

## EXHIBIT 4-A



November 2, 2011  
Project No. 06-0028

Monterey Peninsula Water Management District  
5 Harris Court, Building G  
Monterey, California 93942

Attention: Mr. Joe Oliver, Water Resources Manager

Subject: Proposal for Hydrogeologic and Engineering Services for Phase 1 ASR Project;  
Fiscal Year 2011-2012 Program **DRAFT**

Dear Mr. Oliver:

In accordance with your request, Pueblo Water Resources, Inc. (PWR) is pleased to submit this proposal for ongoing hydrogeologic and engineering services for the Monterey Peninsula Water Management District (MPWMD or District) Phase 1 Aquifer Storage and Recovery project (a.k.a. Water Project 1). Presented in this proposal are a detailed scope of work, schedule, and estimated costs to assist the District with various Phase 1 ASR-related tasks during the remaining period of Fiscal Year 2011-2012 (FY 2011-2012). It should be noted that this proposal is not for a new project, but rather is to continue the ongoing operational support and completion of the work on the Santa Margarita site facilities. PWR's authorization to perform this work is necessary to maintain existing program direction and to avoid the additional costs and delays associated with re-starting the program.

### **BACKGROUND**

Aquifer Storage and Recovery (ASR) on the Monterey Peninsula involves the diversion of excess flows from the Carmel River system for recharge, storage, and subsequent recovery in the Seaside Groundwater Basin (SGB). The ASR project is operated cooperatively by the District and California American Water (CAW). The excess water is captured by CAW wells in the Carmel Valley during periods when flows in the Carmel River exceed fisheries bypass flow requirements, treated to potable drinking water standards, and then conveyed through CAW's distribution system to Seaside. Aquifer recharge is accomplished via injection of these excess flows into ASR wells in the SGB that have been designed, constructed, and tested by the District. The recharged water is temporarily stored underground in the SGB, utilizing the available storage space within the aquifer system. During periods of high demand, the same ASR wells and/or existing CAW production wells in the SGB are used to recover this "banked" water, which in turn allows for reduced extractions from the Carmel River system during dry periods.

The Phase 1 ASR Project represents the initial phase of a permanent ASR project on the Monterey Peninsula, and consists of two full-scale ASR wells (ASR-1 and ASR-2) and associated facilities at the so-called Santa Margarita ASR Facility located at 1910 General Jim Moore Blvd. During Water Year 2011 (WY 2011) a total of approximately 1,118 acre-feet (af) of excess Carmel River system water (treated to Drinking Water Standards) was injected into the SGB, exceeding the projected average project yield of 920 acre-feet per year (afy).



The project is subject to regulatory oversight by the Central Coast Regional Water Quality Control Board (CCRWQCB) and the California Department of Public Health (CDPH). In particular, the CCRWQCB requires the submission of annual Summary of Operations technical reports that document ASR well operations and performance, aquifer response to injection and extraction, and the occurrence and fate of various water-quality constituents within the aquifer system. In addition, CAW recently received a water system permit amendment from CDPH to add ASR-1 as a drinking water source to its water supply system (a permit amendment for ASR-2 is pending completion of the Santa Margarita site facilities). The CDPH permit requirements include provisions that ASR-1 be operated by CAW Certified Water Distribution and Treatment Operators. As a result of these new CDPH requirements, oversight of ASR-1 injection operations during WY 2012 will fully transition from District and PWR staff to CAW Certified Operators; however, ongoing ASR well and aquifer performance monitoring and maintenance will continue to be performed by the District and PWR.

Although the two Santa Margarita ASR wells themselves are fully operational, portions of the Santa Margarita site facilities remain to be completed during FY 2011-2012, while additional facilities have been identified for installation at the site to accommodate CAW Regional Water Project (RWP) operations. Items yet to be completed at the Santa Margarita ASR Facility include the following:

- Installation of permanent water level/datalogger instrumentation at ASR-1 and -2;
- Replacement of the ASR-1 pump and motor (upsized);
- Installation of soundproof enclosures at ASR-1 and ASR-2;
- Addition of a 60-foot wide pipeline corridor to accommodate new RWP pipelines;
- Redesign of site driveway, hypochlorite loading dock, and proximate grading to accommodate the above-noted RWP lines, and;
- Final site grading, paving, landscaping and fencing, compatible with the above additions.

These final facilities and additional site area improvements will allow the facility to be operated at full design capacity (3,000 gpm injection and 5,000 gpm production), and will be compatible with CAW RWP facilities when they are constructed.

### **PURPOSE AND SCOPE**

We understand that the District anticipates that it will be able to obtain water for recharge operations from the CAW system during WY 2012 as soon as excess Carmel River system water is available per State Water Resources Control Board (SWRCB) water rights permit allowance. The purpose of the proposed work is to:

- Assist District and CAW staff with ASR well operations during the upcoming WY 2012 recharge season;
- Prepare the WY 2011 Summary of Operations Report;
- Assist the District with completing the remaining Phase 1 project facilities, and;



- Coordinate with CAW regarding incorporation of Regional Water Project (and other CAW ASR projects) into the MPWMD facilities and ASR program.

### **Scope of Services**

Based on our understanding of the District's needs and our experience with this and other ASR projects, we propose to provide the following hydrogeologic and engineering services during the remainder of FY 2011-2012.

#### **Task 1 – Project Management and Meetings**

PWR will review existing conditions at the site and meet with District and CAW staff at a kick-off meeting to discuss FY 2011-2012 program goals and scheduling for the Phase 1 ASR Project. As part of this task, the detailed Phase 1 ASR Project schedule (Gantt Chart) will be updated and maintained. In addition, it is anticipated that on-going "ASR Coordination" meetings between the District and CAW will continue during the FY 2011-2012 period. Completion of the Phase 1 ASR facilities will require ongoing coordination with involved agencies to avoid duplication (or conflict) with utilities and system infrastructure currently being contemplated by CAW for the Regional Water Project (RWP), Marina Coast Water District (MCWD), and Fort Ord Reuse Authority (FORA) in the proximate area; particularly within the General Jim Moore Boulevard (GJM Blvd) corridor. Consistent with past practice, it is assumed that meetings will be held on an approximate monthly basis and will be attended by a PWR Principal Engineer and/or Hydrogeologist, depending on meeting agenda and project needs at the time. To the extent feasible, PWR attendance at meetings will be coordinated with other project tasks to minimize project costs.

#### **Task 2 – Water Year 2011 Summary of Operations Report**

This task consists of preparing a Summary of Operations Report (SOR) documenting the recharge operations and analysis of well performance, water-quality and water-level data collected during and proximate to WY 2011. The annual preparation and submittal of SORs is a requirement of the CCRWQCB for the Phase 1 ASR Project. Consistent with the requirements of the CCRWQCB, the overall scope, content, and format of the SOR will be similar to previous annual SORs prepared by PWR for the ASR project. Conclusions and recommendations will also be made regarding the ongoing operation and maintenance of Santa Margarita ASR-1 and ASR-2 (i.e., sustainable injection rates, backflushing frequency, etc.).

#### **Task 3 – Water Year 2012 Operational Support**

This task consists of providing operational support for the Phase 1 ASR Project during the WY 2012 recharge season. This task includes providing as-needed assistance to District and CAW staff with on-going ASR operations, data collection, and water sampling during the WY 2012 program, as well as providing routine monitoring and evaluation of ASR system performance during the course of WY 2012 recharge operations, as described below:

Task 3.1 – ASR Program Implementation and Field Assistance. Includes providing assistance with the startup of WY 2012 ASR operational phases and the provision of field assistance on an as-needed/requested basis to address critical project needs as they arise. For budgetary purposes and based on our experience during WY 2011, we have assumed this task will involve providing field assistance at the startup of the recharge season and periodic follow-



up visits during the season on an approximate monthly basis. This task is an important coordination element during this year, as ASR-1 injection and extraction operations transition to the full responsibility of CAW operators under CAW's permit oversight by the CDPH.

Task 3.2 – Well and Aquifer Performance Monitoring and Evaluation. Consists of providing ongoing monitoring and evaluation of ASR system performance during WY 2012. Facility operational issues and parameters that will be routinely monitored and evaluated during the course of WY 2012 include the following:

- Injection and extraction well performance;
- Well plugging during injection;
- Sustainable injection rates and backflushing frequency;
- Aquifer hydraulic response to injection and extraction, and;
- Disinfection Byproducts (DBPs) occurrence and fate in the aquifer.

It is our understanding that the District will be primarily responsible for the ongoing downloading and maintenance of the water-level transducers/dataloggers that have been deployed in various wells as part of the ASR project and that the District in coordination with CAW will be responsible for implementing the WY 2012 Sampling and Analysis Plan (SAP). It is assumed that the District will provide PWR with ASR operational, water-level and water-quality data collected during WY 2012 on an approximate weekly basis. PWR will process and evaluate the data for the issues listed above on an ongoing basis and provide routine status reports and operational recommendations during the course of WY 2012 operations.

#### **Task 4 – Santa Margarita Site Engineering and Construction Management**

This task includes engineering and construction management services for the completion of the Santa Margarita ASR site facilities which have either not been finalized or require redesign to accommodate recent design decisions from CAW ASR projects, including the Regional Water Project and the recent Cease & Desist Order “Small Projects”, which are now proposed to be integrated with the existing Santa Margarita ASR Facility. Specific work items in this task include the following:

- Direct costs for permanent water-level transducers/dataloggers (at ASR-1 and ASR-2) and a water-quality meter (for backflush turbidity monitoring);
- Specifications for replacement of ASR-1 upsized pump and motor;
- Specifications for soundproof enclosures at ASR-1 and ASR-2;
- Design engineering to bring three 16” and two 30” lines into the site for processing (i.e., disinfection and/or disposal), including an additional 60’ wide strip easement from the City of Seaside;
- Permitting assistance for acquisition of new land area and permit compliance coordination for ongoing construction work;
- Plans, specifications, and bidding support for final site grading, paving, and fencing, and;
- Construction management and observation for final facility construction.



### **Services Not Included**

Services which are (or may be) necessary for the completion of this project, which are not included in our proposal include the following:

- Water-quality sampling and analyses (assumed District and /or CAW provided);
- Construction of Phase 1 site facilities (except as noted);
- Permit fees;
- Cost of water, electricity, or other utilities;
- Any others items not specifically included in PWR's scope of services.

### **Estimated Fees and Schedule**

Based on the scope of services presented herein, we estimate the fees for our services will be approximately \$219,813, which will be billed on a time-plus-expenses basis in accordance with our current Fee Schedule (attached). An estimated fee summary worksheet is attached summarizing the estimated man-hours and costs per task/work item. A 10 percent contingency has been noted in the attached budget summary (total with contingency is \$241,794) in the event that unforeseen project complications or constraints arise. We recommend the contingency be held for authorization by District staff upon written justification by PWR.

We understand that in order to authorize this work, your Board must first approve a formal contract amendment. Based on our current workload, we believe that we can commence work within two weeks of your authorization.

We appreciate the opportunity to provide assistance to the District on this important water supply project. If you require additional information regarding this or other matters, please call us.

Sincerely,

PUEBLO WATER RESOURCES, INC.

Robert C. Marks, P.G., C.Hg  
Principal Hydrogeologist

Stephen P. Tanner, P.E.  
Principal Engineer

RCM:SPT

Attachments: 2011 Fee Schedule  
Cost Estimation Spreadsheet

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