

TASK ORDER No. 10 - DESIGN SERVICES  
RICHARD A. HEYMAN ENVIRONMENTAL PROTECTION FACILITY  
DEWATERING SYSTEM UPGRADE  
CITY OF KEY WEST

**BACKGROUND**

The City of Key West (CITY) has decided to replace their existing belt filter press (BFP) dewatering system at the Richard A. Heyman Environmental Protection Facility (RAHEPF). In addition to replacing existing equipment that has reached its useful life, the City would like to improve the dewatering performance to reduce the weight and volume of dewatered cake being transported from the facility for disposal or other type of solids management.

The CITY has previously requested for Black and Veatch (CONSULTANT) to provide engineering services required to evaluate dewatering system upgrades at the RAHEPF. The CITY has requested for CONSULTANT to provide detailed design and bidding services based on the recommendations of the "Richard A. Heyman Environmental Protection Facility Dewatering Evaluation Technical Memorandum" dated June 4<sup>th</sup>, 2021.

**INTRODUCTION**

Black & Veatch (CONSULTANT) has been requested by the CITY to provide detailed design and bidding services for a new BFP system at the RAHEPF. The scope of services includes the following phases:

- Detailed design of new BFP system to serve as a replacement to the existing BFP
- Bidding support services

During the detailed design phase, CONSULTANT will develop construction documents for bidding of new BFP system including structural, electrical, and instrumentation and controls modifications to accommodate the new system.

**SCOPE OF SERVICES**

**TASK SERIES 100 – DESIGN SERVICES**

**Task 101 – Project Coordination**

Project coordination will encompass efforts required for project set-up, resource management, scheduling, invoicing, trend management, and other requirements needed to effectively and efficiently complete the tasks described in this scope of services. Also, this task includes administration and management of project:

- Prepare project management documents including budget, drafting standards, and quality assurance and quality control.
- Monitor schedule and budget.

- Review progress with CITY on a regular basis.
- Discuss issues with the CITY as they are noted.

**Task 102 - Detailed Design - Construction Documents Level 2**

A. Level 2 progress activities are as follows:

- (1) Basis of Design Memorandum including engineering design parameters
- (2) Layouts of major equipment
- (3) Power distribution functional diagram
- (4) Site plan
- (5) Sections and details showing major equipment
- (6) Power plans
- (7) Electrical fixture schedules
- (8) Specifications list
- (9) Internal quality control review and refinement before delivery to the CITY
- (10) Quality assurance and quality control plan and log update
- (11) Opinion of probable construction cost
- (12) Project schedule update
- (13) Project trend register update (if applicable)

B. CONSULTANT will provide two (2) hard copies (11"x17") and one (1) electronic file (PDF) of the Level 2 documents including the Basis of Design Memorandum to the CITY for review.

C. CONSULTANT will conduct a project review workshop with the CITY to review the Level 2 documents. Based on discussions during the workshop, CONSULTANT will refine the documents, and incorporate the applicable comments into the next submittal (Level 3).

***Task Series 102 Deliverables***

The following deliverables are included in Task Series 102:

- Basis of Design Memorandum (including preliminary drawings, specification list, and opinion of probable construction cost).
- BODM workshop meeting minutes.

### **Task 103 - Detailed Design - Construction Documents Level 3 and Level 4**

- A. Level 3/Level 4 design shall commence only after the CITY has accepted the Level 2 deliverables. Level 3/Level 4 progress activities are as follows:
- (1) Detailed Design CAD drawings
  - (2) Draft Technical specifications and construction contract documents
  - (3) Updated opinion of probable construction cost
  - (4) Internal quality control review and refinement before delivery to the CITY
  - (5) Quality assurance and quality control plan and log update.
  - (6) Project schedule update
  - (7) Project trend register update.
- B. CONSULTANT will provide two (2) hard copy sets (11"x17") and one (1) electronic copy (PDF) of the Level 3/Level 4 documents to the CITY for review.
- C. CONSULTANT will conduct a project review workshop with the CITY to review the Level 3/Level 4 documents. Based on discussions during the workshop, CONSULTANT will refine the documents, if necessary.
- D. CONSULTANT will revise the reviewed documents to prepare the Level 4 submittal for advertising as necessary to reflect any decisions taken at the workshop. CONSULTANT will provide the CITY with three (3) signed/sealed hard copy sets and one (1) electronic copy.

### **TASK SERIES 200 – BID AND PRE-AWARD SERVICES**

#### **Task 201 – Bid Services**

- A. The Bid Services Task will include the following activities.
- (1) Pre-Bid Conference. Conduct, at a date and time selected and a location provided by the CITY, a pre-bid conference to:
    - a. Confirm the types of information required by the contract documents and the format in which bids should be presented.
    - b. Review special project requirements and contract documents in general.
    - c. Receive requests for interpretations that will be issued to plan holders.
    - d. Prepare minutes of conference and issue to plan holders.
  - (2) Interpretation of bidding documents. Interpret bidding documents. Prepare and provide the necessary information for CITY to issue addenda to the construction contract documents when required.

- (3) Bid Opening. Assist CITY during bid opening. Answer questions presented, prepare a preliminary tabulation of bids, and review questionnaires and bids for completeness.

**Task 202 – As Bid Documents Preparation**

The following services are included under this Task.

- A. As Bid Construction Contract Documents. Refine construction contract documents according to addenda.
- B. Distribute three (3) sets of the construction contract documents to the successful bidder.
- C. Prepare and distribute three (3) sets of conforming copies of the construction contract documents.

**ASSUMPTIONS**

- 1. It is assumed that the new BFP system will be housed in the same location as the existing BFPs. No provisions for the design of a dewatering building or modifications to the existing building have been included in this scope of work.
- 2. Construction phase services are not included under this scope of work but can be provided as additional services if desired by the CITY.

**BUDGET**

Tasks 100 thru 200 as described in this scope of work document would have the following lump sum fees:

TASK SERIES	LUMP SUM FEES
Task 100 – Design Services	\$239,923
Task 200 – Bid and Pre-Award Services	\$19,826
Direct Costs	\$1,508
<b>LUMP SUM TOTAL</b>	<b>\$261,257</b>

**CITY OF KEY WEST**

**BLACK & VEATCH CORPORATION**

By: \_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

By: Rafael E. Frias III, P.E

(Print Name)

(Print Name)

Title: \_\_\_\_\_

Title: Associate Vice President

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Task Order No. 10 - Design Services  
Richard A. Heyman Environmental Protection Facility  
Dewatering System Replacement

Work Breakdown Structure		Project Director	Senior Project Manager	Engineering Manager	Sr. Technical Specialist - WW Process	Sr Engineer - Structural	Sr. Engineer - Proc Mechanical	Sr. Engineer - Chem Feed	Project Engineer - Electrical	Sr. Engineering Technician - Electrical	Sr. Engineer - I&C	Engineering Technician - I&C	Engineering Technician	Senior Engineer - Cost Estimating	Staff Engineer II - Civil	Project Accountant	Administrative Assistant	Total Hours	Labor Cost
Task Series 100 - Design Services		4	50	88	48	274	113	8	116	64	170	24	234	72	104	40	8	1417	\$239,923
Percent of Total - Task 100		0%	4%	6%	3%	19%	8%	1%	8%	5%	12%	2%	17%	5%	7%	3%	1%	92%	
101	Project Coordination	4	34	40	24		30	8							24	40		204	\$39,442
102	Detailed Design - Construction Documents Level 2		8	24	16	178	48		44	24	92	12	102	38	40		4	630	\$106,558
103	Detailed Design - Construction Documents Level 3 and Level 4		8	24	8	96	35		72	40	78	12	132	34	40		4	583	\$93,923
Task Series 200 - Bid and Pre-Award Services		0	4	20	8	6	4	0	12	2	16	4	28	0	12	0	4	120	\$19,826
Percent of Total - Task 200		0%	0%	1%	1%	0%	0%	0%	1%	0%	1%	0%	2%	0%	1%	0%	0%	8%	
201	Bid Services		2	16	4	4	4		8		12		8		8			66	\$11,736
202	As-Bid Documents		2	4	4	2			4	2	4	4	20		4		4	54	\$8,090
		0%	3%	7%	4%	18%	8%	1%	8%	4%	12%	2%	17%	5%	8%	3%	1%	100%	
	Total Hours Estimated	4	50	108	56	280	117	8	128	66	186	28	262	72	116	40	12	1537	
	Total Salary (Labor B&V)	\$1,180	\$12,000	\$21,276	\$15,400	\$51,800	\$21,645	\$1,480	\$21,120	\$9,900	\$34,410	\$3,220	\$30,130	\$13,320	\$15,428	\$5,400	\$1,080		\$258,789
Direct Costs																			\$1,508
	Mileage		\$290	\$268					\$290										\$848
	Communications and Shipping																\$300		\$300
	Printing and Reproduction Services																\$300		\$300
	Travel Costs		\$30	\$30															\$60
	TOTAL FEE																		\$261,257

NEGOTIATED RATES USED TO DEVELOP THIS FEE

\$295.00      \$240.00      \$197.00      \$275.00      \$185.00      \$185.00      \$185.00      \$165.00      \$150.00      \$185.00      \$115.00      \$115.00      \$185.00      \$133.00      \$135.00      \$90.00