conveyance and treatment system consists of wastewater pipelines in South Salinas that bring industrial processing wastewater (primarily "ag wash" from produce cleaning) to evaporation and percolation ponds near the Salinas River, at the intersection of Davis Road and Reservoir Road.

  In the early 2010s, the City of Salinas was dealing with a volume of industrial wastewater inflows that threatened to exceed the regulatory capacity of the ponds. At the same time, the CSIP was short of irrigation water because of drought. The solution for both problems was to have the City of Salinas work with M1W and MCWRA to divert the industrial wastewater to M1W's Regional Treatment Plant. The industrial wastewater was treated and then used to provide additional water supply to the CSIP.

  In 2013, M1W and the City of Salinas began trials for diverting industrial wastewater through the Salinas Pump Station to the Regional Treatment Plant. A permanent "shunt" at the Salinas Pump Station was completed in 2015 for this purpose. M1W is not conveying water to CSIP under the Pure Water Monterey program, it is conveying raw industrial wastewater and water from pond 3 of the Industrial Wastewater Treatment Plant to the M1W Regional Treatment Plant under separate short-term temporary agreements with the City of Salinas.

  Infrastructure was completed in 2020 for the diversion of water from the Reclamation Ditch, Blanco Drain, urban stormwater from South Salinas, and pond 3 of the Industrial Wastewater Treatment Plant.

  The Salinas River flooded in March 2023 and inundated the evaporation and percolation ponds of the Salinas River Industrial Wastewater Treatment Plant. M1W utilized the permanent diversion facility ("the shunt") built at the Salinas Pump Station

in 2015, which allowed the Salinas agricultural processing facilities to continue operating while the flooded ponds were unable to receive industrial wastewater flows. During the floods, silt from the river was deposited in the ponds and reduced their wastewater volume capacity. As a result, the City of Salinas has since struggled to comply with Central Coast Regional Water Quality Control Board regulations limiting the height of the water levels in the ponds.

From February 16 to April 21, 2024, M1W pumped excess pond 3 water to the M1W Regional Treatment Plant to help the City of Salinas keep its pond levels below regulatory limits. Blended with municipal wastewater, the excess pond 3 water was conveyed to the M1W Regional Treatment Plant and received primary and secondary treatment. M1W then released the treated wastewater into Monterey Bay via its ocean outfall.

In June 2024, the City of Salinas again asked M1W to help reduce pond levels by pumping wastewater from pond 3 to the Regional Treatment Plant. The City of Salinas would pay for conveying the pond 3 wastewater to the Regional Treatment Plant and would also pay the costs of treatment if the wastewater was ultimately sent to the ocean outfall. However, MCWRA would pay for treatment of any wastewater that originated from pond 3 and was recycled for the CSIP. The Pure Water Monterey program would pay for treatment of any wastewater that originated from pond 3 and was recycled for injection into the Seaside Groundwater Basin.

At its meeting on August 20, 2024, the Salinas City Council approved an agreement with M1W to temporarily divert wastewater from Pond 3 of the Salinas Industrial Wastewater Treatment Plant to the M1W Regional Treatment Plant.

- Regional Urban Water Program
  Under its 1989 annexation agreement with MCWD M1W provides recycled water for MCWD's Regional Urban Water Augmentation Program (RUWAP). RUWAP is intended to provide recycled water for landscape irrigation, including California State University Monterey Bay playing fields, and (as of 2023) the Bayonet and Blackhorse golf courses in the City of Seaside.

MCWRA Provided this Update on the Status of the Amended and Restated Water Recycling Agreement (ARWRA) with M1W:

In June 2022 MCWRA notified M1W that the conditions precedent to share new source waters for PWM groundwater replenishment and the Castroville Seawater Intrusion Project (CSIP) could not be met and therefore the two agencies will split the source waters, as described in the ARWRA. The two agencies have been working on a long-term agreement between themselves and the City of Salinas, to utilize the Industrial Wastewater. The ARWRA states that MCWRA is the recipient of that water but also contemplates various ways for the parties to share resources when deemed excess or unwanted. Unfortunately, as of the date of preparation of this Annual Report an agreement on the terms has not been reached between the three parties. PWM continues to utilize a portion of the new source waters in addition to wastewater deemed excess, to continue to recycle water for groundwater replenishment in the Seaside Basin. Numerous parties are performing feasibility studies to determine if

available water resources can be recycled or reused to balance the180/400 subbasin in the Salinas Valley. Those study results should be available in the next year.

Related to the City of Salinas's Industrial Wastewater Treatment Plant and Storm System, M1W provided this information about a recently started project under a grant from the State:

> The Central Coast Wetlands Group designed, and as of the date of preparation of this Annual Report was nearing completion of construction of, a small pilot wetland at the Industrial Wastewater Treatment Facility. This project is designed to determine if the wetland can help remove any nutrients that are present in the industrial wastewater or stormwater runoff sent to the Industrial Wastewater Treatment Facility. The wetland plants will be established, the system will be managed, and the results will be monitored, followed by a report on the results.

Some of the projects discussed in the 2018 SWMP have the potential to minimally benefit the Seaside Basin. These are described below.

City of Seaside: The Del Monte Manor project in the City of Seaside was completed in 2023. This project diverts portions of the stormwater that is captured in this area into an infiltration structure.

City of Sand City: The City of Sand City is currently designing the West End Stormwater Improvement Project on Contra Costa Street and Catalina Street. The Contra Costa Street portion is funded by a State Water Resources Control Board (SWRCB) Proposition 1 Stormwater Grant (technical assistance and implementation) and the Catalina Street portion is funded by a Department of Water Resources (DWR) Proposition 1 Integrated Regional Water Management Program (IRWMP) Grant. At the time of preparation of this 2024 Annual Report, both projects are in design with construction anticipated to begin in 2025.

Project Description
The West End Stormwater Improvement Project is a retrofit of two existing collector streets, Contra Costa Street and Catalina Street, to incorporate Low Impact Development (LID) best management practices (BMPs) to improve stormwater runoff quality, augment local groundwater supplies, mitigate flooding, provide urban green space, and reduce pollutant load discharges to the Monterey Bay National Marine Sanctuary. The Project proposes to install bioretention facilities (i.e., urban rain gardens), trash capture devices, permeable pavement, drought tolerant landscaping and trees, and subsurface infiltration chambers. The Project will construct new curb, gutter, sidewalks, curb extensions, crosswalks, and it will improve pedestrian access throughout the corridor. The Project will install traffic calming measures to improve safety for users.

Both Projects are designed to capture, treat, and infiltrate urban storm water runoff to reduce 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

In October 2022, the City of Monterey received a $25,000 Local Agency MPWMD grant to help with the costs of survey work for the Olivier Street Stormwater Diversion Project (previously known as the Tunnel Diversion Project). The Project will divert urban stormwater drainage from an existing storm drain, currently discharging untreated into the Harbor/Monterey Bay, to an existing City sanitary sewer utility for treatment at M1W's Regional Wastewater Treatment Plant. This diversion is estimated to 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 the discharge into the Bay. The City is now coordinating with MPWMD on an additional State funding award through MPWMD to assist with the design and construction of the project.

Lake El Estero Urban Diversion Project

The City of Monterey has received State funding for this project and is working on the design and environmental 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 for treatment at M1W's Regional Wastewater Treatment Plant.

These diversion projects will increase the amount of water that can be recycled for beneficial reuse

6. Reduction in Pumping in the Laguna Seca Subarea

As mentioned in the 2022 Annual Report, in 2020 CAWC completed construction of an intertie pipeline that enabled 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%.

7. Obtaining Replenishment Water.

As described in Section J under the subheading "Basin Management Action Plan," and above in the subsection of this Section titled "Summary of Basin Conditions and Important Developments Concerning the Management of the Basin," 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.

Potential sources of replenishment water include the MPWSP's desalination plant and the 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. Other potential sources being evaluated by MCWD include a Phase II PWM project to deliver recycled water to areas in the former Fort

Ord, MCWD's Reservation Road desalination project, and pumping groundwater from MCWD's wells for injection into the Seaside Basin.

As reported in the 2022 Annual Report, it was found that there are no State or Federal funding programs that could provide money to purchase replenishment water. All of those programs only provide funding for planning, design, and construction of projects, but not for operational costs once the projects are constructed. Discussions 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. In 2023 the Watermaster formed an ad hoc committee to develop concepts and/or funding mechanisms for replenishing the Seaside Basin, once replenishment water becomes available. On October 7, 2024 the ad hoc committee received a presentation from MCWD regarding the potential replenishment water sources described in the preceding paragraph. Meetings of that ad hoc committee were ongoing as of the date of preparation of this 2024 Annual Report.

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 alone does not accomplish this, and an additional source of replenishment water will be needed.

A summary of the Technical Memorandum describing the work that led to these conclusions was contained in Attachment 9 of the 2022 Annual Report.

As reported in the 2023 Annual Report, studies performed for the Watermaster 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. A summary of this work was contained in Attachment 9 of the 2023 Annual Report.

The Watermaster considered performing additional analyses to reflect the impacts from more severe climatic conditions of reduced rainfall and longer periods of drought. However, it was concluded that such additional analyses would be unlikely to provide any further information that would be useful in Basin management. A Memorandum summarizing this work and the basis for not conducting additional analyses was contained in Attachment 10 of the 2023 Annual Report.

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. The FY 2025 budgets contained in Attachment 6 support carrying out all elements of the 2025 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 2025.

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 and which will be updated in 2025, will be implemented if seawater intrusion is detected within the Basin.

As of the date of preparation of this 2024 Annual Report, no future status conferences with the Court have been scheduled.

LISTING OF ACRONYMS USED IN THIS ANNUAL REPORT

AF - acre-feet
ASR - Seaside Basin Aquifer Storage and Recovery program
Basin - The adjudicated Seaside Groundwater Basin
BLM - Bureau of Land Management
BMAP - Basin Management Action Plan
CASGEM - California Statewide Groundwater Elevation Monitoring
CAWC - California American Water Company
CCRWQCB – Central Coast Regional Water Quality Control Board
DDW – State Water Resources Control Board Division of Drinking Water
Decision - Decision filed February 9, 2007 by the Superior Court in Monterey County under Case No. M66343 - California American Water v. City of Seaside et al.
DWR - California State Department of Water Resources
GMCSWRP - Greater Monterey County Storm Water Resources Plan
GSA - Groundwater Sustainability Agency
GSP - Groundwater Sustainability Plan
LSSA - Laguna Seca Subarea
M1W - Monterey One Water (formerly Monterey Regional Water Pollution Control Agency)
MCWD - Marina Coast Water District
MCWDGSA - Marina Coast Water District Groundwater Sustainability Agency
MPWMD - Monterey Peninsula Water Management District
MPWSP - Monterey Peninsula Water Supply Project
M&MP - Monitoring and Management Program
NSY - Natural Safe Yield
PWM - Pure Water Monterey Project
PWMX – Pure Water Monterey Expansion Project
RUWAP - Regional Urban Water Augmentation Program
SGMA - Sustainable Groundwater Management Act
SIAR - Seawater Intrusion Analysis Report
SIRP - Seawater Intrusion Response Plan
SVBGSA - Salinas Valley Basin Groundwater Sustainability Agency
SWRCB - State Water Resources Control Board
SWRP - Storm Water Resources Plan
TAC - Technical Advisory Committee
USGS - United States Geological Survey
WY - Water Year

SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	5
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.

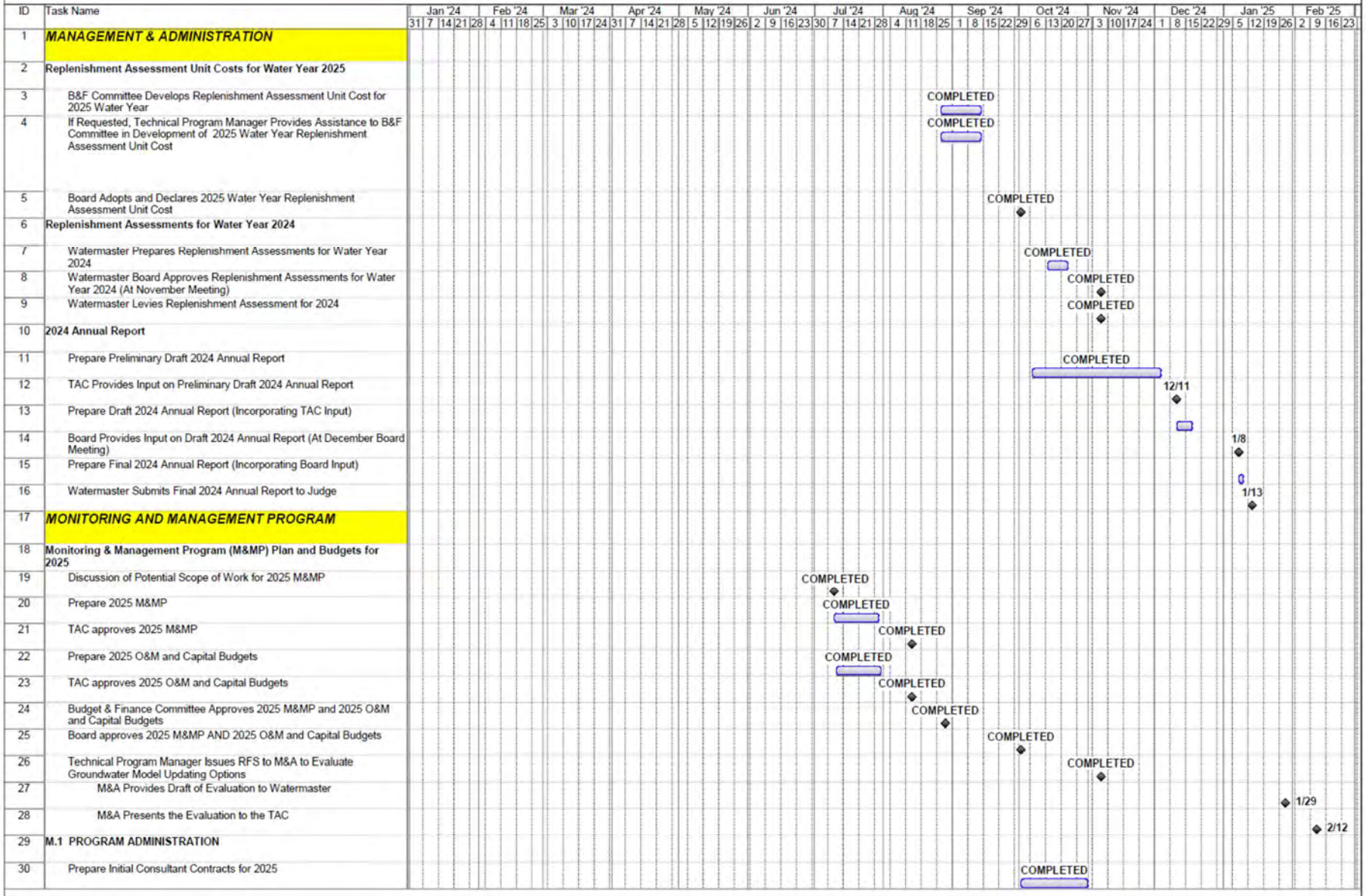
Attached are the updated schedule for 2024 activities, and the proposed schedule for 2025 activities. The 2024 schedule now shows M&A performing an evaluation of options for updating the Seaside Basin Groundwater Model. A contract for that work was approved by the Board at its November 6, 2024 meeting, and the TAC authorized the Technical Program Manager to have this work performed at its August 14, 2024 meeting. M&A looked at the draft schedule for updating the Model, and felt that as a place holder it looks reasonable, but they think we will likely need to revise it next year after the evaluation of options has been performed and we have a better understanding of the actual scope of the model update work, and the complexity and level of effort and staffing needs associated with that scope.

Some activities which may be needed in 2025, 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.

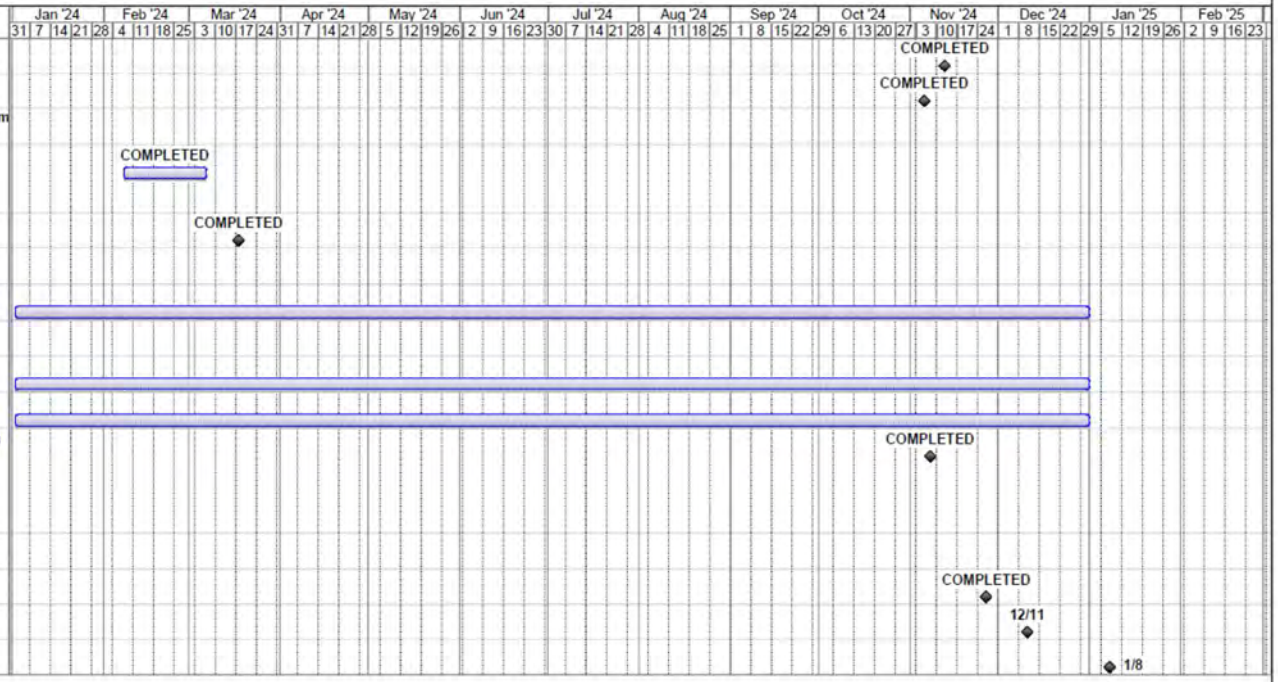
There will be no need for a January 2025 TAC meeting, so the next TAC meeting will be on Wednesday February 12, 2025 at 1:30 p.m.

ATTACHMENTS:	**1.** Updated Schedule of Work Activities for FY 2024 **2.** Proposed schedule for 2025 activities
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to the Schedules

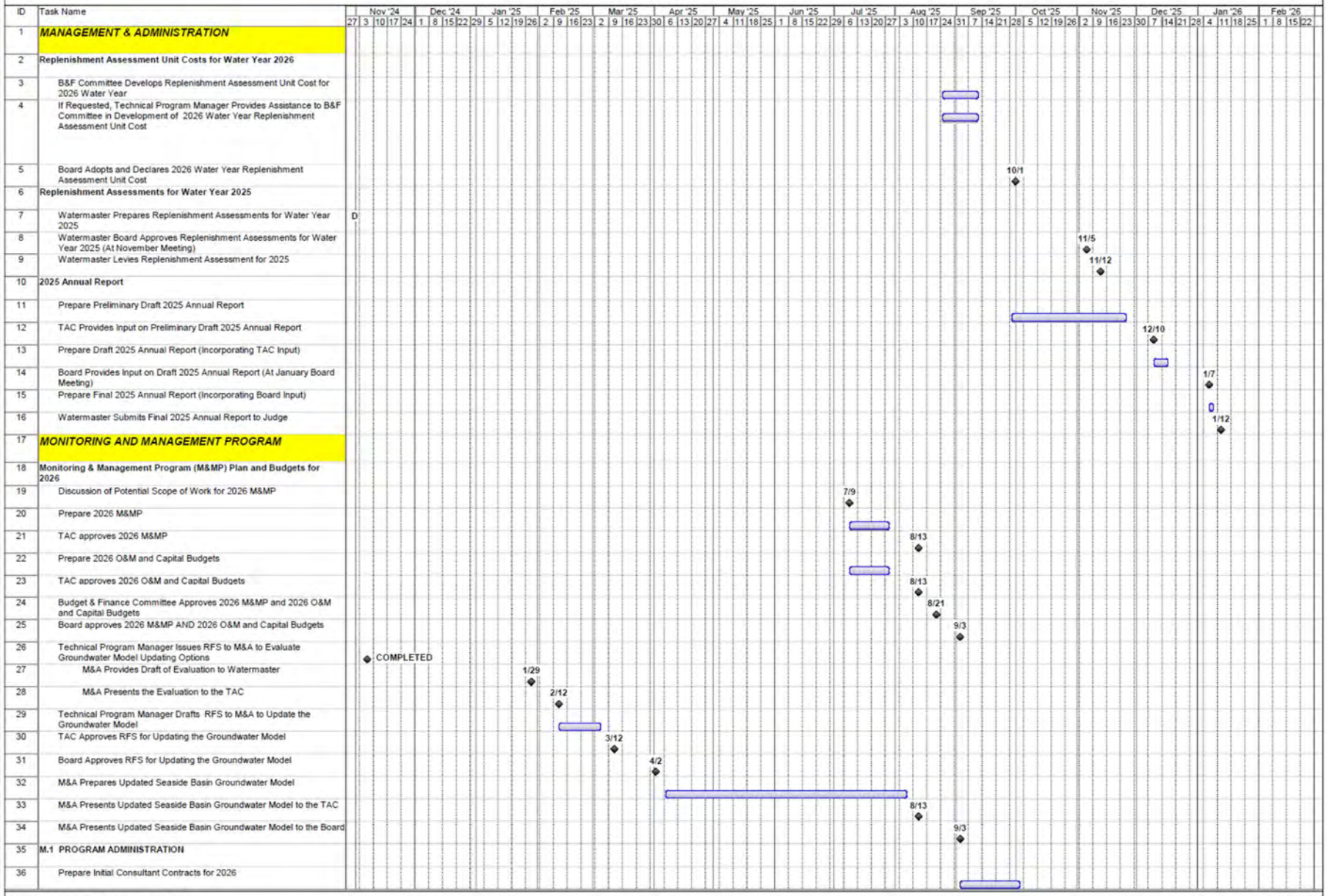
Seaside Basin Watermaster
2024 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2024 Monitoring and Management Program
Work Schedule

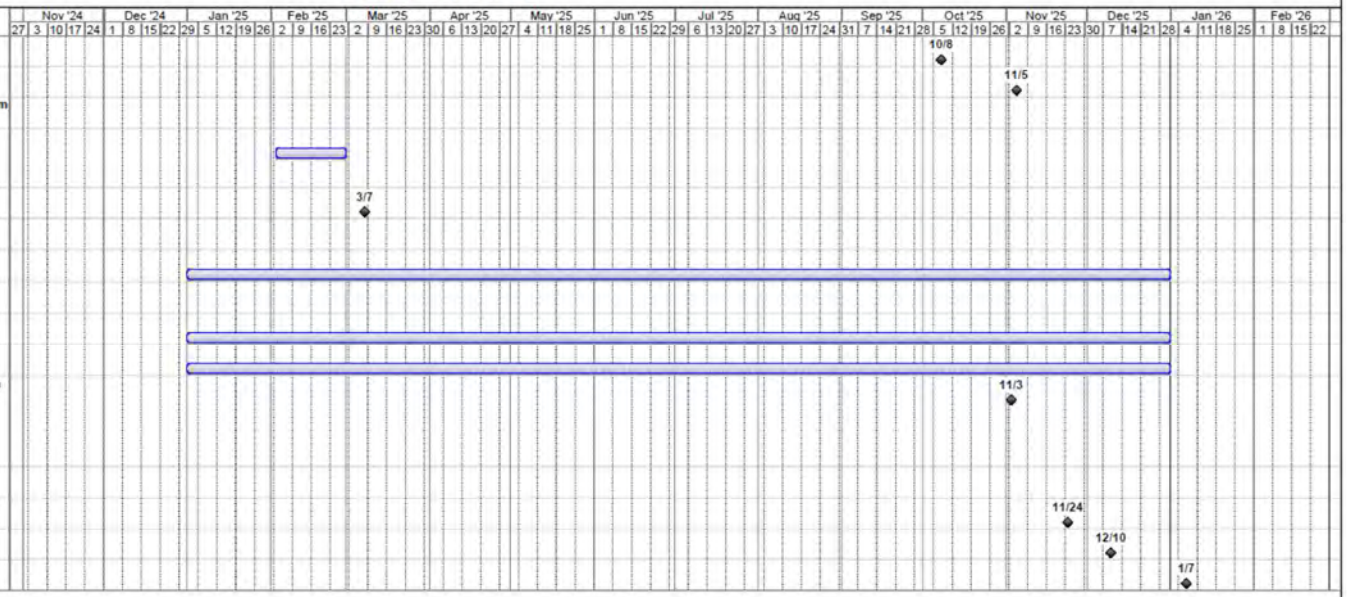


Seaside Basin Watermaster
2025 Monitoring and Management Program
Work Schedule



Seaside Basin Watermaster
2025 Monitoring and Management Program
Work Schedule

ID	Task Name
37	TAC Approval of Initial Consultant Contracts for 2026
38	Board Approval of Initial Consultant Contracts for 2026
39	**M.1.g – Sustainable Groundwater Management Act Reporting Requirem**
40	Montgomery & Associates Prepares Draft Groundwater Storage Analysis
41	Submit SGMA Documentation to DWR
42	**I.2.a DATABASE MANAGEMENT**
43	**I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance**
44	**I.2.b DATA COLLECTION PROGRAM**
45	**I.2.b.2 Collect Monthly Water Levels (MPWMD)**
46	**I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)**
47	**I.2.b.6 MPWMD provides annual water quality and water level data to Montgomery & Associates for inclusion in the 2025 SIAR**
48	**I.4.c Annual Seawater Intrusion Analysis Report (SIAR)**
49	Montgomery & Associates Provides Draft 2025 SIAR to Watermaster
50	TAC Provides Comments/Questions About Draft 2025 SIAR to Technical Program Manager
51	Board Approves 2025 SIAR



SEASIDE BASIN WATER MASTER TECHNICAL ADVISORY COMMITTEE

** * * AGENDA TRANSMITTAL FORM * * **

MEETING DATE:	December 11, 2024
AGENDA ITEM:	6
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