EXHIBIT A

SCOPE OF SERVICES

Proposal to City of Riviera Beach Utilities Special District for Independent Consulting Implementation of Water Treatment Plant Improvements
Work Authorization No. 5
(Effective August 24, 2020)

BACKGROUND

The City of Riviera Beach Utilities Special District (RBUSD) owns and operates a Water Treatment Plant (WTP), located at 600 West Blue Heron Boulevard, Riviera Beach, Florida. RBUSD is executing design-build projects with selected entities (Design Builders) to expedite improvements, including relocation or elimination of equipment from the North Chemical Building, increased redundancy and control of the chemical feed systems, and rehabilitation of Lime Softening Unit No. 3. The improvements also include the construction of two new chemical feed systems—sodium hypochlorite and carbon dioxide.

Brown and Caldwell (BC or Consultant) proposes to provide contract administration and advisory services in support of the implementation of the RBUSD Water Treatment Plant improvements. The proposed services will be delivered in a phased manner with Phase 1 services being limited to technical support to RBUSD during project development, design coordination/review and guaranteed price review. Construction administration activities during implementation will be conducted during a separate Phase 2 (not authorized hereunder). The Consultant, whose duties and responsibilities are described in this scope of services, will provide the following Phase 1 supplemental support services:

1. Project Coordination and Administration (Task 1).
2. Design-Build Contract Support (Task 2) – activities that relate to the technical advisory analysis/support, Guaranteed Price (GP) negotiation and implementation of Design-Builders' (Cardinal and GlobalTech).
3. Technical analysis and criteria development in support of additional improvement needs at the WTP that require urgent attention.
    a. Filter Evaluation – conduct evaluation of condition and performance to determine improvement need priorities. Establish criteria to guide improvements (Task 3).
    b. Air Stripper Evaluation – Operations staff are unable to maintain packing media in air strippers due to the leakage of acid that pose a safety hazard. Conduct evaluation of condition and performance to determine improvement need priorities. Establish criteria to guide improvements (Task 4).
    c. Valve Exercise and Functional Needs Assessment (Task 5) – the condition and operability of some valves are constrained due to their condition that is impacted by age, lack of routine operation and lime scale deposits. An exercise program for critical valves will be established together with recommended improvements to facilitate routine exercise without an attendant significant risk of failure.
    d. Project Management Framework Development (Task 6) - The utility's

engineering resources are limited and lack adequate systems and protocols for management of its capital program in a manner that is aligned with best practices. A gap assessment and framework for improving project management protocols will be established.

4. As-Needed Consulting Support – provide ongoing advisory support to address varied needs that may emerge at the WTP (Task 7).

Phase 2 activities as well as services not specifically mentioned and/or described below are excluded from this scope of services.

SCOPE OF SERVICES

Task 1 - Project Coordination and Administration

Task Objectives: This task includes project coordination and management activities of the tasks within this scope.

Activities:

1. General project communication and coordination, including monitoring and management of budget, schedule, and resource commitments.
2. Preparation of progress reports in support of status reporting requirements. Consultant will only prepare a progress report when work is provided in the reporting period.
3. Develop a coordinated project implementation schedule that integrates the implementation schedules developed by each design builder with the tasks required to complete all proposed work.
4. Biweekly coordination meetings with RBUSD and preparation of a written summary of each meeting.
5. Monthly coordination meetings with RBUSD and each Design Builder (i.e. two meetings per month) and preparation of a written summary of each meeting.

Deliverable:

1. Monthly progress reports
2. Bi-weekly and monthly meeting summaries
3. Monthly invoices

Task 2 – Design-Build Contract Support

Task Objectives: This task provides for design submittal review, GP review, and coordination activities associated with the Design-Builders' (Cardinal and GlobalTech) ongoing design and procurement activities. It is noted that design submittal reviews are limited to high level determination of sufficiency of elements included and coordination. Reviews will not constitute a quality assurance or independent validation of decisions that are the

responsibility of the Engineer of Record. Consultant shall support RBUSD in the specific areas indicated below and provide input to RBUSD to facilitate its oversight of the project delivery efforts. This task includes the following subtasks:

1. Design Build Scope Clarifications
    a. Participate in one meeting between the RBUSD and each design builder to discuss the technical proposal, clarify and finalize direction.
    b. Conduct one coordination meeting with both design builders and RBUSD to overview the project schedule, coordination requirements and other matters requiring discussion.
2. Develop Contract Administration Framework
    a. Review executed contract with each design build entity.
    b. Develop framework for administering design and construction phases of each contract – outline responsibilities of respective parties
    c. Document protocols for handling changes to the contract.
3. Design Submittal Review
    a. Review and comment on interim and final design submittals prepared by each Design-Builder.
    b. Comments will be provided in writing no more than 10 working days after receipt of a design submittal.
4. Coordination Activities
    a. Assist RBUSD with design decisions necessary during design phases.
        i. Attend meetings or conference calls to discuss pros/cons and consequences of RBUSD decisions. Such coordination meetings will be coordinated with the recurring meetings identified in Task 1.
    b. Support RBUSD during Design-Builder contract executions and amendments
        i. Attend meetings specific to new contracts or contract amendments. Such coordination meetings will be coordinated with the recurring meetings identified in Task 1.

Deliverables:

1. Written submittal review
2. Contract Administration Plan

Task 3 – Filter Evaluation

Task Objectives: The WTP has a total of 16 filters that filter settled water prior to finished water storage and delivery to the distribution system. Effective filtration performance is an important element of the City's water quality enhancement program. The existing filtration system has a number of potential performance limiting conditions that require further observation to identify improvement needs that should be prioritized for

implementation. Observed conditions that indicate the need for further evaluation include maldistribution of media surface, uneven distribution of backwash flow and poor condition of auxiliary wash systems that creates uncontrolled jetting and media disturbance. At least one filter is known to have a failed underdrain system. A comprehensive evaluation of the existing systems will facilitate identification of the highest priority improvements for action. Inspections will additionally be conducted in tandem with the City's operation staff to facilitate their training in the methodology used.

The following activities will be conducted under this task:

1. Conduct visual inspection of each filter during normal filtration operation. Interview operators and inspect/observe actuated valves, surface wash system, turbidimeters, electronic controllers and other associated systems to determine functional/condition limitations. During this inspection, operators may be asked to actuate valves and drain settled water to expose the wash water troughs and media surface.
2. Conduct visual observation of up to four backwash sequences – two from water-only backwashed filters and two from air/water backwashed filters. During this inspection, detailed visual observation and data collection will be conducted to characterize filter condition and backwash performance.
3. Conduct core sampling of filter media (for up to four filters) and test media to determine characteristics – effective size, uniformity coefficient and specific gravity. Mud deposition profiles will be established for one filter before/after backwash.
4. Prepare a technical memorandum that summarizes the findings and recommended improvement priorities. A cost estimate will be prepared for recommended improvement priorities.

Deliverables:

1. Technical Memorandum No. 2

Task 4 – Air Stripper Evaluation

Task Objectives: The WTP has a total of 4 air strippers which receive raw water influent. Air strippers impact VOCs, CO2, and ammonia concentrations. RBUSD has identified the air stripper media has not been cleaned for an extended period due to acid leakage and should be evaluated.

The following activities will be conducted under this task:

1. Desktop Review – collect and review available information on the design configuration or the air stripper system including the system utilized for acid washing and associated materials of construction. RBUSD will compile and furnish available

information inclusive of record drawings, shop drawings, historical water quality data and other information deemed pertinent.

2. Stripper Facility Inspection – conduct an onsite inspection of the stripper system together with RBUSD operations staff to assess the visible conditions and discuss protocols. At RBUSD's option, WTP maintenance staff may dismantle a portion of the piping that has leaked to make it available for internal inspection during the aforementioned site visit. The determination of the feasibility of dismantling the system will be made by the RBUSD.
3. Conduct sampling of air stripper media (for 2 air strippers) and inspect media to determine condition.
4. Prepare a technical memorandum that summarizes the findings and recommended improvement priorities. A cost estimate will be prepared for recommended improvement priorities.

Deliverables:

1. Technical Memorandum No. 3

Task 5 – Valve Exercise and Functional Improvement Assessment

Task Objectives: The City's WTP produces settled water that is scale forming. Operation staff have raised concerns about the impact of scale on the operability of certain valves. This, together with the condition of aging valves throughout the plant and the lack of an exercise program, has increased the risk of the required valve functionality not being achieved when needed. Consequently, the objective of this task is to establish valve exercise priorities for critical valves, risk of failure, mitigation measures and the framework for a future phased exercise program to maintain all critical valves in operationally ready condition. The development of a WTP valve exercise program is required under Florida Administrative Code (FAC) 62-555.

The following activities will be conducted under this task:

1. Assemble available information pertaining to the placement and function of each major valve at the City's WTP. Information will be assembled from available schematic and record drawings.
2. Schematic representation of the overall and major process areas will be prepared, and each valve will be assigned a unique identifier that will be used as the basis for development and documentation of an exercise program. Schematics will be developed for the following: overall process, raw water aeration, softening, filtration, transfer/high service pumping/ground storage, sludge handling and washwater recovery and recycle systems. One schematic will be developed initially and shared with RBUSD for input regarding the format, layout and numbering system used to identify each valve. Once feedback is received on the schematic format, the remaining schematics will be prepared and submitted.

3. A workshop will be conducted with the City to review the draft schematics with the objective of initially confirming the inventory valves in the main WTP process flow and residuals streams. The workshop will additionally be used as an opportunity to review the function and operating/exercise history of each valve with the objective establishing their priority for including in an exercise program.
4. Conduct a field visit to identify/verify actual conditions and risk considerations associated with incorporating each valve in a periodic exercise program. Where planned operation or maintenance activities allow access, the site visit will be coordinated to permit inspection of recently removed or dismantled piping/valves that will give insight into the extent to which scale deposits exist within existing piping. If maintenance of a functional filter is not planned for the site visit, Consultant, with assistance from O&M staff to dismantle piping, will inspect the piping interior of an inoperable filter.
5. Establish guidelines for the periodic exercise of prioritized valves. New valves to be installed as part of the planned plant improvements as well as valves that are critical to isolating major unit processes will be prioritized for exercise. Where the risk of failure of existing priority valves is believed to be elevated, measures to mitigate potential risks will be identified (e.g. replacement, bypass, etc.). A tabulated summary will be prepared that identifies the recommended exercise frequency for each, risk mitigation measures, and other pertinent information. For valves with secondary priority, exercise recommendations will be established to support a phased implementation subject to the availability of resources (human and capital) to implement supporting improvements and conduct periodic maintenance.
6. The deliverable for this task will be the tabulated exercise recommendations and associated schematics. A technical memorandum (No. 5) will be prepared to document the process utilized to establish the exercise program.

This task additionally recognize that some aging valves could potentially require a significant capital investment to repair, replace and/or install bypass capabilities prior to integrating into a formal exercise program. Recognizing that such investments must be coordinated with the availability of funding and the anticipated remaining life of the plant, deferred action may be required for some critical valves identified.

Task 6 – Project Management Framework Development

Task Objectives: Develop a planning document that identifies needed systems and tools necessary to manage RBUSD projects, including the existing tools and systems that can be used and new tools and systems that need to be developed.

The following activities will be conducted under this task:

1. Information Gathering. Consultant will meet with key RBUSD project management staff (up to four RBUSD employees) to collect information on tools and systems currently used to

manage RBUSD projects. Consultant will also gather information on RBUSD's existing financial, scheduling, and change management systems that are not currently used by RBUSD project management staff but could be used in the future.

2. RBUSD PM Survey: Consultant will meet with key RBUSD project management staff (two RBUSD project management staff and two RBUSD senior leadership) to survey staff on what systems and tools they believe will improve project management efficiency, effectiveness, and information management.

3. Development of a Project Management Framework: Consultant will develop a written Project Management Framework report that describes the basic principles of project management for RBUSD projects, the tools and systems that are currently available to project managers, and the tools and systems that are needed to improve the management of scope, schedule and budget, along with an improvement in the access to timely project status data. Consultant will produce one Draft Project Management Framework report for review by RBUSD staff. Consultant will then conduct a 2-hour workshop to review the report with staff and managers. Following the workshop, Consultant will finalize the report and submit to RBUSD.

Task 7 – As-Needed Support

Consultant shall provide additional services in response to needs that may arise during the performance of the work that are not specifically delineated in Tasks 1 to 5. Work authorized under this task will be pre-approved by RBUSD in writing and may include some combination of the following activities:

1. Consultant has provided planning, documentation and coordination between Florida Department of Health (FDOH) and RBUSD to meet the Consent Order requirements. Consultant will continue to assist RBUSD via status reports and meetings with FDOH.
2. Continued support with seeking alternative sources of funding for projects (e.g. State Appropriations requests).
3. Advisory support regarding Capital Improvements Planning.
4. Assistance with community engagement events and meetings with City of Riviera Beach residents, staff and Commissioners.
5. Other areas of support that may be required subject to the availability of resources.

Schedule

The project will be completed within 180 days of authorization to proceed. This assumes timely receipt of requested project information. A coordinated project implementation schedule will be developed as per Task 1.

Budget

The Consultant shall perform the services defined in Tasks 1 to 6 of this Scope of Work for a lump sum fee of $230,145.00 and Task 7 on a time and materials basis for a fee of $25,685. Invoices shall be submitted monthly and identify the percentage of task (1 to 6) completion and breakdown of actual hours worked on approved activities for Task 7 and the corresponding fee for the billing period.

A breakdown of the proposed fee is provided below:

Task/ Subtask	Description	Fee
1	**Project Coordination and Administration**	**$34,270.00**
1.1	General Communication	
1.2	Progress Reports	
1.3	Develop Schedule	
1.4	Biweekly Coordination Meetings with RBUSD	
1.5	Monthly Coordination Meeting with RBUSD and Design Builders	
2	**Design Build Support**	**$44,670.00**
2.1	Design Build Scope Clarifications	
2.2	Contract Administration Framework	
2.3	Design Submittal Review	
3	**Filter Evaluation**	**$25,800.00**
3.1	Conduct visual inspections and interviews	
3.2	Core sampling of filter media	
3.3	Technical Memorandum	
4	**Air Stripper Evaluation**	**$18,795.00**
4.1	Desktop Review	
4.2	Onsite Inspection	
4.3	Sampling of media	
4.4	Technical Memorandum	
5	**Valve Exercise and Functional Improvements**	**$33,340.00**
5.1	Assemble Available Information	
5.2	Prepare Schematics	
5.3	Conduct Workshop	
5.4	Conduct Field Verifications	
5.5	Prepare Valve Exercise Guidelines	
5.6	Prepare Technical Memorandum No. 5	
6	**Develop Project Management Framework**	**$12,580.00**
6.1	Information Gathering	
6.2	RBUSD PM Survey	

6.3	Development of PM Framework Report	
7	**As-Needed Support**	**$25,685.00**
7.1	Consent Order Support	
7.2	Funding Support	
7.3	CIP Support	
7.4	Community Engagement	
7.5	Other	
8	**Other Direct Costs**	**$60,690.00**
	Subconsultant – C Solutions	
	Expenses (e.g. equipment, travel)	
	Total	**$255,830.00**

Assumptions

The proposed tasks/activities are subject to the following assumptions:

1. RBUSD shall be responsible for all direction to the Contractor. All input provided by Consultant to RBUSD shall be for its consideration in support of its decision making and shall not be construed as direction to the Contractor.
2. Supplemental investigation of matters relating to planning associated with process transition and other unidentified elements requiring supplemental investigation are not included.
3. Where meetings are indicated, Consultant's participation may be via videoconference, with exceptions limited to discussions requiring site visits.
4. Comments provided by the Consultant to RBUSD on the Design Build Contractors' design shall in no way relieve the Engineer of Record of the professional responsibility in their design build contracts.
5. Continued support with seeking alternative sources of funding limited to projects which satisfy Consent Order requirements at the existing water treatment plant.
6. RBUSD to provide supporting documentation for Consent Order reporting.
7. Review of GPs assume all proposals from each design builder will be received as a complete package for review.
8. A downhole condition assessment of the existing wells is not contemplated under Task 5.
9. Chemical feed system valves are not included in the valve exercise program identified in Task 6. It is further noted that the physical removal of accumulated scale is not being considered for implementation. Rather, with other planned process improvements that will enhance control of water chemistry, it is assumed that excess scale may be stabilized or gradually reduced over time.

10. The valve exercise program is focused on the treatment facility and does not include valves and hydrants in the transmission/distribution system.
11. The City shall furnish GIS files of all well locations, identifying information and raw water transmission main alignment.
12. The City's O&M staff shall dismantle the selected piping on a designated filter for inspection of piping interior.
13. Negotiation support and independent validation of guaranteed maximum price for each contract is not included herein.

Agreement

The proposed work will be implemented under the existing General Engineering Consultant Services Agreement, dated August 21st, 2018, between the City of Riviera Beach and Brown and Caldwell.

SUBMITTED FOR APPROVAL BY:	PREPARED BY:
Albert Perez, P.E., Vice President	Nigel Grace, P.E., Vice President
BROWN AND CALDWELL	BROWN AND CALDWELL