



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CA08-268**

1. Agenda Item Number:
41
2. Council Meeting Date:
May 22, 2008

TO: MAYOR & COUNCIL

3. Date Prepared: May 2, 2008

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Award a project agreement to Brown and Caldwell for hydrology and construction management services related to Layton Lakes Well Drilling Project No. WA0808-451, in an amount not to exceed \$86,105.

6. RECOMMENDATION: Staff recommends that Council award a project agreement to Brown and Caldwell for Layton Lakes Well hydrology and construction management services, Project No. WA0808-451, in an amount not to exceed \$86,105.

7. BACKGROUND/DISCUSSION: The development of new water production well sites is required to provide water to meet the City's future demand. This proposed well site is located near the northwest corner of Lindsay Road and Appleby Road. This project agreement provides for hydrology and construction management services related to the drilling of a new water production well at this site.

8. EVALUATION: On January 17, 2008, Council approved a one-year annual contract, EN0708-101, to Brown and Caldwell for hydrogeological services, with the option of four one-year extensions. Staff has reviewed the scope of work, unit prices, and total cost for this project, compared them to historical costs, and has determined they are acceptable.

9. FINANCIAL IMPLICATIONS:

Cost: \$86,105
Savings: None
Long Term Costs: None

Fund Source:

<u>Account No.</u>	<u>Fund Name</u>	<u>Program Name</u>	<u>CIP Funded</u>	<u>Amount</u>
601.3820.0000.6713.7WA034	Water Bond	Well Construction	FY 06/07	\$86,105

10. PROPOSED MOTION: Move that Council award a project agreement to Brown and Caldwell for Layton Lakes Well Equipping Construction Management Services, Project No. WA0808-451, in an amount not to exceed \$86,105.

ATTACHMENTS: Location Map, Contract

APPROVALS

11. Requesting Department

Robert Mulvey, Assistant Municipal Utilities Director

13. Department Head

Dave Siegel, Municipal Utilities Director

12. City Engineer

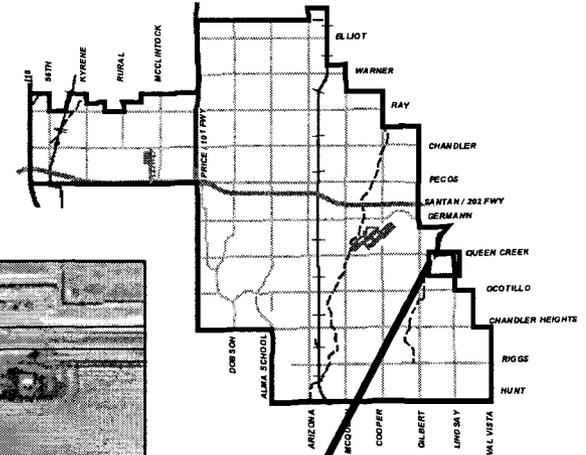
Sheina Hughes, Assistant Public Works Director/
City Engineer

14. City Manager

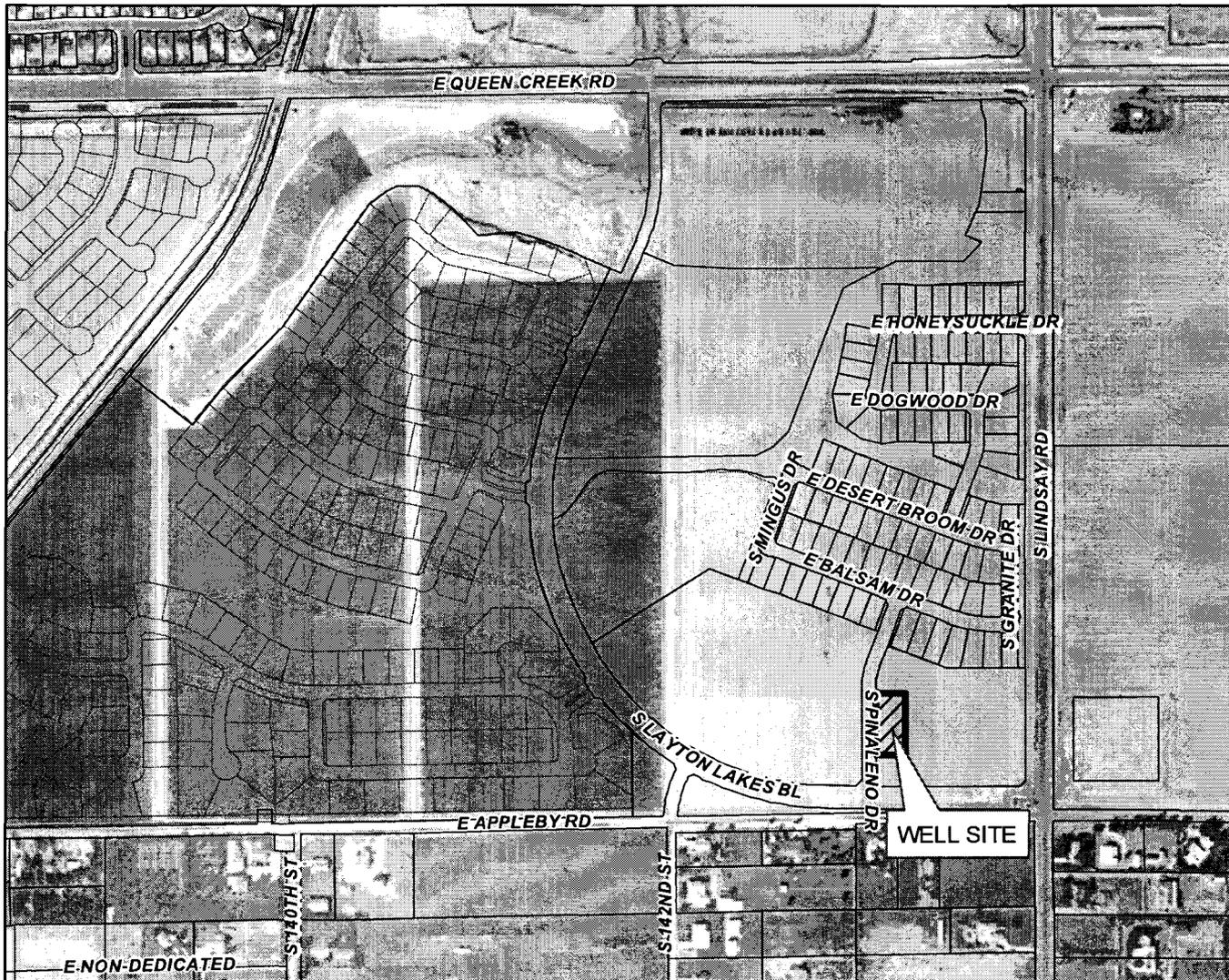
W. Mark Pentz



LAYTON LAKES WELL SITE LOCATION PROJECT NO. WA0808-451



MEMO NO. CA08-268



**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN0717-101**

AGREEMENT NO: WA0808-451

This AGREEMENT is made this _____ day of _____, 2008, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and **Brown and Caldwell, a corporation licensed to do business in the State of Arizona** (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN0717-101.

CITY and Brown and Caldwell, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1. DESCRIPTION OF WORK

This project is Layton Lakes Well Drilling Construction Management, Project Number WA0808-451. The scope of work consists of construction management services for drilling Layton Lakes well, all as more particularly set forth in Exhibit A attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

ARTICLE 2. CONTRACT PRICE

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Eighty Six Thousand One Hundred Five Dollars (\$86,105) determined and payable as set forth in Annual Contract EN0717-101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3. CONTRACT TIME

The contract time is ninety days and Annual Consultant agrees to complete all work within ninety (90) days of the date CITY issues a Notice to Proceed.

ARTICLE 4. GENERAL

This Project Agreement is entered into pursuant to Annual Contract No. EN0717-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on this _____ day of _____, 2008.

CITY OF CHANDLER

FOR THE ANNUAL

MAYOR DATE:

By: _____
Title: Ronald L. Ablin, Vice President

ADDRESS FOR NOTICE
City of Chandler
P.O. Box 4008, Mail Stop 407
Chandler, AZ 85244-4008
480-782-3307

ADDRESS FOR NOTICE
Mr. Michael Bostic
Brown & Caldwell
201 E. Washington St., Ste. 500
Phoenix, AZ 85004

APPROVED AS TO FORM:

Phone: 602-567-4000
Fax: 602-567-4001

ATTEST: City Attorney By: _____

City Clerk

EXHIBIT A SCOPE OF WORK

Task 1.0 Technical Specifications

ANNUAL CONSULTANT shall review technical specifications provided by the City for the drilling, installation, and testing of the production well and abandonment of the existing agricultural well. ANNUAL CONSULTANT shall provide revisions as appropriate to address conditions related to the local geology (e.g., test boring depth, well depths, potential screen intervals, abandonment design for the existing on-site well, etc.).

Task 2.0 Production Well Drilling, Installation, And Testing

Subtask 2.1 Borehole Drilling and Analysis

During the pilot hole drilling, ANNUAL CONSULTANT shall evaluate the geologic and hydrologic conditions encountered. Analysis of the subsurface conditions shall involve:

- Preparing a lithologic log of the drill cuttings
- Evaluating a suite of geophysical logs
- Collecting depth-specific (zonal) groundwater samples for analysis.

After completion of borehole drilling, a geophysical logging survey shall be conducted. ANNUAL CONSULTANT shall subcontract the geophysical logging company. The logging suite shall include:

- Caliper log
- Electric log
- Natural gamma ray log
- Guard log
- Deviation log
- Final caliper log (on reamed borehole).

After the geophysical logging survey is completed, zonal groundwater sampling shall be conducted. Sampling intervals shall be determined by analysis of the lithologic log and the geophysical logs. The samples shall be submitted for analysis of total dissolved solids (TDS), nitrate, fluoride, arsenic, and chromium. ANNUAL CONSULTANT shall design the sampling procedure, inspect placement of the zonal sampling tool, and monitor groundwater purging. ANNUAL CONSULTANT shall also collect each groundwater sample and submit it to a state-certified analytical laboratory. ANNUAL CONSULTANT shall subcontract the analytical laboratory.

Subtask 2.2 Production Well Installation

ANNUAL CONSULTANT shall document installation and completion of the production well. These activities shall include:

- Documentation of the casing, screen, and annulus material installation
- Monitoring of well development
- Documentation of final video survey and gyroscopic survey.

Subtask 2.3 Production Well Testing and Analysis

Well testing shall consist of a 12-hour step-discharge aquifer test and a 24-hour constant-rate aquifer test. Pump and surge well development (up to a period of 24 hours) shall be conducted prior to well testing. ANNUAL CONSULTANT shall record the water-level measurements and monitor the electrical conductivity, sand content, pH, and temperature of the discharge water during all development and testing activities.

During the step-discharge test, ANNUAL CONSULTANT shall collect a groundwater sample near the end of each step. Five (5) groundwater samples shall be submitted for analysis of TDS, fluoride, and arsenic. ANNUAL CONSULTANT shall subcontract the analytical laboratory.

Following the step-rate discharge test, a 24-hour constant-rate aquifer test shall be conducted. ANNUAL CONSULTANT shall determine the pumping rate for the constant-rate test based on analysis of the step-discharge test data. ANNUAL CONSULTANT shall record water-level measurements in the production well and nearby observation wells, if available, during the constant-rate test. ANNUAL CONSULTANT shall also conduct a water level recovery test after the cessation of pumping until the water level has obtained a recovery to static conditions of approximately 95 percent.

Well testing also includes a spinner log survey conducted during the constant-rate aquifer test. ANNUAL CONSULTANT shall analyze the spinner log survey to identify and characterize the zones of groundwater

production in the well. A geophysical logging company subcontracted to ANNUAL CONSULTANT shall conduct the survey.

Task 3.0 Project Completion Report

ANNUAL CONSULTANT shall prepare a report summarizing all work conducted during the project. Task 3.0 deliverables to the City shall include three final copies of the well completion report, which shall include:

- Documentation compiled during well drilling and installation and well abandonment
- Pipe tallies, cement grout records, penetration rate logs, geophysical logs, gyroscopic surveys, video survey logs, etc
- Analytical results of the water quality samples
- Analysis of the aquifer testing
- A detailed record drawing of the production well
- Recommended pumping rate.

Analytical laboratory fee includes a 3-day turn-around time analysis for 10 zonal groundwater samples from the pilot hole boring, and 5 composite water samples collected during the step-rate pumping test.

The geophysical logging fee includes conducting the open-hole survey based on a total borehole depth of 1,000 feet, final caliper log of the reamed borehole, a spinner log survey, and a gyroscopic survey of the completed production well.

**EXHIBIT B
FEE SCHEDULE**

TASK AND DESCRIPTION	Annual Consultant	SUBCONTRACTOR		TOTAL
		GEOPHYSICAL LOGGING	ANALYTICAL LABORATORY	
1.0 Technical Specifications	\$3,480	\$0	\$0	\$3,480
2.0 Production Well Installation	\$61,022	\$7,645	\$2,750	\$71,417
3.0 Project Completion Report	\$11,208	\$0	\$0	\$11,208
Total Fee	\$75,710	\$7,645	\$2,750	\$86,105