

## EXHIBIT 4-A



June 9, 2010  
Project No. 06-0026

Monterey Peninsula Water Management District  
Post Office Box 85  
Monterey, California 93942

Attention: Mr. Joe Oliver, Water Resources Manager

Subject: Proposal for Professional Services; Construction Management and Testing for Fitch School Test Well.

Dear Mr. Oliver:

Pursuant to your request, Pueblo Water Resources, Inc. (Pueblo) is pleased to provide this proposal to provide professional consulting services associated with the construction and testing of the District's proposed Fitch School Test Well (FSTW). The FSTW well is part of the District's Phase 2 Aquifer Storage and Recovery (ASR) Project, which includes the expansion of the District's successful Phase 1 ASR Project.

The Phase 1 project included the construction of two ASR wells (Nos. 1 and 2) at the District's existing SMTIW site. The overall objective of the Phase 1 ASR Project was to facilitate the conjunctive use of water supplies in the Carmel River System and Seaside Groundwater Basin that will benefit the natural resources of the Carmel River and the augment groundwater resources of the Seaside Groundwater Basin. The drilling and construction of the FSTW is the next step by the District in expanding the successful ASR program to an additional site within the Seaside Groundwater Basin. The District's goal is that with the successful construction and testing of the FSTW, the well would ultimately be converted to a permanent facility (ASR Well No. 3), further increasing the injection capacity and yield of the District's ASR program.

As you know, Pueblo assisted the District in finalizing the design of the FSTW and preparing the specifications and bid package for the project. Bids were advertised on Friday, June 4, 2010, and will be opened publicly on Friday June 18, 2010, at 2:00 p.m. The District desires to award the project and have all the contract documents in place so that work may begin on July 6, 2010. The Contractor will have one-hundred twenty days from the commencement of work activities to complete project work. A critical element of the FSTW project is the work schedule as it relates to the schedule of Fitch Middle School. The District will be required to coordinate work activities during the summer break period for the middle school. It is the intent of the District for the project to proceed on an accelerated schedule so that the majority of the major work elements are completed before the first day of school of the upcoming year (August 9, 2010). It is possible that some work associated with the project will be performed after school starts. Should that be the case, arrangements will need to be made with the school district, and unique work day/work hour restrictions may be required.

Pueblo has developed a comprehensive scope of work for construction management and baseline testing for the FSTW project. Our proposed work scope is based on our extensive experience with similar ASR well construction projects, and with consideration of the schedule



and potential schedule restrictions discussed above. The general scope of work proposed for this initial phase of the FSTW project includes the following fundamental elements:

- Management of Well Construction Activities
- Baseline Well Performance and Water Quality Testing
- Engineering
- Summary Reporting

## **SCOPE OF WORK**

A detailed scope of work to oversee the construction and initial production testing of the FSTW is presented below:

### **Task 1. Project Management**

The project management task includes the preparation of routine project correspondence, invoices, and monthly budget status updates. Pueblo will also establish a project email distribution list through which project status updates will be provided as project events warrant, or on a weekly basis, at a minimum. Effective project communication is critical for the success of this important District project.

### **Task 2. Construction Management and Testing**

Pueblo will serve as the primary point of contact for the District during well drilling, construction and testing. Pueblo will observe and document work performed, verify Contractor adherence to the well drilling specifications, oversee the collection of critical hydrogeologic data, and develop and document all testing operations. A detailed description of the work proposed by Pueblo for each of the tasks associated with the drilling, construction and testing of FSTW is provided below.

Task 2.1 - Mobilization. Pueblo will be available to assist the District during the Contractors mobilization of equipment to the site. Pueblo will oversee the mobilization to ensure that permit conditions are met and logistical arrangements are consistent with those that had been planned for the project. Pueblo will also be available to answer any questions Contractor staff may have during the mobilization process.

Task 2.2 – Conductor Casing. Pueblo will document the drilling, placement and cementing of the surface conductor casing. The importance of the surface conductor casing is often overlooked in well construction projects, as improper placement, positioning, and/or sealing of the surface conductor can lead to serious problems in subsequent phases of the work.

Task 2.3 – Pilot Drilling. A pilot hole for the well will be drilled by the Contractor. During pilot drilling, Pueblo will document Contractor activities and prepare a detailed lithologic log of the borehole. The lithologic log will include descriptions of the cutting samples, a graphical representation of the stratigraphy and potential aquifer zones, the drilling rate, drilling fluid properties, and rig activity.



Samples will be collected throughout the entire depth of the borehole. Samples of each 10-foot interval will be placed in clear plastic compartmentalized storage boxes. Two sets of sample boxes will be prepared. The sample boxes allow for easy correlation of the geophysical log and visualization of the borehole stratigraphy and aquifer materials. Bulk samples of potential aquifer zone materials will also be collected and placed in plastic bags. Samples of selected materials from the Santa Margarita Sandstone will also be collected. Samples of specific aquifer zone materials may be submitted for laboratory mineralogy analyses, which could be utilized primarily to correlate mineralogy between the SMTIW site and the Fitch School site. Pueblo will witness and direct the geophysical logging once pilot hole drilling is complete. The lithologic and geophysical data will be reviewed and evaluated with respect to the planned placement of well components (screen depths and total well completion depth).

Task 2.4 – Reaming and Well Construction. Immediately upon completion of the pilot hole, reaming of the borehole to the final diameter will commence. During reaming, Pueblo will document contractor activities and drilling fluid properties. Maintenance of appropriate drilling fluid properties during reaming is critical in minimizing damage to the aquifer and to the ultimate performance of the well and success of the project.

After reaming, Pueblo will monitor and document well construction. Placement of the well components (screen sections, blank sections, centralizers) will be recorded, along with the types of materials used for construction, and the construction methods. Once the casing is landed, the placement of the gravel pack will be documented. Pueblo will record the amount of materials added and the depth of the tremie pipe during all stages of gravel packing. The amount of gravel added will be compared to the theoretical amount of gravel required to verify that the placement of the gravel is uniform within the annulus.

Task 2.5 – Well Development. The well will be thoroughly developed by a combination of bailing, airlift/swabbing, and pumping/surging. Pueblo will oversee and document all phases of well development. Development procedures and durations will be recorded along with observations of the development water, and measurements of field water quality parameters. All discharges and NPDES monitoring results will be documented and recorded.

During pumping and surging, Pueblo will maintain a detailed log of the pumping rate, water levels and specific capacity. Sand production and water clarity (turbidity) will also be recorded. Graphical summaries of development data will be routinely updated and used to evaluate the progress and efficacy of development operations. This will be important in evaluating the point at which development should be considered to be complete, or whether additional development efforts are warranted.

Task 2.6 – Baseline Production Testing. Following completion of well development, essential baseline production and groundwater quality data will be acquired through the formal performance testing. The following tests are anticipated:

- Step discharge test (12 hour)
- Continuous rate discharge test (24 hour)
- Recovery test (24 hour)

Water levels in the FSTW and the two existing monitoring wells at the site will be measured and recorded throughout the testing period by pressure transducers/data loggers. Pueblo will coordinate with the District the monitoring of water levels at the SMTIW site, and at the Fort Ord



No. 7 monitoring well cluster. Pueblo will also oversee and document the results of velocity profiling (spinner surveys) that will be performed during the step test. The velocity profiling is used to quantify the production distribution within the perforated intervals.

During production testing, groundwater quality will be routinely monitored using field devices. The field parameters will include; temperature, pH, turbidity, conductivity, ORP, and any other parameters that may be required by the NPDES Permit. A laboratory water quality testing program will also be developed, and Pueblo will coordinate sample collection and analysis with the laboratory.

Task 2.7 – Demobilization and Cleanup. Pueblo will oversee the demobilization of the Contractor equipment from the site and ensure that cleanup operations and the site conditions prior to the Contractor's final departure from the site are compliant with the specification's requirements.

### **Task 3. Reporting**

The reporting task will consist of producing three reports; a draft Summary of Operations Report (SOR), a NPDES compliance report for submittal by the District to the RWQCB, and a final SOR. Detailed descriptions of each of these reports are presented below:

Task 3.1 – Draft Summary of Operations Report. Pueblo will prepare a draft Summary of Operations Report (SOR) for the FSTW upon completion of the field activities. The report will provide comprehensive documentation of well construction details and all aspects of the work performed during the project, and will include the following:

- Field memoranda
- Lithologic and geophysical logs (including digital data)
- Sieve analyses for aquifer materials and gravel pack samples
- Documentation of well construction materials
- Well construction details
- Well development and production testing data
- Water quality data
- Project photographs

The draft report will also include a summary table of all key information related to the well, such as permit numbers, the tentative State well number, GPS coordinates, well construction details, and baseline well performance data.

Task 3.2 – NPDES Compliance Reporting. Pueblo will compile all field water quality data, laboratory analytical reports, and flow information related to NPDES associated discharges, and will prepare a brief transmittal report for submittal to the Regional Board. The report will contain all the requisite information in the specified format necessary for compliance with the Board Order and the associated Monitoring and Reporting Program.



**Task 3.3 - Final Summary of Operations Report.** Once the District has reviewed the draft report and provides final comments, Pueblo will prepare the final report. Ten copies of the final report will be provided to the District. Pueblo will also provide a copy of the report in digital (PDF) format for the District's use. Pueblo will also transmit to the District all digital files of collected water level data, geophysical data, water quality data, and project photographs.

#### **Task 4. Pre-Construction Meeting**

Prior to Contractor mobilization, Pueblo will coordinate and conduct a pre-construction meeting at the well site. The purpose of the pre-construction meeting is to introduce all parties that will be involved in the field work associated with the well, outline the scope of work, resolve any outstanding logistical issues, review permit requirements, and establish the schedule for the work to be performed in the field.

#### **Task 5. Engineering Design and Coordination with Cal-Am**

Prior to Contractor mobilization, Pueblo will develop a design for the disposal of discharge waters from pumping operations, utilizing currently vacant land on the school property to the southwest of the well site. The system will cross the school driveway underground, and include an energy dissipater at the temporary discharge point to minimize erosion. The system will be designed to be removable after operations are completed. Services will also include engineering design for well testing operations, which may include long-term test pumping and/or injection testing (depending upon the results of the test program). Engineering analysis and plans will be developed for temporary electrical/switchgear equipment for operating the well pump, and temporary piping and valving will be designed to facilitate test operations for the well. A piping connection to the Cal-Am system for temporary use is also envisioned. Upon development of these design features, Pueblo will assist the District in soliciting bids for the work, negotiations with the drilling contractor for implementation, and/or coordination with Cal-Am to have their staff or contractors implement the installation of these elements.

### **ESTIMATE OF COSTS**

Pueblo's estimated costs for the services described above and related to the construction management and testing of the FSTW were developed based on the proposed scope of work, our experience with similar projects, and our 2010 fee schedule (attached).

In developing our estimate of costs for this project we have assume that certain aspects of the work will be performed on a 24-hour per day schedule, and that observation during some activities will be on a variable basis with particular focus on the critical stages of drilling and construction. Presented below is a summary table showing our assumptions for estimating our costs associated with construction and inspection:



**Estimated Construction and Inspection Schedule - Fitch School Test Well**

Task	Description	Work Hours	Duration (days)	Inspection Staffing (%)	Estimated Man-Hours
2.1	Mobilization	Days	10	35	36
2.2	Conductor Casing	Days	2	75	18
2.3	Pilot Hole Drilling	24	4	100	96
2.4	Reaming and Well Construction	24	6	75	108
2.5 (a)	Well Development (Swab/Airlift)	24	4	75	72
2.5 (b)	Well Development (Pumping)	Days	6	100	72
2.6	Production Testing	24	3	75	54
2.7	Demobilization and Clean-Up	Days	5	25	15

The estimated labor costs for the major tasks, the costs for the equipment and other direct costs that will be required for completion of the project, and the fees associated with outside laboratory analyses, are summarized in the table below:

**Estimated Costs for Pueblo Services - Fitch School Test Well**

Task No./Description	Estimated Cost
1 – Project Management	\$5,300
2 – Construction Management and Testing	\$59,970
3 – Reporting	\$14,920
4 – Meetings	\$3,720
5 – Engineering	\$12,825
Equipment and Direct Costs	\$13,800
Laboratory Analyses	\$11,960
Contingency (10%)	\$12,250
<b>Total Estimated Cost</b>	<b>\$134,745</b>




The total cost estimate for Pueblo's services shown in the table above also includes a ten percent contingency in accordance with previous District projects; we recommend that the project contingency be held for authorization by District staff upon written notice and justification by Pueblo.

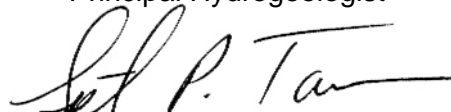
A detailed breakdown of Pueblo's estimated costs showing the various labor rates and assumed hours for the services proposed are provided on the attached spreadsheet. Please note that the costs for our services for this project have been developed in accordance with the assumed project schedule. The actual schedule adopted, particularly during the period when potential work schedule/work hour restrictions may apply (after school starts), may necessitate a revision to our estimate of Pueblo's time and related costs that would be required to fulfill our work scope. Once the final schedule for work is developed, we will re-assess our estimate for man-hours and costs to determine if any changes are warranted.

We appreciate the opportunity to assist the District on this important project, and look forward to a timely and successful completion of the work. As always, please do not hesitate to contact us if you have any questions or require any additional information.

Sincerely,  
Pueblo Water Resources, Inc.



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



Stephen P. Tanner, P.E.  
Principal Engineer

Attachments: 2010 Fee Schedule  
Cost Estimation Spreadsheet



**PUEBLO WATER RESOURCES, INC  
2010 FEE SCHEDULE**

***Professional Services***

Principal Professional.....	\$165/hr
Senior Professional.....	\$150/hr
Project Professional.....	\$135/hr
Staff Professional.....	\$105/hr
Technician.....	\$ 95/hr
Drafting.....	\$ 65/hr
Word Processing.....	\$ 60/hr

***Other Direct Charges***

Subcontracted Services.....	Cost Plus 15%
Outside Reproduction.....	Cost Plus 15%
Travel Expenses.....	Cost Plus 15%
Per Diem* .....	\$ 150/day
Vehicle .....	\$ 75/day

***Equipment Charges***

Drilling Fluid Test Kit.....	\$100/day, \$400/week
Hach DR890.....	\$75/day, \$275/week
Orion ORP/pH/Temp Probe.....	\$75/day, \$275/week
In-Situ Hermit 3000 and Transducer.....	\$125/day, \$400/week
In-Situ Mini-Troll/Level Troll.....	\$100/day, \$300/week
Fuji Ultrasonic Flowmeter.....	\$200/day, \$750/week

\*Regionally and seasonally specific to project.



**MONTEREY PENINSULA WATER MANAGEMENT DISTRICT**

**Fitch School Test Well - Professional Services for Construction Management, Testing, and Reporting**

PWR Project No.: 06-0026



**ESTIMATED FEE SUMMARY**

LABOR	Principal Prof.	Senior Prof.	Project Prof.	Staff Prof.	Tech.	WP	Illustrator	Hours by Task	Estimated Task Cost
Hourly Fee	\$165	\$150	\$135	\$105	\$95	\$60	\$65		
Task	Task Description							Hours by Task	Estimated Task Cost
<b>1 PROJECT MANAGEMENT</b>									
1.1 Project Management	8	24				2	4	38	\$5,300
<b>2 CONSTRUCTION MANAGEMENT/TESTING</b>									
2.1 Mobilization	12	24						36	\$5,580
2.2 Conductor Casing		8	10					18	\$2,550
2.3 Pilot Drilling	8	20	20	48				96	\$12,060
2.4 Reaming and Well Construction	4	10	20	74				108	\$12,630
2.5 (a) Well Development (airlift/swab)		16	24	32				72	\$9,000
2.5 (b) Well Development (pumping)	8	16	16	32				72	\$9,240
2.6 Baseline Production Testing		8	16	30				54	\$6,510
2.7 Demobilization and Clean-Up		16						16	\$2,400
<b>3 REPORTING</b>									
3.1 Draft Summary of Operations Report	8	16	16			8	16	64	\$7,400
3.2 NPDES Compliance Reporting	4	16				8		28	\$3,540
3.3 Final Summary of Operations Report	4	8	12			4	4	32	\$3,980
<b>4 MEETINGS</b>									
4.1 Pre-Construction Meeting	8	16						24	\$3,720
<b>5 ENGINEERING</b>									
5.1 Engineering Design/Cal-Am Coordination	55	25						80	\$12,825
<b>Hours by Labor Category:</b>	119	223	134	216	0	22	24		
<b>Costs by Labor Category:</b>	\$19,635	\$33,450	\$18,090	\$22,680	\$0	\$1,320	\$1,560		
								<b>Total Labor Hours:</b>	<b>738</b>
								<b>Total Labor Costs:</b>	<b>\$96,735</b>

EQUIPMENT AND OTHER DIRECT COSTS	Unit Rate	Unit Price	No. of Units	Fee
Hermit Datalogger & Transducer	Weekly	\$400	0	\$0
Additional Transducers	Weekly	\$200	0	\$0
MiniTrol	Weekly	\$300	3	\$900
Field Water Quality Instrument	Weekly	\$275	2	\$550
Drilling Fluid Test Kit	Weekly	\$400	2	\$800
Vehicle	Daily	\$75	66	\$4,950
Per Diem	Daily	\$150	44	\$6,600
<b>Subtotal Equipment and ODCs:</b>				<b>\$13,800</b>

OUTSIDE SERVICES	Units	Unit Price	No. of Units	Fee
Water Quality Analyses - Title 22	Lump Sum	\$4,500	1	\$4,500
Water Quality Analyses - NPDES Compliance	Lump Sum	\$1,000	2	\$2,000
Mineralogy Analyses	Per Sample	\$1,300	3	\$3,900
<b>Subtotal Outside Services:</b>				<b>\$10,400</b>
<b>Subtotal Outside Services w/ Markup (15%):</b>				<b>\$11,960</b>

COST SUMMARY	
Labor	\$96,735
Equipment and Other Direct Costs	\$13,800
Outside Services	\$11,960
10 % Contingency	\$12,250
<b>TOTAL ESTIMATED PROJECT COST:</b>	<b>\$134,745</b>