

MEETING NOTICE AND AGENDA
TECHNICAL ADVISORY COMMITTEE
OF THE
SEASIDE BASIN WATER MASTER

DATE: Wednesday, October 13, 2010

MEETING TIME: 1:30 p.m.

NOTE NEW MEETING LOCATION:

Monterey Regional Water Pollution Control Agency Offices
 5 Harris Court, Building D (Ryan Ranch)
 Monterey, CA 93940

If you wish to participate in the meeting from a remote location, please call in on the Watermaster Conference Line by dialing (877)810-9415. Use the Access Code of 4560043. Please note that if no telephone attendees have joined the meeting by 10 minutes after its start, the conference call will be ended.

OFFICERS

Chairperson: Diana Ingersoll, City of Seaside

1st Vice-Chairperson: Eric Sabolsice, California American Water Company

2nd Vice-Chairperson: Rob Johnson, MCWRA

MEMBERS

California American Water Company	City of Del Rey Oaks	City of Monterey
City of Sand City	City of Seaside	Coastal Subarea Landowners
Laguna Seca Property Owners		Monterey County Water Resources Agency
Monterey Peninsula Water Management District		Public Member (John Fischer)

<u>Agenda Item</u>	<u>Page No.</u>
1. Administrative Matters:	
A. Approve Minutes from August 11, 2010 Meeting	2
B. Receive Notes from Gathering of Portion of TAC on September 8, 2010 (No Quorum so no meeting was convened)	10
2. Select Possible Further Work Tasks to be Performed Regarding Evaluation of Coastal Wells for Possible Cross-Aquifer Contamination Potential (Jon Lear)	13
3. Discuss and Take Potentially Take Action to Approve the 2010 Seawater Intrusion Analysis Report (SIAR) (Bob Jaques)	17
4. Initial Consultant Contracts for FY 2011	20
A. MPWMD RFS No. 2011-01	
B. MPWMD RFS No. 2011-02	
C. HydroMetrics RFS No. 2011-01	
D. HydroMetrics RFS No. 2011-02	
5. Discuss and Potentially Take Action Regarding Revising Definition of Quorum for TAC Meetings and Voting Requirements for Taking Action at TAC Meetings (Bob Jaques)	47
6. Report by MPWMD on Program Schedule and Standard Operating Procedures (Joe Oliver)	52
7. Discuss and Potentially Take Action Regarding Performing Another Wellhead Elevation Survey in 2011 to Determine Whether or Not Subsidence is Occurring (Bob Jaques)	53
8. Discuss and Provide Input on Preliminary Draft Annual Report for 2010 (Bob Jaques)	58
9. Offer by Pasadera to Discuss Possible Use of Storm Water Runoff from Pasadera as a Water Source for Helping to Recharge the Seaside Basin (Bob Jaques)	68
10. Schedule (Bob Jaques)	71
11. Other Business	
12. Set next meeting date:	
The next regular meeting will be held on Wednesday, November 10, 2010 at 1:30 p.m. at the MRWPCA Board Room	

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	1.A
AGENDA TITLE:	Approve Minutes from August 11, 2010
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Draft Minutes from this meeting were emailed to all TAC members. Proposed changes have been included in the attached version.	
ATTACHMENTS:	Minutes from this meeting
RECOMMENDED ACTION:	Approve the minutes

D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
August 11, 2010**

Attendees: TAC Members

City of Seaside – Scott Ottmar
California American Water – Eric Sabolsice
City of Monterey – Norm Green
Laguna Seca Property Owners – No Representative
MPWMD – Joe Oliver
Public Member – John Fischer
MCWRA – Rob Johnson
City of Del Rey Oaks – No Representative
City of Sand City – No Representative
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

HydroMetrics LLC – Derrick Williams & Georgina King (via telephone)

Others:

MPWMD – Jonathan Lear

The meeting was called to order at 1:50 p.m. while waiting for a quorum to arrive. Mr. Green and Mr. Ottmar had a prior meeting schedule conflict, and arrived at 2:00 p.m.

1. Administrative Matters:

A. Approve Minutes from June 9, 2010 Meeting

On a motion by Mr. Oliver, second by Mr. Johnson, the minutes were unanimously approved as presented. However, it was noted that when this action was taken, a quorum had not yet arrived. Once a quorum had arrived, the action was repeated and the minutes were again unanimously approved as presented.

B. Future TAC Meeting Locations

Mr. Sabolsice summarized the agenda packet materials on this item. There was unanimous agreement to hold future TAC meetings in the Board Room of the MRWPCA offices.

2. Report from HydroMetrics on Scenario 1 Groundwater Modeling

Mr. Williams discussed the Scenario 1 modeling work pertaining to the Laguna Seca Subarea Alternative Producer increasing their pumping rates 10 percent or 20 percent over their existing pumping levels. A copy of the PowerPoint slides used in his presentation is attached.

Referring to the first slide of his presentation, Mr. Williams explained that this slide provides a general idea of what flows into and out of the Laguna Seca Subarea. The lower three lines on this plot show water that is leaving the Laguna Seca Subarea, and the two upper lines represent water that is flowing in from outside the Basin and being mined from storage.

Mr. Williams noted that approximately 1,120 acre-feet per year is the cumulative pumping rate within the Laguna Seca Subarea, and the Alternative Producers pump roughly half of this amount. CAW pumps the remainder.

The bump in Laguna Seca pumping in the year 2013 is a numerical glitch, and probably is a result of the model finding that a well has gone dry in that year. Mr. Williams is still investigating this anomaly.

Currently about 300 to 400 acre-feet per year flows to the Southern Coastal Subarea from the Laguna Seca Subarea. Approximately 800 acre-feet per year flows from the Laguna Seca Subarea to the Northern Inland Subarea.

As groundwater levels drop, less water flows out of the Laguna Seca Subarea to the Northern Inland and Southern Coastal Subareas. Mr. Oliver raised a question about where most of the water flows from the Laguna Seca Subarea to the Northern Inland Subarea. Mr. Williams will comment on this in the final report on this work.

Figure 4 shows the results after five years of the wells pumping at 10 percent higher levels than currently. At the end of this five-year period the drop in groundwater levels in the Laguna Seca Subarea near the Pasadera wells is approximately 3 feet greater than it would be if this increased pumping had not occurred.

Figure 5 shows the difference in water levels after 22 years between today's pumping and pumping being increased by 10 percent. At the end of 22 years, there is an additional 5 feet of water level drop near the Pasadera wells compared to where the water levels would be at current pumping rates.

Ms. King reported that groundwater levels are currently going down in the Laguna Seca Subarea by approximately 2 feet per year,

Figure 6 shows the results after five years with a 20 percent pumping rate increase. This figure shows there would be 6 feet of additional groundwater level drop in the area of the Pasadera wells as a result of this.

Figure 7 shows the result of a 20 percent increase in pumping after 22 years. This figure indicates that approximately 10 feet of additional groundwater drawdown would occur in the area of the Pasadera wells as a result of this. Mr. Williams pointed out that the area impacted by this higher level of pumping is larger than for the lower pumping levels.

The top line in Figure 1 on page 11 of the agenda packet shows the increased (not the total) pumping. The four lower lines show where the water comes from. As groundwater levels fall, the amount being mined from storage decreases over time. This is made up by water from "Outside Basin" which would be the Toro area and other areas east of the Seaside Groundwater Basin, and reduced flows going from the Laguna Seca Subarea to the Northern Inland Subarea. Also, to a lesser extent there would be reduced flows going from the Laguna Seca Subarea to the Southern Coastal Subarea. Water does not flow from the Northern Inland Subarea to the Laguna Seca Subarea, rather, less water would flow from the Laguna Seca Subarea to the Northern Inland Subarea.

The cone of depression extends into the Northern Inland Subarea before it starts to extend into the Southern Coastal Subarea and to areas outside of the Seaside Groundwater Basin. There is very little change in the amount of flow going from the Laguna Seca Subarea to the Southern Coastal Subarea as a result of any of these increased pumping rate scenarios. Most of the change occurs in the amounts of flow going from the Laguna Seca Subarea to the Northern Inland Subarea and to areas outside the Basin.

The Toro area is the closest outside Basin area that is impacted by additional pumping. Mr. Johnson noted that it would be important to clarify the terms "Toro Area" and "Toro Basin", as these terms may have specific meanings to different parties. Mr. Williams said he would clarify this in the final report.

Mr. Sabolsice summarized by noting that the Alternative Producers felt that perhaps there would be only minimal impacts on the Basin if they increased their pumping, and if CAW maintained its current pumping rates. The modeling results show that the impact on the Southern Coastal Subarea is minimal, and that the most significant impacts are on reducing flows going to the Northern Inland Subarea and more flows coming in from outside the Basin. Most of the impact is closest to the Pasadera wells, and diminishes with distance away from that location.

Mr. Sabolsice asked Mr. Oliver if he considered the impacts of the increased pumping to be significant. Mr. Oliver responded that the model confirms the earlier belief that there would be only a minimal impact on the Southern Coastal Subarea, but the model also indicates that there would be a greater than previously expected impact on the Northern Inland Subarea and on the Toro area.

Mr. Lear pointed out that most of the increased pumping water comes from storage, with only very small percentages coming from reduced flows leaving the Laguna Seca Subarea and going into other Subareas.

Mr. Williams pointed out on Figure 1 that the term "flow from" means "reduced flow going to" with regard to the Southern Coastal Subarea and the Northern Inland Subarea. In other words, more water is flowing to the Northern Inland Subarea from the Laguna Seca Subarea than previously thought. The "flow from Outside Basin" is water coming into the Laguna Seca Subarea from outside the Basin, and this will increase if pumping rates are increased.

Mr. Sabolsice summarized by noting that areas outside the Seaside Groundwater Basin would be impacted if the Laguna Seca Subarea pumping rates were to increase.

Ms. King said that current pumping rates are causing groundwater levels in the Laguna Seca Subarea to drop about 2 feet per year, and that this is not sustainable in the long run, as some wells will eventually go dry. Mr. Lear said that this would also affect the CAW wells in this area.

Mr. Williams summarized the findings by saying that increased pumping within the Laguna Seca Subarea does impact other subareas of the Seaside Groundwater Basin, as well as areas outside the Seaside Groundwater Basin.

Mr. Jaques asked if the TAC would like the information provided from the Scenario 1 modeling to now be sent forward to the Board for its information. There was TAC consensus that it would be okay to provide this as an informational item to the Board at this point. Mr. Jaques asked if the TAC felt it would be desirable to have the issues raised at today's meeting addressed in the final report, and to have conclusions included in the final report. Mr. Sabolsice said he felt that the conclusions discussed today should be included. Mr. Oliver recommended highlighting the small percentage impacts on other Subareas, and felt that it would be good for the TAC to review the final version of the report before sending it to the Board for its information.

There was consensus to have the TAC review the final report at its September meeting. Once the TAC is satisfied with the document, then it will be sent by Mr. Jaques to the Board as an informational item, and Mr. Williams will make a presentation to the Board.

Mr. Oliver asked Mr. Williams to include a brief explanation as to why increased pumping was being evaluated (it was requested by the Board), so that a reader of the report would have a background

understanding of why this Scenario was modeled, and would not infer that increased pumping was actually being considered by the Watermaster. Rather, the evaluation was performed to see hypothetically what impacts there would be if pumping rates were to increase.

Mr. Sabolsice commented that if the Alternative Producers do not reduce pumping by the 10% ramp-down required by the Court Decision, the groundwater levels will continue to drop to unacceptable levels.

Mr. Williams confirmed that HydroMetrics could complete the work and make the Board presentation within the currently budgeted amount for this work.

3. Discuss Issues and Timing Pertaining to Scenario 2 Groundwater Modeling

Mr. Sabolsice summarized the agenda packet materials on this item. The quantity of water that will be supplied to CAW by the Regional Water Project is not clearly known at this time. This leaves several issues that need to be considered in modeling Scenario 2 still unresolved:

Issue 1: The quantity of water that CAW will continue to pump from the Seaside Basin will not be known until the amount of water that CAW will receive from the Regional Water Project has been determined.

Issue 2: Whether or not there will be excess product water from the Regional Water Project desalination plant and whether it will be feasible for CAW to use excess water to benefit the Seaside Basin, cannot be determined at this point.

Issue 3: How CAW will provide the water to repay its replenishment assessment credit cannot be determined until the quantity of water which they will receive from the Regional Water Project is determined.

Mr. Sabolsice commented that since April 2010 no new information about the freshwater-seawater blend that will supply the wells feeding the regional desalination plant has been developed. Mr. Johnson provided an update on this: he has been presenting information to MCWRA on this matter and anticipates that MCWRA's Board at its August 23rd meeting will be asked to approve some groundwater modeling work, getting well permits started, and performing well design work for a vertical well, a slant well, and a monitoring well. If the Board approves it, that work is anticipated to be completed in June 2011. Drilling of these wells could therefore potentially start as early as sometime in the summer of 2011. Mr. Sabolsice noted that this means there will be no test well data for quite some time. He wondered, however, if MCWRA's modeling results would provide any helpful information prior to the construction of these new wells.

A motion was made by Mr. Sabolsice, seconded by Mr. Johnson, to defer any further action on Scenario 2 modeling work until either (1) the PUC issues to CAW a Certificate of Public Convenience for the Regional Water Project, or (2) until data becomes available from the test wells to be installed in the North Marina area by MCWRA.

At this point in the meeting Mr. Fischer said that six members are needed to vote on any action taken by the TAC, as there are 10 TAC members. He also remarked that the minutes previously approved in the meeting had been approved when less than a quorum was present. (Note: As stated under item 1.A in these Minutes, the June 9, 2010 Minutes were reapproved when a quorum was present.)

Mr. Sabolsice pointed out that the draft Minutes are sent out for editing to a large number of persons including the full TAC membership and that edits are received and made to the Minutes by the

Technical Program Manager. He also pointed out that the TAC is always willing to take direction from the Board, if they differ with any of the TAC's recommendations.

Mr. Jaques asked Mr. Sabolsice if getting the Certificate of Public Convenience approved by the PUC would provide any information that might warrant proceeding with modeling of Scenario 2. Mr. Sabolsice recommended that the TAC revisit the issue once the Certificate of Public Convenience has been approved by the PUC.

The motion made by Mr. Sabolsice and seconded by Mr. Johnson was unanimously approved.

4. Update on Sentinel Well Induction Logging

Mr. Jaques briefly summarized the agenda packet materials on this item. Mr. Lear said that he would be providing some related information on what conductivity data means under Agenda Item 5 at today's meeting.

5. Report on Evaluation of Coastal Wells for Possible Cross-Aquifer Contamination Potential

Mr. Lear presented the findings to date of MPWMD's review of well records from coastal wells within the Seaside Groundwater Basin. A copy of the PowerPoint slides he used in his presentation is attached. He said that well data has been compiled from number of sources. Some well records were of high-quality while others were of low quality.

Mr. Lear explained that cross contamination between aquifers can occur from (1) perforations in multiple aquifers, (2) poor construction, (3) cracking of the casing, or (4) abandoned or improperly destroyed wells. He said that MPWMD looked in the Northern and Southern Coastal Subareas for well records. Many more wells than just those in the Watermaster's Database were included in the data compilation. He asked if the TAC felt that the additional wells should be added to the Watermaster's Database.

Mr. Lear reported that most of the additional wells had not been field-visited. Mr. Jaques requested that Mr. Lear use different symbols and colors in the printed version of his report to improve the clarity of the graphics.

A digital elevation model was used to look for screening in multiple aquifers. Steel casing wells typically have a lifespan of approximately 30 years, and after 30 years they may be expected to crack or leak. A number of the wells with steel casings were found to be greater than 30 years of age.

Mr. Sabolsice asked if it would be possible to identify those wells posing the greatest risk to the Santa Margarita aquifer.

Mr. Lear then outlined the following possible followup work:

1. Field verify older steel cased wells, i. e. confirm the existence and location of these wells.
2. Check well logs to see if seals were correctly installed.
3. Add wells to the Watermaster Database.
4. Refine the interface between the Santa Margarita and the Purissima layers and where these strata come together. (This information could be used to update the model.)
5. Video log older deep wells to examine casing integrity.

Mr. Johnson noted that MCWRA may have records of some additional wells that were not in the other files that MPWMD had been able to research.

Mr. Lear and Mr. Oliver offered to prepare some preliminary cost estimates and scopes of work for the 5 numbered items above.

Mr. Sabolsice commented that risk factors include age, material of construction, seal construction, and aquifers penetrated. Mr. Lear said that the highest-risk wells are shown on the figure, and these are the ones that are greater than 30 years old, have steel casings, and pass through multiple aquifers.

Mr. Lear said it is not possible to do induction logging on steel-cased wells, but this could be done on PVC-cased wells. If a casing was cracked and was allowing water to flow from an upper aquifer to a lower aquifer, the video logging would show the cracking and water cascading from higher to lower aquifers through the cracks. Mr. Oliver said that video logging probably would only be recommended for a very select set of circumstances. Mr. Lear noted that video logging costs about \$1,000 per well to perform.

Mr. Jaques asked if a casing is only perforated in one aquifer, but passes through more than one aquifer, and if the casing was cracked, wouldn't that allow cross contamination between aquifers. Mr. Oliver and Mr. Lear confirmed that this would be a possible way for cross contamination to occur.

Mr. Sabolsice commented that the highest risk wells seem to be those screened in multiple aquifers.

Mr. Oliver said that MPWMD could complete the current work with tiers of recommendations with regard to followup work to be done.

Mr. Sabolsice asked whether the abandoned wells were something the Health Department should be taking action on. Mr. Lear responded that they would like to know about these wells, but he did not know if they have the resources necessary to follow up on all of them.

There was consensus to have MPWMD prepare preliminary cost estimates and scopes to work for the 5 items, and for Mr. Jaques to put these on the September TAC agenda for consideration of being included in the recommended budget for 2011.

6. Offer by Pasadera to Discuss Possible Use of Storm Water Runoff from Pasadera as a Water Source for Helping to Recharge the Seaside Basin

Due to the lateness of the hour and the need to complete the other items on today's agenda, this item was deferred to the next TAC meeting.

7. Preliminary Discussion Regarding Replenishment Assessment Unit Cost for WY 2011

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

Mr. Oliver asked if anyone could recall why the Sand City Desalination Plant had not been included in the development of the Replenishment Assessment Unit Costs last year. Following brief discussion it was believed that it had not been included because that project had been completed before last year's Unit Cost was developed. It was also thought that the water produced by that project was intended to reduce pumping only in the Carmel River Basin, and therefore could not be used to reduce the amount of water pumped from the Seaside Groundwater Basin.

There was general agreement that using the three projects that were used last year should be used again this year to develop the Unit Cost for Water Year 2011.

Mr. Sabolsice will e-mail Mr. Jaques any updated information for use on the Regional Desalination Plant. Mr. Jaques will ask Mr. Johnson to provide any updated information on the Salinas River Surface Water Treatment Plant project, and Mr. Jaques will contact Mr. Israel and Mr. Heitzman get any updated

information on the Regional Urban Water Augmentation Project. The updated information will be provided to the TAC for consideration of approval at its September meeting.

8. Preliminary Discussion of Monitoring and Management Program Scopes of Work and Budgets for 2011 and 2012

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

Mr. Oliver requested that item I.2.b.3 include \$5,000 to retrofit the wells that are sampled on an annual basis to use the new low-flow purge approach for getting water quality samples. He explained that the wells that are sampled quarterly had been retrofitted, but that the wells that are sampled annually had not yet been retrofitted.

No other changes were suggested.

Mr. Jaques will make this revision to the proposed budget which will be presented for TAC approval at the September TAC meeting.

9. Schedule

There was no discussion on this item.

10. Other Business

There was no other business.

11. Set next meeting date

The next regular meeting was set for Wednesday, September 8, 2010 at 1:30 p.m. at the MRWPCA Board Room

The meeting adjourned at 4:47 p.m.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	1.B
AGENDA TITLE:	Receive Notes from Gathering of Portion of TAC on September 8, 2010 (No Quorum so no meeting was convened)
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Notes from this gathering were emailed to all TAC members. Proposed changes have been included in the attached version.	
ATTACHMENTS:	Notes from this gathering
RECOMMENDED ACTION:	Received these notes for information only

MEETING NOTES

Seaside Groundwater Basin Watermaster Informal Gathering of Technical Advisory Committee Members September 8, 2010

Attendees: TAC Members

City of Seaside – No Representative
California American Water – Eric Sabolsice (by telephone)
City of Monterey – Norm Green
Laguna Seca Property Owners – No Representative
MPWMD – Joe Oliver
Public Member – No Representative
MCWRA – No Representative
City of Del Rey Oaks – No Representative
City of Sand City – No Representative
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

None

Others:

MPWMD – Jonathan Lear

After waiting until 1:40 p.m. it was concluded by the TAC members that were present for the meeting that the lack of a quorum would preclude having a formal TAC meeting. Mr. Johnson and Mr. Sabolsice had both received last minute work assignments that prevented their attending the meeting. None of the other absentees had notified the Technical Program Manager or other TAC members that they would be unable to attend.

Mr. Sabolsice was able to join the gathering of TAC members via telephone, and these Meeting Notes describe the discussions were held.

Consensus was reached that the following items should be sent to the B&F Committee with the support of the TAC:

1. The Replenishment Assessment Unit Cost of \$3,635, calculated using just the Regional Desalination and the RUWAP projects.
2. The M&MP O&M and Capital Budgets for 2011 and 2012 with only a revision to the costs in the O&M Budgets for 2011 and 2012 for Task I.3d and in the Scope of Work for this Task in the M&MP to provide some funds to conduct further analyses of coastal wells for possible cross-aquifer contamination

Consensus was reached that the following items should be sent to the Board with the support of the TAC:

1. The Final Technical Memorandum from HydroMetrics on Scenario 1 Groundwater Modeling.

2. The M&MP Scope of Work for 2011 with only a revision to the Scope of Work for Task I.3d in the M&MP to provide for conducting further analyses of coastal wells for possible cross-aquifer contamination.

The agenda transmittals to the B&F Committee and to the Board on all of these items will include qualifying language to the effect that although the full TAC was unable to meet, those 3 TAC members who did participate were unanimous in the recommendations described above. The intent of this will be to allow the B&F Committee and the Board to take these as the TAC's recommendations when they consider them at their respective meetings, so as not to have these items fall behind schedule.

Discussion of all of the other items on the agenda for today's meeting was deferred, with the exception of some Q&A on Jon Lear's report (Agenda item 3) and on a couple of schedule items (Agenda item 7). No action was taken on any of these other items. However, Mr. Jaques said he anticipated that the Board may elect to cancel its December 1 regular Board meeting due to the Holidays, so he will plan on getting some of the consultant contracts ready for TAC approval in October, and then Board approval in November, so we will be able to keep having MPWMD and HydroMetrics perform work for us after January 1, 2011 when the next Fiscal Year will begin.

There was also some discussion regarding the problem that was experienced not only today but on several occasions in the past, namely getting enough TAC members to be present to have a quorum. The Technical Program Manager will prepare an agenda transmittal for the TAC's consideration on this matter at its next meeting. Since the TAC was created by action of the Board, which has also defined what constitutes a quorum, any changes the TAC may wish to propose on these matters will need to be formalized through action of the Board itself.

This informal gathering of TAC members ended at approximately 2:25 p.m.

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	2
AGENDA TITLE:	Select Possible Further Work Tasks to be Performed Regarding Evaluation of Coastal Wells for Possible Cross-Aquifer Contamination Potential
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

Under its contract with the Watermaster, MPWMD has performed an evaluation of the coastal wells in the Seaside Groundwater Basin to determine if any of them appear to be at risk of allowing cross-aquifer contamination to occur. The work to date has consisted of obtaining and reviewing well construction records for all of the wells that are located near the coast and for which such records were available, and preliminary scope descriptions and cost estimates for possible follow-up work to be considered as part of the Watermaster's FY 2011 M&MP Scope of Work and Budget. A Task with a budget of \$10,000 has been included in the FY 2011 M&MP O&M Budget for this purpose.

As discussed during the August 11 presentation, aquifer contamination can occur through failed wells and improperly constructed wells which allow flow of groundwater between aquifer units. In the Seaside Groundwater Basin, there are four recognized aquifer units, commonly called (stratigraphically shallowest to deepest): (1) the Older Dune Sands/Aromas Sand, (2) the Paso Robles Formation, (3) the Purisima Formation, and (4) the Santa Margarita Sandstone. The Older Dune Sands/Aromas Sand overlies the Paso Robles Formation which overlies the Santa Margarita Sandstone in the southern portion of the basin, and the Purisima Formation in the northern portion of the basin. Initial results from the study indicated there are many wells that are screened in multiple aquifers and wells that penetrate through shallow aquifers and are screened in lower aquifers.

MPWMD has developed the seven potential further evaluation tasks listed below for the TAC's consideration with regard to whether the TAC feels it would be beneficial to perform these further investigations.

1. **Field verify selected older steel cased wells** – Wells older than 30 years that were constructed with steel casings have been identified. Under this task MPWMD would contact land owners and conduct interviews, conduct site investigations using a metal detector (if appropriate), document the condition of the well head, determine total available well depth, and collect a water level (if possible).
2. **Inspect well logs to assess proper seal placement to isolate aquifers** – Wells that penetrate multiple aquifers but are screened in one can be conduits for cross-aquifer contamination if well seals were not placed adjacent to confining layers between the aquifer units. Under this Task well logs will be reviewed to determine if surface and/or transition seals are installed, and assessed as to the risk associated with those that do not contain sufficient seals.

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

AGENDA ITEM:

2 (Cont'd)

3. **Add wells to Watermaster database** – Adding wells identified during the first phase of this investigation will provide the Watermaster with a more complete list of wells known to exist in the basin. If the current well status can be verified (e.g., inactive, destroyed, etc.) they can then be tracked by the database, with the correct current well status. Under this Task these additional wells would be added to the Watermaster’s database.
4. **Investigate the Santa Margarita – Purisima interface** – Wells constructed with PVC provide the opportunity to collect resistivity information via an induction log. This is of interest because the transition between the Santa Margarita Sandstone and the Purisima Formation is not well understood. Locating PVC constructed wells in the region of the Seaside Basin where the transition between the units is thought to occur and collecting resistivity data will help to better define this boundary, and would provide additional information about current, depth-specific water quality conditions. Under this Task MPWMD would identify and field verify wells that are candidates for induction logging and prepare a list of wells to bring back to the Watermaster.
5. **Investigate video logging of selected wells suspected to be conduits for cross-contamination** – Video logs verify if the well has been compromised and is allowing groundwater flow between aquifer units. Following field verification of wells, under this Task MPWMD will provide a list of wells recommended for video logging. Criteria for selection will be age of well, condition of well head, proximity of well to potential contamination sources (e.g., coastline), and aquifer units penetrated by well.
6. **Locate and plot all environmental clean-up sites within the Seaside Basin as potential sources of cross-aquifer contamination** – Gas stations and chemical contamination sites could also be threats to groundwater quality along with seawater intrusion. Under this Task locations of clean-up sites, as available from Monterey County Health Department records, would be assembled on a map to facilitate review and assessment.
7. **Identify abandoned wells that are screened in the Santa Margarita** – The Santa Margarita Sandstone is the primary production aquifer for drinking water in the Seaside Basin and is also the target aquifer currently used for Aquifer Storage and Recovery and potential future aquifer replenishment projects. While properly-sealed wells screened solely in the Santa Margarita are not candidates for cross-aquifer contamination, such abandoned wells could provide a direct conduit for pollutants. MPWMD staff believes that to best protect the water resource system these wells should also be identified. Under this Task MPWMD would prepare a list of any such abandoned wells that are identified, and a course of action to conduct any additional work if warranted.

Pertinent information from the above tasks would be prepared in summary tables and figures, along with a brief report with recommendations that could be provided to the Monterey County Health Department, Environmental Health Bureau.

Attached is a cost estimate for each of these items.

My recommendations and comments are: (1) that Tasks 1, 2, and 5 should be performed at this time

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

(during FY 2011), (2) it is not clear to me what the benefit to the Watermaster would be of performing Tasks 3 or 7, at least not at this time, so I do not recommend that those Tasks be

AGENDA ITEM:

2 (Cont'd)

performed at this time, and (3) I do not feel that Tasks 4 or 6 need to be performed by the Watermaster, at least not at this time. With regard to Task 6, I believe this is the responsibility of the Monterey County Department of Environmental Health, not the Watermaster.

If the TAC feels that followup work would be beneficial, I will include that work in RFS No. 2011-01 for MPWMD as discussed under Item 4 on today's Agenda.

ATTACHMENTS:

Cost Estimate for possible followup work

**RECOMMENDED
ACTION:**

Provide input to the Technical Program Manager regarding what, if any, of this work the TAC would like to have performed by MPWMD

Summary of Projected Costs -- Additional Evaluation of Seaside Basin Cross-Aquifer Contamination Potential

<u>Task</u>	<u>Description</u>	<u>Hours</u>	<u>Rate</u>	<u>Cost</u>
1	Field verify older steel cased wells	40	85	\$3,400
2	Inspect seal placement on multiple aquifer wells	12	85	\$1,020
3	Add wells to Watermaster database	20	85	\$1,700
4	Investigate Santa Margarita - Purisima interface	12	85	\$1,020
5	Investigate video logging of selcted wells	10	85	\$850
6	Locate environmental cleanup sites	8	85	\$680
7	Identify abandoned wells screened in Santa Margarita	12	85	\$1,020
				\$9,690

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	3
AGENDA TITLE:	Discuss and Take Potentially Take Action to Approve the 2010 Seawater Intrusion Analysis Report (SIAR)
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: HydroMetrics has prepared the Draft Seawater Intrusion Analysis Report (SIAR) for Water Year 2009-2010. By separate email to all TAC members, HydroMetrics has recently sent you the SIAR for your review prior to today's TAC meeting. . 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. The key Conclusion contained in the SIAR is 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 <u>could</u> occur in the Seaside Groundwater Basin, but in spite of these factors, no seawater intrusion is currently observed in existing monitoring wells. Representatives from HydroMetrics will attend today's TAC meeting (via telephone) to provide a summary of the report and to respond to questions by TAC members.	
ATTACHMENTS:	Executive Summary of Draft WY 2010 Seawater Intrusion Analysis Report (full document was sent as a separate email attachment directly from HydroMetrics to TAC members-not included within the agenda packet itself)
RECOMMENDED ACTION:	Discuss and either modify or approve the Draft SIAR

EXECUTIVE SUMMARY

This report addresses the potential for, and extent of, seawater intrusion in the Seaside Groundwater Basin. Continued pumping in excess of recharge and fresh water inflows, pumping depressions near the coast, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion could occur in the Seaside Groundwater Basin. Fortunately, no seawater intrusion is currently observed in existing monitoring wells, as demonstrated by the different tools and analyses that were used to investigate for evidence of seawater intrusion:

- Piper diagrams for groundwater samples collected from depth-discreet monitoring wells during Water Year 2010 show no apparent geochemical evolution towards seawater.
- No groundwater samples analyzed with Stiff diagrams are indicative of incipient seawater intrusion.
- Wells with chloride concentration increases over the past year are: PCA-W deep, PCA-E shallow, MSC shallow, FO-09 shallow, FO-9 deep, FO-10 deep, Sentinel Well 1 at 1,140 ft, Sentinel Well 1 at 1,390 ft, Sentinel Well 3 at 870 ft, and Sentinel Well 3 at 1,275 ft. Although the increases mentioned above do not indicate seawater intrusion, their future trends need to be flowed closely. Stiff and Piper diagrams for these wells do not indicate seawater intrusion, and it is likely that the increase is merely a localized fluctuation that is unrelated to seawater intrusion. No additional monitoring is warranted.
- Of the wells from last year's SIAR that had increasing chloride concentrations, the deep Fort Ord 10 well is the only monitoring well that continued with an increase over the past year. Stiff and Piper diagrams for this well do not indicate seawater intrusion, and it is likely that the increase is merely a localized fluctuation that is unrelated to seawater intrusion. No additional monitoring is warranted.
- No wells display decreasing sodium/chloride ratios that would indicate seawater intrusion.
- Maps of chloride concentrations do not show chlorides increasing towards the coast.
- Although production wells have a different water quality than the monitoring wells, this is probably a result of their being screened across both shallow and deep zones. The production well water qualities are not indicative of seawater intrusion.
- Groundwater production in the Seaside Groundwater Basin decreased in Water Year 2010 by 697.3 acre-feet, representing a 13 percent reduction from Water Year 2009's production. This reduction in groundwater withdrawal brings the basin closer to hydrologic balance which is necessary to prevent seawater intrusion.
- Groundwater levels continue to be below protective elevations in all deep target monitoring wells (MSC deep, PCA-W, and Sentinel Well 3). Two of the three shallow wells' groundwater levels are above protective elevations: PCA-W shallow and CDM-MW4. MSC shallow remains below protective elevations.

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

1. Semi-Annual Water Quality Sampling in Well SBWM-4

Continue to collect semi-annual samples at sentinel well SBWM-4 because chloride concentrations from a depth of 900 feet below surface remain greater than 250 mg/L.

2. 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 be developed every year.

3. Refine MSC Shallow Protective Groundwater Elevation

It is recommended that the protective groundwater elevation for MSC shallow be refined using calibrated aquifer properties from the Seaside Basin groundwater flow model. It is expected that the protective elevation will be decrease by a few feet, which will make it more realistic to meet.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	4
AGENDA TITLE:	Initial Consultant Contracts for FY 2011 <ol style="list-style-type: none"> 1. MPWMD RFS No. 2011-01 2. MPWMD RFS No. 2011-02 3. HydroMetrics RFS No. 2011-01 4. HydroMetrics RFS No. 2011-02
PREPARED BY:	Robert Jaques, Technical Program Manager
<p>SUMMARY: Attached are the proposed initial contracts for each of the Watermaster’s consultants that are expected to work on M&MP activities during 2011. 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 attached RFSs constitute the proposed initial 2011 work assignments for MPWMD and HydroMetrics as follows:</p> <ul style="list-style-type: none"> • MPWMD RFS No. 2011-01 covering their normal M&MP tasks as in preceding years. This RFS also includes the initial work of further evaluating the coastal wells for cross-aquifer contamination potential, which was recommended by the Technical Program Manager under Item 2 on today’s Agenda. If revisions to that were made by the TAC under that Agenda item, the attached RFS No. 2011-01 will be revised accordingly. The recommended work to further evaluate these wells will only consume a portion of the amount Budgeted for this Task, so after the initial work is completed, if the TAC feels that further work should be performed in 2011, there should still be funds left in the Budget to do so. • MPWMD RFS No. 2011-02 covering their obtaining water quality and water level data from private producers who ask the Watermaster collect this data for them. • HydroMetrics RFS No. 2011-01 covering their providing general hydrogeologic consulting services. • HydroMetrics RFS No. 2011-02 covering their preparing the 2011 Seawater Intrusion Analysis Report. <p>These consultants are performing a final review of the cost and scope details of these proposed contracts, and may have some final edits to propose to them at today’s TAC meeting. Once the 2011 Schedule is finalized by the TAC under Agenda Item No. 7, the applicable portions of it will be inserted into these contracts.</p> <p>If so desired by the TAC, I will develop additional RFSs for HydroMetrics during 2011 to perform groundwater modeling of Scenario 2, to refine protective water levels, and to update the BMAP. These are shown as tasks in the proposed 2011 Work Schedule contained in Agenda Item No. 7, but are not yet scheduled.</p> <p>These contracts are on today’s TAC meeting agenda to provide the TAC with the opportunity to raise questions or make suggestions for changes to the scopes-of-work or costs, before they are presented to the Board for approval at the Board’s November 3, 2010, to ensure the contacts can be in effect at the start of 2011.</p>	
ATTACHMENTS:	4 - Proposed Consultant Contracts for FY 2011 (2 -MPWMD & 2- HydroMetrics)
RECOMMENDED ACTION:	Discuss and either modify or approve the proposed contracts

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2011 **RFS NO.** 2011-01 .
(To be filled in by WATERMASTER)

TO: Joe Oliver **FROM:** Robert Jaques .
Monterey Peninsula Water Management District WATERMASTER
PROFESSIONAL

Services Needed and Purpose:

Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2011
(See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2011-01 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: \$ 80,650.00 (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

Authorized by: _____ Date: _____ .
WATERMASTER Chief Executive Officer

Agreed to by: _____ Date: _____ .
PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2011-01

Background:

The Watermaster Board approved the Budget for the 2011 Management and Monitoring Program Work Plan (hereinafter referred to as the “2011 M&MP Work Plan”) at its meeting of September 22, 2010. For reference purposes the complete 2011 M&MP Work Plan is attached as Exhibit A to this Attachment 1.

This RFS No. 2011-01 authorizes PROFESSIONAL to perform certain work on certain of the Tasks described in the 2011 M&MP Work Plan, as described in Table 1 of this Attachment No. 1. The Task numbers listed in this Detailed Scope of Work for RFS No. 2010-01 correspond to the Task numbers in the 2010 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	PROFESSIONAL will perform water level and water quality data entry and data editing as necessary, and will provide appropriate quality control and quality assurance for this data. WATERMASTER will perform water production data entry and data editing as necessary. PROFESSIONAL will review the data entered by WATERMASTER for quality assurance and quality control purposes, and will notify WATERMASTER of any discrepancies PROFESSIONAL observes in this data. WATERMASTER will followup as appropriate with the water producers to resolve any such discrepancies. PROFESSIONAL will also host and maintain the Watermaster’s Database. Any changes to the Watermaster’s Database will be authorized under a separate agreement for performing database maintenance work for WATERMASTER. That agreement will either be with PROFESSIONAL or with another consultant.

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I. 2. b. 2.	Collect Monthly Water Levels	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. Dataloggers which have been installed on the four Coastal Sentinel, the four ASR monitoring, and the inland (BLM site) monitoring wells will be used to measure the levels at those wells. All of the other wells will be manually measured.
I. 2. b. 3.	Collect Quarterly Water Quality Samples	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 CaCO ₃), pH, Chloride, Sulfate, Ammonia Nitrogen (as NH ₃), Nitrate Nitrogen (as NO ₃), Total Organic Carbon, Calcium, Sodium, Magnesium, Potassium, Iron, Manganese, Orthophosphate, Total Dissolved Solids, Hardness (as CaCO ₃), Boron, Bromide, and Fluoride. This 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.
I. 2. b. 6.	Reports	PROFESSIONAL will prepare and submit reports to WATERMASTER summarizing and analyzing the data that is collected, according to the following schedule: <ol style="list-style-type: none"> <li data-bbox="548 1478 1403 1587">1. Submit quarterly reports summarizing and analyzing the water quality and water level data (1st & 2nd Quarter reports will be a combined report, 3rd and 4th Quarter reports will be separate). <li data-bbox="548 1587 1422 1766">2. Submit one annual report that contains tables consolidating the data from the quarterly reports and a narrative summarization of the findings, conclusions, and recommendations from the quarterly reports. This annual report may include, as attachments, each of the quarterly reports.

M&MP TASK NO.	TASK DESCRIPTION	WORK TO BE PERFORMED
I.3.d	Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	<p>PROFESSIONAL will perform the following initial work to further evaluate coastal wells for their potential risk of causing cross-aquifer contamination:</p> <ol style="list-style-type: none"> 1. Field verify older steel cased wells 2. Inspect seal placement on multiple aquifer wells 3. Investigate video logging of selected wells <p>PROFESSIONAL will prepare a report summarizing the findings of this work, with recommendations for any further followup work that should be done regarding this issue.</p>
I. 4. a and b	Review Seawater Intrusion Analyses	<p>WATERMASTER will have a consultant perform analyses and prepare mapping and other documents pertaining to seawater intrusion detection. PROFESSIONAL will participate in meetings with the consultant during the course of its work, and will provide review comments and recommendations to WATERMASTER regarding this work as it is being carried out by the consultant.</p>

Table 2

WELL NAME AND SUBAREA LOCATION ⁽⁸⁾	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⁾			
	Existing	Enhanced	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-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			X
SBWM MW-2-Deep (Purisima) ⁽⁶⁾		X					X			X
SBWM MW-3-Deep (Purisima) ⁽⁶⁾		X					X			X
SBWM MW-4-Deep (Purisima/Santa Margarita) ⁽⁶⁾		X					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)

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⁾			
	Existing	Enhanced	Level (Monthly)	Quality (Annually)	Level		Level		Quality	
					Frequency		Frequency		Frequency	
					Monthly	Quarterly	Monthly	Quarterly	Annually	Quarterly
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			
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 Driving Range (SCS Deep)-Shallow	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	
CAW East Fence-Shallow		X	X						X	
Laguna Seca County Park #4-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⁾=	41	22				14	20	12	0	15

Notes:

- (1) The wells within the Existing Monitoring Well Network are the wells that PROFESSIONAL has been monitoring in the recent years as part of PROFESSIONAL's own monitoring program. The wells within the Enhanced Monitoring Well Network are the wells to be monitored under this RFS.
- (2) Monitoring required by the Decision is the monitoring described in the Monitoring and Management Program which was incorporated by reference in the Decision of the Court dated February 9, 2007.
- (3) Monitoring currently being performed by PROFESSIONAL not subject to this RFS is monitoring work PROFESSIONAL is performing under other monitoring programs. This monitoring is not a part of this RFS.
- (4) Monitoring to be performed by PROFESSIONAL is the monitoring to be performed under this RFS.
- (5) The Enhanced Monitoring Well Network includes 15 wells recommended in the Enhanced Monitoring Well Network report prepared by PROFESSIONAL, dated October 23, 2007, plus the 4 new Sentinel Wells installed in 2007.
- (6) The Seaside Basin Watermaster (SBWM) wells are all equipped with dataloggers that obtain measurements at least daily, but will be manually sounded for water level on a quarterly basis for calibration purposes.
- (7) Not used.
- (8) Shallow=Paso Robles; Deep=Santa Margarita or Purisima.
- (9) This well is so close to the Laguna Seca Old No. 12 well that no water level monitoring is necessary.

Exhibit A

2011 M&MP Work Plan

Seaside Groundwater Basin Management and Monitoring Program FY 2011 Work Plan

The tasks outlined below are those that are anticipated to be performed during 2011. Some Tasks listed below are specific to 2011, while others Tasks recur throughout the program, such as data collection and database entry, and Program Administration Tasks.

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

M.1 Program Administration

M. 1. a. Project Budget and Controls (\$0)	Consultants will provide monthly or bimonthly invoices to the Watermaster for work performed under their contracts with the Watermaster. Consultants will perform maintenance of their internal budgets and schedules, and management of their subconsultants. The Watermaster will perform management of its Consultants.
M. 1. b. Assist with Board and TAC Agendas (\$0)	Watermaster staff will prepare Board and TAC meeting agenda materials. No assistance from Consultants is expected to be necessary to accomplish this Task.
M. 1. c. & M. 1. d Preparation for and Attendance at Meetings (\$5,150)	<p>The Consultants’ work will require internal meetings and possibly meetings with outside governmental agencies and the public. For meetings with outside agencies, other Consultants, or any other parties which are necessary for the conduct of the work of their contracts, the Consultants will set up the meetings and prepare agendas and meeting minutes to facilitate the meetings. These may include planning and review meetings with Watermaster staff. The costs for these meetings will be included in their contracts, under the specific Tasks and/or subtasks to which the meetings relate. The only meeting costs that will be incurred under Tasks M.1.c and M.1.d will be:</p> <ul style="list-style-type: none"> • Those associated with attendance at TAC meetings (either in person or by teleconference connection), including providing written monthly progress reports to the Watermaster for inclusion in the agenda packets for the TAC meetings, when requested by the Watermaster to do so. These progress reports will typically include project progress that has been made, problem identification and resolution, and planned upcoming work. and • From time-to-time when Watermaster staff asks Consultants to make special presentations to the Watermaster Board and/or the TAC, and which are not included in the Consultant’s contracts for other tasks. <p>Appropriate Consultant representatives will attend TAC meetings when requested to do so by Watermaster Staff (either in person or by teleconference connection), but will not be asked to prepare agendas or meeting minutes. As necessary, Consultants may provide oral updates to their progress reports (prepared under Task M.1.d) at the TAC meetings.</p>
M. 1. e. Peer Review of Documents and Reports (\$3,100)	When requested by the Watermaster staff, Consultants may be asked to assist the TAC and the Watermaster staff with peer reviews of documents and reports prepared by various other Watermaster Consultants and/or entities.
M. 1. f. QA/QC (\$0)	A Consultant (MPWMD) will provide general QA/QC support over the Seaside Basin Monitoring and Management Program.

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

I. 2. a. Database Management

I. 2. a. 1 Conduct Ongoing Data Entry and Database Maintenance/ Enhancement (\$13,000)	The database will be maintained by a Consultant performing this work for the Watermaster. Either one of the other Consultants or the Watermaster staff will enter new data into the consolidated database. Such data will include water production volumes, water quality and water level data, and such other data as may be appropriate. The database programming was enhanced in 2010 at the direction of the Watermaster to improve the usefulness and “user friendliness” of the database. No further enhancements are anticipated during 2011.
I. 2. a. 2 Verify Accuracy of Production Well Meters (\$0)	To ensure that water production data is accurate, the well meters of the major producers were verified for accuracy during 2009. No additional work of this type is anticipated during 2011.

I. 2. b. Data Collection Program

I. 2. b. 1. Site Representation and Selection. (\$0)	The monitoring well network review that was started in 2008 has been completed, and sites have been identified where future monitoring well(s) could be installed, if it is deemed necessary to do so in order to fill in data gaps. No further work of this type is anticipated in 2011.
I. 2. b. 2. Collect Monthly Manual Water Levels. (\$3,450)	Each of the monitoring wells will be visited on a monthly basis. Water levels will be determined by either taking manual water levels using an electric sounder, or by dataloggers.
I. 2. b. 3. Collect Quarterly Water Quality Samples. (\$68,600)	Water quality data will be collected quarterly from certain of the monitoring wells. This data may come from water quality samples that are taken from these wells and submitted to a State Certified analytic laboratory for general mineral and physical suite of analyses, or the data may come from induction logging of these wells and/or other data gathering techniques. The Consultant selected to perform this work will make this judgment based on consideration of costs and other factors. This Task includes \$5,000 to retrofit the wells that are sampled on an annual basis to use the new low-flow purge approach for getting water quality samples. The wells that are sampled quarterly have previously been retrofitted.
I. 2. b. 4. Update Program Schedule and Standard Operating Procedures. (\$0)	The TAC, with assistance from Consultants, has conducted periodic reviews of the data collection program. Only a few small improvements have been recommended in recent years, and these recommendations have been implemented. No additional work of this type is anticipated in 2011.
I. 2. b. 5. Monitor Well Construction (\$0)	An additional monitoring well was installed in 2009. No further work of this type is anticipated in 2011.
I. 2. b.6 Reports (\$6,900)	The groundwater level and quality monitoring will be conducted on a monthly, quarterly, and annual basis, as described in the Consultant’s Scope of Work. Reports summarizing data collected and analyzed will be submitted to the Watermaster on a schedule to be established during the year. Reports will include: <ul style="list-style-type: none"> • Water Quality and Water Level Quarterly Reports • An Annual Water Quality and Water Level Report

I. 3 Basin Management

I. 3. a. Enhanced Seaside Basin Groundwater Model (Costs listed in subtasks below)	As a result of the data obtained during Phase 1, including constructing new coastal sentinel monitoring wells and developing a consolidated database of groundwater production, water levels, and water quality, it was concluded that at that time it was not necessary to develop a new Model. Preliminary conclusions from work performed on preparing the Basin Management Action Plan in 2008, along with comments and questions from Technical Advisory Committee and Board members, indicated that it was desirable to update the existing Model during 2009, so that it could be used as more data becomes available.
I.3.a.1 Update the Existing Model (\$0)	The existing Model, described in the report titled "Groundwater Flow and Transport Model" dated October 1, 2007, was updated in 2009 in order to develop protective water levels, and to evaluate replenishment scenarios and develop answers to Basin management questions (Tasks I.3.a.2 and I.3.a.3). This work was done by a Consultant hired by the Watermaster. No further work of this type is anticipated in 2011.
I. 3. a. 2 Develop Protective Water Levels (\$25,000)	A series of cross-sectional models was created in order to develop protective water levels for selected production wells, as well as for the Basin as a whole. This work was done in 2009 by a Consultant hired by the Watermaster (HydroMetrics), and is discussed in HydroMetrics' "Seaside Groundwater Basin Protective Water Elevations Technical Memorandum." In 2010 further work was scheduled and budgeted to be done to refine these protective water levels to find the most cost-effective approach to provide the desired degree of protection. However, not all of the information needed to perform the refinements was available in 2010, so this Task has been rescheduled to occur in 2011.
I. 3. a. 3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions (\$25,000)	The updated Model was used to evaluate different scenarios to determine such things as the most effective methods of using supplemental water sources to replenish the Basin and/or to assess the impacts of pumping redistribution. This work was done in 2009 by a Consultant hired by the Watermaster (HydroMetrics), and is described in HydroMetrics' "Seaside Groundwater Basin Groundwater Model Report." In 2010 HydroMetrics used the updated Model to develop answers to some questions associated with Basin management. In 2011 if requested by the Watermaster additional work may be performed to answer additional questions.
I. 3. b. Complete Preparation of Basin Management Action Plan (\$0)	The Watermaster's Consultant completed preparation of the Basin Management Action Plan (BMAP) in February 2009. The BMAP serves as the Watermaster's long-term seawater intrusion prevention plan. The Sections that are included in the BMAP are: <ul style="list-style-type: none">• Executive Summary• Section 1 – Background and Purpose• Section 2 – State of the Seaside Groundwater Basin• Section 3 – Supplemental Water Supplies• Section 4 –Groundwater Management Actions• Section 5 – Recommended Management Strategies• Section 6 – References The only work which is anticipated to be performed on the BMAP in 2011 is discussed under Task I. 3. c.

<p>I. 3. c. Refine and/or Update the Basin Management Action Plan (\$25,000)</p>	<p>During 2011 it may be beneficial to update the BMAP based on new data, and/or knowledge that is gained from the work described under Tasks I. 3. a. 2 and/or I. 3. a. 3. Such work might involve issues pertaining to Basin storage capacity, water storage rights, or pumping redistribution strategies. This work was originally scheduled and budgeted for 2010, but not all of the information needed to update the BMAP was available, so the updating has been rescheduled to occur in 2011. This task is included primarily for budgeting purposes in the event such work is deemed necessary.</p>
<p>I. 3. d. Evaluate Coastal Wells for Cross-Aquifer Contamination Potential (\$10,000)</p>	<p>If seawater intrusion were to reach any of the coastal wells in any aquifer, and if a well was constructed without proper seals to prevent cross-aquifer communication, or if deterioration of the well had compromised these seals, it would be possible for the intrusion to flow from one aquifer to another. In 2010 a preliminary review of the well construction records for each of the coastal wells was made. As a result of that review it was deemed desirable to further evaluate certain higher-risk wells in 2011 to determine whether or not they were properly constructed so as to prevent such cross-aquifer contamination from occurring. As part of this further evaluation, records will also be reviewed to determine whether there is any indication of well seal deterioration that would lead to the potential for cross-aquifer contamination. A report summarizing the findings of this further evaluation will be prepared, with recommendations for any further followup work that should be done.</p>
<p><i>I. 4 Seawater Intrusion Response Plan (formerly referred to as the Seawater Intrusion Contingency Plan)</i></p>	
<p>I. 4. a. Oversight of Seawater Intrusion Detection and Tracking (\$5,750)</p>	<p>A Consultant will provide general oversight over the Seawater Intrusion detection program.</p>
<p>I. 4. b. Analyze and Map Water Quality from Coastal Monitoring Wells (costs included above under Task I. 4. a)</p>	<p>Annual chloride concentration maps will be produced incorporating the data from the coastal wells. Data from the Phase 1 coastal sentinel wells will be used to develop time series graphs.</p>
<p>I. 4. c. Annual Report- Seawater Intrusion Analysis (\$25,750)</p>	<p>At the end of each water year, a Consultant will reanalyze all water quality data. Semi-annual chloride concentration maps will be produced for each aquifer in the basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The annual EM logs will be analyzed to identify changes in seawater wedge locations. All analyses will be incorporated into an annual report that follows the format of the initial, historical data report. Potential seawater intrusion will be highlighted in the report, and if necessary, recommendations will be included. The annual report will be submitted for review by the TAC and the Board. Modifications to the report will be incorporated based on input from these bodies, as well as Watermaster staff.</p>
<p>I. 4. d. Complete Preparation of Seawater Intrusion Response Plan (\$0)</p>	<p>The Watermaster's Consultant (HydroMetrics) completed preparation of the long-term Seawater Intrusion Response Plans (SIRP) in February 2009. The Sections that are included in the SIRP are:</p> <ul style="list-style-type: none"> • Section 1 – Background and Purpose • Section 2 – Consistency with Other Documents • Section 3 – Seawater Intrusion Indicators and Triggers • Section 4 –Seawater Intrusion Contingency Actions • Section 5 - References <p>No further work on the SIRP is anticipated in 2011.</p>

I. 4. e. Refine and/or Update the Seawater Intrusion Response Plan (\$0)	At the beginning of 2009 it was thought that it might be beneficial or necessary to perform work to refine the SIRP and/or to update it based on new data or knowledge that was gained subsequent to the preparation of the SIRP. However, this did not prove to be necessary, and no further work of this type is anticipated in 2011.
I. 4. f. If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan (\$0)	The SIRP will be implemented if seawater intrusion, as defined in the Plan, is determined by the Watermaster to be occurring.

ATTACHMENT 2
SCHEDULE

[TO BE ADDED AFTER 10-13-10 TAC MEETING]

ATTACHMENT 3
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	\$100	Other services needed to host and maintain Watermaster's Database: 12 months @ ~2 hours/month @ \$130/hour = \$3,100	\$3,100	\$12,700
I. 2. b. 2.	12 mo. @ 4 hrs/mo.	48	\$70	N/A	\$0	\$3,360
I. 2. b. 3.	Existing Coastal wells (6 wells @ 3 sites): 4 events @ 20 hrs/event	80	\$70	Fuel: 4 events @ \$10/site x 3 sites = \$120; Lab costs: 4 events @ \$200/well x 6 wells = \$4,800.	\$4,920	\$10,520
	Annual WQ wells per Table 2: 1 event @ 24 hrs/event = 24 hrs: Quarterly new WQ wells per Table 2 (BLM site): 4 events @ 4 hr/event = 16 hrs [SHOULD THE 4 EVENTS DROP BACK TO ONE EVENT PER YEAR, I.E. ANNUALLY VICE VERSA]	40	\$70	One-time eductor setup (BLM site): \$500 x 2 sites = \$1000; Airlift equip.: \$100 x 1 site x 4 events = \$400; Fuel: \$20 x 1 site x 4 events = \$80; Lab cost (annual WQ wells): \$200 x 15 wells x 1 event = \$3,000; Lab cost (quarterly BLM site): \$200 x 2 wells x 4 events = \$1,600; One-time perm. pump retrofits (2 sites): \$2,500 x 2 sites = \$5,000.	\$11,080	\$13,880
	WM Sentinel and Northern Inland wells: download/store dataloggers, 4 events @ 2 hrs/event	8	\$70	N/A	\$0	\$560
	WM Sentinel wells: (Semi-annual induction logging - all 4 sites; annual WQ samples - all 4 sites; semi-annual WQ samples - SBWM MW-4 site) 2 events @ 4 wells @ 3 hrs/well.	24	\$70	Induction logging: \$7,200 for all 4 sites/event x 2 events = \$14,400; Lab cost (annual): \$200 x 4 sites x 2 samples = \$1,600; Lab cost (second sampling @ SBWM MW-4): \$200 x 1 site x 2 samples = \$400.	\$16,400	\$18,080
	Compile data: 4 events @ 25 hours/event	100	\$70	N/A	\$0	\$7,000
I. 2. b. 6	4 - quarterly reports @ 12 hrs/report	48	\$85	N/A	\$0	\$4,080
	1- annual report @ 16 hrs	16	\$100	N/A	\$0	\$1,600
I.3.d	Initial portion of further evaluation of Coastal Wells for cross-aquifer contamination potential	62	\$85	N/A	\$0	\$5,270
I. 4. a and b	12 mo. @ 3 hrs/mo.	36	\$100	N/A	\$0	\$3,600

TOTAL ESTIMATED COST = \$80,650

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, 2011 **RFS NO.** 2011-02 .
(To be filled in by WATERMASTER)

TO: Joe Oliver **FROM:** Robert Jaques .
Monterey Peninsula Water Management District WATERMASTER
PROFESSIONAL

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. 2011-02 shall be completed on an as-directed basis from the Watermaster during 2011. All work under this RFS will be completed not later than December 31, 2011.

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

Total Price Authorized by this RFS: \$5,760.00 (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

Authorized by: _____ Date: _____
WATERMASTER Chief Executive Officer

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work for RFS No. 2011-02

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. 2011-02 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 \$70/hr, so the estimated cost per water level measurement would be \$35.

The total estimated cost would be \$420 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 \$200 per sample for the laboratory analysis. The sampling work would be billed at the field rate of \$70/hr, so the estimated cost per annual water quality sample would be \$70 for labor, and \$200 for laboratory services, for a total cost per sample of \$270. Only one sample per well will need to be collected and analyzed in 2011. This sample will be collected in the fall of 2011.

The total estimated cost for collecting and analyzing the sample per well is \$270.

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 \$690.

Of the wells listed in Table 1 it is assumed that not more than 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 @ \$420 = \$2,520
Potential No. of Wells Needing Water Quality Data Collected = 6 @ \$270 = \$1,620
TOTAL = \$4,140

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	MPRPD	Y	T16S/R2E-05Gd	Y	?	N	
173-011-025, -026	LS Cnty Park #4	MPRPD	Y	T16S/R2E-05Ge	Y	?	N	
					Y = 38	N or ? = 21	Y = 16	N or ? = 16

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2011 **RFS NO.** 2011-01
(To be filled in by WATERMASTER)

TO: Derrick Williams **FROM:** Robert Jaques
HydroMetrics LLC WATERMASTER
PROFESSIONAL

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, 2011, 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: \$ 12,000.00 (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

Authorized by: _____ Date: _____
WATERMASTER Chief Executive Officer

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, and BMAP and SIRP implementation issues.

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 2011 Monitoring and Management Program (M&MP) to which this RFS No. 2011-01 pertains are:

- M. 1. c - Preparation and Attendance of Meetings
- M. 1. e - Peer Review of Documents and Reports
- I. 2. b. 6 - Reports
- I. 4. a. - Oversight of Seawater Intrusion Detection and Tracking

ESTIMATED COSTS

General Consulting Services, including attending some TAC and other meetings either via telephone or in-person in Seaside, as requested by WATERMASTER will be billed at the following hourly rates, including all markups and other direct costs:

Derrick Williams = \$180.00/hour Georgina King = \$160.00/hour

In addition to hourly labor costs, an allowance of \$1,000.00 is included in this RFS to cover travel and other incidental costs associated with the performance of this work.

The total cost authorized by this RFS No. 2011-01 is \$12,000.00.

ATTACHMENT 2
SCHEDULE

[APPLICABLE PORTIONS OF THE SCHEDULE TO BE INSERTED
HERE AFTER APPROVAL BY TAC @ OCTOBER 13, 2010
MEETING]

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2011 **RFS NO.** 2011-02 (To be filled in by WATERMASTER)

TO: Derrick Williams **FROM:** Robert Jaques
HydroMetrics LLC WATERMASTER
PROFESSIONAL

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2011. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2011, and shall be performed in accordance with the Schedule contained in Attachment 2.

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

Total Price Authorized by this RFS: \$ 22,020.00 (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

Authorized by: _____ Date: _____
WATERMASTER Chief Executive Officer

Agreed to by: _____ Date: _____
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

The scope consists of providing professional consulting services to WATERMASTER for preparation of the 2010 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2010 SIAR will be incorporated directly into the 2011 SIAR. Changes that will be incorporated into the 2011 SIAR will include:

- Updating charts, graphs, and maps to reflect the most recent sampling and water level data.
- Analyzing the quarterly electric induction logs (EM logs) from the coastal sentinel wells to look for evidence of seawater intrusion.
- Incorporating data from the new Northern Inland (BLM Site) well which was added to WATERMASTER's enhanced monitoring well network in late 2009.

Preparing the 2011 SIAR will involve analyzing all water quality data at the end of Water Year 2011 (October 1, 2010 to September 30, 2011) and producing semi-annual (2nd and 4th quarters 2011) 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 2011 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 2011 SIAR. A CD containing an electronic version of the entire Final 2011 SIAR in MS Word and 15 printed and bound copies of the Final 2011 SIAR will be provided to WATERMASTER.

ATTACHMENT 2

**[APPLICABLE PORTIONS OF THE SCHEDULE TO BE INSERTED
AFTER TAC APPROVAL AT THE OCTOBER 13, 2010 TAC
MEETING]**

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.

DETAILED BREAKDOWN OF ESTIMATED COSTS

HOURLY RATES:

Derrick Williams = \$180.00

Georgina King = \$160.00

Task	Hours		Costs			
	Derrick Williams	Georgina King	Derrick Williams	Georgina King	Expenses	Total Costs
2010 Seawater Intrusion Analysis Report						
Produce 2011 SIAR	16	88	\$2,880	\$14,080	\$3,130	\$20,090
Attend One TAC Meeting in Monterey	10	0	\$1,800	\$0	\$130	\$1,930
TOTALS	26	88	\$4,680	\$14,080	\$3,260	\$22,020

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	5
AGENDA TITLE:	Discuss and Potentially Take Action Regarding Revising Definition of Quorum for TAC Meetings and Voting Requirements for Taking Action at TAC Meetings
PREPARED BY:	Robert Jaques, Technical Program Manager
<p>SUMMARY: The issue has arisen on several occasions as to how many members must be present to constitute a “quorum” for holding a TAC meeting, and also how many members must vote at those meetings in order for the TAC to take an action. In some instances this has resulted in the TAC being unable to conduct a meeting, or to take action on any issues. The attached “Discussion Paper on TAC Quorum and Voting Issues” provides background information on this topic and proposes solutions to these problems.</p> <p>I recommend that the TAC approve having the Technical Program Manager request that the Board take the following actions to amend its current Rules and Regulations:</p> <ol style="list-style-type: none"> 1. Formally clarify that all of the "Parties" are invited to send a representative to participate in TAC meetings, and that each of those representatives would have a voting right on the TAC if they were in attendance, but that as long as representatives of at least 3 of the "Parties" are present, the TAC can hold a meeting and act on the items on its Agenda and forward any recommendations coming out of those meetings as the TAC's recommendations to the Board. 2. State that only an affirmative vote of a majority of the TAC members <u>present</u> at any TAC meeting is necessary to take an action, as long as the prerequisite number of TAC representatives (3) was present for the meeting. <p>Proposed language to be revised in the Board’s “Rules and Regulations” is attached.</p>	
ATTACHMENTS:	<ol style="list-style-type: none"> 1. Discussion Paper on TAC Quorum and Voting Issues 2. Proposed language revisions to the Board’s “Rules and Regulations”
RECOMMENDED ACTION:	Approve or edit the recommendations described above

DISCUSSION PAPER ON TAC QUORUM AND VOTING ISSUES

Prepared by Robert Jaques, Technical Program Manager

Background

John Fischer sometimes raised the issue of how many TAC members must be present for the TAC to conduct its meetings or take any actions, and also how many votes need to be cast at those meetings to constitute taking action.

Mr. Fischer was of the belief that at least 6 TAC members must be present, or a TAC meeting could not be held. He said he based this understanding on that fact that there are 10 designated TAC members, and that a majority number of those members must be present for the TAC to convene a meeting. He also stated his belief that at least 6 members must vote on an item for any action to be taken on it. His basis for this belief was the same as that just stated regarding the number of TAC members necessary to conduct a meeting.

I contacted Dave Laredo, Legal Counsel for the MPWMD, and asked for his input and suggestions on this matter. He stated that he believed Mr. Fischer was correct in his belief that 6 TAC members constituted a quorum, and that a majority of the members is needed for any specific action of TAC.

Mr. Laredo went on to say that it was his understanding that the function of the TAC was to serve as a recommending body that is not required to meet, and has no specific discretion to exercise. He said that the quorum and vote requirements noted by Mr. Fisher only become significant if formal action, or a TAC decision, is required by law or regulation.

He further stated that at any time the TAC has less than a quorum, it is a meeting of a "Committee of the Whole." As such, no meeting of the TAC takes place, and no vote of the TAC occurs. Nonetheless, a discussion can be held as a sub-quorum committee, and the discussion and recommendation from that group can be reported to the Board (and to the full TAC) as a recommendation of those attending the Committee of the Whole meeting. Similarly, if a quorum does meet, but less than a majority of the main body fails to vote in favor, TAC can report the actual vote (e.g. "a subset of the group recommended approval on a vote of 4 - 2").

Mr. Laredo offered another approach if the information he provided above did not meet our needs and that would be for the Watermaster Board to designate a TAC Executive Committee, and appoint to it those TAC members who can be expected to regularly attend TAC meetings. The Watermaster Board could then authorize the TAC Executive Committee to act on behalf of the TAC, if and when a quorum of the TAC could not otherwise meet. He said that this approach would require a meeting rule amendment by the Watermaster Board.

Watermaster Board Rules and Regulations Pertaining to These Issues

Shortly after its inception the Watermaster Board developed and formally adopted a set of "Rules and Regulations." The following items discuss those Sections of the Rules and Regulations that pertain to quorum and voting issues affecting the TAC:

1. **Brown Act Applicability:** Paragraph 3.1 of the Rules and Regulations defines the term "Member" to mean the individual appointed by each of the "Parties" to serve on the Board [emphasis added]. Paragraph 4.2 defines "Alternate Members" to mean the individual appointed by each of the "Parties" to act in place of the "Member" if the "Member" is absent at a Board meeting [emphasis added]. Paragraph 3.3 describes how the Board will establish its committees and appoint persons to serve on those committees, and also states that such appointees need not be "Members". It also states that no more than 5 "Members" or "Alternates" may serve on any individual committee. Paragraph 3.3.1.1 defines the Technical Advisory Committee as one of the Board's standing committees. In my view this is why the Brown Act applies to the TAC, since the Brown Act applies to standing committees of the legislative

(governing) body. However, in our case there are no "Members" or "Alternates" (as far as I know) that serve on the TAC. Rather, each of the Parties sends a member of its staff to represent it at the TAC.

It seems to me that the Brown Act really shouldn't apply to the TAC, because the TAC has no "continuing subject matter jurisdiction", nor does it have a "meeting schedule that was fixed by a formal action of a legislative body" (the Board). Per the Brown Act these are the two means by which a standing committee is created by a legislative body. In fact the TAC established its own meeting schedule, and cancels and/or reschedules meetings on its own, not at the direction of the Board. However, it seems that the Board, when it created its standing committees, intended that they operate subject to the Brown Act, so this appears to be a moot point.

The "actions" of the TAC are essentially to make recommendations to the Board, which must approve those recommendations before any real "action" is taken, e.g. consultant contracts awarded, approval or acceptance of work products such as consultant reports, budgets, M&MP scopes of work, etc. Thus, the TAC has not been given any "subject matter jurisdiction" of its own by the Board, because the Board retains that jurisdiction over such matters at its own level.

2. Voting and the Conduct of TAC Meetings: The Brown Act issues discussed above really in and of themselves don't present any problem, except that it invites some of the language in the Rules and Regulations to appear to become applicable to the TAC, when I don't know if that is truly what the Board intended. For example Paragraph 3.1.1 states that the Board must have a minimum of 6 members present to constitute a quorum, and that a minimum of 7 affirmative votes are required for any action of the Watermaster (which I construe to really mean any action of the Watermaster Board). However, I did not find any language in the Rules and Regulations that states how many TAC members must be present to constitute a quorum, nor how many affirmative votes are needed for any action of the TAC. Again, as discussed above, the TAC doesn't really take "action" in the true sense of the word in this context, since all it can do is to make recommendations to the Board for it to act upon.

I do not know the background of how and why the TAC ended up having all 9 of the "Parties" represented on it, plus a "Public Member". I assume that when the TAC was created it seemed logical to the Board that all of the Parties should be invited to participate in TAC activities, if they wanted to, and that having a member of the public would somehow add to the value of the TAC's work. But there is nothing I could find in the Rules and Regulations that states that this will be the makeup of the TAC, just as there is nothing in the Rules and Regulations that states what the makeup of the other standing committee, the Budget and Finance Committee, is to be. In fact the B&F Committee has only about 4 members on it, and all of these actually are "Members" as defined in paragraph 3.1, whereas there are no "Members" or "Alternates" on the TAC. So there are clear differences between the makeups of these two committees, even though they are both defined as standing committees.

All of this complexity leaves the potential for differing interpretations, which in turn may make it confusing and difficult for the TAC to conduct business. For example, in the past only 6 of the 10 members of the TAC typically attended any TAC meeting, with representatives from the Cities of Sand City and Del Rey Oaks, and the Coastal and Laguna Seca Subarea, rarely if ever in attendance. If any one of these 6 was unable to attend or send an alternate, then by one interpretation the TAC could not have held a meeting, which in most instances would have set us a month behind on our work schedule. With John Fischer's recent passing, it will be nearly impossible for future TAC meetings to be legitimate meetings, since they will in all likelihood lack the 6 members-present criteria. This could prevent the TAC from being able to make recommendations to the Board.

Discussion

The TAC currently has 10 designated members on it, as prescribed by the WM Board and its Rules and Regulations. However, many of these members virtually never attend and in fact some have NEVER attended during the entire existence of the TAC.

Consequently, we typically have not more than 6 TAC members at any meeting. This included Mr. Fischer who was the "Public Member" and was a regular attendee. Unfortunately, Mr. Fischer recently passed away, and consequently we will likely have not more than 5 TAC members attending future meetings.

With the number of TAC members now standing at 9 (assuming that the Board does not refill the vacant Public Member position, as they appeared to indicate would be their decision if it became vacant) the number of members that would need to be present to conduct a meeting, and to take action by voting, would be 5 if a simple majority of the members must be present to conduct a meeting. This poses a problem for the TAC, as all it would take would be for one of the regular attendees to be absent, and there could be no meeting and no action could be taken.

This is impractical, in my view, as the TAC membership was created by the Board so that all of the Board's Members could have a seat at the TAC meetings. However, many of the Board Members apparently feel that by participating on the Board, through which all actions of the TAC must pass and be approved before they can be carried out, they can remain fully informed and involved in the TAC's activities without having to attend TAC meetings in person.

Proposed Approach to Resolve These Issues

So that the TAC can function in the way I think the Board probably intended when it created the TAC as a standing committee, here are some thoughts on resolving these issues:

1. The Board could take an action to clarify that while all of the "Parties" are invited to send a representative to participate in TAC meetings, and that each of those representatives would have a voting right on the TAC if they were in attendance, as long as representatives of at least "X" of the "Parties" are present the TAC can hold a meeting and act on the items on its Agenda and forward any recommendations coming out of those meetings as the TAC's recommendations to the Board. I suggest that "X" be not more than 4, and preferably only 3, as it would not be unusual for sickness or a meeting schedule conflict to sometimes leave us with only 3 "Parties" represented at a TAC meeting.
2. The Board could also take an action to state that only an affirmative vote of a majority of the TAC members present at any TAC meeting is necessary to take an action, as long as the prerequisite number of TAC representatives (either 3 or 4) was present for the meeting. This seems to be how the B&F Committee is currently meeting and taking its actions, i.e. no number of affirmative votes is specified in the Rules and Regulations saying that no action of the B&F Committee can be taken unless that specified number of affirmative votes is cast.

PROPOSED LANGUAGE REVISIONS TO THE BOARD’S
“RULES AND REGULATIONS”

Revise Section 3.1.1 *Quorum* by adding a second paragraph to that Section reading:

“A minimum of three (3) Members shall be required to constitute a quorum of the Technical Advisory Committee. No fewer than two (2) affirmative votes shall be required for any action by the Technical Advisory Committee.”

Revise Section 3.3.1.1 *Technical Advisory Committee* by adding a paragraph reading:

“The Technical Advisory Committee shall be comprised of one representative from each of the Parties. In recognition of the fact that some of the Parties may only have their representatives attend Board meetings, and not Technical Advisory Committee meetings, the Quorum for meetings of the Technical Advisory Committee, and the number of votes required for actions by the Technical Advisory Committee, has been set lower than the Quorum and affirmative votes required for meetings of the Board, as defined in Section 3.1.1.”

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	6
AGENDA TITLE:	Report by MPWMD on Program Schedule and Standard Operating Procedures
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY Mr. Oliver of MPWMD will provide an oral report on this topic, and will entertain questions/recommendations from the TAC at today's meeting.	
ATTACHMENTS:	None
RECOMMENDED ACTION:	Discuss and provide to the Technical Program Manager any recommendations the TAC may have on this topic

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	7
AGENDA TITLE:	Discuss and Potentially Take Action Regarding Performing Another Wellhead Elevation Survey in 2011 to Determine Whether or Not Subsidence is Occurring
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

In 2008 through a contract with Central Coast Surveyors the Watermaster performed a wellhead elevation and location survey on each of the wells being monitored by the Watermaster. The purpose of the survey was twofold: (1) to obtain accurate coordinate locations for each of these wells, and (2) to obtain elevation data at each of these well sites so that data from subsequent surveys could be compared to the 2008 survey data to determine whether or not ground subsidence was occurring at any of these sites. This work was performed in part in response to a question from the Court in its Order dated December 12, 2008 containing comments and questions pertaining to the Watermaster's 2008 Annual Report. In that Order the Court raised the question of whether subsidence would be a likely result of dewatering of the deep aquifer in the Coastal Subarea of the Seaside Basin.

Attached is a spreadsheet prepared by Central Coast Surveyors in 2008 showing the elevations of each of the wells that were surveyed.

In the written response to the Court on each of the questions and comments in its December 12, 2008 Order the Watermaster stated that it planned to perform another survey in 2011 (three years after the initial survey) to confirm the Watermaster's belief that subsidence is not an issue of concern in any area of the Basin.

The TAC is asked to discuss this topic at today's meeting, including consideration of any pertinent data that may have been obtained since the initial survey was performed, and to provide its recommendation to the Technical Program Manager as to whether or not another survey should be performed in 2011.

This item was not identified in the Work Plan for the Management and Monitoring Program (M&MP) for 2011, which was approved by the TAC, and then by the Board, at the last meetings of those respective bodies. Hence, it was not included in the M&MP Budget for FY 2011. However, a contingency line-item was approved in the budget, and would likely be sufficient to cover the costs of performing another survey, if another survey is recommended by the TAC and subsequently approved by the Board. The original survey cost approximately \$8,000. If the TAC recommends performing another wellhead survey, that work will be added to the 2011 Schedule.

ATTACHMENTS:	Spreadsheet prepared by Central Coast Surveyors containing the data obtained from their 2008 survey of these wells
RECOMMENDED ACTION:	Provide direction to the Technical Program Manager as to whether another survey should be performed in 2011.

SEASIDE WATER BASIN

Client: Seaside Watermaster

Date of Survey: 5/28/08

Project Location: SEASIDE, CA

Well	Horizontal Location Northing (NAD 83-CAL Z4)	Horizontal Location Easting (NAD 83-CAL Z4)	Ground Level Vertical Elevation (NAVD 88)	Top of Well Vertical Elevation (NAVD 88)	Top of Slab Vertical Elevation (NAVD 88)	Ground Level Vertical Elevation (NGVD 29)	Top of Well Vertical Elevation (NGVD 29)	Top of Slab Vertical Elevation (NAVD 29)
ASR - 1	2120835.48	5734970.21	338.41	340.20	339.24	335.64	337.43	336.47
ASR - 2	2120978.33	5735215.79	356.97	357.63		354.20	354.86	
ASR MW-1	2120884.14	5735046.99	340.09	341.25		337.32	338.48	
Bay Ridge	2098752.56	5752779.02	546.69	548.89	546.69	543.80	546.00	543.80
Bishop No. 1 West	2103208.65	5746821.30	399.25	401.78	399.87	396.38	398.91	397.00
Bishop No. 2 East	2103617.47	5748327.31	419.57	421.31	420.51	416.70	418.44	417.64
Blue Larkspur - East End	2102666.95	5740134.86	254.49	256.26		251.65	253.42	
CAW - Granite Construction	2107023.58	5734460.40	229.28	229.40	229.49	226.48	226.60	226.69
CDM-MW-3	2120754.06	5725212.82	37.41	36.78		34.69	34.06	
CDM-MW-4	2118160.48	5723096.39	22.21	21.66		19.48	18.93	
Coe Ave	2123095.63	5731252.15	112.04	113.12	112.04	109.30	110.38	109.30
Cypress Pacific	2120708.90	5726071.05	53.55	53.20	52.70	50.83	50.48	49.98
Darwin	2119429.40	5730454.94	135.81	137.02	136.84	133.06	134.27	134.09
Del Monte Test	2120295.81	5727252.86	34.99	35.59	35.46	32.26	32.86	32.73
East Valley	2103412.87	5748484.39	426.67	427.52	426.67	423.80	424.65	423.80
FO_01 Deep	2115476.71	5733522.94	366.06	365.54		363.28	362.76	
FO_01 Shallow	2115476.95	5733522.83	366.06	365.58		363.28	362.80	
FO_03 Deep	2109597.74	5753627.68	778.26	777.71		775.37	774.82	
FO_04 East Shallow	2111825.54	5731361.68	171.40	171.20		168.63	168.43	
FO_04 West Deep	2111827.99	5731352.33	170.76	170.41		167.99	167.64	
FO_05 Deep	2103198.05	5755836.16	479.61	482.26		476.71	479.36	
FO_05 Shallow	2103198.11	5755836.42	479.61	481.94		476.71	479.04	
FO_06 Deep	2102686.42	5753167.29	471.43	473.60		468.54	470.71	
FO_06 Shallow	2102686.65	5753167.69	471.43	473.10		468.54	470.21	
FO_07 Deep	2122687.86	5738813.33	476.92	476.41		474.13	473.62	
FO_07 Shallow	2122688.27	5738813.14	476.92	476.41		474.13	473.62	
FO_08 Deep	2126741.12	5739733.42	382.10	381.07		379.32	378.29	
FO_08 Shallow	2126740.80	5739733.27	382.10	381.01		379.32	378.23	
FO_09 Deep	2127577.84	5732198.38	121.58	121.82	122.00	118.84	119.08	119.26

Well	Horizontal Location Northing (NAD 83-CAL Z4)	Horizontal Location Easting (NAD 83-CAL Z4)	Ground Level Vertical Elevation (NAVD 88)	Top of Well Vertical Elevation (NAVD 88)	Top of Slab Vertical Elevation (NAVD 88)	Ground Level Vertical Elevation (NGVD 29)	Top of Well Vertical Elevation (NGVD 29)	Top of Slab Vertical Elevation (NAVD 29)
FO_09 Shallow	2127577.59	5732198.85	121.58	121.86	122.00	118.84	119.12	119.26
FO_10 Deep	2130542.76	5738065.90	203.42	204.00	204.12	200.66	201.24	201.36
FO_10 Shallow	2130542.84	5738065.63	203.42	203.82	204.12	200.66	201.06	201.36
FO_11 Deep	2130659.55	5744859.12	336.17	335.93		333.39	333.15	
FO_11 Shallow	2130659.79	5744859.20	336.17	335.90		333.39	333.12	
Hilby MGT	2114872.62	5730699.57	250.83	251.01	250.83	248.07	248.25	248.07
Justin Ct	2106516.31	5735062.85	241.49	243.25		238.68	240.44	
Kmart	2117361.24	5724054.81	33.82	33.62		31.09	30.89	
Laguna Seca Driving Range	2105251.46	5750769.49	517.97	517.36		515.09	514.48	
LS - Old No. 12	2103287.78	5744129.13	368.79	370.99	369.27	365.93	368.13	366.41
LS CNTY Park #1	2103068.36	5749435.11		395.69			392.81	
LS CNTY Park #2	2103001.31	5749416.46		393.87			390.99	
LS Driving Ranch SCS - Deep	2104523.09	5742662.03	490.55	491.31		487.70	488.46	
LS No. 1 Subdivision	2102477.87	5740955.97	279.68	280.10	279.68	276.83	277.25	276.83
Luxton	2119476.88	5729512.78	91.23	92.09	91.23	88.48	89.34	88.48
Luzern Well #2	2120549.77	5731142.85	158.46	159.96		155.71	157.21	
Military	2121670.30	5731670.78	138.65	138.77	138.65	135.90	136.02	135.90
MMP Old Rusty	2120661.59	5734503.52	318.01	318.39		315.24	315.62	
MSC - Deep	2121884.57	5726380.96	80.22	83.26		77.50	80.54	
MSC - Shallow	2121885.62	5726373.80	80.20	83.07		77.48	80.35	
Mutual	2098716.39	5752720.56	546.00	547.08	546.30	543.11	544.19	543.41
MW-B-22-180	2131192.92	5736797.38	170.37	171.07	170.37	167.62	168.32	167.62
MW-BW-08A	2113916.77	5731787.62	206.24	208.15	206.24	203.47	205.38	203.47
MW-BW-09-180	2113879.98	5731774.68	206.69	209.19	206.69	203.92	206.42	203.92
Ord Grove No. 2	2120214.57	5733486.40		295.36	295.16		292.60	292.40
Ord Grove Test	2120227.02	5733554.52	297.50	296.97		294.74	294.21	
Ord Terrace School Deep	2120611.00	5732707.09	231.71	231.60	231.71	228.95	228.84	228.95
Ord Terrace School Shallow	2120610.73	5732707.30	231.71	231.62	231.71	228.95	228.86	228.95
Paralta	2121498.53	5734882.41	332.56	327.46	336.13	329.79	324.69	333.36

Well	Horizontal Location Northing (NAD 83-CAL Z4)	Horizontal Location Easting (NAD 83-CAL Z4)	Ground Level Vertical Elevation (NAVD 88)	Top of Well Vertical Elevation (NAVD 88)	Top of Slab Vertical Elevation (NAVD 88)	Ground Level Vertical Elevation (NGVD 29)	Top of Well Vertical Elevation (NGVD 29)	Top of Slab Vertical Elevation (NAVD 29)
Paralta Test	2121515.88	5734876.29	334.23	333.69		331.46	330.92	
Pasadera Main Gate	2101738.17	5745741.55	347.59	348.39		344.73	345.53	
Pasadera Paddock	2101766.71	5746062.55	354.38	355.66	355.24	351.51	352.79	352.37
PCA - West Deep	2124081.00	5728025.88	66.05	68.15		63.32	65.42	
PCA - West Shallow	2124072.37	5727997.08	65.77	67.19		63.05	64.47	
PCA East - Deep	2123145.71	5729011.81	71.77	71.51		69.04	68.78	
PCA East - Shallow	2123145.87	5729011.71	71.77	71.48		69.04	68.75	
Playa No. 3	2120509.26	5728351.78	54.50	55.99	55.40	51.76	53.25	52.66
Playa No. 4	2120435.18	5728412.30	54.08	55.50	54.38	51.34	52.76	51.64
Plumas #4	2113005.58	5729732.59	163.47	164.45		160.71	161.69	
Plumas '90 Test	2112991.81	5729709.54	160.80	160.80		158.04	158.04	
PRTIW	2120999.09	5734662.01	329.42	331.39	329.42	326.65	328.62	326.65
Public Works Corp. Yard	2119064.20	5725134.83	49.97	50.22		47.25	47.50	
Reservoir	2122247.35	5736108.96	418.31	420.41	418.75	415.54	417.64	415.98
Robinette - Design Ctr.	2118111.61	5725180.74	23.51	24.28	24.27	20.78	21.55	21.54
Robley North	2098855.67	5754305.57	569.89	569.51		566.99	566.61	
Robley South	2098859.72	5754308.76	569.72	569.41		566.82	566.51	
Ryan Ranch No. 11	2104906.36	5737003.46	308.84	310.56	310.11	306.02	307.74	307.29
Ryan Ranch No. 7	2105311.11	5736505.14	296.72	296.97	296.72	293.90	294.15	293.90
Ryan Ranch No. 8	2104957.15	5736932.35	309.42	309.83	309.42	306.60	307.01	306.60
Seaside City No. 3	2118600.88	5733646.26	312.18	310.16	309.75	309.41	307.39	306.98
Seaside City No. 4	2118569.40	5733626.95	311.85	315.09	311.85	309.08	312.32	309.08
Seca Place	2101974.18	5752872.00	430.83	430.55		427.94	427.66	
SPCA 2008	2102312.85	5750881.42	402.16	403.90	402.74	399.28	401.02	399.86
SPCA Old	2102318.12	5750971.43	402.36	404.20	402.36	399.48	401.32	399.48
Standex	2098399.13	5752974.03		571.82			568.92	
Target	2121644.15	5727308.78	48.16	47.39		45.43	44.66	
York Road West	2105314.04	5740102.76	493.64	493.25	493.64	490.80	490.41	490.80
York School	2105190.72	5738657.21	386.10	387.27		383.27	384.44	

Horizontal locations and top of well elevations for all items were located to the top of pipe or the reference point used for that well.

Ground level elevations for all items were determined at an elevation equivalent to that of the existing grade adjacent to the well.

Top of slab elevations for all applicable sites were determined on a concrete slab adjacent to the well.

NGVD 29 elevations stated hereon were mathematically converted from NAVD 88 collected data.

SEASIDE WATER BASIN

Client: Seaside Watermaster

Date of Survey: 5/28/08

Project Location: SEASIDE, CA




Control Point ID	Northing (NAD 83-CAL Z4)	Easting (NAD 83-CAL Z4)	(NAVD 88)	Description	Notes
GU4242	2109414.35	5747942.29	933.51	SURVEY DISK	SEE PROVIDED DATA SHEET
GU4318	2139076.50	5736720.48	83.00	SURVEY DISK	SEE PROVIDED DATA SHEET

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	8
AGENDA TITLE:	Discuss and Provide Input on Preliminary Draft Annual Report for 2010
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	
<p>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.</p> <p>Since many items that must be included in the Annual Report cannot be finished until after the Water Year has ended, e.g. Production, Water Level, and Water Quality Reports, Replenishment Assessments, and the Seawater Intrusion Analysis Report, the Final version of the Annual Report cannot be completed until at least late October or early November. It is at the Board's November Board meeting that the final Annual Report is approved and staff then transmits it through an attorney to the Court.</p> <p>In the past this very pressing and tight time schedule to complete the Annual Report has meant that the TAC did not have an opportunity to review the Annual Report before it was submitted to the Board and then to the Court. This year a Preliminary Draft Annual Report is being presented to the TAC for its review and input, in as complete a form as it can be as of today's TAC meeting. Due to its large file size, a complete copy of the Preliminary Draft 2010 Annual Report cannot be included with the agenda packet. However, a copy of the body of the Preliminary Draft is attached, so only the Attachments to the Annual Report, several of which are still being prepared, are not included.</p> <p>The first page of the attachment containing the Preliminary Draft 2010 Annual Report is titled "Color Code Identifiers." This page identifies the meaning of each of the sections of the Draft Annual Report that are still in the process of being prepared, and who the responsible party is for completing them.</p> <p>The purpose of providing this "work in progress" Preliminary Draft 2009 Annual Report is to provide the TAC an opportunity to examine the entire scope of the document, and to provide input to the Technical Program Manager on any suggestions regarding contents, language, formatting, or other issues, so that this input can be taken into account as the document is finalized for presentation to the Board in early November.</p> <p>One item of significance is the proposal, in the final paragraph of the document, that the submittal date for future Annual Reports be in January, rather than in November, to provide more time to prepare and review the document.</p>	
ATTACHMENTS:	Preliminary Draft 2010 Annual Report (Body only)
RECOMMENDED ACTION:	Provide input to the Technical Program Manager regarding any edits to the Preliminary Draft Annual Report that the TAC wishes to propose

Color Code Identifiers

-  Item still being prepared by Joe Oliver
-  Item still being prepared by Laura Dadiw
-  Language still being completed by Bob Jaques, or to be replaced by him with updated information when it becomes available

SEASIDE BASIN WATERMASTER

ANNUAL REPORT – 2010

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. The ruling of the Court requires that the Annual Report be prepared and filed with the Court and mailed to all the parties on or before the 15th day of November every year for the preceding Water Year. This 2010 Annual Report is being filed on or before November 15, 2010, consistent with the provisions of the Decision. 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 2010 (WY 2010) 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 2010.” For the purposes of this Annual Report Water Year 2010 is defined as beginning October 1, 2009 and ending on September 30, 2010.

B. Groundwater Storage

Monterey Peninsula Water Management District (MPWMD), in cooperation with California American Water (CAW), operated the Seaside Basin Aquifer Storage and Recovery (ASR) program during WY 2010. During WY 2010, a total of 1,111 acre-feet (AF) of water was diverted by CAW from its Carmel River sources during periods of flow in excess of NOAA-Fisheries’ recommended bypass flows, transported through the existing CAW distribution system for injection and storage in the Seaside Basin at the MPWMD’s Santa Margarita ASR Well Nos. 1 and 2 located on former Fort Ord property. This is the only reported storage of non-native groundwater into the Seaside Basin in WY 2010.

Also during WY 2010, work was completed on installation of a permanent water delivery pipeline in the newly realigned section of General Jim Moore Boulevard south of Eucalyptus Road, as well as the installation of Pressure Regulating Valves (PRVs) at key locations within the CAW distribution system to allow the Phase 1 ASR Project to operate at its full design capacity of 3,000 gallons per minute (13 acre-feet per day). In addition, the MPWMD and CAW proceeded with installation of a test ASR well at the nearby Seaside Middle School. Installation of this new well is intended to satisfy one of the requirements of State Water Resources Control Board Order 2009-0060 (i.e., the Cease and Desist Order) that requires CAW to implement one or more “small projects” that total not less than 500 AF per year to reduce unlawful diversions from the Carmel River.

Based upon production reported for WY 2009, the following Standard Producers are entitled to Free and Not-Free Carryover Credits in accordance with the Decision, Section III. H. 5. for WY 2010:

<u>Producer</u>	<u>Free Carryover Credit</u>	<u>Not-Free Carryover Credit</u>
Granite Rock	xxx acre-feet	xxx acre-feet
DBO Development	xxx acre-feet	xxx acre-feet
CAW	xxx acre-feet	xxx acre-feet

C. Amount of Artificial Replenishment, if any, performed by Watermaster

No Artificial Replenishment of water was performed by the Watermaster for WY 2010.

D. Leases or sales of Production Allocation

No sale of Production Allocation occurred during WY 2010.

However, during WY 2010 two actions pertaining to real property and/or water rights occurred, as described below:

1. One Standard Producer, DBO Development No. 27, conveyed the real property it owned that is subject to the Decision to D.B.O. Development No. 30. In addition, D.B.O. No. 27 assigned to D.B.O. No. 30 all its right, title, and interest under the Decision, including but not limited to its water rights, water allocations, carryover credits, storage rights, and all other rights defined in the Decision, and also delegated, and D.B.O. No. 30 agreed to assume, all D.B.O. No. 27's duties and obligations under the Judgment and Decision. A copy of the legal document pertaining to this action is contained in Attachment 13.

2. One Alternative Producer, Security National Guaranty (SNG), executed a Front Loading Agreement (wheeling agreement) with CAW in May of 2009 in order for SNG's property to be served water from the Seaside Basin via CAW's distribution system. A copy of the legal document pertaining to this action is contained in Attachment 13.

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

In addition to the water imported from the Carmel Basin for the ASR program described in **Section B** above, during WY 2010 xxx acre-feet of imported water was used to irrigate golf courses owned by the City of Seaside overlying the Seaside Basin. The terms and conditions under which this in-lieu replenishment water was used to generate a credit to be applied against the City of Seaside's overproduction replenishment assessments is described in the "Memorandum of Understanding Between the Seaside Basin Watermaster and the City of Seaside" contained in Attachment 3. This is the only imported, reclaimed or desalinated water used either directly or for storage in the groundwater basin that has been reported to the Watermaster during WY 2009-2010.

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 prior to the beginning of the Water Year so that the Producers are informed of the prohibition against pumping in excess of the Operating Yield.

The Watermaster made this declaration regarding the unavailability of Artificial Replenishment for WY 2011 at its Board meeting of November 3, 2010. In conjunction with making this declaration, the Watermaster increased the original production allocation reduction of 7.5%, made during WY 2010, by an additional 2.5% to bring the reduction up to the full 10% as required under Section III.B.2 of the Decision. A copy of this declaration is contained in Attachment 2.

[Question: In the 2009 Annual Report we included an attachment (Attachment 2) describing revisions to the carryover credit calculation process. Have any further revisions to the calculation process been made since then, for example as a result of the Judge's Orders issued since the filing of the 2009 Annual Report and any other filings to or from him?]

Total pumping for WY 2010 did not exceed the Operating Yield (OY) for the Seaside Basin, but it did exceed the Natural Safe Yield (NSY) of the Basin.

CAW and the City of Seaside reported annual pumping quantities that exceeded their Standard Production NSY allocations by XXX and XXX acre-feet, respectively, and the City of Seaside's reported annual pumping quantity exceeded its OY by XXX acre-feet. The City of Seaside also reported annual pumping quantities that exceeded its Alternative Production NSY by XXX acre-feet. The

Watermaster has assessed CAW and the City of Seaside a Replenishment Assessments for these over productions, as further described in Section H, below.

G. Watermaster administrative costs

The total estimated Administrative costs for Fiscal Year 2010 amounted to **xxx**. This included the cost of maintaining an office and paying a part time administrator and some part time staff to take and transcribe minutes of the Watermaster Board meetings during 2010. The “Fiscal Year 2010 Administrative Fund Report” is provided as Attachment 4.

H. Replenishment Assessments

A Replenishment Assessment of \$2,780 per acre-foot was established by the Watermaster Board at its October 7, 2009 meeting for use against WY 2010 pumping. At its meeting of September 22, 2010 the Watermaster Board determined that this same \$2,780 per acre-foot Replenishment Assessment unit cost should be used against WY 2011 pumping. The Agenda transmittal from that meeting discussing this determination is contained in Attachment 5.

As reported in the 2009 Annual Report, in response to a contention made by the CAW and the City of Seaside the Watermaster revised its method of calculating and accounting for each Standard Producer’s share of the NSY, so that each Standard Producer’s share of the NSY is kept separate and distinct from that Standard Producer’s accumulated Carryover Credits. Therefore, the percentage of NSY available to Standard Producers is no longer impacted by the quantity of accumulated Carryover Credits any party has accumulated. The Watermaster is accounting for Carryover Credits in two categories as follows:

(1) Carryover Credit that was part of the SPA producer’s share of the NSY (i.e. “free production”), for which no replenishment assessment would have been paid had the water been produced rather than carried over, will be accounted for as a “free” Carryover Credit. No replenishment assessment will be assessed upon water extracted pursuant to this category.

(2) Carryover Credit that was part of the SPA producer’s Operating Yield Allocation, but in excess of the SPA Producer’s share of the NSY for the year in which the credit accrued will be accounted for as “not-free” Carryover Credits. A replenishment assessment should be assessed against water extracted pursuant to this category because the SPA Producer would have incurred a replenishment assessment for this allocation had the water been produced rather than carried over.

However, in its Order dated January 6, 2010 the Court rejected the contention made by CAW and the City of Seaside (and discussed in the 2009 Annual Report) that the Watermaster had been incorrectly assessing for Operating Yield overproduction twice (one time as Overproduction and a second duplicative assessment for Operating Yield overproduction). Therefore, the revised replenishment assessments described in Attachment 6 of the 2009 Annual Report were subsequently further revised, and are contained in Attachment 6 of this 2010 Annual Report.

[Question: In the 2009 Annual Report we included an attachment (Attachment 6) describing revisions made to the method of calculating replenishment assessments. I believe those revisions were rejected by the Judge’s Orders issued since the filing of the 2009 Annual Report. If so, should we include in the 2010 Annual Report an attachment describing anything further on this subject? It would seem that something should be provided, since a reader of the 2009 Annual Report would assume that the revisions contained in Attachment 6 of that Annual Report had been adopted and were continuing to be used, whereas it is my understanding that the only revisions the Court allowed were to the method of determining carry-over credits, as described in Section F above.]

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 2010, CAW’s Replenishment Assessment for Overproduction in excess of its share of the NSY is **\$xxx**. CAW [did or did not] incur any assessment for Operating Yield Over Production in WY 2010. The City of Seaside’s Replenishment Assessment for its Municipal System for Overproduction in excess of its share of the NSY is **\$xxx** and its Replenishment

Assessment for Operating Yield Over Production is \$xxx. The City of Seaside's Replenishment Assessment for its Golf Course System for production in excess of its Alternative Production Allocation is \$xxx. A summary of the calculations for Replenishment Assessment for WY 2010 is contained in Attachment 6.

I. All components of the Watermaster budget

The Watermaster budget has four separate funds: Administrative Fund; Monitoring & Management–Operations; Monitoring and Management–Capital Fund and; Replenishment Fund. Copies of the Fiscal Year 2011 adopted budgets are contained in Attachment 7. The Chief Executive Officer provides monthly financial status reports to the Watermaster Board 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 2010 from the enhanced network of monitoring wells. As initiated in the preceding year, a new low-flow sampling method continued to be implemented to improve the efficiency of sample collection, and will continue to be employed during the upcoming year. Based on the experience and water-quality record generated by this collection method to date, the Watermaster plans to reduce the sampling frequency of selected quarterly monitor wells that continue to exhibit stable water-quality results beginning in WY 2012 (after two years' worth of data justifies this reduction in sampling frequency). Where feasible, water quality at selected locations may be supplemented with continuous water-quality dataloggers to offset the reduction in sample collection frequency.

In addition, quarterly geophysical (induction) logging continued to be performed at the four Watermaster Sentinel wells that were installed in 2007. The induction logging results have shown very little variations and trends have been steady since this monitoring began, indicating that the coastal water quality conditions are not changing at this sample frequency. Therefore, beginning in WY 2010, as approved by the Court's Order dated February 19, 2010, the induction logging frequency was reduced to semi-annually at these wells. Water samples from these wells continue to be collected on an annual basis.

Copies of the sampling results are contained in Attachment 8. Analysis of the results indicate no evidence of water quality changes indicative of seawater intrusion at the locations and depths sampled in the coastal areas of the basin.

All of the recommendations contained in the report in Attachment 8 are being actively pursued by the Watermaster. Funds to pursue these recommendations have been included in the adopted FY 2011 budgets contained in Attachment 7.

Construction of New Monitoring Well in the Northern Inland Subarea

During WY 2009 an additional monitoring well in the northern inland subarea of the Basin was constructed at the BLM site. Construction began in August 2009, but drilling difficulties were encountered that delayed completion of the well until November 2009. The consultant that managed this work prepared a report describing the construction, hydrogeologic findings, and initial water quality sampling results of this project. However, that report could not be completed until after the 2009 Annual Report had been prepared, so it is included in Attachment 9 to this 2010 Annual Report.

The principle conclusions described in that report are:

- The depth to the Monterey Formation, the adopted base of freshwater for the Seaside Basin, is greater than previously believed by approximately 450 feet at the location of the new monitoring well.
- The thickness of the Santa Margarita Sandstone and Paso Robles Formations at this location are significantly thicker than have been encountered at other locations in the Basin.

- The observed water levels at the new well were accurately predicted by the Watermaster's Groundwater Model.
- It is likely that the deep aquifer at the new well site is impacted by pumping in the highly-confined Santa Margarita Sandstone from wells in Seaside proper. It is also likely that water levels will be influenced by injection operations in the Santa Margarita Sandstone.

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.

In 2009 initial internal testing and debugging of the Database was completed, and the Database was placed on the Watermaster's website for access by all interested parties. In 2010 enhancements to the Database were being completed to improve its usefulness and user-friendliness. Those enhancements are described in Attachment 10.

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/>.

Updating of the BMAP was planned for FY 2010, but certain information (coming from other parties) that would be needed to perform that work was not yet available. Therefore, updating the BMAP has been rescheduled for FY 2011, as described in the M&MP Work Plan contained in Attachment 12.

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 at its January 2009 meeting, 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/>.

Seawater Intrusion Analysis

The Watermaster retained HydroMetrics LLC to prepare the WY 2010 Seawater Intrusion Analysis Report (SIAR) required by the M&MP. The WY 2010 SIAR provides an analysis of data collected during this Water Year.

The principle conclusions reported in the SIAR are 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, in spite of these factors, multiple forms of analyses led to the conclusion that no seawater intrusion is currently being observed in existing monitoring wells within the Basin.

The SIAR is lengthy, but the full *Executive Summary Section* from it is provided in Attachment 11. A complete copy of the document may be viewed and downloaded from the Watermaster's website at: <http://www.seasidebasinwatermaster.org/>.

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.

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.

Modeling Scenarios

In FY 2010 two Scenarios were to be modeled using the updated Groundwater Model were developed, and funds to model those Scenarios were included in the FY 2010 M&MP Budget.

These two Scenarios are described below:

Scenario 1 models the effects of additional pumping in the Laguna Seca Subarea. Although no additional pumping from wells in this Subarea is currently being considered, the purpose of this scenario was to begin addressing questions about the impacts on other subareas of the Basin resulting from pumping by wells in the Laguna Seca subarea. Under Scenario 1 three new simulations were run, with pumping from all wells in the Laguna Seca subarea increased by 0%, 10%, and 20% for all years. Each simulation was analyzed for the following:

- A. Impact on coastal groundwater levels,
- B. Impact on amount of groundwater flowing into the Southern Coastal subarea,
- C. Impact on amount of groundwater flowing into the Northern Inland subarea, and
- D. Changes to Laguna Seca subarea groundwater levels.

Work on Scenario 1 was completed, and a full copy of the Technical Memorandum describing that work is contained in Attachment 14. The principle conclusions from this work were:

- At current pumping rates, groundwater levels in the Laguna Seca subarea will continue to decline.
- After 5 years of pumping at 10% increased rates, the groundwater levels within the Laguna Seca Subarea where the greatest drop in groundwater levels occurs will be 3 feet lower than they would be without this increase in pumping. This grows to 5 feet lower after 22 years of 10% increased pumping rates.
- After 5 years of pumping at 20% increased rates, the groundwater levels within the Laguna Seca Subarea where the greatest drop in groundwater levels occurs will be 5 feet lower than they

would be without this increase in pumping. This grows to 10 feet lower after 22 years of 20% increased pumping rates.

- Continued pumping even at current (Water Year 2009) rates is unsustainable because groundwater levels will eventually fall low enough to cause some wells to no longer be operational. This problem would be accelerated by increasing the pumping rates of the Alternative Producers within the Laguna Seca subarea.
- Increasing Alternative Producer's pumping rates by 10% or 20% reduces groundwater flow to the Southern Coastal subarea by only a minor amount because of the wells' distance from the Southern Coastal subarea. However, it considerably reduces groundwater flow into the Northern Inland subarea.
- The Laguna Seca subarea is not isolated. Although increasing pumping has only minor impacts on the Southern Coastal subarea, it has more significant impacts on groundwater flows into the Northern Inland subarea. Increasing Laguna Seca pumping also significantly impacts areas outside the Seaside Groundwater Basin, including the Toro area.

Scenario 2 will be to model the effects of implementing the "Monterey Regional Water Supply Project – Phase 1" as that project is defined in the Final EIR for the Coastal Water Project. A key component of this project will be a Regional Desalination Plant.

One of the initial steps in beginning work on this Scenario would be for HydroMetrics to determine the quantities of water that would be supplied to the Seaside Groundwater Basin by the Monterey Regional Water Supply Project. During the course of starting to compile this information it became clear that there were some water supply issues that were not fully or clearly explained in the Final EIR, and that those issues would likely be at least partially clarified when the PUC acts to approve the project. The issues will be further clarified when water quality data from monitoring wells that will be constructed to help refine the estimate of how much groundwater will be taken from the Salinas Valley Basin by the proposed Regional Desalination Plant intake wells has been obtained. PUC approval of the project is anticipated to occur in the late fall of 2010, and data from the monitoring wells is anticipated to become available in mid-summer of 2011.

For these reasons the Watermaster has deferred proceeding with work on Scenario 2 at this time, and to reconsider starting that work in FY 2011. This Scenario 2 modeling work has been included in the Monitoring and Management Program Scope of Work and Budget for FY 2011, so that this work can be performed when the more definitive data necessary to perform this work will be available.

If the Watermaster were to proceed with Scenario 2 without having a clear understanding of each of these issues, HydroMetrics would have to make assumptions on some of the water supply quantities for the Seaside Basin. This could result in having to re-run the model after decisions on those issues have been made, which would cause the expenditure of additional funds by the Watermaster beyond those currently budgeted for this work. Since the Regional Water Supply Project will take at least several years to be completed after PUC approval is granted, there does not appear to be any risk in delaying this modeling work until clearer answers to these water supply issues are available.

Protective Water Levels

In FY 2009 the Watermaster completed development of preliminary Protective Water Levels (PWLs) for each of the Basin's production aquifers at the locations of several coastal wells. There was discussion of performing refined analyses and/or to determine how the PWLs would be affected if less than 100% of the Basin was to be protected. Performing these refinements was included as a Task in the 2010 M&MP Work Plan, and in the M&MP Budget.

However, certain information (water supply information from the Regional Water Supply Project as discussed above under *Modeling Scenarios*) that would be needed to perform that work was not yet available. There was consensus that there was no danger at this time in delaying refining the Protective Water Levels. Therefore, refining the PWLs has been rescheduled and budgeted for FY 2011, as described in the M&MP Work Plan contained in Attachment 12.

K. 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 September 22, 2010 the Board adopted the budgets contained in Attachment 7, which support carrying out all elements of the "Seaside Groundwater Basin Management and Monitoring Program Anticipated 2011 Work Plan." That Work Plan describes the M&MP activities that will be conducted during Fiscal Year 2011. A copy of this Work Plan is contained in Attachment 12.

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 the 2009 Annual Report, will be implemented if seawater intrusion is detected within the Basin.

Each year that the Watermaster has prepared its Annual Reports as required by the Decision, it has been very difficult to assemble all of the data that is necessary to complete the report in time for the completed draft document to be reviewed by the Watermaster's Technical Advisory Committee, which sometimes proposes edits to the draft document, and then by the Board, which sometimes also proposes edits to the draft document. Water production data is needed to prepare the Production Report that goes into Attachment 1. The production data, as well as water quality data, is also needed in order to complete preparation of the SIAR which goes into Attachment 11. However, the 4th quarter production data cannot be generated until the 4th quarter of the Water Year has ended, on September 30, and is often not received by the Watermaster until around October 15. Similarly, water quality data is needed in order for MPWMD to complete preparation of its 4th quarter Water Quality Analytical Results report that goes into Attachment 8, and for the SIAR to be completed. However, water quality data from some of the producers is also often not received until mid-October. In some instances this had led to the necessity of holding special meetings in order to complete the Annual Report in time to submit it to the Court by the currently-required November 15th filing deadline.

For future Annual Reports, subject to the Court's approval of this proposal following its review of this Annual Report, it is proposed that Annual Reports be filed with the Court by January 15 following the end of each Water Year.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	9
AGENDA TITLE:	Offer by Pasadera General Manager to Discuss Possible Use of Storm Water Runoff from Pasadera as a Water Source for Helping to Recharge the Seaside Basin
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	<p>Dean Leonard of Pasadera contacted Dewey Evans to discuss the potential for storm water runoff from Pasadera to be used to help recharge the Seaside Groundwater Basin. Mr. Evans and Mr. Jaques met with Mr. Leonard in mid-June to see the Pasadera storm water and golf course irrigation facilities. At that meeting Mr. Leonard described these facilities and explained his ideas on this concept.</p> <p>I thanked Mr. Leonard for bringing this concept to the attention of the Watermaster. I said that I would discuss this with the TAC and let him know if the TAC would like to have him attend a future TAC meeting to present his ideas in more detail and to respond to TAC questions.</p> <p>The attached paper describes the key elements of the Pasadera facilities, as I understood them from the June meeting with Mr. Leonard, as they pertain to the concept of using storm water runoff from the Pasadera development to help recharge the Seaside Groundwater Basin. The paper also lists some issues that I believe would need to be considered, if the TAC felt that examining this concept further was desirable.</p> <p>TAC input on this concept is invited, along with the TAC's thoughts about having Mr. Leonard present his ideas in more detail at a future TAC meeting.</p>
ATTACHMENTS:	Paper describing Pasadera's water facilities and suggested issues to be considered if the TAC desires to undertake a further examination of the concept of using storm water runoff from Pasadera to help recharge the Seaside Groundwater Basin
RECOMMENDED ACTION:	Provide input to the Technical Program Manager regarding whether the TAC would like to receive a more in-depth presentation from Mr. Leonard on this concept

**PAPER DESCRIBING PASADERA’S WATER FACILITIES
AND SOME ISSUES TO BE CONSIDERED
IF THE TAC DESIRES TO UNDERTAKE A FURTHER EXAMINATION OF
THE CONCEPT OF USING STORM WATER RUNOFF FROM PASADERA TO
HELP RECHARGE THE SEASIDE GROUNDWATER BASIN**

The Pasadera golf course and housing development is served by three separate water facilities, which are used conjunctively to meet the water supply, irrigation, and storm water management needs of the development.

According to website information, the residences at Pasadera consist of a mix of lifestyle options including 55 luxury Golf Villas, 33 Designer Series homes, and 100 Custom Estates. At present there are reportedly a remaining 26 Custom home sites yet to be developed. The golf course is 18-holes and includes a number of water hazards as well as a 38,000 square foot clubhouse with associated amenities.

Domestic Water Supply System

Water for potable domestic uses, and to supplement golf course irrigation water provided by the Recycled Water System, is provided to the development through two wells that are located on the property. In Water Year 2009 the combined production of these two wells, the “Main Gate” and the “New Paddock” wells, was approximately 182 acre-feet. Piping and storage tanks are used to deliver this water throughout the development.

Recycled Water System

Wastewater generated within the development is combined with wastewater from a portion of the adjacent Laguna Seca development and is treated to a tertiary level by an on-site water recycling plant. The treated water is pumped to a storage reservoir at an upper elevation within the development and feeds the golf course’s irrigation system. Since there is insufficient recycled water to meet all of the golf course’s irrigation needs, this water source is supplemented as necessary with water from the Domestic Water Supply System. Recycled water is rarely used in the winter months, unless it is an extremely dry winter, so there should be little opportunity for recycled water to mix with storm water runoff.

Storm Water System

Storm water runoff from the development, as well as runoff that is received from some adjacent lands that are located at higher elevations (mainly in the former Fort Ord) are conveyed via pipes and open channels to a series of 7 lakes located within the golf course. These lakes serve as aesthetic elements of the golf course, water hazards for the players, and provide some flow equalization for the storm water flows.

The water levels in the lakes are controlled by weirs, the heights of which are adjusted during the year to maintain the desired water levels. Depth of water in the lakes is generally about 7 feet, and the total area occupied by the lakes is about 8 acres. Water from a pond can flow through piping and creeks to the next downstream pond. The furthest downstream pond has a pump station that is used to pump water back up to the highest lake, so there is a continuous flow in the system. In the winter this pond discharges into a creek that runs along Highway 68 and into Del Rey Oaks. Ultimately, this stormwater flows into Laguna Grande and then through Roberts Lake into Monterey Bay.

Seaside Groundwater Basin Recharge Concept

Mr. Leonard suggested that it might be possible to capture the storm water runoff from the Pasadera development and use it to help recharge the Seaside Groundwater Basin. He did not have any actual measurement of the amount of runoff that might be available for this purpose, but described the amount of storm water that comes off of the development during the rainy season as being on the order of hundreds of acre-feet. He also did not have any water quality data on the runoff water.

Mr. Leonard did not feel that there were undeveloped sites available within the Pasadera development where groundwater recharge facilities, such as a percolation pond, could be constructed. He did, however, comment that there is an area to the left of the Pasadera Main Entrance where a large ravine is located. This ravine flows to a lake located on the Laguna Seca Golf Course. He thought it might be possible to raise the water level in this ravine by raising the top elevation of the dam that controls its water level, and thus provide a potential recharge basin for storm water.

He also commented that there was an apparently abandoned well, which he believed had been constructed by Cal Am some years ago, that is either on or adjacent to the development and which he thought might possibly be adapted to serve as an injection well.

Some Issues to Consider Regarding the Feasibility and Practicality of this Concept

1. Is the quantity of stormwater runoff that could be captured for recharge purposes sufficient to warrant pursuing this concept?
2. Is the quality of the runoff water suitable for recharge purposes?
3. Would recharge be feasible using an injection well (or wells) or would percolation or some other recharge method be needed?
4. If a percolation site is needed, and if the site could not be located on Pasadera property, where could it be located?
5. What regulatory and other agency approvals would be necessary to implant a recharge project?
6. Would there be concerns about the recharge water possibly containing some recycled water that had been used to irrigate the golf course?
7. How would recharge in this location affect groundwater levels and other groundwater characteristics in the Seaside Basin, and would this recharge benefit the Basin?

If the runoff was diverted out of the creek to which it currently flows, would there be any adverse impacts, e.g. riparian vegetation, water levels and water quality in Laguna Grande and/or Roberts Lake, etc.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

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

MEETING DATE:	October 13, 2010
AGENDA ITEM:	10
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	
<p>As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Consultants Work Schedule of the activities being performed by the Watermaster's consultants and the public entity, MPWMD, which is performing certain portions of the work, and of the Critical Program Milestones Schedule.</p> <p>Attached is the Updated Consultants Work Schedule for the remainder of 2010. Also attached is the proposed Schedule for FY 2011. TAC members are asked to provide input to help refine and finalize the FY 2011 Schedule, which will be used to guide the performance of work under the 2011 Monitoring and Management Program, as well as other Watermaster activities during 2011.</p> <p><u>Informational Note:</u> Subsequent to the TAC's last meeting the Budget and Finance (B&F) Committee met and made its determination regarding establishing the WY 2011 Replenishment Assessment Unit Cost. The Board confirmed the B&F Committee's recommendation, which differed from that arrived at by the TAC. In view of this I informally proposed to the B&F Committee representative on the Board, and to the Watermaster's Executive Officer, that in the future instead of the TAC developing the Unit Cost, the B&F Committee would develop the Unit Cost and if assistance or input from the TAC was desired in the course of doing that, the TAC would gladly respond. There was concurrence by both the B&F Committee representative and the Executive Officer that this would be a preferable approach than to have the TAC spend time and effort on this matter, which is viewed by many as more of a political decision than a technical decision.</p> <p>Consequently, for the 2011 (and beyond) Project Schedules, I will show the B&F Committee taking the lead on this, and the TAC responding to requests for assistance, if any are made, thereafter.</p> <p>If the TAC recommends performing another wellhead survey under Item 7 on today's Agenda, that work will be added to the 2011 Schedule.</p>	
ATTACHMENTS:	<ol style="list-style-type: none"> 1. Updated Schedule of Work Activities for the remainder of FY 2010 2. Proposed Schedule for FY 2011
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to these Schedules

Seaside Basin Watermaster Monitoring and Management Program 2010 Work Schedule

ID	Task Name	2010																	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
1	CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK																		
2	2011 Administration, Operations and Replenishment Budgets																		
3	Prepare M&MP Draft Budgets (Same as Task 34)																		
4	TAC Approves M&MP Budgets (Same as Task 35)																		
5	Board Approves M&MP Budgets (Same as Task 36)																		
6	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports																		
25	Replenishment Assessment Unit Costs for Water Year 2011																		
26	Develop Replenishment Assessment Unit Cost for 2011 Water Year																		
27	TAC Approves 2011 Water Year Replenishment Assessment Unit Cost																		
28	Board Adopts and Declares 2011 Water Year Replenishment Assessment Unit Cost																		
29	Replenishment Assessments for Water Year 2010																		
30	Watermaster Prepares Replenishment Assessments for Water Year 2010																		
31	Watermaster Board Approves Replenishment Assessments for Water Year 2010																		
32	Watermaster Levies Replenishment Assessment for 2010																		
33	Monitoring & Management Program (M&MP) Budgets for 2011 and 2012																		

Seaside Basin Watermaster Monitoring and Management Program 2010 Work Schedule

ID	Task Name	2010																
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
34	Prepare Draft 2011 and 2012 M&MP O&M and Capital Budgets								Completed									
35	TAC approves Draft 2011 and 2012 M&MP O&M and Capital Budgets								Completed									
36	Board approves 2011 and 2012 M&MP O&M and Capital Budgets								Completed									
37	2009 Annual Report																	
38	Prepare Preliminary Draft 2010 Annual Report								Completed									
39	TAC Provides Input on Draft 2010 Annual Report																	
40	Prepare Revised Draft 2010 Annual Report (Incorporating TAC Input)																	
41	Board Provides Input on Revised Draft 2010 Annual Report																	
42	Prepare Final 2010 Annual Report (Incorporating Board Input)																	
43	Watermaster Submits Final 2010 Annual Report to Judge																	
44	MANAGEMENT																	
45	M.1 PROGRAM ADMINISTRATION (All Work Performed by Watermaster Staff)																	
46	Prepare Initial Consultant Contracts for 2011								Completed									
47	TAC Approval of Initial Consultant Contracts for 2011																	
48	Board Approval of Initial Consultant Contracts for 2011																	


Seaside Basin Watermaster Monitoring and Management Program 2010 Work Schedule

ID	Task Name	2010																	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
49	IMPLEMENTATION																		
50	I.2.a DATABASE MANAGEMENT																		
51	I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance																		
52	Perform Data Entry (Production, Level, and Quality)																		
53	Initial TAC Discussion of Possible Enhancements to Database	Completed ◆																	
54	Compile Enhancements to be Made to the Database Based on User Input	Completed 																	
55	TAC Approves Enhancements to be Made to the Database	Completed ◆																	
56	Prepare RFS to Have Enhancements Made to the Database	Completed 																	
57	TAC Approves RFS for Enhancements to be Made to the Database	Completed ◆																	
58	Board Approves RFS for Enhancements to be Made to the Database	Completed ◆																	
59	Make Enhancements to the Database																		
60	I.2.b DATA COLLECTION PROGRAM																		
61	I.2.b.2 Collect Monthly Water Levels (MPWMD)																		
62	I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)																		
63	I.2.b.4 Update Program Schedule and Standard Operating Procedures																		

Seaside Basin Watermaster Monitoring and Management Program 2010 Work Schedule

ID	Task Name	2010																	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
64	MPWMD Prepares Memo with Recommendations	Completed																	
67	TAC Approves Recommendations																		
70	I.2.b.6 Reports (from MPWMD)	SEE ID 6 ABOVE																	
71	I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL																		
72	I.3.a.2 Develop Protective Water Levels																		
73	HydroMetrics Meets with TAC to for Preliminary Discussion of Development of Protective Water Levels																		
74	HydroMetrics Meets with TAC to for Further Discussion of Development of Protective Water Levels																		
75	Prepare Contract with HydroMetrics to Refine Protective Water Levels Developed in 2009																		
76	Board Decision to Defer Refining Protective Water Levels																		
77	TAC Continues Discussion Regarding Refining Protective Water Levels																		
78	Board Approves Contract with HydroMetrics to Refine Protective Water Levels (Board Deferred Performing this Work to an Unspecified Future Date. A Date of July, 2010 Has Been Shown Only as a Placeholder).																		
79	HydroMetrics Refines Protective Water Levels																		
80	HydroMetrics Makes Summary Report to TAC on Refinement of Protective Water Levels																		

Seaside Basin Watermaster Monitoring and Management Program 2010 Work Schedule

ID	Task Name	2010																	
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju
110	Prepare Scope of Work for MPWMD to Evaluate the Wells			Completed 															
111	TAC Approves Scope of Work for MPWMD to Evaluate the Wells			Completed ◆															
112	MPWMD Evaluates the Wells																		
113	MPWMD Makes Initial Presentation of Well Evaluation to TAC																		
114	MPWMD Makes Final Presentation of Well Evaluation to TAC & TAC Develops Scope of Work to be Done in 2011																		
115	Board Approves Well Evaluation Work to be Done in 2011																		
116	I.4.a HydroMetrics & MPWMD Provide Oversight of Seawater Intrusion Detection and Tracking																		
117	I.4.b HydroMetrics Analyzes and Maps Water Quality from Coastal Monitoring Wells																		
118	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																		
119	HydroMetrics Provides Draft SIAR to Watermaster																		
120	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)																		
121	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)																		
122	I.4.d Complete Preparation of Seawater Intrusion Response Plan (SIRP)																		
123	I.4.e Refine and/or Update the SIRP																		

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011												Jan	F							
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec			
1	CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK																					
2	2011 Administration, Operations and Replenishment Budgets																					
3	Prepare M&MP Draft Budgets (Same as Task 19)																					
4	TAC Approves M&MP Budgets (Same as Task 20)																					
5	Board Approves M&MP Budgets (Same as Task 21)																					
6	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports																					
7	Watermaster Prepares Combined Quarterly Water Production, Water Level, and Water Quality Reports for 1st & 2nd Quarters (Same as Task 41)																					
8	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Report for 3rd Quarter (Same as Task 42)																					
9	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Report for 4th Quarter (Same as Task 43)																					
10	Replenishment Assessment Unit Costs for Water Year 2012																					
11	B&F Committee Develops Replenishment Assessment Unit Cost for 2012 Water Year																					
12	If Requested, TAC Provides Assistance to B&F Committee in Development of 2012 Water Year Replenishment Assessment Unit Cost																					
13	Board Adopts and Declares 2012 Water Year Replenishment Assessment Unit Cost																					

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011												Jan	F							
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec			
14	Replenishment Assessments for Water Year 2011																					
15	Watermaster Prepares Replenishment Assessments for Water Year 2011																					
16	Watermaster Board Approves Replenishment Assessments for Water Year 2011																					
17	Watermaster Levies Replenishment Assessment for 2011																					
18	Monitoring & Management Program (M&MP) Budgets for 2012 & 2013																					
19	Prepare Draft 2012 and 2013 M&MP O&M and Capital Budgets																					
20	TAC approves Draft 2012 and 2013 M&MP O&M and Capital Budgets																					
21	Board approves 2012 and 2013 M&MP O&M and Capital Budgets																					
22	2011 Annual Report (Note: Schedule May be Relaxed if Court Approves Later Submittal Date for Annual Report)																					
23	Prepare Preliminary Draft 2011 Annual Report																					
24	TAC Provides Input on Draft 2011 Annual Report																					
25	Prepare Revised Draft 2011 Annual Report (Incorporating TAC Input)																					
26	Board Provides Input on Revised Draft 2011 Annual Report																					
27	Prepare Final 2011 Annual Report (Incorporating Board Input)																					
28	Watermaster Submits Final 2011 Annual Report to Judge																					

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011																	
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F
44	I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL																		
45	I.3.a.2 Develop Protective Water Levels																		
46	TAC Continues Discussion Regarding Refining Protective Water Levels																		
47	Board Approves Contract with HydroMetrics to Refine Protective Water Levels (Board Deferred Performing this Work to an Unspecified Future Date)																		
48	HydroMetrics Refines Protective Water Levels																		
49	HydroMetrics Makes Summary Report to TAC on Refinement of Protective Water Levels																		
50	HydroMetrics Makes Summary Report to Board on Protective Water Levels																		
51	I.3.a.3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions																		
52	TAC Continues Discussion of Issues and Timing Pertaining to Scenario 2 - Regional Water Supply Project Scenario																		
53	Board Approves HydroMetrics Contract to Model Scenario 2																		
54	HydroMetrics Evaluates Scenario 2 - Regional Water Supply Project																		
55	HydroMetrics Makes Summary Report to TAC Regarding Evaluation of Scenario 2																		
56	HydroMetrics Makes Summary Report to Board Regarding Evaluation of Scenario 2																		
57	I.3.c Refine and/or Update the BMAP																		

Seaside Basin Watermaster Monitoring and Management Program 2011 Work Schedule

ID	Task Name	2011												Jan	F					
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec	
58	TAC Continues Discussion Regarding Updating the BMAP					◆ 1/12														
59	Prepare Contract with HydroMetrics for Updating the BMAP																			
60	TAC Approves Contract with HydroMetrics for Updating the BMAP																			
61	Board Approves Contract with HydroMetrics for Updating the BMAP																			
62	HydroMetrics Updates the BMAP																			
63	HydroMetrics Makes Presentation on Draft Updated BMAP to TAC																			
64	HydroMetrics Makes Presentation of Final Updated BMAP to Board and Board Adopts Final Updated BMAP																			
65	I.3.d Evaluate Coastal Wells for Cross-Aquifer Contamination Potential																			
66	TAC Approves Scope of Work for MPWMD to Perform Further Evaluations of these Wells		◆ 10/13																	
67	Board Approves Well Evaluation Work to be Done in 2011		◆ 11/3																	
68	MPWMD Performs Further Evaluations of these Wells																			
69	MPWMD Makes Presentation of Well Evaluations to TAC																			
70	MPWMD Makes Final Presentation of Well Evaluations to TAC & TAC Determines if Further Work Should be Done in 2011												◆ 5/11							
71	If Further Work is Recommended for 2011 Board Approves Contract with MPWMD to Perform this Work												◆ 6/8							
													◆ 7/6							

