

SEASIDE GROUNDWATER BASIN WATERMASTER

Wednesday, December 6, 2017 – 2:00pm

**Monterey One Water Board Room, 5 Harris Court, Building “D”
Ryan Ranch, Monterey, California**

Watermaster Board

- Coastal Subarea Landowner – Director Paul Bruno
- City of Seaside – Mayor Ralph Rubio, Chair
- California American Water – Director Eric Sabolsice
- City of Sand City – Mayor Mary Ann Carbone, Vice Chair
- Monterey Peninsula Water Management District – Director Jeanne Byrne
- Laguna Seca Subarea Landowner – Director Bob Costa
- City of Monterey – Councilmember Dan Albert
- City of Del Rey Oaks – Mayor Jerry Edelen
- Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams, District 5

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMUNICATIONS

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

IV. REVIEW OF AGENDA

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

V. MINUTES

Approve Minutes of Regular Board meeting held October 4, 20173

VI. CONSENT CALENDAR

- A. Consider approval of Summary for Payments made during September - October, 2017 totaling **\$41,540.92**7
- B. Consider Approving Fiscal Year 2017 Financial Reports through October 31, 20179
- C. Consider Approving the following Professional Service Contracts for Fiscal Year 2018:11
 - 1. Two Contracts with HydroMetrics Water Resources, Inc. — one for \$12,900 for providing ongoing and as-requested general hydrogeologic consulting services during the year and the second for \$20,890 to prepare the Seawater Intrusion Analysis Report (SIAR) for 201813
 - 2. Two Contracts with MPWMD—one for \$50,024 and the second one for \$3,915, both pertaining to monitoring and other work on the Seaside Groundwater Basin Management and Monitoring Program (M&MP).....21
 - 3. Two Contracts with Martin Feeney - one for \$4,000 to provide ongoing and as-requested hydrogeologic consulting services and one for \$26,585.56 to perform induction logging and water quality sampling of the Sentinel Wells.37

4. One Contract with Todd Groundwater – for \$4,000 to provide on-call/as-needed hydrogeologic consulting services.....43
5. One Contract with Brownstein Hyatt Farber Schreck, LLP (Russ McGlothlin, Esq.) – for \$7,000 to provide legal services to prepare and file a motion, and attend via CourtCall a status conference hearing with Judge Nichols of the Superior Court on March 30, 2018; assist with filing the Watermaster Annual Report to Court by December 15, 2018 as may be needed; and provide miscellaneous legal consultation as may be required by Watermaster.....45

VII. ORAL PRESENTATION

None Scheduled

VIII. NEW BUSINESS

A. COMMITTEE REPORTS

1. TECHNICAL ADVISORY COMMITTEE (TAC)

- a. Consider Approving the Seawater Intrusion Analysis Report (SIAR for 2017). The Executive Summary is included in the Board agenda packet. The complete SIAR is posted on the Watermaster website at <http://www.seasidebasinwatermaster.org> 49
- B. Discussion/Consider Adopting for Water Year 2018 a Declaration regarding the Unavailability of Artificial Replenishment Water (Water Year 2018 Allocation attached).....53
- C. Discussion/Consider Approving the Watermaster Annual Report for Water Year 2017. Attached is the body of the Draft 2017 Annual Report, reflecting input from the TAC. The complete Draft version is posted on the Watermaster website at <http://www.seasidebasinwatermaster.org> 57
- D. Letter from MCWD Proposing to Sell Water to Replenish the Seaside Basin for Use in the Ord Community79

IX. OLD BUSINESS - None

X. INFORMATIONAL REPORTS (No Action Required)

- A. Technical Advisory Committee (TAC) minutes from meetings held November 15, 201787
- B. Watermaster report of production of the Seaside Basin through Water Year 2017 (October 1, 2016 – September 30, 2017).....91
- C. Replenishment Fund Assessment calculations and 2017 Standard Producer Assessments93

XI. DIRECTOR’S REPORTS

XII. STAFF COMMENTS

XIII. NEXT REGULAR MEETING DATE – Wednesday, January 3, 2018 - 2:00 P.M.

XIV. ADJOURNMENT

This agenda was forwarded via e-mail to the City Clerks of Seaside, Monterey, Sand City and Del Rey Oaks; the Clerk of the Monterey Board of Supervisors, the Clerk to the Monterey Peninsula Water Management District; the Clerk at the Monterey County Water Resources Agency, Monterey One Water and the California American Water Company for posting on November 30, 2017 per the Ralph M. Brown Act, Government Code Section 54954.2(a).

REGULAR MEETING MINUTES
Seaside Groundwater Basin Watermaster (Watermaster)
October 4, 2017

I. CALL TO ORDER – Vice Chair Carbone called the meeting to order at 2:08 p.m.

II. ROLL CALL

City of Sand City – Mayor Mary Ann Carbone – Vice Chair
California American Water (CAW) – Director Eric Sabolsice
Laguna Seca Subarea Landowner – Director Bob Costa
City of Del Rey Oaks – Mayor Jerry Edelen
City of Monterey – Councilmember Dan Albert
Monterey Peninsula Water Management District (MPWMD) – Director Jeanne Byrne
Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams

Watermaster Treasurer/Budget and Finance Committee Chair – Daphne Hodgson
Watermaster Technical Program Manager – Robert Jaques
Watermaster Administrative Officer – Laura Dadiw

Absent:

City of Seaside – Mayor Ralph Rubio- Chair
Coastal Subarea Landowner – Director Paul Bruno

Others Present

David Stoldt, MPWMD General Manager
Jonathan Lear, MPWMD Hydrogeologist
Lori Girard, CAW Legal Counsel
Roelof Wijbrandus, Upper Seaside Resident

III. PUBLIC COMMUNICATIONS: Mr. Roelof Wijbrandus, Upper Seaside resident addressed the board. He conveyed his concern he had earlier expressed to Mike McCullough of the Monterey One Water Recycled Water Program over the quality of Pure Water Monterey (PWM) Project water injected into the Seaside Basin (Basin). He had specific concerns regarding arsenic, lead, mercury, and pesticide contamination, to which Mr. McCullough had responded that the quality of injected water will meet drinking water standards. Mr. Wijbrandus was told by Mr. McCullough that publishing water quality reports on the PWM/Monterey One Water web site is being considered; Mr. Wijbrandus requested that Watermaster endeavor to make public the reports of injected water quality. Mr. Wjbrandus inquired as to whether CAW or the Watermaster would be responsible for monitoring extraction from the Basin. Mr. Wijbrandus also inquired whether any injected water would be available to remain in the Basin that ultimately could be made available to the City of Seaside for irrigation of parks and other public spaces that have had water curtailed for ten years by court order (such as Neil Park on Mescal Street in Upper Seaside). Vice President Carbone thanked Mr. Wijbrandus's for his comments and staff will provide a written response.

IV. REVIEW OF AGENDA: There were no requested changes to the agenda.

V. APPROVAL OF MINUTES

It was moved by Councilmember Albert, seconded by Mayor Edelen, and unanimously carried to approve the minutes of the Watermaster Regular Board meeting held July 5, 2017.

VI. CONSENT CALENDAR

- A. Consider approval of Summary of Payments from June through August, 2017 totaling \$43,611.25
- B. Consider approving Fiscal Year 2017 (Jan-Dec) Financial Reports through August 31, 2017

Moved by Mayor Edelen, seconded by Director Costa, and unanimously carried, to approve the consent calendar as presented.

VII. ORAL PRESENTATION: None

VIII. OLD BUSINESS: None

IX. NEW BUSINESS

A. COMMITTEE REPORTS

1. BUDGET & FINANCE AND TECHNICAL ADVISORY COMMITTEES

- a. Discuss/Consider Approving Cost Sharing for Recalibration and Updating of Seaside Groundwater Basin Model in the Proposed 2018 Monitoring and Management Work Plan and Budget

Budget and Finance Committee Chair, Daphne Hodgson stated that on September 19, 2017 the committee met on items A.1.a. – d. and recommended board approval for all of them.

Mr. Jaques reviewed the submitted memorandum.

It was moved by Director Sabolsice, seconded by Director Byrne, and unanimously carried to approve recalibration and updating of Seaside Groundwater Basin Model in the proposed 2018 Monitoring and Management – Operations Fund 2018 Budget, with MPWMD/Monterey One Water to pay 50% under a cost sharing arrangement.

- b. Discuss/Consider Approving Cost Sharing for Modeling of Potential Changes in Groundwater Quality Resulting from Introducing New Sources of Water into the Aquifers in the Proposed 2018 Monitoring and Management Work Plan and Budget

Mr. Jaques reviewed the submitted memorandum and responded to questions from the board. Director Sabolsice voiced strong support of the modeling, stating that water quality impact to the Basin from various on-going and developing projects is a concern that has been expressed by interested parties at various related forums, and the information from the proposed modeling, at no cost to Watermaster, will inform and hopefully assure all concerned that there will be no impact to Basin water quality.

Mr. Wijbrandus appreciated that the Watermaster is going beyond acceptance of drinking water standard of injected water to model project injection mixtures. Vice Chair Carbone stated that Health and Safety standards would be used by professionals during the modeling of effects from mixtures of injected water.

Moved by Mayor Edelen, seconded by Director Costa and unanimously carried, to Watermaster facilitating a cost share agreement between CAW (1/3), MPWMD (1/3), and Monterey One Water (1/3) for Step One only of modeling potential changes in groundwater quality resulting from introducing new sources of water into the aquifers in preparation of the Monitoring and Management – Operations Fund 2018 Budget.

c. Discuss/Consider Approving the Proposed Annual Budgets for Fiscal Year January 1, 2018 through December 31, 2018

i. Administrative Fund

It was moved by Director Sabolsice, seconded by Director Byrne, and unanimously carried to approve the 2018 Watermaster Administrative Fund Budget as presented.

ii. Monitoring and Management Work Plan and Operations Fund

iii. Monitoring and Management – Capital Fund (unfunded)

It was moved by Mayor Edelen, seconded by Councilmember Albert, and unanimously carried to approve the 2018 Watermaster Monitoring and Management – Operations Fund Budget and Work Plan, and the unfunded Capital Fund Budget as presented.

iv. Replenishment Fund (Informational, no action required)

d. Discuss/Consider Approving Proposed Replenishment Assessment Unit Cost for Water Year October 1, 2017 through September 30, 2018

Mr. Jaques reviewed the submitted memorandum.

Moved by Councilmember Albert, seconded by Mayor Edelen and unanimously carried, to approve the \$2,872 Replenishment Assessment Unit Cost for Natural Safe Yield Overproduction and \$718 for Operating Yield Overproduction for Water Year October 1, 2017 through September 30, 2018 as presented.

X. INFORMATIONAL REPORTS:

- A. Technical Advisory Committee minutes from July 12, August 9, and (draft) September 13, 2017
- B. Watermaster Budget and Finance Committee September 29, 2017 draft meeting minutes
- C. Watermaster report of production of the Seaside Basin through 3rd quarter Water Year 2017

XI. DIRECTOR'S REPORTS: None

- XII. ADMINISTRATIVE OFFICER COMMENTS:** AO Dadiw advised the board that a letter was recently received from Marina Coast Water District (MCWD) regarding an offer to sell 700 acre-feet per year of MCWD's existing potable groundwater as Seaside Basin replenishment water starting in Water Year 2018 for use within the Ord Community portion of the Seaside Basin. The letter will be further reviewed prior to detailed presentation to the board.

It is likely that the next Watermaster board meeting scheduled for November 1, 2017 will be cancelled to allow time for the 2017 Annual Report to Court to be developed for presentation at the December 6, 2017 board meeting.

AO Dadiw announced that 2018 board appointments are to be approved by each party's governing board by the end of December or at the earliest possible convenience in order for Watermaster to conduct election of board officers at the first board meeting held in 2018.

XIII. NEXT MEETING DATE: The next meeting of the Watermaster board will be held November 1, 2017 at the Monterey One Water (formerly MRWPCA) Board meeting room at 5 Harris Court, Building "D" on Ryan Ranch in Monterey at 2:00 p.m.

XIV. There being no further business, Vice Chair Carbone adjourned the meeting at 2:45 p.m.

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors
 FROM: Laura Dadiw, AO
 DATE: December 6, 2017
 SUBJECT: Summary of Payments made during the months of September - October 2017

RECOMMENDATIONS:

Consider approving the payment of bills submitted and authorized to be paid September through October 2017.

September 2017

Dadiw Associates (Administrative Officer (AO))

August 26, 2017 through September 25, 2017	38.0 hours	\$ 3,800.00
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Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Gathered and posted water production and water level data. Prepare agenda and attend Budget & Finance Committee September 19 meeting and prepare minutes; hand-carry Mission Memorial data collection checks received to City of Seaside for processing. Prepare agenda and packet for October board meeting; Prepare CAW Replenishment Assessment obligation spreadsheet; email data reporting notice to producers; routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; processed invoices, reviewed and posted items to web site; reviewed TAC agenda packet/minutes.

Robert Jaques (Technical Program Manager)

September 1, 2017 through September 30, 2017	30.5 hours	3,050.00
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Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues; prepare TAC agenda packet and attended TAC meeting on September 13; prepare TAC meeting minutes; prepare for and attend Budget & Finance Committee meeting on September 19; Prepare comments and questions for S. Tanner of Pueblo Water Resources for Geochem conference call; Work on geochem modeling paper for TAC agenda; edits and revisions to M&MP per B&F Committee direction; Attend SVGSA Advisory Committee meeting in Salinas to make presentation in support of Watermaster becoming a member of that committee.

HydroMetrics Water Resources, Inc. (Technical Consultant)

September 2017	2.25 hours	463.75
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RFS 2017-01 General Consulting & TAC

Total for September 2017	\$ 7,313.75
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October 2017

Dadiw Associates (Administrative Officer (AO))

September 26, 2017 through October 25, 2017 56.5 hours \$ 5,650.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Gathered and posted water production and water level data. Prepare the agenda and packet for the October 4 board meeting, attend and prepare minutes; MCWD letter and possible B&F Committee consideration; attended Storm Water Resource Program meeting in Jaques absence; conf call regarding SIAR data assembly; calculate production, allocations, assessments; final WY production report; Declaration; Annual Report information; RA assessment letters/invoices/statements. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; processed invoices, reviewed and posted items to web site.

Brownstein, Hyatt, Farber, Schreck (Russ McGlothlin, Esq.)

October 2017

RFS 2017-01 Miscellaneous legal consultation 0.30 hours 135.00

Status Conference March 2017 transcript expense 235.50

Robert Jaques (Technical Program Manager)

October 1, 2017 through October 31, 2017 12.0 hours 1,200.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues; prepare for and attend October 4 board meeting and post board meeting discussions; begin preparing 2017 Annual Report to Court.

HydroMetrics Water Resources, Inc. (Technical Consultant)

October 2017 0.25 hours 48.75

RFS 2017-01 General Consulting & TAC

HydroMetrics Water Resources, Inc. (Technical Consultant)

October 2017 49.0 hours 7,698.75

RFS 2017-02 Seawater Intrusion Analysis Report 2017

Martin B. Feeney, PG, CHg - Consulting Hydrogeologist

August - November 6, 2017

RFS 2017-01 Hydrogeologic consulting 32.0 hours 5,920.00

Fluid Resistivity & Induction Logging/Downhole Sampling; Water Quality Analysis 13,339.17

Total for October 2017 \$ 34,227.17

Grand Total \$ 41,540.92

Seaside Groundwater Basin Watermaster
Budget vs. Actual Administrative Fund
 Fiscal Year (January 1 - December 31, 2017)
 Balance through October 31, 2017

	2017 Adopted Budget Revised July 5, 2017	Contract Amount	Year to Date Revenue / Expenses
Available Balances & Assessments			
Dedicated Reserve	-		-
FY (Rollover)	47,000.00		41,619.33
Admin Assessments	52,000.00		52,000.00
Available	99,000.00		93,619.33
Expenses			
Contract Staff	60,000.00	60,000.00	33,950.00
Legal Advisor	24,000.00	24,000.00	21,233.39
Total Expenses	84,000.00	84,000.00	55,183.39
Total Available	15,000.00		
Dedicated Reserve	15,000.00		25,000.00
Net Available	-		13,435.94

Seaside Groundwater Basin Watermaster
Budget vs. Actual Monitoring & Management - Operations Fund
 Fiscal Year (January 1 - December 31, 2017)
 Balance through October 31, 2017

	<u>2017 Adopted Amended Budget</u>	<u>Contract Encumbrance</u>	<u>Year to Date Revenue/Expenses</u>
Available Balances & Assessments			
Operations Fund Assessment	\$ 100,000.00	\$ -	\$ 100,000.00
Pass Through 2017	-	4,788.00	2,664.00
FY 2016 Rollover	270,965.98	-	270,965.98
Total Available	\$ 370,965.98	\$ 4,788.00	\$ 373,629.98
Appropriations & Expenses			
GENERAL			
Technical Project Manager	\$ 60,000.00	\$ 60,000.00	\$ 32,450.00
Contingency @ 20% (not including TPM)	12,091.00	-	-
Total General	\$ 72,091.00	\$ 60,000.00	\$ 32,450.00
CONSULTANTS (Hydrometrics; Todd Groundwater; Web Site Database)			
Program Administration	\$ 26,276.00		
Production/Lvl/Qlty Monitoring	2,400.00	\$ 23,800.00	\$ 17,258.46
Basin Management Action Plan	48,881.76		
Seawater Intrusion Analysis Report	20,890.00	20,890.00	7,698.75
Total Consultants	\$ 98,447.76	\$ 44,690.00	\$ 24,957.21
MPWMD			
Production/Lvl/Qlty Monitoring	\$ 52,558.00	53,454.00	16,495.00
Pass Through 2017	-	4,788.00	2,310.00
Basin Management	-		-
Seawater Intrusion	896.00	-	-
Direct Costs	-	-	-
Total MPWMD	\$ 53,454.00	\$ 58,242.00	\$ 18,805.00
CONTRACTOR (Martin Feeney)			
Production/Lvl/Qlty Monitoring	\$ 36,203.80	\$ 36,203.80	33,665.58
Reserve			
Transfer Out to Capital Fund			-
Total Appropriations & Expenses	\$ 260,196.56	\$ 199,135.80	\$ 109,877.79
Total Available	110,769.42		263,752.19

**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: December 6, 2017

SUBJECT: Consider Approving the Following Professional Services Contracts for Fiscal Year 2018:

- 1) Two Contracts with HydroMetrics Water Resources, Inc. — one for \$12,900 for providing ongoing and as-requested general hydrogeologic consulting services during the year and the second for \$20,890 to prepare the Seawater Intrusion Analysis Report (SIAR) for 2018.
- 2) Two Contracts with MPWMD—one for \$50,024 and the second one for \$3,915, both pertaining to monitoring and other work on the Seaside Groundwater Basin Management and Monitoring Program (M&MP).
- 3) Two Contracts with Martin Feeney - one for \$4,000 to provide ongoing and as-requested hydrogeologic consulting services and one for \$26,585.56 to perform induction logging and water quality sampling of the Sentinel Wells.
- 4) One Contract with Todd Groundwater – for \$4,000 to provide on-call/as-needed hydrogeologic consulting services.
- 5) One Contract with Brownstein Hyatt Farber Schreck, LLP (Russ McGlothlin, Esq.) – for \$7,000 to provide legal services to prepare and file a motion, and attend via CourtCall a status conference hearing with Judge Nichols of the Superior Court on March 30, 2018; assist with filing the Watermaster Annual Report to Court by December 15, 2018 as may be needed by Watermaster; and provide miscellaneous legal consultation as may be required by Watermaster.

RECOMMENDATIONS:

It is recommended that the Board approve the attached RFSs No. 2018-01 and 2018-02 with HydroMetrics, RFSs No. 2018-01 and 2018-02 with MPWMD, RFSs No. 2018-01 and 2018-02 with Martin Feeney, RFS No. 2018-01 with Todd Groundwater, and RFS No. 2018-01 with Brownstein Hyatt Farber Schreck, LLP.

BACKGROUND:

Attached are the proposed initial contracts for each of the Watermaster’s consultants that are expected to work on M&MP activities during 2018. Each of these firms is currently working under a master form of agreement with the Watermaster called a “Professional Services Agreement” (PSA). Actual work assignments are made through the issuance of Requests for Service (RFS) under the umbrella language of the PSA. The TAC reviewed and discussed the MPWMD, HydroMetrics, Martin Feeney, and Todd Groundwater items at its November 15, 2017 meeting and recommends that the Board approve each of them.

The agreement with Brownstein Hyatt Farber Schreck, LLP was developed by Ms. Dadiw. I have reviewed it and recommend its approval.

DISCUSSION

The attached RFSs constitute the proposed initial 2018 work assignments for each of these consultants and/or contractors as follows:

- HydroMetrics RFS No. 2018-01 covering their providing general hydrogeologic consulting services and for providing assistance in preparing documents that the Watermaster will need to submit to fulfill its reporting requirements under the Sustainable Groundwater Management Act.
- HydroMetrics RFS No. 2018-02 covering their preparing the 2018 SIAR.
- MPWMD RFS No. 2018-01 covering their anticipated 2018 M&MP tasks. These tasks are similar to those in preceding years, and include collecting and reporting water quality and water level data, maintaining the Watermaster’s database, providing data to the Department of Water Resources to fulfill one of the Watermaster’s obligations under the Sustainable Groundwater Management Act, and preparing reports.
- MPWMD RFS No. 2018-02 covering their obtaining water quality and water level data from private producers who ask the Watermaster collect this data for them. The costs for this work are reimbursed by the private producers, and there is no net cost to the Watermaster for work performed under this RFS.
- Martin Feeney RFS No. 2018-01 covering his performing induction logging of certain of the Watermaster’s monitoring wells and providing that data as well as water quality data to MPWMD for their use in preparing the 2018 Water Quality and Water Level Report. The work, and associated costs, to collect and analyze water quality samples from the Sentinel Wells is included in this RFS in the event the Court does not approve the elimination of performing that work starting in 2018, as proposed in the 2017 Annual Report. If the Court concurs with the elimination of that work, the consultant will be directed not to perform that work and those costs will not be incurred.
- Martin Feeney RFS No. 2018-02 covering his providing general hydrogeologic consulting services.
- Todd Groundwater RFS No. 2018-01 covering their providing general hydrogeologic consulting services.
- RFS No. 2018-01 with Brownstein Hyatt Farber Schreck, LLP for \$7,000 to provide legal services to prepare and file a motion, and attend via CourtCall a status conference hearing with Judge Nichols of the Superior Court on March 30, 2018; assist with filing the Watermaster Annual Report to Court by December 15, 2018 as may be needed by Watermaster; and provide miscellaneous legal consultation as may be required by Watermaster.

These contracts are being presented to the Board for approval at today’s meeting to ensure the contacts will be in effect by the start of 2018. All of these costs are included in the Budgets that the Board approved at its October 4, 2017 meeting.

I anticipate developing additional RFSs for HydroMetrics during 2018 to update the groundwater model, and to update the BMAP. I also anticipate developing an additional RFS for MPWMD during 2018 to have their consultant develop a Seaside Basin geochemical model. Funds for each of these additional RFSs have been included in the Board-approved M&MP Operations Budget for 2018. When drafted, those RFSs will come to the TAC and the Board for approval.

ATTACHMENTS:

1. HydroMetrics RFS No. 2018-01
2. HydroMetrics RFS No. 2018-02
3. MPWMD RFS No. 2018-01
4. MPWMD RFS No. 2018-02
5. Martin Feeney RFS No. 2018-01
6. Martin Feeney RFS No. 2018-01
7. Todd Groundwater RFS No. 2018-01.
8. Brownstein Hyatt Farber Schreck, LLP RFS No. 2018-01

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-01

(To be filled in by WATERMASTER)

TO: Derrick Williams
HydroMetrics WRI
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

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

Completion Date: All work of this RFS shall be completed not later than December 31, 2018, and shall be performed in accordance with the Schedule contained in Attachment 2.

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

Total Price Authorized by this RFS: \$ 12,900.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for Estimated Costs).

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

Requested by: _____ Date: _____
WATERMASTER Technical Program Manager

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

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

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

The Tasks in WATERMASTER's 2018 Monitoring and Management Program (M&MP) to which this RFS No. 2018-01 pertains are:

M. 1. c - Preparation and Attendance of Meetings

M. 1. e - Peer Review of Documents and Reports

M.1.g – Sustainable Groundwater Management Act Documentation Preparation

ESTIMATED COSTS

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

\$10,000 in labor costs of this RFS No. 2018-01 are allocated to performing work on these Tasks. In addition to hourly labor costs, an allowance of \$1,000.00 is included in for this Task to cover travel and other incidental costs associated with the performance of this work.

Task M.1.g: Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the WATERMASTER in conjunction with preparing its own Annual Reports. However, information regarding changes in basin storage is not currently generated. PROFESSIONAL will provide an estimate of the change in basin storage under this RFS No. 2018-01.

\$1,900 in labor costs of this RFS No. 2018-01 are allocated to performing work for Task M.1.g.

All work under this RFS No. 2018-01 will be billed at the following hourly rates, including all markups and other direct costs:

Derrick Williams = \$220.00/hour

Georgina King = \$195.00/hour

The total cost authorized by this RFS No. 2017-01 is \$12,900.00.

ATTACHMENT 2
SCHEDULE

HydroMetrics RFS No. 2018-01
Work Schedule

ID	Task Name	2018																	
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	A
1	M. 1. c - Preparation and Attendance of Meetings																		
2	M. 1. e - Peer Review of Documents and Reports																		
3	M.1.g - SGMA Document Preparation																		

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SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2018

RFS NO. 2018-02
(To be filled in by WATERMASTER)

TO: Derrick Williams
HydroMetrics WRI
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2018. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2018, and shall be performed in accordance with the Schedule contained in Attachment 2.

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

Total Price Authorized by this RFS: \$ 20,890.00 (Cost is authorized only when evidenced by signature below.)
(See Attachment 3 for Detailed Breakdown of Estimated Costs).

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

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

Agreed to by: _____ **Date:** _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

The scope consists of providing professional consulting services to WATERMASTER for preparation of the 2018 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2017 SIAR will be incorporated directly into the 2018 SIAR.

Preparing the 2018 SIAR will involve analyzing all water quality data at the end of Water Year 2018 (October 1, 2017 to September 30, 2018) and producing semi-annual (2nd and 4th quarters 2017) chloride concentration maps for each aquifer in the Basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. Second and fourth quarter groundwater elevation maps will also be produced. The annual EM logs will be analyzed to identify changes in seawater wedge locations. A determination of whether there is any evidence of seawater intrusion will be made, and recommendations will be included as warranted.

A Draft 2018 SIAR will be provided to WATERMASTER in electronic (not printed) form for review. WATERMASTER will provide its review comments and those of its TAC members through direct discussions with PROFESSIONAL at a TAC meeting. In addition to these oral comments, some TAC members may also provide recommended editorial changes electronically directly to PROFESSIONAL. These comments will be addressed in a Final 2018 SIAR. A CD containing an electronic version of the entire Final 2018 SIAR in MS Word and up to 15 printed and bound copies of the Final 2018 SIAR (quantity to be determined by WATERMASTER) will be provided to WATERMASTER.

ATTACHMENT 2

HydroMetrics RFS No. 2018-02 Work Schedule

ID	Task Name	2018																	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
1	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																		
2	HydroMetrics Provides Draft SIAR to Watermaster												◆ 11/13						
3	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 11/21						
4	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 12/5						

ATTACHMENT 3

DETAILED BREAKDOWN OF ESTIMATED COSTS

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

Task	Hours		Costs			
	Georgina King (\$195 per hr)	Nick Byler (\$120 per hr)	Georgina King	Nick Byler	Expenses	Total Costs
2017 Seawater Intrusion Analysis Report						
Produce 2017 SIAR	32	100	\$ 6,240	\$ 12,000	\$ 500	\$ 18,740
Attend One TAC Meeting in Monterey	10	0	\$ 1,950	\$ -	\$ 200	\$ 2,150
TOTALS	42	100	\$ 8,190	\$ 12,000	\$ 1,200	\$ 20,890

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-01

(To be filled in by WATERMASTER)

TO: Jonathan Lear

FROM: Robert Jaques

Monterey Peninsula Water Management District
PROFESSIONAL

WATERMASTER

Services Needed and Purpose:

Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2018 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2018-01 shall be completed in accordance with the schedule contained in Attachment 2.

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

Total Price Authorized by this RFS: \$ 50,024.00 (See Attachment 3 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

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

Requested by: _____ **Date:** _____

WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____

PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2018-01

Background:

The Watermaster Board approved the Budget for the 2018 Management and Monitoring Program Work Plan (hereinafter referred to as the “2018 M&MP Work Plan”) at its meeting of October 4, 2017.

This RFS No. 2018-01 authorizes PROFESSIONAL to perform certain work on certain of the Tasks described in the 2018 M&MP Work Plan. The Task numbers listed in Table 1 of this Detailed Scope of Work for RFS No. 2018-01 correspond to the Task numbers in the 2018 M&MP Work Plan.

Table 1

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I. 2. a.1	Conduct ongoing data entry/ database maintenance	<p>PROFESSIONAL will perform water production, water level, and water quality data entry into WATERMASTER’s database, and data editing as necessary, and will provide appropriate quality control and quality assurance for this data. Upon request from WATERMASTER, PROFESSIONAL will also enter other data into the database, such as updated information pertaining to well records. WATERMASTER will provide PROFESSIONAL with water production data.</p> <p>PROFESSIONAL will review the water production data provided by WATERMASTER for quality assurance and quality control purposes, and will notify WATERMASTER of any discrepancies PROFESSIONAL observes in this data. WATERMASTER will follow-up as appropriate with the water producers to resolve any such discrepancies. PROFESSIONAL will also host and maintain the Watermaster’s Database. Any changes to WATERMASTER’s database will be authorized under a separate agreement for performing such work for WATERMASTER. That agreement will either be with PROFESSIONAL or with another consultant.</p> <p>PROFESSIONAL will prepare quarterly water production, water level, and water quality tabulations in Excel format and will provide those tabulations to another WATERMASTER Consultant who will post them to the WATERMASTER’s website, so it will be accessible to the public and other interested parties.</p>
I. 2. b. 2	Collect Monthly Water Levels	<p>The monitoring wells from which water level data is to be collected by PROFESSIONAL are listed under the heading “MONITORING TO BE PERFORMED BY PROFESSIONAL” in the column titled “Level” in Table 2. PROFESSIONAL will visit each of the indicated wells at the frequencies shown in Table 2 in order to obtain the water level data. At these visits PROFESSIONAL will measure and record water levels 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 already been equipped with dataloggers.</p> <p>This Task includes the purchase of one datalogger @ \$700 to keep in inventory as a spare if needed, plus \$50 in parts for the datalogger.</p> <p>All of the other wells will be manually measured.</p>

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I. 2. b. 3	Collect Quarterly Water Quality Samples	<p>The monitoring wells from which water quality data is to be collected by PROFESSIONAL are listed under the heading “MONITORING TO BE PERFORMED BY PROFESSIONAL” in the column titled “Quality” in Table 2. PROFESSIONAL will visit each of the indicated wells at the frequencies shown in Table 2 in order to obtain the water quality samples, and will perform water quality analyses on these samples. The water quality constituents that will be measured in these analyses are: Specific Conductance (micromhos/cm), Total Alkalinity (as CaCO₃), Bicarbonate (as HCO₃-), pH, Chloride, Sulfate, Ammonia Nitrogen (as NH₃), Nitrate Nitrogen (as NO₃), Total Organic Carbon, Calcium, Sodium, Magnesium, Potassium, Iron, Manganese, Orthophosphate, Total Dissolved Solids, Hardness (as CaCO₃), Boron, Bromide, and Fluoride. For the following wells listed in Table 2, Barium and Iodide will also be measured quarterly: MSC Shallow, MSC Deep, PCA-W Shallow, PCA-W Deep, MPWMD #FO-09 Shallow, and MPWMD #FO-09 Deep. The data may either come from water quality samples that are collected by the airlift method, by the positive displacement method during induction logging of these wells and/or other data gathering techniques, or combinations of these methods, at the discretion of PROFESSIONAL, and will be submitted to a State-certified analytical laboratory for analysis.</p> <p>Retrofitting to use the low-flow purge approach for getting water quality samples has already been completed on all of the wells that are sampled on a quarterly basis. Retrofitting of the wells that are sampled on an annual basis is not warranted. This sampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance of \$1,000 to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump is found to be no longer adequate due to declining groundwater levels, or if a sampling pump needs to be installed on a Sentinel Well, an allowance of \$2,000 to purchase a sampling pump has been included in this Task.</p>

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I. 2. b. 6	Reports	<p>PROFESSIONAL will prepare and submit reports to WATERMASTER according to the following schedule:</p> <ol style="list-style-type: none"> 1. PROFESSIONAL will review the water quality and water level data at the end of each quarter of the Water Year and will provide tabularized data summaries of the WQ/WL data twice per year, once for the Q1 and Q2 period and once for the Q3 and Q4 period, so this data can be posted to WATERMASTER's website. No reporting on a quarterly basis is required but PROFESSIONAL will promptly notify WATERMASTER of any missing data or data collection irregularities that were encountered during the quarterly reporting period. 2. PROFESSIONAL will prepare one annual report summarizing the water quality and water level data for the Water Year, and containing tables of this data for the complete Water Year. The report will include a brief cover letter describing any missing data or data collection irregularities that were encountered during the reporting period, and any recommendations for changes to be made to the data collection program.

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I.2.b.7	CASGEM Data Submittal	PROFESSIONAL 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.

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I.4.c	Review Seawater Intrusion Analyses	WATERMASTER will have another consultant perform analyses and prepare mapping and other documents pertaining to seawater intrusion detection. PROFESSIONAL may participate in meetings with that consultant during the course of its work, and may provide review comments and recommendations to WATERMASTER regarding this work as it is being carried out by that consultant.

Table 2. Monitoring Wells

WELL NAME AND SUBAREA LOCATION ⁽⁶⁾	MONITORING NETWORK ⁽¹⁾		MONITORING REQUIRED BY DECISION ⁽²⁾		MONITORING CURRENTLY BEING PERFORMED BY PROFESSIONAL NOT SUBJECT TO THIS RFS ⁽³⁾		MONITORING TO BE PERFORMED BY PROFESSIONAL UNDER THIS RFS ⁽⁴⁾			
	Professional's	Watermaster's	Level (Monthly)	Quality (Annually)	Level		Level		Quality	
					Frequency		Frequency		Frequency	
					Monthly	Quarterly	Monthly	Quarterly	Annually	Quarterly
Northern Coastal Subarea (and vicinity)										
MSC-Shallow		X					X			X
MSC-Deep		X					X			X
PCA-W Shallow		X						X		X
PCA-W Deep		X						X		X
PCA-E (Multiple) Shallow	X				X				X	
PCA-E (Multiple) Deep	X				X				X	
Ord Grove Test-Shallow /Deep	X				X					
Paralta Test-Shallow /Deep	X				X					
Ord Terrace-Shallow	X				X				X	
Ord Terrace-Deep	X				X				X	
MPWMD #FO-09-Shallow	X				X					X
MPWMD #FO-09-Deep	X				X					X
MPWMD #FO-10-Shallow		X					X		X	
MPWMD #FO-10-Deep		X					X		X	
Fort Ord Monitor MW-B-23-180-Dune/Aromas		X					X		X	
CDM MW-1-Dune/Aromas		X					X			
CDM MW-2-Dune/Aromas		X					X			
CAW Del Monte Observation-Shallow		X							X	
SBWM MW-1-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-2-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-3-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-4-Deep (Purisima/Santa Margarita) ⁽⁶⁾		X						X		
Northern Inland Subarea (and vicinity)										
MPWMD #FO-01-Shallow	X						X			
MPWMD #FO-01-Deep	X						X			
MPWMD #FO-07-Shallow	X						X			
MPWMD #FO-07-Deep	X						X			
MPWMD #FO-08-Shallow	X						X			
MPWMD #FO-08-Deep	X						X			
MPWMD #FO-11-Shallow	X						X			
MPWMD #FO-11-Deep	X						X			
SBWM MW-5-Shallow (Paso Robles) ⁽⁶⁾		X						X	X	
SBWM MW-5-Deep (Santa Margarita) ⁽⁶⁾		X						X	X	

Table 2 (Continued)

Southern Coastal Subarea (and vicinity)										
Plumas '90 Test-Deep		X					X			
K-Mart-Dune/Aromas		X					X			
CDM MW-3-Dune/Aromas		X					X			
CDM MW-4-Dune/Aromas		X					X			
MW-BW-08A-Dune/Aromas		X					X			
MW-BW-09-180-Shallow		X					X			
Shea		X						X		
Sand City Public Works Well		X					X		X	
Laguna Seca Subarea (and vicinity)										
MPWMD #FO-03-Shallow	X					X				
MPWMD #FO-03-Deep	X					X				
MPWMD #FO-04-Shallow (E)	X					X				
MPWMD #FO-04-Deep (W)	X					X				
MPWMD #FO-05-Shallow	X					X				
MPWMD #FO-05-Deep	X					X				
MPWMD #FO-06-Shallow	X					X				
MPWMD #FO-06-Deep	X					X				
Justin Court (RR M2S)-Shallow	X					X				
LS Pistol Range (Mo Co TH-1)-Deep	X					X				
York Rd-West (Mo Co MW-1 D)-Deep	X					X				
Seca Place (Mo Co MW-2)-Deep	X					X				
Robley Shallow (North) (Mo Co MW-3S)-Shallow	X					X				
Robley Deep (South) (Mo Co MW-3D)-Deep	X					X				
LS No. 1 Subdivision-Deep	X					X				
Blue Larkspur-East End-Believed to be Deep	X					X				
York School-Shallow		X	X							X
Laguna Seca Driving Range (SCS-Deep)-Shallow		X						X		X
Laguna Seca County Park #2-Shallow		X	X							X
CAW Granite Construction-Deep		X					X			
CAW Ryan Ranch (RR) #7-Deep		X	X							X
Laguna Seca Golf New #12-Deep ⁽⁹⁾		X								X
Pasadera Main Gate-Deep		X	X							X
No. of Wells in Each Network⁽⁵⁾=	32	31	4	0	8	24	15	10	17	6

ATTACHMENT 2

MPWMD RFS No. 2018-01 Work Schedule		2018												201										
ID	Task Name	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	
1	I.2.a DATABASE MANAGEMENT																							
2	I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance																							
3	I.2.b DATA COLLECTION PROGRAM																							
4	I.2.b.2 Collect Monthly Water Levels (MPWMD)																							
5	I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)																							
6	I.2.b.6 Reports (from MPWMD)																							
7	Water Level and Water Quality Data Summaries for 1st & 2nd Quarters																							
8	Water Level and Water Quality Data Summaries for 2nd & 3rd Quarters																							
9	Annual Water Production, Water Level, and Water Quality Report for 2017																							
10	I.2.b.7 CASGEM Data Submittal																							
11	I.4.c MPWMD Provides Assistance in Seawater Intrusion Detection																							

ATTACHMENT 3 SUMMARY OF ESTIMATED COSTS

M&MP TASK NO.	LABOR HOURS		HOURLY RATE	SUPPLIES AND MATERIALS		TOTAL
	BREAKDOWN	TOTAL		BREAKDOWN	TOTAL	
I. 2. a. 1	12 mo. @ 8 hrs/mo.	96	\$149	Other services needed to host and maintain Watermaster's Database, estimate \$300 for the year.	\$300	\$14,604
I. 2. b. 2.	12 mo. @ 4 hrs/mo.	48	\$62	Purchase one datalogger @ \$700 plus \$50 in parts to keep in inventory as a spare if needed.	\$750	\$3,726
I. 2. b. 3.	Quarterly WQ wells (Table 2): MPWMD Coastal wells (6 wells - shallow and deep aquifers @ 3 sites: MSC, PCA-W, FO-09), plus one additional verification WQ sample at Ord Terrace Shallow Well. Labor: 4 events @ 16 hrs/event	64	\$62	Fuel: 4 events @ \$10/site x 3 sites = \$120; Lab costs: 4 events @ \$225/well x 7 wells = \$6,300; plus one verification sample lab cost = \$225.	\$6,645	\$10,613
	Annual WQ wells (Table 2): 1 event @ 28 hrs/event = 28 hrs	28	\$62	BLM site: Eductor setup (use MPWMD portable unit): \$0 x 1 site = \$0; Airlift equip.: \$100 x 1 site x 1 event = \$100; Fuel: \$20 x 1 site x 1 event = \$20. Lab cost (annual WQ wells): \$175 x 15 wells x 1 event = \$2,625; maintenance on previously installed sample collection equipment = \$1,000. One-time cost, if necessary for replacing a well sampling pump if the existing pump is found to be inadequate due to dropping groundwater levels, or if a sampling pump needs to be installed on a Sentinel Well = \$2,000.	\$5,745	\$7,481
	WM Sentinel and Northern Inland wells: download/store dataloggers, 4 events @ 2 hrs/event	8	\$62	N/A	\$0	\$496
	Compile data: 4 events @ 24 hours/event	96	\$62	N/A	\$0	\$5,952
I. 2. b. 6	Data summaries and 1-annual report	24	\$149	N/A	\$0	\$3,576
I.2.b.7	CASGEM Data Submittal for Watermaster's Voluntary Wells	16	\$149	N/A	\$0	\$2,384
I. 4. c	Provide SWI supplemental data and review.	8	\$149	N/A	\$0	\$1,192
TOTAL ESTIMATED COST =					\$50,024	

Notes:

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

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-02

(To be filled in by WATERMASTER)

TO: Jonathan Lear

FROM: Robert Jaques

Monterey Peninsula Water Management District
PROFESSIONAL

WATERMASTER

Services Needed and Purpose:

Perform water level and water quality data collection for specified wells within the Seaside Basin in accordance with the Scope of Work contained in Attachment 1.

Completion Date: The work of this RFS No. 2018-02 shall be completed on an as-directed basis from the Watermaster during 2018. All work under this RFS will be completed not later than December 31, 2018.

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

Total Price Authorized by this RFS: \$3,915.00 (See Attachment 1 for details regarding this Total Price, and how costs will be authorized on an as-directed basis. Cost is authorized only when evidenced by signature below.)

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

Requested by: _____ **Date:** _____.

WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____.

PROFESSIONAL

ATTACHMENT 1
Scope of Work for RFS No. 2018-02

Background:

The WATERMASTER Board authorized its staff to contract with the PROFESSIONAL to collect water level and water quality data from certain wells located within the Seaside Basin, if the owners/operators of those wells expressed this desire to the WATERMASTER. The procedures for this data collection are described in the January 17, 2008 “Notice to Well Owners” that was sent out by the Watermaster to well owners in the Seaside Groundwater Basin.

This RFS No. 2018-02 authorizes PROFESSIONAL to perform this data collection work on an as-directed basis, with formal authorization from the WATERMASTER to the PROFESSIONAL being required prior to the PROFESSIONAL performing such work on any specified well. This will provide the WATERMASTER with full control over which wells are provided this service, as well as over the costs for having this work performed.

The wells to which these services may be provided are listed in Table 1.

The estimated costs, per well, to perform these services are as follows:

Monthly Water Levels - It is estimated that it will take approximately 0.5 hour/well to perform a water level measurement. This time estimate is based on the assumption that the water level measurements will be performed at the time that a field person is already out and about collecting data from other wells, and the fact that the distance between wells located within the Basin is not that great. This labor would be billed at the field rate of \$62/hr, so the estimated cost per water level measurement would be \$31.00.

The total estimated cost would be \$372 per year per well for 12 monthly measurements.

Annual Water Quality Sampling - Assuming that annual water sample collection would coincide with water level collection at a well, it is estimated that it will take approximately 0.5 hr to collect the water quality sample, including sampling time, bottle labeling, custody forms, delivery to laboratory, etc. There will also be an estimated 0.5 hr for receipt, review and computer entry of laboratory data, and an estimated \$175 per sample for the laboratory analysis. The sampling work would be billed at the field rate of \$62/hr, and the review and computer data entry work would be billed at the rate of \$149/hr, so the estimated cost per annual water quality sample would be \$105.50 for labor, and \$175 for laboratory services, for a total cost per sample of \$280.50. Only one sample per well per year will need to be collected and analyzed. This sample will be collected in the fall.

The total estimated cost for collecting and analyzing the sample per well is \$280.50.

Combined Water Level Measurements and Water Quality Sampling: For combined water level and water quality monitoring, the total estimated cost, per well, for the 12-month period is \$652.50.

Of the wells listed in Table 1 it is assumed that not more that 6 will ask to have data collected for them by the WATERMASTER, the total estimated cost would be:

Potential No. of Wells Needing Water Level Data Collected	= 6 @ \$372	= \$2,232
Potential No. of Wells Needing Water Quality Data Collected	= 6 @ \$280.50	= \$1,683
		TOTAL = <u>\$3,915</u>

Table 1

APN	DETAILS	COMPANY	Watermaster "Producer" Well?	MPWMD Assigned Well #	Monthly Water Levels Required	Monthly Water Levels Being Collected?	Annual Water Quality Analyses Required?	Annual Water Quality Data Being Collected
Within MPWMD Boundaries								
012-432-004	CAW - Plumas #4	California American Water Co.	Y	T15S/R1E-27Jg	Y	Y	Y	N
012-843-013	CAW - Darwin	California American Water Co.	Y	T15S/R1E-23Ea	Y	Y	Y	N
011-041-018	CAW - Military	California American Water Co.	Y	T15S/R1E-14Nd	Y	Y	Y	N
011-061-004	CAW - Ord Grove #2	California American Water Co.	Y	T15S/R1E-23Bc	Y	Y	Y	N
011-071-018	CAW - New Luzern	California American Water Co.	Y	T15S/R1E-23De	Y	Y	Y	N
011-091-017	CAW - Playa #3	California American Water Co.	Y	T15S/R1E-22Bc	Y	Y	Y	N
011-091-017	CAW - Playa #4	California American Water Co.	Y	T15S/R1E-22Bf	Y	Y	N	
011-493-028	CAW - Paralta	California American Water Co.	Y	T15S/R1E-14Ra	Y	Y	Y	N
031-151-010	Reservoir Well	City of Seaside	Y	T15S/R1E-13Na	Y	?	Y	N
031-231-062	Coe Avenue Well	City of Seaside	Y	T15S/R1E-14Ma	Y	?	Y	N
011-181-014	Public Works Corp. Yard	City of Sand City	Y	T15S/R1E-22Ed	Y	?	Y	N
011-011-020	Cypress Pacific	Monterey Peninsula Engineering	Y	T15S/R1E-22Dd	Y	N	Y	N
011-236-010	Robinette -Design Ctr.	City of Sand City	Y	T15S/R1E-22Mc	Y	?	Y	N
011-041-043	(in front of Target)	DBO Development	Y	T15S/R1E-22Ce	Y	N	N	
011-061-022	MMP prod well	Mission Memorial Park	Y	T15S/R1E-23Ab	Y	Y	N	
011-061-022	PRTIW -operated by MMP	Mission Memorial Park	Y	T15S/R1E-23Ac	Y	N	Y	N
011-501-014-500		Security National Guaranty, Inc.	Y	T15S/R1E-15K1	Y	N	Y	N
011-532-005		Granite Rock Company	Y	T15S/R1E-22Eb	Y	?	N	
012-511-005	Shea Well	City of Del Rey Oaks	Y	T15S/R1E-26Mc	Y	N	N	
012-115-017	City #4	Seaside Municipal Water System	Y	T15S/R1E-23Gc	Y	?	Y	?
012-653-003	City #2	Seaside Municipal Water System	Y	T15S/R1E-23Pb	Y	?	N	
012-664-017	City #1	Seaside Municipal Water System	Y	T15S/R1E-23Lb	Y	?	N	
012-115-017	City #3	Seaside Municipal Water System	Y	T15S/R1E-23Ga	Y	?	Y	?
173-071-052	East Well (Lot #9)	CAW - Bishop Unit	Y	T16S/R2E-05Fa	Y	N	N	
173-072-034	well lot Bishop #1 (west)	CAW - Bishop Unit	Y	T16S/R2E-05Ea	Y	Y	N	
173-072-041	well lot Bishop #2 (east)	CAW - Bishop Unit	Y	T16S/R2E-05Fb	Y	Y	N	
416-111-002	Mutual	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cb	Y	N	N	
416-111-004	Standex	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cc	Y	N	N	
416-111-004	Bay Ridge	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cd	Y	Y	N	
259-031-011	RR#7	CAW - Ryan Ranch #7	Y	T15S/R1E-36Nb	Y	Y	N	
259-031-012	RR#8	CAW - Ryan Ranch #8	Y	T16S/R1E-01Cb	Y	Y	N	
259-031-012	RR#11	CAW - Ryan Ranch #11	Y	T16S/R1E-01Cd	Y	Y	N	
173-071-056	Old Main Gate (Lot #12)	Pasadera - New Cities Developme	Y	T16S/R2E-05Mg	Y	Y	N	
173-071-051	Paddock #1(Lot #11)	Pasadera - New Cities Developme	Y	T16S/R2E-05Mf	Y	N	N	
203-031-034	01-349	York School	Y	T15S/R1E-36Qa	Y	?	N	
173-071-048	(new #12)	Laguna Seca Golf Resort	Y	T16S/R2E-06Hb	Y	Y	N	
173-071-048	(racetrack)	Laguna Seca Golf Resort	Y	T16S/R2E-06Ga	Y	Y	N	
Outside MPWMD Boundaries								
173-011-025, -026	LS Cnty Park #3	MPPRD	Y	T16S/R2E-05Gd	Y	?	N	
173-011-025, -026	LS Cnty Park #4	MPPRD	Y	T16S/R2E-05Ge	Y	?	N	
					Y = 38	N or ? = 21	Y = 16	N or ? = 16

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SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-01

(To be filled in by WATERMASTER)

TO: Martin Feeney

Martin Feeney
PROFESSIONAL

FROM: Robert Jaques

WATERMASTER

Services Needed and Purpose:

Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2018 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2018-01 shall be completed in accordance with the schedule described in Attachment 1.

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

Total Price Authorized by this RFS: \$ 26,585.56 (See Attachment 2 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

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

Authorized by: _____ **Date:** _____

WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____

PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2018-01

Background:

The Watermaster Board approved the Budget for the 2018 Management and Monitoring Program Work Plan (hereinafter referred to as the “2017 M&MP Work Plan”) at its meeting of October 4, 2018.

Scope of Work

This RFS No. 2018-01 authorizes PROFESSIONAL to perform the work described in PROFESSIONAL’s Proposal for Hydrogeologic Services, dated August 24, 2017 and contained in Attachment 2, with the following clarifications and/or additions:

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

Induction Logging

Induction logging will be performed on each of the four Sentinel Wells semi-annually.

Water Level

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

Water Quality Sampling Schedule

Unless WATERMASTER directs PROFESSIONAL not to perform water quality sampling, Wells SBWM-1, SBWM-2, and SBWM-4 will be sampled for water quality twice during the year (nominally in March and September), and Well SBWM-3 will be sampled for water quality annually (nominally in September). Each well will be sampled at two discrete depths. This will constitute a total of 14 water quality samples taken during the year (two samples from each well during each sampling event). If WATERMASTER directs PROFESSIONAL not to perform water quality sampling, the costs described in Attachment 2 that pertain to water quality sampling and analysis will not be incurred, and PROFESSIONAL will not be compensated for that work.

Water Quality Analyses

The water quality constituents that will be measured in these analyses are: Specific Conductance (micromhos/cm), Bicarbonate (as HCO₃), pH, Chloride, Sulfate, Nitrate Nitrogen (as NO₃), Calcium, Sodium, Magnesium, Potassium, Iron, Manganese, Orthophosphate, Total Dissolved Solids, Boron, Bromide, Barium, Iodide, and Fluoride. The samples collected for analysis will be submitted to a State-certified analytical laboratory for analysis.

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

ATTACHMENT 2

Martin B. Feeney
Consulting Hydrogeologist

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

August 31, 2017

Seaside Basin Watermaster
PO Box 51502
Pacific Grove CA.
93950

Attention: Bob Jaques, PE

Subject: Sentinel Well Data Collection Program 2018 – Proposal for Hydrogeologic Services

Dear Bob:

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

The data collection program for the Sentinel Wells will continue as it has been performed in 2016. The data collection program currently includes semi-annual induction logging and continuous water level data collection. This basic program is supplemented with the periodic collection of depth-specific downhole water quality sampling. The subcontractors for the induction logging/downhole sampling and laboratory services remain unchanged.

The components of this program are as follows:

Data collection from each well:

- Semi-Annual down-loading of water level data logger.
- Semi-Annual induction logging
- Semi-annual depth-specific sample at two depths in wells SBWM#1, SBWM#2 and SWBWM #4. Annual depth-specific sample collection in well SBWMW#3. 14 samples total. In addition, budget includes 1 field blank and 1 split-sample for each sampling event for a total of 18 samples.
- Water quality analysis (MPWMD "Sentinel Well Suite" – General Mineral plus Barium and Iodide) of collected water quality samples.

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

Annual costs for the data collection program are estimated at \$ 26,585.56 inclusive of outside services. A breakdown of costs is presented in the table below.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-02
(To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

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

Completion Date: All work of this RFS shall be completed not later than December 31, 2018.

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

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

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

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

Agreed to by: _____ **Date:** _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to interpretation of water level and water quality data collected by WATERMASTER, assisting in the interpretation of modeling results, and other related activities.

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

Estimated Costs

Consulting services provided under this RFS No. 2018-01, including attending meetings either via telephone or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2018, including all markups and other direct costs.

In addition to hourly labor costs, an allowance of \$500.00 is included in the estimated cost of this RFS to cover travel and other incidental costs associated with the performance of this work.

The total cost authorized by this RFS No. 2018-01 is \$4,000.00.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-01

(To be filled in by WATERMASTER)

TO: Gus Yates
Todd Groundwater
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

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

Completion Date: All work of this RFS shall be completed not later than December 31, 2018.

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

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

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

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

Agreed to by: _____ **Date:** _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work

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

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

Estimated Costs

Consulting services provided under this RFS No. 2018-01, including attending meetings either via telephone or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2018, including all markups and other direct costs.

In addition to hourly labor costs, an allowance of \$500.00 is included in the estimated cost of this RFS to cover travel and other incidental costs associated with the performance of this work.

The total cost authorized by this RFS No. 2018-01 is \$4,000.00.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2018

RFS NO. 2018-01

TO: Russ McGlothlin
Brownstein Hyatt Farber Schreck, LLP
1020 State Street
Santa Barbara, CA 93101-2711

FROM: Laura Dadiw
Watermaster
PO Box 51502
Pacific Grove, CA 93950

Services Needed and Purpose: Provide legal services to prepare and file a motion, and attend a status conference hearing via CourtCall on March 30, 2018 with Judge Nichols of the Superior Court; assist as may be requested with filing the Watermaster Annual Report to Court by December 15, 2018; and provide miscellaneous legal consultation as may be needed by Watermaster.

Completion Date: All work under this RFS will be completed no later than December 31, 2018.

Method of Compensation: Time and Expense Payment Method. Hourly rates and costs for Other Direct Costs and Expenses are described in Attachment I.

Total Price Authorized by this RFS: \$7,000.00 (Cost is authorized only when evidenced by signature below.)

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

Requested by: Not Applicable to this RFS Date: _____

Authorized by: _____ Date: _____
Ralph Rubio
WATERMASTER Chairman of the Board

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1
BROWNSTEIN HYATT FARBER SCHRECK, LLP
STANDARD TERMS AND CONDITIONS

Scope of Representation: The scope of our representation is set forth in the attached Letter. Our representation of you on any particular matter will end when we have completed our essential work on that matter.

Duties of the Parties: We agree to provide all legal services reasonably required to represent you, consistent with our ethical obligations. It is our intent to provide you with thorough, prompt and cost-efficient legal services, keep you informed of significant developments in the matter, and respond to your inquiries. You agree to fully cooperate with us, be open and truthful and provide us with all information pertaining to the matter, keep us informed of developments, to pay our bills in a timely manner, and keep us advised of your address, telephone number and whereabouts. You also agree to appear at any proceeding we deem necessary and to cooperate fully with us on all matters related to the investigation, preparation and presentation of your matter.

Fees: We review all billing statements before they are issued to ensure that the amount charged is appropriate. The statement for fees is simply the product of the hours worked multiplied by the hourly rates for the attorneys and legal assistants who did the work. The current range of hourly rates for our professional services is:

Partners:	From \$350 to \$1065 per hour
Of Counsels:	From \$300 to \$1065 per hour
Associates:	From \$210 to \$400 per hour
Land Use Planners:	From \$150 to \$265 per hour
Paralegals:	From \$150 to \$265 per hour
Legal Assistants:	From \$100 to \$150 per hour

We adjust our rate structure at the beginning of each calendar year. You agree to pay all fees billed at the then-current rate.

Outside Contract Attorneys and Legal Assistants: You agree that we may utilize specialized contract attorneys and legal assistants as necessary. You agree to pay the reasonable hourly rate for these legal services.

In-House Costs and External Expenses: Fees such as computer-assisted legal research and third party vendor fees including document copying, transcript production, overnight delivery service charges, travel, meals and hotel accommodations will be itemized and billed separately at cost.

Other in-house costs and expenses include, but are not limited to, secretarial overtime, extraordinary administrative, technical or accounting support; computer legal research; messenger and other delivery fees; mileage, and the cost of licensing and other installation of special computer programming to manage your case. These are directly billed to you at our cost.

External expenses are also charged at cost. These include, but are not limited to, the following: Notary fees; consultant costs, investigative costs, professional mediator, arbitrator and/or special master fees; travel costs, including parking, transportation, meals and hotels. External expenses will either be passed through to you for direct payment to the vendor or included on your statement. We may select experts, consultants and investigators who in our judgment are necessary to aid in the preparation of your matter and will inform you of the persons selected and their charges. You

authorize us to incur all reasonable costs and to hire such experts, consultants and investigators. We will not incur any major external expenses on your behalf without your prior approval.

Billing Period and Payments: We will bill you for services rendered and disbursements and charges on a monthly, or such other periodic, basis as we may determine. If you require additional statements, you agree to request them at intervals of no less than 30 days and we agree to respond within 10 days.

You agree to inform us of any dispute you may have with respect to a statement within 10 days of the statement date. If you do not object, the statement will be deemed correct. If you do object, we will consider our right to the fees and costs set forth on that statement as "disputed." Absent a dispute, you agree to pay all statements upon receipt, and no later than the last day of the month in which you receive the statement. Even if you dispute a portion of a statement, you agree to pay the undisputed portion not later than the last day of the month in which you receive the statement. If payment is not timely received, we may assess a monthly delinquency charge of 1.25% (15% per year) of the amount not paid until paid in full. Payments will be applied to the longest outstanding charges in the following order: first, costs, then delinquency charges, and then fees.

Retainers: If required, you agree to pay an advance fee retainer upon execution of this agreement and agree that we may, at our discretion, withdraw the undisputed amount of any statement, whether fees or costs, from any retainer you have on deposit. You agree to replenish the retainer monthly to maintain a credit toward fees. That means that, even though you have a retainer on account, you still must pay your statements as they become due. If we expect significant additional expenses, you agree to provide a further retainer within 15 days of our request.

Your retainer will be held on your behalf in our trust account without interest to you, because California law requires all interest earned on such funds to be forwarded to the California State Bar for its Legal Service Trust Fund Program. If you prefer, you may request that we hold your funds in a non-interest bearing account, or in an interest bearing account for your benefit. If you make such a request, you agree to pay administrative costs of a one-time \$75 set-up charge and a \$25 per month service charge. At the conclusion of our representation, we will return any unearned retainer to you.

As an additional retainer and as security for the payment of our fees, costs and expenses, you agree that we have a first priority lien on all claims and causes of action that are the subject of our representation under this Agreement and on all proceeds or property obtained or recovered, whether by agreement, settlement, mediation, arbitration award, court judgment, cost or fee award or otherwise resulting from our representation.

No Guarantee: Our comments about the potential outcome of your matter or any phase thereof are expressions of opinion only. We cannot guarantee the outcome or make any promises in that regard.

Discharge: Our goal is to maintain at all times a constructive and positive relationship with you, to the conclusion of this matter and in future matters. However, you have the right to discharge us as your lawyers at any time, and we have the right to withdraw from your representation at any time, consistent with our ethical obligations. If you discharge us or we elect to withdraw, you agree to immediately secure new counsel. If we are your attorneys of record in any proceeding, you agree to cooperate fully in substituting such new counsel as your attorneys of record. At the time of discharge or withdrawal, you agree to immediately pay us for all services rendered to you and for all costs and expense paid or incurred by us on your behalf.

Files: At the conclusion of our services, your files will be transferred to you upon request. You agree to pay the cost of accessing, copying and delivering the file to you. If you do not request the return of your files within five (5) years from either the completion of our essential work on the matter or the termination of our relationship by discharge or withdrawal, we have the right, but not the obligation, to destroy any files created and maintained by us with respect to the matter.

Disputes: Any controversy or claim arising out of or relating to fees and/or costs incurred under this Agreement shall be resolved pursuant to Business and Professions Code section 6200 *et seq.* All other disputes arising out of or relating to this Agreement or the professional services rendered under this Agreement, shall be determined in accordance with the laws of the State of California. The arbitration shall be administered by JAMS pursuant to its Comprehensive Arbitration Rules and Procedures. Judgment on the Award may be entered in any court having jurisdiction. Each side shall bear its own costs and attorney fees in said arbitration.

Miscellaneous: Unless you instruct us to the contrary in writing, we will utilize facsimile, e-mail, cellular phone, PDA and similar communication methods, and we disclaim any liability for unauthorized third-party interception of communications. You agree that we may use your name and information generally available to the public in our marketing efforts.

Interpretation and Effective Date: This agreement is our entire and only agreement and is governed by California law. If any provision is found unenforceable, the remainder of the agreement will remain in effect. This agreement will not take effect until you sign and return the enclosed copy of the letter with these terms and conditions attached and until the agreement has been countersigned by the firm's Managing Partner. This agreement will then be retroactive to the date services were first provided. If this agreement does not take effect, you will still be required to pay us the reasonable value of any services we have performed for you.

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**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: December 6, 2017

SUBJECT: Consider Approving the Seawater Intrusion Analysis Report (SIAR) for WY 2017

RECOMMENDATIONS:

It is recommended that the Board approve the Seawater Intrusion Analysis Report for WY 2017.

BACKGROUND:

HydroMetrics has prepared the Seawater Intrusion Analysis Report (SIAR) for Water Year 2017. The Executive Summary from the WY 2017 SIAR is attached. The complete SIAR is lengthy, so rather than including it in this agenda packet it has been posted on the Watermaster's website so Board members and members of the public wishing to review the entire document can do so.

The SIAR examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. At its November 15, 2017 meeting the TAC reviewed a Draft version of the 2017 SIAR and recommended some revisions to it before it was sent to the Board for approval. The Final version that is posted on the Watermaster's website, and the Executive Summary that is attached, reflect these revisions.

DISCUSSION

Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and fresh water inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin. Those SIARs concluded, however, that no seawater intrusion was occurring.

In 2016 for the first time there was conflicting data from two of the Watermaster's Sentinel Wells. Some of the data were suggestive of the possible initial onset of seawater intrusion, while other data indicated seawater intrusion was not occurring. At the time of submittal of the 2016 Annual Report, because of the conflicting data, no conclusions with regard to the initial onset of seawater intrusion could be drawn. Verification resampling, one of the recommendations contained in the 2016 SIAR, was undertaken in order to reach a conclusion. Specifically, the recommendation was to perform verification water quality sampling and analysis for Sentinel Well SBWM-2, Sentinel Well SBWM-4, and the Ord Terrace Shallow Monitoring Well. This work was performed in December 2016. A Technical Memorandum was prepared by HydroMetrics describing the work, and contained an analysis of the data. It was concluded that none of the samples definitively indicated incipient seawater intrusion. The Technical Memorandum contained seven recommendations, all of which were carried out in 2017. One of these recommendations was to prepare a Work Plan to try to identify the source of fluctuating chloride concentrations. A proposed Work Plan was prepared by HydroMetrics, and was presented to the TAC and the Board of Directors for their review earlier this year. After due consideration the Board of Directors determined that it would be appropriate to wait until data from the late-2017 Sentinel Well induction logging, water quality sampling, and fluid

resistivity logging events, had been analyzed before making a decision on whether to proceed with the activities described in the Work Plan.

A Technical Memorandum was prepared by Martin Feeney, one of the Watermaster's hydrogeologic consultants, which described the late-2017 Sentinel Well fluid resistivity logging event. That Memorandum is contained in Attachment 13 to the Draft 2017 Annual Report. None of the data obtained from this logging indicated that seawater intrusion was occurring. The logging, however, confirmed that the depth-specific water quality samples that are routinely collected during the sampling events are representative of the water in the casing at the specified depths. However, the quality of the water in the casing was found not to be representative of the quality of the water in the aquifers in which these wells are completed.

The 2017 SIAR notes that although changes in chloride concentrations were found at some depths in some of the Sentinel Wells, the evaluation of the data from the sampling and monitoring program continues to indicate that seawater intrusion is not occurring. Because the water quality data being collected in the coastal Sentinel Wells has been found to not be representative of the water quality in the aquifers in which those wells are completed, the 2017 SIAR recommends that water quality sampling in those wells be discontinued. It further recommends that those wells be used only for induction logging, which was the original intent when those wells were constructed.

Because none of the data indicates the presence of seawater intrusion, the Watermaster does not at this time need to move forward with the Work Plan that HydroMetrics developed. However, should future data warrant it, the Watermaster could reconsider undertaking the initial phase of the Work Plan.

ATTACHMENTS:

Executive Summary of the WY 2017 Seawater Intrusion Analysis Report.

(The complete SIAR is posted on the Watermaster's website at

<http://www.seasidebasinwatermaster.org/>, for review by those who wish to examine the entire document, including all of its attachments.)

Executive Summary

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

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

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

Based on an evaluation of geochemical indicators for Water Year 2017 and prior, no seawater intrusion has historically been or is currently observed in existing monitoring and production wells in the Seaside Groundwater Basin. It should be noted that although seawater intrusion has not been observed in the hydrogeologic data collected, there have been some chloride anomalies observed over the past two water years in some of the Sentinel Wells.

In September 2017, Sentinel Well SBWM-2's deep sample at 1,470 feet had a chloride concentration of 292 mg/L, which is the highest chloride measured in any of the coastal wells. Verification sampling is not necessary as the concentration was effectively verified using downhole electrical conductivity profiling, which uses an instrument to measure the conductivity of the water within the well casing. The September 2017 chloride concentration is a 226 mg/L increase from the December 2016 concentration of 66 mg/L. The previous 4th quarter sample was also elevated at 178 mg/L. These past three results indicate that chloride concentrations are fluctuating over 100 mg/L within each of the past two water years. After last year's concentration fluctuation possible sources of the salinity contributing to the observed increases were postulated to include natural groundwater quality variations, upwelling or upconing of underlying saline formation water from the Monterey Formation in response to declining groundwater levels, or very early seawater intrusion (HydroMetrics WRI, 2017). However, from evaluation of the downhole electrical conductivity profiling of all four Sentinel Wells (Feeney, 2017) and their long-term electric induction logs, it appears the groundwater samples collected using the low flow sampler appear to be sampling water within the well casing and not the groundwater from the aquifer surrounding the well. The groundwater quality data collected in the Sentinel Wells is therefore not considered representative of the aquifer and should not be used in seawater intrusion analysis.

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

- Maps of chloride concentrations for the shallow aquifer do not show chlorides increasing towards the coast.
- Induction logging data at the coastal Sentinel Wells do not show large changes over time that are indicative of seawater intrusion in the deep aquifer.
- None of the Stiff diagrams for monitoring and production wells show the characteristic chloride spike that typically indicates seawater intrusion in Stiff diagrams.
- None of the Piper diagrams for monitoring and production wells show the typical evolution of water chemistry from freshwater to seawater.

The following groundwater level and production data suggest that conditions in the basin continue to provide a potential for seawater intrusion:

- Even though Water Year 2017 was an above average rainfall year with increased groundwater elevations, and basin pumping was very slightly above the current safe yield of 3,000 acre-feet per year, Northern Coastal subarea groundwater levels in the deep aquifer remain below sea level. The 4th quarter deep aquifer groundwater levels along the coast, in most locations, are at elevations greater than 20 feet below sea level.
- Groundwater levels remain below protective elevations in all deep monitoring wells used for protective groundwater elevation monitoring (MSC deep, PCA-W deep, and Sentinel Well SBWM-3). Two of the three shallow wells' groundwater levels are above protective elevations: PCA-W shallow and CDM-MW4. The MSC shallow well remains below protective elevations.

Due to its far distance from the coast, seawater intrusion is not an issue of concern in the Laguna Seca subarea. However, groundwater levels in the eastern Laguna Seca subarea have historically been declining at rates of 0.6 feet per year in the shallow aquifers, and between two and three feet per year in the deep aquifers. These declines have occurred since 2001, despite triennial reductions in allowable pumping. The cause of this decline is due in part to the safe yield of the subarea being incorrect and in part due to the influence of wells to the east of the groundwater basin. The rate of decline in groundwater levels in the western portion of the subarea is between one and two feet per year. There is an indication, however, from 2016 and 2017 groundwater levels that the rate in decline has stabilized over the past couple years.

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

1. Continue to Analyze and Report on Water Quality Annually

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

2. Discontinue Sampling the Four Sentinel Wells but Continue Induction Logging Twice a Year

Due to the finding that the water quality samples being extracted from the Sentinel Wells are not representative of the aquifer, it is recommended that sampling the wells with the low flow sampler is discontinued. The depth of the wells and the small 3-inch diameter of the wells limit sampling techniques that can be applied cost-effectively to extract a representative sample. The Sentinel Wells were designed for the purpose of electric induction logging, and therefore should continue to be induction logged twice a year.

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors
FROM: Laura Dadiw, Administrative Officer
DATE: December 6, 2017
SUBJECT: Watermaster Declaration of **NO** Replenishment Water Available for Water Year 2018
PURPOSE: To notify all Seaside Groundwater Basin producers that the Watermaster has declared for Water Year 2018 that **NO** Artificial Replenishment Water is available to offset Over-Production in excess of the Operating Yield for the Seaside Groundwater Basin pursuant to the Amended Decision entered in the Seaside Adjudication.

RECOMMENDATION:

Consider approving the Declaration of No Artificial Replenishment Water Available for Water Year 2018.

DISCUSSION:

The Court has declared in Section III L 3 j iii of the adjudication Decision that in the event Watermaster cannot procure Artificial Replenishment Water to offset Operating Yield Over-Production during the ensuing Water Year that the Watermaster Board shall so declare in December that no Operating Yield Over-Production then in effect may occur during the ensuing Water Year.

Watermaster has determined that there is no foreseeable replenishment water available for Water Year 2018. As ordered by the Court at the January 12, 2007 hearing, a fifth full triennial 10% reduction in Operating Yield will be in effect for the entire Water Year 2018. *(Commencing with the fourth Water Year, and triennially thereafter the Operating Yield for both Subareas will be decreased by ten percent (10%) until the Operating Yield is equivalent of the Natural Safe Yield.)*

Watermaster received an offer dated September 27, 2017 from Marina Coast Water District to sell a portion of its existing potable groundwater as replenishment water. If and when associated agreements mature to the point where water is available to Watermaster during Water Year 2018, all producers under the Decision would be notified of such availability and of any resulting adjustments to the limits of production.

ATTACHMENTS

- 1) Declaration of Unavailability of Replenishment Water for Water Year 2018 and limits on production.

NOTICE TO ALL SEASIDE GROUNDWATER PRODUCERS:

Case No. M66343 Amended Decision Section III.B.2.

Commencing with the fourth Water Year, and triennially thereafter, the Operating Yield for both Subareas will be decreased by ten percent (10%) until Operating Yield is the equivalent of the Natural Safe Yield unless:

- a. The Watermaster has secured and is adding an equivalent amount of Non-Native water to the Basin on an annual basis; or*
- b. The Watermaster has secured reclaimed water in an equivalent amount and has contracted with one or more of the Producers to utilize said water in lieu of their Production Allocation, with the Producer agreeing to forego their right to claim a Stored Water Credit for such forbearance; or*
- c. Any combination of a and b above which results in the decrease in Production of Native Water required by this Decision; or*
- d. The Watermaster has determined that Groundwater levels within the Santa Margarita and Paso Robles aquifers are at sufficient levels to ensure a positive offshore gradient to prevent seawater intrusion.*

The Watermaster has determined that the conditions necessary to avoid the ten percent Operating Yield reduction have not been met as follows:

- 1. Watermaster has not secured water for adding an equivalent amount of Non-Native water to the Basin on an annual basis. Watermaster received an offer dated September 27, 2017 from Marina Coast Water District to sell a portion of its existing potable groundwater as replenishment water; if and when associated agreements mature to the point where water is available to Watermaster, a new Declaration will be made.
- 2. The Watermaster has not secured reclaimed water in an equivalent amount.
- 3. The Watermaster has not secured Non-Native water or reclaimed water which results in the decrease in Production of Native Water required by the Decision.
- 4. The firm contracted by Watermaster for technical analyses continued to report in 2017 that Groundwater levels within the Santa Margarita and Paso Robles aquifers are not at sufficient levels to ensure a positive offshore gradient to prevent seawater intrusion, so the requirement for this item continues to not be met.

Section III.L.3.j.iii: Watermaster declares that for Water Year 2018 Artificial Replenishment Water is not available to offset Operating Yield Over-Production and producers are limited in production to the following quantities of water:

Coastal Subarea Alternative Producers:

Seaside (Golf)	540.00 acre-feet
SNG	149.00 acre-feet
Cypress (Calabrese)	6.00 acre-feet
Mission Memorial (Alderwood)	31.00 acre-feet
Sand City	9.00 acre-feet

Laguna Seca Subarea Alternative Producers:

Nicklaus Club Monterey	251.00 acre-feet
Bishop	320.00 acre-feet
York School	32.00 acre-feet
Laguna Seca County Park	41.00 acre-feet

Coastal Subarea Standard Producers:

California American Water.....	2,546.17 acre-feet*
Seaside (Municipal)	150.74 acre-feet**
Granite Rock	266.99 acre-feet***
D.B.O. Development 30	507.56 acre-feet****
Cypress (Calabrese).....	16.17 acre-feet*****

Laguna Seca Subarea Standard Producers:

California American Water.....	0.0 acre-feet
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-
- * Total is the 2018 base allocation of 1,837.38 acre-feet plus 706.49 not free carryover plus 0.16 acre-feet and 2.15 acre-feet assigned from D.B.O. No. 30.
California American Water has a positive balance of 824.01 acre-feet of stored water credit at WY-end 2017 from Basin extractions exceeding injections since WY 2010 under the CAW/MPWMD ASR Program, formalized through a Storage Agreement in 2012.
 - ** Total is the 2018 base allocation of 150.74 acre-feet.
 - *** Total includes 166.32 acre-feet of “free” carryover and 86.45 acre-feet of “not-free” carryover credit from previous water years, plus the 2018 base allocation of 14.22 acre-feet.
 - **** Total includes 317.77 acre-feet of “free” carryover minus 0.16 acre-feet and 2.15 acre-feet assigned to California American Water, and 166.30 acre-feet of “not-free” carryover credit from previous water years, plus the 2018 base allocation of 25.80 acre-feet.
 - ***** Cypress (Calabrese) converted 8 acre-feet of APA to SPA in January 2015; total includes 10.87 acre-feet of “free” carryover and 1.85 acre-feet of “not-free” carryover credit from water year 2017, plus the 2018 base allocation of 3.45 acre-feet.

**WATERMASTER PRODUCER ALLOCATIONS WATER YEAR 2018 IN ACRE-FEET (AF)
INCLUDING A 10% TRIENNIEL REDUCTION FOR 100% OF THIS WATER YEAR**

Initial Basin-Wide Operating Yield⁽¹⁾	3360.00	Coastal Operating Yield⁽¹⁾	2766.60
Natural Safe Yield (NSY)⁽²⁾	3000.00	Laguna Seca Operating Yield⁽¹⁾	593.40

ALTERNATIVE PRODUCER ALLOCATIONS				ALTERNATIVE PRODUCER AMOUNT PUMPED WY 2018			
Coastal Subarea⁽³⁾	AF	Laguna Seca Subarea⁽³⁾	AF	Coastal Subarea⁽³⁾	AF	Laguna Seca Subarea⁽³⁾	AF
Seaside (Golf)	540.00	Nicklaus Club Monterey	251.00	Seaside (Golf)	0.00	Nicklaus Club Monterey	0.00
SNG	149.00	Bishop	320.00	SNG	0.00	Bishop	0.00
Calabrese	6.00	York School	32.00	Calabrese	0.00	York School	0.00
Mission Memorial (Alderwood)	31.00	Laguna Seca County Park	41.00	Mission Memorial (Alderwood)	0.00	Laguna Seca County Park	0.00
Sand City	9.00			Sand City	0.00		
Total⁽¹⁾	735.00	Total⁽¹⁾	644.00	Total⁽¹⁾	0.00	Total⁽¹⁾	0.00

STANDARD PRODUCER ALLOCATIONS							
Coastal Operating Yield Available to Standard Producers (AF)			2031.60	Laguna Seca Operating Yield Available to Standard Producers (AF)			0.00
Coastal Subarea	Standard Producer Allocations		AF Available to This Producer	Laguna Seca Subarea	Standard Producer Allocations		AF Available to This Producer
	Base Water Right %⁽⁴⁾	Weighted %⁽⁵⁾			Base Water Right %⁽⁴⁾	Weighted %⁽⁵⁾	
California American Water (CAW)	77.55%	90.44%	1837.38	CAW	45.13%	100.00%	0.00
Seaside (Municipal)	6.36%	7.42%	150.74				
Granite Rock	0.60%	0.70%	14.22				
D.B.O. Development No. 30	1.09%	1.27%	25.80				
Calabrese (Cypress Pacific Investors LLC)	0.15%	0.17%	3.45				
Total	85.75%	100.0%	2031.60	Total	45.13%	100.0%	0.00

Allocation of Available Operating Yield Among Standard Producers	Base Water Right Available to this Producer (AF)	% NSY to SPA (Base Water Right / Total Water Right)	NSY Available to Producers (AF) Current Water Year	Free Carryover Credits from Prior Water Year	Not-Free Carryover Credits from Prior Water Year	Water Rights Transferred / Sold DBO to CAW 710 Amador	Water Rights Transferred / Sold DBO to CAW 2 Upper Ragsdale	Total Producer NSY (AF) (NSY Available + Free Carryover Credits)	Total Authorized Production Current WY (Base Water Right Plus All Carryover)⁽⁶⁾	Actual AF Pumped by Producer in WY 2018
			WY 2018 APA Pumped 831.52 AF							
		NSY 3000 - 831.52 AF =	2168.48							
California American Water	1837.38	90.44%	1961.18	0.00	706.49	0.16	2.15	1963.49	2546.17	0.00
Seaside (Municipal)	150.74	7.42%	160.90	0.00	0.00	0.00	0.00	160.90	150.74	0.00
Granite Rock	14.22	0.70%	15.18	166.32	86.45	0.00	0.00	181.50	266.99	0.00
D.B.O. Development No. 30	25.80	1.27%	27.54	317.77	166.30	(0.16)	(2.15)	343.00	507.56	0.00
Calabrese (Cypress Pacific Investors LLC)	3.45	0.17%	3.68	10.87	1.85	0.00	0.00	14.56	16.17	0.00
Total	2031.59	100.00%	2168.48	494.97	961.07	0.00	0.00	2663.45	3487.64	0.00

Footnotes:

(1) From page 17 of Exhibit A (Amended Decision) of Court Order filed February 9, 2007.

(2) From page 14 of Exhibit A (Amended Decision) of Court Order filed February 9, 2007.

(3) From page 21 of Exhibit A (Amended Decision) of Court Order filed February 9, 2007.

(4) From Table 1 on page 19 of Exhibit A (Amended Decision) of Court Order filed February 9, 2007.

(5) Calculated from the Base Water Right percentages in the adjacent column.

(6) Base Water Right plus Free and Not Free Carryover Credit = 2017 Production Allocation (see 2017 Declaration from 12/6/2015 Watermaster board meeting)

Note: Calabrese (Cypress Pacific Investors LLC) opted to convert 8AF of its 14AF Alternative Production Allocation to Standard Production Allocation on January 22, 2015 (notice filed by Cypress with Superior Court).

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: December 6, 2017

SUBJECT: Discussion/Consider Approving Watermaster Annual Report for WY 2017 Due to be Filed with the Court on or before December 15, 2017

RECOMMENDATIONS:

It is recommended that the Board approve the Watermaster Annual Report for WY 2017.

BACKGROUND:

The Watermaster submits an Annual Report to the Court after the end of each Water Year to fulfill one of its obligations under the Court Decision that created the Watermaster. This document summarizes and provides information on all of the Watermaster's principle activities of the year, and as required by the Decision is organized into the following Sections:

- A. **Groundwater Extractions**
- B. **Groundwater Storage**
- C. **Amount of Artificial Replenishment, if any, performed by Watermaster**
- D. **Leases or sales of Production Allocation and Administrative Actions**
- E. **Use of imported, reclaimed, or desalinated Water as a source of Water for Storage or as a water supply for lands overlying the Seaside Basin**
- F. **Violations of the Decision and any corrective actions taken**
- G. **Watermaster administrative costs**
- H. **Replenishment Assessments**
- I. **All components of the Watermaster budget**
- J. **Water Quality Monitoring and Basin Management**
- K. **Conclusions and Recommendations**

DISCUSSION:

A Preliminary Draft Annual Report was presented to the TAC for its review and input at the TAC's November 15, 2017 meeting. Attached is the body of the Draft 2017 Annual Report, which reflects the TAC's input on the Preliminary Draft Annual Report. The complete Draft version is posted on the Watermaster's website at <http://www.seasidebasinwatermaster.org/>.

Of particular note to the Board is that:

- (1) In 2017 the follow-up sampling and fluid resistivity profiling recommended in the 2016 Seawater Intrusion Analysis Report (SIAR) was performed. That work led to the conclusions that no seawater intrusion is occurring, and that water quality sampling in the coastal Sentinel Wells should be discontinued. This is because that water quality data is misleading, since it has

been found not to be representative of the water quality in the aquifers in which those wells are completed. That proposed change to the monitoring program is contained in Section J of the body of the attached Annual Report.

(2) Because it is not possible to obtain all of the water quality and water level data from the September monitoring event soon enough to prepare a complete Annual Report in time to submit it to the Board for approval at its December meeting, the Watermaster proposes to submit its Annual Reports not later than January 15 of each year following the end of each Water Year. This proposal is contained in Section K of the attached Annual Report. This will ensure that all monitoring data can be included and accounted for in the annual SIAR and other reports that comprise part of these Annual Reports.

The Draft version of the Annual Report will be made into a Final version, reflecting any comments or recommendations from the Board at today's meeting. The Final version will be submitted to the Court not later than the December 15, 2017 submittal deadline established by the Court.

Due to the length of the Annual Report, rather than making a presentation at today's meeting, Staff will respond to questions about the Annual Report from the Board and the Public.

ATTACHMENTS:

Body of the Draft version of the Watermaster 2017 Annual Report.

SEASIDE BASIN WATERMASTER

DRAFT

ANNUAL REPORT – 2017

December 8, 2017

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SEASIDE BASIN WATERMASTER

ANNUAL REPORT – 2017

Integral to the Superior Court Decision (Decision) rendered by Judge Roger D. Randall on March 27, 2006 is the requirement to file an Annual Report. This 2017 Annual Report is being filed on or before December 15, 2017, consistent with the provisions of the Decision, as amended by the Annual Report Review and Order dated January 7, 2011. This Annual Report addresses the specific Watermaster functions set forth in Section III. L. 3. x. of the Decision. In addition this Annual Report includes a section pertaining to Water Quality Monitoring and Basin Management.

A. Groundwater Extractions

The schedule summarizing the Water Year 2017 (WY 2017) groundwater production from all the producers allocated a Production Allocation in the Seaside Groundwater Basin is provided in Attachment 1, “Seaside Groundwater Basin Watermaster, Reported Quarterly and Annual Water Production from the Seaside Groundwater Basin for all Producers Included in the Seaside Basin Adjudication During Water Year 2017.” For the purposes of this Annual Report Water Year 2017 is defined as beginning October 1, 2016 and ending on September 30, 2017.

B. Groundwater Storage

Monterey Peninsula Water Management District (MPWMD), in cooperation with California American Water (CAW), operates the Seaside Basin Aquifer Storage and Recovery (ASR) program. Under the ASR program, CAW diverts water from its Carmel River sources during periods of flow in excess of NOAA-Fisheries’ bypass flow requirements, and transports the water through the existing CAW distribution system for injection and storage in the Seaside Basin at the MPWMD’s Santa Margarita ASR site and CAW’s Seaside Middle School ASR site. During WY 2017, 2,345 AF was diverted and stored in the Seaside Basin under the ASR program. Rainfall in the area was about 152% of normal, Carmel River flow was 292% of normal. WY 2017 was classified as “Extremely Wet” by MPWMD.

Based upon production reported for WY 2017, the following Standard Producers are entitled to Free and Not-Free Carryover Credits to 2018 in accordance with the Decision, Section III. H. 5:

<u>Producer</u>	<u>Free Carryover Credit</u> <u>(Acre-feet)</u>	<u>Not-Free Carryover Credit</u> <u>(Acre-feet)</u>
Granite Rock	166.32	86.45
DBO Development	315.46	166.30
	(2.31 assigned to CAW against Free Carryover)	
Calabrese (Cypress)	10.87	1.85
CAW	00.00	708.80
		(assigned from DBO)
City of Seaside Muni	00.00	00.00

C. Amount of Artificial Replenishment, If Any, Performed by Watermaster

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

During Water Year 2017 the Watermaster did not indirectly engage in In-lieu Replenishment of the Basin. No non-native water was made available to the Basin during Water Year 2017 under the Memorandum of Understanding and Agreement entered into by Watermaster with the City of Seaside for its golf course irrigation program creating in-lieu replenishment water.

D. Leases or Sales of Production Allocation and Administrative Actions

On April 7, 2017, D.B.O Development No. 30 transferred/assigned 0.16 acre-feet (AF) of its Standard Production Allocation within the Seaside Groundwater Basin to California American Water Company for the Water Year ending 2017 applied to Water Year 2017. This transfer of water allocation was the first assignment of water pursuant to MPWMD Ordinance No. 166 and the Front-Loading Agreement between D.B.O and California American Water Company. A copy of this document is contained in Attachment 10.

On June 15, 2017, D.B.O Development No. 30 transferred/assigned 2.15 acre-feet (AF) of its Standard Production Allocation within the Seaside Groundwater Basin to California American Water Company for the Water Year ending 2017 applied to Water Year 2017. This transfer of water allocation was the second assignment of water pursuant to MPWMD Ordinance No. 166 and the Front-Loading Agreement between D.B.O and California American Water Company. A copy of this document is contained in Attachment 10.

A Status Conference with the Court was held on March 17, 2017. The transcript of the Status Conference Hearing is available for viewing on the Watermaster web site at <http://www.seasidebasinwatermaster.org/> under Postings and Records on the March 17, 2017 date line in the Court Docs column.

During WY 2017 the Watermaster Board did not make any revisions to its *Rules and Regulations*. However, the mailing address for the Watermaster changed to: Seaside Basin Watermaster, P.O. Box 51502, Pacific Grove, CA 93950.

During WY 2017 the Watermaster Board was comprised of the following Members and Alternates:

<u>MEMBER</u>	<u>ALTERNATE</u>	<u>REPRESENTING</u>
Director Paul Bruno	N/A	Coastal Subarea Landowner
Eric Sabolsice	Nina Miller	California American Water
Director Bob Costa	N/A	Laguna Seca Subarea Landowner
Director Jeanne Byrne	Andrew Clarke	MPWMD
Mayor Maryann Carbone	Todd Bodem	City of Sand City
Supervisor Mary Adams	Jane Parker	Monterey County (MCWRA)
Mayor Jerry Edelen	Kristin Clark	City of Del Rey Oaks
Councilmember Dan Albert	Mayor Clyde Roberson	City of Monterey
Mayor Ralph Rubio	Dennis Alexander	City of Seaside

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

The CAW/MPWMD ASR Program operated in WY 2017 and accordingly 2,345.19 acre-feet of water was injected into the Basin as Stored Water Credits and 1,501.33 acre-feet was extracted.

F. Violations of the Decision and Any Corrective Actions Taken

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

The Watermaster made a declaration regarding the availability of Artificial Replenishment for WY 2018 at its Board meeting of December 6, 2017. A copy of this declaration is contained in Attachment 2. In WY 2017 the Watermaster continued the previously implemented 10% water production reductions required under Section III.B.2 of the Decision. No additional water production reductions were implemented in WY 2017.

Total pumping for WY 2017 did not exceed the Operating Yield (OY) of the Basin and exceeded the Natural Safe Yield (NSY) of the Basin by 49.34 acre-feet.

California American Water reported annual pumping quantities that exceeded their Standard Production NSY allocation by 64.40 acre-feet, and reported annual pumping quantities that did not exceed their Operating Yield allocation. The Watermaster will assess California American Water a Replenishment Assessment for this over production, as further described in Section H, below.

The City of Seaside reported annual pumping quantities that exceeded their Standard Production NSY allocation by 30.47 acre-feet, and reported annual pumping quantities that exceeded their Operating Yield allocation by 3.35 acre-feet. The City of Seaside did not exceed its Alternative Production NSY. The Watermaster will assess the City of Seaside a Replenishment Assessment for these over productions, as further described in Section H, below.

G. Watermaster Administrative Costs

The total estimated Administrative costs through the end of Fiscal Year 2017 amounted to \$82,000 including a \$25,000 dedicated reserve. Costs include the Administrative Officer salary and legal counsel fees. The “Fiscal Year 2017 Administrative Fund Report” is provided as Attachment 3.

H. Replenishment Assessments

At its meeting of October 4, 2017 the Watermaster Board determined that the Replenishment Assessment unit cost of \$2,872 per acre-foot should remain the same as the previous year for WY 2018

Alternative and Standard Producers report their production amounts from the Basin to the Watermaster on a quarterly basis. Based upon the reported production for WY 2017, California American Water’s Replenishment Assessment for Overproduction in excess of its share of the Natural Safe Yield is \$184,957.11, and no overproduction in excess of its share of the Operating Yield.

The City of Seaside’s Replenishment Assessment for its Municipal System for Overproduction in excess of its share of the Natural Safe Yield is \$87,511.62, and for overproduction in excess of its share of the Operating Yield is \$2,408.69. The City of Seaside did not exceed its Alternative Production Allocation for its Golf Course System production. A summary of the calculations for Replenishment Assessments for WY 2017 is contained in Attachment 5.

I. All Components of the Watermaster Budget

The Watermaster budget has four separate funds: Administrative Fund; Monitoring & Management–Operations; Monitoring and Management–Capital Fund and; Replenishment Fund. Copies of the budgets for Fiscal Year 2018 are contained in Attachment 6.

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

J. Water Quality Monitoring and Basin Management

Water Quality Analytical Results

Groundwater quality data continued to be collected and analyzed on a quarterly basis during WY 2017 from the enhanced network of monitoring wells. The low-flow sampling method implemented in 2009 continued to be used in 2017 and is expected to continue to be used in the future to improve the efficiency of sample collection. As discussed in the 2013 Annual Report, the Watermaster reduced the frequency of water quality sampling at SBWM-MW5 to once every 3 years.

No modifications to the quarterly data collection frequency from the enhanced network of monitoring wells were made during WY 2017.

Up until WY 2010 quarterly geophysical (induction) logging was performed at the four coastal Watermaster Sentinel wells that were installed in 2007. The induction logging results showed very little variations and trends were steady since that monitoring began, indicating that the coastal water quality conditions were not changing at this sample frequency. Therefore, beginning in WY 2010 the Court approved reducing the induction logging frequency to semi-annually at these wells. Water samples from these wells continued to be collected on an annual basis during WY 2017.

The expanded water quality analyses begun in WY 2012 were continued in WY 2017. The Sentinel Wells will continue to be induction logged twice a year in WY 2018. However, beginning in WY 2018 water quality sampling will be discontinued in the Watermaster's Sentinel Wells located along the coast (wells SBWM-1, SBWM-2, SBWM-3, and SBWM-4). This is because these wells were constructed for induction logging, not for water quality sampling. Water quality samples have been collected from them in the past based on the expectation that those samples would be representative of the water quality in the aquifers in which these wells were completed. However, that water quality data has been found not to be useful because it is not representative of the water quality in the aquifers in which these wells were completed. The depth of the wells and the small (3-inch) diameter of the wells limit sampling techniques that can be applied cost-effectively to extract a representative sample. Information that led to this conclusion, and which justifies discontinuing water quality sampling in these wells, is contained in Attachment 13. Water quality sampling will be continued for the 3 most coastal MPWMD monitoring wells (MSC, PCA, and FO-09).

Copies of the sampling results are contained in the report in Attachment 7.

Management and Monitoring Program Work Plan

The Monitoring and Management Program (M&MP) 2018 Work Plan contained in Attachment 9 includes the types of basin management activities conducted in prior years as well as revisions approved by the Board at its October 4, 2017 meeting.

The major changes from the 2017 M&MP Work Plan are:

Tasks M.1.c, d, and e (Preparation for and Attendance at Meetings and Peer Review of Documents and Reports): Portions of the Requests for Service (RFSs) for general hydrogeologic consulting services have been allocated between these three tasks in the amounts anticipated to potentially be requested of HydroMetrics, Todd Groundwater (Gus Yates) and Martin Feeney for assistance. It is anticipated, with Technical Advisory Committee (TAC) and Board approval, to issue RFSs to each of these firms for general on-call/as-needed hydrogeologic consulting services in 2018 as follows:

HydroMetrics: \$11,000
Todd Groundwater: \$4,000
Martin Feeney: \$4,000
Total: \$19,000

These amounts are based on prior experience with these firms and what is believed likely to be a growing need for these types of services, especially as interface with the Groundwater Sustainability Agency for the Salinas Valley Basin begins.

In 2017 the amount budgeted for these three tasks was \$14,376. For 2018 the proposed amount is \$19,000. Mr. Yates and/or Mr. Feeney would only be called upon when an issue arises that the TAC or Board feels would benefit from their review or input.

Task I.2.a.1 (Conduct Ongoing Data Entry/ Database Maintenance/Enhancement): In 2017 the amount budgeted for this Task was \$13,452. The proposed scope of work for this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing their portion of this task has risen from \$112/hour to \$149/hour, so the amount proposed for 2018 is increased by \$3,552 to \$17,004. There was no increase in cost for the outside consultant that manages the Watermaster's website (where data from this task is posted), and that cost remained at \$200/month.

Task I.2.b.2 (Collect Monthly Water Levels): In 2017 the amount budgeted for this Task was \$7,192. The proposed scope of work for this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing this task has dropped from \$89/hour to \$62/hour, so the amount proposed for 2018 is reduced by \$3,466 to \$3,726.

Task I.2.b.3 (Collect Quarterly Water Quality Samples): In 2017 the total amount budgeted for this Task was \$55,520, comprised of \$29,834 for MPWMD and \$25,686 for Martin Feeney. The proposed scope of work for MPWMD for this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing their portion of this task has dropped from \$89/hour to \$62/hour, so the amount proposed for their portion of this work for 2018 is reduced by \$5,292 to \$24,542. The amount proposed for Martin Feeney's portion of this work in 2018 was increased by the \$900 additional lab cost of adding field blanks and duplicates to the Sentinel Well water quality sampling program, so the amount proposed for his portion of this work for 2018 was increased by \$900 to \$26,586. Therefore, the amount budgeted for 2018 was reduced by \$4,392 to \$51,128. This amount, and the associated scopes of work, were included in the Board-approved M&MP Operations Budget when it was approved in October 2017. However,

the subsequent decision to discontinue water quality sampling in the coastal Sentinel Wells under this Task beginning in WY 2018 (as discussed above) means that that portion of the work under this Task will not be performed, and the costs associated therewith will not be incurred.

Task I.2.b.6 (Reports): In 2017 the amount budgeted for this Task was \$2,688. The proposed scope of work for this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing their portion of this task has risen from \$112/hour to \$149/hour, so the amount proposed for 2018 is increased by \$888 to \$3,576.

Task I.2.b.7 (CASGEM Data Submittal for Watermaster's Voluntary Wells): In 2017 the amount budgeted for this Task was \$1,792. The proposed scope of work for this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing their portion of this task has risen from \$112/hour to \$149/hour, so the amount proposed for 2018 is increased by \$592 to \$2,384.

Task I.3.a.1 (Update the Existing Model): HydroMetrics proposed cost to update the existing Seaside Basin groundwater model is \$54,370, and this is the amount budgeted for this task in 2018. This amount reflects an increase in cost to address the items recommended in Gus Yate's peer review of HydroMetrics' proposal. Copies of documents with detailed background information on this Task were included in the agenda packet for the Budget and Finance Committee's September 19, 2017 meeting which is posted on the Watermaster's website at this link:

<http://www.seasidebasinwatermaster.org/Agenda.pdf/17%200919%20WM%20Budget%20&%20Finance%20Com%20mtg%20Agenda%20pkt.pdf>.

It is anticipated that the Watermaster will be reimbursed for 50% of the costs to perform this Task by MPWMD and Monterey One Water (formerly MRWPCA) whose projects intend to inject new sources of water into the Basin. Therefore, the net cost to the Watermaster for the work of this Task should only be \$27,185. No amount for this task was budgeted in 2017.

Task I.3.a.3 (Evaluate Replenishment Scenarios & Develop Answers to Basin Management Questions): In 2017 the amount budgeted for this Task was \$40,000. That was a placeholder amount in case the Board decided it wished to perform work of this type. Since the Model and BMAP will be updated under Tasks I.3.a.1 and I.3.c respectively, this Task would only be used if there were other issues the Board wished to evaluate and which were not covered in the updated BMAP. For this reason in 2018 it is proposed that this amount be reduced by \$20,000 to \$20,000.

Task I.3.c (Refine and/or Update the Basin Management Action Plan): In 2017 the amount budgeted for this Task was \$25,000. That was a placeholder amount in case the Board decided to perform this work. HydroMetrics' proposed cost to update the existing Basin Management Action Plan is \$45,260, and this is the amount proposed for this task in 2018. This amount includes the cost to address the items recommended in Gus Yate's peer

review of HydroMetrics' groundwater model updating proposal referred to in Task I.3.a.1. This is an increase of \$20,260 over the 2017 budget amount.

Task I.3.e (Seaside Basin Geochemical Model): This is a proposed new Task for 2018. There was no such task in the 2017 Work Plan. The Task would be performed by MPWMD's Consultant, Pueblo Water Resource, Inc. If necessary, HydroMetrics may also work on this task after the initial modeling results have been prepared and analyzed. A preliminary estimate of Pueblo Water Resource's cost for their portion of the work is \$50,000. A preliminary estimate of HydroMetrics' cost for their portion of the work, if that work is found to be necessary, is \$20,000 to \$40,000 depending on how many scenarios need to be run. The proposed budget amount to perform this Task is \$50,000, based on only performing the Pueblo Water Resources portion of the work. If the Board determines that the HydroMetrics portion of the work is necessary, the Board could fund that work from the Contingency line-item or in some other manner. It is anticipated that the Watermaster will be reimbursed for all of the costs to perform this Task by the three proponents of the projects that intend to inject new sources of water into the Basin. These are California American Water, MPWMD, and Monterey One Water (formerly MRWPCA). Therefore, there should be no net cost to the Watermaster for the work of this Task.

Task I.4.c (Annual Report- Seawater Intrusion Analysis): In 2017 the total amount budgeted for this Task was \$21,786, comprised of \$896 for MPWMD and \$20,890 for HydroMetrics. The proposed scope of MPWMD's portion of this task is unchanged from 2017, but the hourly rate for the MPWMD staff involved in performing their portion of this task has risen from \$112/hour to \$149/hour, so the amount proposed for 2018 is increased by \$296 to \$1,192. HydroMetrics' proposed cost to perform their portion of this Task is \$20,890. This does not include a new task proposed by HydroMetrics, which would be to perform statistical trend analyses of data from certain of the wells. If that task were included HydroMetrics' cost would be \$26,110. The TAC felt that a decision on whether or not to perform trend analyses should be made only if monitoring anomalies are encountered in 2018. If a decision was made to perform that work, it could be funded from the Contingency line-item. Therefore, the proposed budget shows no change in the cost for performing HydroMetrics' portion of this Task. Thus, overall there is an increase of only \$296 for this Task in 2018.

The proposed amount for the line-item titled "Contingency (not including Technical Program Manager)" is 10%, the same percentage that has been used in preceding years. The line item for the Technical Program Manager has been reduced by \$10,000, based on actual expenditures for this line-item in recent years.

The adopted Budget is \$113,636 higher than the 2017 Budget. It should be noted that the Watermaster's actual expenditures will be considerably less if there is cost-sharing with other entities for the work of Tasks I.3.a.1 and I.3.e.

No new monitoring wells are planned for installation in 2018. Consequently, no monies are budgeted in the M&MP Capital Budget for 2018.

Basin Management Database

Pertinent groundwater resource data obtained from a number of sources has been consolidated into the Watermaster's database to allow more efficient organization and data retrieval. No modifications or enhancements to the database are planned in FY 2018.

Enhanced Monitoring Well Network

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

Basin Management Action Plan (BMAP)

HydroMetrics LLC was hired by the Watermaster to prepare the BMAP which contains these Sections:

- Executive Summary
- The Background and Purpose of the Plan
- The State of the Basin
- Supplemental Water Supplies (long-term water supply solutions)
- Groundwater Management Actions (to be taken as interim measures while long-term supplies are being developed)
- Recommended Management Strategies
- References

The Final BMAP was approved by the Watermaster Board at its February 2009 meeting, and the Executive Summary from the BMAP was contained in Attachment 9 of the 2009 Annual Report. The complete document may be viewed and downloaded from the Watermaster's website at: <http://www.seasidebasinwatermaster.org/>.

Considerable additional data (8 years' worth) on groundwater quality and groundwater levels throughout the Basin have been collected since the BMAP was prepared. Drought conditions have also been experienced over the past four years, which has impacted aquifer recharge more than anticipated in 2009. Also, even though pumping in recent years has been below the required amounts required under the Decision, groundwater levels have continued to fall. This suggests that the Natural Safe Yield of 3,000 AFY in the Decision may be too high.

Integrating this new information into an updated BMAP will be beneficial and will provide a more complete understanding of the state of the basin. This information could also be used to refine the earlier findings, conclusions, and recommendations contained in the 2009 BMAP. An updated BMAP will provide improved knowledge of:

- The useable quantities of groundwater stored in the basin.

- The annual loss of storage in the basin due to overpumping. (The BMAP estimated this to be between 1,300 and 1,430 AFY).
- The Natural Safe Yield of the basin. (This is the quantity of water than can be extracted through pumping while achieving the first of the two objectives listed above. The Decision set this at an assumed value of 3,000 AFY).

Therefore, updating of the BMAP will be performed in FY 2018, as described above under Task I.3.c of the M&MP.

Seawater Intrusion Response Plan

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

The Final SIRP was approved by the Watermaster Board in 2009 and a summary of the Seawater Intrusion Contingency Actions from the SIRP were contained in Attachment 10 of the 2009 Annual Report. The complete document may be viewed and downloaded from the Watermaster's website at: <http://www.seasidebasinwatermaster.org/>. No modifications to the SIRP are planned in 2018.

Seawater Intrusion Analysis Report

The SIAR examines the "health" of the Basin with regard to whether or not there are any indications that seawater intrusion is either occurring or is imminent. Previous SIARs have stated that depressed groundwater levels, continued pumping in excess of recharge and fresh water inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin. However, as reported in the 2016 Annual Report, in 2016 for the first time there was conflicting data from two of the Watermaster's Sentinel Wells. Some of the data were suggestive of the possible initial onset of seawater intrusion, while other data indicated seawater intrusion was not occurring. At the time of submittal of the 2016 Annual Report, because of the conflicting data no conclusions with regard to the initial onset of seawater intrusion could be drawn.

Verification resampling, one of the recommendations contained in the 2016 SIAR, was undertaken in order to reach a conclusion. Specifically, the recommendation was to perform verification water quality sampling and analysis for Sentinel Well SBWM-2, Sentinel Well SBWM-4, and the Ord Terrace Shallow Monitoring Well. This work was performed in December 2016. A Technical Memorandum prepared by HydroMetrics describing the work and containing an analysis of the data is contained in Attachment 11. The principle conclusion from the analysis was that none of the samples definitively indicated incipient seawater intrusion. However, variations in groundwater quality from samples collected during 2016 from wells SBWM-1 and SBWM-4 necessitate continued vigilance regarding potential changes to the Basin's groundwater quality. The Technical Memorandum contained seven recommendations, all of which were carried out in 2017.

One of these recommendations was to prepare a Work Plan to try to identify the source of fluctuating chloride concentrations. A proposed Work Plan was prepared by

HydroMetrics, and is contained in Attachment 12. After due consideration the Technical Advisory Committee and the Board of Directors determined that it would be appropriate to wait until the data from the late-2017 Sentinel Well induction logging, water quality sampling, and fluid resistivity logging events had been analyzed before making a decision on whether to proceed with the activities described in the Work Plan.

A Technical Memorandum prepared by Martin Feeney, one of the Watermaster's hydrogeologic consultants, describes the late-2017 Sentinel Well fluid resistivity logging event and is contained in Attachment 13. None of the data obtained from this logging indicated that seawater intrusion was occurring. The logging confirmed that the depth-specific water quality samples that are routinely collected during the sampling events are representative of the water in the casing at the specified depths. However, the quality of the water in the casing was found not be representative of the quality of the water in the aquifers in which these wells had been completed.

The Watermaster retained HydroMetrics LLC to prepare the WY 2017 Seawater Intrusion Analysis Report (SIAR) required by the M&MP. The WY 2017 SIAR provides an analysis of data collected during this Water Year.

The 2017 SIAR notes that although changes in chloride concentrations were found at some depths in some of the Sentinel Wells, the evaluation of the data from the sampling and monitoring program continues to indicate that seawater intrusion is not occurring. Because the water quality data being collected in the coastal Sentinel Wells has been found to not be representative of the water quality in the aquifers in which those wells are completed, the SIAR recommends that water quality sampling in those wells be discontinued, and that they be used only for induction logging, as was the original intent when those wells were constructed.

The SIAR is lengthy, but the full *Executive Summary Section* from it is provided in Attachment 8. A complete copy of the document is posted for viewing and downloading from the Watermaster's website at: <http://www.seasidebasinwatermaster.org/>. All recommendations contained in the SIAR are being or will be carried out and are included in the budgeted activities contained in Attachment 6 and described in Attachment 9.

The Watermaster continues to analyze the data that is being gathered at the various monitoring sites in order to keep a close watch on the conditions within the Basin, as discussed under the "Enhanced Monitoring Well Network" heading above. Because none of the data indicates the presence of seawater intrusion, the Watermaster does not at this time plan to move forward with the Work Plan described in Attachment 12. However, should future data warrant it, the Watermaster may reconsider undertaking the initial phase of the Work Plan.

Groundwater Modeling

During FY 2009 the previous Groundwater Model of the Basin was updated, and a separate Groundwater Model was developed to determine protective water levels within the Basin. The modeling work was performed by HydroMetrics LLC. This Model development work was described in the 2009 Annual Report.

Updating and Evaluating the Accuracy of the Groundwater Model

Evaluating the accuracy of the Groundwater Model was performed in 2015 and is reported on in the 2015 Annual Report. The Model was updated by incorporating more recent data several years ago, but at that time it was not recalibrated because it was felt that the groundwater levels predicted by the Model satisfactorily corresponded to field measured groundwater levels. However, in some parts of the Basin it was found that the Model results were beginning to diverge from the field measured results, and therefore recalibration would be desirable. Further, even though pumping in recent years has been close to or even below the Natural Safe Yield (NSY) amount of 3,000 AFY authorized in the Decision, groundwater levels have continued to fall. This suggests that the NSY in the Decision may be too high. An updated value for NSY is needed in order to make proper Basin management decisions to prevent seawater intrusion and continued declines in water levels from occurring. An updated Model would be needed to develop an updated NSY value.

Also, in late 2017 the Watermaster began interacting with the new Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) by being selected for membership on its Advisory Committee. Once the SVBGSA has advanced to the point of hiring their consultants to start developing their Groundwater Sustainability Plan (GSP), the Watermaster will need to have up-to-date documents in order to work with the SVBGSA to jointly resolve the problem of declining water levels in the Laguna Seca and Corral de Tierra subareas.

Therefore, updating of the model will be performed in 2018, as described above under Task I.3.a.1 of the M&MP.

Coordination of Watermaster's Seaside Groundwater Model with Salinas River Basin Model

As reported in the 2015 Annual Report, in May 2015 the Monterey County Resource Management Agency convened a Technical Advisory Committee (TAC) to develop a new Salinas River Basin model, and asked the Watermaster to join their TAC for this work. The County asked for information regarding the Watermaster's model of the Seaside Basin to ensure that the Salinas River Basin model coordinates properly with the Watermaster's model, and the Watermaster provided its model to the County.

During 2017 Monterey County Water Resources performed the following activities on development of the new Salinas River Basin model, termed the Salinas Valley Integrated Hydraulic Model (SVIHM):

- Refined the approach for representing land use and crop rotational patterns within the model. This included discussion with stakeholders and agricultural experts in March. Efforts at refinement and review of possible supplemental land use data sources are ongoing.
- The Technical Advisory Committee met on March 14, 2017. Further meetings of the TAC have not been specified but may coincide with future SVIHM updates.

- Calibration of the historical SVIHM (SVIHM-2014), which covers the time period 1967 to 2014, was finalized in 2017. Initial results from the calibrated model were presented to the public at a joint meeting of the Board of Supervisors of Monterey County; Board of Supervisors of the Monterey County Water Resources Agency; and Board of Directors of the Monterey County Water Resources Agency on July 11, 2017.
- Began with initial steps for completing the 2015 and 2016 updates to the SVIHM.
- The USGS initiated, and is continuing, refinements to the Surface Water Operations module of MODFLOW-OWHM which – upon completion – will be incorporated into the SVIHM to allow for an operational version of the model. The operational, as opposed to historical, version of the SVIHM will be used to complete the future trends analysis that will be part of the final Basin Investigation report (estimated release in late 2019).

The Watermaster will continue to participate in the Technical Advisory Committee meetings for the development of the SVIHM in order to ensure that the SVIHM coordinates well with the Watermaster’s Seaside Basin model.

Sustainable Groundwater Management Act

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

At the State Level

In late 2016 DWR released the final 2016 modifications to California’s groundwater basin boundaries. Of the 54 requests for changes to basin boundaries, DWR approved 39, denied 12, and three were deemed incomplete. Most of the modifications were made to basins in the Central Valley and included refinements reflecting waterways, county lines and geologic information. The boundary modification request submitted by the Monterey Peninsula Water Management District (MPWMD) to remove some areas near Monterey from the Salinas Valley Groundwater Basin, and to recognize the boundaries of the Adjudicated Seaside Basin, was approved. These modifications are reflected in the basin boundary map that is now posted on the DWR website.

DWR has included new basin boundaries in its interim update of Bulletin 118, which came out in 2017. It includes the boundary of the Adjudicated Seaside Basin, as requested in the boundary modification request submitted in 2016 by the Monterey Peninsula Water Management District (MPWMD).

At the Monterey County level:

The County met the June 2017 DWR deadline for the establishment of GSAs by filing its Notification with DWR to become the GSA for all of the portions of the Salinas Valley Basin that do not lie within the Arbitrated Seaside Basin. However, Marina Coast Water District (MCWD) also filed a Notification with DWR that it wished to serve as the GSA

for the portion of the Salinas Valley Groundwater Basin that lies within their service area, and which does not lie within the Adjudicated Seaside Basin. Two other agencies in southern Monterey County also filed Notifications seeking to be the GSA for their portions of the Salinas Valley Basin. As of the date of preparation of this 2017 Annual Report those entities were still discussing how to resolve these conflicts. However, in spite of these as-yet unresolved conflicts, the County created the SVBGSA and is moving ahead with development of a GSP.

As noted above the SVBGSA approved the Watermaster's application for membership on its Advisory Committee. This will ensure that there is close coordination between that agency and the Watermaster on matters of mutual interest.

K. Updates to the Court

This is a new Section added to the Annual Report beginning with the 2018 Annual Report, to provide a section to respond to the Court on issues it has requested being updated upon, and to raise issues the Watermaster wishes the Court to be aware of that do not readily fit into any of the other sections.

November 26, 2017 email from Judge (Ret) Leslie C. Nichols to Russell McGlothlin

With regard to the questions that were responded to in the Watermaster's response to the Court dated March 13, 2017, Judge Nichols asked for updates if there have been any further developments which are more current in response to those questions.

The following are updates to certain of the issues addressed in the March 13 response:

1. Water Conservation. From a water conservation standpoint customers of Cal-Am are doing an exceptional job. Cal Am's Monterey system has one of the highest levels of voluntary conservation in the state. There has essentially been no back-off in conservation following the end of mandatory conservation that occurred after the wet winter of 2016-2017.
2. Storm Water and Recycled Water. Storm water and recycled water are both components of the Pure Water Monterey (PWM) project that is being implemented by Monterey One Water (formerly Monterey Regional Water Pollution Control Agency). Cal-Am has already contracted to receive 3,500 AFY of PWM recycled water for injection into, and recovery from, the Seaside Basin by Cal-Am. Monterey One Water, in coordination with others, is looking at potential to expand the delivery capacity of the PWM project by using additional sources of recycled water and storm water.
3. Sustainable Groundwater Management Act. Coordination between the Watermaster and the Salinas Valley Groundwater Basin Sustainability Agency is ongoing and is discussed in more detail under Section J of this Annual Report. That coordination will aid in groundwater management of the Laguna Seca and Corral de Tierra subareas.
4. Climate Change. Higher seawater levels could exacerbate seawater intrusion concerns, which punctuates the importance of monitoring and long-term management to avoid seawater intrusion. From a water supply perspective, reliance on groundwater with sustainable management is ideal because the

resource is a reservoir and therefore not subject to sharp fluctuations in availability resulting from year-to-year precipitation amounts as is the case with surface water supplies. Updating of the Watermaster's Groundwater Model and Basin Management Action Plan in 2018 (discussed in Section xx) will incorporate impacts from climate change and sea level rise.

Other Topics

1. Seaside Basin Groundwater Levels and Seawater Intrusion Monitoring. Changes in groundwater levels in the Coastal and Laguna Seca Subareas are discussed in the Seawater Intrusion Analysis Report (Section J and Attachment 8). Seawater intrusion monitoring is also described in Section J and Attachment 8.
2. Rampdown in Pumping and Compliance with the Judgement. This is discussed in Sections A and F of this Annual Report.
3. Status of the Monterey Peninsula Water Supply Project (MPWSP). Implementation of the MPWSP is being vigorously pursued by Cal Am, and much progress has been made since the March 13 response. Construction work for the project's first major piece of infrastructure, the Monterey Pipeline, is progressing steadily. The pipeline will carry treated water from the PWM recycled water project in Marina to Cal Am customers throughout the Peninsula and will eventually connect Cal Am's Monterey distribution system to the desalination facility. The pipeline extends about 7 miles from the City of Seaside to the City of Pacific Grove. The PWM and ASR components of the MPWSP are currently projected to become operational in 2019, and the desalination component is currently projected to become operational in 2021. Detailed quarterly update reports on the MPWSP are posted on the MPWSP website at <https://www.watersupplyproject.org>.
4. Potential Replenishment of the Basin with Water Purchased from Marina Coast Water District (MCWD). In late 2017 the Watermaster received a letter from MCWD proposing to sell water to the Watermaster for purposes of replenishing the Seaside Basin. The Watermaster Board and its Technical Advisory Committee are studying the proposal. An update on this will be provided in the March 2018 Status Conference with the Court.
5. Articles from the *Standford News* on Technical Issues Potentially of Interest to the Watermaster. Watermaster staff reviewed the articles Judge Nichols cited in his November 26, 2017 email to Mr. McGlothlin. The applicable technical issues discussed in those articles are being addressed and/or incorporated into the design of the MRSWP, and in the Watermaster's studies and modeling.

Request to Change Due Date for Annual Reports

Again this year (as has been the case every year since water quality monitoring was begun under the Monitoring and Management Program), as of the date of preparation of this Draft 2017 Annual Report the Watermaster's consultants were still waiting for some of the water quality data from the laboratory. This problem became exacerbated in 2017 as a result of changing the second set of annual sampling dates from July to September, as recommended in the HydroMetrics report contained in Attachment 11. As a result, the consultants cannot finalize their reports in time to have them presented in final form to

the Watermaster's Technical Advisory Committee (TAC) and Board of Directors in time to meet the current deadline of December 15 to submit the annual report.

The Watermaster requests that the Court revise the deadline for submittal to January 15, to allow sufficient time for the consultants to finalize their reports and have them reviewed by the TAC and Board prior to finalizing and submitting the annual report.

L. Conclusions and Recommendations

The Seaside Basin Watermaster Board has worked diligently to meet all of the Court's established deadline dates. All of the Phase 1 Scope of Work activities, which are described in the "Implementation Plan for the Seaside Basin Monitoring and Management Program" dated March 7, 2007, have been completed. At the Watermaster Board meeting held on October 4, 2017 the Board adopted the FY 2018 budgets contained in Attachment 6, which support carrying out all elements of the "Seaside Groundwater Basin Monitoring and Management Program 2018 Work Plan." That Work Plan describes the M&MP activities that will be conducted during Fiscal Year 2018. A copy of this Work Plan is contained in Attachment 9.

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

Because it is not possible to obtain all of the water quality and water level data from the September monitoring event in time to prepare a complete Annual Report in time to submit it to the Board for its approval at its December meeting, the Watermaster proposes to submit its Annual Reports not later than January 15 of each year following the end of each Water Year. This will ensure that all monitoring data can be included and accounted for in the annual SIAR and other reports that comprise part of these Annual Reports.

The Watermaster has scheduled another status conference with the Court on March 30, 2018 to provide an update on certain of the Watermaster's activities.

LISTING OF ACRONYMS USED IN THIS ANNUAL REPORT

AF - acre-feet

ASR - Seaside Basin Aquifer Storage and Recovery program

BLM - Bureau of Land Management

BMAP - Basin Management Action Plan

CASGEM - California Statewide Groundwater Elevation Monitoring

CAW - California American Water

Decision - Superior Court Decision rendered by Judge Roger D. Randall on March 27, 2006

DWR - California State Department of Water Resources

GSA - Groundwater Sustainability Agency

GSP - Groundwater Sustainability Plan

LSSA - Laguna Seca Subarea

MCWD - Marina Coast Water District

MPWMD - Monterey Peninsula Water Management District

M&MP - Monitoring and Management Program

NSY - Natural Safe Yield

SGMA - Sustainable Groundwater Management Act

SIAR - Seawater Intrusion Analysis Report

SIRP - Seawater Intrusion Response

SVBGSA - Salinas Valley Basin Groundwater Sustainability Agency

TAC - Technical Advisory Committee

USGS - United States Geological Survey

WY - Water Year

**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: December 6, 2017

SUBJECT: Letter from MCWD Proposing to Sell Water to Replenish the Seaside Basin for Use in the Ord Community

RECOMMENDATIONS:

Provide direction to Staff regarding obtaining clarification of issues in the proposal letter.

BACKGROUND:

The Watermaster received the attached letter from the Marina Coast Water District (MCWD) proposing to sell water to the Watermaster to help replenish the Seaside Basin. The water would be limited to use within the Ord Community portion of the former Fort Ord.

DISCUSSION

Following discussions with the Cal Am representatives on the TAC and the Board, I asked the TAC to review the MCWD letter in order to identify issues that the Board might wish to have clarified before the Board considers the proposal.

The following are issues that the TAC believes should be clarified:

- In paragraph 1 the letter states in part “...Nothing in this offer...restricts MCWD's or the Watermaster's discretion with respect to any activity or project developed in accordance with this offer, including MCWD's consideration of any alternatives and mitigation measures for such activities or projects.” What types of activities or projects might MCWD undertake that would affect the delivery of water under the proposal? What types of alternatives or mitigation measures might be undertaken by MCWD, and how would they affect delivery of water?
- In paragraph 1 of page 1 the letter states in part that MCWD intends that CEQA, and all other applicable environmental compliance laws, will be fully complied with prior to any binding decisions with respect to the water sale. What issues associated with the proposal would need to be addressed in the CEQA process, or in complying with applicable environmental compliance laws? How time-consuming and difficult would it be to achieve compliance with these requirements?
- The figure attached to the letter needs to be updated to reflect the basin boundary revisions made by DWR in its Bulletin 118 to show the Adjudicated Seaside Basin.
- In paragraph 2 of page 1 the letter states in part that MCWD has excess groundwater allocations for existing and projected near term demands and is willing to explore synergistic arrangements

with the Watermaster. Is there really “excess” groundwater in the Salinas Valley Groundwater Basin from which MCWD draws its water? (That Basin is experiencing seawater intrusion from overpumping). What are these allocations? How are they determined? How long do they last? Who administers/regulates these allocations? Can the administering/regulating authority change the allocations or are they fixed and guaranteed?

- Is the groundwater that MCWD proposes to sell of potable quality as-is, or would treatment be required before it could be used or injected into the Seaside Basin?
 - If the water were to be injected into the basin for replenishment purposes how and where would it be injected?
- In paragraph 2 of page 2 the letter states that MCWD would provide 4,300 AF over a six-year period. If 700 AFY were provided this would total 4,200 AF, not 4,300 AF.
- In paragraph 4 of page 2 the letter states in part that the water provided by MCWD would replace Cal Am's need to use 700 AFY of MPWSP desalinated water to payback the Watermaster during at least the term of this sale. Why would Cal Am want to do that, since Cal Am would still have the obligation, under its Agreement with the Watermaster, to repay 700 AFY? How would doing this benefit the Seaside Basin?
- In paragraph 5 of page 2 the letter states in part that “...none of the water from this sale may be directly used outside of MCWD's Ord Community service area...” MCWD provides the water supply to that area. There are currently no delivery pipelines connecting Seaside Basin producers with that area, and MCWD has no wells in the Seaside Basin. How could the water be provided to the Watermaster in such a manner that it would only be delivered into that area?
- In paragraph 5 of page 2 the letter also states that the sale of this water would need the approval of the CPUC and the SWRCB. What issues would those parties be concerned about which might affect their willingness to grant their approvals? How long would it take to get those approvals? Would the Watermaster incur any expenses associated with getting them?
- In paragraph 5 of page 2 the letter also states that if the CPUC authorized Cal Am to acquire this water then Cal Am would have to submit to the SWRCB a revised set of milestones that would take this water into account. Would Cal Am want to do this?
- In paragraph 2 of page 3 the letter lists three conditions of the sale.
 - The first condition calls for the water to be sold to the Watermaster. Where would the money come from to purchase the water?
 - The second condition sets a price of \$2,872 per AF which is the Watermaster's Replenishment Assessment unit price. That unit price was developed by the Watermaster through a volume-weighted blending of estimated water costs from several potential water supply projects. The Watermaster's intent in purchasing any water for replenishment would be to acquire it at the lowest possible cost, which would presumably be no more than the supplier's cost to provide the water. MCWD's cost to supply the water would likely be much lower than \$2,782/AF.

- The third condition prohibits the use of any of this water on the Peninsula. Thus, while the water could be of potential benefit to the Basin, it would not benefit Cal Am in fulfilling its water supply obligations. Given this, would Cal Am be interested in accepting the offer?
- Would the Watermaster incur any costs, other than to purchase the water, if it accepted MCWD's offer?

The Board is invited to add to this list any other issues it feels warrant clarification, and to provide further direction to Staff.

ATTACHMENT:

MCWD Letter Dated September 27, 2017



MARINA COAST WATER DISTRICT

11 RESERVATION ROAD, MARINA, CA 93933-2099
Home Page: www.mcwd.org
TEL: (831) 384-6131 FAX: (831) 883-5995

DIRECTORS

HOWARD GUSTAFSON
President

THOMAS P. MOORE
Vice President

WILLIAM Y. LEE
JAN SHRINER
HERBERT CORTEZ

September 27, 2017

Board of Directors
Seaside Groundwater Basin Watermaster
PO Box 51502
Pacific Grove, CA 93950

Re: Offer to Sell 700 AFY of MCWD's Existing Potable Groundwater as Seaside Basin Replenishment Water starting in Water Year 2018 for use within the Ord Community portion of the Seaside Basin

Dear Board of Directors:

Nothing in this offer or any other agreement between the Marina Coast Water District (MCWD) and the Seaside Groundwater Basin Watermaster (Watermaster): (a) commits either Party to any particular decision regarding the proposed water sale; (b) confers any vested rights on either Party; or (c) restricts MCWD's or the Watermaster's discretion with respect to any activity or project developed in accordance with this offer, including MCWD's consideration of any alternatives and mitigation measures for such activities or projects. In addition, MCWD intends that CEQA, and all other applicable environmental compliance laws, will be fully complied with prior to any binding decisions with respect to the water sale. (See *Save Tara v. City of Los Angeles* (2008) 45 Cal. 4th 116.)

A significant portion of the Seaside Basin is within MCWD's Ord Community service area. See enclosed map. MCWD's Central Marina service area and the rest of the Ord Community service area are located predominantly within the adjoining Monterey Subbasin. We have a mutual interest in achieving groundwater sustainability within both subbasins. Much of the Seaside Basin's groundwater is exported to the Monterey Peninsula. However, the amount of allowable Seaside Basin groundwater pumping will be significantly reduced through Triennial Rampdowns starting in 2018 as prescribed in the Amended Seaside Basin Adjudication Decision unless outside water resources are obtained. In the interim, MCWD has excess groundwater allocations for existing and projected near term demands and is willing to explore synergistic arrangements with the Watermaster.

The MCWRA Act (Agency Act) exempts from the Act's export prohibition groundwater extracted from the Salinas Valley Groundwater Basin (SVGB) but used within the boundaries of Fort Ord, now MCWD's Ord Community, within the Seaside Basin.

As detailed below, MCWD is proposing an interim sale of 700 AFY of its excess groundwater to the Watermaster. This sale would provide at the least the following benefits to the Watermaster:

First, it provides Replenishment Water to the Watermaster and could prevent the Triennial Rampdown in Seaside Basin Pumping pursuant to Section III.B.2, page 18 of the Amended Seaside Basin Adjudication Decision. The Court may grant relief from the triennial rampdown if

“a. The Watermaster has secured and is adding an equivalent amount of Non-Native water to the Basin on an annual basis; or

“b. The Watermaster has secured reclaimed water in an equivalent amount and has contracted with one or more of the Producers to utilize said water in lieu of their Production Allocation, with the Producer agreeing to forego their right to claim a Stored Water Credit for such forbearance; or

“a. (sic) Any combination of a and b which results in the decrease in Production of Native Water required by this decision.”

This sale would satisfy Section III.B.2a by providing 4,300 AF over the six-year period 2018 through 2023 and, therefore, could provide relief from the two triennial rampdowns projected to begin in 2018 and in 2021.

On pages 20-21 of his 2016 Report to the Court, Watermaster attorney Russ McGlothlin suggested to the Court that the sale of 2,500 AF of potable water from MCWD to the City of Seaside should be considered as a reasonable basis to postpone the 2018-2021 rampdown because the 2,500 AF is greater than the three-year rampdown total of 1,600 AF (560 AF x 3 years). However, Mr. McGlothlin admitted that the above language from the Amended Decision requires the Watermaster, and not any of the Producers (e.g., City of Seaside), to buy the additional water. In his 2017 Report to the Court, Mr. McGlothlin referred back to this 2016 discussion.

Second, this sale would replace CalAm’s need to use 700 AFY of MPWSP desalinated water to payback the Watermaster during at least the term of this sale. The Watermaster has entered into an agreement with CalAm for CalAm to replenish its over-pumping of the Seaside Basin by repaying 700 AFY for 25 years (plus) from the proposed MPWSP if and when the project becomes operational. This is the MPWSP DEIR/EIS Primary Project Objective #3.

Third, while none of the water from this sale may be directly used outside of MCWD’s Ord Community service area, this sale may indirectly contribute toward preventing the SWRCB from reducing CalAm’s authorized Carmel river diversion limit because of missed CDO milestone deadlines. This sale would need the approval of the CPUC. A preliminary and then final filing once approved by the CPUC would need to be made with the SWRCB by CalAm pursuant to Footnote 17, page 20, of SWRCB Order WR 2016-0016 (July 19, 2016), which states:

If at any point prior to completion of the facilities listed in these Milestones the CPUC authorizes Cal-Am to acquire more than 1,000 afa of water from an alternative source, then the following shall occur. Cal-Am shall submit to the [SWRCB] Executive Director within 60 days a revised set of milestones taking this water supply source into account. If the proponents of the alternative project are unable to reach concurrence with Cal-Am on revised milestones to propose, the proponents may also submit revised milestones within that time period. The Executive Director shall determine whether to bring forward a recommendation to the State Water Board regarding amendment of the milestones.

For example, the SWRCB's Cease and Desist Order (CDO) Milestone Deadline for the issuance of a Certificate of Public Convenience and Necessity to Construct the MPWMD by the CPUC is September 30, 2018. If this sale is implemented during 2018 and prevents the Triennial Rampdown from occurring in 2018, then the Watermaster would not need to curtail CalAm's Seaside Basin pumping, which has the same effect as obtaining 700 AFY from an alternative source.

MCWD's offer is as follows:

1. Sell to the Watermaster 700 AFY of MCWD's potable well water as Replenishment Water during Calendar Years 2018 through 2023 – six years. From and after January 1, 2020, the Parties may extend the term of this agreement by mutual agreement.

2. The price for this water would be at the Watermaster's Water Year 2016/2017 Over Production Replenishment Assessment Rate of \$2,872 per AF. The price per AF shall be adjusted annually based upon the then Over Production Replenishment Assessment Rate, but in no case shall the price per AF be less than \$2,872 per AF.

3. Because of the Agency Act's export prohibition exemption for the Ord Community, any groundwater sold must only be used within that portion of the Ord Community within the Seaside Basin. Since this water must be used within the former Fort Ord within the Seaside Basin, none of this water can be sold for use on the Peninsula.

I am available to make a formal presentation of this offer to the Board of Directors. Please don't hesitate to contact me if you have any questions or need any additional information.

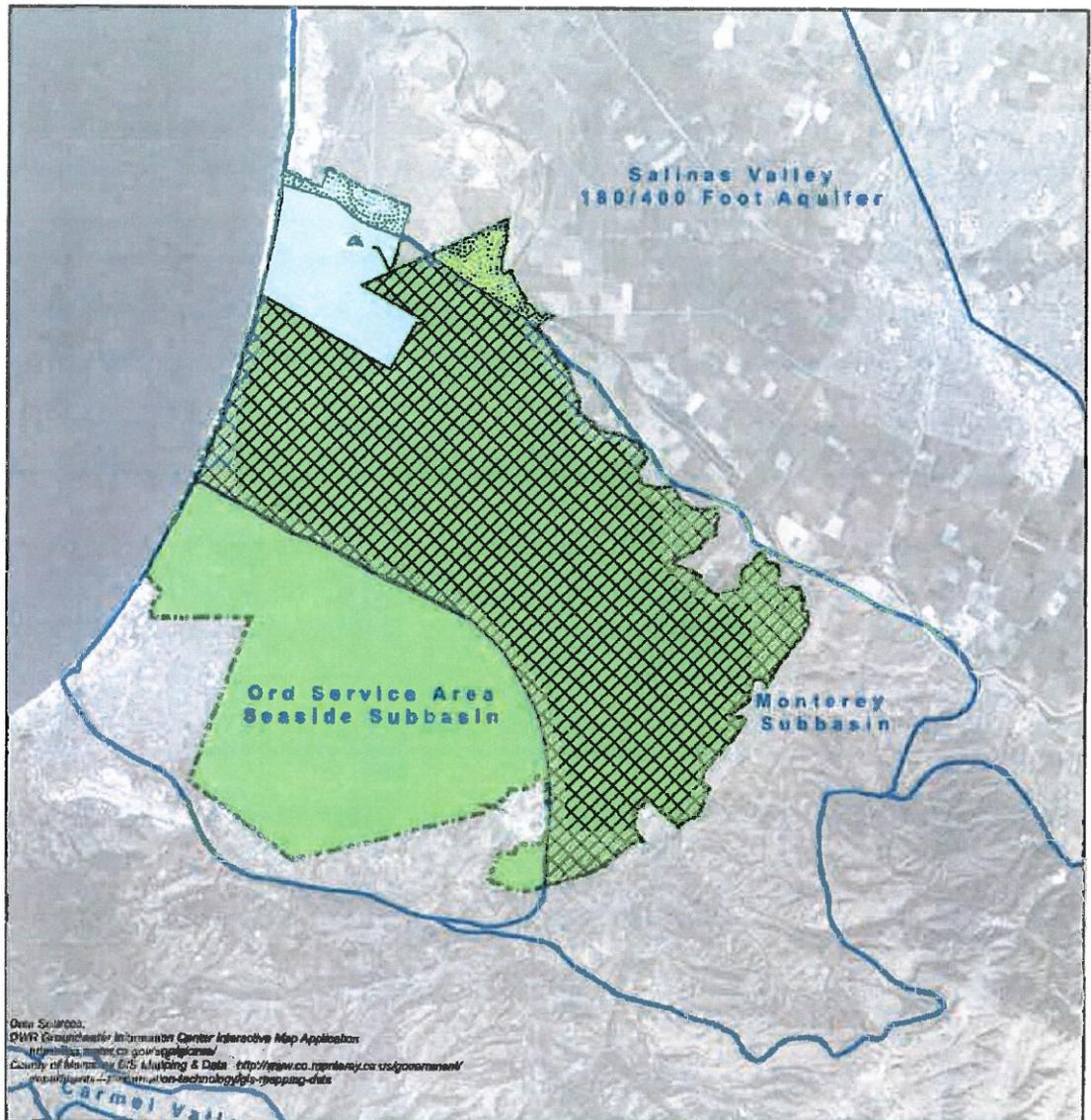
Very truly yours,



Keith Van Der Maaten
General Manager

Enclosure – Map

cc: Board of Directors, Marina Coast Water District



MCWD GSA Map - Salinas Valley Aquifer

	Central Marina Service Area-180/400 Foot Aquifer Subbasin	 1 inch = 2 miles Map Date: July 2017
	Ord Community Service Area-180/400 Foot Aquifer Subbasin	
	Central Marina Service Area-Monterey Subbasin	
	Ord Community Service Area	
	Ord Community Service Area-Monterey Subbasin	
	Bulletin 118 Groundwater Basin boundary	

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D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
November 15, 2017**

Attendees: TAC Members
City of Seaside – No Representative
California American Water – Nina Miller
City of Monterey – Laurie Williamson (via telephone)
Laguna Seca Property Owners –Bob Costa
MPWMD – Larry Hampson
MCWRA – Tamara Voss
City of Del Rey Oaks – No Representative
City of Sand City – Leon Gomez (via telephone)
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager - Robert Jaques

Consultants
HydroMetrics – Georgina King (via telephone)
Martin Feeney – Martin Feeney (via telephone)

Others
California American Water – Eric Sabolsice (via telephone)

The meeting was convened at 1:37 p.m. after a quorum had been established.

1. Public Comments

There were no public comments. Nina Miller asked if an expenses-to-date summary document could be sent to her, as she had requested at the last TAC meeting. Mr. Jaques said he would have Ms. Dadiw send that to her.

Some of the TAC members participating via telephone reported hearing noise on the conference line. Mr. Jaques briefly hung up the conference line and then redialed it. Those members then rejoined the meeting by dialing in, and reported that the noise problem had been resolved.

2. Administrative Matters:

A. Approve Minutes from the September 13, 2017 Meeting

On a motion by Ms. Voss, seconded by Mr. Gomez, the minutes from this meeting were unanimously approved as presented, with Mr. Hampson abstaining.

B. Sustainable Groundwater Management Act (SGMA) Update

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

C. Sustainable Groundwater Management Act (SGMA) Update

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

D. Letter from MCWD Proposing to Sell Water to Replenish the Seaside Basin for Use in the Ord Community

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

Ms. Miller said she concurred with many of the questions listed in the agenda packet.

Ms. Voss asked if the Seaside Basin needed water. Mr. Jaques responded yes, and explained that in some parts of the basin, especially near the coastline, groundwater levels are below sea level, thus making the basin vulnerable to seawater intrusion. She said she felt the Watermaster should investigate all potential supplemental water supply sources to help alleviate that problem. She noted that if 700 acre-feet of water was delivered per year at a cost of \$2,782 per acre foot, the annual cost would be nearly \$2,000,000. She questioned whether there was really “excess groundwater” in the Salinas Valley Groundwater Basin for MCWD to sell to the Watermaster, since that basin itself is over drafted and experiencing seawater intrusion. She also noted that the Salinas Valley Groundwater Basin and the Seaside Basin are hydrogeologically interconnected. She said she was not sure if the MCWD proposal was consistent with the MCWRA’s Act which prohibits exporting water from the Salinas Valley Groundwater Basin.

Mr. Feeney commented that MCWD is apparently proposing to sell a portion of its Salinas Valley Basin allocation from their 1995 Agreement with Monterey County, which gives them 1,500 acre-feet per year from the deep aquifer as their water allocation. He felt the MCWD proposal appeared to be for legal purposes.

Mr. Sabolsice noted that the MCWD letter was sent on September 27. He went on to say that Keith Van Der Maaten had submitted testimony at the Public Utilities Commission meeting about selling water to help reduce the size of the Cal Am desalination plant. He said he felt the proposal “clouds the issue” of the sizing of the desalination plant. He reported that the MCWD attorneys said the Seaside Basin is part of the Salinas Valley Groundwater Basin, and therefore not subject to the MCWRA Act that prohibits exporting water from that basin. He felt the timing and intent of the letter was suspicious, and that the questions in the agenda packet need to be answered, so the Board can give the proposal informed consideration.

Ms. Miller commented that it probably only costs MCWD about \$150 per acre foot to produce water from its wells.

Mr. Hampson commented that MCW D would need a plan for any water quality problems that might arise as a result of using their water in the Seaside Basin. He also felt that MCWD should not be allowed to make a profit from the sale of the water.

There was concurrence on forwarding the list of questions contained in the agenda packet to the Board for their consideration.

E. Monterey Peninsula Stormwater Resource Plan

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

3. Discuss Data Obtained from Conductivity and Temperature Profiling of the Sentinel Wells

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

Mr. Feeney said that the conductivity profiling shows that the water quality samples we have been collecting are representative of the water in the casing, but this is not the same as the quality of the water in the aquifers. He explained that the wells were designed to enable conductivity (induction) logging of the aquifers, and that, although water quality samples have been collected from within the casings of these wells, the wells were not designed for taking water quality samples.

Ms. Voss reiterated Mr. Feeney's comments about the design of the wells. She noted that the induction logging shows no appreciable change in water quality conductivity in the aquifers, and that there is no practical way to get water quality data from within the aquifer itself, only from within the casing. She noted that it would be difficult to pump out a 3-times casing volume prior to sample collection, as is often done for the collection of water quality samples within wells. She said it is not surprising that the water quality in the casing is not representative of water quality in the aquifers. She was not in favor of continuing to collect water quality data that is not useful or representative.

Ms. Miller asked if we should consider discontinuing taking water quality samples from these wells, and instead to rely on the induction logging information to indicate changes in water quality within the aquifers. Ms. Voss asked if the Court Decision requires that water quality sampling be done. Mr. Jaques responded that it was part of the Monitoring and Management Program Work Plan that the Watermaster developed, but that water quality sampling from the coastal Sentinel Wells is not specifically required by the Decision itself. He went on to explain that the original intent was to put in a cluster of wells at each site, with a separate well for each aquifer depth. However, the cost for cluster wells was about \$5,000,000 more than using the multi-perforated single wells. Therefore, cluster wells were installed for purposes of performing induction logging, not water quality sampling.

Ms. King said it was not feasible to isolate the perforations within these wells with packers, in order to draw aquifer water into the perforations for sampling purposes, due to the extreme depths of the perforations.

Mr. Jaques offered to prepare an agenda item to discuss the pros and cons of discontinuing water quality sampling for discussion at the TAC's next meeting.

4. Approve Initial RFSs for MPWMD, HydroMetrics, and Martin Feeney for 2018

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

Ms. Miller asked if we should take water quality sampling out of Martin Feeney's work for 2018. There was considerable discussion on this leading to the unanimous agreement to change Mr. Feeney's scope of work to discontinue water quality sampling in 2018 in the coastal Sentinel Wells.

A motion was made by Ms. Miller to make this change and to continue only induction logging of these coastal Sentinel Wells. The motion was seconded by Ms. Voss.

Under discussion of the motion, Mr. Costa noted that the original work plan included water quality sample collection from these wells. He commented that, if the results are of little value, does water quality sampling need to be replaced with some other data collection method. Ms. Voss noted that we have tried to come up with approaches to take representative water quality samples in these wells, and have been unable to come up with a better type of water quality sampling method to use in place of the current sample collection method.

Mr. Feeney offered that fluid resistivity profiling could be performed in place of water quality sampling. Ms. King said she did not feel this would add value, as that data would not be representative of water quality in the aquifers.

Ms. Voss said she did not feel the fluid resistivity profiling (conductivity profiling within the casing) would add information that we aren't already getting from the induction logging. She felt the water quality data from these wells was "confounding" the understanding of water quality in the aquifers, and was therefore not helpful.

The motion described above passed unanimously. Mr. Jaques will add this information into the annual report. However, he requested keeping the scope and cost for water quality sampling in Mr. Feeney's RFS for the time being, in order to await the Judge's approval of deleting that work after he has reviewed the annual report. If the Judge concurs with deleting the work, Mr. Jaques will direct Mr. Feeney to discontinue water quality sampling in those wells, so those costs would not be incurred.

On a motion by Ms. Voss, seconded by Ms. Williamson, there was unanimous approval, with Mr. Hampson abstaining, of all of the initial RFSs contained in the agenda packet.

5. Discuss and Provide Input on the Draft 2017 Seawater Intrusion Analysis Report (SIAR)

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

Ms. King said she would edit the Draft SIAR sections pertaining to chloride data, and would include a revised recommendation to discontinue water quality sampling in the coastal Sentinel Wells, consistent with the action taken by the TAC on the preceding agenda item. There was consensus in support of making these revisions, and no other revisions were requested.

6. Discuss and Provide Input on the Preliminary Draft Watermaster 2017 Annual Report

Mr. Jaques briefly summarized and highlighted some items contained in the Preliminary Draft Annual Report.

Ms. Miller asked if it would be necessary to revise the wording regarding water quality sampling of the coastal Sentinel Wells in Task I.2.b.3 of the Monitoring and Management Program Work Plan. Mr. Jaques said he would make those revisions.

Mr. Hampson noted that for next year's annual report, in addition to the Salinas Valley Integrated Hydrogeologic Model, there is also going to be a basin study that will be undertaken. Mr. Jaques said that when information on that becomes available he can include it in next year's annual report.

No other revisions to the Preliminary Draft Annual Report were suggested.

7. Set Next Meeting Date

The TAC concurred with having no meeting in December, and having its next meeting in January.

8. Schedule

Mr. Jaques commented that there were no significant changes in the schedule contained in the agenda packet, and that he would be preparing a new schedule for 2018 which will be included in the TAC's next meeting agenda packet.

9. Other Business

There was no other business to discuss.

The meeting adjourned at 3:05 p.m.

SEASIDE GROUNDWATER BASIN WATERMASTER
Reported Quarterly and Annual Water Production From the Seaside Groundwater Basin
For All Producers Included in the Seaside Basin Adjudication -- Water Year 2017
 (All Values in Acre-Feet [AF])

	Type	Oct	Nov	Dec	Oct-Dec 16	Jan	Feb	Mar	Jan-Mar 17	Apr	May	Jun	Apr-Jun 17	Jul	Aug	Sep	Jul-Sep 17	Reported Total	Yield Allocation	from WY 2016	for WY 2017	
Coastal Subareas																						
CAW - Coastal Subareas	SPA	242.09	158.00	282.71	682.80	209.26	141.81	137.75	488.82	127.71	184.33	51.29	363.33	78.44	57.62	59.42	195.48	1,730.43	2,254.40	430.99	2,685.39	
City of Seaside (Municipal)	SPA	16.03	16.47	17.47	49.98	15.41	12.20	13.37	40.98	14.29	16.66	15.65	46.59	17.28	17.54	15.93	50.76	188.31	184.96	0.00	184.96	
Granite Rock Company	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	0.00	17.45	235.32	252.77	
DBO Development No. 30	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	0.00	31.66	454.72	486.38	
Calabrese (Cypress Pacific Inv.)	SPA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.24	8.48	12.72	
City of Seaside (Golf Courses)	APA	18.59	0.53	0.29	19.42	0.42	0.33	12.84	13.59	29.64	75.76	84.06	189.46	85.45	66.85	64.59	216.90	439.36	540.00		540.00	
Sand City	APA	0.04	0.03	0.00	0.07	0.00	0.00	0.02	0.02	0.01	0.01	0.01	0.03	0.03	0.02	0.02	0.06	0.19	9.00		9.00	
SNG (Security National Guaranty)	APA	--	--	--		--	--	--		--	--	--		--	--	--	0.00	0.00	149.00		149.00	
Calabrese (Cypress Pacific Inv.)	APA	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.03	6.00		6.00	
Mission Memorial (Alderwoods)	APA	1.46	0.09	0.07	1.62	0.00	0.00	0.21	0.21	0.49	2.33	3.34	6.15	2.07	2.01	1.67	5.76	13.74	31.00		31.00	
Coastal Subareas Totals					753.88				543.63				605.58				468.97	2,372.06	3,227.70	1,129.51	4,357.21	
Laguna Seca Subarea																						
CAW - Laguna Seca Subarea	SPA	28.59	18.63	18.69	65.91	16.14	16.16	20.12	52.42	20.34	29.50	31.80	81.64	36.95	36.22	25.94	99.11	299.08	48.30		48.30	
Ryan Ranch Unit		5.18	3.88	3.36	12.42	3.13	2.90	4.58	10.61	4.26	5.35	5.16	14.77	5.10	4.83	5.91	15.84	53.64				
Hidden Hills Unit		11.62	7.08	7.91	26.61	6.81	6.63	8.58	22.02	7.88	11.29	13.23	32.40	16.51	16.53	6.68	39.72	120.75				
Bishop Unit		11.79	7.67	7.42	26.88	6.20	6.63	6.96	19.79	8.20	12.86	13.41	34.47	15.34	14.86	13.35	43.55	124.69				
Nicklaus Club Monterey	APA	17.00	0.00	0.00	17.00	2.00	0.00	0.00	2.00	0.00	18.00	30.00	48.00	25.00	40.00	23.00	88.00	155.00	251.00		251.00	
Laguna Seca Golf Resort (Bishop)	APA	16.71	0.00	0.00	16.71	2.07	4.48	0.00	6.55	4.73	35.37	38.94	79.04	37.82	27.75	25.58	91.15	193.46	320.00		320.00	
York School	APA	0.87	0.02	0.01	0.90	0.00	0.00	0.00	0.00	0.65	3.20	1.91	5.77	2.70	2.16	2.00	6.85	13.52	32.00		32.00	
Laguna Seca County Park	APA	0.00	0.00	0.00	0.00	0.00	0.00	6.24	6.24	0.00	2.76	2.71	5.47	1.04	1.78	1.69	4.51	16.22	41.00		41.00	
Laguna Seca Subarea Totals					100.52				67.21				219.92				289.62	677.28	692.30	0.00	692.30	
Total Production by WM Producers					854.40				610.85				825.50				758.59	3,049.34	3,920.00	1,129.51	5,049.51	
																		Annual Production from APA Producers		831.52	1,379.00	
																		Annual Production from SPA Producers		2,217.82	3,670.51	

City of Seaside Golf Courses In-Lieu (MCWD source water)																					
MCWD delivery		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CAW / MPWMD ASR (Carmel River Basin source water)																					
Injection		0.00	0.00	112.08	112.08	436.40	404.07	557.41	1397.88	496.85	338.38	0.00	835.23	0.00	0.00	0.00	0.00	2345.19			
(Recovery)		-155.00	-149.92	0.00	-304.92	0.00	0.00	0.00	0.00	0.00	0.00	-286.56	-286.56	-310.00	-301.05	-298.80	-909.85	-1501.33			
Net ASR		-155.00	-149.92	112.08	-192.84	436.40	404.07	557.41	1397.88	496.85	338.38	-286.56	548.67	-310.00	-301.05	-298.80	-909.85	843.86			

Notes:

- The Water Year (WY) begins October 1 and ends September 30 of the following calendar year. For example, WY 2017 begins on October 1, 2016, and ends on September 30, 2017.
- "Type" refers to water right as described in Seaside Basin Adjudication decision as amended, signed February 9, 2007 (Monterey County Superior Court Case No. M66343).
- Values shown in the table are based on reports to the Watermaster received by July 15, 2017.
- All values are rounded to the nearest hundredth of an acre-foot. Where required, reported data were converted to acre-feet utilizing the relationships: 325,851 gallons = 43,560 cubic feet = 1 acre-foot.
- "Base Operating Yield Allocation" values are based on Seaside Basin Adjudication decision. These values are consistent with the [Watermaster Producer Allocations Water Year 2017](#) (see Item IX B. in 12/7/2016 Board packet).
- Any minor discrepancies in totals are attributable to rounding.
- APA = Alternative Producer Allocation; SPA = Standard Producer Allocation; CAW = California American Water.
- It should be noted that CAW/MPWMD ASR "Injection" and "Recovery" amounts are not expected to "balance" within each Water Year. This is due to the injection recovery "rules" that are part of SWRCB water rights permits and/or separate agreements with state and federal resources agencies that are associated with the water rights permits.

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**WATERMASTER PRODUCER ALLOCATIONS WATER YEAR 2017 IN ACRE-FEET (AF)
INCLUDING A 10% TRIENNIEL REDUCTION FOR 100% OF THIS WATER YEAR**

Initial Basin-Wide Operating Yield⁽¹⁾	3920.00	Coastal Operating Yield⁽¹⁾	3227.70
Natural Safe Yield (NSY)⁽²⁾	3000.00	Laguna Seca Operating Yield⁽¹⁾	692.30

ALTERNATIVE PRODUCER ALLOCATIONS				ALTERNATIVE PRODUCER AMOUNT PUMPED WY 2017				Total Alternative Produce Production
Coastal Subarea ⁽³⁾	AF	Laguna Seca Subarea ⁽³⁾	AF	Coastal Subarea ⁽³⁾	AF	Laguna Seca Subarea ⁽³⁾	AF	
Seaside (Golf)	540.00	Nicklaus Club Monterey	251.00	Seaside (Golf)	439.36	Nicklaus Club Monterey	155.00	
SNG	149.00	Bishop	320.00	SNG	0.00	Bishop	193.46	
Calabrese	6.00	York School	32.00	Calabrese	0.03	York School	13.52	
Mission Memorial (Alderwood)	31.00	Laguna Seca County Park	41.00	Mission Memorial (Alderwood)	13.74	Laguna Seca County Park	16.22	
Sand City	9.00			Sand City	0.19			
Total⁽¹⁾	735.00	Total⁽¹⁾	644.00	Total⁽¹⁾	453.32	Total⁽¹⁾	378.20	

STANDARD PRODUCER ALLOCATIONS							
Coastal Operating Yield Available to Standard Producers (AF)			2492.70	Laguna Seca Operating Yield Available to Standard Producers (AF)			48.30
Coastal Subarea	Standard Producer Allocations		AF Available to This Producer	Laguna Seca Subarea	Standard Producer Allocations		AF Available to This Producer
	Base Water Right % ⁽⁴⁾	Weighted % ⁽⁵⁾			Base Water Right % ⁽⁴⁾	Weighted % ⁽⁵⁾	
California American Water (CAW)	77.55%	90.44%	2254.40	CAW	45.13%	100.00%	48.30
Seaside (Municipal)	6.36%	7.42%	184.96				
Granite Rock	0.60%	0.70%	17.45				
D.B.O. Development No. 30	1.09%	1.27%	31.66				
Calabrese (Cypress Pacific Investors LLC)	0.15%	0.17%	4.24				
Total	85.75%	100.0%	2492.70	Total	45.13%	100.0%	48.30

Allocation of Available Operating Yield Among Standard Producers	Base Water Right Available to this Producer (AF)	% NSY to SPA (Base Water Right / Total Water Right)	NSY Available to Producers (AF) Current Water Year	Free Carryover Credits from Prior Water Year	Not-Free Carryover Credits from Prior Water Year	Water Rights Transferred / Sold DBO to CAW 710 Amador	Water Rights Transferred / Sold DBO to CAW 2 Upper Ragsdale	Total Producer NSY (AF) (NSY Available + Free Carryover Credits)	Total Authorized Production Current WY (Base Water Right Plus All Carryover) ⁽⁶⁾	Actual AF Pumped by Producer in WY 2017	Free Carry over Credits to WY 2018	Not-Free Carry over Credits to WY 2018
		NSY 3000 - 831.52 AF =	2168.48									
California American Water	2302.70	90.62%	1965.11	0.00	430.99	0.16	2.15	1967.42	2736.00	2029.51	0.00	706.49
Seaside (Municipal)	184.96	7.28%	157.84	0.00	0.00	0.00	0.00	157.84	184.96	188.31	0.00	0.00
Granite Rock	17.45	0.69%	14.89	151.43	83.89	0.00	0.00	166.32	252.77	0.00	166.32	86.45
D.B.O. Development No. 30	31.66	1.25%	27.02	293.06	161.66	(0.16)	(2.15)	317.77	484.07	0.00	317.77	166.30
Calabrese (Cypress Pacific Investors LLC)	4.24	0.17%	3.62	7.26	1.22	0.00	0.00	10.87	12.72	0.00	10.87	1.85
Total	2541.01	100.00%	2168.48	451.75	677.75	0.00	0.00	2620.23	3670.51	2217.82	494.97	961.07

Footnotes:
(1) From page 17 of Exhibit A (Amended Decision)of Court Order filed February 9, 2007.
(2) From page 14 of Exhibit A (Amended Decision)of Court Order filed February 9, 2007.
(3) From page 21 of Exhibit A (Amended Decision)of Court Order filed February 9, 2007.
(4) From Table 1 on page 19 of Exhibit A (Amended Decision) of Court Order filed February 9, 2007.
(5) Calculated from the Base Water Right percentages in the adjacent column.
(6) Base Water Right plus Free and Not Free Carryover Credit = 2017 Production Allocation (see 2017 Declaration from 12/6/2017 Watermaster board meeting)
Note: Calabrese (Cypress Pacific Investors LLC) opted to convert 8AF of its 14AF Alternative Production Allocation to Standard Production Allocation on January 22, 2015 (notice filed by Cypress with Superior Court).

CALCULATION OF REPLENISHMENT ASSESSMENTS WATER YEAR 2017

Using the Basin-wide methodology approved by the Court on January 12, 2007, and as shown in detail on the spreadsheet contained in this attachment, Watermaster calculated the Water Year (WY) (October 1st through September 30th) 2017 Replenishment Assessments as follows:

2017 Replenishment Assessment NSYO Unit Charge =	\$2,872.00		
2017 Replenishment Assessment OSYO Unit Charge =	\$718.00		
2017 Natural Safe Yield (NSY) Available to Standard Producers =	2,168.48	AF (3,000 AF NSY - 831.52 Alternative Producers 2017 Production)	

	WY 2017 Production (AF)	% of NSY Available	Volume of NSY Available (AF)	NSY Overproduction (AF)	NSY Overproduction Assessment	Operating Yield Available (AF)	Operating Yield Overproduction (AF)	Operating Yield Overproduction Assessment	Total Assessment
Standard Producers									
California American Water	2,029.51	90.62%	1,965.11	64.40	\$ 184,957.11	2,736.00	-	\$ -	\$ 184,957.11
Seaside (Municipal)	188.31	7.28%	157.84	30.47	87,511.62	184.96	3.35	2,408.69	89,920.31
Granite Rock	-	0.69%	14.89	-	-	252.77	-	-	-
D.B.O. Development No. 30	-	1.25%	27.02	-	-	484.07	-	-	-
Calabrese (Cypress Pacific Inv.)	-	0.17%	3.62	-	-	12.72	-	-	-
Total Production	2,217.82	100.00%	2,168.48	94.87	\$ 272,468.72	3,670.51	3.35	\$ 2,408.69	\$ 274,877.41

	WY 2017 Production (AF)	% of NSY Available	Volume of NSY Available (AF)	NSY Overproduction (AF)	NSY Overproduction Assessment	Operating Yield Available (AF)	Operating Yield Overproduction (AF)	Operating Yield Overproduction Assessment	Total Assessment
Alternative Producers									
City of Seaside (Golf Courses)	439.36	N/A	540.00	0.00	\$ -	540.00	0.00	\$ -	\$0
Security National Guaranty	-	N/A	149.00	0.00	-	149.00	0.00	-	-
Calabrese (Cypress Pacific Inv.)	0.03	N/A	6.00	0.00	-	6.00	0.00	-	-
Mission Memorial (Alderwoods)	13.74	N/A	31.00	0.00	-	31.00	0.00	-	-
City of Sand City	0.19	N/A	9.00	0.00	-	9.00	0.00	-	-
Nicklaus Club Monterey	155.00	N/A	251.00	0.00	-	251.00	0.00	-	-
Laguna Seca Golf Resort (Bishop)	193.46	N/A	320.00	0.00	-	320.00	0.00	-	-
York School	13.52	N/A	32.00	0.00	-	32.00	0.00	-	-
Laguna Seca County Park	16.22	N/A	41.00	0.00	-	41.00	0.00	-	-
Total Production	831.52	N/A	1,379.00	0.00	\$ -	1,379.00	0.00	\$ -	\$0

Seaside Groundwater Basin Watermaster													ITEM V.I.B.		
Replenishment Fund													12/6/2017		
Water Year 2017 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2017)															
Balance through October 31, 2017															
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Totals WY 2006 Through 2017	Proposed Budget WY 2018	Projected Totals Through WY 2018
Replenishment Fund															
Assessments:	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	WY 16/17		WY 17/18	
Unit Cost:	\$1,132 / \$283	\$1,132 / \$283	\$2,485 / \$21.25	\$3,040 / \$760	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,702 / \$675.50	\$2,702 / \$675.50	\$2,702 / \$675.50	\$2,872 / \$718		\$2,872 / \$718	
Cal-Am Water Balance Forward	\$ -	\$ 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)		\$ (491,747)	
Cal-Am Water Production	3710.0 AF	4059.9 AF	3862.9 AF	2966.0 AF	3713.5 AF	3416.0 AF	3070.9 AF	3076.6 AF	3232.1 AF						
Exceeding Natural Safe Yield Considering Alternative Producers	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	-	184,957	\$ 30,696,083	100,000	\$ 30,796,083
Operating Yield Overproduction Replenishment	-	20,235	8,511	-	-	-	154,963	181,057	281,012	312,103	-	-	957,881	20,000	977,881
Total California American	\$ 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		\$ 184,957	\$ 31,653,964	\$ 120,000	\$ 31,773,964
CAW Credit Against Assessment	(465,648)		(12,305,924)	\$ (3,741,714)	(5,095,213)	(5,425,799)	(5,111,413)	-	-	-	-	-	(32,145,711)		(32,145,711)
CAW Unpaid Balance	\$ 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)	(491,747)	(491,747)	(371,747)	(371,747)
City of Seaside Balance Forward	\$ -	\$ 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)		\$ (3,142,500)	
City of Seaside Municipal Production	332.0 AF	387.7 AF	294.3 AF	293.4 AF	282.9 AF	240.7 AF	233.7 AF	257.7 AF	223.6 AF	223.6 AF	185.01 AF				
Exceeding Natural Safe Yield Considering Alternative Producers	219,689	174,082	402,540	465,300	314,721	141,335	163,509	236,782	142,410	69,630	102,330	87,512	\$ 2,519,838	100,000	\$ 2,619,838
Operating Yield Overproduction Replenishment	12,622	85	4,225	16,522	20,690	-	1,689	27,007	3,222	38	11,959	2,409	100,467	10,000	110,467
Total Municipal	232,310	174,167	406,764	481,823	335,412	141,335	165,198	263,788	145,631	69,667	114,290	89,920	2,620,305	110,000	2,730,305
City of Seaside - Golf Courses															
Exceeding Natural Safe Yield - Alternative Producer	-	-	131,705	69,701	-	-	-	-	-	-	-	-	201,406	-	201,406
Operating Yield Overproduction Replenishment	-	-	32,926	17,427	-	-	-	-	-	-	-	-	50,353	-	50,353
Total Golf Courses	-	-	164,631	87,128	-	-	-	-	-	-	-	-	251,759	-	251,759
Total City of Seaside*	\$ 232,310	\$ 174,167	\$ 571,395	\$ 568,951	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290	\$ 89,920	\$ 2,872,064	\$ 110,000	\$ 2,982,064
City of Seaside Late Payment 5%	10,984	8,704	26,712	26,750	15,737								88,887		88,887
In-lieu Credit Against Assessment	-	-	-	\$ -	(1,079,613)	(1,142,858)	(828,996)	(1,065,852)	(1,459,080)	(526,890)	(162)	-	(6,103,451)	-	(6,103,451)
City of Seaside Unpaid Balance	\$ 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)	\$ (3,142,500)	\$ (3,142,500)	\$ (3,032,500)	\$ (3,032,500)
Total Replenishment Fund Balance	\$ 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)	\$ (3,634,247)	\$ (3,634,247)	\$ (3,404,247)	\$ (3,404,247)
Replenishment Fund Balance Forward	-	\$ 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)		\$ (3,634,247)	
Total Replenishment Assessments	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	274,877	34,614,915	230,000	34,844,915
Total Paid and/or Credited	(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)	-	(38,249,162)	-	(38,249,162)
Grand Total Fund Balance	\$ 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)	\$ (3,634,247)	\$ (3,634,247)	\$ (3,404,247)	\$ (3,404,247)