SEASIDE GROUNDWATER BASIN WATERMASTER

NOTICE

BUDGET AND FINANCE COMMITTEE MEETING
AUGUST 29, 2024
1:00 P.M.

AGENDA

Committee Members			
City of Seaside *Jessica Riley – Chair*	California American Water *Tim O'Halloran*	City of Sand City *Mary Ann Carbone*	Coastal Subarea Landowners *Paul Bruno*

This meeting will be held in-person at the Seaside City Hall Conference Room
440 Harcourt Avenue, Seaside, CA 93955.

If you would like to comment on any item on the agenda or any item not on the agenda, please submit those in writing to our office or via email at watermasterseaside@sbcglobal.net by 10 a.m. on Monday, August 26, 2024. All submitted written comments will be provided to the Committee and you may also comment during the meeting.

Public Comment:
The public may comment 3 minutes on any item within the committee's jurisdiction.

Action Items:

Other Items: None

If requested, the agenda and documents in the agenda packet shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof.

TO: Watermaster Budget and Finance Committee

FROM: Laura Paxton, Administrative Officer (AO)

DATE: August 29, 2024

SUBJECT: 2024 Administrative Budget Revisions

RECOMMENDATION:

Consider/approve adjustments to the 2024 Administrative Fund Budget and recommend Watermaster Board approval.

DISCUSSION:

Staff has been discussing succession planning for its positions. I felt it prudent to bring on board administrative colleagues to train over an extended period, one in Watermaster accounting aspects, and one in all the other aspects such as Decision requirements, board and committee support, production accounting, legal liaison, and numerous other tasks I currently handle (independent of the technical program manager). Nancy Dayton began subcontracting for me April of this year as Administrative Officer Assistant. Kelli Catey will begin subcontracting for me this month to calculate/invoice and process assessment revenues, and process and reconcile expenditures in cooperation with the City of Seaside.

The 2024 Administrative Contractual Services anticipated total of expenditures at year end is $78,000. This is $14,500 over the 2024 budgeted amount of $63,500 due to the redundancy of me and Nancy and, likewise, Kelli and I performing the same tasks in training mode. There has also been fifteen hours of unanticipated cost for CAW v MCWD deposition preparation and attendance.

The Legal budget is anticipated to be $12,500 at year end, $7,500 over the 2024 budgeted amount primarily due to the CAW v MCWD deposition preparation and attendance and forthcoming litigation involving Security National Guarantee.

FISCAL IMPACT:

The City of Seaside is the Watermaster fiscal agent that maintains the official Watermaster books, processing accounts receivable and issuing accounts payable. It was determined after examination of the City of Seaside recorded Administrative Fund balance as of December 31, 2023, that there was revenue forward from 2023 to 2024 in the amount of $47,500 instead of the $23,500 rollover estimated in mid-2023. The $47,500 together with the $68,000 collected in 2024 Administrative assessments results in an Administrative Fund balance large enough to cover the increase in estimated 2024 expenses as proposed.

ATTACHMENTS

1) Proposed Administrative Fund Budget adjustments for FY (Calendar Year) 2024

Seaside Groundwater Basin Watermaster
Administrative Fund Budget
Proposed Budget Adujstments
Administrative Year 2024
August 29, 2024

	2024 Adopted Budget	2024 Proposed Budget Adjustments
Assessment Income		
Reserve/Rollover	$ 23,500	$ 47,500
Administrative Assessment	70,000	68,000
Replenishment Related Legal Costs**	20,000	10,474
Totals	113,500	125,974
Expenditures		
Contractual Services - Administrative	63,500	78,000
Legal Services - Administrative	5,000	12,500
Legal Services - Replenishment	20,000	10,474
Total Expenses	88,500	100,974
Total Available	25,000	25,000
Less Reserve	25,000	25,000
Net Available	$ -	$ -

** Note: The reserve/rollover balance of $23,500 was based on actual expenditures through June 30, 2023 and estimations through the remainder of the 2023 year. The reserve/rollover balance of $47,500 was based on a detailed reconciliation of actual expenses from 2006 through December 31, 2023 of the Administrative Fund financial records held at the Watermaster office.*

*** Replenishment related legal and administrative costs will be covered by funds transferred into the Administrative Fund from the Replenishment Assessment Fund*

TO: Watermaster Budget and Finance Committee

FROM: Laura Paxton, Administrative Officer (AO)

DATE: August 29, 2024

SUBJECT: Proposed Fiscal Year (Calendar Year) 2025 Annual Administrative Fund Budget

RECOMMENDATION:

Consider/approve the proposed 2025 Administrative Fund Budget and recommend Watermaster Board approval.

DISCUSSION:

The court decision states that next fiscal year's budgets must be approved by the Board of Directors no later than the end of October each year in order for tentative budgets to be circulated to each adjudication Party "no earlier than November 1 and no later than November 15th each fiscal year.

The proposed 2025 Contractual Services budget amount of $78,000 is a $14,500 increase from the current year, reflecting redundancy of me and Nancy, and me and Kelli performing the same tasks in training mode. The costs are front-loaded and are anticipated to taper off in 2026 as Nancy and Kelli become trained and redundancy declines.

Joe Hughes and Alex Dominguez, new legal counsel, contracted with Watermaster and began assisting the board in 2023. They are currently tasked with researching the Decision regarding aspects of Basin replenishment and it is anticipated this task will continue into 2025. Replenishment related services will be funded in 2025 by the estimated $10,474 remaining balance in the Replenishment Assessment Fund after 2024 expenditures. Estimated costs for the SNG matter, filing the Annual Report, and unforeseen services (such as the CAW v MCWD deposition that occurred in 2024) are proposed at $12,500 for 2025 non-replenishment related legal services.

FISCAL IMPACT:

An Administrative Fund Assessment of $113,000 is proposed: $78,000 (AO) + $22,974 (Legal) + $25,000 (Reserve) = $125,974 - $10,474 (RA Fund) - $2,500 (Carryover) = $113,000

The assessments for the parties required to contribute to the Administrative Fund are:

California American Water 83.0%	$ 93,790
City of Seaside 14.4%	16,272
City of Sand City 2.6%	2,938
	$113,000

ATTACHMENTS

1) Proposed Administrative Fund Budget for FY (Calendar Year) 2025

Seaside Groundwater Basin Watermaster
Administrative Fund Budget
Proposed Budget August 29, 2024
Administrative Year 2025

	2024 Adopted Budget	2024 Estimated Actual	2025 Proposed Budget
Assessment Income			
Reserve/Rollover	$ 23,500	$ 47,500	$ 2,500
Administrative Assessment	70,000	68,000	113,000
Replenishment Related Legal Costs**	20,000	11,500	10,474
Totals	113,500	127,000	125,974
Expenditures			
Contractual Services - Administrative	63,500	78,000	78,000
Legal Services - Administrative	5,000	12,500	12,500
Legal Services - Replenishment	20,000	11,500	10,474
Total Expenses	88,500	102,000	100,974
Total Available	25,000	25,000	25,000
Less Reserve	25,000	25,000	25,000
Net Available	$ -	$ -	$ -

** Note: The reserve/rollover balance of $23,500 was based on actual expenditures through June 30, 2023 and estimations through the remainder of the 2023 year. The reserve/rollover balance of $47,500 was based on a detailed reconciliation of actual expenses from 2006 through December 31, 2023 of the Administrative Fund financial records held at the Watermaster office.*

*** Replenishment related legal and administrative costs will be covered by funds transferred into the Administrative Fund from the Replenishment Assessment Fund*

TO: Budget & Finance Committee

FROM: Robert Jaques, Technical Program Manager
Laura Paxton, Administrative Officer

DATE: August 29, 2024

SUBJECT: Approve the FY 2025 Monitoring and Management Program (M&MP) and the FY 2025 M&MP Operations and Capital Budgets

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SUMMARY:
Attached are the proposed M&MP Operations and Capital Budgets for 2025 and 2026. The Board has asked that two-year budgets be developed to alert the Board to potential changes in scope and/or cost in near future years. Only the 2025 budgets are before the Committee for approval. The 2026 budgets are for information only. The following are comments and/or principal revisions from the 2024 M&MP Budget**:**

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

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

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

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

significantly higher cost. The consultant (Montgomery & Associates) has provided a ballpark cost range of $100K to $150K to update the existing Seaside Basin Model. However, discussions with Montgomery and Associates and the TAC may lead to the conclusion that rather than simply updating the existing Seaside Basin Model, there may be a more useful and cost-effective way to prepare a model that incorporates the newer information and data and better integrates with the modeling being done in the other subbasins of the Salinas Valley Basin. The Budget includes $125K for this Task (midpoint of ballpark cost range). In the 2018 Model update, the cost was shared between the Watermaster, MPWMD, and M1W. The Watermaster paid 50% of the cost and the two other agencies collectively paid the other 50%. If this model updating work is undertaken in 2025, efforts will be made to cost-share as was done with the 2018 update.

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

As a result of the changes described above, as indicated by the right-hand column titled "Comparative Costs from 2024 Budget" in Attachment 1, the proposed 2025 Budget is $185,192 higher ($478,973 -$293,781) than the 2024 Budget. Following Committee approval of the 2025 M&MP and Budgets, they will be forwarded to the Board for approval.

FISCAL IMPACT:

For the Monitoring & Maintenance – Operations Fund:
An estimated $121,973 in unspent 2024 funds are expected to be carried over to 2025. The $22,000 in unspent 2023 Capital Fund assessments related to the installation of Well FO-09 will be transferred to the Operations Fund. An Operations Fund Assessment of $335,000 is proposed ($478,973 Ops Budget - $121,973 carryover - $22,000 from Capital Fund =$335,000). The FY 2025 Monitoring and Management Program and its associated budgets were reviewed and approved by the TAC at its August 14, 2024 meeting.

The assessments for the parties required to contribute to the Operations Fund are:

California American Water 91.0%	$304,850
City of Seaside 7.0%	23,450
D.B.O. 0.9%	3,015
Granite Rock 0.9%	3,015
Cypress Pacific	670
	$335,000

No Capital projects are anticipated to be undertaken in 2025, so this budget is $0.

ATTACHMENTS:

1. 2025 Monitoring & Management Program
2. 2025 and 2026 M&MP Operations Budgets
3. 2025 and 2026 M&MP Capital Budgets

Monitoring and Management Program Operations Budget
For Tasks to be Undertaken in 2025

Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS[3]					Total	Comparative Costs from 2024 Budget
				MPWMD	Montgomery & Associates	Todd Groundwater	Martin Feeney	Contractors or Other Consultants		
			Labor							
			Technical Project Manager	N/A	N/A	N/A	N/A	N/A	$75,000	$75,000
M.1 Program Administration										
	M.1.a		Project Budget and Controls	$0				$0	$0	$0
	M.1.b		Assist with Board and TAC Agendas	$0				$0	$0	$0
	M.1.c, M.1.d, & M.1.e		Preparation for and Attendance at Meetings and Peer Review of Documents and Reports[8]	$0	$12,570	$4,000	$4,000	$0	$20,570	$19,530
	M.1.f		QA/QC	$0				$0	$0	$0
	M.1.g		SGMA Documentation Preparation	$0	$3,124	$0	$0	$0	$3,124	$2,540
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed in Phase 1)										
I.2 Production, Water Level and Quality Monitoring										
	I. 2. a.		Database Management							
		I. 2. a. 1.	Conduct Ongoing Data Entry/ Database Maintenance and Respond to Data Requests[15]	$14,838				$0	$14,838	$22,700
		I. 2. a. 2.	Verify Accuracy of Production Well Meters	$0	$0	$0	$0	$0	$0	$0
	I. 2. b.		Data Collection Program							
		I. 2. b. 1.	Site Representation and Selection[14]	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 2.	Collect Water Levels[5][6]	$23,174	$0	$0	$0	$0	$23,174	$21,128
		I. 2. b. 3.	Collect Water Quality Samples and Perform Sentinel Well Induction Logging[1][5]	$36,392	$0	$0	$0	$0	$36,392	$38,446
		I. 2. b. 4.	Update Program Schedule and Standard Operating Procedures.	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 5.	Monitor Well Construction	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 6.	Reports	$4,080	$0	$0	$0	$0	$4,080	$3,680
		I. 2. b. 7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	$3,072	$0	$0	$0	$0	$3,072	$4,200
		I.2.b.8	Perform Subsurface Electromagnetic Imaging	$0	$0	$0	$0	$15,500	$15,500	$0
I.3 Basin Management										
	I. 3. a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)						
		I. 3. a. 1	Update the Existing Model[11]	$0	$125,000	$0	$0	$0	$125,000	$0
		I. 3. a. 2	Develop Protective Water Levels[12]	$0	$0	$0	$0	$0	$0	$0
		I. 3. a. 3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions[10]	$0	$40,000			$0	$40,000	$40,000
	I. 3. b.		Complete Preparation of Basin Management Action Plan	$0	$0	$0	$0	$0	$0	$0
	I. 3. c.		Refine and/or Update the Basin Management Action Plan[7]	$0	$0	$0	$0	$0	$0	$0
	I. 3. d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	$0	$0	$0	$0	$0	$0	$0
	I. 3. e		Seaside Basin Geochemical Model[13]	$0	$10,000	$0	$0	$0	$10,000	$10,000
I.4 Seawater Intrusion Contingency Plan										
	I. 4. a.		Oversight of Seawater Intrusion Detection and Tracking[17]	$0	$0	$0	$0	$0	$0	$0
	I. 4. b.		Analyze and Map Water Quality from Coastal Monitoring Wells	(Costs Included Under I.4.a)						
	I. 4. c.		Annual Report- Seawater Intrusion Analysis[16]	$0	$30,050	$0	$0	$0	$30,050	$28,020
	I. 4. e.		Refine and/or Update the Seawater Intrusion Response Plan[2]	$0	$25,481	$0	$0	$0	$25,481	$0
	I. 4. f.		If Seawater Intrusion is Determined to be Occurring, Implement the Seawater Intrusion Response Plan[9]	(No Costs are Included for This Task, as This Task May Not be Necessary During 2025. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)						
		TOTALS CONSULTANTS & CONTRACTORS		**$81,556**	**$246,225**	**$4,000**	**$4,000**	**$15,500**	$351,281	
								SUBTOTAL not including Technical Program Manager =	$351,281	$190,244
								Contingency (not including Technical Program Manager) @ 15%[4] =	$52,692	$28,537
								Technical Program Manager =	$75,000	$75,000
								TOTAL=	**$478,973**	**$293,781**

Footnotes:

(1) Under this Subtask the Watermaster will contract with MPWMD to perform the Sentinel Well induction logging work and to perform the other portions of the work of this Subtask. The Sentinel Wells will be induction logged once per year (in September).

(2) The response plan is expected to be updated in 2025.

(3) Within the context of this document the term “Consultant” refers to a private consultant providing professional engineering or other types of technical services. The term “Contractor” refers to a firm providing construction or field services such as well drilling or meter calibration.

(4) Due to the uncertainties of the exact scopes of some of the larger Tasks listed above at the time of preparation of this Budget it is recommended that a Contingency of 15% be included in the Budget.

(5) The MPWMD portion of these Tasks includes:

For Task I.2.b.2: (1) $570 for vehicle mileage costs for both this Task and Task I.2.b.3 and (2) $850 to purchase a replacement datalogger (if necessary).

For Task I.2.b.3: (1) $7,448 for laboratory analytical costs, (2) $250 for CO2 bottles to run the sample pumps, (3) $950 to purchase a replacement low flow sampling pump (if necessary) and (4) $760 of administrative support costs for preparing billings and processing invoices from the water quality laboratory.

(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks.

(7) The BMAP was updated in 2018, and no further work on this Task is anticipated in 2024.

(8) This cost is for Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when/if requested to do so by the Technical Program Manager. This work may include, but not be limited to, participation in conference calls and reviewing documents prepared by others.

(9) If work under this Task is found to be necessary, it will need to be funded through the Contingency line item or by a Budget transfer.

(10) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions that the Board may wish to perform in 2025.

(11) The Model was last updated and recalibrated in 2018, but that work did not include any change to the Model itself, only inputting more recent groundwater data and then recalibrating it for a best match with field measured well data. The proposed 2025 model updating work will incorporate new hydrogeologic data from multiple sources, along with more recent groundwater data, in order to more closely match the data being used in the models for adjacent Monterey Subbasin of the greater Salinas Valley Basin. This work will likely consist of either updating the existing Seaside Basin Model, modifying it, or replacing it with an adapted version of another model being developed by the MCWD or SVGB GSAs.

(12) The protective water levels developed in 2009 were examined in 2013 to see if they needed to be updated. It was concluded that the 2009 protective levels were still satisfactory for Basin management purposes, and that no revisions were needed. No work under this Task is anticipated in 2025.

(13) This was a new Task that was started in 2018, and was completed for the PWM AWT water in 2019. Funds allocated for this Task in 2025 would only be used if geochemical modeling is performed in 2025 for the MPWSP desalination plant water, and if that modeling indicates the need to have Montgomery and Associates use the Seaside Basin groundwater model to provide additional information needed by the geochemical model to develop miitgation measures for any adverse water quality impacts the geochemical model predicts could occur from introducing desalinated water into the Basin.

(14) No additional monitoring well is expected to be constructed in 2025.

(15) Watermaster staff will maintain the Watermaster's website and post documents on it. This Task includes $2,550 for MPWMD to respond to requests from consultants and others for data from the database (that would only be expended if needed).

(16) MPWMD's costs to assist in this Task are included in its costs under Task I.2.b.6.

(17) MPWMD's and Montgomery & Associates' costs to provide oversight in this Task are included under their other Tasks.

Monitoring and Management Program Preliminary Estimated Operations Budget For Tasks to be Undertaken in 2026											Comparative Costs from 2025 Budget
Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS[3]					Total	
				MPWMD	Montgomery	Todd	Martin	Contractors		
			Labor							
			Technical Project Manager	N/A	N/A	N/A	N/A	N/A	$75,000	
M.1 Program Administration										
	M.1.a		Project Budget and Controls	$0				$0	$0	$0
	M.1.b		Assist with Board and TAC Agendas	$0				$0	$0	$0
	M.1.c, M.1.d, &		Preparation for and Attendance at Meetings and Peer Review of Documents and	$0	$12,947	$4,000	$4,000	$0	$20,947	$20,570
	M.1.f		QA/QC	$0				$0	$0	$0
	M.1.g		SGMA Documentation Preparation	$0	$3,218	$0	$0	$0	$3,218	$3,124
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed										
I.2 Production, Water Level and Quality Monitoring										
	I. 2. a.		Database Management							
		I. 2. a. 1.	Conduct Ongoing Data Entry/ Database Maintenance and Respond to Data Requests[15]	$20,240				$0	$20,240	$14,838
		I. 2. a. 2.	Verify Accuracy of Production Well Meters	$0	$0	$0	$0	$0	$0	$0
	I. 2. b.		Data Collection Program							
		I. 2. b. 1.	Site Representation and Selection[7]	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 2.	Collect Water Levels[5][6]	$22,293	$0	$0	$0	$0	$22,293	$23,174
		I. 2. b. 3.	Collect Water Quality Samples and Perform Sentinel Well Induction Logging[1][5]	$33,353	$0	$0	$0	$0	$33,353	$36,392
		I. 2. b. 4.	Update Program Schedule and Standard Operating Procedures.	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 5.	Monitor Well Construction	$0	$0	$0	$0	$0	$0	$0
		I. 2. b. 6.	Reports	$3,906	$0	$0	$0	$0	$3,906	$4,080
		I. 2. b. 7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	$4,450	$0	$0	$0	$0	$4,450	$3,072
		I.2.b.8	Perform Subsurface Electromagnetic Imaging	$0	$0	$0	$0	$0	$0	$15,500
I.3 Basin Management										
	I. 3. a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)						
		I. 3. a. 1	Update the Existing Model[11]	$0	$0	$0	$0	$0	$0	$125,000
		I. 3. a. 2	Develop Protective Water Levels	$0	$0	$0	$0	$0	$0	$0
		I. 3. a. 3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions[10]	$0	$40,000			$0	$40,000	$40,000
	I. 3. b.		Complete Preparation of Basin Management Action Plan	$0	$0	$0	$0	$0	$0	$0
	I. 3. c.		Refine and/or Update the Basin Management Action Plan[14]	$0	$0	$0	$0	$0	$0	$0
	I. 3. d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	$0	$0	$0	$0	$0	$0	$0
	I. 3. e		Seaside Basin Geochemical Model[13]	$0	$10,000	$0	$0	$0	$10,000	$10,000
I.4 Seawater Intrusion Contingency Plan										
	I. 4. a.		Oversight of Seawater Intrusion Detection and Tracking[17]	$0	$0	$0	$0	$0	$0	
	I. 4. b.		Analyze and Map Water Quality from Coastal Monitoring Wells	(Costs Included Under I.4.a)						
	I. 4. c.		Annual Report- Seawater Intrusion Analysis	$0	$30,952	$0	$0	$0	$30,952	$30,050
	I. 4. e.		Refine and/or Update the Seawater Intrusion Response Plan[2]	$0	$0	$0	$0	$0	$0	$25,481
	I. 4. f.		If Seawater Intrusion is Determined to be Occurring, Implement the Seawater Intrusion Response Plan[9]	(No Costs are Included for This Task, as This Task May Not be Necessary During 2025. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)						
TOTALS CONSULTANTS & CONTRACTORS[12]				**$84,242**	**$97,116**	**$4,000**	**$4,000**	**$0**	$189,358	
								SUBTOTAL not including Technical Program Manager =	$189,358	$351,281
								Contingency (not including Technical Program Manager) @ 15%[4]=	$28,404	$52,692
								Technical Program Manager =	$75,000	$75,000
								TOTAL=	**$292,762**	**$478,973**

Footnotes:

(1) Under this Subtask the Watermaster will contract with MPWMD to perform the Sentinel Well induction logging work and to perform the other portions of the work of this Subtask. The Sentinel Wells will be induction logged once per year (in September).

(2) The response plan is not expected to be updated in 2026.

(3) Within the context of this document the term "Consultant" refers to a private consultant providing professional engineering or other types of technical services. The term "Contractor" refers to a firm providing construction or field services such as well drilling or meter calibration.

(4) Due to the uncertainties of the exact scopes of some of the Tasks listed above at the time of preparation of this Budget, it is recommended that a 15% Contingency be included in the Budget.

(5) A portion of this cost is for maintaining sampling equipment that was installed in prior years.

(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks.

(7) No additional monitoring well is expected to be constructed in 2026.

(8) For Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when requested to do so by the Technical Program Manager.

(9) If work under this Task is found to be necessary, it will need to be funded through the Contingency line item or by a Budget transfer.

(10) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions that the Board may wish to perform in 2026.

(11) The Model is not expected to be updated in 2026.

(12) Includes a 3% inflation factor on most annually recurring costs in the 2025 Budget, except the Technical Program Manager cost which has no inflation factor applied to it.

(13) Work on this Task may not be performed in 2025, so work on this Task may need to be rebudgeted in 2026.

(14) The BMAP is not expected to be updated in 2026.

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2025

No Capital projects are anticipated to be undertaken in 2025, so this budget is $0.

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2026

No Capital projects are anticipated to be undertaken in 2026, so this budget is $0.

The tasks outlined below are those that are anticipated to be performed during 2025. Some Tasks listed below are specific to 2025, while other Tasks are recurring such as data collection, database entry, and Program Administration Tasks.

Within the context of this document the term "Consultant" refers either to a firm providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term "Contractor" refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.

M.1 Program Administration

M. 1. a
Project Budget and Controls
($0)

Consultants will provide monthly or bimonthly invoices to the Watermaster for work performed under their contracts with the Watermaster. Consultants will perform maintenance of their internal budgets and schedules, and management of their subconsultants. The Watermaster will perform management of its Consultants.

M. 1. b
Assist with Board and TAC Agendas
($0)

Watermaster staff will prepare Board and TAC meeting agenda materials. No assistance from Consultants is expected to be necessary to accomplish this Task.

M. 1. c., M. 1. d, & M.1.e
Preparation for and Attendance at Meetings, and Peer Review of Documents and Reports
($20,570)

The Consultants' work will require internal meetings and possibly meetings with outside governmental agencies and the public. For meetings with outside agencies, other Consultants, or any other parties which are necessary for the conduct of the work of their contracts, the Consultants will set up the meetings and prepare agendas and meeting minutes to facilitate the meetings. These may include planning and review meetings with Watermaster staff. The costs for these meetings will be included in their contracts, under the specific Tasks and/or subtasks to which the meetings relate. The only meeting costs that will be incurred under Tasks M.1.c, M.1.d, and M.1.e will be:

- Those associated with attendance at TAC meetings (either in person or by videoconference connection), including providing periodic progress reports to the Watermaster for inclusion in the agenda packets for the TAC meetings, when requested by the Watermaster to do so. These progress reports will typically include project progress that has been made, problem identification and resolution, and planned upcoming work.
- From time-to-time when Watermaster staff asks Consultants to make special presentations to the Watermaster Board and/or the TAC, and which are not included in the Consultant's contracts for other tasks.

Appropriate Consultant representatives will attend TAC meetings (either in person or by videoconference connection) when requested to do so by Watermaster Staff, but will not be asked to prepare agendas or meeting minutes. As necessary, Consultants may provide oral updates to their progress reports (prepared under Task M.1.d) at the TAC meetings.

When requested by the Watermaster staff, Consultants may be asked to

	assist the TAC and the Watermaster staff with peer reviews of documents and reports prepared by various other Watermaster Consultants and/or entities.
M. 1. f QA/QC ($0)	A Consultant (MPWMD) will provide general QA/QC support over the Seaside Basin Monitoring and Management Program. These costs are included in the other tasks.
M.1.g Prepare Documents for SGMA Reporting ($3,124)	Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the Watermaster in conjunction with preparing its own Annual Reports. However, some information such as changes in basin storage is not currently generated and will require consultant assistance to do so. This task will be used to obtain this consultant assistance, as needed.

I. 2 Comprehensive Basin Production, Water Level and Water Quality Monitoring Program

I. 2. a. Database Management	
I. 2. a. 1 Conduct Ongoing Data Entry and Database Maintenance/ Enhancement ($14,838)	The database will be maintained by a Consultant (MPWMD) performing this work for the Watermaster. MPWMD will enter new data into the consolidated database, including water production volumes, water quality and water level data, and such other data as may be appropriate. Other than an annual reporting of data to another Watermaster Consultant at the end of the Water Year, as mentioned in Task I.4.c below, no reporting of water level or water quality data during the Water Year is required. However, MPWMD will promptly notify the Watermaster of any missing data or data collection irregularities that are encountered. Under this Task, when requested MPWMD will also respond to requests from consultants and others for data from the database. At the end of the Water Year MPWMD will prepare an annual water production, water level, and water quality tabulation in Access format and will provide the tabulation to another Watermaster Consultant who will use that data in the preparation of the SIAR under Task No. I.4.c of the Monitoring and Management Program. No enhancements to the database are anticipated during 2025. Watermaster staff will maintain the Watermaster's website.
I. 2. a. 2 Verify Accuracy of Production Well Meters ($0)	To ensure that water production data is accurate, the well meters of the major producers were verified for accuracy during 2009 and again during 2015. No additional work of this type is anticipated during 2025.
I. 2. b. Data Collection Program	
I. 2. b. 1 Site Representation and Selection ($0)	The monitoring well network review that was started in 2008 has been completed, and sites have been identified where future monitoring well(s) could be installed, if it is deemed necessary to do so in order to fill in data gaps. No further work of this type is anticipated in 2025.

I. 2 b. 2 Collect Water Levels ($23,174)	Each of the monitoring wells will be visited on a regular basis. Water levels will be determined by either taking manual water levels using an electric sounder, or by dataloggers. The wells where the use of dataloggers is feasible or appropriate have been equipped with dataloggers. All of the other wells will be manually measured. This Task includes the purchase of one datalogger and parts for the datalogger to keep in inventory as a spare if needed.
I. 2. b. 3 Collect Water Quality Samples. ($36,392)	As discussed in the 2018 Annual Report, water quality data will be collected quarterly from certain of the monitoring wells, but is no longer being collected from the four coastal Sentinel Wells. Because many years of data have shown essentially no change in aquifer water quality, beginning in WY2023 the frequency of induction logging of the Sentinel Wells was reduced to once per year. As discussed in the 2012 Annual Report, water quality analyses were expanded to include barium and iodide ions. Since these analyses have created more than 10 years of data, as discussed in the 2022 Annual Report the analyses were no longer being performed starting in WY 2023. They will only be resumed if the other water quality parameters are indicative of seawater intrusion. As discussed in the 2021 Annual Report, the frequency of sampling of SBWM-5 (the Camp Huffman well) has been reduced over the years. It is being sampled once every five years beginning in WY 2022. Water quality data may come from water quality samples that are taken from these wells and submitted to a State Certified analytic laboratory for general mineral and physical suite of analyses, or the data may come from induction logging of these wells and/or other data gathering techniques. The Consultant or Contractor selected to perform this work will make this judgment based on consideration of costs and other factors. Sampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump fails or is found to be no longer adequate due to declining groundwater levels, an allowance of $945 to purchase a replacement sampling pump has been included in this Task.
I. 2. b. 4 Update Program Schedule and Standard Operating Procedures. ($0)	All recommendations from prior reviews of the data collection program have been implemented. No additional work of this type is anticipated in 2025.
I. 2. b. 5 Monitor Well Construction ($0)	A well to replace Monitoring Well FO-9 Shallow, which in 2021 was found to have a leaking casing, was installed in 2023. No other monitoring wells are expected to be constructed in 2025.

I. 2. b. 6 Reports ($4,080)	This task was essentially eliminated starting in 2020 by having the data collected by MPWMD under tasks I.2.b.1, I.2.b.2, and I.2.b.3 reported in the SIAR under Task I.4.c. The work remaining under this task is for MPWMD to prepare and provide the data appendix to the Consultant that prepares the SIAR. No formalized reporting on a quarterly basis is required. However, MPWMD will promptly notify the Watermaster and the Consultant that prepares the SIAR of any missing data or data collection irregularities in the water quality and water level data collected under Tasks I.2.b.2 and I.2.b.3.
I.2.b.7 CASGEM Data Submittal ($3,072)	On the Watermaster's behalf MPWMD will compile and submit data on the Watermaster's "Voluntary Wells" into the State's CASGEM groundwater management database. The term "Voluntary Well" refers to a well that is not currently having its data reported into the CASGEM system, but for which the Watermaster obtains data. This will be done in the format and on the schedule required by the Department of Water Resources under the Sustainable Groundwater Management Act.
I.2.b.8 Perform Subsurface Electromagnetic Imaging ($15,500)	The 2023 induction logging revealed gradually increasing conductivity in some of the shallower formations near the coastline. In 2025 the potential benefit of performing subsurface electromagnetic imaging in the vicinity of Sentinel Well No. 4 will be evaluated to see if it can help determine if seawater intrusion is beginning to occur in that part of the Seaside Basin.
	I. 3 Basin Management
I. 3. a. Enhanced Seaside Basin Groundwater Model (Costs listed in subtasks below)	The Watermaster and its consultants use a Groundwater Model for basin management purposes.
I.3.a.1 Update the Existing Model ($125,000)	The Model, described in the report titled "Groundwater Flow and Transport Model" dated October 1, 2007, was updated in 2009 in order to develop protective water levels, and to evaluate replenishment scenarios and develop answers to Basin management questions. The Model was again updated in 2014. In 2018 the Model was recalibrated and updated. Work is being performed by the Salinas Valley Basin and Marina Coast Groundwater Sustainability Agencies on the hydrogeologic modeling of the Monterey Subbasin. Significant changes in the understanding of the hydrogeology of that subbasin are being identified, and an updated model of that subbasin is expected to be completed in late 2024. In order for the Watermaster's Model to incorporate that new information and to more closely coordinate with the updated Monterey Subbasin model, it may be desirable to update, modify, or replace the Watermaster's Model in 2025.

I. 3. a. 2
Develop Protective Water Levels ($0)

A series of cross-sectional models was created in 2009 in order to develop protective water levels for selected production wells, as well as for the Basin as a whole. This work is discussed in Hydrometrics' November 2009 report titled *"Seaside Groundwater Basin Modeling and Protective Groundwater Elevations,"* and is posted on the Watermaster's website. As discussed in Attachment 10 of the 2013 Annual Report, further work was started in 2013 to refine these protective water levels, but it was found that the previously developed protective water levels were reasonable. Protective water levels will be updated, if appropriate, as part of the work of Task I.3.c. or I.4.e.

I. 3. a. 3
Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions ($40,000)

Modeling performed to date indicates that the solution to the problem of water levels in the Seaside Basin being below Protective Water Levels will be to inject replenishment water.

Two projects are planned that have the potential to provide additional water for Basin replenishment. The first is the Pure Water Monterey Expansion (PWMX) Project for which construction bids were solicited in 2023 and is projected to become operational in 2025. The PWMX Project will increase the capacity of the existing 3,500 AFY PWM Project by 2,250 AFY. The second is the Monterey Peninsula Water Supply Project's (MPWSP) desalination plant which is still in the design and permitting stage. The proponent of the MPWSP, California American Water, anticipates starting construction of the desalination plant in October 2025 and the plant becoming operational in late 2027 or early 2028. Growth is built into each of these projects' plant capacity, and the full capacity of these plants will likely not all be needed for some years into the future. During the time period that these projects would have excess capacity, they could potentially provide water for Basin replenishment.

Montgomery & Associates agrees that injection is the quickest way to bring groundwater levels up in the Seaside Basin. Modeling performed in 2022 and 2023 found that between 1,000 and 4,600 AFY of replenishment water will need to be needed, depending on future water demands and rainfall.

Modeling performed in 2014, 2015, and 2016 led to the conclusion that groundwater levels in parts of the Laguna Seca Subarea will continue to fall, even if all pumping within that subarea is discontinued, because of the influence of pumping from areas near to, but outside of, the Basin boundary. The Groundwater Sustainability Plan for the Corral de Tierra subarea of the Monterey Subbasin includes projects to help to alleviate this problem, but they will be insufficient to completely alleviate it.

This Task includes a $40,000 allowance to perform further modeling or analyses pertaining to Basin management issues if so directed by the Watermaster Board.

I. 3. b. **Complete Preparation of Basin Management Action Plan** **($0)**	The Watermaster's Consultant completed preparation of the Basin Management Action Plan (BMAP) in February 2009. The BMAP serves as the Watermaster's long-term seawater intrusion prevention plan. The Sections that are included in the BMAP are: Executive Summary Section 1 – Background and Purpose Section 2 – State of the Seaside Groundwater Basin Section 3 – Supplemental Water Supplies Section 4 –Groundwater Management Actions Section 5 – Recommended Management Strategies Section 6 – References
I. 3. c. **Refine and/or Update the Basin Management Action Plan** **($0)**	In 2019 the BMAP was updated based on new data and knowledge that has been gained since it was prepared in 2009. No further work of this type is anticipated in 2025. However, although no funds are budgeted for this Task in 2025, since the Groundwater Sustainability Plan (GSP) for the adjacent Monterey Subbasin of the Salinas Valley Groundwater Basin was completed in early 2022, at some point it may be appropriate to further update the BMAP to reflect the impacts of implementing that GSP.
I. 3. d. **Evaluate Coastal Wells for Cross-Aquifer Contamination Potential** **($0)**	If seawater intrusion were to reach any of the coastal wells in any aquifer, and if a well was constructed without proper seals to prevent cross-aquifer communication, or if deterioration of the well led to casing leakage, it would be possible for the intrusion to flow from one aquifer to another. An evaluation of this was performed in 2012 and is described in Attachment 10 of the 2012 Annual Report. In 2021 the Watermaster TAC examined the feasibility of performing conductivity profiling of certain of the near-coastal wells that were evaluated in the 2012 Memorandum, as a method of determining if any of those wells was allowing downward migration of intruded water from the shallow dunes aquifer to enter the Paso Robles aquifer. However, it was concluded that conditions in those wells would make it infeasible to perform such work. No further work of this type is anticipated in 2025.

I.3. e.
Seaside Basin Geochemical Model
($10,000)

When new sources of water are introduced into an aquifer, with each source having its own unique water quality, there can be chemical reactions that may have the potential to release minerals which have previously been attached to soil particles, such as arsenic or mercury, into solution and thus into the water itself. This has been experienced in some other locations where changes occurred in the quality of the water being injected into an aquifer. MPWMD's consultants used geochemical modeling to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program.

In 2019 a geochemical evaluation of introducing advance-treated water from the Pure Water Monterey Project was performed. That evaluation concluded that there would be no adverse geochemical impacts as a result of introducing that water into the Basin. A similar evaluation of the impact of introducing ASR water also concluded that there would be no adverse geochemical impacts. An evaluation of introducing desalinated water will be performed, if the Monterey Peninsula Water Supply Project's desalination plant proceeds into the construction phase.

If the geochemical evaluation of injecting desalinated water indicates the potential for problems to occur, then Montgomery and Associates may use the Watermaster's updated groundwater model, and information about injection locations and quantities, injection scheduling, etc. provided by MPWMD and/or California American Water for this project, to develop model scenarios to see if the problem(s) can be averted by changing delivery schedules and delivery quantities. This Task includes an allowance of $10,000 to have Montgomery and Associates perform such modeling, if necessary.

If the modeling predicts that there may be adverse impacts from introducing desalinated water, measures to mitigate those impacts will be developed under a separate task that will be created for that purpose when and if necessary.

I. 4 Seawater Intrusion Response Plan (formerly referred to as the Seawater Intrusion Contingency Plan)

I. 4. a. **Oversight of Seawater Intrusion Detection and Tracking** **($0)**	Consultants will provide general oversight over the Seawater Intrusion detection program under the other Tasks in this Work Plan.
I. 4. c. **Annual Report- Seawater Intrusion Analysis** **($30,050)**	At the end of each water year, a Consultant will reanalyze all water quality data. Water level and water quality data will be provided to the Consultant by another Consultant (MPWMD) in MS Access format. The Consultant will put this data into a report format and will include it as an attachment to the Seawater Intrusion Analysis Report. If possible, semi-annual chloride concentration maps will be produced for each aquifer in the basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The induction logs will be analyzed to identify changes in seawater wedge locations. All analyses will be incorporated into an annual report that follows the format of the initial historical data report. Potential seawater intrusion will be highlighted in the report, and if necessary, recommendations will be included. The annual report will be submitted for review by the TAC and the Board. Modifications to the report will be incorporated based on input from these bodies, as well as Watermaster staff.
I. 4. e. **Refine and/or Update the Seawater Intrusion Response Plan** **($25,481)**	Due to the observation of increasing conductivity in the 2023 induction logging in some of the shallower formations near the coastline, it was determined that in 2025 it would be appropriate to update the 2009 SIRP. The update would include incorporating data that has been obtained since 2009 and examining technology and techniques that could potentially be used to make the SIRP more practical and useful.
I. 4. f. **If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan** **($0)**	The SIRP will be implemented if seawater intrusion, as defined in the SIRP, is determined by the Watermaster to be occurring.

Seaside Groundwater Basin Watermaster
Replenishment Fund Proposed Budget August 29, 2024
Fiscal (Calendar) Year 2025

	2024 Budget	2024 Estimated Total	2025 Proposed Budget
Assessment Income			
Mission Memorial Park*	$ 21,974	$ 21,974	$ 10,474
Totals	21,974	21,974	10,474
Expenditures			
Legal Services - Replenishment	20,000	11,500	10,474
Total Expenses	20,000	11,500	10,474
Total Available	1,974	10,474	-

** Mission Memorial Park overproduced in Water Years 2021 and 2022 for a total assessment of $28,510; $12,475 has been expended to-date for Legal replenishment related services (Funding Mechanism), $6,536 in 2023*

Seaside Groundwater Basin Watermaster

Replenishment Fund

Water Year 2024 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2024)

Balance through June 30, 2024

Replenishment Fund		**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Assessment Water Year		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
Unit Cost:	a	$1,132 / $283	$1,132 / $283	$2,485 / 621.25	$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)
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 2023 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2023)
Balance through June 30, 2024

Replenishment Fund		2017	2018	2019	2020	WY 2021	WY 2022	WY 2023	Totals WY 2006 Through 2023	Budget WY 2024	Projected Totals Through WY 2024
Assessment Water Year		WY 16/17	WY 17/18	WY 18/19	WY 19/20	WY 20/21	WY 21/22	WY 22/23		WY 23/24	
Unit Cost:	a	$2,872 / $718	$2,872 / $718	$2,872 / $718	$2,872 / $718	$2,947 / $737	$3,260/ $815	$3,461/ $865		$4,529/$1,132	
Cal-Am Water Balance Forward	b	**$ (676,704)**	**$ (491,747)**	**$ (48,797,949)**	**$ (47,979,852)**	**$ (46,855,121)**	**$ (46,855,121)**	**$ (46,855,121)**		**$ (46,855,121)**	
Cal-Am Water Production (AF)	c	*2,029.51*	*2,229.45*	*2,120.22*	*2,245.88*	*1,664.04*	*1,648.71*	*1,569.60*	*49,259.34*		
Cal-Am Water NSY Over-Production (AF)	d	*64.40*	*374.65*	*284.85*	*334.21*	-	-	-	*14,638.57*		
Exceeding Natural Safe Yield Considering Alternative Producers	e	$ 184,957	$ 1,075,995	$ 818,097	$ 959,859	-	-	-	$ 33,550,034	-	$ 33,550,034
Operating Yield Overproduction Replenishment	f				164,872	-	-	-	$ 1,122,753	-	$ 1,122,753
Total California American	g	**$ 184,957**	**$ 1,075,995**	**$ 818,097**	**$ 1,124,731**	**$ -**	**$ -**	**$ -**	**$ 34,672,786**	**-**	**$ 34,672,786**
CAW Credit Against Assessment	h		$ (49,382,196)	-	-	-	-	-	$ (81,527,907)	-	$ (81,527,907)
CAW Unpaid Balance	i	***$ (491,747)***	***$ (48,797,949)***	***$ (47,979,852)***	***$ (46,855,121)***	***$ (46,855,121)***	***$ (46,855,121)***	***$ (46,855,121)***	***$ (46,855,121)***	***$ (46,855,121)***	***$ (46,855,121)***
City of Seaside Balance Forward (120.28 AF)	j	**$ (3,232,420)**	**$ (3,142,500)**	**$ (3,022,249)**	**$ (2,919,806)**	**$ (2,802,831)**	**$ (2,708,829)**	**$ (2,661,184)**		**$ (2,661,184)**	
City of Seaside Municipal Production (AF)	k	*188.31*	*184.63*	*178.40*	*181.65*	*174.69*	*155.12*	*158.46*	*4,047.41*		
City of Seaside NSY Over-Production (AF)	l	*30.47*	*32.46*	*27.82*	*32.06*	*25.52*	*11.69*	-	*1,247.31*		
Exceeding Natural Safe Yield Considering Alternative Producers	m	$ 87,512	$ 93,225	$ 79,893	$ 92,089	$ 75,197	$ 38,116	-	$ 2,898,358	0.00	$ 2,898,358
Operating Yield Overproduction Replenishment	n	2,409	27,026	22,550	24,886	18,806	9,529	-	$ 203,263	0.00	$ 203,263
Total Municipal	o	$ 89,920	$ 120,251	$ 102,443	$ 116,975	$ 94,002	$ 47,645	$ -	$ 3,101,621	0.00	$ 3,101,621
City of Seaside - Golf Courses (APA - 540 AFY)											
Exceeding Natural Safe Yield - Alternative Producer	p	-	-	-	-	-	-		$ 201,406		$ 201,406
Operating Yield Overproduction Replenishment	q	-	-	-	-	-	-		$ 50,353		$ 50,353
Total Golf Courses	r	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 251,759		$ 251,759
Total City of Seaside*	s	**$ 89,920**	**$ 120,251**	**$ 102,443**	**$ 116,975**	**$ 94,002**	**$ 47,645**	**-**	**$ 3,353,380**	**0.00**	**$ 3,353,380**
City of Seaside Late Payment 5%	t								$ 88,887		$ 88,887
In-lieu Credit Against Assessment	u					-	-	-	$ (6,103,451)	-	$ (6,103,451)
City of Seaside Unpaid Balance	v	***$ (3,142,500)***	***$ (3,022,249)***	***$ (2,919,806)***	***$ (2,802,831)***	***$ (2,708,829)***	***$ (2,661,184)***	***$ (2,661,184)***	***$ (2,661,184)***	***$ (2,661,184)***	***$ (2,661,184)***
Mission Memorial Park (APA - 31 AFY)											
Mission Memorial Park Production (AF)	w	*13.74*	*14.43*	*16.07*	*20.00*	*46.77*	*33.95*		*335.84*		
Mission Memorial Park NSY Over-Production (AF)	x	-	-	-	-	*15.77*	*2.95*		*18.72*		
Exceeding Natural Safe Yield - Alternative Producer	y	-	-	-	-	$ 46,488	$ 9,608		$ 56,096		$ 56,096
Operating Yield Overproduction Replenishment	z	-	-	-	-	11,626.00	2,401.97		$ 14,028		$ 14,028
Board Approved (5/4/22) Credit Against Assessment						(33,114.00)	-		$ (33,114)		$ (33,114)
$8,500 Applied to Admin Fund to cover expenses						(8,500.00)					
Mission Memorial Park Unpaid Balance	aa	-	-	-	-	-	-	-	$ -	-	$ -
Total	o	***$ -***	***$ -***	***$ -***	***$ -***	***$ 16,500***	***$ 12,010***	***$ -***	***$ 28,510***	***$ -***	***$ 28,510***
Balance of Available Funds								***$ 21,974***		***$ 16,034***	
Total Replenishment Fund Balance	bb	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,658)**	**$ (49,657,952)**	**$ (49,563,950)**	**$ (49,516,305)**	**$ (49,522,841)**	**$ (49,487,795)**	**$ (49,516,305)**	**$ (49,516,305)**
Replenishment Fund Balance Forward	cc	**$ (3,909,125)**	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,658)**	**$ (49,657,952)**	**$ (49,563,950)**	**$ (49,516,305)**		**$ (49,522,841)**	
Total Replenishment Assessments	dd	$ 274,877	$ 1,196,246	$ 920,540	$ 1,241,706	$ 110,502	$ 59,655	$ -	$ 38,143,563	$ -	**$ 38,143,563**
Total Paid and/or Credited	ee		$ (49,382,196)			$ (16,500)	$ (12,010)		(87,659,868)		**(87,659,868)**
Total Paid for Replenishment Legal Services	ff							$ (6,536)	(6,536)	(12,476)	**(19,012)**
Grand Total Fund Balance	gg	***$ (3,634,247)***	***$ (51,820,198)***	***$ (50,899,658)***	***$ (49,657,952)***	***$ (49,563,950)***	***$ (49,516,305)***	***$ (49,522,841)***	***$ (49,522,841)***	***$ (49,522,841)***	***$ (49,535,317)***

TO: Watermaster Budget & Finance Committee
FROM: Laura Paxton, Administrative Officer and Robert Jaques, Technical Program Manager
DATE: August 29, 2024
SUBJECT: Water Year 2025 Overproduction Replenishment Assessment Unit Costs for Water

- -

RECOMMENDATION: Recommend to the Watermaster board at its October 2, 2024 board meeting to adopt a Replenishment Assessment Unit Cost of $4,845 and $1,211/AF for Natural Safe Yield and Operating Yield Overproduction, respectively, for Water Year 2025.

BACKGROUND: Per page 33 of the Decision, "The per acre-foot (AF) amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year." Thus, the per acre-foot amount determined by the Board on or before October of 2024 will be used to calculate Replenishment Assessments for pumping that occurs during Water Year 2025 (October 1, 2024 through September 30, 2025).

For Water Years 2014, 2015, and 2016 the Board adopted a Replenishment Assessment Unit Cost of $2,702/AF for Natural Safe Yield Overproduction. This unit cost was developed starting with Water Year 2014 by taking the average of the Base Unit Cost ($/AF) of the four potential water supply projects that the Board felt were the most likely to be implemented. For Water Year 2017 the Board adopted a revised Replenishment Assessment Unit Cost of $2,872. This revised Unit Cost was calculated using updated unit cost data for the three projects which the Board at that time felt were the most likely to be implemented. The number of projects was reduced from four to three, because when the WY 2017 Unit Cost was being calculated, it was determined that two of the previous four projects (Regional Desalination and the Pure Water Monterey Groundwater Replenishment Projects) would be part of a combined project referred to as the Monterey Peninsula Water Supply Project (MPWSP). The unit cost for Water Year 2017 was carried over to the three subsequent Water Years because no updated cost data was available for those projects, and no other viable projects could be identified. In 2020, a blended unit cost value was provided for the Monterey Peninsula Water Supply Project based on a reduced size desalination plant offset by water to be provided by the Pure Water Monterey Project. Based on the updated Pure Water Monterey Project's unit cost, the blended unit cost for that combined project was updated from $4,591/AF to $4,817/AF, resulting in a Water Year 2021 Replenishment Assessment Unit Cost of $2,947/AF. In 2022, a blended unit cost value was calculated for the MPWSP based on an updated PWM unit cost for 3,500AF of potential volume from the project. The blended unit cost for that combined project was updated from $4,817/AF to $4,948/AF. For purposes of the 2022 Replenishment Assess Unit Cost calculation, $2,808 was used as the RUWAP cost/AF. In 2023, a blended unit cost value was calculated for the MPWSP based on an updated PWM and PWMX unit cost for an increased 5,750AF of potential volume from both projects. The blended unit cost for the combined projects was updated from $4,948/AF to $4,872/AF. At the September 9, 2023 Watermaster Board meeting, Director Riley submitted a document requesting that every category of water be flow weighted instead of the current calculation method established in 2017 that blends the Base Unit Cost ($/AF) value for the MPWSP with the Base Unit Cost for the Pure Water Monterey Project (PWM) based on a reduced size desalination plant offset by water to be provided by PWM. The Committee, and subsequently the Board adopted Director Riley's method of calculation of the unit costs of $4,529/AF and $1,132/AF.

DISCUSSION: The attached 2025 Table of calculations includes updated PWM/PWMX, ASR, and RUWAP actual and estimated project costs. The proposed Replenishment Assessment Unit Costs would therefore be $4,845/AF and $1,211/AF for Natural Safe Yield and Operating Yield Overproduction, respectively, for Water Year 2025.

ATTACHMENTS: 2025 Unit Cost Data Table
November 1, 2023 Board Transmittal - Unit Cost Calculations importance, purpose, history, and alternative calculation options

WATER YEAR 2025 (October 1, 2024-September 30, 2025)

ANTICIPATED UNIT COSTS OF WATER COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [1]	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR
Regional Desalination[2]	2028	6,250	$6,147	2021
Pure Water Monterey and PWMX	2020 (PWM) 2025 (PWMX)	5,750	$4,177	2024
Seaside Basin ASR Expansion [3]	2021	1,000	$1,587	2024
Regional Urban Water Augmentation Project [4]	2021	1,400-1,700	$4,177	2024

(6,250X$6,147) + (5,750X$4,177) + (1,000X$1,587) + (1,550X$4,177) / 14,550 = $4,845.21 2024 Natural Safe Yield Overproduction Unit Cost/AF

$4,845.21 / 4 = $1,211.30 Operating Yield Overproduction Unit Cost/AF

FOOTNOTES:

(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the CAW distribution system, based on the desalination plant having a 6.4 MGD capacity which is equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 4). For the PWM and PWMX this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD. The unit cost was confirmed in August 2021 by Ian Crooks of Cal Am as being the latest unit cost available for this project. For 2024, Tim O'Halloran requested the $6,147 continue to be used because plant design and acquisition of construction bids are still underway. No new cost information is available.

(3) Base unit cost data provided by MPWMD in 2016. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project and would be an annual average taking into account river flow and hydrologic conditions that change from year to year. For 2024, per David Stoldt, this is the cost for ASR injection of 360 AFY long-term average of replenishment water with ASR expansion of a single new injection well. Because ASR replenishment water does not require extraction and treatment, the cost of customer demand is not factored here.

(4) Project data updated in 2022. Patrick Breen of MCWD noted that to determine total cost per acre-foot, use the $4,177/acre-foot cost from Pure Water Monterey (which would be RUWAP as well) and add MCWD O&M and Financing costs which are yet to be determined.

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Watermaster Board of Directors

FROM: Laura Paxton, Administrative Officer

DATE: November 1, 2023

SUBJECT: Unit Cost Calculations importance, purpose, history, and alternative calculation options

RECOMMENDATION: It is recommended the board authorize use of individual flow-weighted averages for each project when calculating Replenishment Assessment Unit Costs for Water Year 2024 and future years, and adopt a 2024 Replenishment Assessment Unit Cost for Natural Safe Yield Overproduction of $4,528.63 and for Operating Yield Overproduction of $1,132.16.

IMPORTANCE AND PURPOSE: Per page 33 of the Decision, "The per acre-foot (AF) amount of the Replenishment Assessments shall be determined and declared by Watermaster each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year." The "per AF amount of the Replenishment Assessments," one for Natural Safe Yield Overproduction and one for Operating Yield Overproduction, have come to be known as the "Unit Costs" determined by calculations presented to the Watermaster Board by staff for approval each fall for the ensuring water year. The approved Unit Costs are used to assess parties a fee for any overproduction that may occur in the upcoming water the year.

The Replenishment Assessment Fund keeps an accounting of the assessments, payments against assessments, and credits against assessments for costs incurred for water supply augmentation that has or will result in replenishment of the Basin. Attachment 1 of this transmittal titled, "Replenishment Assessments" prepared by Watermaster Technical Program Manager Bob Jaques as presented at the October 1, 2008 Watermaster Board meeting, details the purpose of the Replenishment Assessment Fund and the manner of calculating the Unit Costs. The Fund and the Unit Costs, though theoretically of high importance with respect to obtaining basin recharge water, have in a practical sense been of little importance through the years of Watermaster as no water supply projects capable of providing the estimated 3,600 to 4,600 acre-feet per year (AFY) replenishment water needed have been identified, and the estimation of potential water supply project costs is imprecise at best.

The fund *is* important in tracking California American Water (CAW) overproduction to determine the amount of water CAW will pay back to the Seaside Groundwater Basin (Basin) for its accumulated overproduction, and the number of years required at a payback rate of 700AFY in accordance with the December 3, 2008 Agreement between the Watermaster and CAW pertaining to Replenishment Assessments, as amended in 2024. The amount of credit against Replenishment Assessment for expenses incurred for water supply augmentation granted to CAW and the City of Seaside is also tracked in the Fund.

The Watermaster, as the board is aware, has established a Replenishment Ad Hoc Committee that is strategically planning to build up revenues in the fund for purchase of replenishment water once supply projects come on line in future years. The Unit Costs may be important in determining and negotiating the purchase price of replenishment water once it is available.

HISTORY: Per the minutes of the Watermaster Board meeting on October 27, 2006, Charlie Kemp, California American Water (CAW), presented slides on the data used to calculate the first-time Over-production Replenishment Assessment Unit Cost. The assessment was applied to Water Years 2006-2007. Accuracy of the determination was approximated to be +/-10%. (See Table 1 below). The Board voted unanimously to approve the calculation method and the Replenishment Assessment Unit Cost of $1,132 per acre-foot (/AF).

Table 1
Anticipated Costs of Artificial Replacement of Seaside Basin

Updated: 10/19/06

Table 1	Annualized Cost ($/AFY)	Effective Yield (AF)	Weighted Avg %	Replenishment Share	Comments
CWP Desalination Plant[i] [ii] [iii] [iv] [v] [vi]	$2,075	0	0.00%	$0	Plant not scheduled to go on line in the next three years
CWP ASR[vii][viii] [ix] [x] [xi]	$1,245	0	0.00%	$0	
MPWMD Sand City Desalination Project[xii] [xiii] [xiv]	$2,939	0	0.00%	$0	MPWMD board placed project on hold in 2004, in favor of studying regional alternatives.
In-Lieu recharge to Laguna Seca Sub-area	$765	172	10.17%	$78	Based on winter-time demand for Ryan Ranch, Hidden Hills, and Bishop.
MPWMD Phase 1 ASR Project in Conjunction with CAW SACP[xv] [xvi] [xvii] [xviii] [xix]	$765	920	54.37%	$416	
MRWPCA[xx] [xxi] [xxii]	$1,200	0	0.00%	$0	Direct injection from wastewater sources. Based on assumption xxi. Project not scheduled to go on line in the next three years.
RUWAP[xxiii] [xxiv]	$1,100	300	17.73%	$195	Based on assumption xxiii
PSM/ Poseidon Desalination Project[xxv] [xxvi] [xxvii] [xxviii]	$1,352	0	0.00%	$0	
Sand City Desalination Project	$2,500	300	17.73%	$443	
		1692			
		Total Replenishment		$1,132	

Assumptions

This weighted calculation is based on next three years operating conditions.

[i] California American Water's Coastal Water Project- Desalination Component
[ii] Source: Capital and O&M Cost Estimates prepared by RBF Consulting, revised June 2006
[iii] 10 mgd desalination plant, 10,430 AFY production
[iv] Calculated using 10,430 AFY production
[v] ASR cost component identified as "stand alone project" for Comparative Purposes
[vi] 2005 capital cost amortized over 30 years at 7%
[vii]California American Water's Coastal Water Project- ASR Component
[viii] Source: Capital and O&M Cost Estimates prepared by RBF Consulting, revised June 2006
[ix] CWP ASR would integrate and upgrade existing Santa Margarita Test Injection Well, construct two (2) additional wells, Segunda and ASR pipelines, ASR Pump Station, and upgrade Segunda Pump Station
[x] Calculated using 1,300 AFY production
[xi] 2005 Capital cost amortized over 30 years at 7%
[xii] Monterey Peninsula Water Management District's Sand City Desalination Project: 7.5 mgd desalination plant, 8,409 AFY production
[xiii] Source: Exhibit 12-A MPWMD Comparative Matrix, September 18, 2006
[xiv] Cost estimates range from $2,737 - $2,939/ AFY, which does not include CAW system integration costs
[xv] MPWMD Phase 1 Aquifer Storage and Recovery (Seaside Basin) Project and CAW Seaside Adjudication Compliance Project
[xvi] Source: Exhibit 12-B MPWMD Comparative Matrix, September 18, 2006 and CAW Project Need Identification for Seaside Adjudication Compliance Project, October 2006
[xvii] Carmel River Diversions and injection to ASR is 2,420 AFY, maximum extraction is 1,500 AFY and annual average is 920 AFY
[xviii] Does not include improvements to Russel Wells, Carmel Valley Filter Plant, or Segunda Pump Station Upgrade, which are all included in the SACP. These facility upgrades are required in order to meet Carmel River diversion goals. (Segunda PS Upgrade included with CWP ASR Cost)
[xix] MPWMD Phase 1 ASR estimated at $610/ AF for 920 AFY. Per CAW PNI, ASR Pipeline cost is $1.055 Million (July 2006). Phase 1 Temporary ASR Pipeline estimated at $.750Million. Both pipelines amortized over 20 years at 5% yields about $155/AF.
[xx] Groundwater Replenishment Project, Monterey Regional Pollution Control Agency
[xxi] 2,400 AFY yield
[xxii] Preliminary estimate provided by MRWPCA
[xxiii] Regional Urban Water Augmentation Project, Marina Coast Water District and MRWPCA, 300 AFY (of 1,500 AFY total) of reclaimed water earmarked to Monterey Peninsula in Phase 1.
[xxiv] Cost does not include connection fees
[xxv] Monterey Bay Regional Seawater Desalination Project, Pajaro/Sunny Mesa and Poseidon Resources

[xxvi] Source: Exhibit 12-A MPWMD Comparative Matrix, September 18, 2006
[xxvii] 20 mgd desalination plant, 20,930 AFY demand identified
[xxviii] Does not include costs for CAW system integration

Filename = Pw\files\Seaside Basin Technical Committee\Replenishment Calculation_3

The Water Year 2008 approved Unit Cost increased to $2,485. See the table below for updated projects and costs included in the calculation. The Monterey Peninsula Water Management District (MPWMD)/CAW Phase 1 Aquifer Storage and Recovery (ASR) Project was removed as a potential source since all of the water production of the project will be used by CAW to reduce the amount of water CAW takes from the Carmel River Basin and thus it will not benefit the Seaside Basin:

Updated: 10/19/07

ANTICIPATED COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLACEMENT WATER	ANNUALIZED COST ($/AFY)	EXPECTED DATE REPLACEMENT WATER COULD BECOME AVAILABLE	COLA ADJUSTED 3%	EFFECTIVE YIELD (AF)	WEIGHTED AVG %	REPLENISHMENT SHARE	COMMENTS
CWP Desalination Plant[i] [ii] [iii] [iv] [v] [vi]	$2,075	2012	$2,137	0	0.00%	$0	Plant not scheduled to go on line until around 2012, and is thus not prior to January 2009, when the initial 10% reduction in allowable production could occur, per Footnote No.2 on page 19 of the Amended Decision filed February 9, 2007.
CWP ASR[vii][viii] [ix] [x] [xi]	$1,245	2012	$1,282	0	0.00%	$0	Project is not scheduled to go on line until around 2012, since it depends in part on receiving water from the CWP Desalination Plant. Thus, it is not prior to the January 2009 target date.
In-Lieu recharge to Laguna Seca Sub-area[xxvi]	$610	2003	$628	172	36.44%	$229	Based on winter-time demand for Ryan Ranch, Hidden Hills, and Bishop.
MPWMD ASR[xv] [xvi] [xvii]	$2,000	2010 to 2012	$2,060	0	0.00%	$0	Direct injection or percolation using highly treated recycled water. Based on assumption xxi. Project not scheduled to go on line prior to the January 2009 target date.
RUWAP[xxvii] [xxviii]	$2,068	Late 2009 to early 2010	$2,068	0	0.00%	$0	Based on assumption xxiii, the project is not expected to go on line until 2010 or 2011 at the earliest, which is not prior to the January 2009 target date.
Phase-Sunny Mesa/ Poseidon Desalination Project[xxix] [xxx] [xxxi] [xxxii]	$1,352	Assume same timeline as CWP above (2012)	$1,393	0	0.00%	$0	Project parallels the CWP as a regional desalination project, and is assumed to be progressing on the same timeline as the CWP.
Sand City Desalination Project[xxxiii] [xxxiv] [xxxv]	$3,550	Early 2009	$3,550	300	63.56%	$2,256	Project has completed final design and is out for construction bids. Completion by early 2009 is anticipated.

Total Quantity of Replacement Water (AFY) Expected to be Available to the Seaside Basin by January 2009 = 472

Flow-Weighted Replacement Water Cost Per Acre-Foot = $2,485

The Water Year 2009 approved Unit Cost increased to $3,040. See the table below for updated projects and costs included in the calculation. Several projects were added:

WATER YEAR 2008-2009

ANTICIPATED UNIT COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN [9]

POTENTIAL SOURCE OF REPLACEMENT WATER	POTENTIAL DATE REPLACE-MENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [12]	LEVEL OF PROJECT DEVELOP-MENT	CONTINGENCY INCLUDED IN BASE UNIT COST [11] (%)	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR	ADDITIONAL CONTINGENCY ADDED TO REFLECT LEVEL OF PROJECT DEVELOPMENT [10] (%)	UNIT COST INCLUDING ADDITIONAL CONTINGENCY ($/AF)	UNIT COST INFLATED @ 3% FROM COST BASIS YEAR TO YEAR REPLACEMENT WATER COULD BECOME AVAILABLE	VOLUME-WEIGHTED AVG %	REPLENISH-MENT UNIT COST SHARE
Moss Landing Desalination Plant – Local Alternative	2015	10,430	Conceptual	25%	$2,230	2007	25%	$2,788	$3,531	10.87%	$383.91
Moss Landing Desalination Plant – Regional Alternative	2015	18,972	Conceptual	25%	$1,690	2007	25%	$2,113	$2,676	19.78%	$529.22
North Marina Desalination Plant – Local Alternative (brine disposal at MLFP) [13]	2015	10,430	Conceptual	10%	$1,980	2005	40%	$2,772	$3,725	10.87%	$405.09
North Marina Desalination Plant – Regional Alternative (brine disposal at MLFP) [13]	2015	18,972	Conceptual	10%	$1,660	2005	40%	$2,324	$3,123	19.78%	$617.66
MPWMD's 95-10 Desal Plant	2015	8,400	Conceptual	25%	$2,920	2007	25%	$3,650	$4,624	8.76%	$404.85
Sand City Water Supply Project [14]	2009	300	Design	0%	$3,600	2007	15%	$4,140	$4,392	0.31%	$13.73
Salinas River Surface Water Treatment Plant [6]	2012	7,500	Conceptual	30%	$1,500	2008	20%	$1,800	$2,026	7.82%	$158.38
Regional Desalination [15]	2015	9,930	Conceptual	30%	$1,791	2008	20%	$2,149	$2,643	10.35%	$273.60
Regional Urban Water Augmentation Project	2011	3,000	Conceptual	5%	$1,200	2006	45%	$1,740	$2,017	3.13%	$63.08
Seaside Aquifer Storage and Recovery Project	2008	1,300	Design	25%	$260	2005	10%	$234	$256	1.36%	$3.46
MRWPCA Groundwater Replenishment Project for the Seaside Basin	2012	6,700	Conceptual	30%	$1,865	2006	20%	$2,238	$2,672	6.98%	$186.63
Seawater Conversion Vessel [5]	2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pacific Grove Stormwater Project [3]	2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Conservation [4]	2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total Quantity of Replacement Water (AFY) Expected to Potentially be Available Within the Next 10 Years [13] = 95,934

Volume-Weighted Replacement Water Cost Per Acre-Foot = $3,040

FOOTNOTES:

(1) Contingency percentage included in Base Unit Cost was not stated. Assume 10%.

(2) Contingency percentage included in Base Unit Cost was not stated. Assume 0%. Although the level of Project Development for this water source is shown as "Design," the project is well into construction with start-up expected in early 2009.

(3) This Project was not included because the costs were not known. A feasibility study for the Pacific Grove Stormwater Project was just recently completed, and it is unknown whether preliminary costs were developed.

(4) This Project was not included because the costs were not known. The cost for conservation will be realized through rebates and are unknown at this time.

(5) This Project was not included because there is no apparent project sponsor for it.

(6) Project has a proposed range of supply of 5,000 to 10,000 AFY. For this analysis assume 7,500 AFY.

(7) Project has a proposed range of supply of 7,430 to 12,430 AFY. For this analysis assume 9,930 AFY.

(8) Project has a proposed range of supply of 5,000 to 10,000 AFY. For this analysis assumed 7,500 AFY.

(9) The data used in this table was taken from the Basin Management Action Plan, Section 3, titled "Supplemental Water Supplies."

(10) The following Contingency percentages were considered reasonable for the indicated levels of project development: Conceptual Level - 50%, Project Report Level - 30%, and Design Level - 15%. The sum of the values in the columns titled "Contingency Included in Base Unit Cost" and "Additional Contingency Added to Reflect Level of Project Development" equals the Contingency appropriate for the project's level of development.

(11) This percentage of Contingency was included in the Base Unit Cost.

(12) This is the total production for this water source, not just the amount of production committed to the Seaside Basin.

(13) This value is the cumulative production capacity of all of the Potential Sources of Replacement Water that were evaluated, and is used only to determine the "Valued-Weighted Average." It is not the amount of water that is expected to be available to the Seaside Basin.

The Water Year 2010 approved Unit Cost increased to $2,780; detailed comments on why Water Year 2009 projects were not included in the 2010 calculations are provided in Attachment 2.

WATER YEAR 2009-2010

ANTICIPATED UNIT COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLACEMENT WATER	POTENTIAL DATE REPLACE-MENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [10]	LEVEL OF PROJECT DEVELOP-MENT	CONTINGENCY INCLUDED IN BASE UNIT COST [9] (%)	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR	ADDITIONAL CONTINGENCY ADDED TO REFLECT LEVEL OF PROJECT DEVELOPMENT [8] (%)	UNIT COST INCLUDING ADDITIONAL CONTINGENCY ($/AF)	UNIT COST INFLATED @ 3% FROM COST BASIS YEAR TO YEAR REPLACEMENT WATER COULD BECOME AVAILABLE	VOLUME-WEIGHTED AVG %	REPLENISH-MENT UNIT COST SHARE
Salinas River Surface Water Treatment Plant [5]	2014	7,500	Conceptual	30%	$1,500	2008	20%	$1,800	$2,149	38.86%	$835.22
Regional Desalination [7]	2012	8,800	Project Report	25%	$3,250	2009	5%	$3,413	$3,729	45.60%	$1,700.24
Regional Urban Water Augmentation Project [4]	2012	3,000	Design	5%	$1,200	2006	10%	$1,320	$1,576	15.54%	$245.00

Total Quantity of Replacement Water (AFY) the Listed Projects Could Cumulatively be Expected to Produce Within the Next 10 Years [6] = 19,300

Volume-Weighted Replacement Water Cost Per Acre-Foot = $2,780

FOOTNOTES:

(1) Not used.

(2) Not used.

(3) Not used.

(4) Data provided by MCWD.

(5) Data provided by MCWRA in 2008. No updated data was provided for 2009. Project has a proposed range of supply of 5,000 to 10,000 AFY. For this analysis assume 7,500 AFY.

(6) This value is the cumulative production capacity of all of the Potential Sources of Replacement Water that were evaluated, and is used only to determine the "Valued-Weighted Average." It is not the amount of water that is expected to be available to the Seaside Basin.

(7) Information and parameters for the project were taken from the CWP DEIR and supporting project cost documents prepared for the PUC by RMC Engineers.

(8) The following Contingency percentages were considered reasonable for the indicated levels of project development: Conceptual Level - 50%, Project Report Level - 30%, and Design Level - 15%. The sum of the values in the columns titled "Contingency Included in Base Unit Cost" and "Additional Contingency Added to Reflect Level of Project Development" equals the Contingency appropriate for the project's level of development.

(9) This percentage of Contingency was included in the Base Unit Cost.

(10) This is the total amount of water from each production source which could potentially come to the CAW distribution system, not just the amount of production committed to the Seaside Basin.

The Water Year 2011, 2012, and 2013 approved Unit Cost remained $2,780.

For Water Years 2014, 2015, and 2016 the Board adopted a Replenishment Assessment Unit Cost of $2,702/AF for Natural Safe Yield Overproduction. This unit cost was developed starting with Water Year 2014 by taking the average of the Base Unit Cost ($/AF) of the four potential water supply projects that the Board felt were the most likely to be implemented:

the Replenishment Assessment Unit Costs for Water Year 2014 (October 1, 2013-September 30, 2014)

WATER YEAR 2014 (October 1, 2013-September 30, 2014)

ANTICIPATED UNIT COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) (1)	LEVEL OF PROJECT DEVELOPMENT	CONTINGENCY INCLUDED IN BASE UNIT COST (2) (%)	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR	ADDITIONAL CONTINGENCY ADDED TO REFLECT LEVEL OF PROJECT DEVELOPMENT (3) (%)	UNIT COST INCLUDING ADDITIONAL CONTINGENCY ($/AF)	UNIT COST INFLATED @ 3% FROM COST BASIS YEAR TO YEAR REPLENISHMENT WATER COULD BECOME AVAILABLE ($/AF)	VOLUME-WEIGHTED AVG %
Monterey Peninsula Water Supply Project (Regional Desalination) (4)	2018	9,752	Project Report	30%	$3,507	2012	0%	$3,507	$4,188	56.53%
Seaside Basin ASR Expansion (5)	2015	1,000	Conceptual	11%	$1,800	2012	39%	$2,502	$2,734	5.80%
Regional Urban Water Augmentation Project (6)	2017	3,000	Design	5%	$2,000	2013	10%	$2,200	$2,476	17.39%
Groundwater Replenishment Project (GWRP) (7)	2017	3,500	Conceptual	50%	$3,500	2017	0%	$3,500	$3,500	20.29%

Total Quantity of Replenishment Water (AFY) the Listed Projects Could Cumulatively Potentially be Able to Produce Within the Next 10 Years (8) = 17,252

FOOTNOTES:

(1) For the Monterey Peninsula Water Supply Project this is the total amount of water from this source which could potentially come to the CAW distribution system. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 5). For the RUWAP this is the total amount of water that this project is expected to produce. Only a portion of this amount might be used as in-lieu replenishment of the Seaside Basin. For the GWRP this is the quantity of water that is being considered at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2)(3) The following Contingency percentages were considered reasonable for the indicated levels of project development: Conceptual Level - 50%, Project Report Level - 30%, and Design Level - 15%. The sum of the values in the columns titled "Contingency Included in Base Unit Cost" and "Additional Contingency Added to Reflect Level of Project Development" equals the Contingency appropriate for the project's level of development.

(4) Project data based on documents provided by Cal Am and MPWMD.

(5) Project data provided by MPWMD. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(6) Project data provided by MCWD.

(7) Project data provided by MRWPCA. MRWPCA reported that the GWRP quantity being used in the current CEQA documentation is 3,500 AFY, but that the project could potentially supply 6,500 AFY or more. The unit cost would be lower if a quantity larger than 3,500 AFY were produced.

(8) This value is the cumulative production capacity of all of the Potential Sources of Replenishment Water that listed in this table, and is used only to determine the "Volume-Weighted Average." It is not the amount of water that is expected to be available to the Seaside Basin.

For Water Year 2017 the Board adopted a revised Replenishment Assessment Unit Cost of $2,872. This revised Unit Cost was calculated using updated unit cost data for the three projects which the Board at that time felt were the most likely to be implemented. The number of projects was reduced from four to three, because when the WY 2017 Unit Cost was being calculated, it was determined that two of the previous four projects (Regional Desalination and the Pure Water Monterey Groundwater Replenishment Projects) would be part of a combined project referred to as the Monterey Peninsula Water Supply Project (MPWSP). A flow-weighted average unit cost of the combined desalination and groundwater replenishment projects was first used (footnote 3):

WATER YEAR 2017 (October 1, 2016-September 30, 2017)

ANTICIPATED UNIT COSTS OF WATER COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISH-MENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [1]	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR
Regional Desalination[2]	2020	6,250	$6,147	2019
Groundwater Replenishment Project (Pure Water Monterey)[2]	2018	3,500	$1,811	2018
Monterey Peninsula Water Supply Project (Combined Regional Desalination with Groundwater Replenishment Project)	GWRP in 2018 Regional Desalination in 2020	9,750	**$4,591**[3]	2018-2019
Seaside Basin ASR Expansion[4]	2020	1,000	**$2,025**	2016
Regional Urban Water Augmentation Project [5]	2018	1,400-1,700	**$2,000**	2018

FOOTNOTES:

(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the CAW distribution system, based on the desalination plant having a 6.4 MGD capacity which is equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 4). For the GWRP this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD .

(3) Flow-weighted average unit cost of the combined desalination and groundwater replenishment projects, calculated as: (6,250x$6,147 + 3,500x$1,811)/9,750 = **$4,591**.

(4) Base unit cost data provided by MPWMD. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(5) Project data provided by MCWD.

The unit cost for Water Year 2017 was carried over to the three subsequent Water Years because no updated cost data was available for those projects, and no other viable projects could be identified.

In 2020, a blended unit cost value was provided for the MPWSP based on a reduced size desalination plant offset by water to be provided by the Pure Water Monterey Project (PWM). Based on the updated Pure Water Monterey Project's unit cost, the blended unit cost for that combined project was updated from $4,591/AF to $4,817/AF, resulting in a Water Year 2021 Replenishment Assessment Unit Cost of $2,947/AF. In 2022, a blended unit cost value was calculated for the MPWSP based on an updated PWM unit cost. The blended unit cost for that combined project was updated from $4,817/AF to $4,948/AF. For purposes of the 2022 Replenishment Assess Unit Cost calculation, $2,808 was used as the Regional Urban Water Augmentation Project (RUWAP) cost/AF. Monterey Peninsula Water Management District had not yet provided updated costs for Aquifer Storage and Recovery expansion.

The table below includes updated cost data for the PWM Project and its expansion (PWMX) that were used to determine the Water Year 2023 approved Unit Cost. The blended unit cost for the MPWSP based on the updated PWM/PWMX unit cost was updated from $4,948/AF to $4,872/AF. For purposes of the 2023 Replenishment Assess Unit Cost calculation, $3,486 was used as the RUWAP cost/AF. The $3,461 Unit Cost was calculated as: ($4,872+$2,025+$3,486)/3.

WATER YEAR 2023 (October 1, 2022-September 30, 2023)

ANTICIPATED UNIT COSTS OF WATER THAT COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [1]	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR
Regional Desalination [2]	2024	6,250	$6,147	2021
Pure Water Monterey & PWMX [6]	2020	5,750	3,486	2021
Monterey Peninsula Water Supply Project (Combined Regional Desalination with Groundwater Replenishment Project)	PWM in 2020; Regional Desalination in 2024	12,000	**$4,872 [3]**	2022
Seaside Basin ASR Expansion [4]	2021	1,000	**$2,025**	2016
Regional Urban Water Augmentation Project [5]	2021	1,400-1,700	**$3,486**	2021

($4,872 + $2,025 + $3,486) / 3 =

$3,461 = 2023 Replenishment Assessment Unit Cost for NSY Overproduction

$3,461/4 = $865 Replenishment Assessment Unit Cost for OY Overproduction

FOOTNOTES:

(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the Cal Am distribution system, based on the desalination plant having a 6.4 MGD capacity equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 4). For the PWM & PWMX this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project. *Note that if the desalination plant is not built, PWM and PWMX will have to bear conveyance, pumping, and delivery.*

(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD. This unit cost was confirmed in August 2021 by Ian Crooks of Cal Am as being the latest unit cost available for this project. *Note that if the desalination plant is not built, PWM and PWMX will have to bear conveyance, pumping, and delivery.*

(3) Flow-weighted average unit cost of the combined desalination and groundwater replenishment projects, calculated as: (6,250x$6,147 + 5,750x$3,486)/12,000 = $4,872

(4) Base unit cost data provided by MPWMD in 2016. No updated unit cost was provided for this project. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(5) Project data updated in 2022. Patrick Breen of MCWD noted that to determine total cost per acre-foot, use the $3,486-acre foot cost from Pure Water Monterey (which would be RUWAP cost as well) and add MCWD O&M and Financing costs to be determined.

(6) Base unit cost effective September 19, 2022 based on information provided by Ian Crook of Cal Am. *Note that if the desalination plant is not built, PWM and PWMX will have to bear conveyance, pumping, and delivery.*

In January of 2009, California American Water and the Seaside Basin Watermaster (Watermaster) entered into a Memorandum of Understanding (MOU), providing CAW Replenishment Credits based upon expenditures for a water supply augmentation project that CAW contends has or will result in Basin replenishment. The MOU further provides that the Watermaster shall grant CAW's requests for Replenishment Credits for years in which the Watermaster declares that water for Artificial Replenishment is not available. The granting of the request is subject to CAW's obligation to provide future CAW receives Replenishment Credits.

See Attachment 3 for an accounting of replenishment assessments and credits applied since Watermaster inception in 2006 through Water Year 2023.

ALTERNATIVE CALCULATION METHODS: At the September 9, 2023 Watermaster Board meeting, Director Riley submitted a document he developed entitled "Watermaster Replenishment Fund Fee Calculation Options" (Attachment 4) and gave comments against the unit cost calculation method used by staff since 2017. He recommended using Item C in his document for 2024 and future calculations – flow weight every category of water instead of the current calculation method established in 2017 that blends the Base Unit Cost ($/AF) value for the MPWSP with the Base Unit Cost for the Pure Water Monterey Project (PWM) based on a reduced size desalination plant offset by water to be provided by PWM.

Flow-weighted and non-flow-weighted averages used in the Water Year 2023 Unit Cost Calculation –

- Regional/PWM combined projects: Potential volume of water that could be supplied by each project multiplied by the Base Unit Cost ($/AF) of each project, then divided by the total volume of water supplied by both projects.
- The other two projects: Potential volume of water multiplied by the Base Unit Cost
- The results of the three project calculations were then added and the total divided by 3

Director Riley favored the use of averages per Item C in his Attachment 4 document –

- All four projects each have the potential volume of water that could be supplied by each project multiplied by the Base Unit Cost ($/AF) of each project
- The results of the four project calculations be added and the total divided by the total potential volume supplied by all four projects

The 2024 Proposed Updated Unit Cost Data Table based on Director Riley's favored method can be found in Attachment 5 to this transmittal.

It is recommended that the Board authorize Director Riley's suggested calculation method from 2024 forward, with 2024 Replenishment Assessment Unit Costs of $4,528.63 for Natural Safe Yield Overproduction and $1,132.16 for Operating Yield Overproduction.

FISCAL IMPACT: Unknown

ATTACHMENTS

Attachment 1: Amended Decision definitions, statements and/or requirements pertaining to Replenishment Assessments, prepared by Watermaster Technical Program Manager Bob Jaques as presented at the October 1, 2008 Watermaster Board meeting
Attachment 2: Status of and Comments Regarding the Projects Considered in the Water Year 2009-2010 Replenishment Assessment Unit Cost Calculations
Attachment 3: Watermaster Replenishment Assessment Fund through 9/30/23
Attachment 4: Director Riley's "Watermaster Replenishment Fund Fee Calculation Options"
Attachment 5: Water Year 2024 Proposed Updated Unit Cost Data Table

ATTACHMENT 1
Replenishment Assessments

What is the Replenishment Assessment?

The Amended Decision filed with the Court February 9, 2007 contains the following statements and/or requirements pertaining to the Replenishment Assessment on pages 32 and 33:

> *Each Water Year, the Watermaster will determine a Replenishment Assessment for Artificial Replenishment of the Seaside Basin necessary to offset the cumulative Basin Over-Production (as defined in Section III.A. 21), and levy a Replenishment Assessment. Replenishment Assessments based on Over-Production and on Operating Yield Over-Production shall be assessed within 60 days of the end of each Water Year on a per acre-foot basis on each acre-foot, or portion of an acre-foot, of Over-Production, and payment shall be due no later than January 15th of the following year. The per acre-foot amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year.*

Section III.A.21 of the Order defines Over-Production to mean, with regard to all Production from the Seaside Basin, *"... that quantity of Production which exceeds an initially assumed Natural Safe Yield of 3,000 AFY."* With regard to each Producer, Over-Production means *"... that quantity of Water Produced in any Water Year in excess of that Producer's Baser Water Right, as applied to an assumed Natural Safe Yield of 3,000 AFY."*

There are **two** components to the Replenishment Assessment:

1. The **Artificial Replenishment Assessment** is a fee that is charged proportionately against the cumulative amount that all Producers pump over the (assumed) 3,000 AFY Natural Safe Yield of the basin. However, the Order provides that for Alternative Producers there is no fee charged if the Alternative Producer does not pump any water in excess of the fixed amount allocated to it in Table 2 of the Order, and
2. The **Operating Yield Over-Production Assessment** is a fee that is charged against each Standard Producer for the amount of water the Standard Producer pumps in excess of its Base Water Right, as determined using the Allocation percentages in Table 1 of the Order, and against each Alternative Producer that pumps in excess of its allocation in Table 2 of the Order.

The actual calculation of each of these Assessment components gets complex and will therefore not be discussed or explained in this paper. The purpose of this paper is to describe the Replenishment Assessments and what the monies collected through these Assessments is intended to be used for.

The first component of the Replenishment Assessment collects monies from all of the Standard Producers (and Alternative Producers if they exceed their allocations) in proportion to the amount that they have cumulatively pumped in excess of the Natural Safe Yield of 3,000 AFY. So even if a Standard Producer pumps no water in excess of its Allocation, if cumulative pumping has exceeded the Natural Safe Yield, this Standard Producer will still have to pay a fee under this first component in proportion to its contributing toward the over-pumping of the Basin in excess of the Natural Safe Yield.

The second component of the Replenishment Assessment collects monies only from those Standard Producers who pumped amounts of Native Water in excess of their Standard Production Allocations, again as calculated using the percentages in Table 1 of the Order. Alternative Producers are only subject to the second component of the Replenishment Assessment if they pump amounts in excess of

their fixed allocations in Table 2 of the Order. So if a Standard Producer does not pump amount of water in excess of its Allocation, it will not have to pay a fee under the second component.

What Are the Monies Collected Through the Replenishment Assessments to be Used for?
Per page 33 of the Order, funds generated through the Artificial Replenishment Assessments *"... are to be used solely for replenishment of the Basin Groundwater supply with Non-Native water."* Non-native water is defined in the Order to mean *"... all water that would not otherwise add to the Groundwater supply through natural means or from return flows from surface applications other than intentional Spreading."*

Also per page 33 of the Order, funds generated through the Operating Yield Over-Production Assessments *"... shall be utilized by the Watermaster to engage in or contract for Replenishment of the Operating Yield Over-Production occurring in the Preceding Water Year as expeditiously as possible."*

On Page 34 of the Order it states that *"... All proceeds of Replenishment Assessments shall be used to procure Non-Native water, including, if appropriate, substitute reclaimed water."*

Although there is some variation in language between these sections of the Order, it is clear that the monies collected through the Replenishment Assessments are intended to be used to obtain water to recharge the Basin to the extent necessary to reduce the net water production taken from the Basin to a level at or below the Natural Safe Yield of 3,000 AFY. The recharge water could be such things as water imported from another water supply outside the Basin, recycled water used to reduce pumping for landscape irrigation, or recycled water used for recharge through direct injection or spreading.

How is the Per Acre-Foot Cost of the Replenishment Assessments to be Determined?
Per page 33 of the Order, *"The per acre-foot amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year."* Thus, the per acre-foot amount determined by the Board in October of 2007 will be used to calculate Replenishment Assessments for pumping that occurs during the Water Year which begins on October 1, 2007 and ends on September 30, 2008.

On pages 9 and 10 (Section 6.5) of the Watermaster Rules and Regulations, there is a discussion of how the Replenishment Assessment per acre-foot costs are to be calculated. It states that *"The per acre- foot cost of Replenishment Assessments for Production in excess of Natural Safe Yield shall be based on the anticipated cost of Artificial Replenishment, including the cost to construct, operate, and maintain facilities necessary for replenishment of the Basin. Replenishment Assessment may only be used for Artificial Replenishment."* The Order defines Artificial Replenishment to mean the act of engaging in or contracting for Non-Native Water to be added to the Groundwater Basin through spreading or direct injection to offset the cumulative Over-Production from the Basin in any particular Water Year. It can also include programs in which Producers agree to refrain from exercising their rights to pump their full Production Allocations where the intent is to cause the replenishment of the Basin through forbearance in lieu of the injection or spreading of Non-Native Water.

So the per acre-foot cost used to determine the Replenishment Assessments should be the cost that would have to be paid, per acre-foot, to obtain water to recharge the Basin to the extent necessary to offset the cumulative over-production above the Natural Safe Yield, during a given Water Year.

From work done to date in calculating the per acre-foot cost, it is apparent that there are ongoing changes in projected costs of recharge water and in the timing of the projects which will provide that

water. Hence, the per acre-foot cost needs to be recalculated each year using updated cost projections and implementation schedules for these recharge projects.

If recharge water is not available to be purchased in a given Water Year to offset the cumulative over-production that occurred in that year, then the monies collected through the Replenishment Assessments in that Water Year may be accumulated for multiple Water Years until they can be used to purchase recharge water.

It is to be expected that the costs of the recharge projects will increase with inflation, among other things. Therefore, the unspent Replenishment Assessment monies should be invested in interest-earning accounts that will offset these inflation increases, until such time as the recharge projects come on-line and the needed water can then be purchased.

As long as the unit costs of water from the various potential recharge projects is forecast by the agencies sponsoring the recharge projects to the dates at which the projects will come on-line, there should be no need to inflate those unit costs when the per acre-foot cost used to determine the Replenishment Assessments is calculated.

ATTACHMENT 2

Status of and Comments Regarding the Projects Considered in the Water Year 2009-20010 Replenishment Assessment Unit Cost Calculations

1. Moss Landing Desalination Plant – Local Alternative: This is the only Moss Landing Desalination Plant alternative being considered in the CWP DEIR. It would produce 8,800 AFY, and all of this would be supplied to the CAW distribution system. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects.
2. Moss Landing Desalination Plant – Regional Alternative: This alternative is not being considered in the CWP DEIR, and should therefore not be included in the Replenishment Assessment Unit Cost calculations.
3. North Marina Desalination Plant – Local Alternative: This is one of the alternative projects to the CAW Moss Landing Desalination Plant. It would be similar to the Moss Landing Desalination Plant alternative, but the desalination plant would be located in north Marina. It would produce 9,600 AFY, with 8,800 AFY going to the CAW distribution system and 800 AFY going to the Castroville Seawater Intrusion Project (CSIP) to offset groundwater taken from the Salinas Basin by the desalination plant. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects
4. North Marina Desalination Plant – Regional Alternative: This alternative is not being considered in the CWP DEIR, and should therefore not be included in the Replenishment Assessment Unit Cost calculations.
5. MPWMD's 95-10 Desal Plant: This alternative is not being considered in the CWP DEIR, but it is still considered an active project by the MPWMD. It should not be included in the Replenishment Assessment Unit Cost calculations because the Regional Desalination project is considered to be the most viable of the desalination projects.
6. Sand City Water Supply Project: This project has been completed and is currently going through its testing phase. However, all of the water that is not needed for new connections within Sand City will be used by CAW to reduce the amount of water CAW takes from the Carmel River Basin, and thus it will not benefit the Seaside Basin. Therefore, this project should not be included in the Replenishment Assessment Unit Cost calculations.
7. Salinas River Surface Water Treatment Plant: This project is considered to be a Phase 1 component of what is now referred to simply as the "Regional Project" in the CWP DEIR. Unless it is learned that this is no longer a viable component of the Regional Project, it should continue to be included in the Replenishment Assessment Unit Cost calculations.
8. Regional Desalination: This project is the key Phase 1 component of what is now referred to simply as the "Regional Project" in the CWP DEIR. It would produce 10,500 AFY, with 8,800 AFY going to the CAW distribution system and 1,700 AFY to MCWD to offset groundwater taken from the Salinas Basin by the

9. Regional Urban Water Augmentation Project: This project is considered to be a Phase 1 component of what is now referred to simply as the "Regional Project" in the CWP DEIR. The RUWAP is being pursued by MCWD and MRWPCA. Since it is an element of the Regional Project, it should continue to be included in the Replenishment Assessment Unit Cost calculations.
10. Seaside Aquifer Storage and Recovery Project: This project is considered to be a Phase 1 component of what is now referred to simply as the "Regional Project" in the CWP DEIR. The Seaside ASR Project is being pursued by MPWMD. When the October 2007 Replenishment Assessment Unit Cost was calculated the TAC concluded that, since all of the water production of this project will be used by CAW to reduce the amount of water CAW takes from the Carmel River Basin and thus it will not benefit the Seaside Basin, it should not be included in the calculation of the Seaside Basin Replenishment Assessment Unit Cost, and it was not included in the 2007 calculation. When the October 2008 Unit Cost calculation was prepared, this project was included in the calculation. There was no record in the TAC meeting minutes to explain why this project was included in 2008 when it had not been included in 2007. It was therefore concluded that including it in the 2008 calculation was an oversight, and that it should not be included in the Replenishment Assessment Unit Cost calculations, even though it is an element of the Regional Project.
11. MRWPCA Groundwater Replenishment Project for the Seaside Basin: Based on information provided by MRWPCA during the development of the Seaside Basin Groundwater Model in the Spring of 2009, the GWRP would be initially sized to provide 2,800 AFY to the Seaside Basin, and could potentially start-up in 2015. This estimated start-up date was based in part on the expectation that the GWRP would eventually be included as a Phase 1 component of the Regional Project. However, the CWP DEIR currently lists the GWRP as a Phase 2 component of the Regional Project, and no time schedule for implementation of Phase 2 project components was presented in the CWP DEIR. Since it is a Phase 2 component, it should not be included in the Replenishment Assessment Unit Cost calculations.
12. Seawater Conversion Vessel: This project was listed, but not included, in the Replenishment Assessment Unit Cost Calculation for Water Year 2008-2009, because there did not appear to be any sponsor for it. This appears to still be the case, so this project should not be included in the Replenishment Assessment Unit Cost calculations.
13. Pacific Grove Stormwater Project: This Project is listed in the CWP DEIR as a Phase 2 component of the Regional Project. No time schedule for implementation of Phase 2 project components was presented in the CWP DEIR. A feasibility study has reportedly been completed indicating that the City of Pacific Grove should pursue this project, which could produce an estimated 200 AFY of water. The estimated capital cost of the project, including engineering and construction, is reportedly $13.2 million in 2008 dollars. No O&M cost estimate and no contingency percentage was provided. Using the same financing assumptions as were used for the Regional Project in Table 2, the Annualized Capital Cost of such a project, with no additional contingencies or other implementation costs added, would be approximately $868,500. With0 AFY production capacity, this results in a unit cost of approximately $4,340. Since it is a Phase 2 component, it should not be included in the Replenishment Assessment Unit Cost calculations.
14. Conservation: Conservation was listed, but not included in the Replenishment Assessment Unit Cost Calculation for Water Year 2008-2009, because there was no cost data for it. This appears to still be the case, so this project should not be included in the Replenishment Assessment Unit Cost calculations.

Summary of Costs of the Principal Supplemental Water Supply Projects

Project Cost Comparison

	Regional Project (RP)	CAW- North Marina Alternative (NMA)	CAW-Moss Landing (ML)	CAW Facilities (Seaside Pipeline, Terminal Res, 2 ASR Wells, 9 mgd ASR pump station, Monterey Pipeline, Valley Greens PS)	MRWPCA GWRP [10]
Capital Costs					
Base Construction Cost	$ 108,700,000	$ 118,380,000	$ 138,100,000	$ 42,500,000	$ 44,700,000
Most Probable Capital Cost with Contingency and other Implementation Costs	$ 177,400,000	$ 200,000,000	$ 211,550,000	$ 73,200,000	$ 77,550,000
Annual Costs					
Total Annual O&M Including Repair, Replacement, Power, Chemicals, and Other O&M Cost Components	$ 12,080,000	$ 11,380,000	$ 10,950,000	$ 560,000	$ 4,450,000
Annualized Costs					
Total Annualized Cost	$ 24,080,000	$ 30,080,000	$ 30,750,000	$ 5,350,000	$ 9,650,000
Production Quantities & Unit Costs of Water					
Annual Production to Customers, AFY	10,500	8,800	8,800	8,800	2,400
Production Breakdown	8,800 to CAW 1,700 to MCWD	8,800 to CAW 800 to CSIP	8,800 to CAW	8,800 to CAW	2,400 to Seaside Basin
Cost of Water ($/AF)	$ 2,290	$ 3,420	$ 3,490	$ 610	$ 4,020
Cost of Water ($/AF)					
Total Cost of Water Adjustments	$ 350	$ (30)	$ -	$ -	$ -
Cost of Water to the Seaside Basin (includes CAW's costs for CAW facilities which are needed to deliver water from the alternative projects to the CAW distribution system, and which are common to all of the Alternatives, except the GWRP which does not require the CAW facilities)	$ 3,250	$ 4,000	$ 4,100	$ 610	$ 4,020

Notes:

1. Cost estimates are in current, 2009 dollars.
2. Contingency not applied to O&M estimates.
3. Power costs at time of startup dependent on long-term contract rate with MRWMD or potential contract rate with PGE or current PGE rates that time.
4. Regional, NM and ML desal plants assumed to operate at same efficiency and pressures.
5. O&M costs are based on the RP producing 10,500 AFY, NMA producing 9,600 AFY, and ML producing 8,800 AFY.
6. Ground water unit cost for the MCWD ($500/AF) is based on their current groundwater supplies.
7. $300/AF for CSIP supplies is based on approximate cost for MRWPCA to produce recycled water to CSIP.
8. Membrane replacement is based on a 15-year cycled (replacing approximately 15% a year).
9. $500,000 groundwater monitoring program is a conservative placeholder until the details of the program are identified.
10. MRWPCA's Groundwater Replenishment Project (GWRP) costs taken from Project Cost Comparison prepared by RMC dated August 11, 2009 as part of RMC's work in preparing their "Draft Technical Memorandum Capital and O&M Cost Estimated Update for the Coastal Water project, August 10, 2009" which was presented to the PUC in conjunction with cost workshops.

ATTACHMENT 3
Watermaster Replenishment Fund Through September 30, 2023

Seaside Groundwater Basin Watermaster
Replenishment Fund
Water Year 2023 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2023)
Balance through September 30, 2023

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Replenishment Fund		2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Assessment Water Year		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
Unit Cost:	a	$1,132 / $283	$1,132 / $283	$2,485 / 621.25	$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)
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 2023 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2023)
Balance through September 30, 2023

Replenishment Fund		2017	2018	2019	2020	WY 2021	WY 2022	WY 2023	Totals WY 2006 Through 2023	Budget WY 2024	Projected Totals Through WY 2024
Assessment Water Year		WY 16/17	WY 17/18	WY 18/19	WY 19/20	WY 20/21	WY 21/22	WY 22/23		WY 23/24	
Unit Cost:	a	$2,872 / $718	$2,872 / $718	$2,872 / $718	$2,872 / $718	$2,947 / $737	$3,260/ $815	$3,461/ $865			
Cal-Am Water Balance Forward	b	**$ (676,704)**	**$ (491,747)**	**$ (48,797,949)**	**$ (47,979,852)**	**$ (46,855,121)**	**$ (46,855,121)**	**$ (46,855,121)**		**$ (46,855,121)**	
Cal-Am Water Production (AF)	c	*2,029.51*	*2,229.45*	*2,120.22*	*2,245.88*	*1,664.04*	*1,648.71*	*1,569.60*	*49,259.34*		
Cal-Am Water NSY Over-Production (AF)	d	*64.40*	*374.65*	*284.85*	*334.21*	-	-	-	*14,638.57*		
Exceeding Natural Safe Yield Considering Alternative Producers	e	$ 184,957	$ 1,075,995	$ 818,097	$ 959,859	-	-	-	$ 33,550,034	-	$ 33,550,034
Operating Yield Overproduction Replenishment	f				164,872	-	-	-	$ 1,122,753	-	$ 1,122,753
Total California American	g	**$ 184,957**	**$ 1,075,995**	**$ 818,097**	**$ 1,124,731**	**$ -**	**$ -**	**$ -**	**$ 34,672,786**	**-**	**$ 34,672,786**
CAW Credit Against Assessment	h		$ (49,382,196)	-	-	-	-	-	$ (81,527,907)	-	$ (81,527,907)
CAW Unpaid Balance	i	*$ (491,747)*	*$ (48,797,949)*	*$ (47,979,852)*	*$ (46,855,121)*	*$ (46,855,121)*	*$ (46,855,121)*	*$ (46,855,121)*	*$ (46,855,121)*	*$ (46,855,121)*	*$ (46,855,121)*
City of Seaside Balance Forward (120.28 AF)	j	**$ (3,232,420)**	**$ (3,142,500)**	**$ (3,022,249)**	**$ (2,919,806)**	**$ (2,802,831)**	**$ (2,708,829)**	**$ (2,661,184)**		**$ (2,661,184)**	
City of Seaside Municipal Production (AF)	k	*188.31*	*184.63*	*178.40*	*181.65*	*174.69*	*155.12*	*120.28*	*4,009.23*		
City of Seaside NSY Over-Production (AF)	l	*30.47*	*32.46*	*27.82*	*32.06*	*25.52*	*11.69*		*1,247.31*		
Exceeding Natural Safe Yield Considering Alternative Producers	m	$ 87,512	$ 93,225	$ 79,893	$ 92,089	$ 75,197	$ 38,116	-	$ 2,898,358	0.00	$ 2,898,358
Operating Yield Overproduction Replenishment	n	2,409	27,026	22,550	24,886	18,806	9,529	-	$ 203,263	0.00	$ 203,263
Total Municipal	o	$ 89,920	$ 120,251	$ 102,443	$ 116,975	$ 94,002	$ 47,645	$ -	$ 3,101,621	0.00	$ 3,101,621
City of Seaside - Golf Courses (APA - 540 AFY)											
Exceeding Natural Safe Yield - Alternative Producer	p	-	-	-	-	-	-		$ 201,406		$ 201,406
Operating Yield Overproduction Replenishment	q	-	-	-	-	-	-		$ 50,353		$ 50,353
Total Golf Courses	r	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 251,759		$ 251,759
Total City of Seaside*	s	**$ 89,920**	**$ 120,251**	**$ 102,443**	**$ 116,975**	**$ 94,002**	**$ 47,645**	**-**	**$ 3,353,380**	**0.00**	**$ 3,353,380**
City of Seaside Late Payment 5%	t								$ 88,887		$ 88,887
In-lieu Credit Against Assessment	u					-	-	-	$ (6,103,451)	-	$ (6,103,451)
City of Seaside Unpaid Balance	v	*$ (3,142,500)*	*$ (3,022,249)*	*$ (2,919,806)*	*$ (2,802,831)*	*$ (2,708,829)*	*$ (2,661,184)*	*$ (2,661,184)*	*$ (2,661,184)*	*$ (2,661,184)*	*$ (2,661,184)*
Mission Memorial Park (APA - 31 AFY)											
Mission Memorial Park Production (AF)	w	*13.74*	*14.43*	*16.07*	*20.00*	*46.77*	*33.95*		*335.84*		
Mission Memorial Park NSY Over-Production (AF)	x	-	-	-	-	*15.77*	*2.95*		*18.72*		
Exceeding Natural Safe Yield - Alternative Producer	y	-	-	-	-	$ 46,488	$ 9,608		$ 56,096		$ 56,096
Operating Yield Overproduction Replenishment	z	-	-	-	-	11,626.00	2,401.97		$ 14,028		$ 14,028
Board Approved (5/4/22) Credit Against Assessment						(33,114.00)	-		$ (33,114)		$ (33,114)
$8,500 Applied to Admin Fund to cover expenses						(8,500.00)					
Mission Memorial Park Unpaid Balance	aa	-	-	-	-	-	-	-	$ -	-	$ -
Total	o	*$ -*	*$ -*	*$ -*	*$ -*	*$ 16,500*	*$ 12,010*	*$ -*	*$ 28,510*	*$ -*	*$ 28,510*
Balance of Available Funds								*$ 22,461*			
Total Replenishment Fund Balance	bb	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,658)**	**$ (49,657,952)**	**$ (49,563,950)**	**$ (49,516,305)**	**$ (49,522,353)**	**$ (49,487,795)**	**$ (49,516,305)**	**$ (49,516,305)**
Replenishment Fund Balance Forward	cc	**$ (3,909,125)**	**$ (3,634,247)**	**$ (51,820,198)**	**$ (50,899,658)**	**$ (49,657,952)**	**$ (49,563,950)**	**$ (49,516,305)**		**$ (49,522,353)**	
Total Replenishment Assessments	dd	$ 274,877	$ 1,196,246	$ 920,540	$ 1,241,706	$ 110,502	$ 59,655	$ -	$ 38,143,563	$ -	**$ 38,143,563**
Total Paid and/or Credited	ee		$ (49,382,196)			$ (16,500)	$ (12,010)		(87,659,868)		**(87,659,868)**
Total Paid for Replenishment Legal Services	ff							$ (6,049)	(6,049)		**(6,049)**
Grand Total Fund Balance	gg	*$ (3,634,247)*	*$ (51,820,198)*	*$ (50,899,658)*	*$ (49,657,952)*	*$ (49,563,950)*	*$ (49,516,305)*	*$ (49,522,353)*	*$ (49,522,353)*	*$ (49,522,353)*	*$ (49,522,353)*

ATTACHMENT 3

ATTACHMENT 4

To: Seaside Basin WaterMaster Board
From: George Riley
Date: Sept 5, 2023

WM REPLENISHMENT FUND FEE
CALCULATION OPTIONS

Setting the fee for over production is required. I believe the Basin is being shortchanged! I oppose the current way the fee is calculated. It reflects faulty math. I propose any of the methods shown in C, D, E below.

A. **Current method** (flow weight 2 sources, do not flow weight 2 others)
Desal and PWM/PWMX are flow weighted and averaged into one value.
This value is averaged with 2 other sources not flow weighted.
Here is the faulty math. No formula is valid when three different methods are used to generate the base numbers (flow weight some, not flow weight others, combine 2 separate sources into one entry)
Fee: $3461/af

B. **B&F Cmte recommendation**
Use $/af for each separate source w/o regard to volumes, but still compress 2 sources into one entry:
Fee: $3442/af

C. **Return to method used in 2007-2012**. All sources were flow weighted. Therefore reinstate the method to use flow weighting for all sources: Desal, PWM/PWMX, ASR and RUWAP:
Fee: $4528/af

D. Simply average the 4 separate costs w/o regard to volume (a mathametically consistent version of B):
Fee: $3786/af

E. Use current method, only count the Desal & PWM tally twice. But this continues use of faulty math:
Fee: $3833/af

ATTACHMENT 5

WATER YEAR 2024 (October 1, 2023-September 30, 2024)

ANTICIPATED UNIT COSTS OF WATER COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) [1]	BASE UNIT COST ($/AF)	BASE UNIT COST YEAR
Regional Desalination[2]	2024	6,250	$6,147	2021
Pure Water Monterey and PWMX	2020	5,750	$3,486	2021
Seaside Basin ASR Expansion[3]	2021	1,000	$2,025	2016
Regional Urban Water Augmentation Project[4]	2021	1,400-1,700	$3,486	2021

(6,250X$6,147) + (5,750X$3,486) + (1,000X$2,025) + (1,550X$3,486) / 14,550 = $4,528.63 2024 Natural Safe Yield Overproduction Unit Cost/AF

$4,528.63 / 4 = $1,132.16 Operating Yield Overproduction Unit Cost/AF

FOOTNOTES:

(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the CAW distribution system, based on the desalination plant having a 6.4 MGD capacity which is equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 4). For the PWM and PWMX this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD. The unit cost was confirmed in August 2021 by Ian Crooks of Cal Am as being the latest unit cost available for this project.

(3) Base unit cost data provided by MPWMD in 2016. No updated unit cost was provided for this project. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(4) Project data updated in 2022. Patrick Breen of MCWD noted that to determine total cost per acre-foot, use the $3,486/acre-foot cost from Pure Water Monterey (which would be RUWAP as well) and add MCWD O&M and Financing costs which are yet to be determined.