



**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

**9-10**

January 28, 1997

**To:** Board of Directors (Water Planning and Resources Committee--Information)  
**From:** General Manager   
**Submitted by:** Debra C. Man, Chief   
Planning and Resources  
**Subject:** Conjunctive-Use Storage Program in the Raymond Basin

## **RECOMMENDATION**

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For information only.

## **EXECUTIVE SUMMARY**

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In a Board letter dated June 25, 1996, staff updated your Board on its ongoing efforts to meet the 200,000 acre-foot contractual groundwater storage goal established in the Integrated Resources Plan (IRP). Included in that report was a brief update on negotiations with the Raymond Basin Management Board (RBMB), the City of Pasadena (Pasadena), and the Foothill Municipal Water District (Foothill) for a contractual groundwater storage program (Program) in the Raymond Basin (Basin). In May 1996, your Board received copies of the Foothill Area Study. Included in that Study was a recommendation for a pipeline for a second point of delivery of treated water to Foothill and Pasadena. The guidelines in the 1988 Distribution System Overview Study and the 1996 IRP state that wherever possible Metropolitan provide at least two delivery routes to all parts of the service area. This second point of delivery will allow State Water Project water to be delivered for storage to the Basin in implementing the conjunctive-use element of the Foothill Area Study recommendation. Staff from Metropolitan, RBMB, Pasadena, and Foothill have made significant progress since June. Most significantly, the RBMB has accepted the attached Principles for an Agreement as the basis on which an agreement for the Program will be negotiated. In addition, Metropolitan staff has completed an extensive groundwater model of the Basin. This is part of the complex engineering studies necessary to integrate the operations of three major water delivery systems and the Basin. Preliminary results show that Metropolitan should be able to develop a program with a total storage in the Basin of 75,000 acre-feet, with a pumping capacity of 25,000 acre-feet per year. Negotiations for the final agreement were suspended while RBMB conducted a search for legal representation. RBMB completed their search in January of 1997. Final negotiations for an agreement will resume as soon as the new lawyers have reviewed the draft agreement.

**DETAILED REPORT**

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In a Board letter dated June 25, 1996, staff updated your Board on its ongoing efforts to meet the 200,000 acre-foot contractual groundwater storage goal established in the Integrated Resources Plan (IRP). Included in that report was a brief update on negotiations with the Raymond Basin Management Board (RBMB), the City of Pasadena (Pasadena), and the Foothill Municipal Water District (Foothill) for a contractual groundwater storage program (Program) in the Raymond Basin (Basin).

In May 1996, your Board received copies of the Foothill Area Study. The Foothill Area Study had two basin objectives. The first was to determine if additional Metropolitan facilities were needed in the study area to meet system-wide water demands on Metropolitan. This included potential deliveries required to meet the implementation goals of Metropolitan's IRP. These evaluations were based on water demand projections and resource mixes developed during the IRP process. The second objective was to evaluate the need for facilities to implement groundwater conjunctive-use storage programs in the study area. Included in that Study was a recommendation for a pipeline for a second point of delivery of treated water to Foothill and Pasadena. The guidelines in the 1988 Distribution System Overview Study and the 1996 IRP state that wherever possible Metropolitan provide at least two delivery routes to all parts of the service area. This second point of delivery will allow State Water Project water to be delivered for storage to the Basin in implementing the conjunctive-use element of the Foothill Area Study recommendation. Preliminary cost for the pipeline is estimated to be \$15 million.

With regards to the Program, staff from Metropolitan, RBMB, Pasadena, and Foothill have made significant progress since June. Most significantly, the RBMB has accepted the attached Principles for an Agreement (Principles) as the basis on which an agreement for the Program will be negotiated. The Principles call for Metropolitan to become a party to the Raymond Basin adjudication with the right to operate 75,000 acre-feet of storage. This will give Metropolitan equivalent rights to other entities in the Basin that are storing water; however, Metropolitan will not have any claim to decreed rights in the Basin, nor shall Metropolitan seek to develop any decreed rights in the Basin. Metropolitan will own the facilities necessary to implement this Program. Currently, staff estimates that Metropolitan will construct nine Aquifer Storage and Recovery (ASR) wells and the appurtenant facilities necessary to integrate with the Pasadena and Foothill delivery systems. This will give Metropolitan the ability to pump 25,000 acre-feet of water per year during dry years. This Program would give Metropolitan three years of dry-year yield during times of need.

Metropolitan staff has completed an extensive groundwater model of the Basin. This model has been examined by a consultant selected by the RBMB and been found to be an accurate representation of the characteristics in the Basin. This is an important step in the negotiation process. With this model, Metropolitan staff will be able to assess any impacts of the Program on the Basin. Staff from Metropolitan, Pasadena, and Foothill will be able to develop the Program in a manner that will maximize the benefits to the participants while at the same time

minimizing any negative impacts to the Basin and its current pumpers. The model will also be an important tool for any necessary environmental documentation.

Metropolitan staff, in concert with staff from Pasadena and Foothill, are also conducting a major surface-water modeling effort of the Pasadena and Foothill delivery systems. This is part of the complex engineering studies necessary to integrate the operations of three major water delivery systems and the Basin. Staff has updated Pasadena's existing surface water modeling network to use EPANET, the state-of-the art surface water modeling program. This gives staff from Pasadena and Metropolitan a greatly enhanced ability to track and analyze water quality and system delivery capability. This will give Metropolitan, Pasadena, and Foothill the ability to optimize the benefits of the Program. Preliminary results show that Metropolitan should be able to develop a Program with a total storage in the Basin of 75,000 acre-feet and a pumping capacity of 25,000 acre-feet per year.

Negotiations for the final agreement were suspended while RBMB conducted a search for legal representation. RBMB completed their search in January of 1997. Final negotiations for an agreement will resume as soon as the new lawyers have reviewed the draft agreement.

Metropolitan is currently completing the above-mentioned engineering, environmental, groundwater modeling, and operating studies to verify the feasibility of the proposed Program. As currently configured, Metropolitan would construct up to nine ASR wells, plus some additional conveyance facilities, in the Basin at a cost of \$10 million. These facilities would give Metropolitan the capability to pump 25,000 acre-feet per year of previously stored water from the Basin. The water could be served to meet overlying demand, or it could be pumped back into the Upper Feeder for delivery to other Metropolitan member agencies. Contractual groundwater storage programs would allow Metropolitan to maximize the use of water supplies from the State Water Project and Colorado River by delivering water to storage for use during emergencies and droughts. The regional benefit of managing resources through coordinated storage operations is estimated to be up to \$300 per acre-foot of dry-year yield on a net present worth basis. This estimate was used to establish the budget for developing the Raymond Basin Conjunctive-Use Program.

With the implementation of this Program, and, combined with the existing Calleguas storage program, Metropolitan will have developed approximately 50 percent of the contractual groundwater storage programs needed according to the IRP.

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Attachment

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### **Draft Principles for an Agreement**

The Metropolitan Water District of Southern California (Metropolitan) as part of its Integrated Resources Plan is seeking cooperative agreements to optimize the use of surface water and groundwater storage. The purpose of these agreements is to increase the amount of water available for delivery by Metropolitan within its service area, provide additional water to minimize shortages, delay the implementation of the Drought Management Plan during shortage years, store water that would not be stored under other currently available Metropolitan programs, and store water that would otherwise be lost to Metropolitan's service area. The following principles will govern the development of an agreement (Agreement) for a Metropolitan - Raymond Basin conjunctive use storage program.

### **BASIN OPERATING RIGHTS**

1. Metropolitan will be made a party to the Raymond Basin Judgment with the right, subject to the Raymond Basin Management Board (Board) approval, to store imported water in the basin and to produce its stored water, less losses. Metropolitan's status as party to the Judgment will not be limited in time.

2. Metropolitan will contract with the Raymond Basin Management Board (Board) for the water management services necessary to implement the Agreement. Payment for these services may be made in the form of water to be used and distributed by the Board.

3. Metropolitan's operating rights for stored water in the basin shall be equivalent to other basin right holders rights to stored water, with the exception that Metropolitan shall not have any claim to any presently decreed water rights under the Raymond Basin Judgment, nor shall Metropolitan develop any such rights in the Basin.

4. Metropolitan's maximum storage capacity within the basin shall be 75,000 AF.

5. Participation in the Agreement shall be contingent upon approval of all necessary Boards of Directors, City Councils, watermaster, judicial authority, or other governing entity whose approval is necessary to implement the Agreement.

### **OWNERSHIP AND OPERATION OF FACILITIES**

1. Metropolitan shall own, or upon mutual agreement, may lease from local entities, any or all of the facilities necessary to implement the Agreement.

2. Local entities may lease Metropolitan's facilities when Metropolitan is not using the facilities, subject to Metropolitan approval. Local entities leasing Metropolitan's facilities shall be responsible for the operating and maintenance costs when leasing facilities.

3. The basin operating plan(s) shall, require approval of the Board. Approval for Metropolitan's portion of the basin operating plan shall not be unreasonably withheld.

### **COST**

1. Metropolitan shall fund the construction of capital facilities necessary to implement the Agreement and shall pay the costs of operating and maintaining such facilities.

2. Water delivered from storage under the Agreement will be sold at the appropriate water rate, consistent with the Metropolitan Administrative Code.

### **STORAGE**

1. Metropolitan may store or pay back borrowed water in the following ways: 1) Direct spreading, 2) Direct injection, 3) In-lieu deliveries as verified pursuant to an agreed upon methodology, (currently the Seasonal Storage Service Program methodology), and/or 4) Transfer of previously stored water.

2. Losses from Metropolitan's storage account will be equivalent to losses incurred by other basin right holders for similar activities.

3. Metropolitan will deliver water of a quality acceptable to the Board.

4. As required by the Raymond Basin Judgment, the Board shall be responsible for maintaining the records of storage accounts and will provide a monthly record of any storage or recovery activities to Metropolitan.

### **RECOVERY**

1. With regard to quantity and quality, water delivered to member agencies from Metropolitan's storage account shall in all cases be deemed equivalent to Metropolitan's surface water deliveries.

### **OTHER**

1. The appropriate agency shall be the CEQA Lead Agency in performing any environmental documentation necessary to implement the Agreement.

2. Information releases and public relations activities shall be implemented only with the concurrence of Metropolitan, The City of Pasadena, Foothill Municipal Water District, and the Board.

3. Acceptance of these principles does not foreclose the incorporation of additional considerations not inconsistent with these principles.