

VI. AUGMENT WATER SUPPLY

The Findings for Adoption of the Water Allocation Program EIR identified a set of general mitigation measures that relate to increasing the water supply. Finding No. 403-A states that the District shall pursue construction of a major, long-term water supply project to provide water for restoration of the environment and for public water supply. Finding No. 403-B states that the District should pursue a series of smaller "near-term" water supply projects to provide additional water for drought protection and some new growth until the long-term project is completed.

In 1996, District efforts related to both long-term and near-term projects were consolidated into the MPWMD Water Augmentation Plan (WAP). The first WAP report was received by the Board in December 1996, and specific goals were adopted in January 1997. Revised WAP objectives were set in January 1998, April 2000, and March 2001. In September 2001, the MPWMD Board set its top five strategic planning initiatives, three of which entailed augmenting the water supply. Periodic Board workshops were held to receive progress reports and provide policy guidance. For the past several years, the MPWMD Board has held either annual or semi-annual Strategic Planning Workshops to set goals and objectives to guide District activities. Objectives adopted in October 2006 are primarily reflected in this annual report for the July 2006-June 2007 period, though it is noted that activities were also influenced by a second set of objectives adopted in May 2007.

To maintain consistency with the Water Allocation Program EIR, the following sections describe MPWMD efforts for long-term and near-term projects separately. In practice, District water augmentation efforts are integrated. For aquifer storage and recovery (ASR), the long-term MPWMD Phase 1 ASR Project and associated water rights will be described under Section VI-A; the annual ASR testing activities will be discussed under Section VI-B.

The following paragraphs provide a brief setting followed by action in 2006-2007. Please refer to previous Mitigation Program Annual Reports or quarterly reports to the MPWMD Board for detailed background information. District staff also prepares weekly updates to the Board on water augmentation activities. The weekly and quarterly information is available on the District website at: www.mpwmd.dst.ca.us.

A. Long-Term Water Supply Project

Description and Purpose

Carmel River Basin: In November 1995, the electorate did not approve the then-proposed 24,000 acre-foot (AF) New Los Padres Dam and Reservoir (NLP) Project, and did not authorize the District to issue revenue bonds for the project. Since November 1995, the District has focused its efforts on non-dam alternatives through its Water Augmentation Plan and Strategic Planning Workshops. The District extensively participated in the 1999-2002 California Public Utilities Commission (CPUC) "Plan B" process to identify a non-dam alternative to the NLP; the District continues to work with California American Water (CAW) and other local agencies on water supply solutions.

The State Water Resources Control Board (SWRCB) decisions on Carmel River issued in July 1995 continued to influence water augmentation efforts through June 2007. The SWRCB Order WR 95-

10 identified an estimated 10,730 acre-feet per year (AFY) of historical unpermitted CAW diversions from the Carmel River that must be replaced by another water project or projects. Order 95-10 includes a “one-for-one replacement” requirement, whereby any new water that is developed must first completely offset the 10,730 AFY unlawful diversions from the Carmel River before any water can be used for new construction or remodels that intensify water use in the CAW system. Thus, near-term projects could potentially serve as a source of “supplemental water” to provide for the needs of existing legal lots of record and other future needs only when Order 95-10 requirements have been fully satisfied by a larger project or series of projects.

Community water augmentation efforts have focused on compliance with Order 95-10 as a primary goal. Project proposals since 1996 have included: CAW Carmel River Dam and Reservoir Project (CRDRP), off-stream reservoir storage, ASR, local and regional desalination projects, reclamation for irrigation or groundwater recovery, and storm water reuse.

Since 1996, MPWMD environmental review efforts as a lead agency under the California Environmental Quality Act (CEQA) have focused on CAW’s CRDRP (application was denied in August 2003); an MPWMD proposal to construct a local 8,400 AFY desalination project in Sand City; as well as the MPWMD Phase 1 ASR Project. MPWMD is also a responsible agency or active participant in other agencies’ environmental review of water supply proposals as described below.

Seaside Basin: Though much attention is focused on the Carmel River Basin due to Order 95-10, management of the Seaside Basin also has important ramifications for long-term community water supply. SWRCB Order 95-10 directs CAW to maximize pumping in the Seaside Basin to the extent practicable in order to reduce diversions from the Carmel River. Thus, since 1995, the Seaside Basin has become an increasingly important source of water supply. Unfortunately, it has also exhibited signs of stress from over-pumping due to Order 95-10 as well as significant increases in non-CAW use. In December 2000, the MPWMD Board directed staff to begin planning activities to prepare a Seaside Basin Groundwater Management Plan (SBGMP) in compliance with protocols set by the State of California (AB 3030, as amended by SB 1938), in coordination with major well owners in the basin. In 2002, the District began evaluating two conceptual interim ordinances that would be in place until the long-term SBGMP is adopted, but this effort was terminated in 2004. Concurrently, staff continued public outreach on the SBGMP itself.

Complicating this task was litigation filed by CAW on August 14, 2003, requesting a Court adjudication of the Seaside Basin. The lawsuit involved issues such as: prioritization and quantification of water rights within the basin; rights to aquifer storage within the basin; rights to artificially introduce non-native water into the basin through direct injection or spreading grounds; a judicial determination that the basin is in overdraft; and the appointment of a water master to manage the basin water rights and resources. The District was recognized as an interested party and participated in all proceedings, including a non-jury trial in December 2005. District staff served as expert witnesses in the hearing and helped prepare extensive pre-trial documentation.

Judge Robert Randall rendered a Final Decision on March 27, 2006. The complex and lengthy Decision determined that the Seaside Basin is in overdraft; set a reduced “natural safe yield” and a near-term “operating yield” allowed to be produced by the parties as they work toward a “physical solution” (including ASR and wastewater reclamation) to eliminate the overdraft. A nine-member

Watermaster Board was created to implement the Decision with continued oversight by the Court. The MPWMD holds one seat on the Watermaster with two out of 13 votes. The MPWMD Board selected Chairwoman Michelle Knight as the MPWMD representative to the Watermaster Board. The Watermaster has held monthly meetings since its formal commencement on April 5, 2006.

District staff sits on the Watermaster Technical Committee and contributed data and analysis for several technical reports required by the Court. On November 15, 2006, the Watermaster selected the MPWMD/Monterey County Water Resources Agency (MCWRA) team to carry out the project management function for the Seaside Basin Monitoring and Management Program (SBMMP). The firm of RBF Consulting was selected to implement the program (i.e., data collection, test well drilling, etc.). At its April 18, 2007 special meeting, the Watermaster approved agreements with MPWMD, MCWRA and RBF for Phase 1 of technical work needed to complete and implement the SBMMP required by Court. The MPWMD agreement includes various SBMMP program management oversight tasks that are performed on an interim basis. Some of these tasks will be taken over by the Watermaster's part-time Technical Program Manager, hired in June 2007, to facilitate completion of SBMMP tasks.

In June 2007, District staff delivered several database products to the Watermaster and its consultants under the District's Phase 1 contract for the SBMMP. This work is part of an effort to build a comprehensive groundwater resources database to support various Watermaster uses. The next major element of work for the District under this contract is to assist in preparing analyses, based on data that have been collected by the District and others, of the current status of seawater intrusion potential and tracking in the Seaside Basin. Beginning in July 2007, District staff will work with the consulting team headed by RBF Consulting to gather various sources of well data to facilitate development of the Watermaster's groundwater resources database. Also, staff has been assisting with the implementation of the seawater detection and tracking portion of the SBMMP. These efforts will be described in next year's report.

MPWMD Board Priorities: At the September 25, 2006 Strategic Planning Workshop (adopted at the October 16, 2006 Board meeting), three-year goals were set along with six-month objectives for the October 2006 through March 2007 period. The goals were refined and new six-month objectives for the period April 19 through September 30, 2007 were developed at the Board's April 19, 2007 Strategic Planning Workshop, and were formally adopted at the May 21, 2007 meeting.

The following water supply objectives adopted in October 2006 guided activities for most of the 2006-2007 reporting period in this report:

GOAL: Determine Long-Term Water Supply Solutions, Including a Quantity Target

- **Objective WS1-** Present the California Public Utilities Commission's demand targets and alternatives to the Board for feedback.
- **Objective WS2-** Actively participate in CPUC Coastal Water Project environmental review.
- **Objective WS3-** Present to the Board for consideration a resolution to support proposed Monterey Regional Water Pollution Control Agency (MRWPCA) replenishment projects for the Seaside Basin.
- **Objective WS4-** Present to the Board a recommendation on establishment of an Ad Hoc Community Advisory Committee.

- **Objective WS5-** Initially consider a yield target to satisfy existing and future District water needs and submit to the jurisdictions for feedback by March 15, 2007.
- **Objective WS6-** Refine the Matrix of Water Supply Alternatives, using the quantified supply target and adding the Seawater Conversion Vessels offshore desalination project for use by the Board to consider one or more preferred projects.

GOAL: Build and Complete Aquifer Storage and Recovery Phase 1 and Complete Phase 2 Planning

- **Objective ASR1-** Secure SWRCB approval for Phase 1 ASR.
- **Objective ASR2-** Complete ASR Phase 2 water rights negotiations.
- **Objective ASR3-** Oversee completion of the second ASR well for the Phase 1 project.
- **Objective ASR4-** Monitor and facilitate the necessary infrastructure improvements to the California American Water system to ensure that they are in place to support Phase 1.
- **Objective ASR5-** Develop a project description and yield estimate for the Phase 2 project.

The following revised goals and objectives adopted in May 2006 affected activities during the final quarter of the 2006-2007 reporting period in this report:

Goal: Determine and participate in long-term water supply solution(s)

- **LS1:** Continue participation in California Public Utilities Commission Coastal Water Project process, including environmental review and Division of Ratepayer Advocates (DRA) processes.
- **LS2:** Provide technical support or guidance to MRWPCA for its Groundwater Replenishment Project in the Seaside Basin.
- **LS3:** Present to the Board for consideration a Memorandum of Understanding (MOU) for participation in the Monterey Bay Regional Water Solutions Task Force to evaluate regional water supply solutions.
- **LS4:** Present to the Board the Community Advisory Committee Report on projects listed in the matrix of water supply alternatives.
- **LS5:** [Future] Revise the matrix of water supply alternatives (using the quantified supply target) to incorporate results of the revised Bookman-Edmonston/GEI report evaluating desalination projects.

Goal: Complete Aquifer Storage and Recovery Phase 1 and Expanded ASR Project(s)

- **ASR1:** Secure State Water Resources Control Board water rights permit for Phase 1 ASR Project (if not, team will prepare for water rights hearing).
- **ASR2:** Complete Well #2 for Phase 1 ASR, including final facilities design and contractor selection.
- **ASR3:** Determine the feasibility of a dual-well injection test and report results to the General Manager.
- **ASR4:** Facilitate determination and schedule for completion of necessary infrastructure improvements to the California American Water system to ensure they are in place to support Phase 1 ASR.
- **ASR5:** Confirm water storage rights with the Watermaster.
- **ASR-E1:** [Expanded Objective] Complete negotiations with CAW for joint ownership of water rights, to obtain future ASR and other water rights permits.

- **ASR-E2:** [Expanded Objective] Develop a project description and yield estimate for expanded ASR, and present to the Board.

Implementation and Activities During 2006-2007

The following paragraphs describe action on the water supply objectives identified above in the July 2006 through June 2007 period. To avoid duplication, goals and objectives have been consolidated; background information is provided for certain objectives to enhance clarity. For reference, quarterly updates are prepared for the January, April, July and October regular Board meetings, on the District website at: <http://www.mpwmd.dst.ca.us/asd/board/meetings/meeting.htm>.

Updated weekly information is also available in the General Manager's letter to the Board at: <http://www.mpwmd.dst.ca.us/gmletters/gmletters.htm>.

GOAL: DETERMINE AND PARTICIPATE IN LONG-TERM WATER SUPPLY SOLUTIONS, INCLUDING A QUANTITY TARGET

Objective LT1: Actively Participate in CPUC Coastal Water Project Environmental Review and Division of Ratepayer Advocates (DRA) Process re: Alternatives

District staff has met with and assisted CPUC staff and consultants since mid-2006 to help the CPUC better understand existing and future community needs, and how those needs may relate to the Coastal Water Project (CWP) proposed by CAW, as well as various potential alternatives. The CPUC issued a Notice of Preparation (NOP) of a Draft EIR for the CWP on September 29, 2006, and the District submitted comments in November 2006. The primary components of the CWP are a 10 million-gallon-per-day (mgd) desalination project at Moss Landing, a conveyance pipeline to the Peninsula (with associated structures), and ASR producing a minimum of 1,300 AFY. The NOP identified alternative desalination site locations, intake and discharge operations, desalinated water conveyance systems, and project sizes.

Beginning in January 2007, the DRA has held monthly meetings with a variety of agencies and public interest groups to review alternatives to the CWP to serve as a regional water supply project (or combination of projects) for northern Monterey County, including the Monterey Peninsula. The MPWMD Board at its January 25, 2007 meeting directed District staff to participate in this process. The General Manager or his designee has participated since that time.

Objective LT2: Provide Technical Support or Guidance to MRWPCA for its Groundwater Replenishment Project in the Seaside Basin, including a Resolution of Support

The Groundwater Replenishment Project entails potential injection or percolation of highly purified recycled water in to the Seaside Groundwater Basin. It is modeled after a successful replenishment project in Orange County, California. Studies are underway to determine whether a similar type of project is feasible in the Seaside Basin east of General Jim Moore Boulevard. MPWMD staff met with MRWPCA staff and consultants on several occasions, and provided technical review of technical and planning documents prepared by MRWPCA. At its November 20, 2006 meeting, the MPWMD Board adopted Resolution No 2006-05 expressing support for the MRWPCA

replenishment efforts. The resolution was presented to the MRWPCA Board at its meeting of November 27, 2006. The resolution text may be viewed at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20061120/04/item4.htm>.

Objective LT3: Prepare and Approve an MOU for Participation in the Monterey Bay Regional Water Solutions Task Force to Evaluate Regional Water Supply Solutions

Throughout 2006, District staff coordinated with MRWPCA, Monterey County Water Resources Agency (MCWRA), Marina Coast Water District (MCWD) and other entities on regional water supply solution opportunities. The District General Manager participated in Monterey County-led meetings of a Managers Working Group comprised of water/wastewater districts and cities from the Monterey Peninsula and north Monterey County, including the northern Salinas Valley, regarding a potential governance structure for a regional water supply planning entity to be called the Monterey Bay Regional Water Authority (MBRWA). At its March 22, 2007 meeting, the District Board approved in concept a draft Memorandum of Understanding (MOU) to Form the Monterey Bay Regional Water Solutions Task Force, and urged other entities to consider it as well and/or offer suggested changes. On June 18, 2007, the Board approved the formal Draft MOU that proposes to form a committee comprised of a representative from the County Board of Supervisors, affected water district/agency governing boards, and city councils. Action also included contribution of \$5,000 towards technical analyses that the Task Force will require. Additional information may be found at the MPWMD website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2007/20070618/25/item25.htm>

Objective LT4- Initially Consider A Yield Target to Satisfy Existing and Future District Water Needs and Submit to the Jurisdictions for Feedback by March 15, 2007

At a March 23, 2006 special workshop, District staff concluded that 7,690 acre-feet per year (AFY) of replacement water would be needed at a minimum to meet existing water needs. A maximum of 13,236 AFY could be needed, depending on the assumptions made. This staff recommendation was refined and a recommended value of 12,500 AFY was presented to the Board for its consideration at the November 20, 2006 meeting. MPWMD staff amendments were based on a computer analysis of weather factors since 1995, ramifications of the Seaside Basin adjudication Final Decision, previous determinations of CAW water rights by the SWRCB, and possible needs of certain non-CAW water users in the Laguna Seca Subarea of the Seaside Basin. Additional information is available on the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20061120/12/item12.htm>

A special workshop was held on May 18, 2006 to address future water needs, based primarily on projections made by the Technical Advisory Committee (TAC), comprised of jurisdiction planning staff. The TAC evaluated water needs associated with various types of uses anticipated at “build-out,” based on current General Plans. The TAC estimated that 4,545 AFY above existing needs would be required, including a 20% “contingency” factor to cover unanticipated water needs or upgrades from current restrictions as well as “paying back” current retrofit credits allowed by MPWMD Rules & Regulations (“borrowed” against a future water allocation). No changes to the May 2006 estimate were proposed at the November 20, 2006 referenced above. Further information is provided on the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20060518/01/item1.htm>

The staff recommendation of 12,500 AFY for existing needs and 4,545 AFY for future needs was accepted by the Board in November 2006 to submit to the jurisdictions for comment with requested written comment by March 15, 2007. A special workshop of the jurisdictions' TAC and Policy Advisory Committee (PAC) was held on January 9, 2007, where District staff reviewed the development of its assumptions in detail, with emphasis on existing needs. The TAC at its January 23, 2007 meeting accepted the information on existing needs. The jurisdictions provided feedback in February and March 2007. Jurisdiction comments were reviewed and the Board approved the 12,500 AFY and 4,545 AFY yield targets at its meeting of April 16, 2007. This yield target information will be used in the assessment of water supply alternatives. Refer to the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2007/20070416/14/item14.htm>.

Objective LT5- Establish an Ad Hoc Community Advisory Committee and Present to the Board a Report on Projects Listed in the Matrix of Water Supply Alternatives

The Community Advisory Committee (CAC) was envisioned as a means to expand public input on the decision-making process regarding proposed water supply projects. Initial recommendations for the CAC structure and charge were first considered in October 2006, were revised, and subsequently approved by the Board at its December 11, 2006 meeting. In brief, the 14-member ad hoc CAC is comprised of two representatives appointed by each Board member – one individual and one community group representative. The CAC's charge was to review the seven water supply projects addressed in the October 2006 MPWMD Comparative Matrix and provide comments on merits or drawbacks of each. Notably, the Board did not seek consensus on a preferred project. The CAC reviewed projects from February through August 2007, and was scheduled to issue a report for consideration by the Board in September 2007. For more information on the CAC, refer to:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20061211/16/item16.htm>

In February 2007, the CAC received a presentation by MPWMD staff on aquifer storage and recovery efforts. The March 2007 meeting included presentations by (a) the Marina Coast Water District on its Regional Urban Water Augmentation Project, a combination of local desalination and use of purified recycled water; and (2) Monterey Regional Water Pollution Control Agency on its Groundwater Replenishment Project, which entails direct or indirect use of highly purified recycled water. The April 2007 topic was the MPWMD Seawater Desalination Project in the Sand City area. The May 2007 topic was CAW's Coastal Water Project, and the June 2007 topic was Pajaro/Sunny Mesa Community Service District's North Monterey County Desalination Project. The topic scheduled for July 2007 was Seawater Conversion Vessels (offshore desalination). The CAC report was successfully submitted to the Board in September 2007, and will be discussed in next year's report. Materials associated with each CAC meeting may be found at the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/committees/cac/2007/2007.htm>

Objective LT6- Refine the Matrix of Water Supply Alternatives, and Incorporate Results of the Revised Bookman-Edmonston/GEI Report Evaluating Desalination Projects, including the Seawater Conversion Vessels (Offshore Desalination)

Since Fall 2004, the District has prepared an annual Comparative Matrix of Water Supply Alternatives spreadsheet to compare various projects for subjects such as cost and financing, implementation timeline, water yield, environmental review, and others. The most recent matrix was received by the Board at its October 16, 2006 meeting. The 2006 matrix featured three shore-based desalination projects and included preliminary information on the ship-based Seawater Conversion Vessels (SCV) technology. In addition, the 2006 matrix included information on the MPWMD ASR Project and two projects featuring purified recycled water. For background information on the 2004 and 2005 matrices, please refer to the District website at:

<http://www.mpwmd.dst.ca.us/pae/matrix/matrix.htm>. To review the October 2006 matrix, visit: <http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20061016/13/item13.htm>.

As part of development of the October 2006 matrix, in February 2006 the District Board approved retaining a team of water supply engineering design experts led by Bookman-Edmonston/GEI Consultants to conduct an independent technical evaluation of three proposed desalination projects previously reviewed in the 2004 and 2005 matrices: (1) Coastal Water Project at Moss Landing proposed by CAW; (2) the Monterey Bay Regional Desalination Project at Moss Landing proposed by Pajaro/Sunny Mesa Community Services District; and (3) MPWMD desalination project proposed in the Sand City area. This effort culminated in a report presented to the Board at its June 29, 2006 special workshop. Copies of the full report are available at the District office, and presentation materials may be viewed at the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20060629/0629agenda.htm>.

At the June 2006 workshop, a number of questions and comments were posed by the Board and public. At its July 17, 2006 meeting, the Board determined it would defer action on amending the B-E/GEI contract and preparing a final report until after the September 25, 2006 Board Strategic Planning Workshop. A summary of comments by the Board, the public, and project proponents, including copies of written comments received was provided to the Board in a memorandum from the District Engineer dated September 12, 2006. At its October 16, 2006 meeting, the Board determined that it wished to add review of the offshore SCV technology to the scope of work. The Board approved a B-E/GEI contract amendment at its February 22, 2007 Board meeting to include formal responses to questions and more detailed information about the SCV technology. For more information about the amended B-E-GEI contract, please refer to the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2007/20070222/17/item17.htm>.

In the March-June 2007 period, MPWMD staff helped B-E/GEI prepare a draft report evaluating four desalination projects on the matrix. In June 2007, District staff developed rough cost estimates to complete the EIR for the 8,400 AFY MPWMD seawater desalination project in Sand City. Next year's annual report will describe completion of the revised B-E/GEI report as well as MPWMD staff efforts to update the comparative matrix in early 2008 based on input from the CAC, B-E/GEI report, and other new information.

GOAL: BUILD AND COMPLETE PHASE 1 ASR AND PLAN FOR EXPANDED ASR PROJECT PHASES

ASR entails diverting excess water flows (typically in Winter/Spring) from the Carmel Valley Alluvial Aquifer through existing CAW facilities and injecting the water into the Seaside Groundwater Basin for later recovery in dry periods. The primary ASR water supply effort in 2006-2007 was to pursue the permanent Phase 1 ASR Project at the Santa Margarita test site as well as future expanded ASR projects. (Note: ASR testing is addressed in Section VI-B below.) The primary goal of the MPWMD Phase 1 project is better management of existing water resources to help reduce current impacts to the Carmel River, especially during the dry season. The project is viewed as being complementary to other larger, long-term water augmentation projects that are currently being explored by various entities. The project entails a maximum diversion of 2,426 AFY from the Carmel River for injection, a maximum target extraction of 1,500 AFY from the ASR wells in the Seaside Basin, and a revised average firm yield of about 920 AFY. The proposed operation of the Phase 1 ASR Project would result in reduced pumping of the Carmel River in the Summer/Fall and increased storage in the Seaside Basin, which are both considered to be environmentally beneficial.

On March 23, 2006, the District issued the Draft Environmental Impact Report and Environmental Assessment (EIR/EA) on the MPWMD Phase 1 ASR Project, including information on a CAW temporary pipeline associated with the ASR Project. On August 21, 2006, the MPWMD Board certified the Final EIR/EA, including responses to comments, adoption of formal Findings of Approval, and adoption of a Mitigation Monitoring Plan to address project impacts, with emphasis on comments submitted by California Department of Fish and Game (CDFG), and National Marine Fisheries Service (NMFS, also known as NOAA Fisheries). Notably, both CDFG and NMFS had previously filed water rights protests, so the EIR/EA responses and refinements were made with the intent to also resolve water rights concerns. Additional information on the Final EIR/EA is available on the District website at:

<http://www.mpwmd.dst.ca.us/asd/board/boardpacket/2006/20060821/10/item10.htm>

In Fall 2006, the certified EIR/EA was used a primary decision-making tool by several permitting entities. On September 19, 2006, the U.S. Army transmitted a signed Right-of-Entry permit, a key approval needed to construct the Phase 1 ASR Project. The City of Seaside Planning Commission approved a Conditional Use Permit for the Phase 1 ASR well on October 11, 2006. The Monterey County Health Department issued a well construction permit on December 13, 2006.

Objective ASR1- Complete Second ASR Well for the Phase 1 Project

The Phase 1 ASR Project is comprised of the existing full-scale test well at the Santa Margarita site in addition to a new, second ASR well (Well #2) immediately adjacent to Well #1. The two wells would be operated in tandem. Based on the environmental review and permits described above, the District began construction mobilization for the second well the week of December 4, 2006, as scheduled. A temporary sound wall was constructed and drilling began in early January 2007. The well was completed in early February 2007. However, while testing of the well was underway, equipment losses occurred deep in the well, which delayed testing until the end of March 2007. In early April, while preparations were being made for the final well inspection video, it was discovered that rock formation materials from the aquifer system had entered the well, indicating a continuing problem with the integrity of the well casing, apparently due to failure of pipe threads on the contractor's drill bit that allowed the well development pump to drop to the bottom of the well. Repair of the casing was completed in early May, and included a new bottom "swage" plate for the

well, plus a concrete plug to ensure that the plate remains in place for the life of the well. The repair was conducted by the well drilling contractor, under supervision of the District's construction management consultant. A final acceptance video of the well construction was conducted in mid-May 2007. Future action to be described in next year's report includes developing final designs, facility layout and drawings for well pumps and motors in addition to facilities such as the electrical panel, pump house, chemical building, pipes and valving.

In addition to technical action, staff efforts related to participation in a pooled bond program to finance the ASR project occurred in 2006-2007. On June 18, 2007, the Board adopted the required resolutions for participation in the California Statewide Communities Development Authority (CSCDA) Water/Wastewater pooled bond program to finance the Phase 1 ASR Project. Subsequently, a tax law attorney with the bond counsel firm that represents the CSCDA program determined that the ASR project is not eligible for regular tax-exempt financing because of CAW's involvement as private for-profit entity. Next year's annual report will describe District staff actions to obtain ASR financing, preferable an alternative that would involve issuance of tax-exempt "private activity" bonds as part of the CSCDA's future pooled bond issue. In order to issue this type of bond, the District must apply to the California Debt Limit Allocation Committee (CDLAC) for a small portion of the State of California's \$3 billion annual "ceiling" on qualified private activity tax exempt bonds. As of June 30, 2007, District staff was reviewing the application process with the CSCDA underwriter, bond counsel, District legal counsel, and a financial advisor that will be needed to help complete the CDLAC application process.

Objective ASR2- Secure SWRCB Water Rights Approval for Phase 1 ASR

To enable long-term water rights for the diversion and injection of Carmel River water into the Seaside Basin via the Phase 1 ASR Project, two Petitions for Change were originally submitted by the District in October 2001 and revised in September 2003. The SWRCB noticed the District's Petitions on April 15, 2005. The District prepared formal responses to the NOAA Fisheries and CDFG protests in mid-June and July 2005, respectively. Since then, the District has worked extensively with NOAA and CDFG to resolve water rights issues, and also address CAW concerns (CAW and MPWMD had previously agreed to share water rights for the Phase 1 ASR Project). These efforts included including meetings, telephone conferences, computer modeling and formal correspondence. The SWRCB also hosted several meetings of all water rights participants. Despite these efforts, a mutually satisfactory resolution of agency and CAW concerns has not occurred by the original goal of December 2006, and the target date for water rights approval continued to slip through mid-2007. With lack of a settlement agreement in early May 2007, the District requested on May 18, 2007 that the SWRCB set a hearing date, and continued negotiations. In late June 2007, the SWRCB issued formal notice of a Pre-Hearing Conference to be held on August 21, 2007. A formal hearing on the Phase 1 ASR water rights was scheduled for September 24, 2007 in Sacramento. Next year's annual report will describe the District's eventual success in obtaining Phase 1 ASR water rights. Because of these delays, the District applied for temporary water rights to conduct ASR testing in 2007, as described in Section VI-B below.

In related action, District staff continues to coordinate with SWRCB staff regarding water rights associated with the New Los Padres Reservoir Project (issued in 1995). The reservoir water rights are relevant as they are the basis for the Petitions for Change described in Objective ASR2 above.

The District transmitted a July 2006 letter requesting an extension of time for the reservoir permits to maintain the water rights associated with them. Five objections were filed from entities including: CAW, CDFG, Carmel River Steelhead Association, Esselen Tribe of Monterey County and NMFS. Copies of the objections were provided to the District in December 2006, and responses by the District were provided to the parties in early 2007.

Objective ASR3- Determine the Feasibility of a Dual-Well Injection Test for Phase 1 Wells, Including Confirmation of Water Storage Rights

Typically, the Phase 1 ASR well testing would be based on waters from the Carmel River, as allowed by the water rights permits issued by the SWRCB. The lack of flow in the Carmel River in the 2007 winter season, combined with operational constraints in the CAW system, precluded efforts to test the Phase 1 ASR project with both wells working together. Thus, District staff explored ways with MCWD and MCWRA to use treated water from the MCWD distribution system to support a “dual-well” injection test at the Phase 1 ASR site. As part of that effort, District General Counsel clarified District water storage rights and procedures contained in the Seaside Basin adjudication court decision, and drafted an agreement for consideration by the MCWD and MCWRA boards in order to enable this proposal to proceed. MPWMD staff met with MCWD and MCWRA on June 5, 2007, to explore the potential for using water from the MCWD system for roughly two weeks to test the ASR project, with a projected test date in Fall 2007. Additional information will be provided in next year’s report.

Objective ASR4- Identify and Determine a Schedule for Necessary CAW System Infrastructure Improvements to Support Phase 1 ASR

In 2006, District staff worked closely with CAW to help obtain permits and other approvals to construct a temporary pipeline along the west side of General Jim Moore Boulevard. This pipeline is needed for existing CAW system operational flexibility as well as to provide water to enable full capacity of the Phase 1 ASR Project. CAW mobilized the temporary pipeline segments in December 2006, and the pipeline pieces were connected in late March 2007. However, the District was advised by CAW consultants at an April 18, 2007 meeting that additional CAW distribution facilities are needed to support diversion to both Phase 1 ASR wells in addition to existing CAW wells. Since then, District staff and consultants have met with CAW to address current and future demands on the CAW system from a hydraulic and engineering perspective, including an adequate supply for future ASR concepts. Additional information will be provided in next year’s report. Finally, District staff conducted an extensive briefing of new CAW regional personnel on June 11, 2007.

Objective ASR5- Complete Negotiations with CAW for Joint Ownership of Water Rights for Future ASR Projects and Other Water Rights Permits

In late March 2006, the District and CAW finalized a Management and Operations Agreement (MOA) regarding ASR testing, mutual aid, cost-sharing, water rights and other issues. This agreement satisfied the California Department of Health Services requirement that the entities enter into a minimum 10-year agreement to operate the ASR facilities. It also includes provisions for sharing rights for the Phase 1 ASR project and to negotiate additional agreements for acquiring and sharing ownership of water rights for present and future potable water supplies for the Monterey

Peninsula area. In 2007, efforts focused on securing water rights for the Phase 1 ASR Project as described above. A few preliminary discussions with CAW have taken place to date regarding water rights for future ASR projects; however, these projects must first be defined (see below).

Objective ASR6- Develop a Project Description and Yield Estimate for Expanded ASR

As described above, efforts to date have focused on the Phase 1 ASR Project. However, meetings between District and CAW staff/consultants included brief discussion of future ASR phases. District staff provided computer simulations for CAW's consultant, ASR Systems, for their investigation of the ASR element of the proposed Coastal Water Project and potential expanded ASR projects. In Spring 2007, District staff reviewed a CAW Technical Memorandum on a conceptual plan for expanded ASR. June 2007 efforts focused on CAW plans to construct a new ASR exploratory monitor well at the proposed "Bayonet" site in Seaside, which could expand the ASR project beyond the existing two wells. Meetings with CAW and its consultants continued into July 2007 and beyond, and will be described in next year's report.

Other Interagency Cooperation: District staff led the effort to obtain \$497,000 of Proposition 50 grant funds to prepare an Integrated Regional Water Management Plan (IRWMP) for the Monterey Peninsula, Carmel Bay, and South Monterey Bay Area. Final approval of State Department of Water Resources (DWR) funding for preparation of the regional plan occurred in January 2006. Since then, District staff worked closely with local public and non-profit partners to complete the IRWMP, including retaining specialized consultants. A Draft Plan was completed in October 2006, and input was received from the partner entities. Presentation of the revised Draft Plan and initial public input was scheduled for presentation to the MPWMD Board at its July 16, 2007 meeting. Completion of the IRWMP will position the region to receive funds to implement specific projects, such as expanded ASR projects. Additional information will be provided in next year's report.

B. Near-Term Water Supply Projects

Section VI-A above describes long-term water supply alternatives, including the MPWMD Phase 1 ASR Project. This section focuses on annual ASR testing. Since 1996, the District has evaluated the feasibility of ASR at greater levels of detail, including obtaining annual temporary water rights from the SWRCB to divert excess water from the Carmel River Basin through existing CAW facilities and inject it into the Seaside Basin for later recovery in dry periods. To date, the District has constructed two test wells in the Seaside Basin: (1) a shallower ASR pilot test well into the Paso Robles Formation (located at Mission Memorial Park in Seaside) in 1998, and (2) a 720-foot deep well full-scale test well into the Santa Margarita Formation in March 2001. Injection now primarily occurs at the MPWMD Santa Margarita Test Injection Well (SMTIW, now called Well #1) located on the former Fort Ord military base, just east of General Jim Moore Boulevard near Eucalyptus Avenue. MPWMD submits detailed annual reports to the SWRCB after each testing season.

Implementation and Activities During 2006-2007

Due to long-term water rights delays, the District applied on November 28, 2006 for a temporary urgency permit to facilitate ASR testing at SMTIW Well #1 in the 2007 wet season. The SWRCB

issued the temporary permit on January 11, 2007, which expired on May 31, 2007. Except for a few days, Carmel River flow did not meet minimum flow rates needed to divert water due to critically dry conditions. In Water Year 2007, a total of 11.85 AF were diverted and injected into the Seaside Basin in February and March 2007. As water was injected, various testing efforts associated with water quality and storage were carried out. District staff prepared several required reports on Water Year 2006 and 2007 testing efforts for the SWRCB and Regional Water Quality Control Board.

In Water Years 1998 through 2007, the District has injected approximately 1,875 AF of excess winter flow from the Carmel River Basin into the Seaside Basin at the two test sites, with 1,861 AF at the SMTIW (Well #1). During this same period, a total of 1,139 AF was recovered and delivered to the community via the CAW system as part of the test program.

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