

AMENDMENT NUMBER 1

CONTRACT NUMBER 30005983

FOR

**Columbia Boulevard Wastewater Treatment Plant (CBWTP)
Waste Gas Burner Replacement**

Pursuant to Ordinance Number

This Contract was made and entered by and between Brown and Caldwell, Inc., hereinafter called Consultant, and the City of Portland, a municipal corporation of the State of Oregon, by and through its duly authorized representatives, hereinafter called City.

1. This Contract is hereby extended through March 20, 2020.
2. Additional compensation is necessary and shall not exceed \$338,935. The new total not-to-exceed contract amount is \$632,874. The new contract amount was calculated as follows:

\$293,939 (Original Contract Amount)
+ \$338,935 (Amendment 1)
= \$632,874 (Total Not to Exceed Amount)

3. Additional work is necessary as described in the Scope of Work as follows:

OVERVIEW OF REVISED PROJECT SCOPE

The purpose of Amendment 1 is to modify the scope of services to:

1. Locate new candlestick Waste Gas Burners (WGBs) at a new location on the CBWTP site
2. Provide a pipe bridge and supports to extend gas piping to the revised WGB location
3. Extend utilities to the new WGB location,
4. Accommodate higher peak gas flows that will result from the addition of Fats, Oils, and Grease (FOG), and food waste to the digestion process.
5. Model the pressure loss in the existing system for compatibility with a proposed candlestick flare system and consider future improvements to the Digesters 5 through 10 complex to increase capacity of the system.
6. Include tasks that may be required of the Consultant for successful project delivery and integration of the installed improvements with other ongoing projects on the CBWTP site that were not planned at the time the original contract scope was negotiated. Consultant shall not proceed with optional tasks until a written (email) notice to proceed has been issued by the City's Project Manager.

The level of effort and Task not-to-exceed amounts for Tasks 100 – 400 are amended to reflect the additional scope of work, resulting change in size and complexity of deliverables, subconsultant coordination, project management, and other services required to accommodate the change to the project scope.

AMENDMENTS TO THE STATEMENT OF THE WORK AND PAYMENT SCHEDULE

Task 100 Preliminary Design Phase

Delete the following Subtask:

- Subtask 100.013 Gas Production: Verify current and future gas production volumes using current and future digester loading rates to verify waste gas burner (WGB) sizing requirements. Future gas production volumes shall be based on forecasted population growth projected loading to the digesters as detailed in the 2016 CBWTP Facilities Plan and should not consider the addition of Fats, Oils, and Grease (FOG) or food waste into the digester feed.

And **replace** in its entirety with the following:

- Subtask 100.013 Gas Production: Verify current and future gas production volumes using current and future digester loading rates to size the WGBs. Gas production design values including gas from FOG and food waste will be provided by BES for designing a WGB system with increased capacity.

Add new Optional Subtask:

- Subtask 100.018 Optional Preliminary Design Services:
 - This is an allowance for supporting additional design efforts potentially including the following:
 - Process automation, programming, and mapping: Modifications to the overall gas system programming and controls may be desired and requested as part of implementing improvements to the WGBs.
 - Seismic risk analysis: Investigation of seismic-related risks to the gas system and WGBs.
 - Plant system-wide gas utilization plan and programming: Development of a control strategy that considers the multiple potential digester gas uses. The capacity of the RNG, cogeneration system, offsite use, and digester heating needs will all use digester gas and at times have capacity greater than the amount of gas produced.
 - Gas tunnel piping relocation planning: Planning and cost estimating associated with the digester gas in the tunnels may be requested. The gas piping in the tunnels is undersized and causes safety concerns. An ongoing inspection project may find the piping to be at the end of its useful life.
 - Flame height assessment and mitigation considerations.

Task 200 Design

Add new Optional Subtask:

- Subtask 200.080 Optional Design Services: Optional fee requires BES PM written notice to proceed.
 - This is an allowance for supporting additional design efforts potentially including the following:
 - Architectural screening, or WGB equipment modifications: Approximately eight structural drawings and associated specifications may be needed to design a structure to shield the WGB flames. Shielding the flames may be necessary to avoid a visual disruption to neighboring properties.
 - Additional gas system instrumentation: The new location of the WGBs may result in City preferences for additional instrumentation in the gas system. To achieve this, additional drawings would be required.
 - Additional coordination with the existing electrical and instrumentation system: Projects in the vicinity of this project are currently in design and may cause a change of conditions that results in additional design work.
 - Additional waste gas burner design near the existing waste gas burners: The condition of the existing gas piping in the tunnels is unknown and being evaluated. The older digesters (1 through 4) could have a separate gas system with a dedicated WGB.

Task 400 Construction

Add new Optional Subtask:

- Subtask 400.017 Optional Construction Services:
 - This is an allowance for supporting additional design efforts potentially including the following:
 - Preparation of record drawings: Drafting record drawings for the new WGB project. Currently BES is responsible for preparing record drawings after construction of the new WGBs.
 - WGB draft and final operations and maintenance (O&M) manual: Modifications to the facilities O&M manual to incorporate changes to the digester gas system.
 - Process training and support: Startup services are often insufficient for plant staff to develop the competency to operate the new facilities. This task would provide additional training and support for a period of time after construction.

Assumptions

Preliminary and Design Assumptions

Delete the following:

- The design effort assumes that locating the replacement WGB in the general area illustrated in the selected Brown and Caldwell proposal, adjacent to the existing WGB, is feasible.

And **replace** in its entirety with the following:

- The replacement WGB will be located near Digester 9, and improvements to the existing WGB are not part of this project.

Delete the following:

- The scope of this project does not include increasing the size of the gas system piping. Review of data and estimating peak gas production may find that the existing gas piping is undersized to convey current or future gas production peaks to the replacement flares. The scope of this project does not address undersized piping or address any system capacity issues.

And **replace** in its entirety with the following:

- Gas production design values will be provided by BES for designing a WGB system with increased capacity. The existing gas piping on Digesters 9 and 10 are sufficiently sized.

Delete the following:

- The scope of the project is for additional instrumentation to the gas piping in the tunnel to improve operations and control, not to address other issues with the piping or tunnels.

And **replace** in its entirety with the following:

- Modification or addition of instruments to gas piping in the tunnels is not part of this project. Instrumentation will be considered within the system that is outside of the tunnels.

Add the following:

- The Technical Memorandum (TM) will consider an additional alternative near Digester 9.

Advertisement Assumptions

Delete the following:

- A single addendum related to the scope of work is expected. Addenda related to additional scope or new design preferences may not be covered by the assumed hours for this task.

And **replace** in its entirety with the following:

- Two addenda related to the scope of services is expected.

Construction Assumptions

Delete the following:

- The additional level of effort for services during construction tasks is based on the following estimations:
 - Attend up to four in-person site visit meetings at 4 hours per meeting (16 hours).
 - Participate in up to 12 telephone meetings of 30 minute each.
 - Review 24 submittals at an average of 4 hours per submittal, with 50 percent of the submittals requiring a resubmittal at an average of two hours per resubmittal. (120 hours)
 - A maximum of 1 equipment substitution request requiring 6 hours to review.
 - Responses to 21 requests for information, at an average of 5 hours each, has been assumed to establish the budget for this task. (105 hours).
 - A maximum of five Design Changes requiring an average of 6 hours of effort each. (30 hours).
 - An allowance of 32 hours to provide assistance evaluating Change Orders.
 - A maximum of 20 hours is assumed for Facility Startup and Operations Support.

And **replace** in its entirety with the following:

- The additional level of effort for services during construction tasks is based on the following estimations:
 - Attend up to nine in-person site visit meetings at 4 hours per meeting. (36 hours)
 - Participate in up to 12 telephone meetings of 30 minutes each.
 - Review 32 submittals at an average of 4 hours per submittal, with 15 of the submittals requiring a resubmittal at an average of 2 hours per resubmittal. (158 hours)
 - Responses to 25 requests for information, at an average of 5 hours each, has been assumed to establish the budget for this task. (125 hours).
 - A maximum of 10 Design Changes requiring an average of 4 hours of effort each. (40 hours)
 - An allowance of 43 hours to provide assistance evaluating Change Orders.
 - A maximum of 51 hours is assumed for Facility Startup and Operations Support.

SUBCONSULTANTS

4. The allocation to SUBCONSULTANTS is revised as shown in the table below:

NAME	D/M/W/ESB CERTIFICATION TYPE	ROLE ON PROJECT	ORIGINAL SUBCONTRACT AMOUNT	AMENDMENT 1 SUBCONTRACT AMOUNT	REVISED SUBCONTRACT AMOUNT
Elcon Associates, Inc.	MBE	Electrical	\$68,500	\$64,513	\$133,013
Rivero Design, LLC.	D/M/W/ESB	CAD	\$23,500	\$41,500	\$65,000
TOTAL SUBCONTRACT AMOUNT			\$92,000	\$106,013	\$198,013

The revised subconsultant amounts shown above include \$198,013 for subcontracting to D/M/W/ESB certified firms, representing D/M/W/ESB participation of 31.28%

COMPENSATION

5. The Task breakdown in the COMPENSATION section is revised as shown in the table below:

Task No.	Description	Original Task Amount Not-to-Exceed		Amendment 1 Task Amount Not-to-Exceed		Revised Task Amount Not-to-Exceed	
		Optional Tasks	Core Project	Optional Tasks	Core Project	Optional Tasks	Core Project
100	Preliminary Design Phase	\$4,496	\$37,063	\$35,500	\$57,270	\$39,996	\$94,333
200	Design Phase	\$11,812	\$176,113	\$82,500	\$96,559	\$94,312	\$272,672
300	Advertisement	\$2,469	\$2,568	\$0	\$802	\$2,469	\$3,370
400	Construction	\$0	\$59,418	\$38,500	\$27,804	\$38,500	\$87,222
	Total Task Not-To-Exceed Amount:	\$18,777	\$275,162	\$156,500	\$182,435	\$175,277	\$457,597
Total Core Project and Optional Tasks Amount:		\$293,939		\$338,935		\$632,874	

Attachment A – Payment Schedule of the Contract is replaced with the attached Attachment A to this amendment.

6. The following Hourly Rates are hereby added to the Contract and shall not exceed those set forth below:

LABOR CLASSIFICATION	MAXIMUM BILLING RATE (\$/HR)
<i>Brown and Caldwell</i>	
Project Analyst II	\$95.91
Vice President	\$250.00
Managing Engineer	\$243.57
Engineer III	\$124.22
Supervising Engineer	\$207.27
Principal Engineer	\$209.28
Principal Designer	\$126.67
Designer	\$104.41

7. The following limitations to the Adjustment of Labor Rates Due to Inflation is deleted from the contract:

- Rate increases may not exceed the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) inflation rate for the preceding calendar year for the Portland Metropolitan Area (as determined from the US Department of Labor statistics);

And replaced with the following:

- Rate increases may not exceed the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) inflation rate for the preceding calendar year for the West Region Class Size A (as determined from the US Department of Labor statistics);

All other terms and conditions shall remain unchanged and in full force and effect.

CONSULTANT SIGNATURE

This Contract amendment may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same Contract amendment.

The parties agree the City and Consultant may conduct this transaction by electronic means, including the use of electronic signatures.

BROWN AND CALDWELL, INC.

Signature:  _____ Date: January 17, 2019

Name: Martha S. Knowlton

Title: Vice President

Contract Number: 30005983

Amendment Number: 1

**Contract Title: Columbia Boulevard Wastewater Treatment Plant (CBWTP)
Waste Gas Burner Replacement**

CITY OF PORTLAND SIGNATURES

By: _____
Elected Official

Date: _____

Approved:

By: _____
Office of City Auditor

Date: _____

Approved as to Form:

By: _____
Office of City Attorney

Date: _____

