

SUPPLEMENTAL AGREEMENT FOR ASSIGNED PROJECT

Consultant: GEOSCIENCE SUPPORT SERVICES, INC.

Project Name: Engineering and Related Services for Water Resources, Engineering Planning and Design, Construction Management, Supervisory Control and Data Acquisition (SCADA), Landscape Architectural Design, and Water Conservation Services for Various Water Projects

The Scope of Services for Bunker Hill Well Siting and Replacement Study ("Project"), a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference, shall constitute a supplemental to the Master Agreement for Professional Consultant Services for Engineering and Related Services for Water Resources, Engineering Planning and Design, Construction Management, Supervisory Control and Data Acquisition (SCADA), Landscape Architectural Design, and Water Conservation Services for Various Water Projects by and between the City and Consultant dated August 2, 2018 ("Agreement"). Consultant agrees to perform the services described in Exhibit "A" within the time set forth in the Notice to Proceed for a not-to-exceed amount of One Hundred Thirty Thousand Seven Hundred Fourteen Dollars (\$130,714), unless otherwise modified by change order. All charges shall be consistent with the Compensation Schedule and Hourly Fee Rate Schedule which is attached as Exhibit "B" and incorporated herein by this reference. Performance of the services shall be subject to the terms and conditions contained in the Agreement. Dated this 31 day of MARCH, 2020.

CITY OF RIVERSIDE, a California
charter city and municipal corporation

GEOSCIENCE SUPPORT SERVICES,
INC., a California corporation

By: _____
City Manager

By: [Signature] SECRETARY
(Name and Title)

By: _____
City Clerk

By: [Signature] president
(Name and Title)

CERTIFIED AS TO AVAILABILITY OF FUNDS:

By: _____
Chief Financial Officer

APPROVED AS TO FORM:

By: _____
Assistant City Attorney

EXHIBIT “A”
SCOPE OF SERVICES



Scope of Work and Methodology

Task 1.0: Project Management and Meetings

Task 1.1: Project Management

Geoscience will provide overall project management including contract administration, budget and schedule tracking and controls, coordination with City staff, and internal quality control and quality assurance procedures.

Task 1.2: Prepare for and Attend Project Kick-Off Meeting

The primary objective of the project kick-off meeting will be to meet face-to-face with team members from RPU to verify that all parties understand the intent, objectives, tasks, budgets, schedules, milestones, and deliverables of this project. The kick-off meeting also identifies any individuals outside of Geoscience that may be responsible for implementing any part of the work. This meeting provides a forum for discussion of critical path tasks, such as data collection, such that those tasks can be efficiently expedited.

The Geoscience Project Manager will review data requirements and provide a data request and initial evaluation criteria prior to attending the kick-off meeting.

Task 1.3: Prepare for and Attend Workshops

We will prepare for, provide minutes and facilitate three (3) 2-hour workshops. Two workshops are associated with Task 3.0. In the first workshop, preliminary site evaluation will be reviewed. RPU will have an opportunity to comment on the site evaluation process and project progress. The second workshop will present the results of the Well Siting Analysis

Report to the City. One workshop is associated with Task 4.0. In this workshop the Well Field Evaluation Report will be discussed and reviewed.

Task 1.4: Prepare and Attend Knowledge Transfer Workshop

Geoscience will prepare for, provide minutes and facilitate one 2-hour knowledge transfer workshop. At this workshop Geoscience will present the results of the Well Field Evaluation Report and Well Siting Analysis Report to the City.

Task 2.0: Data Analysis and Review

Task 2.1: Obtain, Compile, and Review

Geoscience has a long history of working within the Bunker Hill Groundwater Subbasin, and in the Upper Santa Ana Groundwater Basin as a whole, and has a thorough understanding of the geohydrology and maintains an extensive in-house well database. As part of the recently completed integrated Santa Ana River Model, we have compiled a comprehensive geohydrologic data base. In addition, we developed a 3D lithologic model using geophysical logs from for than 400 wells in the Bunker Hill Groundwater Subbasin.

To prepare the Well Siting Analysis Report and the Well Field Evaluation Report, we will review our in-house database. Significant data on RPU wells was previously collected by our team for the Well Rehabilitation Ranking study and the Integrated SAR model. We anticipate that we will require updated water level and quality data, and new data on property boundaries, pipelines, blow-off locations, plant operations, and permitted discharge locations. This data will be used to develop the Well Siting Analysis Report and the Well Field Evaluation Report.

Task 3.0: Well Siting Analysis

The purpose of the well site analysis is to provide RPU with a comprehensive geohydrological evaluation that identifies production well sites that have the highest probability of success in meeting water supply goals from the Waterman and Gage well fields. The well siting analysis report will review the sites selected by RPU for hydrology, engineering, environmental, logistics/constructability, and cost considerations.

- **Geohydrologic:** well depth, production potential, and water level interference
 - » We anticipate using the Bunker Hill Basin Lithology model and aquifer parameters calculated in the calibration of the Santa Ana River model for this analysis. We will produce well profiles at 60% draft level in AutoCAD 2020 for this task.
- **Environmental:** proximity to point-source sites of ground water contamination and surface water bodies anticipated water quality. Geoscience has partnered with GeoForward, Inc. of Los Angeles, CA to perform the Phase 1 evaluation of the Poole site.
 - » We anticipate using Department of Drinking Water, Regional Board, and RPU data for this analysis. Maps of potentially contaminating activities and chemographs of data from existing wells will be created.
- **Engineering:** appropriate setbacks from electrical and sanitary facilities, proximity to existing water transmission system, and system adequacy
 - » Maps of distribution systems and wells sites will be created. 60% draft level site layouts (**example top left**) will be generated in AutoCAD 2020.
- **Logistical:** available access and area for drilling, and disturbance to nearby businesses and/or residents
 - » We will add temporary construction equipment including drill rigs, sound panels, construction discharge locations and access points to the site layouts.
- **Cost:** project cost and potential return on investment based on projected well capacity and duty factor.
 - » We will prepare cost estimates based on anticipated depths, testing requirements, and recent bid results.

The Well Siting Analysis Report presenting the results of the study will include a decision matrix quantifying each site for the above categories. Each site will be ranked according to suitability and RPU priority. Preliminary results of the site analysis will be presented to the City at a draft stage when Geohydrologic and Environmental evaluations are complete and Engineering evaluation is in process. The first workshop shall confirm that all necessary technical information has been obtained and that the project team shares the same project understanding. We will incorporate RPU comments to the initial evaluation and finish the remaining criteria. Geoscience will submit an electronic copy (PDF, MS Word, AutoCAD 2020 format) of the site analysis report and present the results in the second workshop.



Preliminary site layouts will help prevent issues in construction:

We will prepare preliminary site layouts to help RPU identify potential site constraints. This will help prevent contractor change orders and other issues during construction.

Deliverable: DRAFT report in electronic format, for review and comment, and FINAL electronic copy (PDF, MS Word, AutoCAD 2020 formats).

Task 4.0: Well Field Evaluation

RPU will select four (4) well sites from the original eight (8) for further review of impact on well field and overall groundwater production. We anticipate utilizing the Integrated Santa Ana River model to determine interference between the new wells and existing wells with a 4 ft per year decline in regional water level. We will create contours of concentration of perchlorate, TCE, TDS, Uranium, PFOS, PFOA, Nitrate, and other constituents identified as potentially problematic in Task 3.0. These contours will be utilized with MT3D Modflow code to predict water quality impacts of the new wells.

We anticipate six scenarios will be analyzed. One scenario will be run for each site assuming Baseline conditions plus the new well. The fifth scenario will include pumping from all the new wells. The sixth scenario will be developed following the workshop and will include the new wells pumping in a sequence of likely construction (i.e., Gage 27-2R/29-1R followed in two years by Cooley GR, followed in one year by Gage North of SAR, followed by Garner 4R). Initial modeling will be shared with RPU utilizing ESRI's Webmap tools to facilitate review by RPU. This platform allows integration of model generated hydrographs, contours, particle tracks and well locations in a simple web-based GIS.

We will provide evaluation of impact of the new wells to the total production, the well field production, and interference to individual nearby wells. We anticipate RPU will provide results of blend model analysis to be considered in the final ranking of the wellsites.

Draft results will be presented to RPU electronically and in a two-hour workshop. Following the workshop, we will finalize the Well Field Evaluation Report and present the results of the Well Siting Analysis and Well Field Evaluation report in a two hour knowledge transfer workshop.

Deliverable: 100% DRAFT report in electronic format, for review and comment, and FINAL electronic copy (PDF and MS Word formats).

Task 5.0: Optional – Additional Well Siting Evaluation

If, during the Well Siting Analysis or Well Field Evaluation, Geoscience determines that RPU's proposed well sites are not suitable for construction of a new well, we will work with RPU to select up to two additional sites for analysis using the criteria listed in Task 3. In addition, sites will be selected based on ease of acquisition (with RPU owned properties given highest preference) and qualitative potential cost.

We assume that Phase 1 studies will not be required for these additional sites. We assume that property valuation will be performed by others.

The additional sites will also be evaluated with the Integrated SAR model. Analysis will include impact on existing wells and proposed new wells.

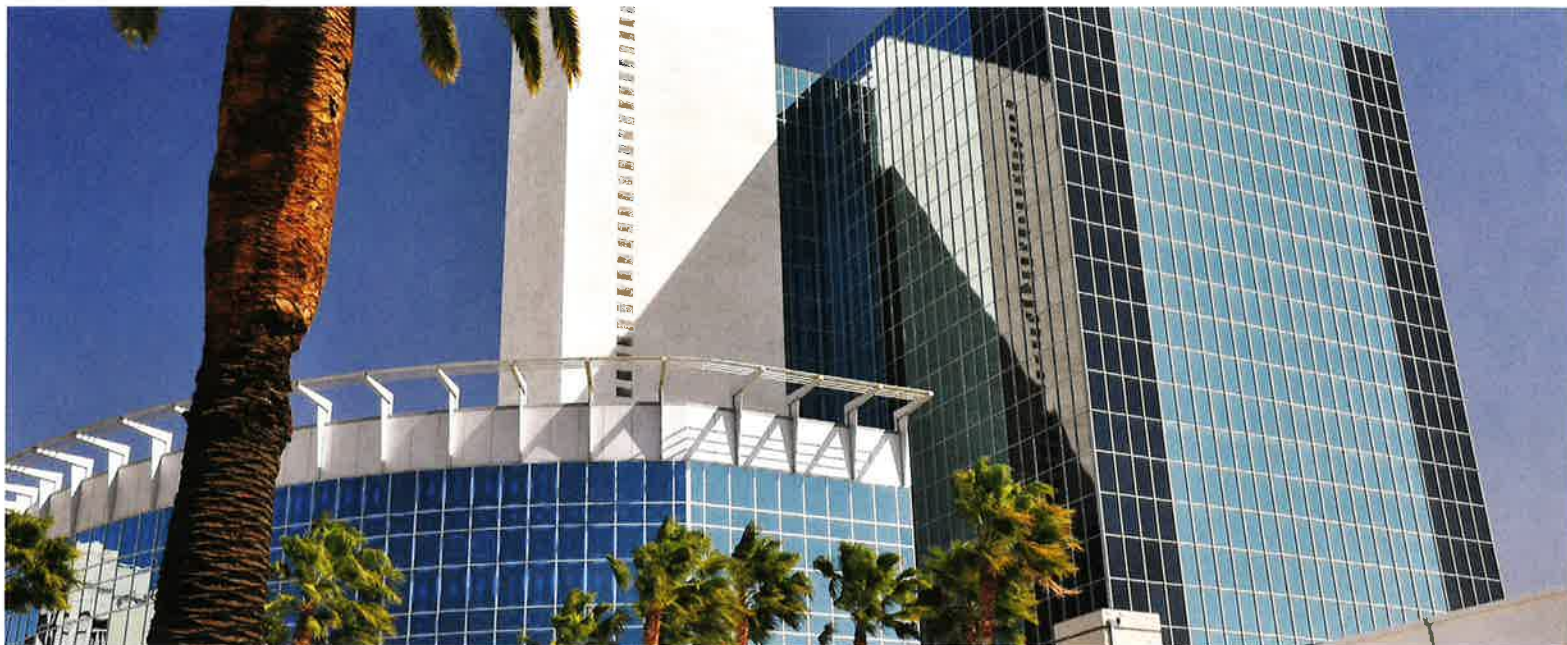
Deliverable: 100% DRAFT technical memorandum in electronic format, for review and comment, and FINAL electronic copy (PDF, MS Word, AutoCad 2020 formats).

Proposed Project Schedule

A proposed project schedule is provided on the following page.

EXHIBIT “B”

COMPENSATION SCHEDULE AND HOURLY FEE RATE SCHEDULE



Pricing

The following page contains our cost proposal to provide the services listed in the City's RFP. **Note the hourly rate listed on the City-provided bid sheet below is an average**

hourly rate for all staff assigned to each task. A full breakdown by task, and individual staff rate is provided on the following page.

EXHIBIT C - RFP Pricing Sheet

RFP No. 2000 - Bunker Hill Well Siting and Replacement Study

IMPORTANT NOTE TO BIDDERS

ALL PROPOSALS SHALL BE ACCOMPANIED BY A COMPLETED VERSION OF THIS DOCUMENT IN ORDER TO BE CONSIDERED RESPONSIVE. PLEASE ENTER EACH LINE ITEM EXTENDED PRICE ONLINE VIA THE CITY'S BIDDING SYSTEM (PLANETBIDS).

No.	RFP LINE ITEM DESCRIPTION	Quantity Hours	Unit of Measure	Unit Price Per Hour	Extended Price
1	TASK 1 Project Management	87	Hours	\$ 215.36	\$ 18,736
2	TASK 2 Data Collection and Review	45	Hours	\$192.13	\$8,646
3	TASK 3 Well Siting Analysis	243	Hours	\$169.96	\$41,300
4	TASK 4 Well Field Evaluation	224	Hours	\$201.74	\$45,190
5	TASK 5 (OPTIONAL) Additional Well Siting Evaluation	93	Hours	\$181.10	\$16,842
GRAND TOTAL FOR ALL RFP ITEMS					\$ 130,714

PROPOSER SHALL WRITE IN THEIR DOLLAR AMOUNT BELOW EXAMPLE: Two Thousand Five Hundred and Fifty-Five Dollars

One hundred thirty thousand, seven hundred and fourteen Dollars

Authorized Signature

Date 1/23/2020

Cost Proposal for Professional Hydrogeological Services Related to
City of Riverside Bunker Hill Well Siting and Replacement Study

GEOSCIENCE SUPPORT SERVICES, INC.												
	Principal Hydrologist	Senior Geohydrologists		Project Modeler	Project Manager/Project Geohydrologists			Staff Modeler	Staff Geohydrologist	GIS/Technical Illustrator	Clerical	
Hourly Rate:	\$278	\$226	\$230	\$201	\$198	\$160	\$146	\$103				
	11	36	0	26	2	12	0	0				
	1	4	4	8	12	16	0	0				
	4	22	0	38	3	92	84	0				
	18	20	32	18	80	48	8	0				
TOTAL HOURS AND COST (TASKS 1-4):												
	34	82	36	90	97	168	92	0				
ADDITIONAL INFORMATION	1	8	8	4	20	40	12	0				
TOTAL HOURS AND COST (INCLUDING OPTIONAL TASK 5):												
	35	90	44	94	117	208	104	0				

per diem at \$145/day, report reproduction costs.

California Labor Code Sections 1720 et seq. and 1770 et seq., which require the payment of prevailing wage rates and the performance of other requirements on certain “public works” and “maintenance” projects. under prevailing wage rate categories.

AUTHORIZED SIGNATURES ON TRANSACTION DOCUMENTS

I. FOR CORPORATIONS (Corporations Code §313)

A. A corporation requires two (2) signatures, one from an officer in A and B below:

-A-		-B-
One from either the:	<u>AND</u>	One from either the:
<ul style="list-style-type: none">• President• Any Vice President• Chairman of the Board		<ul style="list-style-type: none">• Secretary• Any Assistant Secretary• Chief Financial Officer• Any Assistant Treasurer

B. If unable to obtain two signatures as set forth above, then a Corporate Resolution is required. A Corporate Resolution grants specific (or general) signing authority to a named individual, officer, director, etc., for a stated transaction and is signed by the Secretary of the corporation.

II. LIMITED LIABILITY COMPANIES (Corporations Code §§17704.07 et. seq.)

A copy of the Operating Agreement is required, which grants specific signing authority to individuals to sign on behalf of the LLC. Please provide a copy of the Operating Agreement to the City Attorney's Office for determination of required signatures.

III. LIMITED OR GENERAL PARTNERSHIPS (Corporations Code §§16301 et. seq.)

Obtain a copy of the documents identifying the General Partner(s) authorized to execute documents on behalf of the partnership. This requirement will be the same for both General and Limited Partnerships.

IV. OTHER

Contact the City Attorney's Office to review other forms of title ownership or business entities.