

**SEASIDE GROUNDWATER BASIN WATERMASTER
REGULAR MEETING OF THE BOARD OF DIRECTORS**

VIRTUAL

Wednesday, June 1, 2022 – 2:00pm Draft Agenda

IN KEEPING WITH GOVERNOR NEWSOM’S EXECUTIVE ORDERS N-29-20 AND N-35-20, THE WATERMASTER REGULAR BOARD MEETING WILL NOT BE HELD IN PERSON. YOU MAY ATTEND AND PARTICIPATE IN THE MEETING BY JOINING 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) AT THIS WEB ADDRESS:

<https://us02web.zoom.us/j/81150780956?pwd=Vnl0N3FnYmJQc1JlVmJpV0tkdXNtdz09>

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Meeting ID: 811 5078 0956 Passcode: 114935

Watermaster Board

Coastal Subarea Landowner – Director Paul Bruno, Chair

City of Seaside – Mayor Ian Oglesby

California American Water – Director Christopher Cook

City of Sand City – Mayor Mary Ann Carbone

Monterey Peninsula Water Management District – Director George Riley

Laguna Seca Subarea Landowner – Director Wesley Leith

City of Monterey – Councilmember Dan Albert, Vice Chair

City of Del Rey Oaks – Councilmember John Gaglioti

Monterey County/Monterey County Water Resources Agency – Supervisor Wendy Root Askew, District 4

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMUNICATIONS

Oral communications are on each meeting agenda in order to provide members of the public an opportunity to address the Watermaster on matters within its jurisdiction. Matters not appearing on the agenda will not receive action at this meeting but may be referred to the Watermaster Administrator or may be set for a future meeting. Presentations will be limited to three minutes or as otherwise established by the Watermaster. In order that the speaker may be identified in the minutes of the meeting, it is helpful if speakers state their names.

IV. REVIEW OF AGENDA

A vote may be taken to add to the agenda an item that arose after the 72-hour posting deadline pursuant to the requirements of Government Code Section 54954.2(b). (A 2/3-majority vote is required).

V. CONSENT CALENDAR

- A.** Consider Approving Minutes of Regular Board meeting held May 4, 2022 3
- B.** Consider Approving Summary of Payments made April 2022 for \$13,813,1023,064.47..... 7
- C.** Consider Approving Fiscal Year 2022 Financial Reports through April 30, 2022 9
- D.** TAC Recommendation to the Board Regarding Preparing a Sustainable Yield Analysis 15
- E.** Results from March 2022 Induction Logging of the Sentinel Wells and Recommendation to Reduce Frequency of Induction Logging 17

VI. ORAL PRESENTATION – None

VII. OLD BUSINESS

A. TECHNICAL ADVISORY COMMITTEE (TAC)

 i. Initial Findings from Replenishment Water Modeling Work and Recommendation to Perform Additional Replenishment Water Analyses 23

VIII. NEW BUSINESS

IX. INFORMATIONAL REPORTS (No Action Required)

 A. Technical Advisory Committee (TAC) meeting minutes April 27 (review on website at <https://www.seasidebasinwatermaster.org/sbwmARC.html>) and Draft May 11, 2022..... 39

 B. Watermaster Report of Production second quarter Water Year 2022 (Jan 1 – Mar 31, 2022)..... 43

 C. Correspondence from Watermaster to Department of Water Resources re: Final Draft Groundwater Sustainability Plan for the Monterey Subbasin of the Salinas Valley Groundwater Basin 45

 D. Correspondence Between CAW, Pure Water Monterey and MPWMD regarding ASR-01 53

 E. Mission Memorial Park Replenishment Assessment Update 63

X. DIRECTOR’S REPORTS

XI. STAFF COMMENTS

XII. NEXT REGULAR MEETING DATE

 A. Consider setting the next regular meeting date for **July 6, 2022 - 2:00 P.M.**

XIII. ADJOURNMENT

This agenda was forwarded via e-mail to the City Clerks of Seaside, Monterey, Sand City and Del Rey Oaks; the Clerk of the Monterey Board of Supervisors, the Clerk to the Monterey Peninsula Water Management District; the Clerk at the Monterey County Water Resources Agency, Monterey One Water and the California American Water Company for posting on May 26, 2022 per the Ralph M. Brown Act, Government Code Section 54954.2(a).

**SEASIDE GROUNDWATER BASIN WATERMASTER
REGULAR MEETING MINUTES**

Wednesday, May 4, 2022 Via Zoom Teleconference

I. CALL TO ORDER – The meeting was called to order at 2:03pm

II. ROLL CALL

Coastal Subarea Landowner – Director Paul Bruno – Chair

City of Del Rey Oaks – Council Member John Gaglioti

Laguna Seca Subarea Landowner – Director Wesley Leith

California American Water (CAW) – Director Christopher Cook

City of Monterey – Council Member Dan Albert – Vice Chair

Monterey Peninsula Water Management District (MPWMD) – Director George Riley

Monterey County/Monterey County Water Resources Agency – Supervisor Wendy Root Askew

City of Seaside – Mayor Ian Oglesby

Absent: City of Sand City – Mayor Mary Ann Carbone

Others Present: Robert Jaques, Watermaster Technical Program Manager (TPM)

Laura Paxton, Watermaster Administrative Officer (AO)

Jonathan Lear, MPWMD

Chris Campbell, Watermaster Legal Counsel

Lorrie Muriel, Mission Memorial Park

Steve Gurnee, Mission Memorial Park Legal Counsel

Alvin Edwards, Chair, MPWMD Board of Directors

Tim O’Halloran, Engineering Manager, CAW

Evan Jacobs, President, CAW

Yuri Anderson, Chief of Staff, Office of Supervisor Askew

Susan Schiavone

Michael Paxton, Assistant AO

III. PUBLIC COMMUNICATIONS – None

IV. REVIEW OF AGENDA – It was determined that a closed session was not appropriate or required.

V. CONSENT CALENDAR

A. Consider Adopting Watermaster Resolution 22-02 finding that continuing Covid pandemic state of emergency declared by Governor Newsom directly impacts ability of board to meet safely in person

B. Consider Approving Minutes of Regular Board meeting held January 5, 2022

C. Consider Approving Summary of Payments made December 2021 through April 2022 in the amount of \$123,577.90

D. Consider Approving Fiscal Year 2022 Financial Reports through March 31, 2022

Director Bruno noted item V.C. summary of payments presented were through March not April. Director Leith disapproved of Item A and requested it be pulled for separate vote.

It was moved by Council Member Dan Albert and seconded by Council Member Gaglioti to approve the consent calendar items B, C, and D with the correction to the Summary of Payments. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Aye; Council Member Albert – Aye; Council Member Gaglioti – Aye; Supervisor Askew – Aye. Motion carried 8-0.

It was moved by Supervisor Askew and seconded by Council Member Albert to approve Item A Resolution 22-02 of the consent calendar. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Nay; Council Member Albert – Aye; Council Member Gaglioti – Aye; Supervisor Askew – Aye. Motion carried 7-1.

VI. ORAL PRESENTATION – None

VII. NEW BUSINESS

- A. Consider Setting Policy / Revisions to Watermaster Rules and Regulations Regarding Replenishment Assessment Review.** AO Paxton reviewed her transmittal then referred the issue to Watermaster legal counsel Chris Campbell. Mr. Campbell reviewed his submitted opinion that the Watermaster board, not solely the court, has authority to make determinations in matters of its actions or decisions. The authority was codified in proposed amended revised Watermaster Rules and Regulations. The board was also asked to approve non-substantive editorial changes to the Watermaster Rules and Regulations.

It was moved by Director Riley and seconded by Council Member Albert to approve the amended revised Watermaster Rules and Regulations with removal of the word “promptly” in section 16.2 to read “The Watermaster Board will place the matter...” and to approve the non-substantive editorial changes. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Aye; Council Member Albert – Aye; Council Member Gaglioti – Aye; Supervisor Askew – Aye. Motion carried 8-0.

VIII. OLD BUSINESS

- A. Consider Making a Determination Regarding Mission Memorial Park (Alderwood) 2021 Over Production Replenishment Assessment Fee.** AO Paxton reviewed the item transmittal. The Watermaster board is authorized to review the Mission Memorial Park (MMP) appeal of its 2021 replenishment assessment fee and render a determination based on the revised Rules and Regulations approved in the previous item. The board heard from Watermaster Legal Counsel Campbell, MMP Manager Lorrie Muriel, and MMP Legal Counsel Steve Gurnee on details of what led to the inadvertent 2021 over production and actions now being taken to avoid any future over production. Directors Bruno and Leith felt the circumstances presented by MMP and the party’s past substantial under production of its allocation since inception of Watermaster warranted consideration. Both felt the fee, if exacted, should be redirected to MMP to cover its water saving expenditures. Director Bruno requested staff send to each Watermaster party on an annual basis a description of Watermaster, the party’s assigned production allocation, and the over-production fee schedule.

It was moved by Council Member Albert and seconded by Council Member Gaglioti to approve reducing the \$58,114.34 2021 Mission Memorial Park over production replenishment assessment to \$25,000 payable over time and require submission of an action plan on how Mission Memorial Park will avoid future over production. Director Bruno – Nay; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Nay; Council Member Albert – Aye; Council Member Gaglioti – Aye; Supervisor Askew – Aye. Motion carried 6-2.

IX. OTHER NEW BUSINESS

There was no other new business.

X. COMMITTEE REPORTS

A. TECHNICAL ADVISORY COMMITTEE (TAC)

- i. *Discuss/Consider further Watermaster input on the Final Draft Groundwater Sustainability Plan for the Monterey Subbasin.* TPM Jaques gave highlights from his transmittal.

Supervisor Askew left the meeting at 3:56 p.m.

It was moved by Council Member Gaglioti and seconded by Mayor Oglesby for Watermaster to submit a letter to the Department of Water Resources developed by TPM Jaques and Director Gaglioti that captures Jaques' comments and concisely frames Watermaster's intent in actively participating with other basins to achieve sustainability for all. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Aye; Council Member Albert – Aye; Council Member Gaglioti – Aye; Motion carried 7-0.

B. PUBLIC AWARENESS COMMITTEE

- i. *Consider approving the addition of a Public Awareness Page to the Watermaster website at a cost not to exceed \$3,000 and authorize a transfer from the Administrative Fund Reserve.* Ms. Paxton reviewed the item transmittal.

It was moved by Director Riley and seconded by Director Cook to approve the addition of a Public Awareness page to the Watermaster website at a cost not to exceed \$3,000 and authorize a transfer from the Administrative Fund Reserve. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Aye; Council Member Albert – Aye; Council Member Gaglioti – Aye; Motion carried 7-0.

The Board concurred that the letter once written by Jaques and Gaglioti could be signed by the president and mailed and presented to the other directors after the fact.

- ii. *Consider Ratifying Montgomery & Associates Request for Services (RFS) No. 2022-03 for \$5,000 issued by AO Paxton for Public Awareness Committee Scope of Work and authorize payment from the Administrative Fund Reserve.* Ms. Paxton reviewed the item transmittal.

It was moved by Director Riley and seconded by Director Cook to approve the ratification of Montgomery & Associates RFS No. 2022-03 not to exceed \$5,000 for development of a Watermaster Public Awareness Committee PowerPoint public presentation and authorize payment from the Administrative Fund Reserve. Director Bruno – Aye; Mayor Oglesby – Aye; Director Cook – Aye; Director Riley – Aye; Director Leith – Aye; Council Member Albert – Aye; Council Member Gaglioti – Aye; Motion carried 7-0.

XI. CLOSED SESSION

No closed session was held.

XII. INFORMATIONAL REPORTS (No Action Required)

- A. Minutes of January 11 and draft minutes of the February 8, 2022 Watermaster Public Awareness Committee Meeting
- B. Technical Advisory Committee (TAC) meeting minutes January 12 and March 9, 2022 (review on website at <https://www.seasidebasinwatermaster.org/sbwmARC.html>)
- C. Watermaster Report of Production second quarter Water Year 2022 (Jan 1, 2022 – Mar 31, 2022)
- D. Correspondence from Watermaster to Bureau of Reclamation in support of Pure Water Monterey Expansion Project
- E. Update on Security National Guaranty litigation and status of well repair

XIII. DIRECTOR'S REPORTS

XIV. STAFF COMMENTS

AO Paxton advised the Pure Water Monterey 2021 Annual Summary Report, and correspondence involving CAW, Monterey One Water, and MPWMD referencing the Watermaster Storage and Recovery Agreement with CAW/MPWMD will be posted for reference to the Watermaster website.

AO Paxton suggested a location to hold in-person Watermaster board meetings be investigated. Council Member Albert will contact Monterey Salinas Transit for possible use of that agency's meeting room.

XV. NEXT REGULAR MEETING DATE

- A. The next regular meeting date was set for **June 1, 2022 - 2:00 P.M.**

XVI. ADJOURNMENT – Chair Bruno adjourned the meeting at 4:19pm

								ITEM V.B
SEASIDE GROUNDWATER BASIN WATERMASTER								6/1/22
TO:	Board of Directors							
FROM:	Laura Paxton, AO							
DATE:	June 1, 2022							
SUBJECT:	Summary of Payments made April 2022							
RECOMMENDATIONS:								
Consider approving payment of bills submitted and authorized to be paid April 2022								
Summary of Payments Made December 2021								
Paxton Associates (Administrative Officer (AO))								
March 26, 2022 through April 25, 2022						42		\$ 4,620.00
Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Confer and strategize with Legal Counsel re: MMP; Call MMP attorney to push court date forward to allow resolution at 5/4 Board meeting; Send 4/15/22 due date reporting email notice; Process data collection payment from DBO/Calabrese; MMP transmittal for 5/4 meeting; Confer w/ Jaques re: modeling, MMP, and other; Jaques request for legal opinion; Arrange meeting with WM legal counsel and Jaques re: overproduction now OY at NSY; Follow up with Ed Ghandour; proces invoices and send to Seaside; Confer with C. Campbell, Jaques, and Cook re: overproduction; Follow up MMP collection payment; post Cal-Am Production; Call to WM legal counsel to include Damon in overproduction dialog; Follow up w/ Campbell re: Rules & Regs revision to address MMP; P. Orozco Call re: water transfers/carryover/base allocation; Summary of Payments; Decide whether to have 5/4 Board meeting; Draft agenda; Confer w/ Bruno re: Board meeting; email to MMP w/ 2022 trend toward overproduction; Finalize draft Rules & Regs; Revise agenda and send to Jaques; Rules & Regs transmittal; Post production; Collect and assemble documents for 5/4 Board meeting agenda packet; Confer w/ Jaques regarding Watermaster Issues; Collect/follow up/post production and level reporting. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.								
Robert Jaques (Technical Program Manager)								
April 1 through April 30, 2022						47		7,050.00
for/attend SVBGSA Advisory committee meetings 4/4, 4/13, 4/21, 4/23 and 4/28; Prepare 4/27 TAC meeting agenda packet; attend 4/27 TAC meeting; prepare minutes; Prepare Board Agenda Transmittals; Review MPWMD Water Supply Planning Committee agenda packet; start review of Cal Am UWMP as it relates to proposed additional replenishment modeling scenario requested by Cal Am; telecon w/ T. O'Halloran re: same; Telecon w/ T. O'Halloran, C. Cook, and P. Benito re: Cal Am Scenario 1 replenishment water modeling issues; send out TAC meeting rescheduling notice; prep. and send out list of Scenario 1 assumptions; Review/approve L. Paxton invoice; review letter from Cal Am hydrogeologist consultant re: replenishment water comments; complete review of Cal Am UWMP and email review notes to T. O'Halloran and C. Cook; Update schedule to reflect modeling of additional scenarios for replenishment water and flow direction/velocity ; review/approve M&A invoice; Telecon w/ C. Cook re: 4/13 Zoom meeting; Zoom meeting w/ C. Campbell, C. Cook, and L. Paxton re: pumping over allocated quantities per Decision; Telecon w/ E. Ghandour re: SNG well repairs; Review scope and cost proposal from P. Benito re: replenishment water additional modeling and send comments to him; telecon w/ P. Benito re: same; Telecon w/ M. Feeney re: reducing induction logging frequency at Sentinel Wells; telecon w/ P. Benito re: scope and cost proposal; telecon w/ D. Williams re: 180/400 foot aquifer GSP questions and delays in getting deliverables from M&A; work on edits to scope and								

Christopher Campbell, Baker Manock & Jensen (WM Legal Counsel)						1.7	300	\$ 510.00
						8.1	200	\$ 1,620.00
Payments through March 31, 2022						Telepone & Postage		13.10
								2,143.10
<p>the potential ways to address the Mission Memorial water usage. Conference with Mr. Campbell regarding facts and litigation strategy. Review and revisions to strategy memo to client; emails with Mr. Campbell regarding same. E-mails with Ms Paxton concerning the MMP water use and the petition filed against the Watermaster; review of the verified petition for writ of mandate and declaratory relief from the attorney for the Mission Memorial Park; e-mail to Ms Paxton to lay out the issue, likely outcomes and costs, and negotiation approaches; review of all the Mission Memorial Park complaints and detailed e-mail to Ms Paxton outlining the issues that need to be addressed. Emails with Mr. Campbell regarding service of petition and deadline for responsive pleading. Detailed Memo to Ms. Paxton concerning the issues and potential issues and strategies. Receipt and review of verified petition for writ of mandate and declaratory relief; telephone conference with Mr. Campbell regarding strategy for responding to same. Conference with Mr Palutzian concerning the petition by MMP. Call with Laura Paxton concerning the strategy to address the MMP petition; call with Laura Paxton concerning the approach to the over pumping by MMP and the out line of additional Rules and regulations to prevent additional over pumping incidents and more precise sanctions for over-pumping. initial drafting of same; call with Ms Paxton concerning the strategy to address the MMP excess production.</p>								
Martin B. Feeney, PG, CHg - Consulting Hydrogeologist								
January through March 2022 RFS 2022-01								9,251.37
Induction Logging of Sentinel Wells. Processing Data and Reporting								
						Total for April 2022		\$ 23,064.47

Seaside Groundwater Basin Watermaster
Budget vs. Actual Administrative Fund
 Fiscal Year (January 1 - December 31, 2022)
 Balance through April 30, 2022

	2022 Adopted Budget	Contract Amount	Year to Date Revenue / Expenses
Available Balances & Assessments			
Dedicated Reserve	-		-
FY (Rollover)	34,500.00		52,000.00
Admin Assessments	65,500.00		65,500.00
Available	100,000.00		117,500.00
Expenses			
Contract Staff	55,000.00	55,000.00	20,115.00
Legal counsel	20,000.00	20,000.00	3,143.00
Filing fees and postage			-
Total Expenses	75,000.00	75,000.00	23,258.00
Total Available	25,000.00		
Dedicated Reserve	25,000.00		25,000.00
Net Available	-		69,242.00

Seaside Groundwater Basin Watermaster
Budget vs. Actual Monitoring & Management - Operations Fund
 Fiscal Year (January 1 - December 31, 2022)
 Balance through April 30, 2022

	<u>2022 Adopted Budget</u>	<u>Contract Encumbrance</u>	<u>Year to Date Revenue/Expenses</u>
Available Balances & Assessments			
Operations Fund Assessment	\$ 232,878.00	\$ -	\$ 232,878.00
Pass Through		-	1,278.00
FY 2020 Rollover	38,000.00	-	50,950.00
Total Available	\$ 270,878.00	\$ -	\$ 285,106.00
Appropriations & Expenses			
GENERAL			
Technical Project Manager*	\$ 75,000.00	\$ 75,000.00	\$ 21,750.00
Contingency @ 10% (not including TPM)	17,807.00	-	
Total General	\$ 92,807.00	\$ 75,000.00	\$ 21,750.00
CONSULTANTS (Montgomery; Web Site Database)			
Program Administration	\$ 21,940.00	\$ 24,340.00	\$ 2,215.00
Production/Lvl/Qlty Monitoring	2,400.00		
Basin Management	30,000.00		946.00
Seawater Intrusion Analysis Report	26,290.00	26,290.00	-
Total Consultants	\$ 80,630.00	\$ 50,630.00	\$ 3,161.00
MPWMD			
Production/Lvl/Qlty Monitoring	\$ 68,876.00	68,876.00	-
Pass Through 2021		-	-
Basin Management	-		-
Seawater Intrusion	-	-	-
Direct Costs	-	-	-
Total MPWMD	\$ 68,876.00	\$ 68,876.00	\$ -
CONTRACTOR (Martin Feeney)			
Hydrogeologic Consulting Services	\$ 4,000.00	4,000.00	-
Production/Lvl/Qlty Monitoring	20,565.00	20,565.00	9,251.37
	\$ 24,565.00	\$ 24,565.00	\$ 9,251.37
CONTRACTOR (Todd Groundwater)			
Hydrogeologic Consulting Services	\$ 4,000.00	\$ 4,000.00	-
Total Appropriations & Expenses	\$ 270,878.00	\$ 223,071.00	\$ 34,162.37
Total Available	-		250,943.63

**Seaside Groundwater Basin Watermaster
 Budget vs. Actual Monitoring and Management - Capital Fund
 Fiscal Year (January 1 - December 31, 2022)
 Balance through April 30, 2022**

ITEM V.C.
6/1/22

	2022 Adopted Budget	Contract Encumbrance	Year to Date Revenue / Expense
Available Balances and Assessments:			
Monitoring & Management Fund - Capital	\$ 66,667		\$ 66,667
	-		-
Transfer out to Operations Fund	-		-
Subtotal	66,667		66,667
Appropriations & Expenses:			
Professional Services			
Project Management	-	-	-
Subtotal	-	-	-
Direct Costs			
Well Drilling -	-	-	-
Subtotal	-	-	-
Total Appropriations and Expenses	\$ -	\$ -	\$ -
Total Available	\$ 66,667.00		\$ 66,667.00

Seaside Groundwater Basin Watermaster											
Replenishment Fund											
Water Year 2022 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2022)											
Balance through April 30, 2022											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
	WY 05/06	WY 06/07	WY 07/08	WY 08/09	WY 09/10	WY 10/11	WY 11/12	WY 12/13	WY 13/14	WY 14/15	WY 15/16
Assessment Water Year											
Unit Cost:	a \$ 1,132 / \$283	\$ 1,132 / \$283	\$ 2,485 / \$21.25	\$ 3,040 / \$760	\$ 2,780 / \$695	\$ 2,780 / \$695	\$ 2,780 / \$695	\$ 2,780 / \$695	\$ 2,702/\$675.50	\$ 2,702/\$675.50	\$ 2,702/\$675.50
Cal-Am Water Balance Forward	b \$ -	\$ 1,641,004	\$ 4,226,710	\$ (2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (6,173,771)	\$ (3,102,221)	\$ (676,704)
Cal-Am Water Production (AF)	c 3,710.00	4,059.90	3,862.90	2,966.02	3,713.52	3,416.04	3,070.90	3,076.61	3,232.10	2,764.73	1,879.21
Cal-Am Water NSY Over-Production (AF)	d 1,862.69	2,266.32	2,092.16	1,241.27	1,479.47	1,146.71	820.48	856.42	1,032.77	782.17	-
Exceeding Natural Safe Yield Considering Alternative Producers	e \$ 2,106,652	\$ 2,565,471	\$ 5,199,014	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,280,943	\$ 2,380,842	\$ 2,790,539	\$ 2,113,414	\$ -
Operating Yield Overproduction Replenishment	f \$ -	\$ 20,235	\$ 8,511	\$ -	\$ -	\$ -	\$ 154,963	\$ 181,057	\$ 281,012	\$ 312,103	\$ -
Total California American	g \$ 2,106,652	\$ 2,585,706	\$ 5,207,525	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,435,907	\$ 2,561,899	\$ 3,071,550	\$ 2,425,516	
CAW Credit Against Assessment	h \$ (465,648)		\$ (12,305,924)	\$ (3,741,714)	\$ (5,095,213)	\$ (5,425,799)	\$ (5,111,413)				
CAW Unpaid Balance	i \$ 1,641,004	\$ 4,226,710	\$ (2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (6,173,771)	\$ (3,102,221)	\$ (676,704)	\$ (676,704)
City of Seaside Balance Forward	j \$ -	\$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)
City of Seaside Municipal Production (AF)	k 332.00	287.70	294.20	293.44	282.87	240.68	233.72	257.73	223.64	185.01	195.16
City of Seaside NSY Over-Production (AF)	l 194.07	153.78	161.99	153.06	113.21	50.84	58.82	85.17	52.71	25.77	37.87
Exceeding Natural Safe Yield Considering Alternative Producers	m \$ 219,689	\$ 174,082	\$ 402,540	\$ 465,300	\$ 314,721	\$ 141,335	\$ 163,509	\$ 236,782	\$ 142,410	\$ 69,630	\$ 102,330
Operating Yield Overproduction Replenishment	n \$ 12,622	\$ 85	\$ 4,225	\$ 16,522	\$ 20,690	\$ -	\$ 1,689	\$ 27,007	\$ 3,222	\$ 38	\$ 11,959
Total Municipal	o \$ 232,310	\$ 174,167	\$ 406,764	\$ 481,823	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside - Golf Courses (APA - 540 AFY)											
Exceeding Natural Safe Yield - Alternative Producer	p \$ -	\$ -	\$ 131,705	\$ 69,701	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Yield Overproduction Replenishment	q \$ -	\$ -	\$ 32,926	\$ 17,427	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Golf Courses	r \$ -	\$ -	\$ 164,631	\$ 87,128	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total City of Seaside*	s \$ 232,310	\$ 174,167	\$ 571,395	\$ 568,951	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside Late Payment 5%	t \$ 10,984	\$ 8,704	\$ 26,712	\$ 26,750	\$ 15,737						
In-lieu Credit Against Assessment	u \$ -	\$ -	\$ -	\$ (1,079,613)	\$ (1,142,858)	\$ (828,996)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)	\$ (162)
City of Seaside Unpaid Balance	v \$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)	\$ (3,232,420)
Mission Memorial Park											
Mission Memorial Park Production (AF)	w		20.80	26.40	12.80	22.40	27.00	24.95	24.89	17.97	13.67
Mission Memorial Park NSY Over-Production (AF)	x	-	-	-	-	-	-	-	-	-	-
Exceeding Natural Safe Yield - Alternative Producer	y \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Operating Yield Overproduction Replenishment	z \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Mission Memorial Park	aa \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Replenishment Fund Balance	bb \$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
Replenishment Fund Balance Forward	cc \$ -	\$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)
Total Replenishment Assessments	dd \$ 2,349,946	\$ 2,768,576	\$ 5,805,632	\$ 4,369,165	\$ 4,464,082	\$ 3,329,189	\$ 2,601,104	\$ 2,825,688	\$ 3,217,182	\$ 2,495,183	\$ 114,290
Total Paid and/or Credited	ee \$ (465,648)	\$ -	\$ (12,305,924)	\$ (3,741,714)	\$ (6,174,826)	\$ (6,568,657)	\$ (5,940,409)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)
Grand Total Fund Balance	ff \$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
* 2010 = 319.55 AF golf course in-lieu replenishment and 68.8 AF 4-party agmt in-lieu replenishment											
2011 = 411.1 AF golf course in-lieu replenishment											
2012 = 298.2 AF golf course in-lieu replenishment											
2013 = 383.4 AF golf course in-lieu replenishment											
2014 = 552.4 AF golf course in-lieu capped at 540 AF											
2015 = 195.0 AF golf course in-lieu											
2016 = 00.06 AF golf course in-lieu											
2017 = 00.00 AF golf course in-lieu											

Seaside Groundwater Basin Watermaster									
Replenishment Fund									
Water Year 2022 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2022)									
Balance through April 30, 2022									
	2017	2018	2019	2020	WY 2021	Totals WY 2006 Through 2021	Budget WY 2022	Projected Totals Through WY 2022	
Replenishment Fund	2017	2018	2019	2020	WY 2021	Totals WY 2006 Through 2021	Budget WY 2022	Projected Totals Through WY 2022	
Assessment Water Year	WY 16/17	WY 17/18	WY 18/19	WY 19/20	WY 20/21		WY 21/22		
Unit Cost:	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,947 / \$737		\$2,947 / \$737		
Cal-Am Water Balance Forward	\$ (676,704)	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)		\$ (46,855,121)		
Cal-Am Water Production (AF)	2,029.51	2,229.45	2,120.22	2,245.88	1,664.04	46,041.03			
Cal-Am Water NSY Over-Production (AF)	64.40	374.65	284.85	334.21	-	14,638.57			
Exceeding Natural Safe Yield Considering Alternative Producers	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 959,859	\$ -	\$ 33,550,034	\$ 100,000	\$ 33,650,034	
Operating Yield Overproduction Replenishment				\$ 164,872	\$ -	\$ 1,122,753	\$ 20,000	\$ 1,142,753	
Total California American	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 1,124,731	\$ -	\$ 34,672,786	\$ 120,000	\$ 34,792,786	
CAW Credit Against Assessment		\$ (49,382,196)	\$ -	\$ -	\$ -	\$ (81,527,907)	\$ -	\$ (81,527,907)	
CAW Unpaid Balance	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,735,121)	\$ (46,735,121)	
City of Seaside Balance Forward	\$ (3,232,420)	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)		\$ (2,708,828)		
City of Seaside Municipal Production (AF)	188.31	184.63	178.40	181.65	174.69	3,733.83			
City of Seaside NSY Over-Production (AF)	30.47	32.46	27.82	32.06	25.52	1,235.62			
Exceeding Natural Safe Yield Considering Alternative Producers	\$ 87,512	\$ 93,225	\$ 79,893	\$ 92,089	\$ 75,197	\$ 2,860,242	\$ 100,000	\$ 2,960,242	
Operating Yield Overproduction Replenishment	\$ 2,409	\$ 27,026	\$ 22,550	\$ 24,886	\$ 18,806	\$ 193,734	\$ 10,000	\$ 203,734	
Total Municipal	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,003	\$ 3,053,977	\$ 110,000	\$ 3,163,977	
City of Seaside - Golf Courses (APA - 540 AFY)									
Exceeding Natural Safe Yield - Alternative Producer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 201,406		\$ 201,406	
Operating Yield Overproduction Replenishment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,353		\$ 50,353	
Total Golf Courses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 251,759		\$ 251,759	
Total City of Seaside*	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,003	\$ 3,305,736	\$ 110,000	\$ 3,415,736	
City of Seaside Late Payment 5%						\$ 88,887		\$ 88,887	
In-lieu Credit Against Assessment						\$ (6,103,451)		\$ (6,103,451)	
City of Seaside Unpaid Balance	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)	\$ (2,708,828)	\$ (2,708,828)	\$ (2,598,828)	\$ (2,598,828)	
Mission Memorial Park (APA - 31 AFY)									
Mission Memorial Park Production (AF)	13.74	14.43	16.07	20.00	46.77	301.89			
Mission Memorial Park NSY Over-Production (AF)	-	-	-	-	15.77	15.77			
Exceeding Natural Safe Yield - Alternative Producer	\$ -	\$ -	\$ -	\$ -	\$ 46,488	\$ 46,488		\$ 46,488	
Operating Yield Overproduction Replenishment	\$ -	\$ -	\$ -	\$ -	\$ 11,626	\$ 11,626		\$ 11,626	
Board Approved (5/4/22) Credit Against Assessment					(33,114)	(33,114)		(33,114)	
Mission Memorial Park Unpaid Balance	\$ -	\$ -	\$ -	\$ -	\$ 25,000	\$ 25,000		\$ 25,000	
Total Replenishment Fund Balance	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,538,949)	\$ (49,538,949)	\$ (49,333,949)	\$ (49,333,949)	
Replenishment Fund Balance Forward	\$ (3,909,125)	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)		\$ (49,538,949)		
Total Replenishment Assessments	\$ 274,877	\$ 1,196,246	\$ 920,540	\$ 1,241,706	\$ 119,003	\$ 38,092,410	\$ 230,000	\$ 38,322,410	
Total Paid and/or Credited		\$ (49,382,196)				\$ (87,631,358)	\$ 25,000	\$ (87,606,358)	
Grand Total Fund Balance	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,538,949)	\$ (49,538,949)	\$ (49,283,949)	\$ (49,283,949)	

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: June 1, 2022

SUBJECT: TAC Recommendation to the Board Regarding Preparing a Sustainable Yield Analysis

RECOMMENDATIONS:

The Sustainable Yield (SY) approach is a technically superior Basin management tool compared to the Natural Safe Yield (NSY) approach used in the Decision. However, an SY analysis should not be performed at this time because the Groundwater Sustainability Plans (GSPs) for the adjacent subbasins have not been sufficiently developed to assess their impacts on the Seaside Basin, and because no source of replenishment water for the Seaside Basin has been secured. This decision should be revisited annually.

If the Board approves this recommendation, no costs for performing an SY analysis will be included in the Watermaster's 2023 budget.

BACKGROUND:

The topic of performing an SY analysis of the Seaside Groundwater Basin has been discussed by the TAC and the Board at several meetings over the past few years, starting in 2019. This topic was most recently discussed by the TAC at its May 11, 2022 meeting, and by the Board at its September 1, 2021 meeting. Numerous background papers were included with the agenda transmittals at those meetings to inform the Board and TAC members about the SY approach and what would be involved in changing from the NSY to the SY approach. One of those attachments is included with this agenda transmittal providing background information on the differences between the NSY and SY approaches.

Those prior discussions covered a number of topics including:

- The technical work associated with performing an SY analysis would be a costly (over \$100K) and complex undertaking.
- Replacing NSY with SY would impact producer rights and/or allocations and would necessitate having an adjudication decision amendment that would most likely involve a lengthy court process and substantial litigation costs.
- Making this change would not be justified until a source for Seaside Basin replenishment water has been secured, because without raising groundwater levels through replenishment, neither the NSY nor the SY approaches would keep the Basin from continuing to be at risk of seawater intrusion..
- The impact on the Seaside Basin of implementation of the GSPs for the neighboring subbasins would need to be incorporated into an SY analysis.

DISCUSSION:

After discussing this topic at its May 11, 2022 meeting, the TAC felt that it would be premature to perform an SY analysis, principally because the Groundwater Sustainability Plans (GSPs) for the adjacent Monterey and 180/400-Foot Aquifer Subbasins have not been sufficiently developed or implemented in order to assess their impacts on the Seaside Basin.

The TAC, however, also felt that this decision should be revisited annually, as progress in implementing the GSPs is made, and progress toward obtaining a source of replenishment water is made..

ATTACHMENTS:

Background information on NSY and SY

Background Information
from
Montgomery & Associates and Todd Groundwater
on
Natural Safe Yield and Sustainable Yield

Natural Safe Yield is defined in the Decision as the quantity of groundwater existing in the Seaside Basin that occurs solely as a result of natural replenishment. The only truly natural replenishment is from percolation of rainfall into the aquifers and inflow of groundwater from adjacent basins. Through the use of the groundwater model we have come to understand that although some replenishment occurs from inflow from neighboring basins, more subsurface groundwater leaves the Seaside Basin than enters it, and there is a net subsurface loss from the Basin to neighboring basins. The amount of net outflow from the Basin over the past five years is more than the long-term average (1988-2017). If one assumes that rainfall recharge has remained essentially the same, then the biggest change to natural replenishment is increased outflow to neighboring basins. Increased injection for temporary storage of imported water and decreased native groundwater pumping have changed how groundwater moves within, and in and out of, the Basin. Another way to look at it is that increased Basin outflows are due to groundwater levels in the neighboring basins being lower than those in the Seaside Basin, thereby causing increased flows out of the Seaside Basin.

The method used to estimate Natural Safe Yield is now recognized as not being complete enough to take into account the complexities of inflows and outflows that are occurring and changing operations and conditions. These ultimately affect the amount of groundwater that can sustainably be pumped from the Basin.

A more robust method would be to use the groundwater model to optimize the amount of pumping that can be sustained (Sustainable Yield) at existing and/or new wells, using management targets such as meeting protective groundwater elevations and/or stopping declining groundwater levels. The SY approach would include performing an iterative series of modeling scenarios to determine how much water could be pumped by selected (the main production) wells while still achieving those management targets. Once determined, those values would become the new production allocations for those wells.

The Watermaster's *2019 Updated Basin Management Action Plan* includes a recommendation to use the Seaside Basin groundwater model to conduct additional model runs to simulate a combination of basin management actions and supplemental water supply projects that would be able to raise groundwater levels to protective levels. This would be part of the approach to estimate Sustainable Yield for the Basin.

**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: June 1, 2022

SUBJECT: Results from March 2022 Induction Logging of the Sentinel Wells and Recommendation to Reduce Frequency of Induction Logging

RECOMMENDATIONS:

Reduce the induction logging frequency of the four Sentinel Wells from semi-annually to annually starting in Water Year 2023. If the Board approves this recommendation, the cost to perform induction logging of the Sentinel Wells will be reduced by approximately \$10,000 in the Watermaster's 2023 budget.

BACKGROUND:

In 2007 the Watermaster constructed four of what are called "Sentinel Wells" along the coast. The purpose of these wells is to serve as a means of detecting the possible intrusion of seawater into the Seaside Basin aquifers.

Induction logging is a process by which changes in conductivity, an indicator of possible seawater intrusion, are measured in the soil surrounding these wells. If a trend in increasing conductivity is detected, it would be an indication that seawater intrusion is occurring.

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

DISCUSSION:

Attached are plots of the induction logging data from the March 2022 Sentinel Well logging event. As the plots show, the 2022 data is virtually identical to the data from the preceding years of induction logging.

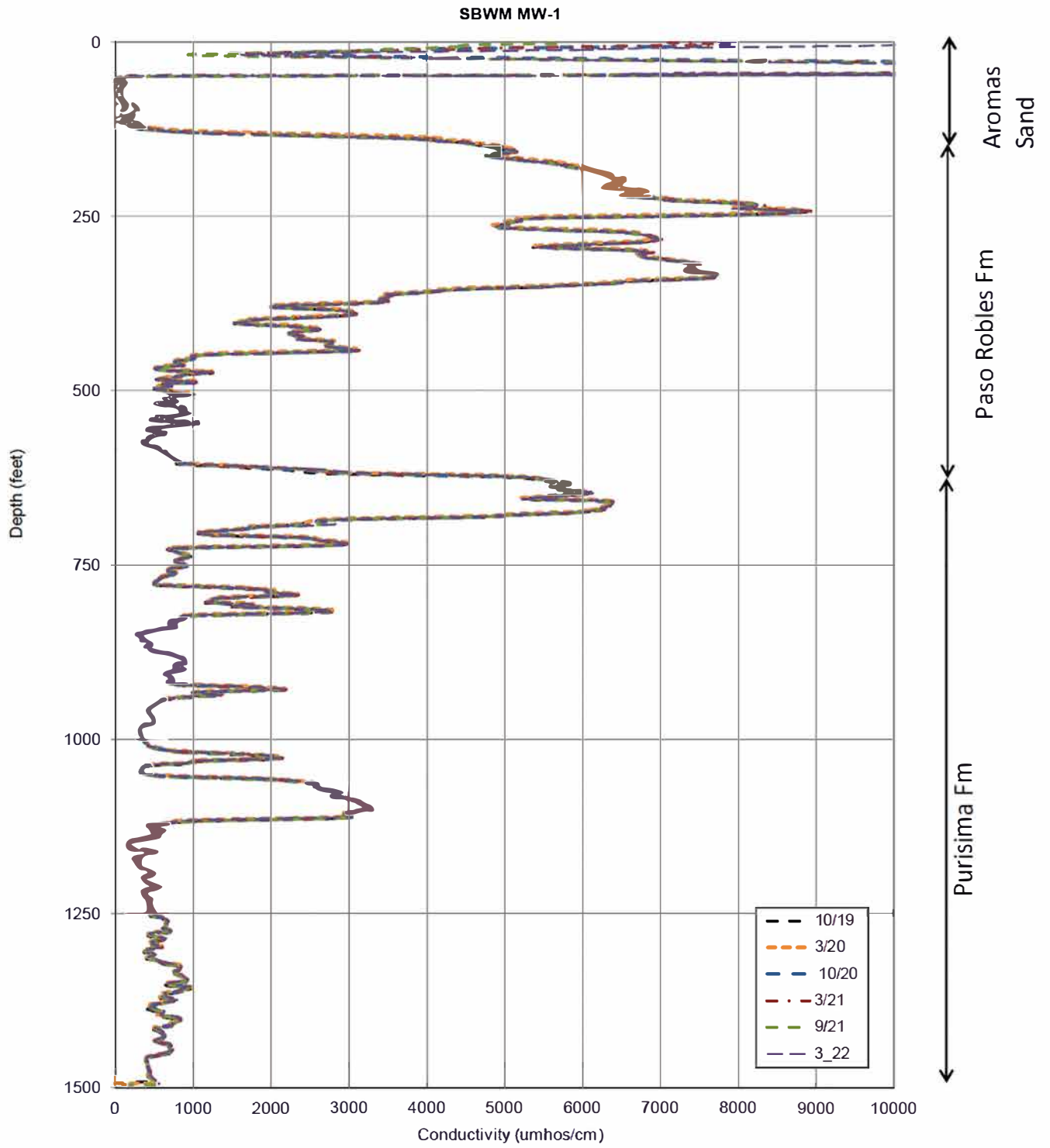
Martin Feeney, the Watermaster's consultant who has performed this induction logging each year starting in 2007, reports that the March 2022 data shows no detectable change in formation conductivity. Thus, the induction logging does not show any indication of the start of seawater intrusion in any of the formations within which production wells are located (primarily the Paso Robles and Santa Margarita formations).

Since the results of the logging ever since the start of logging many years ago continue to be the same, and do not show any intrusion occurring, Mr. Feeney also recommended that the frequency of induction logging of these wells can now be reduced from semi-annually to annually. His recommendation was concurred with by Ms. King and Mr. Williams of Montgomery & Associates, the Watermaster's primary hydrogeologic consultants.

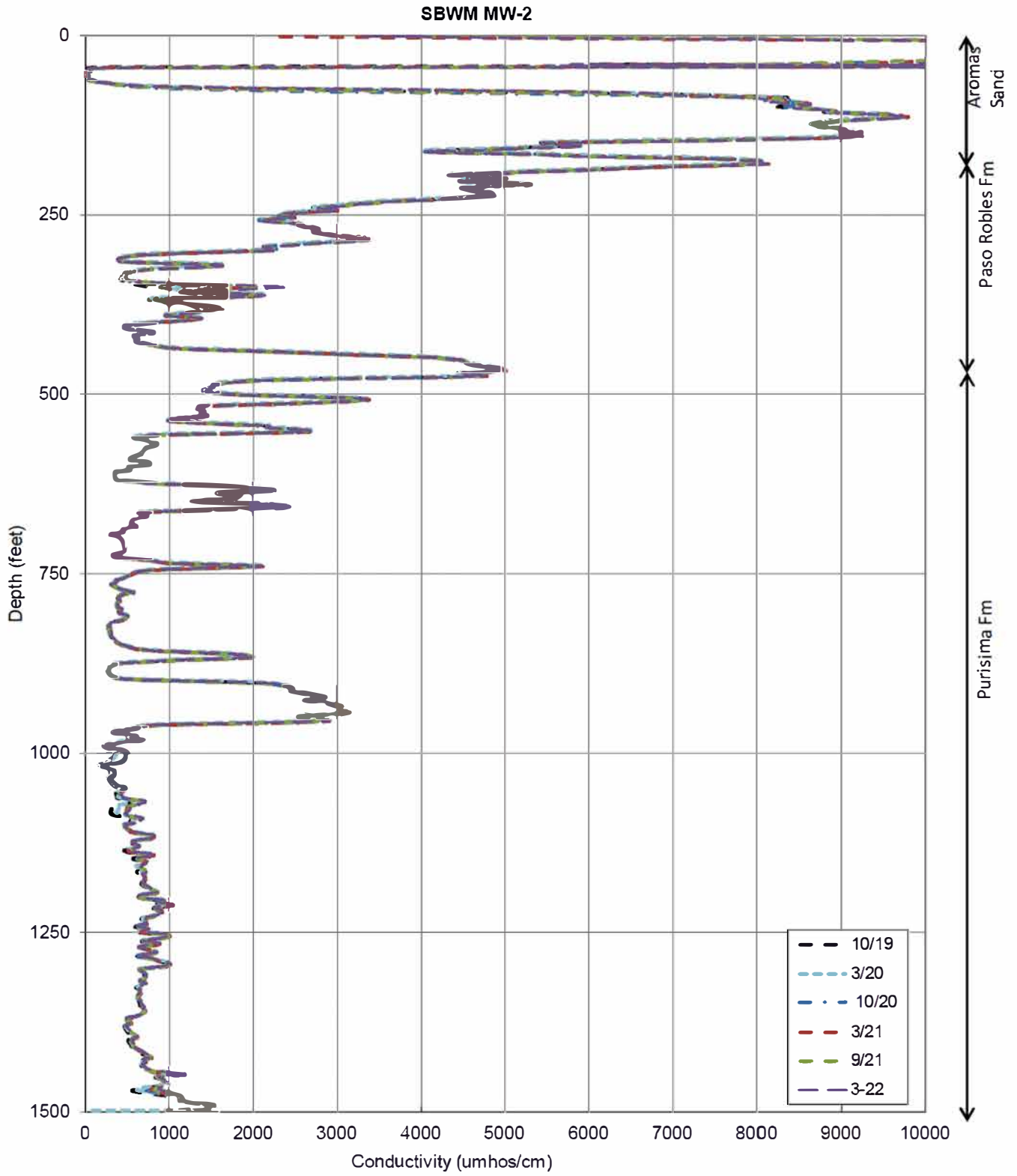
The TAC discussed this topic at its May 11, 2022 meeting and there was unanimous concurrence with Mr. Feeney's recommendation. If approved by the Board, reducing the induction logging frequency would be reported in the 2022 Annual Report that is filed with the Court at the end of each Water Year, and the reduced frequency would be implemented starting in Water Year 2023.

ATTACHMENTS: Induction logs from March 2022

SENTINEL WELLS CONDUCTIVITY

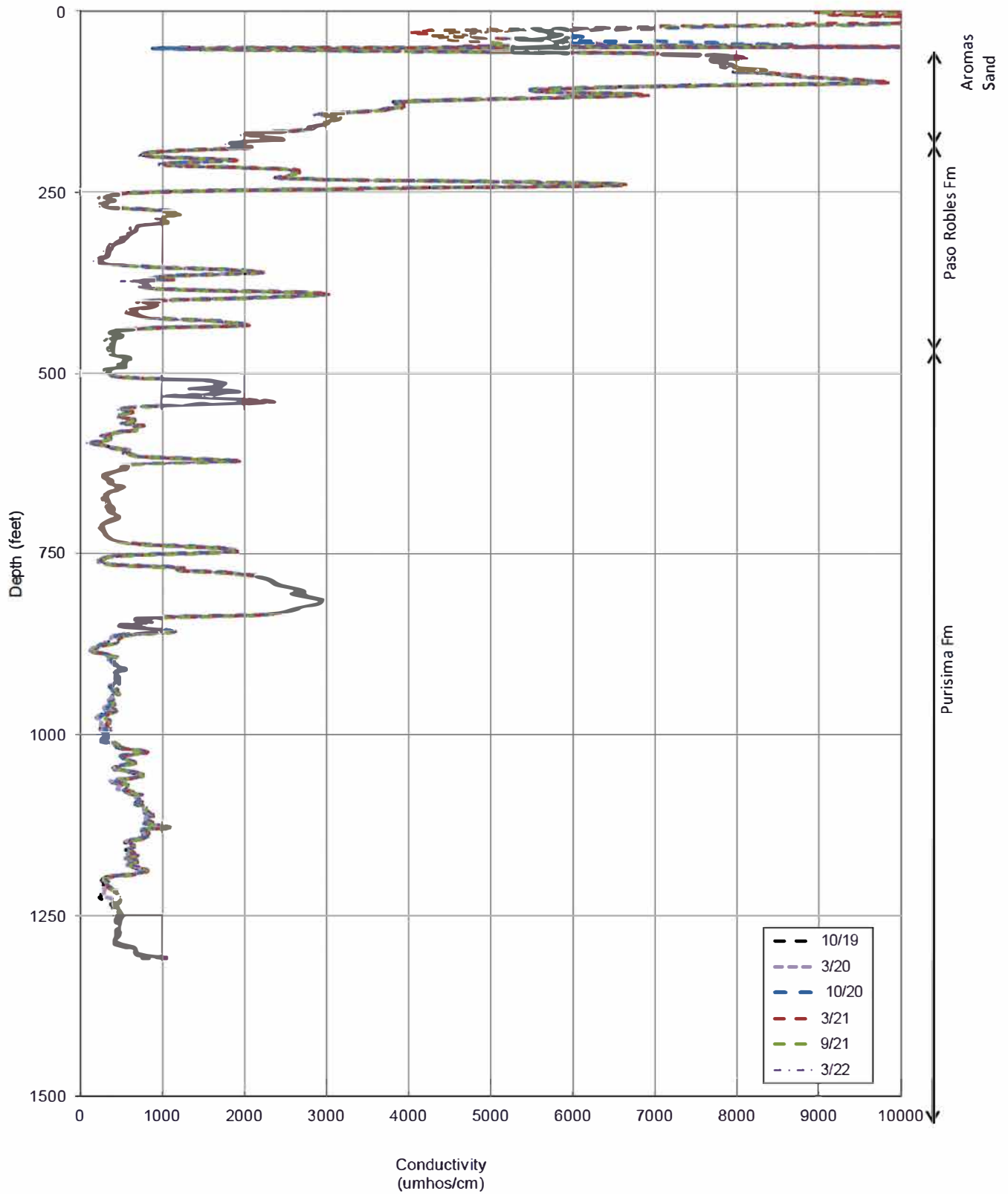


SENTINEL WELLS CONDUCTIVITY

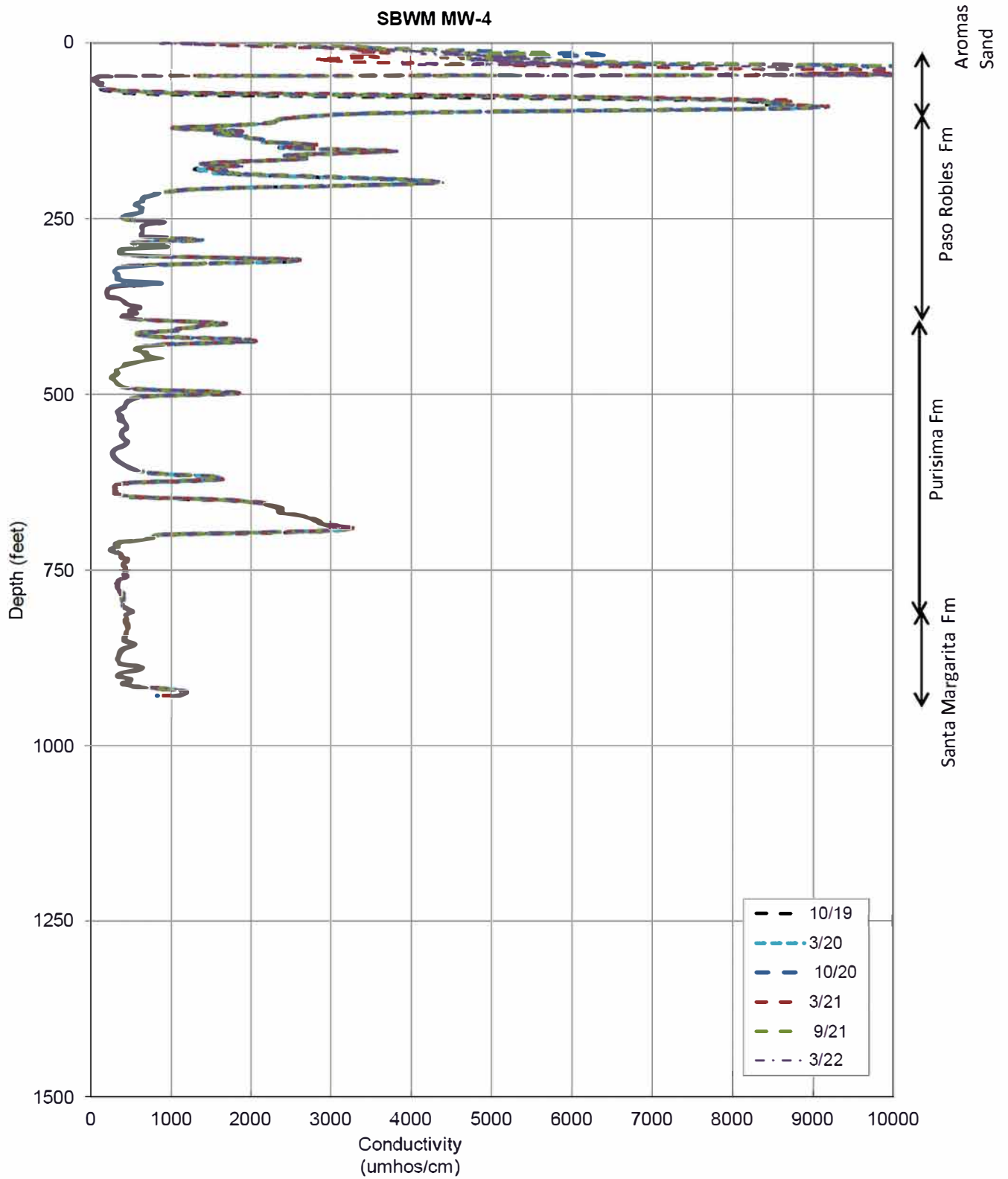


SENTINEL WELLS CONDUCTIVITY

SBWM MW-3



SENTINEL WELLS CONDUCTIVITY



SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: June 1, 2022

SUBJECT: Initial Findings from Replenishment Water Modeling Work and Recommendation to Perform Additional Replenishment Water Analyses

RECOMMENDATIONS:

1. Approve Montgomery & Associates RFS No. 2022-04 to perform additional replenishment water analyses.
2. Fund the costs of this work from Task I.3.a.3, Task I.3.e, and the Contingency line-item in the Watermaster's 2022 Monitoring and Management Program Operations Budget.

BACKGROUND:

At its February 13, 2021 meeting the Board directed the TAC to undertake several actions in response to the possible detection of seawater intrusion in Monitoring Well FO-9 Shallow. One of these actions was to update the groundwater modeling performed in 2013 to provide a more accurate indication of current replenishment water needs.

At its September 1, 2021 meeting the Board approved a contract with Montgomery & Associates to update the replenishment water modeling performed in 2013. The work consisted of these Tasks:

- Extending the historical hydrology of the Baseline scenario (from that used in the 2013 modeling) by using actual data to present
- Incorporating all existing and approved/planned projects into the Baseline Model
- Incorporating sea level rise at ocean boundaries
- Developing iterative scenarios to achieve protective elevations in 20 years
- Preparing a Technical Memorandum
- Making presentations to both the TAC and the Board

At its January 12, 2022 meeting the TAC received a presentation on, and discussed, a Draft Technical Memorandum from Montgomery & Associates describing the replenishment water modeling update work they had performed. The TAC moved to approve the Draft Technical Memorandum with edits to reflect the January 12th-discussion and input, and to forward it to the Board for its consideration. However, at this meeting the TAC also discussed a proposed list of revised assumptions that Montgomery & Associates could potentially use to run additional replenishment water modeling scenarios. The proposed revised assumptions were requested by representatives of Cal Am, the City of Seaside, and the MPWMD. Consequently, the draft Technical Memorandum was held for inclusion of potential additional replenishment water modeling, rather than being forwarded to the Board.

At its March 9, 2022 meeting the TAC continued its discussion of the proposed revised assumptions. Following those discussions, the revised assumptions were compiled into two "Scenarios" as described in Exhibit 1. A motion was unanimously passed directing me to obtain a Montgomery & Associates Scope and Cost Proposal to perform additional replenishment water analyses using the revised assumptions.

At its April 27, 2022 meeting the TAC received and discussed the Scope and Cost Proposal from Montgomery & Associates to perform additional replenishment water analyses covering the two Scenarios described in Exhibit 1. As a result of those discussions there was TAC consensus to only recommend performing

additional work to evaluate Scenario 1, and to defer any work on Scenario 2 because the GSP for the Monterey Subbasin has not yet been sufficiently developed to determine what projects that subbasin would actually be implementing. Thus, the impacts on the Seaside Basin of GSP implementation are not currently determinable.

At its May 11, 2022 meeting the TAC received and discussed the reduced Scope and Cost Proposal from Montgomery & Associates to analyze Scenario 1. The TAC then moved unanimously to recommend that the Board approve RFS No. 2022-04 which would authorize Montgomery & Associates to perform the work described in the reduced Scope and Cost Proposal. A copy of that RFS is contained in [Exhibit 2](#).

DISCUSSION:

The Draft Technical Memorandum presented to the TAC in January fulfilled the contract requirements of the September 2021 contract issued to Montgomery & Associates, and provided projections of the amounts of replenishment water that would be needed each year to achieve protective groundwater elevations. However, the assumptions used in this work were based largely on MPWMD's 2019 projections of water supply, demand, and ASR supply volumes, and were also based on future hydrology being repetitive of historical hydrology. The principal conclusions drawn from this work are listed in [Exhibit 3](#).

The proposed revised assumptions are based largely on Cal Am's Urban Water Management Plan (that was approved by the California Public Utilities Commission), the City of Seaside's water demand plans, and on lower ASR supply volumes that would be reflective of the area's climate being drier in the future than it has been in the past.

The TAC feels that assessing the Seaside Basin's replenishment water needs using the revised assumptions will help to provide a better understanding of the amounts of water that will be needed for replenishment over a wider range of possible supply, demand, and climatological scenarios. One of the key findings of the recently performed modeling is that groundwater levels in the Basin are very sensitive to multi-year droughts, and even just-below-normal rainfall periods, which impact the availability of water for ASR and PWM recharge and on the timing of reaching and maintaining protective groundwater elevations. The information that would be provided by performing the additional analysis would serve to "book end" the likely range of the Basin's replenishment water needs, i.e., the amounts needed under both optimistic and potentially more realistic sets of future conditions. For these reasons the TAC recommends that the Board approve RFS No. 2022-04, so that the Board will have a more complete understanding of the Basin's replenishment water needs.

A comprehensive presentation on this expanded replenishment water analysis will be presented to the Board once the additional work of RFS No. 2022-04 has been completed.

FISCAL IMPACTS

The work of RFS No. 2022-04 was not anticipated when the 2022 budget was being prepared, so funding for this work was not included in the Watermaster's 2022 Monitoring and Management Program Operations Budget. However, that budget contains several line-items that could be used to fund the cost of RFS No. 2022-04. These are:

- Task I.3.a.3 "Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions" budgeted for \$20,000 with this full amount unexpended to date.
- Task I.3.e "Seaside Basin Geochemical Model" budgeted for \$10,000 and for which no expenditures are now expected to be needed in 2022.
- Contingency budgeted for \$17,807 with this full amount unexpended to date.

ATTACHMENTS:

[Exhibit 1](#): Proposed Revised Assumptions for Additional Replenishment Water Modeling "What If" Scenarios

[Exhibit 2](#): Montgomery & Associates RFS No. 2022-04.

[Exhibit 3](#): Principal Conclusions from the Draft Replenishment Water Technical Memorandum

EXHIBIT 1

PROPOSED REVISED ASSUMPTIONS FOR ADDITIONAL REPLENISHMENT WATER MODELING “WHAT IF” SCENARIOS

PROPOSED “WHAT IF” SCENARIO NO. 1 (THIS COULD BE A “MAXIMUM POTENTIAL REPLENISHMENT WATER NEED” SCENARIO):

Regarding the City of Seaside, the following revised assumptions will be used:

1. Assume golf course uses 491.4 AFY of recycled water.
2. Assume City pumps an in-lieu amount of 491.4 AFY from the deep aquifer at Latitude = -36.615304, Longitude = 121.826278 -(Which is generally in the location of the Lincoln-Cunningham Park in Seaside).
3. Convert 26 AFY of golf course allocation from APA to SPA. New golf course allocation = $540 - 26 = 514$.
4. The remaining unused balance of $514 - 491.4 = 22.6$ AFY would be held as a reserve and/or for flushing of greens and tee boxes.

Regarding Cal Am the following revised assumptions will be used:

1. -15 acre-feet per day will be used as the average daily amount of ASR diversion, not the 20 acre-feet per day that was used in the earlier modeling in anticipation of drier future years.
2. The Pure Water Monterey Expansion Project will begin operation in 2024.
3. To provide a factor of safety, the amount of water that the Pure Water Monterey Expansion Project will deliver will be reduced from 5,700 acre-feet to the “*Minimum Allotment*” of 4,600 acre-feet per year as set forth in the “*Amended and Restated Water Purchase Agreement*” executed between Cal Am, MPWMD, and M1W in late 2021.
4. Cal Am’s desalination plant will begin operation in 2030, and its repayment of 700 AFY will not begin until the desalination plant begins operation, in accordance with Cal Am’s *Urban Water Management Plan*.
5. Cal Am’s *Urban Water Management Plan* demand figures rather than MPWMD’s demand figures will be used for Cal Am’s projected water demands.
6. Cal Am will make up any shortfall between supply and demand by overpumping its Seaside Basin allocation of 1,474 AFY plus the balance of Alternative Production Allocation not pumped.

PROPOSED “WHAT IF” SCENARIO NO. 2 (THIS COULD BE A “MINIMUM POTENTIAL REPLENISHMENT WATER NEED” SCENARIO):

As suggested by Mr. Lear, evaluate the effects on the Seaside Basin if the projects and management actions in the Monterey Subbasin Groundwater Sustainability Plan (GSP) are successfully implemented and result in significant reductions in the amounts of water lost from the Seaside Subbasin to the Monterey Subbasin. In this scenario the inter-basin groundwater levels projected in those GSPs at the end of the 20-year GSP implementation time frame would be used. The model currently assumes that no GSP implementation projects are implemented.

EXHIBIT 2

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: June 2, 2022

RFS NO. 2022-04

(To be filled in by WATERMASTER)

TO: Cameron Tana
Montgomery & Associates
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Perform additional analyses to determine how much replenishment water will be needed to achieve protective groundwater elevations in the Basin. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2022, and shall be performed in accordance with the Schedule described in Attachment 1.

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

Total Price Authorized by this RFS: \$ 40,735.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

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

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

Under RFS No. 2021-01, Amendment No. 2, PROFESSIONAL performed initial groundwater modeling to determine how much replenishment water will be needed to achieve protective groundwater elevations in the Basin. This RFS No. 2022-04 authorizes PROFESSIONAL to perform the additional analyses described in Attachment 2 hereto to determine how much replenishment water will be needed to achieve protective groundwater elevations in the Basin under different assumptions than those used in the initial modeling work.

ATTACHMENT 2



May 4, 2022

Mr. Bob Jaques
Seaside Watermaster Technical Program Manager
83 Via Encanto
Monterey, CA 93940

SUBJECT: SCOPE AND COST FOR ADDITIONAL HYBRID WATER BUDGET ANALYSES OF BASIN REPLENISHMENT OPTIONS TO ACHIEVE PROTECTIVE ELEVATIONS

Dear Mr. Jaques

Per your request, this letter contains a revised scope of work and estimated cost to use a water budget analysis approach to evaluate the impact of an alternate set of future supply and demand assumptions has on the volume of replenishment water that would be needed to reach protective elevations in the coastal monitoring wells. The alternate demand and supply assumptions will be based primarily on Cal-Am's Urban Water Management Plan (UWMP), and additional assumptions provided by Cal-Am and the City of Seaside. Rather than perform additional modeling scenarios, we will use a water budget analysis approach that will leverage information that can be extracted from the results of the recent replenishment modeling documented in the Draft Technical Memorandum titled "Updated Modeling of Seaside Basin Replenishment Options" dated January 28, 2022. That study used the basin groundwater model to estimate how much replenishment injection would be needed to achieve protective elevations in Watermaster coastal protective elevation wells. We will develop a water budget analysis framework and summaries that will give the TAC and the Board a better overview of the relative magnitudes and impacts of different demand and supply assumptions on the estimated amounts of replenishment water needed to achieve the same degree of water level increases already simulated.

TASK 1. WATER BUDGET ANALYSIS OF ORIGINAL BASELINE SCENARIO AND ONE REPLENISHMENT MODEL SCENARIO

The results of the original (January 2022) baseline simulation (with no replenishment water) and one scenario of 1,000 AFY of replenishment water will be processed and analyzed to produce water budget summaries on an aquifer by-aquifer basis and by subareas over the simulation period. Having the different components of the future water budgets (e.g., total simulated pumping by aquifer, PWM injection, ASR injection, replenishment volumes etc., boundary inflows/outflows, offshore flows, etc.) will help the TAC and Board better understand the

relative importance and impacts of each component in a way that only seeing hydrographs compared to the protective elevations does not convey. Figure 1 shows an example conceptual model of the types of water budget components that would be included. The analysis will include evaluating the changes in onshore/offshore flows as well as reporting the changes in cross-boundary fluxes to/from the Monterey Subbasin on an aquifer-by-aquifer basis, for this scenario. Summaries will include both tabular and graphical output. Figure 2 and Figure 3 are examples of types of water budget figures that would be produced. To reduce the scope, the water budget analysis will be focused only on the Northern Coastal Subarea and the region just to the east of it that encompasses the Pure Water Monterey (and Expansion) project area, and will be aggregated on a water year, rather than monthly, basis.

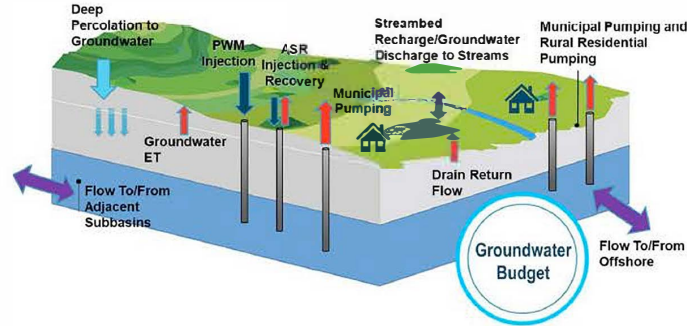


Figure 1. Draft Conceptual Diagram of Water Budget Components for Subbasin

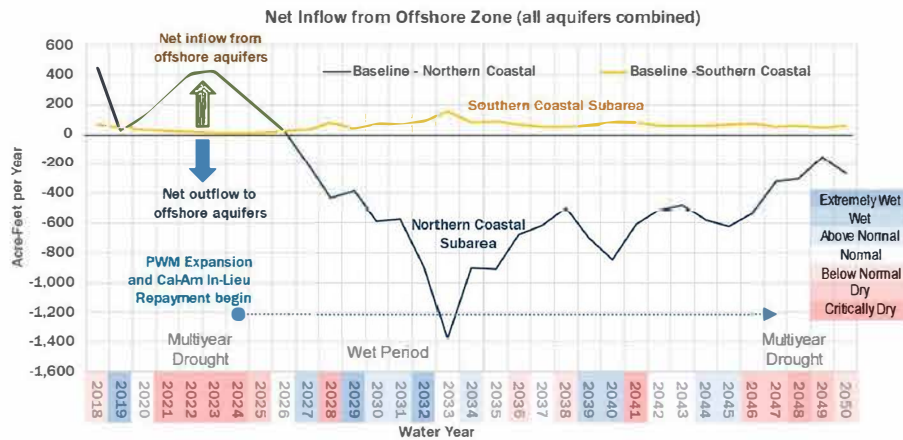


Figure 2. Example graph of changes in net offshore flows for the original baseline simulation

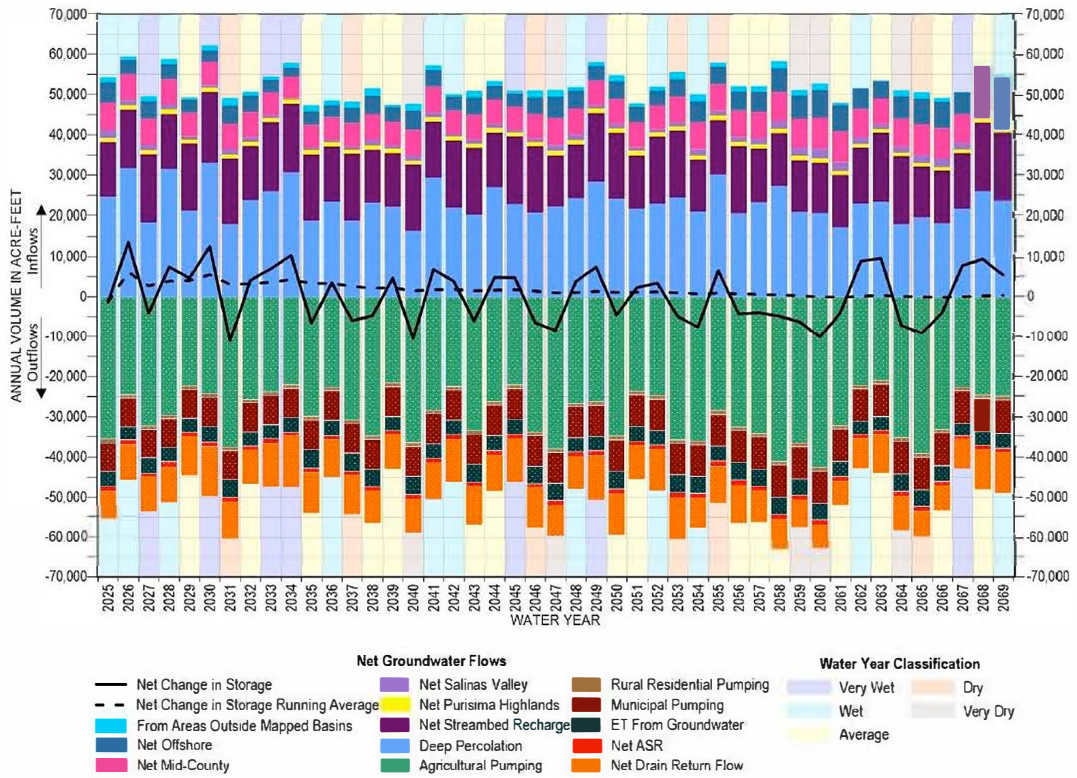


Figure 3. An example graph of a simulated future water budget (from Pajaro Valley Basin Model)

TASK 2. DEVELOP ALTERNATIVE SCENARIO BASED ON CAL-AM URBAN WATER MANAGEMENT PLAN SUPPLY & DEMAND ASSUMPTIONS AND UPDATED CITY OF SEASIDE ASSUMPTIONS (NOTE: HEREIN THIS IS REFERRED TO AS ALTERNATIVE SCENARIO 1)

Subtask 2.1. Incorporate Updated Assumptions for City of Seaside Golf Course use of Recycled Water & New Well Location

Mr. Ottmar of the City of Seaside requested that the following revised assumptions be used:

1. Assume City of Seaside golf courses use 491.4 AFY of recycled water.
2. Assume City pumps an in-lieu amount of 491.4 AFY from the deep aquifer from a new well located at Latitude = 36.615304 N., Longitude = 121.826278 W. (Which is generally in the location of the Lincoln-Cunningham Park in Seaside).
3. Convert 26 AFY of golf course allocation from APA to SPA. New golf course allocation = $540 - 26 = 514$.
4. The remaining unused balance of $514 - 491.4 = 22.6$ AFY would be held as a reserve and/or for flushing of greens and tee boxes.

Subtask 2.2. Incorporate Assumptions Requested by Cal-Am

Mr. O'Halloran and Mr. Cook of Cal-Am requested that the following revised assumptions be used:

1. 15 acre-feet per day will be used as the average daily amount of ASR diversion, not the 20 acre-feet per day that was used in the January 2022 modeling. *[In keeping the current cycled Carmel River hydrology record this assumption will result in a 25 percent reduction in the projected annual ASR diversion volumes, from an annual average of 1,214 AFY to 911 AFY, but will not alter the temporal pattern of when ASR injection occurs.]*
2. Cal Am's *Urban Water Management Plan* (UWMP) demand figures rather than MPWMD's demand figures will be used for Cal Am's projected water demands.
3. The MPWSP Desalination Plant will begin operation in 2030 in accordance with the UWMP. *[The UWMP assumes the Desal plant will produce 6,252 AFY for the Monterey Peninsula].*
4. Cal Am's in-lieu repayment of 700 AFY will not begin until its desalination plant begins operation in 2030, in accordance with the UWMP. *[For comparison, the original baseline assumes the repayment period starts in 2024, concurrent with the PWM Expansion project.]*
5. The Pure Water Monterey Expansion Project will begin operation in 2024, as previously simulated in the January 2022 replenishment modeling.
6. To provide a factor of safety, the amount of water that the Pure Water Monterey Expansion Project will deliver will be reduced from 5,700 acre-feet to the "Minimum Allotment" of 4,600 acre-feet per year as set forth in the "Amended and Restated Water Purchase Agreement" executed between Cal Am, MPWMD, and M1W in late 2021.

7. Cal-Am will make-up any shortfall between supply and demand by over pumping its Seaside Basin allocation of 1,474 AFY. *[If the Desal Plant is built in 2030, even though PWM Expansion is assumed to have reduced deliveries per Cal Am assumption 6 above, there will be no supply shortfall after 2030 because the UWMP indicates that the expected capacity of the Desal plant is sufficient to make up for the reduced PWM Expansion deliveries.]*

These revised assumptions will be incorporated into the monthly supply-demand spreadsheet model that is used to assign and distribute simulated monthly Cal-Am pumping and ASR injection in the groundwater model. This model incorporates the cycled Carmel River historical hydrology that is used for the determination of the monthly ASR diversions. The projected ASR injection and Seaside pumping data will then be aggregated on a water year basis for comparison and integration with the water budget analysis from the existing January 2022 replenishment model runs.

TASK 3. HYBRID WATER BUDGET ANALYSIS TO SHOW EFFECTS OF DIFFERENT DEMAND/SUPPLY ASSUMPTIONS ON VOLUME OF REPLENISHMENT NEEDED

Rather than running multiple additional demand/supply scenarios, a hybrid water-budget-based approach will be used leveraging information from the model scenarios that have already been run and combining this information with the Cal-Am UWMP demand and supply assumptions to estimate the replenishment volume needed to achieve protective elevations. This approach would be spreadsheet-based and would serve as a framework to develop order of magnitude estimates for the range of needed annual replenishment volumes under the different MPMWD and Cal-Am UWMP demand & supply assumptions.

The approach takes advantage of the fact that we have already run the model scenarios that show us how much net-recharge is needed in the vicinity of the PWM and ASR well fields to raise the water levels at the coastal monitoring wells to varying degrees. For the purposes of analyzing Alternative Scenario 1 in order to compare it to the Baseline and 1,000 AFY replenishment water scenarios in Task 1, the equation below shows the only water balance components that change when calculating the net recharge. For this purpose, we can define the net recharge as follows:

$$\text{Net Recharge} = \text{ASR Injection} + \text{Replenishment} - \text{Total Cal-Am Pumping}$$

Based on the findings from the January 2022 modeling, it is apparent that that the rapid initial rise in simulated groundwater levels in the original baseline simulation (see Figure 4 below from the January 2022 Technical Memorandum) is due primarily to a sequence of wetter years in the simulated cycled hydrology that allows for a prolonged period of significant injection and

storage of ASR water. If future climate conditions cannot provide this amount of ASR injection shown each year in the January 2022 modeling, then that “missing” amount of ASR water will have to be supplied by replenishment water to achieve the same water level increase that has already been simulated.

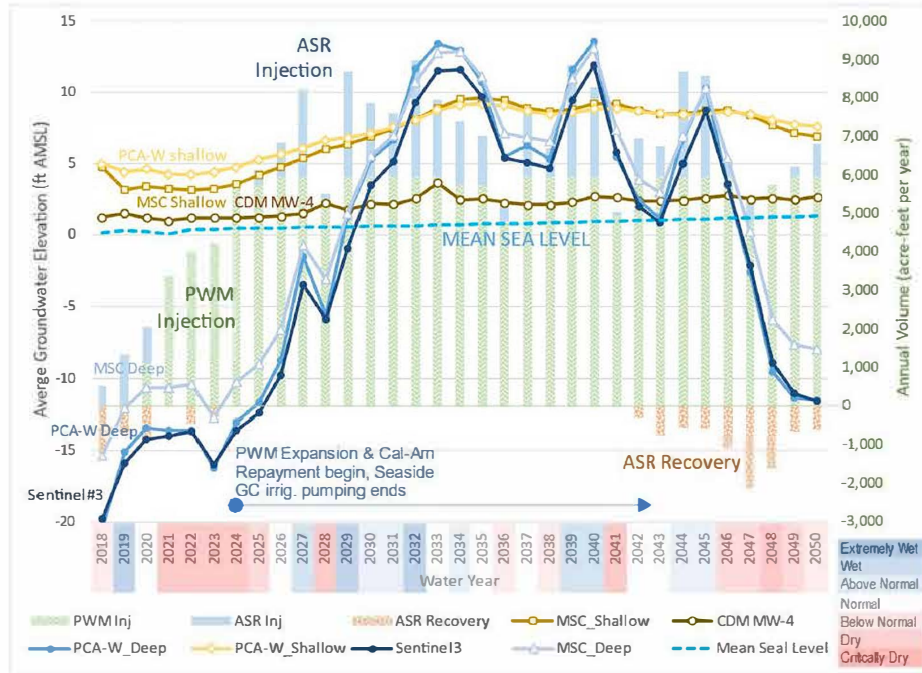


Figure 4. Simulated annually averaged water levels in protective elevation monitoring wells, and ASR and PWM injection and ASR recovery volumes, for the original January 2022 baseline simulation..

The differences between the Cal-Am and MPWMD demand/supply assumptions won't change how much net recharge is needed to raise the water levels. Rather, they will only change the distribution between the three components of the Net-Recharge. For example, if there is higher assumed demand, then there will be more pumping, and thus more replenishment water needed to offset that higher pumping while still achieving the same water level rise. Similarly, a lower demand assumption would result in less pumping and would require less replenishment water. So as the demand assumptions are changed, varying amounts of replenishment water will be needed.

In terms of assuming that Cal-Am's repayment period does not start until 2030 (when the Desal plant comes online per the UWMP), this will be factored in by adding the additional 700 acre-feet-per-year amount into the calculations of how much additional net replenishment water will be needed during each of those years before 2030 to offset the higher native groundwater pumping.

Similarly, reduced ASR injection water availability assumptions will require increased replenishment water volumes to keep the same total net-recharge amount to raise water levels the same amount.

So rather than modeling a number of different scenarios, the focus of the hybrid analysis will instead be on developing and presenting easy-to-read tables and graphs of how these three components of Net Recharge vary from year to year under the different demand/supply assumptions.

This non-modeling approach framework could later be extended and used to look at the impacts of climate change on the availability of water for ASR, or to look at how changes in cross-boundary flows with the neighboring subbasins due to proposed SGMA GSP projects would impact potential replenishment volumes.

As discussed during the April TAC meeting, this analysis will assume that the protective elevations are met to the same degree and within the same time frame as in the January 2022 replenishment modeling. If the TAC wishes to explore alternative time frames for reaching protective elevations, then additional modeling will be needed.

TASK 4. REPORTING

Subtask 4.1. Prepare Technical Memorandum

A technical memorandum summarizing the water budget analysis results, the Alternate Scenario 1 supply and demand assumptions, and the changes in projected volumes of replenishment injection needed to achieve protective elevations within 20 years will be presented via tables and charts, and conclusions of the study will be prepared as a draft document. Following review by the Watermaster, a final version incorporating the Watermaster's input will be provided as both a PDF and MS Word document.

Subtask 4.2. Presentations

A PowerPoint presentation summarizing the findings of the study will be prepared for two presentations, one to the TAC and one to the Board. Both presentations are assumed to be made via Zoom.

PROJECT COST ESTIMATE AND SCHEDULE

We anticipate that the tasks can be completed within a two-month period, though the timing may depend on the scheduling of TAC and Board meetings, and may need to be spread out due to reduced project staff availability the first two weeks of June. We can begin work on this immediately following notice to proceed.

The total estimated cost for all the above-described tasks is \$40,735. The attached cost estimate provides a breakdown of costs by task and subtask.

The hourly rates contained in this proposal are valid through December 31, 2022. If the work will substantially be completed in 2023, the cost estimate will need to be updated with 2023 rates.

Please feel free to contact us with any questions about the proposed scope of work and budget.

Sincerely,

E.L. MONTGOMERY & ASSOCIATES



Pascual Benito, Ph.D., Senior Hydrogeologist

Cost Estimate for Seaside Basin Replenishment Modeling Additional Scenarios & Analysis										
		Montgomery & Associates Labor					Labor Total		Other Direct Costs	TOTALS
		Scientist VIII	Scientist VI	Scientist V	Scientist III	Technical Editor				
		D. Williams	G. King	P. Benito			Hours	(\$)	(\$)	
Task	Hourly Rates	\$275	\$228	\$205	\$160	\$80				
1.0	WATER BUDGET ANALYSIS OF ORIGINAL JANUARY 2022 BASELINE SIMULATION & REPLENISHMENT SCENARIOS									
	Water budget analysis of Baseline Simulation & 1000 AFY Replenishment Scenario Simulation. Focused on Inflow and Outflows for the Northern Coastal Subarea (extended to include PWM Expansion)	0	1	16	16	0	33	\$6,068	\$0	\$6,068
	<i>Task 1 Subtotal</i>	0	1	16	16	0	33	\$6,068	\$0	\$6,068
2.0	DEVELOP ALTERNATIVE SCENARIO 1									
2.1	Incorporate revised City of Seaside Assumptions & New Well Location	0	0	6	0	0	6	\$1,230	\$0	\$1,230
2.2	Incorporate Cal-AM UWMP Demand Assumptions, MPWSP Desal Project, reduced PWM Expansion delivery and revised ASR Diversion Rate into Monthly Supply-Demand Pumping & Injection Model	2	4	32	16	0	54	\$10,582	\$0	\$10,582
	<i>Task 2 Subtotal</i>	2	4	38	16	0	60	\$11,812	\$0	\$11,812
3.0	Hybrid Water Budget Analysis To Show Effects Of Different Demand/Supply Assumptions On Volume Of Replenishment Needed									
	Develop hybrid water budget analysis framework and tables for comparing different fractions of components of net-recharge required to achieve protective elevations under different Demand and Supply assumptions	2	2	32	16	0	52	\$10,126	\$0	\$10,126
	<i>Task 3 Subtotal</i>	2	2	32	16	0	52	\$10,126	\$0	\$10,126
4.0	REPORTING									
4.1	Prepare Technical Memorandum describing Scenarios, Analyses, Findings, and Conclusions	2	6	24	16	8	56	\$10,038	\$0	\$10,038
4.2	Prepare Presentation and Present Findings to TAC and Board via Zoom	1	2	8	2	0	13	\$2,691	\$0	\$2,691
	<i>Task 4 Subtotal</i>	3	8	32	18	8	69	\$12,729	\$0	\$12,729
	Total	7	15	118	66	8	214	\$40,735	\$0	\$40,735

EXHIBIT 3

Principal Conclusions from the January 28, 2022 Draft Replenishment Water Technical Memorandum

1. If 500 AFY of replenishment water is provided, protective groundwater elevations are not reached in all protective elevation wells during the 25-year modeling period.
2. If 1,000 AFY of replenishment water is provided, protective groundwater elevations are reached, at least initially, in all protective elevation wells within 11 years.
3. 1,000 AFY of replenishment water also maintains and enhances the reversal of flow from a net inflow of water from offshore to a net outflow of water to offshore, even when protective elevations are not being met at all the wells. This volume of replenishment water adds a buffer to maintain strong net offshore outflows even in drought years.
4. The modeling assumed that all replenishment water would be injected into the Santa Margarita aquifer. Increasing replenishment to 1,500 AFY results in only slight improvement in reaching protective groundwater elevations, particularly in the Paso Robles aquifer. This suggests that there is limited benefit in trying to continue to raise the groundwater levels by increasing replenishment of the Santa Margarita aquifer. Rather, other alternatives may be more effective such as redistributing pumping from wells screened completely or partially in the Paso Robles aquifer, increased use of recycled water for irrigation purposes, and/or directly replenishing the Paso Robles aquifer.
5. The modeling work covered a 25-year period and ended at the same time that Cal Am's estimated 25-year 700 AFY overpumping payback period would end, so no definitive assessment of groundwater levels after the end of the payback period was made. However, groundwater levels would very likely stop increasing and slowly decline due to the drought years in the projected hydrologic cycles that reduce the availability of water for ASR and PWM injection and increases extraction of ASR and PWM water in storage. This would require an increase in replenishment water to continue to protect the Basin.
6. There is a significant impact from multi-year droughts, and even just below normal rainfall periods, on the availability of water for ASR and PWM recharge and on the timing of reaching and maintaining protective groundwater elevations.
7. In addition to the constant 1,000 AFY replenishment, additional "booster" injections could be considered following protracted drought periods to make up the lost water.
8. It is also not clear how future climate change and the potential increased frequency and duration of extreme weather events will impact the ability to maintain protective elevations. Additional modeling of projected future climate scenarios could be used to evaluate this.

VIA EMAIL

May 25, 2022

Mr. Paul Bruno, Chair
Seaside Groundwater Basin Watermaster
PO Box 51502
Pacific Grove, CA 93950

RE: June 1 Watermaster Board Meeting – Old Business Item VII.A.i.
Initial Findings from Replenishment Water Modeling Work and Recommendation to
Perform Additional Replenishment Water Analyses

Dear Mr. Bruno:

The Monterey Peninsula Water Management District strongly disagrees with the assumptions underlying Subtask 2.2 of the proposed Montgomery & Associates modeling work related to an additional replenishment water analysis. Specifically, assumption number 6: It makes absolutely no sense to reduce the yield of the expanded Pure Water Monterey project to 4,600 acre-feet per year. To do so would constitute an Event of Default under Section 20 of the Amended and Restated Water Purchase Agreement. Therefore, the only logical assumption would be to assume delivery of the full Company Allotment of 5,750 acre-feet each and every year.

Additionally, the proposed assumptions overly rely on the Cal-Am Urban Water Management Plan demand forecast which includes a variety of assumptions already proven to be false.

More effort should be undertaken to develop assumptions for this effort that are reliable and supportable, so that the model results are meaningful.

Sincerely,



David J. Stoldt
General Manager
Monterey Peninsula Water Management District

D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
May 11, 2022
(Meeting Held Using Zoom Conferencing)**

Attendees: TAC Members

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

Watermaster

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

Consultants

Montgomery & Associates – Pascual Benito

Others

MPWMD – Maureen Hamilton

The meeting was convened at 1:34 p.m. with Ms. Voss Chairing the meeting in Mr. Lear’s absence.

1.Public Comments

There were no public comments.

2.Administrative Matters:

A. Approve Minutes from the April 27, 2022 Meeting

On a motion by Mr. Gaglioti, seconded by Mr. O’Halloran, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques presented the agenda packet materials for this item and there was no other discussion.

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

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

3. Results from Martin Feeney's March 2022 Induction Logging of the Sentinel Wells and Recommendation to Reduce Frequency of Induction Logging

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

Mr. Gaglioti said he concurred with reducing the induction logging frequency because of its long-term repetitive results.

Mr. Benito said that under more severe hydrologic conditions than those used in the flow direction/flow velocity modeling work, such as more droughts or longer periods of drier weather, seawater intrusion could move in land faster. He referred to Figure 1 on page 20 of the agenda packet showing the first six years of projected seawater intrusion advancement rates during the recent drought.

Ms. Voss reported that in the 1970s Dr. Gary Green reported possible Santa Margarita aquifer outcropping into Monterey Bay. She felt that vertical migration downward from the Paso Robles into the Santa Margarita aquifer was the most likely route for seawater to enter the Santa Margarita aquifer. She agreed with reducing the induction logging frequency to one time per year. She asked what time of year the one event would be scheduled. Mr. Jaques responded that Mr. Feeney had recommended that it be done at the end of the peak irrigation season which means it would be done in the fall of each year. Ms. Voss said she concurred with that recommendation.

Mr. Benito concurred with Ms. Voss's comments about possible out-cropping of the Santa Margarita aquifer into Monterey Bay, and that the potential for direct seawater intrusion coming into that aquifer might exist.

Mr. O'Halloran said he concurred with reducing the induction logging frequency to one time per year and doing it in the fall.

On a motion by Mr. O'Halloran seconded by Mr. Gaglioti, the recommendation to reduce the induction logging frequency to once per year and to have it done in the fall, passed unanimously.

4. Approve Contract with Montgomery & Associates to Perform Additional Replenishment Water Evaluations Using Different Assumptions (RFS No. 2022-04)

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

Mr. Gaglioti supported the reduced scope of work as a way to keep this work moving along. Mr. O'Halloran said he concurred.

Ms. Voss said she concurred and that ample discussion on this topic had been held at previous TAC meetings. She felt the spreadsheet approach was a more cost-effective way of getting information.

On a motion by Mr. Gaglioti, seconded by Mr. O'Halloran, the recommendation to approve Montgomery & Associates RFS 2022-4 was unanimously approved.

5. Resumed Discussion of Pros and Cons of Using the Sustainable Yield (SY) Approach in Place of the Natural Safe Yield (NSY) Approach for Basin Management

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

Mr. Gaglioti said he liked the Sustainable Yield approach, because it has all the protocols to better manage the basin. He felt it would give an "earlier warning" of potential basin management problems, but that it was too early to perform a Sustainable Yield analysis because the GSPs for the adjacent subbasins are not that well developed. He supported the recommendation to not undertake a Sustainable Yield analysis at this time.

Ms. Voss said she agreed that the Sustainable Yield analysis would provide more useful basin management information than the Natural Safe Yield analysis, but that it was very costly and should be deferred until the GSPs for the adjacent subbasins are further developed.

Mr. Leith said he concurred with deferring undertaking a Sustainable Yield analysis.

Mr. Benito said the original HydroMetrics proposal to perform a Sustainable Yield analysis included some task work that has now already been done under the recent modeling work, so that would somewhat reduce the scope.

A motion was made by Mr. Gaglioti, seconded by Ms. Voss, to hold off performing a Sustainable Yield analysis, but to revisit this decision on an annual basis. The motion carried unanimously.

6. Schedule

Mr. Jaques noted that the only change in the schedule in this update was the timing of some of the tasks. No new tasks were added. There was no other discussion.

7. Other Business

There was no other business.

The meeting adjourned at 2:14 PM.

SEASIDE GROUNDWATER BASIN WATERMASTER
Reported Quarterly and Annual Water Production From the Seaside Groundwater Basin
For All Producers Included in the Seaside Basin Adjudication -- Water Year 2022

(All Values in Acre-Feet [AF])

	Type	Oct	Nov	Dec	Oct-Dec	Jan	Feb	Mar	Jan-Mar	Apr	May	Jun	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Reported Total	Yield Allocation	from WY 2021	for WY 2022	
<u>Coastal Subareas</u>																						
CAW - Coastal Subareas	SPA	373.37	267.89	196.91	838.17	336.11	456.67	483.60	1,276.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2,114.55	1,466.02	165.15	1,631.18	
	Luzern	26.16	0.33	0.00	26.49	0.00	50.18	53.88	104.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	130.54				
	Ord Grove	109.59	48.86	38.68	197.13	72.51	95.23	106.91	274.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	471.77				
	Paralta	75.83	92.49	107.42	275.73	113.66	111.53	96.00	321.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	596.92				
	Playa	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14				
	Plumas	18.98	0.00	0.00	18.98	0.00	14.47	29.35	43.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.80				
	Santa Margarita	142.81	126.22	50.81	319.84	149.94	185.27	197.33	532.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	852.37				
	ASR Recovery	0.00																				
City of Seaside (Municipal)	SPA	14.61	13.21	12.59	40.41	11.66	13.07	15.87	40.61	14.19			14.19				0.00	95.21	120.28	0.00	120.28	
Granite Rock Company	SPA	--	--	--	0.00	--	--	--	0.00				0.00				0.00	0.00	11.35	236.07	247.42	
DBO Development No. 30	SPA	--	--	--	0.00	--	--	--	0.00				0.00				0.00	0.00	20.59	424.88	445.47	
Calabrese (Cypress Pacific Inv.)	SPA	--	--	--	0.00	--	--	--	0.00				0.00				0.00	0.00	2.76	13.57	16.33	
City of Seaside (Golf Courses)	APA	27.41	7.17	5.14	39.72	5.45	30.92	43.83	80.20				0.00				0.00	119.91	540.00		540.00	
Sand City	APA	0.12	0.03	0.11	0.26	0.09	0.10	0.20	0.39				0.00				0.00	0.65	9.00		9.00	
SNG (Security National Guaranty)	APA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				0.00	0.00	149.00		149.00	
Calabrese (Cypress Pacific Inv.)	APA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				0.00	0.00	6.00		6.00	
Mission Memorial (Alderwoods)	APA	4.45	3.94	1.78	10.16	1.58	1.43	3.52	6.53				0.00				0.00	16.69	31.00		31.00	
Coastal Subareas Totals					928.72				1,404.11				14.19				0.00	2,347.02	2,356.00	839.68	3,195.67	
<u>Laguna Seca Subarea</u>																						
CAW - Laguna Seca Subarea	SPA	10.58	9.56	9.11	29.24	8.85	9.67	9.94	28.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.71	0.00		0.00	
	Ryan Ranch Unit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				0.00	0.00				
	Hidden Hills Unit	10.58	9.56	9.11	29.24	8.85	9.67	9.94	28.46				0.00				0.00	57.71				
	Bishop Unit 3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				0.00	0.00				
	Bishop Unit 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00				0.00	0.00				
The Club at Pasadera	APA	32.00	7.00	8.00	47.00	0.00	26.00	12.00	38.00	27.00			27.00				0.00	112.00	251.00		251.00	
Laguna Seca Golf Resort (Bishop)	APA	17.51	5.83	0.00	23.34	0.00	7.07	9.69	16.76				0.00				0.00	40.10	320.00		320.00	
York School	APA	1.13	0.29	0.04	1.46	0.18	0.62	1.52	2.32	2.14			2.14				0.00	5.91	32.00		32.00	
Laguna Seca County Park	APA	1.55	1.73	1.41	4.68	1.04	1.28	1.02	3.34				0.00				0.00	8.02	41.00		41.00	
Laguna Seca Subarea Totals					105.72				88.89				29.14				0.00	223.74	644.00	0.00	644.00	
Total Production by WM Producers					1,034.45				1,492.99				43.33				0.00	2,570.77	3,000.00	839.68	3,839.67	
																		Annual Production from APA Producers		303.30	1,379.00	
																		Annual Production from SPA Producers		2,267.47	2,460.67	

										<i>Previous Balance</i>		<i>Total</i>		
CAW / MPWMD ASR (Carmel River Basin source water)														
Injection	0.00	0.00	61.69	61.69	8.86	0.00	0.00	8.86	0.00	0.00	0.00	70.55		
(Recovery)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Net ASR	0.00	0.00	61.69	61.69	8.86	0.00	0.00	8.86	0.00	0.00	0.00	70.55	801.55	872.10
Pure Water Monterey (PWM) Injection and Cal-Am Recovery														
Injection Operating Reserve	0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	1,200.48	1200.48
Injection Drought Reserve	0.00	0.00	0.00	0.00				0.00	0.00	0.00	0.00	0.00	0.0	0.00
Delivery to Basin	298.20	289.97	312.27	900.44	320.51	282.22	341.92	944.65	0.00	0.00	0.00	1845.09	0.0	1845.09
CAW	(343.61)	(233.66)	(162.10)	(739.37)	(301.21)	(418.82)	(400.00)	(1120.03)	0.00	0.00	0.00	(1859.40)	0.0	(1859.40)

- Notes:**
- The Water Year (WY) begins October 1 and ends September 30 of the following calendar year. For example, WY 2022 begins on October 1, 2021, and ends on September 30, 2022.
 - "Type" refers to water right as described in Seaside Basin Adjudication decision as amended, signed February 9, 2007 (Monterey County Superior Court Case No. M66343).
 - Values shown in the table are based on reports to the Watermaster received by April 15, 2022.
 - All values are rounded to the nearest hundredth of an acre-foot. Where required, reported data were converted to acre-feet utilizing the relationships: 325,851 gallons = 43,560 cubic feet = 1 acre-foot.
 - "Base Operating Yield Allocation" values are based on Seaside Basin Adjudication decision. These values are consistent with the *Watermaster Producer Allocations Water Year 2022* (see Item VIII.B. in 1/5/2022 Board packet).
 - Any minor discrepancies in totals are attributable to rounding.
 - APA = Alternative Producer Allocation; SPA = Standard Producer Allocation; CAW = California American Water.
 - It should be noted that CAW/MPWMD ASR "Injection" and "Recovery" amounts are not expected to "balance" within each Water Year. This is due to the injection recovery "rules" that are part of SWRCB water rights permits and/or separate agreements with state and federal resources agencies that are associated with the water rights permits.

Seaside Basin Watermaster
P.O. Box 51502, Pacific Grove, CA 93950
(831) 595-0996

May 17, 2022

Ms. Karla Nemeth, Director
California Department of Water Resources
P.O. Box 942836, Room 1115-1
Sacramento, CA 94236-0001

Subject: Final Draft Groundwater Sustainability Plan for the Monterey Subbasin of the Salinas Valley Groundwater Basin

Dear Ms. Nemeth:

Background

The Salinas Valley Groundwater Basin (SVGB) is comprised of seven subbasins, one of which is the Seaside Subbasin. The Seaside Subbasin is an adjudicated basin. The adjudication Decision was issued by the Superior Court of the County of Monterey in 2006 under Case No. M66343. That Decision created the Seaside Groundwater Basin Watermaster (“Watermaster”) for the purpose of administering and enforcing the Decision.

The Decision required pumping in the Seaside Subbasin to be reduced from an initial 5,600 AFY down to the Subbasin’s natural safe yield of 3,000 AFY (a 46% reduction) over a 14-year period. The ramp-down in pumping was completed in 2020 through increased water conservation, use of recycled water, and other measures. However, even though pumping has been reduced to the natural safe yield, the Seaside Subbasin is at risk of seawater intrusion because groundwater levels in some parts of the Seaside Subbasin are below sea level. The Watermaster is currently studying ways of obtaining replenishment water to raise groundwater levels in the Seaside Subbasin.

The Monterey Subbasin abuts the Seaside Subbasin along its northern and easterly boundary. The Final Draft GSP for the Monterey Subbasin (MSBGSP) was filed with the Department of Water Resources (DWR) in January 2022 jointly by the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) and the Marina Coast Water District Groundwater Sustainability Agency (MCWDGSA).

The Watermaster participated throughout the process of development of the MSBGSP by serving on the Planning Committee formed by the SVBGSA to help guide the SVBGSA’s consultants in preparing the GSP for the Corral de Tierra subarea of the Monterey Subbasin, and on the stakeholders group formed by the MCWDGSA to help MCWDGSA’s consultants in preparing the GSP for the Marina-Ord subarea of the Monterey Subbasin. Figure 1 is a map showing the locations of these subbasins and their subareas. The Watermaster submitted numerous comments, provided data, and requested that the MSBGSP address a number of issues affecting the Seaside Subbasin. Some of those requests were addressed, but a number of critical ones were not.

In March 2022 the Watermaster submitted comments via DWR’s GSP Comment Input Portal describing our concerns, which are briefly listed below:

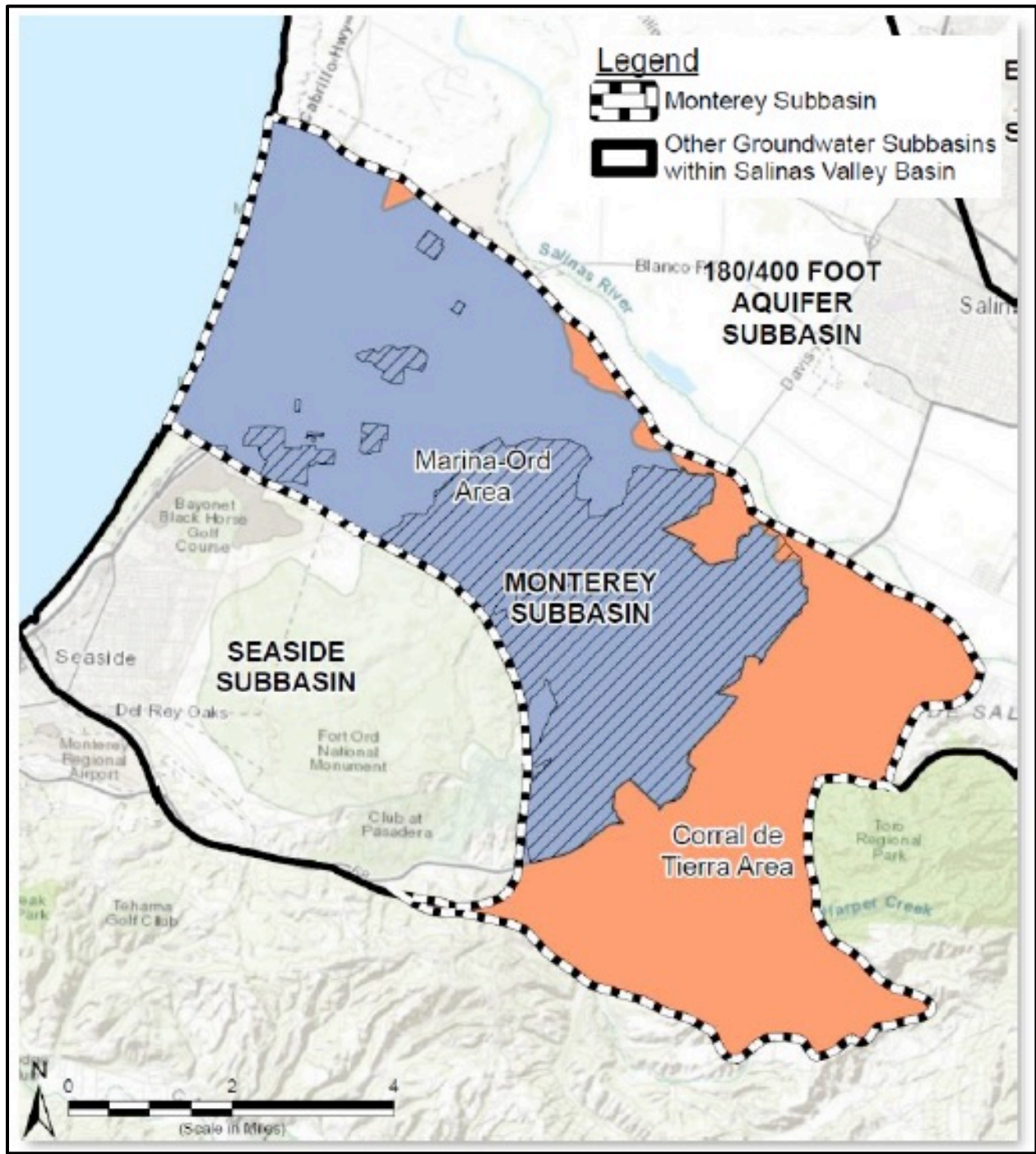


Figure 1

- Although the MSBGSP projects that the falling groundwater levels within that subbasin will be brought back up to higher elevations, no explanation is provided as to how the time line for recovery of declined groundwater levels was developed. The high costs and technical, environmental, and permitting issues associated with many of the projects that will be needed for the Monterey Subbasin to become sustainable may make some of them infeasible. Raising groundwater levels to achieve sustainability will be a formidable task.

We are concerned that the recovery timeline is more a “wish” and a “hope” than something for which there is reasonable assurance of being achieved. We feel that the feasibility for the timeline for sustainable recovery of declined groundwater levels should be discussed and justified in the GSP.

- Many projects identified in the GSPs for both the Monterey Subbasin and other subbasins within the Salinas Valley Groundwater Basin involve using recycled wastewater to replace groundwater that is currently being pumped to meet demands. The total potential amount of recycled water that can be produced is already needed to supply the Castroville Seawater Intrusion Project (CSIP) and the Pure Water Monterey and Pure Water Monterey Expansion Projects. Thus, there may not be enough recycled water to supply all of these other GSP projects. We feel this is an issue that needs to be addressed in this GSP and in the GSPs for the other subbasins of the Salinas Valley Groundwater Basin.
- We are concerned about the amount of water that is currently being lost from the Seaside Subbasin to the Monterey Subbasin due to the downward hydraulic gradient from the Seaside Subbasin to the Monterey Subbasin. Groundwater levels in the Monterey Subbasin have continued to drop for many years, and this has exacerbated the problem. The MSBGSP continues to show significant ongoing loss of groundwater from the Seaside Subbasin, even when/if the Minimum Thresholds are achieved in the Monterey and 180/400-Foot Subbasins.

Over-Reliance on Actions in Other Subbasins

The MSBGSP relies heavily on its other adjacent subbasin, the 180/400-Foot Aquifer Subbasin, to achieve sustainability in order for the Monterey Subbasin to achieve sustainability. This is evidenced in Chapter 6 of the MSBGSP which discusses projected water budgets and boundary conditions for the Monterey Subbasin. Section 6.5 includes this statement *“Each of these boundary condition scenarios is predicated on the assumption that the 180/400-Foot Aquifer Subbasin will be managed to its SMCs over the 50-year projected model period. In addition, boundary conditions for the Seaside Subbasin, which is an adjudicated subbasin, are assumed to remain stable at Fall 2017 levels.”*

The 180/400-Foot Aquifer Subbasin faces even greater challenges than the Monterey Subbasin due to its long history of overpumping that has caused seawater intrusion to advance inland, and the drastic pumping cutbacks that would be required to stabilize that subbasin. We are concerned that the MSBGSP has not identified sufficient of its own projects and management actions to achieve sustainability, if the 180/400-Foot Aquifer Subbasin fails to do so, or if it installs a coastal extraction barrier to stop seawater intrusion rather than raising its groundwater levels to accomplish that.

Table 6-5 in the MSBGSP (shown below) has column headings including Minimum Threshold, Measurable Objective, and Seawater Intrusion Protective Boundary Conditions. The inflows

and outflows identified in Table 6-5 are the predicted inflows and outflows from the Monterey Subbasin based upon water levels that are achieved under the Sustainable Management Criteria contained in the 180/400 Foot Aquifer Subbasin.

The “Seawater Intrusion Protective Boundary Condition” in Table 6-5 refers to groundwater levels that would have to be achieved within the 180/400 Foot Aquifer Subbasin to stop seawater intrusion in the absence of an injection or extraction barrier. The 180/400-Foot Aquifer GSP does not commit the SVBGSA to achieving the Seawater Intrusion Protective Boundary Condition. Discussion at recent

meetings of the 180/400-foot Subbasin GSP Implementation Committee suggest that the SVBGSA will strive to construct the extraction barrier, if that is determined to be feasible. This is likely because raising groundwater levels in the 180/400-foot Subbasin high enough to achieve the Seawater Intrusion Protective Boundary Condition groundwater elevations would be extremely difficult, if even possible.

Table 6-5. Comparison of Projected Water Budget Results Under “No Project Scenarios” with Variable Boundary Conditions and 2030 Climate Condition, Marina-Ord Area WBZ

Net Annual Groundwater Flows (a) (AFY)	Historical Annual Inflows/Outflows (WY 2004-2018)	Projected Annual Inflows/Outflows (b) 2030 Climate Conditions		
		Minimum Threshold Boundary Conditions	Measurable Objective Boundary Conditions	Seawater Intrusion Protective Boundary Conditions
Recharge Rainfall, leakage, irrigation	6,144	6,823	6,823	6,823
Well Pumping Well Pumping	-4,346	-8,767	-8,767	-8,767
Net Inter-Basin Flow				
Seaside Subbasin	1,310	2,513	1,361	-347
180/400-Foot Aquifer Subbasin	-8,633	-3,849	-1,927	1,171
Ocean (Presumed Freshwater)	-524	-725	-752	-794
Ocean (Presumed Seawater)	2,872	2,939	2,369	1,308
	<u>-4,975</u>	<u>878</u>	<u>1,051</u>	<u>1,338</u>
Net Intra-basin Flow				
● Corral de Tierra Area (Water ● Budget Zone)	1,544	923	1,026	985
Net Surface Water Exchange				
● Salinas River Exchange	0	0	0	0
NET ANNUAL CHANGE IN GROUNDWATER STORAGE	-1,632	-143	133	379

Notes:

- (a) The Marina-Ord Area Zone Budget includes inflows to and outflows from the portion of Corral de Tierra that is north of Reservation Rd.
- (b) Positive values indicate a net inflow and negative values indicate a net outflow.

If the extraction barrier is constructed, then the Monterey Subbasin is committed to achieving SMCs that would result in the interbasin groundwater flows listed under the column heading for the Minimum Thresholds listed in Table 6-5. Under this condition, and with the planned significant increase in groundwater extraction (5,461 AFY historical going up to 10,955 AFY projected for the Minimum Threshold scenario in Table 6-4 of the MSBGSP) from the Monterey Subbasin, the annual loss of groundwater from the Seaside Subbasin to the Monterey Subbasin is projected to be 2,513 AFY.

In Chapter 6 the only water budgets that are discussed are those associated with “no projects,” i.e., with the Monterey Subbasin not having to undertake any projects, only a few management actions.

Groundwater Modeling

Modeling performed for the Watermaster by its hydrogeologic consultant in 2013 and 2016 led to these conclusions:

2013 Modeling

In spite of Cal-Am (the principal public water supplier to the Monterey Peninsula) discontinuing all of its pumping from the Laguna Seca Subarea (LSSA), groundwater elevations in the LSSA will continue to decline during the modeling period of 2009-2041. The eastern side of the LSSA suffers the greatest and most persistent declines. Even eliminating all pumping from the LSSA does not completely halt the predicted decline in groundwater elevations in the easternmost portion of the LSSA. Well pumping outside of the LSSA (in the Corral de Tierra subarea) has a significant impact on groundwater levels in the eastern portion of the LSSA and prevents the LSSA from achieving stable groundwater elevations. Given these findings, there will need to be significant pumping reductions both inside and outside of the LSSA to halt groundwater level declines throughout the LSSA. Cal Am’s 2021 discontinuance of pumping from the LSSA was a significant (28%) pumping reduction from the LSSA.

There was a small net flow of groundwater from the Corral de Tierra subbasin into the LSSA when this modeling was done. However, this flow will switch directions in the future based on historical pumping rates in the Corral de Tierra subarea, and by 2030 (or earlier) there will be a net flow of groundwater from the LSSA into the Corral de Tierra subarea.

2016 Modeling

Under anticipated future pumping conditions, i.e., continued pumping at historical rates in the Corral de Tierra subarea, groundwater elevations in the LSSA will continue to decline. The eastern portion of the LSSA suffers the greatest and most persistent declines. Pumping groundwater elevations are predicted to fall below the top of the well screens in several LSSA wells prior to 2041.

The groundwater flow direction in the easterly portion of the LSSA shifts towards the northeast and east by 2041, resulting in groundwater flowing out of the LSSA and into the Corral de Tierra subbasin.

Two major production wells located in the Corral de Tierra subarea (Toro-1 and Toro-2) draw water directly from the LSSA, thereby having a direct influence on groundwater conditions within the LSSA. Other production wells located further east in the Corral de Tierra subarea indirectly affect the LSSA by diverting groundwater which would otherwise flow into, and thus recharge, the LSSA. This diversion results in lowering groundwater levels in the LSSA.

It will not be possible for the Watermaster to implement effective groundwater management strategies preventing groundwater levels in the eastern portion of the LSSA from continuing to decline due to ongoing pumping in the Corral de Tierra subbasin.

MSBGSP Projects

Water budgets under “project” scenarios are not discussed until Chapter 9, where “project” scenarios for the Marina-Ord and Corral de Tierra subareas are briefly discussed. Chapter 9 includes these statements:

“Marina-Ord Water Augmentation “Project” Scenario with Variable Boundary Conditions: This scenario assumes that a portion of MCWD’s projected water demand will be satisfied through some form of water supply augmentation,” and

“Corral de Tierra Water Augmentation “Project” Scenario with MO Boundary Conditions: This scenario analyzes a hypothetical and extreme condition where all of Corral de Tierra Area projected water demand is met by some form of water supply augmentation.”

It is worrisome that these project scenarios rely on “some form of water supply augmentation” rather than clearly defined projects that will be feasible to implement.

Table 9-4 below from the MSBGSP shows that even under the “project” scenario there will continue to be significant water losses from the Seaside Subbasin in order to achieve sustainability in the Monterey Subbasin, except for the Seawater Intrusion Protective Boundary Conditions (discussed in our comments above).

**Table 9-4.
Projected Water Budget Results Under Marina-Ord Area Water Augmentation “Project” Scenario with Variable Boundary Conditions and 2030 Climate Condition**

	Projected Annual Inflows/Outflows (b)		
	2030 Climate Conditions		
	Minimum Threshold Boundary Conditions	Measurable Objective Boundary Conditions	Seawater Intrusion Protective Boundary Conditions
Recharge			
• Rainfall, leakage, irrigation	6,823	6,823	6,823
Well Pumping			
• Well Pumping (c)	-4,488	-4,488	-4,488
Net Inter-Basin Flow			
• Seaside Subbasin	1,776	612	-1,115
• 180/400-Foot Aquifer Subbasin	-6,833	-4,901	-1,788
• Ocean (Presumed Freshwater)	-738	-764	-806
• Ocean (Presumed Seawater)	2,617	2,047	989
	-3,178	-3,006	-2,721
Net Intra-basin Flow			
• Corral de Tierra Area (Water Budget Zone)	898	1,001	958
Net Surface Water Exchange			
• Salinas River Exchange	0	0	0
NET ANNUAL CHANGE IN GROUNDWATER STORAGE	55	330	572

Notes:

- (a) The Marina-Ord Area Zone Budget includes inflows to and outflows from the portion of Corral de Tierra that is north of Reservation Rd.
- (b) Positive values indicate a net inflow and negative values indicate a net outflow.

The current and predicted outflows from the Seaside Subbasin into the Marina-Ord portion of the Monterey Subbasin are of great concern to the Watermaster because they are so large that they may prevent the Seaside Subbasin from achieving sustainability unless large amounts of replenishment water are injected on an ongoing basis into the Seaside Subbasin. Such replenishment water would be needed in order to achieve protective groundwater elevations that will protect the Seaside Subbasin from seawater intrusion and thereby help make it sustainable. The Seaside Subbasin would in the least need to be included in the distribution of any water that might be generated by a Regional Municipal Supply project such as Alternative Project 1 in Chapter 9 of the 180/400-Foot Aquifer GSP and in Project R-2 in Chapter 9 of the MSBGSP.

We feel that the MSBGSP needs to include its own set of projects and management actions that address the Watermaster's concerns regarding the lowering of groundwater levels in the Monterey Subbasin that are causing, and will continue to cause, the Seaside Subbasin to lose groundwater to the Monterey Subbasin, thereby leaving the Seaside Subbasin at risk of seawater intrusion and impeding the Seaside Subbasin's ability to become sustainable.

In summary, with regard to the Monterey Subbasin achieving sustainability, the MSBGSP does not discuss or raise any concerns, or propose any actions, regarding the fact that the groundwater levels and boundary conditions that reflect sustainability in the Monterey Subbasin will make it very difficult, if even possible, for the Seaside Subbasin to achieve sustainability.

We are fully supportive of the statements in the MSBGSP regarding the need for all of the subbasins within the Salinas Valley Groundwater Basin to coordinate and cooperate so that all of the subbasins can achieve sustainability, and not just take a blind-eyed approach that ignores the impacts on adjacent subbasins.

By this letter the Seaside Groundwater Basin Watermaster asks DWR to have the issues described above addressed in the MSBGSP as a condition of DWR's approval of that document.

Sincerely,



Paul Bruno
Chair, Seaside Basin Watermaster

April 28, 2022

Mr. Paul Sciuto
 General Manager
 Monterey One Water
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 Monterey, CA 93940
 paul@my1water.org

Mr. David Stoldt
 General Manager
 Monterey Peninsula Water Management
 Agency
 P.O. Box 85
 Monterey, CA 93940

Re: Status of Aquifer Storage and Recovery Well (ASR) - 01

Dear Messrs. Sciuto and Stoldt:

I write on behalf of California-American Water Company (“California American Water”) to respond to your joint letter to Christopher Cook of April 18, 2022 in which you conclude: “. . . we find no substantial rationale for changing the source designation of ASR-1 to active at this time or the foreseeable future.” California American Water interprets this as your agencies’ definitive refusal to take any action to make ASR-1 available to it as an extraction well. That it is within the power of your agencies to restore ASR-1 as an extraction well is clear, as you acknowledge in your letter:

“. . . we do not believe that DDW will review and accept the data and analysis by the MIW team to demonstrate minimum underground retention time without significant reduction of Pure Water Monterey (PWM) injection capacity.”

If reducing the injection capacity of the PWM is what it takes to enable California American Water to extract potable groundwater at ASR-1, then that is what your agencies must do.

As was made clear in Mr. Cook’s letter to you dated September 1, 2021, ASR-01 is needed to meet customer demand, and the failure of the PWM project to comply with retention time requirements, directly causing the state to order ASR-01 shut down for extraction purposes, requires a reduction in PWM injection rates. The total loss of ASR-01 is an unacceptable risk to the Monterey Peninsula potable water supply. The right to extract groundwater at ASR-01 is an essential component of California American Water’s overall Monterey District water production and delivery system, and its use for extraction of water from the Seaside Basin is specifically authorized under ASR permits and, as discussed more fully below, under the February 1, 2019

Agreement for Storage and Recovery of Non-Native Water from the Seaside Groundwater Basin (“Storage and Recovery Agreement”).

Now that diversions from the Carmel River have been reduced to authorized limits in accordance with the Cease and Desist Order, the Monterey Peninsula is dependent on the Seaside Basin for the majority of its water supplies. And beginning in the fall of 2022, California American Water’s inability to use this well will critically interfere with its obligation to deliver water to 38,500 household connections – a total population of about 100,000 citizens. It could also interfere with existing water supply agreements with large-scale customers like the Department of the Army’s Presidio of Monterey. California American Water is making every effort to comply with the Cease and Desist Order, as it recognizes that violating the CDO could result in harm to threatened species and critical habitat, and it is totally unreasonable to expect California American Water to violate the Order simply because your agencies desire to continue to inject Advanced Treated Recycled Water (AWT) water at full capacity. Further, the inability to use ASR-01 to extract water leaves California American Water without any redundancy if other wells were to become unavailable for any reason. Such a circumstance would be catastrophic.

The refusal of the Monterey Peninsula Water Management District (“District”) to take steps to deliver AWT Water that California American Water can extract at ASR-01 raises serious issues of compliance by the District and Monterey One Water (“M1W”) with the parties’ agreements.

First, Section 12 of the September 19, 2016 Water Purchase Agreement for Pure Water Monterey Project (“Water Purchase Agreement”) requires the District to deliver “Company Water” in certain volumes (as high as 3,500 AFY, with a Water Delivery Guarantee of 2,800 AFY). “Company Water” is defined in Section 2 as “the AWT Water delivered to the Delivery Point *to be used* and owned by the Company” (emphasis supplied). AWT Water that the District delivers to the Delivery Point but that California American Water cannot use because it does not stay underground long enough to satisfy state retention time regulations cannot be considered “Company Water.” Nor can California American Water be expected to pay for water that it cannot use. The risk that the District’s actions that have resulted in California America Water’s inability to use ASR-01 will constitute a breach of the Water Delivery Guarantee of Section 12, and of the Water Availability Guarantee of Section 13 as well, is significant.

Second, the unavailability of ASR-01 due to inability to meet minimum retention times constitutes a present breach of the Storage and Recovery Agreement. Section 9 of the Water Purchase Agreement provides that “[d]elivery by the District and recovery by the Company shall be governed by the Storage and Recovery Agreement.” The Storage and Recovery Agreement, at paragraph 4, lists ASR-01 as a location at which “Producer” (i.e., California American Water) “will recover the AWT water.” (ASR-01, incidentally, had already been publicly identified as an extraction point for AWT water, as shown in Figure 2-17 of the 2016 Consolidated Final

Environmental Impact Report for the PWM Groundwater Replenishment Project.) Thus California American Water has a contractual right under the Storage and Recovery Agreement to extract AWT water at ASR-01. It cannot do so due to inadequate retention times when the District is injecting at full capacity at the injection points that it selected and installed. Having agreed that ASR-01 – along with nine other existing wells listed in paragraph 4 - are the wells from which California American Water will recover AWT water, the District cannot be free under the Storage and Recovery Agreement to inject AWT water at rates and volumes that it knows will deprive Cal Am of the use of significant quantities of that water at extraction wells on that list – particularly a well like ASR-01 that is so essential to Cal Am’s delivery of potable water to the public. Compliance is required at *all* existing wells listed in paragraph 4 of the Storage and Recovery Agreement; otherwise, their agreed designation as extraction points is rendered merely theoretical.

Failure to ensure that the retention time between injection and extraction at ASR-01 meets or exceeds the regulatory minimum of two months also constitutes a breach of paragraph 6 of the Storage and Recovery Agreement, which provides, in part:

The District hereby certifies that prior to the AWT Water being introduced into the Basin for storage in accordance with this Agreement, all such water will meet all of the requirements imposed on the District or M1W by permits and/or approvals issued to the District or M1W by the California Regional Water Quality Control Board and any other water quality standards imposed by any other governmental entity. . . .

In its Order R3-2017-0003, the Central Coast Regional Water Quality Control Board incorporated (at Section VI, paragraph 1) all of the State Water Resources Control Board Division of Drinking Water regulations governing Indirect Potable Re-use, Groundwater Replenishment-Subsurface Application, including the retention time regulations. Thus, non-compliance with the retention time regulations constitutes a breach of the District’s water quality certification set forth paragraph 6 of the Storage and Recovery Agreement.

Third, and in a similar vein, the Water Purchase Agreement provides, at section 14:

All AWT water delivered by the Agency [M1W] to the District or by the District to the Delivery Point must meet the water quality requirements set forth in Applicable Law (the “Water Treatment Guarantee”). AWT Water delivered by the Agency to the District or by the District to the Delivery Point that does not meet the Water Treatment Guarantee shall not be considered Company Water or Excess Water.

There can be no question that the regulations mandating minimum aquifer retention times for potable use of recycled water are water quality regulations. As explained in the Central Coast Regional Water Quality Control Board Order R3-2017-0003, “[r]ecycled water must be retained underground for a sufficient period of time to identify and respond to any treatment failure so that inadequately treated recycled water does not enter a potable water system. . .” As noted above, moreover, the Regional Water Quality Control Board incorporated all of DDW’s regulations governing Indirect Potable Re-use, Groundwater Replenishment-Subsurface Application, including the retention time regulations, into Order R3-2017-0003 (Section VI, paragraph 1). Therefore, as with the water quality certification in the Storage and Recovery Agreement, the District is in breach of the Water Treatment Guarantee, and M1W may be as well.

California American Water understands the operational, administrative and political reasons why the District and M1W would want to continue injecting at full capacity, but if doing so deprives California American Water of the use of ASR-01, and it does, it is a breach of and interference with the Storage and Delivery Agreement and the Water Storage Agreement. California American Water therefore notifies the District that it is invoking the dispute resolution process set forth in section 13 of the Storage and Recovery Agreement, and the District and M1W that it is invoking the dispute resolution process set forth in section 21 of the Water Purchase Agreement.

Compliance with the retention time standards is clearly a responsibility of the District, as the District has repeatedly acknowledged. If more distant injection points would have ensured compliance with retention time regulations at ASR-01, then the District should have identified them and built its injection wells there. Given the expected and continued use of ASR-01 to extract water from the Seaside Basin, any failure by the District and Monterey One Water to recognize ASR-01 as a point of compliance in its modeling of PWM retention times appears to have been a critical mistake. The immediate solution now, however, is not to put California American Water in a position of violating the Cease and Desist Order, or to force needless rationing, but instead to take steps to restore ASR-01 to production status as quickly as possible. To fail to do so would be a breach of trust with the public, interfere with California American Water’s obligation to serve its customers, and place both public health and safety and Carmel River threatened species and critical habitat at risk. Avoiding these risks has, after all, necessarily been an objective of the PWM project from the beginning. As the District and M1W observed in the PWM project environmental impact report six years ago:

The primary purpose of the [PWM] Project is to provide high quality replacement water to allow California American Water Company . . . to extract 3,500 acre-feet per year (AFY) more water from the Seaside Basin for delivery to its customers in the Monterey District service area and reduce Carmel River system water use by an equivalent

amount. (Consolidated Final Environmental Impact Report For The Pure Water Monterey Groundwater Replenishment Project, Section 2.1.1.2, p. 2-3, January 2016.)

Thank you.

Very truly yours,



David D. Cooke

DDC

cc: (via US mail):

Seaside Basin Watermaster
Attn: Paul Bruno, Chairman
P.O. Box 51502
Pacific Grove, CA 93950)

cc (via email):

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Paul R. De Lay (1919 - 2018)

May 9, 2022

David C. Cooke
Alen Matkins Leck Gamble Mallory & Natsis LLP
Three Embarcadero Center, 12th Floor
San Francisco, CA 94111-4074

Re: Status of Aquifer Storage and Recover Well (ASR) – 01

Dear Mr. Cooke,

This letter responds to your correspondence dated April 28, 2022, on behalf of your client, California-American Water Company (Cal-Am) addressed to Paul Sciuto, General Manager of Monterey One Water (M1W), and David Stoldt, General Manager of Monterey Peninsula Water Management District (MPWMD) concerning the status of the Aquifer Storage and Recovery Well (ASR)-01. We note an earlier joint letter, dated April 18, 2022, addressed to Christopher Cook, Director of Cal-Am Operations, and authored by Messrs. Sciuto and Stoldt further informs matters framed by this discussion.

At the outset, please understand both M1W and MPWMD disagree with many assertions set forth in your letter.

There has been open communication between Cal-Am, MPWMD, and M1W on the issues implicated by your letter, and M1W and MPWMD believed there was consensus for a path forward. We are surprised by and disagree with your escalated response.

By way of background, the State Division of Drinking Water (DDW) in September of 2021 issued a letter informing Cal-Am that the designation related to ASR-01 had been changed from active to inactive. ASR-01 is owned by MPWMD. Cal-Am would like to use it to extract Advanced Treated Recycled produced from the Advanced Water Treatment (AWT) Facility from the Seaside Groundwater Basin.

M1W, MPWMD, and Cal-Am have collectively attempted to determine effects that may arise from attempting to activate ASR-01. M1W and MPWMD believe the inactive status can only be removed

if available data clearly demonstrates the recycled water reaching ASR-01 when the well is in extraction mode meets the 12-log virus reduction, the minimum underground retention time required by the recycled water regulation of two months, and all other applicable recycled water regulations. Requesting a change in status may also result in DDW reducing the injection capacity of Pure Water Monterey.

On April 08, 2022, officials from M1W, MPWMD, and Cal-Am had a Zoom meeting during which bullet points of all information was shared. It was also agreed technical staff from the three organizations would meet to agree on a path forward.

The joint letter of April 18, 2022, sent to Christopher Cook advised Cal-Am that MPWMD and M1W had concluded that was no substantial rational for changing the source designation for ASR-01 from inactive to active. M1W and MPWMD believe that DDW will have difficulty accepting data and analysis by the M1W team to demonstrate minimum underground retention time can be met without significant reduction of Pure Water Monterey injection capacity.

The assessment set forth in your response concluded that modified operation of ASR-01 will cause a reduction in water supply. This assessment is flawed. Modified operations may affect Cal-Am production, but modified operation of ASR-01 is proposed specifically to optimize water supply available for use by Cal-Am. Cal-Am retains several options to access water supplies stored in the Seaside Basin; ASR-01 is not the exclusive means to extract water from that Basin. Your conclusion conflates changes to extraction practices to a limitation in available supply. Your assessment is flawed.

For a considerable period of time, MPWMD has identified alternative means to extract water from the Seaside Basin – these include but are not limited to use of Aquifer Storage and Recovery Well (ASR)-04, alternate well rehabilitation, and direct connection to the Paralta Well. Despite assertions in your letter that Cal-Am has the right to extract water from ASR-01, neither M1W nor MPWMD have any obligation to ensure a specific well be made available to Cal-Am at all times. The joint letter of April 18, 2022, provided advance notice of this situation. ASR-01 is only one of nine wells that may be used by Cal-Am to access water stored in the basin; Cal-Am does not have an unfettered right to demand use of any specific well.

Your letter, on page two, references detailed retention requirements between the time of injection and extraction needed to meet regulatory requirements. Notice that these requirements would be adhered to is precisely the reason the joint letter of April 18, 2022 was sent.

Your letter implicates the “Water Availability Guarantee” set forth in section 13 of the Storage and Recovery Agreement. “That section provides in full as follows

“13. Water Availability Guarantee.”

- (a) Beginning on Performance Start Date and throughout the term of this Agreement, the Agency must deliver enough AWT Water to the District so that the Company may draw AWT Water (including Company Water, Operation Reserve Water, and Drought Reserve Water released by the District to the Company) from the Seaside Basin every Fiscal Year in an amount at least equal to the Company Allotment (the “Water Availability Guarantee”)
- (b) Beginning on the Performance Start Date and throughout the term of this Agreement, the District Must deliver enough AWT Water to the Delivery Point¹ so that the Company may draw AWT Water (including Company Water, Operating Reserve Water, and Drought Reserve Water Released by the District to the Company) from the Seaside Basin every Fiscal Year in an amount at least equal to the Company Allotment (also, the “Water Availability Guarantee”).
- (c) If any Fiscal Year the District delivers Excess Water, any such amount shall be credited to the Reserve Account. The reserve Account will have two Sub-accounts: the Operating Reserve and the Drought Reserve. The District will allocate all Excess Water into either the Operating Reserve or the Drought Reserve as it shall determine at its sole discretion.

If the amount of Operation Reserve Water in the Operating Reserve at any time is less than the Operating Reserve Minimum, then all Excess Water in a Fiscal Year must be allocated to the Operating Reserve until the Operating Reserve Minimum is achieved, except for up to 200 Acre-feet of Excess Water that may, at the District’s election, be allocated to the Drought Reserve but only if the balance in the Drought Reserve is less than the Drought Reserve Minimum. In no instance shall the District reduce Company Water deliveries to make available additional irrigation water to the Monterey County Water Resources Agency form Agency sources in an amount exceeding the balance available in the Drought Reserve.

- (d) If in any Fiscal Year the District delivers Company Water to the Delivery Point in quantities less than the Company Allotment, the Company shall have the right, but not the obligation, to draw Operating Reserve Water from the Operating Reserve to make up for any such shortfall in Company water, In addition, if a shortfall still exists after Operating Reserve Water is drawn by the Company, the District may, In its sole discretion, use Drought Reserve Water Available in the Drought Reserve to satisfy the Water Availability Guarantee. Upon the occurrence of the Expiration Date, or the earlier Termination of this Agreement as contemplated herein, the Company shall have the right to draw Drought Reserve Water from the Drought Reserve.
- (e) Every three (3) months during the term of this Agreement, beginning on the Performance Start Date, the District will report to the company the balances and activity in the Operation

¹ The Storage and Recovery Agreement defines the term “Delivery Point” to mean “any of the metered points of delivery identified in Exhibit C.” Exhibit C, in turn, defines these points to be “...up to eight injections wells (four deep injection wells, four vadose zone wells, in pairs identified as #5, #6, #7, and #8 in [a referenced figure], six monitoring wells, and back-flush facilities.”

Reserve and Drought Reserve. In addition, the District shall, within ten (10) days following the Company's request, provide the Company the balances and activity in the Operation Reserve and Drought Reserve."

As can be seen by this Storage and Recovery Agreement, the Water Availability Guarantee does not provide a basis for dispute. The joint letter of April 18, 2022 does not contravene any aspect of that Guarantee.

Nonetheless, responding to your letter request to invoke dispute resolution processes set forth in section 13 of the Storage and Recovery Agreement and Section 21 of the Water Purchase Agreement we note the two processes differ. We propose to adhere to the more definitive process set forth in Section 21 of the Water Purchase Agreement and shall ensure representatives of M1W and MPWMD are available to consult and negotiate in good faith to attempt to reach a just and equitable solution of this matter.

We acknowledge that this effort is intended to occur within thirty (30) days after notice of the Dispute was received, the date of which was our receipt of your April 28, 2022 letter. We acknowledge that non-binding mediation is thereafter to be completed within one-hundred twenty (120) days after the notice of the dispute.

Very Truly Yours,

De LAY & LAREDO



DAVID C. LAREDO
General Counsel
MONTEREY PENINSULA WATER
MANAGEMENT DISTRICT

cc (via email):

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Matt Keeling, matt.keeling@waterboards.ca.gov

TO: Board of Directors

FROM: Laura Paxton, Administrative Officer

DATE: June 1, 2022

SUBJECT: Mission Memorial Park Replenishment Assessment Update

BACKGROUND:

Mission Memorial Park (MMP) is an Alternative Producer as described in the Court Decision with a fixed production allocation of 31 acre-feet per year (AFY) that has not been exceeded since Amended Decision inception in 2007 through Water Year (October-September) 2020. MMP has under pumped on average 13AFY for a total of approximately 169AF. In Water Year 2021, MMP exceeded its allocation by 15.77 acre-feet, incurring a Natural Safe Yield Overproduction Replenishment Assessment of \$46,488.32 and an Operating Yield Overproduction Replenishment Assessment of \$11,626.02 derived from a unit cost of \$2,947.90 and \$737.22 respectively, totaling \$58,114.34 invoiced to MMP on November 29, 2021.

At its May 4th, 2022 meeting, the Watermaster Board approved reducing the \$58,114.34 2021 Mission Memorial Park over production replenishment assessment to \$25,000 payable over time and require submission of an action plan on how Mission Memorial Park will avoid future over production.

UPDATE

Lorrie Muriel, MMP General Manager was contacted after the Watermaster Board made its decision. She informed that MMP would be paying the balance of the fee in one payment by check mailed May 26th 2022. Ms. Muriel submitted the attached action plan to Watermaster.

RECOMMENDATION:

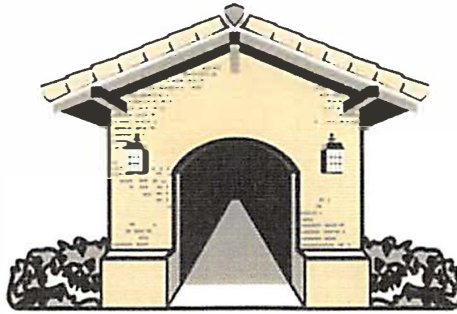
This report is informational only.

FISCAL IMPACT:

A \$25,00 addition to the Watermaster Replenishment Fund

ATTACHMENTS:

Action plan on how Mission Memorial Park will avoid future over production



To: Seaside Groundwater Basin Watermaster

Re: Action Plan for Mission Memorial Park

Date: May 16, 2022

Thank you for your consideration in our water usage issue from 2021. To ensure this does not happen again, I will be taking the following steps:

- 1) Our sprinklers have been turned down to $\frac{1}{4}$ of the amount of time they were running last year, with strict instructions given not to increase the time without my prior approval.
- 2) We have started mixing mulch with our soil as we perform burials in hopes that it will aid in water retention.
- 3) We will be having a plumber come remove the handles from the 20 or so outdoor water spigots so the public are unable to access the water on the cemetery grounds. Therefore no one will be able to leave the water running (something that has happened in the past).
- 4) Any water line breaks are dealt with promptly, with the water being turned off as soon as possible.
- 5) Any future cemetery development will be with water usage in mind, we will look into grass alternatives and drought friendly plants for those areas.
- 6) I am having signage made to reflect the California Cemetery Maintenance Standards where it specifies the following:

*California Cemetery Maintenance Standards (16 CCR 2333) require we provide a sufficient supply of water to keep cemetery grass and plants green as seasonably possible in accordance with natural terrain, **availability of water, and local or county ordinances regarding water use.***

I will keep a file on this matter that, if for some reason I am to seek employment elsewhere, it will be clear what the expectations are to future management of Mission Memorial Park.

Respectfully,

Lorrie Ann Muriel, Location Leader