



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP14-138**

1. Agenda Item Number:
9

2. Council Meeting Date:
March 13, 2014

TO: MAYOR & COUNCIL

3. Date Prepared: February 24, 2014

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Southwest Ground-water Consultants, Inc., for Riggs Road Well Construction Management Services.

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Southwest Ground-water Consultants, Inc., for Riggs Road Well Construction Management (CM) Services, pursuant to Annual Contract No. EN1203-101, Project No. WA1405-451, in an amount not to exceed \$86,770.

7. BACKGROUND/DISCUSSION: The 2008 Water Master Plan recommends 74.5 million gallon per day (MGD) build-out capacity for groundwater wells. As the City's groundwater wells age, well production will decrease over time. To maintain the required capacity, new replacement wells are needed. The new well, known as the Riggs Road Well, will be located north of Riggs Road between Gilbert and Lindsay Roads.

The project scope of work consists of a pre-construction meeting and oversight of: drilling and logging of the well, zonal water quality sampling, well construction, well development, pumping tests, post-construction surveys, and a well completion report.

Design and installation of City well site infrastructure with Ashton Woods Arizona, LLC, for Riggs Road Well, is also scheduled for this meeting in the Participation Agreement, CP13-001.

8. EVALUATION: This project is being performed under the Annual Hydrogeological Services for assessments, permitting assistance, well rehabilitation, design and construction management services for the testing and drilling of wells, Contract No. EN1203-101, to Southwest Ground-water Consultants, Inc. The costs proposed for this project have been evaluated by staff, compared to historical costs, and are determined to be reasonable. The contract completion time is 120 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$86,770
Savings: N/A
Long Term Costs: N/A
Fund Source:

<u>Acct. No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded:</u>	<u>Amount:</u>
601.3820.6713.6WA034	Water Bond	Well Construction/Rehabilitation	Yes	\$86,770

10. PROPOSED MOTION: Move City Council award a Project Agreement to Southwest Ground-water Consultants, Inc., for Riggs Road Well Construction Management (CM) Services, pursuant to Annual Contract No. EN1203-101, Project No. WA1405-451, in an amount not to exceed \$86,770.

ATTACHMENTS: Project Agreement, Location Map

APPROVALS

11. Requesting Department


John Knudson, Utilities Engineering Manager

13. Department Head


Dave Siegel, Municipal Utilities Director

12. Transportation & Development


Bob Fortier, Capital Projects Manager

14. City Manager


Rich Dlugas

**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1203-101**

PROJECT AGREEMENT NO: WA1405-451

This PROJECT AGREEMENT is made this ____ day of _____, 2014, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Southwest Ground-water Consultants, an Arizona corporation, (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1203-101.

CITY and Southwest Ground-water Consultants, in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Riggs Road Well Construction Management Services, Project Number WA1405-451. The scope of work consists of construction management services for Riggs Road 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 Seven Hundred Seventy Dollars (\$86,770) determined and payable as set forth in Annual Contract EN1203-101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is One Hundred Twenty calendar days and Annual Consultant agrees to complete all work within One Hundred Twenty (120) calendar days of the date CITY issues a Notice to Proceed.

ARTICLE 4 – GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1203-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

EXHIBIT A SCOPE OF WORK

TASK 1.0 - CONSTRUCTION MANAGEMENT AND TESTING

Construction management services provided by Annual Consultant will include the documentation of contractor activities for the drilling, installation, and testing of a new potable well. In addition, in consultation with the City, Annual Consultant will also provide the contractor clarification and oversight for certain tasks which require response to evaluation of site specific conditions.

Sub-task 1.1 - Pre-Construction Meeting

Prior to drilling and well construction, Annual Consultant will attend one (1) on-site meeting with the City and contractor. The intent of pre-construction meeting is to develop a shared understanding between the City, Annual Consultant and contractor of the requirements of the project, the expectations of the City and to develop the lines of communication. Questions and comments regarding the scope of work, technical specification and contracting will be addressed.

Sub-task 1.2 - Drilling and Logging

During pilot borehole drilling activities Annual Consultant personnel will ensure that contractor activities are in compliance with the technical specifications. An Annual Consultant geologist will describe the drilled cuttings, review the drilling penetration rate log and analyze the geophysical logs to prepare a lithologic log of the pilot borehole. These data will be used to identify the major water bearing intervals. Geophysical logging services of the pilot borehole will be subcontracted by the drilling contractor.

Sub-task 1.3 - Zonal Water Quality Sampling

The identified major water bearing intervals will be selected for zonal water quality sampling. The zonal sampling results and the lithologic logs interpretations will be used to design the screened interval of the new well. It is anticipated that one (1) meeting with the City will be conducted to present and review the selected intervals for City approval.

Up to 12 zonal samples will be collected for water quality analysis. Annual Consultant will present the approved zonal sampling intervals to the contractor in graphical form including depths and intervals and will respond to contractor questions regarding the design of the zonal sampling program. Annual Consultant will provide oversight during zone construction and purging of each zone.

Annual Consultant will collect water samples in laboratory-supplied containers and submit the samples to the City laboratory under chain-of-custody for rush analysis (48 hour turn-around). The City shall be responsible for the cost of the laboratory analysis. At a minimum, samples will be analyzed for the following parameters:

- Total Dissolved Solids
- Nitrate as Nitrogen
- Fluoride
- Total Arsenic
- Total Chromium

The production capacity and water quality requirements of the well, lithologic log data, zonal water quality data, and local hydrogeologic conditions will be the basis for the final well design. These data and the proposed well design will be presented to the City for approval. Upon approval, the final design will be presented to the contractor for well construction.

Sub-task 1.4 - Well Construction

To verify borehole diameter prior to installation of the well the contractor will subcontract geophysical logging services for a caliper log survey of the reamed borehole. Annual Consultant will monitor and document the installation of the well casing, screen, and annular materials at the well to ensure compliance with the well design and technical specification. Annual Consultant staff will be available during the installation of these materials to assist the contractor with questions regarding the well design and to provide oversight in meeting the requirements of the technical specifications.

Sub-task 1.5 - Well Development

Well development will be focused on maximizing well efficiency to reduce long-term pumping costs. Annual Consultant will provide oversight and document well development activities.

During swabbing and airlift development of the well field water quality parameters including Imhoff cone sand content, specific conductance, pH and visual turbidity measurements will be collected. This information will be evaluated by Annual Consultant during swab and airlift activities to assist in assessing the need for additional development effort. An estimated 10 to 20 minutes of swab and surge development per foot of perforated interval will be conducted. However, if more development time is necessary based on the observed and measured results, Annual Consultant will review the data with the City for authorization to extend the development time.

Following swab and airlift development, the contractor will install temporary test pumping equipment. The maximum duration of pump and surge development is anticipated to extend no longer than 50 hours. Actual duration of pump and surge activities will be based on field analysis of Rossum sand content and specific capacity results during testing, as recommended by AC and approved by the City.

Sub-task 1.6 - Pumping Tests

Pumping tests at the well will include a step-rate test, constant-rate test and a production profile survey. Following development, a 10-hour step-rate pumping test will be conducted. The rates for the step-rate test will be selected by AC based on the results of pump and surge development. Following a 12-hour recovery period, a 24-hour constant-rate test and 24-hour recovery test will be conducted. The pumping rate for the constant-rate test will be based on the results of the step test.

During pumping test activities, Annual Consultant personnel will monitor water levels, discharge rates, Rossum sand content and field water quality parameters including pH, specific conductance and temperature. Water levels will be monitored with a data-logging transducer and a manual sounder. The pump contractor will be on-site during this period to ensure that the test pumping equipment functions as required. City staff will collect a ground-water sample during the constant-rate test to be analyzed by an Arizona State licensed laboratory for New Source Approval. The test data will be evaluated to estimate well and aquifer parameters.

Sub-task 1.7 - Post-Construction Surveys

Post-construction surveys will include a final well video and plumbness and alignment surveys which will be subcontracted by the drilling contractor. Annual Consultant will be onsite to witness the surveys and evaluate the results for compliance with the final well design and requirements of the technical specification.

TASK 2.0 – WELL COMPLETION REPORT

Following the completion of the above tasks, Annual Consultant will prepare a well completion report on the new well. Report will document contractor activities and results of the above tasks including an as-built diagram of the new well. Of particular importance will be the recommended production rate and estimated pumping water level for the new well and the estimated pumped water quality. Additional information to be presented in the final report includes the following:

- ADWR permits
- Pilot borehole penetration rate and lithologic logs
- Geophysical logs
- Zonal sampling water quality results
- Well completion forms and summaries
- As-built well diagram of new well
- Pumping test data and analysis
- Post-construction surveys
- Additional water quality data provided by the City

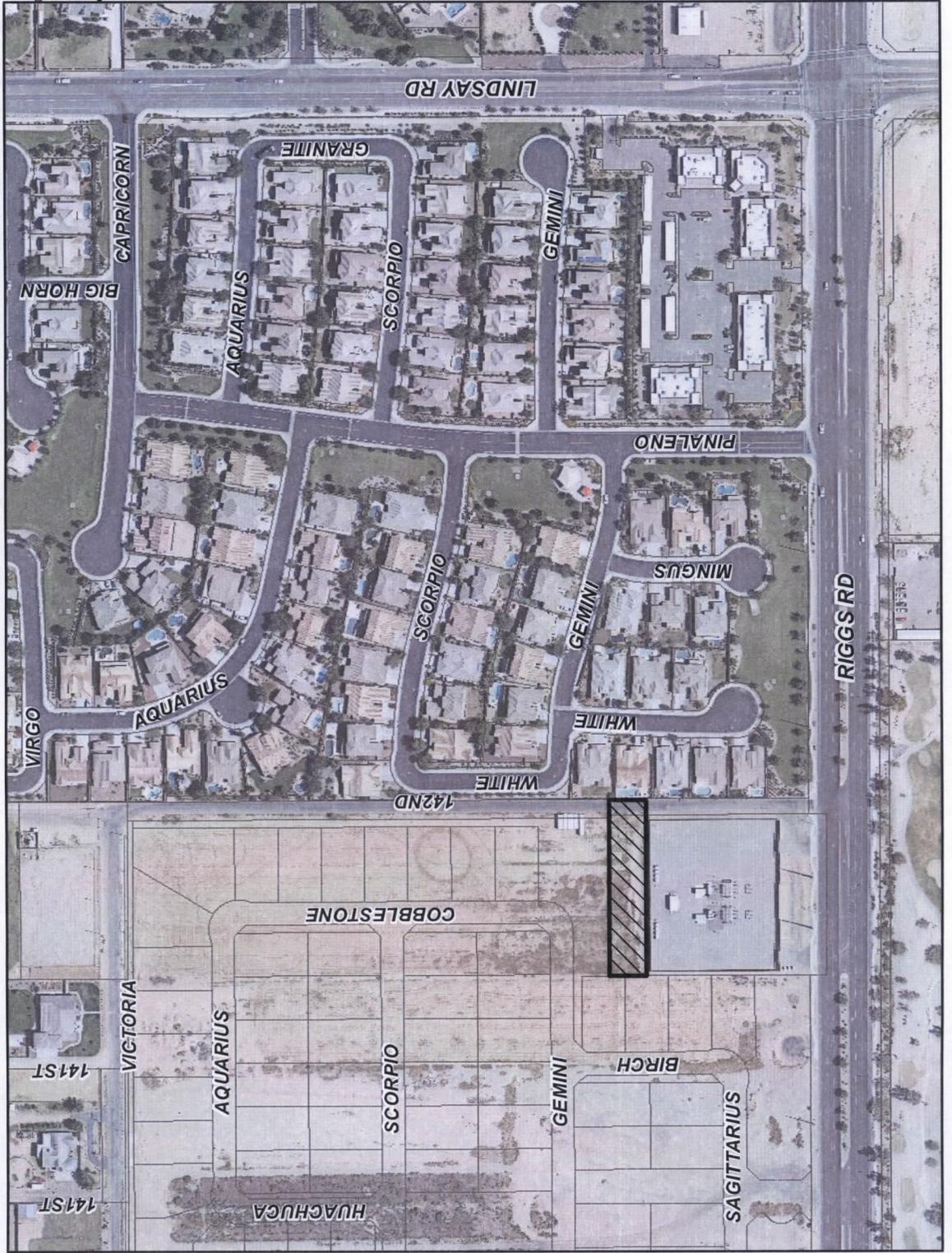
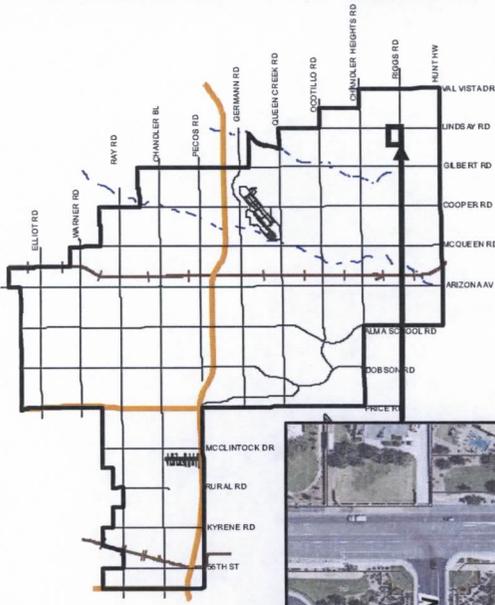
**EXHIBIT B
FEE SCHEDULE**

Annual Consultant shall provide all services as described in Exhibit A for amount not to exceed \$86,770. Additional tasks, beyond the above scope of work, shall be invoiced on a time and material basis following client approval.

Task	Hours	Fees	Sub-Contractor Cost	Total
Task 1.0 Construction	673	\$76,950	\$2,090	\$79,040
Task 2.0 Well Completion	62	\$7,730	\$0	\$7,730
Total	735	\$84,680	\$2,090	\$86,770



RIGGS ROAD WELL CM SERVICE PROJECT NO. WA1405-451



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