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July 12, 2023

Mr. Feng Jiang, P.E.  
Assistant Director - Engineering  
Support Services  
City of Hollywood  
Department of Public  
Utilities  
P.O. Box 229045  
Hollywood, FL 33022-9045

Subject: Engineering Services during Construction for 2023  
SRWWTP Maintenance Work – ESSD Project No. 9626

Dear Mr. Jiang:

As requested, Brown and Caldwell is pleased to prepare this work order for Engineering Services during Construction for 2023 SRWWTP Maintenance Work.

### **BACKGROUND**

The City of Hollywood (City) owns and operates the Southern Region Wastewater Treatment Plant (SRWWTP). This is a large facility that requires constant maintenance in order to operate at optimal performance. A contract has been selected to perform maintenance work at the SRWWTP. This maintenance work consists of three packages:

- Package 1 - Improvements in Dewatering Building
- Package 2 – Grit Piping and Pump Replacement
- Package 3 – Oxygenation Train Flow Distribution Box

It should be noted that the plans were originally prepared by Hazen and Sawyer and modified with notes by the City of Hollywood Department of Public Utilities ESSD and the specifications have been prepared by the City of Hollywood Department of Public Utilities ESSD. The City has requested that Brown and Caldwell (BC or Consultant) perform engineering services during construction for this effort.

## SCOPE OF SERVICES

The detailed Scope of Services is provided in Exhibit A. The detailed fee is provided in Exhibit B.

## COMPENSATION

As provided in Exhibit B, Brown and Caldwell will perform the aforementioned services for a total fee of \$371,853.

<b>Task</b>	<b>Description</b>	<b>Estimated Allowance</b>
1	Construction Administration & Limited Inspection Services	\$301,213
2	Start up and Closeout	\$63,640
	ODCs	\$7,000
	<b>TOTAL</b>	<b>\$371,853</b>

The terms of compensation shall be in conformance with our Professional Services Agreement for General Engineering Consultant Services dated October 25<sup>th</sup>, 2017 between the City of Hollywood and Brown and Caldwell.

## SCHEDULE

Brown and Caldwell's services will commence upon receipt of written authorization and will terminate after 395 days.

We appreciate the opportunity to serve the City. Please let us know if you require additional information. We look forward to continuing to work for the City of Hollywood.

Very truly yours,

**Brown and Caldwell**



Celia D. A. Earle, Ph.D., BCEEM  
Vice President

cc: Albert Perez, Brown and Caldwell  
Nigel Grace, Brown and Caldwell

**Exhibit A**  
**Scope of Services**  
**Engineering Services during Construction for**  
**2023 SRWWTP Maintenance Work**  
**ESSD Project No. 9626**  
**City of Hollywood**  
**Department of Public Utilities**

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## **Background**

The City of Hollywood (City) owns and operates the Southern Region Wastewater Treatment Plant (SRWWTP). The SRWWTP is permitted to treat an average annual daily flow of 55.5 million gallons per day (mgd) and currently disposes of treated effluent via three routes – two injection wells (IW-1 and IW-2) rated for 37.4 mgd, a reuse water distribution system rated for 4 mgd, and an ocean outfall rated for 46.3 mgd. This is a large facility that requires constant maintenance in order to operate at optimal performance. A contract has been selected to perform maintenance work at the SRWWTP. This maintenance work consists of three packages:

- Package 1 - Improvements in Dewatering Building
- Package 2 – Grit Piping and Pump Replacement
- Package 3 – Oxygenation Train Flow Distribution Box

It should be noted that the plans were originally prepared by Hazen and Sawyer and modified with notes by the City of Hollywood Department of Public Utilities ESSD and the specifications have been prepared by the City of Hollywood Department of Public Utilities ESSD. The City has requested that Brown and Caldwell (BC or Consultant) perform engineering services during construction for this effort.

## **Project Description**

The work to be performed includes tasks associated with engineering services during construction for the requisite maintenance packages. Major components of the maintenance improvements include the following:

Package 1 – Improvements in Dewatering Building (plans prepared in 1984)

1. Replace and install 7 complete sets of sludge feed pumps, including valves and piping for a complete package and provide an additional spare sludge feed pump and 8-inch plug valve.
2. Demolish, remove, and dispose of existing units and connecting pipe as needed to furnish fully functional new units as shown on plans.

3. Replace 9 Polymer blending units.

#### Package 2 – Grit Piping and Pump Replacement (plans prepared in 1985)

1. Conduct grit removal in Grit Chambers Nos. 1, 2, and 3.
2. Clean grit piping from classifiers to Grit Chambers Nos. 1, 2, and 3. If cleaning is unsuccessful, at the City's sole discretion, replace 6 complete sets of grit piping including, but not limited to reducers and other fittings, check valves and isolation valves per existing layout and size, as a complete pumping discharge system at grit Chambers Nos. 1, 2, and 3, and replace grit pump 6-inch suction piping and valves, per existing layout and size, and repair of wall pipe if needed.

#### Package 3 – Oxygenation Train Flow Distribution Box (plans prepared in 2002)

1. Overall - Conduct oxygenation train flow distribution box gate repair.
2. Install stop logs to isolate each flow distribution cell as needed.
3. Conduct pressure cleaning and sandblasting of OTFD Box No. 2 and No. 3.
4. Conduct gate box concrete repair, concrete coating and concrete surface defect repair in Box No. 2 and No. 3 as per technical specifications.
5. Furnish and replace gate for OTFD Box No. 2 and No. 3 including electrical operator.

### Scope of Services

The Scope of Services to be provided by Consultant includes the following tasks:

- Part 1 – Limited Inspection Services
- Part 2 – Project Startup and Closeout Services

#### Task 1 – Construction Administration and Limited Inspection Services

The City's inspector will perform the daily inspections. City inspector will produce daily inspection reports and take photographs to track and document construction activities and progress. City inspector will maintain project documentation and keep accurate records of the work as it progresses. The daily inspection reports are to be provided to Consultant on a weekly basis. The Consultant representative will perform once a week inspections (for up to 8 hours) to observe the construction progress. An Engineering team will provide submittal review, responses to RFIs, periodic discipline inspections, dispute resolution support, meeting support when required, and other areas of technical and contract administrative support. The following sub-tasks are included in Task 1 services.

- 1.1 **Project Communication, Risk and Safety Planning** – Pre-construction activities include the preparation of a Health and Safety Plan and Risk Register. Consultant will additionally prepare a Communication Plan that identifies key team members,

assigned areas of responsibility, communication protocols and document management requirements.

- 1.2 **Conduct Pre-construction Conference** - Consultant will prepare for, attend, and conduct a pre-construction conference for the Project and will prepare minutes for distribution to the meeting attendees. The pre-construction meeting shall review and discuss applicable procedures for contract administration, as well as other items deemed appropriate. Team members representing the cross section of disciplines and project leadership will participate in the pre-construction meeting with participation being a combination of in-person and virtual participation.
- 1.3 **Examination of Schedule of Values** - Consultant will review the Contractor's proposed schedule of values (SOV) and will provide comments and corrections to the Contractor as deemed necessary to facilitate the development of a balanced SOV to produce accurate monthly payment requests.
- 1.4 **Review and Approve Payment Requests** – Consultant shall review each monthly payment request and shall, with each pay request, recommend amounts due to the Contractor in accordance with the Contract Documents.
- 1.5 **Examination of Construction Schedule and Updates** – Consultant shall review and document progress relative to the Contractor's initial baseline schedule and updates to evaluate the performance of the work.
- 1.6 **Conduct Periodic Progress Meetings** – Consultant will prepare for, attend, conduct and produce minutes of periodic project progress meetings and other ad-hoc meetings called for as necessary to facilitate project coordination. Periodic progress meetings are assumed to occur monthly over the duration of the construction.
- 1.7 **Review Submittals and Shop Drawings** – Consultant will review submittals and shop drawings submitted by the Contractor, maintain a submittal log, and transmit copies of reviewed shop drawings to the City staff and the Contractor. All technical disciplines will be involved with the review of submittals.
- 1.8 **Operations and Maintenance Manuals** – Consultant shall review the Operations and Maintenance (O&M) manuals submitted by the Contractor.
- 1.9 **Contractual/Technical Clarifications** – Consultant will work with the City to provide contractual and technical support during project construction and provide interpretation and clarifications of the Contract Documents to resolve design-related technical issues or conflicts, which may arise. Technical advisory input required to review, troubleshoot and assess corrective measures to address challenges that arise during construction is included in this task.
- 1.10 **Change Management** – Consultant shall review and evaluate proposals and requests for Change Orders from the Contractor. Consultant will issue written documentation

and recommendations for consideration and action in accordance with the Contract Documents. Consultant shall lead negotiation and prepare documents required for change order approval by the City (less than \$10,000 change order will be approved by Department of Public Utilities Director”, change order amount between \$10,000 and \$50,000 will be approved by City Manager, and change order higher than \$50,000 will be approved by City Commission).

- 1.11 **Field Observation** - Consultant will perform observations of the work once per week.
- 1.12 **Other Site Visits** – Consultant shall perform other necessary site inspections and reviews of the Contractor’s work by a discipline design engineer, engineering manager and other experts as required to evaluate level of compliance with the Contract Documents. City staff will serve as the process engineer.
- 1.13 **Project Documentation and Record Keeping** – When the City inspector provides this information to the Consultant, Consultant shall maintain detailed records of the progress of the work, any problems encountered by the Contractor and its subcontractors, weather conditions, daily activities, site visitors, decisions, observations in general, specific observations, manpower on the Project, and such other items as may be relevant to the progress and quality of the construction.
- 1.14 **Coordination of Construction Activities with Plant Operations** – Consultant will facilitate review and coordination of planned activities with City personnel. Key areas of coordination shall include activities that require shutdown or interruption of plant operations (e.g. tie ins, power disconnects, major work in vicinity of critical infrastructure). For each major activity that has the potential to impact plant operations, Consultant will facilitate a review meeting with the City and Contractor to discuss coordination requirement. Consultant’s role in facilitating coordination shall not relieve Contractor of any responsibilities.

## **Task 2 – Project Startup and Closeout Services**

Task 2 includes sub-tasks associated with startup, substantial and final completion, record drawings, and closeout of the construction contract.

**2.1 Startup** – Consultant shall witness startup for the major components (electrical, controls, mechanical, etc.) of the work. Activities shall include loop checks, inspections, review test plans/reports, certificates of installation and other activities required to confirm operation readiness of system components. Technical discipline leads (or designees) will be actively involved in this task. City staff will serve as the process engineer.

**2.2 Substantial and Final Completion Inspections** - Consultant will perform site inspections at substantial completion and final completion milestones. Each inspection will be performed with the City representatives with the objective of developing a punch list for deficient work. Contractor’s progress in addressing the punch list shall be

monitored by Consultant and re-inspections will be conducted. Discipline leads (or designees) shall participate in initial and final punch list inspections. City staff will serve as the process engineer.

**2.4 Record Drawings Review** – Consultant will review As-builts provided by the Contractor and approve the record drawings received from the Contractor. Consultant will sign and seal accepted drawings and submit all necessary copies to State and local Agencies and two full size, 22-inch by 34-inch, hard copy sets to the City (including an electronic file in pdf format).

**2.5 Project Certification and Closeout** - Consultant will prepare and submit the required Certificate of Completion (substantial and final) and prepare and submit closeout documentation including warranties, guarantees, releases of liens, and other applicable documents required by the specifications and applicable permits. Consultant shall issue a recommendation for final payment upon reviewing and determining that all contract requirements have been satisfied.

## **ASSUMPTIONS AND LIMITATIONS**

1. This construction phase assumes a 13-month schedule – 365 days to substantial completion and 30 days to final completion.
2. City inspector will perform observations of the work, produce daily inspection reports and take photographs to track and document construction activities and progress. These written and photographic logs will be submitted to the Consultant on a week.
3. Consultant to perform field observation once per week for up to 8 hours each occurrence.

**Exhibit B**  
**Compensation**  
**Engineering Services during Construction for**  
**2023 SRWWTP Maintenance Work**  
**ESSD Project No. 9626**  
**City of Hollywood**  
**Department of Public Utilities**

Total compensation to Consultant for the Scope of Services described in Exhibit A will be the lump sum amount of \$371,853.00

A breakdown of Consultant's estimated fee to perform the work described in Exhibit A is presented in Exhibits B-1 through B-3 on the following pages.



**EXHIBIT B-1**

**EXHIBIT B-1**

**Summary of Engineering Fees - City of Hollywood - Engineering Services during Construction for 2023 SRWWTP Maintenance Work**

<b>Description</b>	<b>Amount</b>
Direct Labor Costs	\$ 364,853
Other Direct Costs	\$ 7,000
<b>Total Fee</b>	<b>\$ 371,853</b>

**EXHIBIT B-2  
LABOR COST ESTIMATE  
CITY OF HOLLYWOOD  
Engineering Services during Construction for 2023 SRWWTP Maintenance Work**

	<b>CSM/PDO</b> Vice President	<b>PM/Sr. Eng</b> PM	<b>Support</b> Engineer III	<b>I&amp;C</b>	<b>Electrical</b>	<b>Structural/Sr. Civil</b>	<b>Office Support</b> Project Analyst	<b>Labor Hours</b>	<b>Labor Cost</b>
<b>Billing Labor Rate</b>	<b>\$292.10</b>	<b>\$225.39</b>	<b>\$156.05</b>	<b>\$209.52</b>	<b>\$225.39</b>	<b>\$209.52</b>	<b>\$113.70</b>		
<b>TASKS</b>									
<b>TASK NO. 1 - CONSTRUCTION ADMINISTRATION AND LIMITED INSPECTION SERVICES</b>									
1.1 Project Communication, Risk and Safety Planning	2	2	8				4		
1.2 Conduct Pre Construction Conference	2	4	4						
1.3 Examination of Schedule of Values		2	4						
1.4 Review and Approve Payment Requests	6	40	40						
1.5 Examination of Construction Schedule and Updates		4	8						
1.6 Conduct Periodic Progress Meetings	6	26	52	4	4	4	16		
1.7 Review Submittals and Shop Drawings		80	200	36	36	36	12		
1.8 Operations and Maintenance Manuals		20	80	24	24				
1.9 Technical / Contract Clarifications (includes RFIs and problem resolution)	10	20	100	40	40	40	12		
1.10 Change Management	10	24		16	16	16	12		
1.11 Field Observations (8 hours per week)		40	300						
1.12 Other Site Visits				16	16	16			
1.13 Project Documentation and Record Keeping		24	48						
1.14 Coordination of Construction Activities and Plant Operations		8	24						
Hour Subtotal	36	294	868	136	136	112	56	<b>1,638</b>	
<b>Labor Cost Subtotal</b>	<b>\$10,516</b>	<b>\$66,265</b>	<b>\$135,451</b>	<b>\$28,495</b>	<b>\$30,653</b>	<b>\$23,466</b>	<b>\$6,367</b>		<b>\$301,213</b>
<b>TASK NO. 2 - START UP AND CLOSEOUT</b>									
2.1 Startup				24	24				
2.2 Substantial and Final Completion Inspection	8	24	24				12		
2.3 Record Drawings Review		24	48	16	16	16	8		
2.4 Project Certification and Closeout	4	20	20	8	8	8	20		
Hour Subtotal	12	68	92	48	48	24	40	<b>332</b>	
<b>Labor Cost Subtotal</b>	<b>\$3,505</b>	<b>\$15,327</b>	<b>\$14,357</b>	<b>\$10,057</b>	<b>\$10,819</b>	<b>\$5,028</b>	<b>\$4,548</b>		<b>\$63,640</b>
<b>TOTALS</b>									
<b>Total Labor Hours</b>	<b>48</b>	<b>362</b>	<b>960</b>	<b>184</b>	<b>184</b>	<b>136</b>	<b>96</b>	<b>1970</b>	
<b>Total Labor Cost</b>	<b>\$14,021</b>	<b>\$81,591</b>	<b>\$149,808</b>	<b>\$38,552</b>	<b>\$41,472</b>	<b>\$28,495</b>	<b>\$10,915</b>	<b>\$364,853</b>	<b>\$364,853</b>
<b>TOTAL</b>									<b>\$364,853</b>

**EXHIBIT B-3**

**OTHER DIRECT COSTS SUMMARY**

**Engineering Services During Construction for 2023 SRWWTP Maintenance Work  
CONSTRUCTION PHASE**

	UNIT	NO. OF UNITS	UNIT COST	TOTAL COST
1.0	COPYING AND PRINTING/TRAVEL			\$7,000
<b>SUBTOTAL OTHER DIRECT COSTS</b>				
<b>TOTAL ODCS</b>				<b>\$7,000</b>