

**SECOND AMENDMENT
TO PROFESSIONAL SERVICES AGREEMENT NUMBER F001939
WITH BLACK & VEATCH CORPORATION**

This Second Amendment to Agreement number F001939, dated March 21, 2019 ("Agreement") is made as of this _____ day of _____, 2021 by and between the City of Santa Rosa, a municipal corporation ("City"), and Black & Veatch Corporation, a Delaware Corporation ("Consultant").

RECITALS

- A. City and Consultant entered into the Agreement for Consultant to provide services to assist in increasing water system reliability. The Agreement was amended on June 17, 2020 to include scope and fees for evaluating the capacity of the City's water system for the Downtown Station Area Specific Plan (DSASP) Update.
- B. City and Consultant now desire a second Amendment to include additional scope to evaluate alternatives for addressing drinking water Maximum Contaminant Level (MCL) exceedances at A Place to Play well. Additional scope for ongoing modeling services is also included.

AMENDMENT

NOW, THEREFORE, the parties agree to amend the Agreement as follows:

1. Section 1. Scope of Services

Exhibit A-1 to the Agreement is replaced by Exhibit A-2 by adding Task 800 and 900 to this Amendment.

2. Section 2. Compensation

Section 2(c) is amended to increase the compensation payable to Consultant under the Agreement by \$158,688 to read as follows:

"Notwithstanding any other provision in this Agreement to the contrary, the total maximum compensation to be paid for the satisfactory accomplishment and completion of all tasks set forth above shall in no event exceed the sum of six hundred and six thousand eight hundred and thirty-eight dollars and no cents (**\$606,834**). The City's Chief Financial Officer is authorized to pay all proper claims from Charge Number **55774**.

Exhibit B-1 to the Agreement is replaced by Exhibit B-2 to this Amendment.

3. Section 12. Time of Performance

The last sentence of Section 12 is amended to read as follows:

"Consultant shall complete all the required services and tasks and complete and tender all deliverables to the reasonable satisfaction of City, not later than **April 30, 2026.**"

All other terms of the Agreement shall remain in full force and effect.

Executed as of the day and year first above stated.

CONSULTANT:

Name of Firm: Black & Veatch Corporation

TYPE OF BUSINESS ENTITY (*check one*):

Individual/Sole Proprietor

Partnership

Corporation

Limited Liability Company

Other (please specify: _____)

Signatures of Authorized Persons:

By: David J Carlson
David J Carlson (Jan 12, 2021 09:38 PST)

Print Name: David J Carlson

Title: Vice President

By: Andrea C. Bernica
Andrea C. Bernica (Jan 14, 2021 11:24 CST)

Print Name: Andrea C. Bernica

Title: Associate Vice President

City of Santa Rosa Business Tax Cert. No.

Attachments: Exhibit A-2 - Scope of Services
Exhibit B-2 – Compensation

CITY OF SANTA ROSA
a Municipal Corporation

By: _____

Print Name: _____

Title: _____

APPROVED AS TO FORM:

Jessica Mullan
Jessica Mullan (Jan 20, 2021 14:54 PST)

Office of the City Attorney

Exhibit A -2

Scope of Services

The following scope of services will be completed for the City of Santa Rosa (City) to address the services mentioned in the Request for Proposals (RFP) and additional items identified since that time. The City has 17 pumped pressure zones (not served off Sonoma County pressure) with 18 pump stations, and 20 existing reservoirs that provide the required storage and pump capacity to meet normal and emergency conditions.

TASK 100 – PROJECT ADMINISTRATION, INVESTIGATION & COORDINATION

Task 101 – Project Administration

Provide management and administration of the project including progress reporting, schedule, and invoicing.

Provide a project execution plan (PEP), which establishes the project’s staffing plan, scope of services, communication plan, quality control plan, and budget.

Task 102 – Bi-Weekly Meetings

Twice monthly conference calls to provide an opportunity to give an update on project status and discuss needed information or input from the City.

Task 103 – Data Collection & Review

Prepare and submit a list of data and information to be provided by the City for use during the study including but not limited to SCADA data, GIS data, existing level of service and goals, and facility information, and related studies and reports. Black & Veatch will review data received prior to the Project Initiation Workshop.

Task 104 – Project Initiation Workshop

Conduct a workshop to introduce team members and review the PEP. In addition, the Project Initiation Workshop will be used as an opportunity to discuss City priorities and objectives for the project, identify likely alternatives to be considered, discuss fire flow goals based on zoning, and to conduct a preliminary discussion on alternative evaluation, ranking, and prioritization approach. In conjunction with this workshop, Black & Veatch will meet with appropriate City staff to review existing SCADA communications and identify critical SCADA information.

TASK 200 – SCADA SYSTEM RELIABILITY & REDUNDANCY

Task 201 – SCADA System Reliability & Redundancy

This task will review existing SCADA components and communications and research opportunities for increasing the reliability and redundancy of the system with respect to the reservoirs and pump stations in the water distribution system. Based on the recommendations from the Fountaingrove Evaluation and the RFP specific efforts will include:

- Black & Veatch Instrumentation & Control (I&C) staff will meet with City staff in conjunction with the Project Initiation Workshop to understand the existing SCADA system, existing reliability and redundancy, and alternatives to consider in this evaluation.
- SCADA System Evaluation will be done at the system level and not at the facility level and may include discussions of multiple communication methods, PLC enclosure insulation and protection, and standby power sizing for lengthy outages.
- I&C staff will perform evaluation and develop recommendations considering latest available technologies and market trends.

Task 202 – Criteria Development Workshop (In Conjunction with Task 303 and 405)

A workshop will be held to review preliminary findings and discuss evaluation criteria for selecting and prioritizing recommendations. This workshop will be held in conjunction with a similar discussion on preliminary findings from the Task 300 and Task 400 activities.

Task 203 – SCADA Reliability & Redundancy TM

Following the Criteria Development Workshop, evaluations will be finalized and capital costs for alternatives identified. The approach and findings will be summarized in the SCADA Reliability & Redundancy TM. The Draft TM will be submitted to the City for review at the Project Prioritization Workshop.

TASK 300 – TECHNOLOGY, EQUIPMENT, & SOFTWARE

Task 301 – Flow Control Opportunities

This task will require identifying alternatives based on several sources of information that Black & Veatch will characterize through the following tasks:

- Evaluate available technology for remote close valves from AMI or SCADA or automatically. Focus on large consumers or fire suppression systems.
- Identify flow sensors, such as AMI and SCADA, to identify need for flow control and potentially automatically isolating very high flow rates.
- Use GIS and/or the City's water model to help identify critical locations and isolation opportunities

Based on this information, up to 4 alternatives will be identified to provide a range of flow control opportunities and their relative costs of implementation and level of maintenance required.

Task 302 – Back-Up Power Generation

Evaluation will include review of best practices for backup generation for pump stations, design improvements to limit harmonics under power failure scenarios, advantages/disadvantages of using VFDs, sizing of backup generators and its impact on cost and operations and current market trends.

It is assumed that the backup power generators for all pump stations are of the same type. Black & Veatch will visit one site that best represents the generator configuration for all sites in the system and develop alternatives evaluation using the data gathered.

Task 303 – Criteria Development Workshop (In Conjunction with Task 202 and Task 405)

A workshop will be held to review preliminary findings and discuss evaluation criteria for selecting and prioritizing recommendations. This workshop will be held in conjunction with a similar discussion on preliminary findings from the Task 200 and Task 400 activities.

Task 304 – Technology, Equipment, & Software TM

Following the Criteria Development Workshop, evaluations will be finalized and capital costs for alternatives identified. The approach and findings will be summarized in the Technology, Equipment, & Software TM. The Draft TM will be submitted to the City for review at the Project Prioritization Workshop.

TASK 400 – WATER MASTER PLAN UPDATE

Task 401 – System-Wide Fire Flow Evaluation & Recommendations

Update the model to incorporate any distribution system changes since the Water Master Plan. Collaborate with the City to identify appropriate land use/zoning fire flow goals. Perform two fire flow evaluations to identify deficiencies based on new fire flow goals: 1) Existing system and 2) update future fire flow evaluations from the Water Master Plan. Identify and recommend necessary system improvements to meet the new fire flow goals such as: replacement program for small diameter dead-end pipe sections, additional looping, or new PRV connections.

Task 402 – System Reliability Opportunities

Evaluate up to 6 alternatives to address system reliability in the upper pressure zones. Alternatives are anticipated to include: 1) additional locations for interconnects and/or pressure reducing valves and 2) additional pumping/storage in upper zones.

Task 403 – Proctor Heights Evaluation

Evaluate water tanks in the Proctor Heights area to determine options to modify operations or tank configuration to improve system reliability and redundancy. This task includes updating the existing model for water age evaluations.

Task 404 - Off-Line Storage

Evaluate up to 3 alternatives to provide off-line storage of non-potable water for use during a fire event. This evaluation will be a high-level evaluation of the volume of storage needed, the potential location of storage, likely costs, and the pros and cons of developing, operating, and maintaining a non-potable off-line storage program.

Task 405 – Criteria Development Workshop (In Conjunction with Task 202 and task 303)

A workshop will be held to review preliminary findings and discuss evaluation criteria for selecting and prioritizing recommendations. This workshop will be held in conjunction with a similar discussion on preliminary findings from the Task 200 and Task 300 activities. At this meeting the new differentiated fire flow goals based on zoning and/or land use type and the evaluation criteria for system pressures and reliability will be finalized. It is anticipated that the initial reliability evaluation may result in abandoning some options and possibly identifying hybrid alternatives that need to be investigated. The goal of this workshop will be to take initial findings and identify and mid-project course changes that need to be made.

Task 406 – Water Distribution System Evaluation TM

Following the Criteria Development Workshop, evaluations will be finalized and capital costs for alternatives identified. The approach and findings will be summarized in the Water Distribution System Evaluation TM. The Draft TM will be submitted to the City for review at the Project Prioritization Workshop.

TASK 500 – PROJECT IDENTIFICATION AND PRIORITIZATION

Task 501 – Project Prioritization Workshop

Following submission of the SCADA Reliability & Redundancy TM, the Technology, Equipment & Software TM, and the Water Distribution System Evaluation TM, a workshop will be held to review the findings, identify the preferred alternatives, and develop a prioritized project implementation plan. In addition, the format of the Water Master Plan Update will be discussed at this workshop.

Task 502 – Prioritized Recommendations and Costs TM

Following the workshop, Black & Veatch will submit a Prioritized Recommendations and Cost TM that summarizes the project selection approach, incorporates the recommended improvements identified at the workshop, and presents the prioritized recommendations, schedule and costs. For the Water System Reliability Study, an Association for the Advancement of Cost Engineering (AACE) Class 5 cost estimate will be included. A draft TM will be submitted to the City for review and comment. A conference call will be held to review the comments.

Task 503 – Draft Water Master Plan Update

Based on the draft TMs and the City's comments, a draft Water Master Plan Update will be developed and submitted to the City for review. The format of the Water Master Plan Update will be determined at the Project Prioritization Workshop.

Task 504 – Report Review Meeting

Once the City has reviewed the draft report, a meeting will be held to review the findings and discuss comments from the City. In addition, this meeting will include a discussion of the final report and deliverables.

Task 505 – Final Reports & Deliverables

Following the Report Review Workshop, Black & Veatch will finalize the reports and submit them to the City. In addition, deliverables such as the updated hydraulic model, GIS files, and calculation files will be submitted to the City.

TASK 600 – OPTIONAL SERVICES

The following tasks are items that may be of interest to the City to include in the project, but their scope and/or need are not yet certain. Budget is included for these items, but it may not be used without written approval from the City.

Task 601 - Fire Department Coordination

Fire Department coordination would include, providing time to meet with the fire department following, or in conjunction with, the Project Initiation Workshop to solicit ideas and suggestions related to opportunities to provide additional water system reliability, alignment with Fire Department service goals, or improved coordination with the fire department.

Task 602 – Redundant Communication Studies

In addition to providing high level recommendations on improved SCADA reliability, budget has been included to take the results of the high-level study and provide a more detailed study of the radio, fiber or cellular data, along with recommendations and planning level capital costs.

Task 603 - Coffey Park Investigation

Following the evaluation of Fountaingrove, there is interest in looking at a similar evaluation for the Coffey Park area during and following the Tubbs Fire. This evaluation will include a “forensic” evaluation of the operations and impact of the fires in the Coffey Park area during October 2017. This will require coordinating with the Sonoma County Water Agency and obtaining their records from this time period as well as reviewing the City’s SCADA data for the Coffey Park and aqueduct pressure zones during the Tubbs Fire.

Task 604 - Fire Damage Probability

Explore developing a fire damage probability index if the data is available. Fire damage probability could consider the roof construction materials, the proximity of foliage to the building, proximity to other structures and previous loss history. This information could be used by the City water or fire departments to better understand areas of risk and focus for mitigation.

Task 605 - Water Quality/Water Age Impact Evaluations

Some system improvements, which could be recommended, will have an impact on water quality by increasing the water age or residence time, within the system. This may, in turn, affect chlorine residual concentration and decay. Examples of these improvements include: added storage or operating storage at higher volumes than current operations, added infrastructure and/or pipe upsizing, and modifying pressure zone boundary configurations. This task includes 3 scenarios for evaluating of water quality, in terms of the surrogate water age, for baseline conditions and the impact to water age from recommended improvements.

Task 606 - Presentation to City Council

Development of presentation materials, a conference call to review the materials, and a presentation to City Council.

TASK 700 – DOWNTOWN STATION AREA SPECIFIC PLAN

A Downton Station Area Specific Plan (DSASP) has been developed for the City that would significantly change the land use and projected demand from what was assumed in the 2014 Water Master Plan Update. This work will replace the currently projected growth in these areas with the projected growth from the Preferred Plan Concept, when available, and evaluate the ability of the existing system and proposed improvements to meet City design criteria for pressures, flows, and fire flows. Work will include updating the existing system model to include the 2014 master plan future system demands and recommended improvement. Next steps will include: updating the demands from the DSASP, running the model for future maximum day demands and fire flows, and identifying any additions or changes to the 2014 Water Master Plan Recommendations (using the AACE Class 5 unit costs developed for Task 502).

A standalone draft TM will be developed that summarizes the additional demands, identifies areas of concern, and provides changes in the capital improvement plan. The TM will be finalized based on City comments and attached to the 2019 Water Master Plan Update.

TASK 800 – A PLACE TO PLAY EMERGENCY WELL ALTERNATIVES (ADDED DECEMBER 2020)

The City is pursuing an Emergency Groundwater Supply Program. The goal of this program is to install emergency wells in each of the major pressure zones that would provide up to 1 mgd of flow per well in case of an emergency that would reduce or eliminate deliveries of surface water from Sonoma County Water Agency (Sonoma Water). The City has recently contracted for design and construction services to convert the test boring at A Place to Play Park into an emergency well. However, during early construction, water quality testing revealed arsenic levels slightly above the primary drinking water standard as well as iron and manganese above secondary drinking water standards. Previous water quality sampling in 2006 and 2016 showed arsenic below the primary drinking water MCL. The construction contract has been suspended while the City determines the appropriate next steps. Solutions range from no project (stopping project construction at this location) to adding a groundwater treatment facility and making this a production well with a variety of alternatives that could be considered. The goal of this project is to provide a framework for evaluating the alternatives and recommending a way forward for the City.

Work included in this project:

- Review existing water quality data and identify treatment facilities required to meet California Department of Drinking Water (DDW) enforceable primary drinking water standards for both emergency and production use of the water and secondary drinking water standards for production use.
- Identify up to 9 Screening Alternatives to integrate the well water into the distribution system, which will include:
 - Evaluating 2 treatment alternatives.
 - Identifying required facilities for a blending option that would meet DDW water quality requirements.
 - Using the City's existing system hydraulic model to identify required changes to operations and likely impact to water age.
- Reduce the Screening Alternatives from 9 to 4 Project Alternatives and further develop to include costs and other non-economic considerations. For these 4 Detailed Alternatives:
 - Provide Association for the Advancement of Cost Engineering International (AACEI) Class 5 capital cost estimates for comparison between Alternatives.
 - Provide an estimate of the increased annual operation and maintenance costs for Alternatives. Provide potential cost savings for any option that includes converting emergency well to a production well.
 - Compare Detailed Alternatives for economic and non-economic benefits and challenges.
 - Provide required permit costs, challenges, and estimated timeline to obtain.
- Standalone summary technical memorandum (TM) with recommendations and next steps.
- Assumptions
 - Due to on-going COVID19 travel restrictions, no in-person meetings are included in the scope.
 - Treatment options will not include reverse osmosis or ultrafiltration options that would reduce total dissolved solids (TDS) in the water.
 - Conceptual site layouts will use Google Earth for the background and will not include on-site data collection.
 - Scope does not include any detailed design or procurement.

TASK 810 - PROJECT MANAGEMENT

- A kick-off meeting will be held via video conference call to introduce project participants, review the scope, and confirm the Screening Alternatives to be considered.

- Project management including bi-weekly conference calls with City, invoicing, and deliverable QA/QC.

TASK 820 – DATA REVIEW AND KICK-OFF MEETING

Black & Veatch will review the water quality data provided by the City and the existing hydraulic model in the area of the well prior to the kick-off meeting. If needed, a request for additional data may be submitted.

A kick-off meeting will be held via video conference call to introduce project participants, review the scope, and confirm the Screening Alternatives to be considered.

A wide variety of potential alternatives and variations have been identified for this project. The 9 Screening Alternatives to be evaluated in this project are included below, in addition to the “no project” option (stopping construction at this location). Options that address each of these facility and usage combinations will be developed and evaluated in this project.

Treatment/ Usage	Emergency	Non-Potable	Production
None	✓	✓	
Blending	✓		✓
Treatment	✓	✓	✓
Treatment & Blending	✓		✓

In addition to treatment and blending, there are also regulatory and permitting considerations that need to be considered. Some alternatives may lend themselves to a phased approach. The benefits of storage of potable water purchased from Sonoma Water (either by itself or in conjunction with groundwater blending) also need to be considered. The screening level feasibility review of potential treatment, blending, and storage options will be performed to identify those that have the greatest potential benefits to the City.

TASK 830 – SCREENING ALTERNATIVE EVALUATION

The Screening Alternative evaluation will consist of detailed evaluations of various treatment, blending, and distribution system integration options as well as synthesizing options into fully developed Alternatives.

Task 831 – Treatment and Blending Evaluation

Two treatment options will be considered: 1) An option to meet primary maximum contaminant levels (MCLs) only (this option may address other contaminants with non-enforceable secondary MCLs as well) and 2) An option to also meet secondary MCLs for iron and manganese. Pending review of groundwater quality data provided by the City, the primary focus of the treatment and blending evaluation will be compliance with the total arsenic MCL of 10 ng/L. The analysis will include a description of treatment certification requirements for operators who would be responsible for operating and maintaining the treatment plant.

Task 832 – Hydraulic Modeling

It is anticipated that all hydraulic evaluations will be done using average or minimum day system demands, but maximum production from the well, this will maximize the impact of the changes on operations. Up to 7 hydraulic modeling evaluations will be included. Anticipated model runs include:

- Base operations evaluation to understand existing system pressures, flow patterns/direction, operations, and anticipated water age.
- Storage 1 – Understand the impact of the addition of storage on operations.

- Storage 2 – Understand the impact of bringing water for blending to the site on operations.
- Source Trace 1 – Identify the area impacted by a treatment only option.
- Source Trace 2 – Identify the area impacted by a blended water option.
- Water Age 1 – Identify impact of the addition of water storage on water age.
- Water Age 2 – Identify impact of bringing water to the site for blending on water age.

Task 833 – Alternative Screening

Based on the chart included in Task 720 and the treatment and hydraulic modeling analyses performed in tasks 731 and 732, a total of 9 Screening Alternatives that utilize various combinations of previously screened treatment, blending, and storage options will be developed conceptually. For each Screening Alternative, a schematic identifying required facilities and pros and cons will be developed.

Task 834 – Screening Workshop

A video workshop will be held with the City to review the Screening Alternatives and get Staff input. Following this workshop, the City will identify up to 4 Project Alternatives to be fully evaluated. These alternatives may be any of the 9 presented or a hybrid of the alternatives, if appropriate.

At this workshop, Black & Veatch will also present proposed non-economic criteria and scoring plan for City review and approval.

TASK 840 – PROJECT ALTERNATIVE EVALUATION

Task 841 – Project Alternative Development

Once the 4 Project Alternatives to be evaluated have been identified by the City, Black & Veatch will develop the alternatives in more detail including:

- Opinion of probable capital cost (AACE Class 5)
- Opinion of probable annual operating costs
- Non-Economic criteria. To include items such as: availability in an emergency, operational difficulty, maintenance needs, water quality impacts, regulatory acceptance, resiliency/reliability, etc.

Task 842 – Project Alternative Review Workshop

A video workshop will be held with the City to present the detailed Project Alternative evaluations, provide relative scoring, and review recommendations. Following this workshop, the City will have opportunity to review the results and provide their feedback on how to proceed to documentation and recommendations.

TASK 850 – SUMMARY TECHNICAL MEMORANDUM AND CONFERENCE CALL

Black & Veatch will summarize the results of the Well Alternatives in a draft TM and a video workshop will be scheduled to review City comments and discuss any changes. Following the conference call, City comments will be incorporated, and a final TM submitted to the City.

Copies of the hydraulic model scenarios and other calculations will be provided to the City.

Deliverables – A Place to Play Well Alternatives Evaluation TM (draft and final). Agenda and meeting minutes for the workshop. Hydraulic model and calculation files.

TASK 800 - SUPPLEMENTAL SERVICES

Supplemental services are not in the scope of work for this contract. These services will be performed at City's request with compensation adjustments. Supplemental services that the City might choose to add to the scope of services include, but are not limited to, the following items.

- Additional treatment options
- Additional hydraulic model scenarios
- Additional alternatives
- In person attendance at meetings or presentations
- Detailed design.

TASK 900 – CONTINUING SERVICES (ADDED DECEMBER 2020)

As requested by the City, \$25,000 has been added to the fee to requests for additional modeling for 2021 - 2026. It is anticipated that these requests would generally take less than 8 hours to model and the results documented in an email.

TASK 1000 – CONTINGENCY

As requested by the City, 10% has been added to the fee to cover potential changes in scope or level of effort. Task 1001 – Solar Feasibility Study was added to the study and uses a portion of the contingency amount.

Task 1001 – Solar Feasibility Study

Provide engineering services to the City for a study to determine the feasibility of providing solar and battery power for a minimum of 5 days at up to 12 tank sites. This scope of work consists of evaluating available solar energy as well as identifying required: panel sizing, charging and mounting hardware, and battery capacity. In addition, developing indicative pricing (AACE Class 5) for construction and identify required O&M activities.

PROJECT WORKSHOPS & DELIVERABLES

TASK OBJECTIVE	WORKSHOPS	DELIVERABLES
Task 100 – Project Administration, Investigation, & Coordination	<ul style="list-style-type: none"> ■ Kick-off Workshop ■ Bi-Monthly Coordination Calls 	<ul style="list-style-type: none"> ■ Project Management/Execution Plan ■ Data Request ■ Workshop Agenda and Meeting Minutes ■ Bi-Monthly Meeting Minutes ■ Monthly Updates and Invoices
Task 200 – SCADA System Reliability & Redundancy	<ul style="list-style-type: none"> ■ Criteria Development Workshop (with Task 300 & 400) 	<ul style="list-style-type: none"> ■ Workshop Agenda and Meeting Minutes ■ Draft SCADA System Reliability and Redundancy TM
Task 300 – Technology, Equipment, & Software	<ul style="list-style-type: none"> ■ Criteria Development Workshop (with Task 200 & 400) 	<ul style="list-style-type: none"> ■ Draft Technology, Equipment & Software TM
Task 400 – Water Master Plan Update	<ul style="list-style-type: none"> ■ Criteria Development Workshop (with Task 200 & 300) 	<ul style="list-style-type: none"> ■ Draft Water Distribution System Evaluation TM
Task 500 – Project Identification & Prioritization	<ul style="list-style-type: none"> ■ Project Prioritization Workshop ■ Report Review Meeting 	<ul style="list-style-type: none"> ■ Workshop/Meeting Agenda and Meeting Minutes ■ Prioritized Recommendations and Costs TM ■ Draft Reports ■ Final Reports ■ Other project deliverables

Task 600 – Optional Tasks	<ul style="list-style-type: none"> ■ Presentation to City Council 	<ul style="list-style-type: none"> ■ Communication Reliability Recommendations TM ■ Other optional tasks would be included in the Draft Water Distribution System Evaluation TM
Task 700 – Downtown Station Area Specific Plan		<ul style="list-style-type: none"> ■ Draft/Final DSASP Water System Evaluation TM
Task 800 – A Place to Play Emergency Well Alternatives	<ul style="list-style-type: none"> ■ Kick-off Workshop ■ Screening Workshop ■ Project Alternative Review Workshop ■ Draft TM Review Workshop 	<ul style="list-style-type: none"> ■ Agenda, presentation materials, and meeting minutes for all workshops ■ Draft/Final A Place to Play Emergency Well Alternatives TM
Task 900 – Continuing Services		<ul style="list-style-type: none"> ■ Email documentation of results
Task 1000 - Contingency	<ul style="list-style-type: none"> ■ Tank Site Visit 	<ul style="list-style-type: none"> ■ Draft/Final Solar Feasibility Study TM

Exhibit B-2

PHASE/Task (Billing Rate, \$\$, Hr.)		Sr. Client Director \$307.00 Carlson	Sr. Project Manager \$250.00 Burgi	Clerk \$109.00 Various	Project Controls \$166.00 Various	Sr. Planning Engineer \$198.00 Maher	Process Director/QC \$250.00 Tadanier	Process Engineer \$172.00 Farley	Engineering Manager \$160.00 TBD	Estimator \$181.00 TBD	SUBTOTAL, hours	SUBTOTAL, Billings \$	Travel/ Per Diem Expenses	Other Expenses	SUBTOTAL, EXPENSES	TOTAL Billings
WORK BREAKDOWN STRUCTURE	PHASE															
First Amendment - March 2020																
DSASP Evaluation	0700															
Project Management	0701	4	8	4	8						24	\$ 4,992	\$ -	\$ -	\$ -	\$ 4,992
Model Update	0702					40					40	\$ 7,920	\$ -	\$ -	\$ -	\$ 7,920
Model Check	0703					24					24	\$ 4,752	\$ -	\$ -	\$ -	\$ 4,752
Future Evaluations	0704					40					40	\$ 7,920	\$ -	\$ -	\$ -	\$ 7,920
Cost Estimate	0705					24					24	\$ 4,752	\$ -	\$ -	\$ -	\$ 4,752
Summary TM and Conference Call	0706		8			40					48	\$ 9,920	\$ -	\$ -	\$ -	\$ 9,920
Contingency*	1000													\$ 4,000	\$ 4,000	\$ 4,000
Scope, Hours		4	16	4	8	168	-	-	-	-	200					
Scope, Billings		1,228	4,000	436	1,328	33,264	0	0	0	0		\$ 40,256	\$ -	\$ -	\$ -	\$ 44,256
Second Amendment - December 2020																
Emergency Well Alternative Evaluation	0800															
Project Management	0810		16	16	12						44	\$ 7,736	\$ -	\$ -	\$ -	\$ 7,736
Data Review and Kick-off Meeting	0820		6			16	6	16	8		52	\$ 10,200	\$ -	\$ -	\$ -	\$ 10,200
Screen Alternative Evaluation	0830		14			124	28	40	28		234	\$ 46,412	\$ -	\$ -	\$ -	\$ 46,412
Project Alternative Evaluation	0840		8			28	20	24	64	40	184	\$ 34,152	\$ -	\$ -	\$ -	\$ 34,152
Summary TM	0850		10	16		24	24	16	34		124	\$ 23,188	\$ -	\$ -	\$ -	\$ 23,188
Continuing Services	0900													\$ 25,000	\$ 25,000	\$ 25,000
Contingency*	1000													\$ 12,000	\$ 12,000	\$ 12,000
Scope, Hours		0	54	32	12	192	78	96	134	40	638					
Scope, Billings		0	13,500	3,488	1,992	38,016	19,500	16,512	21,440	7,240		\$ 121,688	\$ -	\$ 37,000	\$ 37,000	\$ 158,688

* Contingency may only be spent with written permission from the City. \$4,000 for Phase 700 and \$12,000 for Phase 800

PHASE/Task (Billing Rate, \$\$, Hr.)		Sr. Project Director \$295.00 Carlson	Sr. Project Manager \$240.00 Burgi	Clerk \$105.00 Various	Electrical Sr. Engineer \$190.00 Ivy	Electrical Technician \$160.00 Various	Sr. I&C Engineer QC \$250.00 Various	Sr. I&C Engineer \$230.00 Brados	I&C Engineer \$165.00 Various	Planning Director/QC \$295.00 Lichty	Planning Sr. Engineer \$190.00 Maher/Thigpen	Planning Engineer \$150.00 Various	Project Controls \$160.00 Various	SUBTOTAL, hours	SUBTOTAL, Billings \$	Travel/ Per Diem Expenses	Major Reproduction Expenses	Other Expenses	SUBTOTAL, EXPENSES	TOTAL Billings
WORK BREAKDOWN STRUCTURE	PHASE																			
Project Administration, Investigation & Coordination	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Project Administration	1100	16	64	8	-	-	-	-	-	-	-	-	40	128	\$ 27,320	\$ -	\$ -	\$ -	\$ -	\$ 27,320
Bi-Weekly Meetings	1200	-	24	-	-	-	-	16	-	-	16	-	-	56	\$ 12,480	\$ -	\$ -	\$ -	\$ -	\$ 12,480
Data Collection & Review	1300	-	2	-	8	8	-	16	-	-	16	-	-	50	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ 10,000
Project Initiation Workshop	1400	4	18	4	-	-	-	24	-	4	16	-	-	70	\$ 15,660	\$ 2,900	\$ -	\$ -	\$ 2,900	\$ 18,560
SCADA System Reliability & Redundancy	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SCADA System Reliability & Redundancy	2100	-	2	-	-	-	4	20	40	-	-	-	-	66	\$ 12,680	\$ -	\$ -	\$ -	\$ -	\$ 12,680
Criteria Development Workshop	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SCADA System Reliability & Redundancy TM	2300	-	2	-	-	-	4	8	4	-	-	-	-	18	\$ 3,900	\$ -	\$ -	\$ -	\$ -	\$ 3,900
Technology, Equipment & Software	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Flow Control Opportunities	3100	-	2	-	-	-	4	20	40	-	-	40	-	106	\$ 18,680	\$ -	\$ -	\$ -	\$ -	\$ 18,680
Back-up Power Generation	3200	-	2	-	40	40	-	-	4	-	-	-	-	86	\$ 15,660	\$ -	\$ -	\$ -	\$ -	\$ 15,660
Criteria Development Workshop	3300	4	18	4	-	-	-	8	-	-	-	-	-	34	\$ 7,760	\$ 1,200	\$ -	\$ -	\$ 1,200	\$ 8,960
Technology, Equipment, & Software TM	3400	2	4	4	8	-	-	4	16	4	-	-	-	42	\$ 8,230	\$ -	\$ -	\$ -	\$ -	\$ 8,230
Water Master Plan Update	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
System-Wide Fire Flow Evaluation & Recommendations	4100	-	2	-	-	-	-	-	-	-	122	-	-	124	\$ 23,660	\$ -	\$ -	\$ -	\$ -	\$ 23,660
System Reliability Opportunities	4200	-	2	-	-	-	-	8	-	84	-	-	-	84	\$ 16,380	\$ -	\$ -	\$ -	\$ -	\$ 16,380
Proctor Heights Evaluation	4300	-	2	-	-	-	-	-	-	82	-	-	-	84	\$ 16,060	\$ -	\$ -	\$ -	\$ -	\$ 16,060
Off-Line Storage	4400	-	2	-	-	-	-	8	-	40	40	-	-	90	\$ 15,920	\$ -	\$ -	\$ -	\$ -	\$ 15,920
Criteria Development Workshop	4500	-	-	-	-	-	-	-	-	16	-	-	-	16	\$ 3,040	\$ 1,200	\$ -	\$ -	\$ 1,200	\$ 4,240
Water Distribution System Evaluation TM	4600	-	-	-	-	-	-	-	-	4	48	-	-	52	\$ 10,300	\$ -	\$ -	\$ -	\$ -	\$ 10,300
Project Identification and Prioritization	5000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Project Prioritization Workshop	5100	-	18	4	-	-	-	8	-	4	8	-	-	42	\$ 9,280	\$ 1,200	\$ -	\$ -	\$ 1,200	\$ 10,480
Prioritized Recommendations and Costs TM	5200	2	4	4	8	-	-	8	-	-	44	-	-	70	\$ 13,690	\$ -	\$ -	\$ -	\$ -	\$ 13,690
Draft Water Master Plan Update	5300	4	8	16	-	-	-	8	-	-	48	-	-	84	\$ 15,740	\$ -	\$ -	\$ -	\$ -	\$ 15,740
Report Review Meeting	5400	-	6	-	-	-	-	4	-	-	4	-	-	14	\$ 3,120	\$ -	\$ -	\$ -	\$ -	\$ 3,120
Final Reports & Deliverables	5500	-	8	16	-	-	-	-	-	-	40	-	-	64	\$ 11,200	\$ -	\$ 500	\$ -	\$ 500	\$ 11,700
Base Scope, Hours		32	190	60	64	48	8	156	104	24	574	80	40	1,380						
Base Scope, Billings		9,440	45,600	6,300	12,160	7,680	2,000	35,880	17,160	7,080	109,060	12,000	6,400		\$ 270,760	6,500	500	-	7,000	277,760
Optional Tasks*	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fire Department Coordination	6100	-	8	2	-	-	-	-	-	-	12	-	2	24	\$ 4,730	\$ -	\$ -	\$ -	\$ -	\$ 4,730
Redundant Communication Studies	6200	-	4	4	-	-	-	40	80	4	-	-	2	134	\$ 25,280	\$ 1,200	\$ -	\$ -	\$ 1,200	\$ 26,480
Coffey Park Investigation	6300	-	4	4	-	-	-	-	-	-	84	-	2	94	\$ 17,660	\$ -	\$ -	\$ -	\$ -	\$ 17,660
Fire Damage Probability	6400	-	4	4	-	-	-	-	-	-	24	40	2	74	\$ 12,260	\$ -	\$ -	\$ -	\$ -	\$ 12,260
Water Quality/Water Age Impact Evaluations	6500	-	4	4	-	-	-	-	-	-	84	-	2	94	\$ 17,660	\$ -	\$ -	\$ -	\$ -	\$ 17,660
Presentation to City Council	6600	4	16	8	-	-	-	4	-	-	16	-	2	50	\$ 10,140	\$ 1,200	\$ -	\$ -	\$ 1,200	\$ 11,340
Contingency*	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ 6,060	\$ 6,060	\$ 36,000
Solar Feasibility Evaluation	1001	-	18	4	-	-	4	-	124	-	-	-	-	8	\$ 27,480	\$ 2,460	\$ -	\$ -	\$ 29,940	
Optional/Contingency, Hours		4	58	30	-	-	4	44	204	4	220	40	12	470						
Optional/Contingency, Billings		1,180	18,240	3,570	-	-	1,000	10,120	33,660	1,180	41,800	6,000	1,920		87,730	2,400	-	6,060	8,460	126,130
Total, Hours		36	230	86	64	48	8	200	184	28	794	120	52	1,850						
Total, Billings		\$ 10,620	\$ 55,200	\$ 9,030	\$ 12,160	\$ 7,680	\$ 2,000	\$ 46,000	\$ 30,360	\$ 8,260	\$ 150,860	\$ 18,000	\$ 8,320		\$ 358,490	\$ 8,900	\$ 500	\$ 6,060	\$ 15,460	\$ 403,890

* Optional and Contingency Tasks may only be spent with written permission from the City

Black & Veatch Billing Rates

Description	2019 Rate	2020 Rate	2021 Rate	2022 Rate	2023 Rate	2024 Rate	2025 Rate	2026 Rate
	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)	(\$/hr)
Sr. Project Director	295	307	307	319	332	345	359	373
Sr. Project Manager	240	250	250	260	270	281	292	304
Administrative	105	109	109	114	118	123	128	133
Project Controls	160	166	166	173	180	187	195	202
Planning Director/QC	295	307	307	319	332	345	359	373
Sr. Planning Engineer	190	198	198	206	214	222	231	240
Planning Engineer	150	156	156	162	169	175	182	190
I&C Director/QC	250	260	260	270	281	292	304	316
Sr. I&C Engineer	230	239	239	249	259	269	280	291
I&C Engineer	165	172	172	178	186	193	201	209
Telecom Engineer	165	172	172	178	186	193	201	209
Sr. Electrical Engineer	190	198	198	206	214	222	231	240
Electrical Technician	160	166	166	173	180	187	195	202
GIS Analyst	140	146	146	151	157	164	170	177
CAD Technician	110	114	114	119	124	129	134	139
Estimating	174	181	181	188	196	204	212	220
Civil Sr. Engineer	194	202	202	210	218	227	236	245
Civil Engineer	154	160	160	167	173	180	187	195









Amendment 2 for PSA F001939-Water System Reliability Study Complete Packet

Final Audit Report

2021-01-14

Created:	2021-01-08
By:	Joyce Brandvold (JBrandvold@srcity.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAzVT0o-z-zvoVXRulcUqTEVNYvqxnccmB

"Amendment 2 for PSA F001939-Water System Reliability Study Complete Packet" History

-  Document created by Joyce Brandvold (JBrandvold@srcity.org)
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Amendment 2 Water System Reliability Study signed by consultant

Final Audit Report

2021-01-20

Created:	2021-01-14
By:	Joyce Brandvold (JBrandvold@srcity.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAA1YiuOuahv-BTePGbTv5YIEWrLyLmJ9tv

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