

FIRST AMENDMENT TO AGREEMENT

THIS FIRST AMENDMENT TO AGREEMENT (Amendment) made and entered into this ____ day of November, 2021 (Effective Date), amends the Agreement entered into between the City of Fresno, a California municipal corporation (City), and Aegis Groundwater Consulting, LLC (Consultant).

RECITALS

WHEREAS, City and Consultant entered into an agreement on December 4, 2020, (Agreement) to provide professional quality control and inspection services for the construction of a new water production well at Pump Station 208-2 for a total fee of \$35,050.00; and

WHEREAS, City has recently entered into a separate contract for the construction of a new water production well at Pump Station 36A and is in immediate need of additional professional quality control and inspection services; and

WHEREAS, City and Consultant desire to amend the Agreement to include the additional services at Pump Station 36A, increase the compensation by \$40,950, which includes a contingency of \$3,800, for a total fee of \$76,000, and extend the term of the Agreement from December 31, 2021 to December 31, 2022; and

WHEREAS, with entry into this Amendment, the Consultant agrees it has no claim, demand, or dispute against the City.

AGREEMENT

NOW, THEREFORE, the parties agree that the Agreement be amended as follows:

1. The Recitals listed above are incorporated by reference herein.
2. The Term of the Agreement and Time for Performance is extended to December 31, 2022.
3. The Compensation is increased by \$40,950, including a contingency of \$3,800, for a new total fee of \$76,000.
4. **EXHIBIT A** of the Agreement is expanded to include the scope of services outlined in **EXHIBIT A1** attached hereto and incorporated herein by reference.
5. Except as otherwise provided herein, the Agreement remains in full force and effect.

[Signatures follow on the next page.]

IN WITNESS WHEREOF, the Parties have executed this Amendment at Fresno, California, the day and year first above written.

CITY OF FRESNO,
A California municipal corporation

By: _____
Michael Carbajal, Director
Department of Public Utilities

APPROVED AS TO FORM:
DOUGLAS T. SLOAN
City Attorney

By: Pauline Brickey 10/20/21
Pauline Brickey Date
Deputy City Attorney

ATTEST:
BRIANA PARRA, CMC
Interim City Clerk

By: _____
Date

AEGIS GROUNDWATER CONSULTING,
LLC

By: Christopher A. Johnson

Name: Christopher A. Johnson

Title: President
(If corporation or LLC., Board Chair,
Pres. or Vice Pres.)

By: Dana Johnson

Name: Dana Johnson

Title: Secretary
(If corporation or LLC., CFO., Treasurer,
Secretary or Assistant Secretary)

Attachment: Exhibit A1

EXHIBIT A1

FIRST AMENDMENT TO THE SCOPE OF SERVICES Consultant Service Agreement between the City of Fresno (City) and Aegis Groundwater Consulting, LLC (Consultant)

QUALITY CONTROL & INSPECTION SERVICES FOR CONSTRUCTION OF A NEW PRODUCTION WELL AT PUMP STATION 36A

General Services

Consultant will require the selected drilling contractor to prepare fully completed project documentation for submittal and acceptance. Consultant will perform verification sampling and analysis (e.g., delivered gravel pack) as requested, retention of specific samples of materials, and photographic documentation of materials and equipment as appropriate.

For new well construction, materials such as drilling fluids, sealing materials (e.g., bentonite and concrete), filter packing, and well casing are specified based on volumes and lengths of known values. As such, Consultant shall determine that the correct materials have been delivered to the site, from the correct manufacturer, and in the appropriate quantities. This process is known as product reconciliation.

Documentation of site visits, specifically observations and assessment findings, along with requests and or comments made to or received by the Contractor, shall be submitted routinely to City, either on City-approved forms or within City document management system.

Water Well Construction

Consultant shall conduct new well construction observation which generally focuses on assessing the efforts of the Contractor at executing project specifications, and on the Contractor's efforts at specification compliance. This includes drilling and sampling methodologies, use of specified materials, proper construction practices as they relate to the well, and appropriate well development.

The following standard scope of services proposed for this well construction project is based on client specifications and general industry practices:

- Pre-Construction – Attend preconstruction meeting, review and approve, per specifications, materials submitted and material certificates, and respond to requests for information (RFI) as applicable.
- Operational Setup – Review and assess Contractor's efforts, with respect to project specifications compliance, regarding (at a minimum) the placement of drilling and support equipment, materials and supply storage, waste material management and water supply monitoring.
- Product Inventory and reconciliation – Observe and assess the materials (e.g. casing, screen, gravel pack) intended for installation by the Contractor, and compare that to project specifications. The Contractor should be delivering

documentation such as mill certifications for the conductor casing and concrete mix design, as examples.

- Conductor Casing – Review and assess Contractor's equipment, materials, means and methods for installing the conductor casing per project specifications. Equipment, drilling method, casing material, casing connection method, placement and cementing will be reviewed and discussed.
 - Documentation – Field report, along with photographs of drill site layout, drilling equipment, and conductor casing materials.
- Pilot Hole – Observe and assess the equipment, materials, means and methods for drilling a pilot hole per project specifications. This will involve reviewing drilling operations with the Contractor, along with assessing the drilling fluid management program and formation sampling methodology. Additionally, the Contractor's means and methods of assessing pilot hole plumbness and alignment will be discussed and observed. Consultant shall observe and review the geophysical and mechanical logging in the pilot hole, then provide an assessment of initial well design relative to lithologic and geophysical log interpretation and provide design recommendations for adjustments as needed based on the interpretation.
 - Documentation – Field report, along with photographs of drill site layout, drilling equipment, drilling fluid management notes, sample recovery notes and copies of geophysical or mechanical logs obtained from the pilot hole.
- Well Construction – Observe and assess drilling operations associated with reaming the pilot hole (if required), conduct materials assessment of blank and perforated casing, filter packing material, sealing materials, etc. Assess casing joining methodology and alignment efforts relative to the project specifications. Observe and assess the installation of gravel fill tube, sounding tube construction and installation, casing placement, filter pack and seal placement.
 - Construction Specific Events: Casing installation and filter packing, rig swabbing for example.
 - Documentation – Field report, along with photographs of drill site layout, drilling equipment, drilling fluid management notes, pipe tally and inventory of materials used to construct the well, quantities of filter packing materials, and samples of same.
- Well Development – Involves "rig-based" line swabbing, airlifting, and then pumping the well to develop well efficiency.
 - Equipment – Observe and assess Contractor's equipment (e.g. pumps, motors, and meters) and compliance with the project specifications.
 - Procedures – Conduct operational walk-through with the Contractor regarding the rates and intervals for rig based line swabbing and airlifting. Walk through will include but not be limited to individual and combined operations (e.g., simultaneous swabbing and airlifting). Procedures will be compared to both specifications and standard practice.
 - Means and methods – Review and assess Contractor's plan for development, which includes rig-based line swabbing and pumping development.

- Measurements – Review with the Contractor the types, frequency, and documentation of measurements of flow, drawdown, and sand content for pumping development and pumping tests, per specifications.
 - Completeness – Assess water clarity, sand content, discharge rate, and other factors that provide evidence of proper well development.
- Well and Aquifer Pumping Tests – Observe and assess Contractor's equipment and discuss planned procedures for complying with project specifications. Review test goal and objectives, as described in project specifications, along with expected Contractor-originated documentation. Discuss what will constitute completeness of this task, such as thorough, detailed, frequent, and accurate water level measurements in all wells on the site. Additionally, Consultant will review and analyze the data to assess and report transmissivity, storativity, well efficiency, specific capacity, projected 30-day drawdown, and recommended pumping rate.
 - Documentation – Field report, along with photographs of site layout, pumping and discharge equipment, and copies of field notes
- Video Logging and Surveying – involves lowering a video camera into the completed well to visually assess the condition, cleanliness, and structural integrity of the new well.
 - Equipment – Observe and assess the Contractor's equipment (e.g. cable, and cameras) and the compliance with the project specifications.
 - Procedures – Review goal and objectives of both the survey (plumbness and alignment) and the video logging (construction verification).
- Well Disinfection – involves the introduction and dispersion into the well of a specific concentration of sodium hypochlorite to disinfect the well, per specifications. Consultant will observe and assess the contractors' tools, materials, mixing and dispersion of the disinfecting solution.
- Final Report – Consultant will prepare a final report for the City, summarizing construction, materials used, final well design, and include an assessment of the well development. Consultant will also provide an analysis of the pumping tests, specifically indicating performance factors such as specific capacity, transmissivity and well efficiency.

Additional Services

Attendance at additional meetings, review of additional plans and specifications, preparation of supplemental reports/letters or other services not described in the scope of services are not included in these estimates.

FEE SCHEDULE



2021 Professional Services Fee Schedule

Professional Staff

- | | |
|----------------------------|------------|
| • Principal Hydrogeologist | \$250/hour |
| • Staff Hydrogeologist | \$150/hour |
| • Administration | \$100/hour |

Field Equipment

- | | |
|-------------------------------|------------|
| • Field Vehicle | \$350/day |
| • Per Diem | \$375/day |
| • Field equipment kit | \$350/day |
| • Other specialized equipment | Cost + 20% |

Miscellaneous

- | | |
|----------------------------------|------------|
| • Outside subcontracted services | Cost + 20% |
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Expert witness services are Principal Hydrogeologist hourly rate for deposition and consultation, court appearances are \$500 per hour for each hour in court attendance or on the stand.

Day rates are available upon prior negotiation.