

Agenda Item: SB-1

PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS  
AGENDA ITEM SUMMARY

RW/GW 6-0  
MB abs  
R-2020-1514

Meeting Date: October 6, 2020

Consent  Regular  
 Workshop  Public Hearing

Submitted By: Department of Airports

I. EXECUTIVE BRIEF

**Motion and Title: Staff recommends motion to approve:** Amendment No. 4 to the General Consulting Agreement with AECOM Technical Services, Inc. (AECOM) for Consulting/ Professional Services in the amount of \$1,789,325 for the continued performance of professional planning and design services related to the approved Palm Beach County Airports Capital Improvement Program.

**Summary:** The Consulting Agreement with AECOM for general airport planning and design was approved by the Board on March 12, 2019 (R-2019-0301) in the amount of \$828,984.74 in order to carry out the approved Capital Improvement Programs for the County's Airports. Amendment No. 1 was approved by the Board on August 20, 2019 (R-2019-1160) increasing the amount of the contract by \$1,032,651.29. Amendment No. 2 was approved by the Board on February 4, 2020 (R-2020-0079) increasing the amount of the contract by \$1,753,356.78. Amendment No. 3 was approved by the Board on June 16, 2020 (R-2020-0639) increasing the amount of the contract by \$885,789.10. Approval of Amendment No. 4 will modify Article 21, Access and Audits, of the agreement and provide an additional \$1,789,325.00 to complete the following tasks: Task I Services – Palm Beach International Airport (PBI) Airfield Marking Assessment, Development of Maintenance Plan and Training; PBI Miscellaneous Financial Planning Services; PBI Terminal Roof Improvements; PBI Stormwater Master Plan Update; PBI Airport Plans Review and Revision Services; PBI Common Use Gate Re-Striping; PBI Terminal Temperature and Humidity Issues Construction Administration (CA) Services; PBI Building 846 Uninterruptible Power Supply (UPS) Replacement CA Services and Arc Flash Update; PBI Fire Pump CA Services and Arc Flash Studies; PBI Chillers 4 and 5 Replacement; and Task III Services - Miscellaneous Planning and Engineering Services. Work to be completed under these Task III Services will be issued in accordance with PPM CW-F-050, by way of a separate proposal or task authorization. AECOM is a Los Angeles, California based firm; however, the majority of the work to be completed in this agreement will be completed and/or managed through their West Palm Beach and Tampa, Florida offices in conjunction with several Palm Beach County-based sub-consultants and firms. A Disadvantaged Business Enterprise (DBE) goal of 18% was set for this contract. AECOM committed to 18% in its proposal. The anticipated DBE participation based upon the approved tasks is approximately 37%. The current paid to date DBE participation is approximately 17%. The DBE participation for this Amendment is approximately 33%. Pursuant to changes to Chapter 332, Florida Statutes, effective October 1, 2020, a governing body of a commercial service airport may not approve purchases of contractual services in excess of the Category Five threshold amount of \$325,000 provided in Section 287.017, Florida Statutes, on a consent agenda. This amendment exceeds the threshold amount and must be approved on the regular agenda. Countywide (AH)

**Background and Policy Issues:** In order to carry out the approved Capital Improvement Program for the County, the Department of Airports requires professional planning and design engineering services. This agreement is for 2 years with 2 one (1) year renewal options. This amendment allows for the continuation of services necessary for the development and operation of the County's airport system.

**Attachments:**

- 1. Amendment No. 4 with AECOM Technical Services, Inc. – 3 Originals
- 2. DBE Goal Information

Recommended By: msd Laura Beebe 9-23-20  
Department Director Date  
Approved By: ll Baker 9/24/2020  
County Administrator Date

**II. FISCAL IMPACT ANALYSIS**

**A. Five Year Summary of Fiscal Impact:**

Fiscal Years	2021	2022	2023	2024	2025
Capital Expenditures	\$1,789,325				
Operating Costs					
External Revenues (Grants)					
Program Income (County)					
In-Kind Match (County)					
<b>NET FISCAL IMPACT</b>	<b>\$ 1,789,325</b>				
 # ADDITIONAL FTE POSITIONS (Cumulative)					

Is Item Included in Current Budget? Yes X No \_\_\_\_\_  
 Does this item include the use of federal funds? Yes \_\_\_\_\_ No X

Budget Account No: Fund 4111 Department 121 Unit A107 Object 6505  
 A389 6504  
 A410 6504 *JP*

Reporting Category \_\_\_\_\_

**B. Recommended Sources of Funds/Summary of Fiscal Impact:**

Funds are available in the referenced accounts which include grant and local funding. A determination of the portion of the grant and local funding will be done at a later time.

C. Departmental Fiscal Review: *William R. Johnson*

**III. REVIEW COMMENTS**

**A. OFMB Fiscal and/or Contract Development and Control Comments:**

*Jared* 9/14/2020  
 OFMB *(Ch)* 9/11

*Ann S. Landrum* 9/17/2020  
 Contract Dev. and Control  
 9-16-20TW

**B. Legal Sufficiency:**

*Anne Redmont* 9/24/2020  
 Assistant County Attorney

**C. Other Department Review:**

\_\_\_\_\_  
 Department Director

REVISED 11/17

(THIS SUMMARY IS NOT TO BE USED AS A BASIS FOR PAYMENT)



AECOM Technical Services, Inc. 213.593.8100 tel  
300 South Grand Avenue 213.593.8730 fax  
9<sup>th</sup> Floor  
Los Angeles, CA 90071  
www.aecom.com

**SECRETARY'S CERTIFICATE**

**AECOM TECHNICAL SERVICES, INC.  
a California corporation**

I, Charles F. Szurgot, DO HEREBY CERTIFY that I am the duly elected and acting Secretary of AECOM Technical Services, Inc., a corporation organized under the laws of the State of California ("ATS" or "Corporation"), and the keeper of its records and corporate seal.

I FURTHER CERTIFY that ATS's full legal address is c/o CT Corporation System, 818 West 7<sup>th</sup> Street, Los Angeles, CA 90017-0000 and that the Corporation's principal place of business is 300 South Grand Avenue, 9<sup>th</sup> Floor, Los Angeles, California 90071.

I FURTHER CERTIFY that pursuant to the Written Consent of the Board of Directors of ATS, adopted on October 8, 2018, and attached hereto as Exhibit A, Andrew Kacer has signatory authority for ATS and is authorized to execute contracts and other documents on behalf of the Corporation.

IN WITNESS WHEREOF, I have subscribed my name and affixed the seal of the Corporation, this 18<sup>th</sup> day of January, 2019.

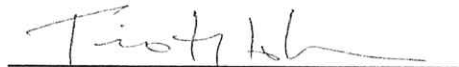
Charles F. Szurgot  
Secretary



IN TESTIMONY WHEREOF, all the Directors have hereunto set their hands this 8<sup>th</sup> day of October, 2018.

  
David Gan

  
Jeffrey P. Rosenstein

  
Timothy Keener

Attachment No. 2

<b>Airport General Consulting Professional Services - 2018</b>					
RFP #: DOA-18-1 - Misc. Projects					
Date: November 29, 2017					
Marketplace: BC, PBC, MDC					
DBE Project Goal: 18% - adjusted for past participation					
<b>NAICS Description</b>	<b>NAICS Code</b>	<b>Estimated Percentage of</b>	<b>Available DBE</b>	<b>Total Available</b>	<b>Weighted Percentage</b>
Engineering Services	541330	30.00%	149	1286	3.48%
Architectural Services	541310	30.00%	40	667	1.80%
Construction Management	236220	10.00%	239	815	2.93%
Testing Services	541380	5.00%	12	92	0.65%
Land Surveying & Mapping	541370	5.00%	24	144	0.83%
Planning Services	541320	10.00%	15	166	0.90%
Other Consulting Services	541690	10.00%	64	571	1.12%
<b>Total</b>		<b>100.00%</b>			<b>11.72%</b>

<b>General Consulting Services Contracts</b>	<b>DBE Participation (to date)</b>
R2006-2418	21%
R2009-1643	31%
R2011-1333	29%
R2014-0031	13%
<b>Median Participation</b>	25%
<b>Adjustment for Past Participation</b>	18%
<b>DBE Project Goal</b>	<b>Percentage</b>
	<b>18%</b>

**AMENDMENT NO. 4 TO CONTRACT  
BETWEEN  
PALM BEACH COUNTY DEPARTMENT OF AIRPORTS  
AND  
AECOM TECHNICAL SERVICES, INC.  
FOR  
GENERAL CONSULTING SERVICES  
AT  
PALM BEACH COUNTY AIRPORTS**

**R2020 1514**

This Amendment No. 4 to the Contract is made as of the \_\_\_\_\_ day of **OCT 06 2020**, 2020, by and between Palm Beach County, Florida (COUNTY) and AECOM TECHNICAL SERVICES, INC., a corporation authorized to do business in the State of Florida, hereinafter referred to as the CONSULTANT, whose Federal Tax I.D. number is 95-2661922.

**WITNESSETH**

WHEREAS, on March 12, 2019, the County entered into an Agreement (R2019-0301) with the CONSULTANT for the CONSULTANT to provide General Airport Consulting Services for the Palm Beach County Department of Airports, for a period of two (2) years, with two (2) one (1)-year renewal options, the exercise of which are within COUNTY'S sole control and discretion; and

WHEREAS, on August 20, 2019, the County entered into an Amendment No. 1 (R2019-1160) with the CONSULTANT to provide additional professional services for the Department of Airports, Palm Beach County, in accordance with Article 25 of the original Agreement; and

WHEREAS, on February 10, 2020, the County entered into an Amendment No. 2 (R2020-0079) with the CONSULTANT to provide additional professional services for the Department of Airports, Palm Beach County, in accordance with Article 25 of the original Agreement; and

WHEREAS, on June 16, 2020, the County entered into an Amendment No. 3 (R2020-0639) with the CONSULTANT to provide additional professional services for the Department of Airports, Palm Beach County, in accordance with Article 25 of the original Agreement; and

WHEREAS, Article 25 of the Contract requires an amendment when the parties are able to define additional services and the parties have now defined those services;

NOW THEREFORE, in consideration of the mutual covenants herein contained, and such other good and valuable consideration, the receipt of which the parties hereby acknowledge, the parties agree to the following terms and conditions:

1. The parties hereby agree to amend the Contract to include the Scope of Services and Fees as outlined in Exhibit A. The total amount to be paid by the COUNTY to the CONSULTANT for professional services, including any out of pocket expenses, shall not exceed One Million Seven Hundred Eighty Nine Thousand Three Hundred Twenty Five Dollars (**\$1,789,325.00**) for the services in Amendment No. 4 to the original Contract.
2. The parties hereby agree to amend Article 21 – Access and Audits of the Contract to read as follows:

The CONSULTANT shall maintain adequate records to justify all charges, expenses, and costs incurred in estimating and performing the work for at least five (5) years after completion or termination of this Contract. The COUNTY shall have access to such books, records, and documents as required in this

section for the purpose of inspection or audit during normal business hours, at the CONSULTANT'S place of business.

Palm Beach County has established the Office of the Inspector General in Palm Beach County Code, Section 2-421 - 2-440, as may be amended. The Inspector General's authority includes but is not limited to the power to review past, present and proposed County contracts, transactions, accounts and records, to require the production of records, and to audit, investigate, monitor, and inspect the activities of the CONSULTANT, its officers, agents, employees, and lobbyists in order to ensure compliance with contract requirements and detect corruption and fraud.

Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be in violation of Palm Beach County Code, Section 2-421 - 2-440, and punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

3. Except as specifically amended herein, all other terms and conditions of the Contract shall remain in full force and effect.

{Remainder of page intentionally left blank.}

IN WITNESS WHEREOF, the parties have caused the Fourth Amendment to the Contract to be signed by the Mayor of the Board of County Commissioners and the Seal of said Board to be fixed hereto and attested by the Clerk of said board, and the CONSULTANT, AECOM TECHNICAL SERVICES, INC., has caused these presents to be signed in its corporate name by its duly authorized officer Andrew Kacer, Vice President, acting on behalf of said CONSULTANT, and the Seal of said CONSULTANT to be affixed hereto and attested by the Secretary of said CONSULTANT, the day and year first written above.

R2020 1514 OCT 06 2020

PALM BEACH COUNTY, FLORIDA

BOARD OF COUNTY COMMISSIONERS

ATTEST:

SHARON R. BOCK  
CLERK AND COMPTROLLER

By: *Sharon R. Bock*  
Deputy Clerk



By: *Dave Kerner*  
Dave Kerner, Mayor

WITNESS:

*[Signature]*  
SIGNATURE

CONSULTANT:

AECOM Technical Services, Inc.  
COMPANY NAME

Christopher Rive  
Name (type or print)

*Andrew Kacer*  
Signature

APPROVED AS TO FORM  
AND LEGAL SUFFICIENCY

BY: *Anne Wilford*  
County Attorney

Andrew Kacer  
Name (type or print)

Vice President  
Title

APPROVED AS TO TERMS  
AND CONDITIONS

By: *Laura Bube*  
Department Director



## AMENDMENT NO. 4 INDEX

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### CERTIFICATE OF INSURANCE

#### EXHIBIT A: AMENDMENT NO. 4

- EXHIBIT A-1 Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training
- EXHIBIT A-2 Task I-20-PBI-A-033: Miscellaneous Financial Planning Services
- EXHIBIT A-3 Task I-20-PBI-A-034: PBI Terminal Roof Improvements
- EXHIBIT A-4 Task I-20-PBI-A-035: Stormwater Master Plan Update
- EXHIBIT A-5 Task I-20-PBI-A-036: Airport Plans Review and Revision Services
- EXHIBIT A-6 Task I-20-PBI-A-037: Re-Striping Common Use Gates
- EXHIBIT A-7 Task I-20-PBI-A-038: Terminal Temperature and Humidity Issues CA Services - Phase 2
- EXHIBIT A-8 Task I-20-PBI-A-039: UPS Replacement Construction Administration (CA) Services and Arc Flash Update
- EXHIBIT A-9 Task I-20-PBI-A-040: Fire Pump Replacement Construction Administration (CA) Services and Arc Flash Studies
- EXHIBIT A-10 Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement
- EXHIBIT A-11 Task III Services

#### EXHIBIT B: DETAILED FEES, EXPENSES AND PAYMENTS

- EXHIBIT B-I Summary of Fees
- EXHIBIT B-II Schedule of Payments

#### EXHIBIT C: PROPOSED SCHEDULES

#### EXHIBIT D: DBE

AECOM Technical Services, Inc.  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607. Phone: 813-636-2425 Fax: 813-287-8591



## CERTIFICATE OF INSURANCE

Search

Home

Insured Tasks

View

Project Information

Insured Name

ECOM Technical Services Inc.

AECOM Technical Services Inc. (DOA)

Active Records Only

Advance Search

Insured Tasks Admin Tools

View

Insured

Notes

History

Deficiencies

Coverages

Requirements

Contract Screen

Add

Edit

Help

Video Tutorials

Project Information

Name: AECOM Technical Services Inc.

Account Number: DX00000660

Address:

Status: Currently in Compliance.

Contract Screen

Contract Information

Vendor Number	Contract Number	Contract Name	Description	Contract Value	Action
DX00000660	DOA 18-1	Consulting Professional Services			View

Account Information

Contract Number: DOA 18-1      Name: Consulting Professional Services

Description:

Contract Value:      Country:

Work State: FL      City:

Contact:      License:

MilePost:      Crossing Location:

Contact Details

Name:

Address:

City:      Zip:

State:      Phone:

Email:      Email2:

Contract Information

Start Date:      End Date:

Effective Date: 03/12/2019      Expiration Date: 12/31/2023

Cancelled Date:

## EXHIBIT A

This Amendment No. 4 is in accordance with the Contract (Agreement R2019-0301) for Consultant/Professional Services between Palm Beach County (COUNTY) and AECOM Technical Services, Inc. (CONSULTANT) dated March 12, 2019.

- EXHIBIT A-1 Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training
- EXHIBIT A-2 Task I-20-PBI-A-033: Miscellaneous Financial Planning Services
- EXHIBIT A-3 Task I-20-PBI-A-034: PBI Terminal Roof Improvements
- EXHIBIT A-4 Task I-20-PBI-A-035: Stormwater Master Plan Update
- EXHIBIT A-5 Task I-20-PBI-A-036: Airport Plans Review and Revision Services
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- EXHIBIT A-10 Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement
- EXHIBIT A-11 Task III Services

## EXHIBIT A-1

# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-1**

### **Palm Beach International Airport (PBI)**

#### **Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training**

### **OVERVIEW**

The Palm Beach Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM) provide professional services associated with the Task I-20-PBI-A-032: PBI Airfield Marking: Assessment, Development of Maintenance Plan, and Training Project (Project).

An airfield marking assessment of PBI will provide a critical first step in its strategy to maintain marking performance and safety. The objective data collected during the assessment will be used to create a prioritized/phased maintenance plan tailored for PBI identifying any visibility, durability and/or compliance issues with FAA standards.

Perhaps more importantly, the assessment will determine what doesn't require maintenance which generally reduces annual costs to maintain the marking system. The work plan will allow PBI to make data-driven decisions, anticipate maintenance requirements and budget/schedule accordingly, improving efficiency and airfield safety. Furthermore, a third-party audit provides valuable perspective related to compliance, which many airports choose to share during Part 139 inspections.

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project Management
Sightline, Inc. (SUBCONTRACTOR)	Airfield Marking Assessment, Development of Maintenance Plan, and Training

### **SCOPE OF SERVICES**

#### **Assessment**

In order for PBI to know with any certainty its airfield markings are compliant with FAA guidance according to ASTM standards, they must be measured. In order for PBI to quickly measure the entire airfield marking system, it must leverage an airfield marking assessment using a combination of mobile and handheld retroreflectivity equipment.

Sightline uses state-of-the-art American-made measuring instruments to quickly and objectively evaluate airfield marking retro-reflectance. A comprehensive analysis of the movement area at PBI will be completed to accurately measure retroreflectivity and color per ASTM E1710 and D6628, respectively.

The data is reported on an interactive overlay of your airfield via Google Earth providing an accurate visual representation of current and future maintenance requirements. With objective input, data-driven decisions related to airfield marking maintenance can be made easily.

### **Maintenance Plan**

A full-scale “on-foot” visual inspection using the Marking Condition Index (MCI) evaluation process will verify multiple physical characteristic of the markings including FAA compliance related to dimensions, alignment and placement criteria defined within FAA Advisory Circulars 150/5340-1 and 150/5370-10.

A comprehensive phased Maintenance Plan is constructed based on the MCI data to advise PBI about what requires immediate attention and is prioritized accordingly. Quantities of various maintenance activities are compiled and assigned unit costs to build custom budgetary estimates allowing PBI to plan, procure equipment, hire additional personnel, etc.

### **Deliverables**

The collected data will be analyzed and used to create several deliverables:

- Summary report of current conditions
- Interactive GIS retroreflectivity overlay on PBI airfield using Google Earth
- Customizable reflectivity thresholds for predictive maintenance
- Prioritized airfield marking maintenance plan
- Quantitative analysis
- Budgetary estimates
- Custom airfield marking project specifications
- Data for integration with existing software or optional AMAX platform
- Custom airfield marking inventory, populated with assessment data
- Online presentation and discussion with stakeholders

**Schedule of Deliverables:** The Airfield Marking Assessment is anticipated to require four days on-site to complete, weather permitting, and can be completed day or night in consideration of PBI Operations. Allow 15 calendar days from NTP for assessment to be completed and reporting will be delivered within 30 calendar days of completing the assessment. (45 Calendar Days)

**Assumptions:** A representative from the DOA will provide escorting to Sightline for 4 days or nights.

## **Training**

Per the FAA Advisory Circular (AC) 5340-1, Paragraph 1.3.8: "Personnel involved in the application of airfield surface markings should complete training which includes surface preparation, removal and application of surface markings, and maintenance standards."

Sightline's Airfield Marking Professional (AMP) Certificate Training was created per ASTM E2659-17 Standard Practice for Certificate Programs. Certificate Programs developed this way ensure the training is based on current federal, state and local best practices for airfield marking projects. The AMP Certificate is the gold standard for this specialized training.

Instructor(s) will deliver an on-site AMP Certificate Program at Palm Beach International Airport for its team and others invited to attend. The training will benefit personnel including, Maintenance, Operations, Engineers, Inspectors, Management, etc., and will take place in a classroom setting.

Each attendee will receive a hardcopy of the AMP Certificate Workbook, the course literature, all relevant guidance literature, and tools to assist inspections. Classroom presentations will include findings derived from the Airfield Marking Assessment, when applicable.

The AMP Certificate Program includes the following intended learning outcomes:

- Standards (e.g. AC 5340-1, 5370-10)
- Project Plan and Administration
- Materials
- Equipment
- Installation
- Inspection
- Performance
- Common Problems

The AMP Certificate Program schedule is flexible and proposed as:

- Completion of the Airfield Markings Training Course
- Passing score on the Airfield Markings Certificate Assessment
- Certificate Term: 3 years

The AMP Certificate Program schedule is flexible and will meet the needs of the DOA.



Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training

<b>Billing Rate:</b>		\$ 247	\$ 181	\$ 120	\$ 89	\$ 90
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Labor Estimate (Hours)

Fee Estimate (\$)

Task Description	Senior Project Manager	QC Reviewer	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total
<b>1.0 TASK 1 - PRELIMINARY INVESTIGATION</b>	<b>10</b>	<b>12</b>	<b>8</b>	<b>0</b>	<b>10</b>	<b>40</b>	<b>\$ 6,502</b>	<b>\$ -</b>	<b>\$ 6,502</b>
Project Development / Set Up	2				2	4	\$ 674	\$ -	\$ 674
Summary Report of Current Conditions		8				8	\$ 1,448	\$ -	\$ 1,448
Budgetary Estimates and Custom Marking Specifications		4				4	\$ 724	\$ -	\$ 724
Coordination, Task Management, and Invoicing	8		8		8	24	\$ 3,656	\$ -	\$ 3,656
<b>Total Fee - AECOM Technical Services, Inc.</b>	<b>10</b>	<b>12</b>	<b>8</b>	<b>0</b>	<b>10</b>	<b>40</b>	<b>\$ 6,502</b>	<b>\$ -</b>	<b>\$ 6,502</b>

Subconsultant Fees

Subcontractor Fee - Sightline (LS)

Assessment	\$ 21,200.00
Maintenance Program	\$ 12,200.00
Training	\$ 13,200.00

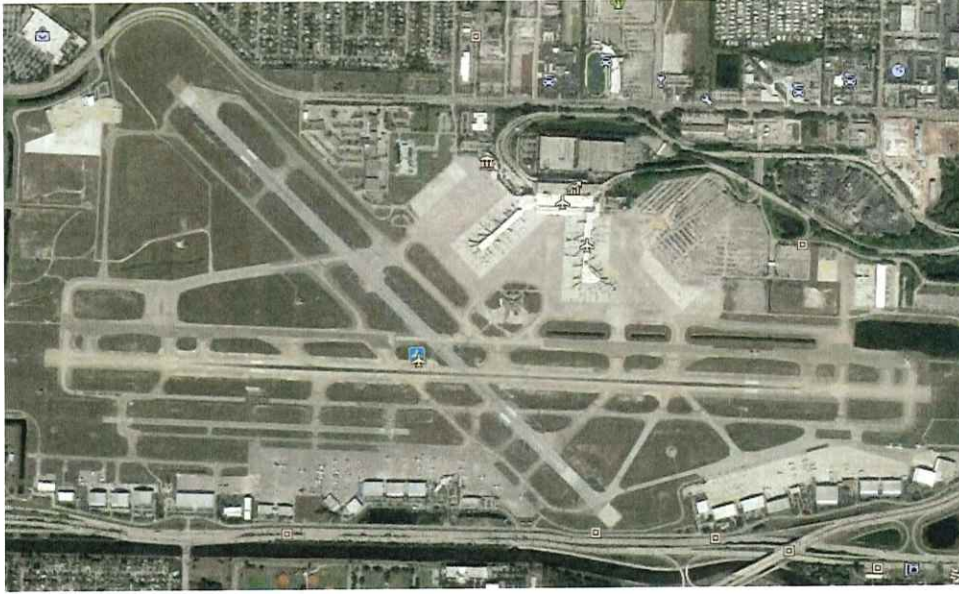
Lump Sum	\$ 53,102.00
Expenses	\$ -
T&M	\$ -
<b>Total</b>	<b>\$ 53,102.00</b>

GRAND TOTAL FEE - BASIC ENGINEERING SERVICES \$ 53,102

Prepared by: AECOM Technical Services, Inc.

# Introduction

The safety and efficiency of airfield operations at Palm Beach International Airport (PBI) is of the utmost importance. The airfield marking system is a fundamental component of operational safety providing a critical function: to convey accurate information to pilots and drivers to safely navigate the airfield. The performance of the pavement markings correlates directly with the quality of information being received.



## **Measure the Present to Predict the Future.**

An airfield marking assessment of PBI will provide a critical first step in its strategy to maintain marking performance and safety. The objective data collected during the assessment will be used to create a prioritized/phased maintenance plan tailored for PBI identifying any visibility, durability and/or compliance issues with FAA standards.

Perhaps more importantly, the assessment will determine what *doesn't* require maintenance which generally reduces annual costs to maintain the marking system. The work plan will allow PBI to make data-driven decisions, anticipate maintenance requirements and budget/schedule accordingly, improving efficiency and airfield safety. Further, a third-party audit provides valuable perspective related to compliance, which many airports choose to share during Part 139 inspections.

# The Business Case

Traditionally, Part 139 airports have repainted the majority, if not all, of the pavement markings on the airfield each year, often in preparation for FAA inspection. Generally speaking, it's the way it's always been done, largely due to a lack of guidance to objectively determine when maintenance is required.

As of December 2018, the FAA has defined objective criteria related to minimum retro-reflectance levels for markings within Advisory Circular 150/5370-10, P-620:

**Minimum Retro-Reflectance Values**

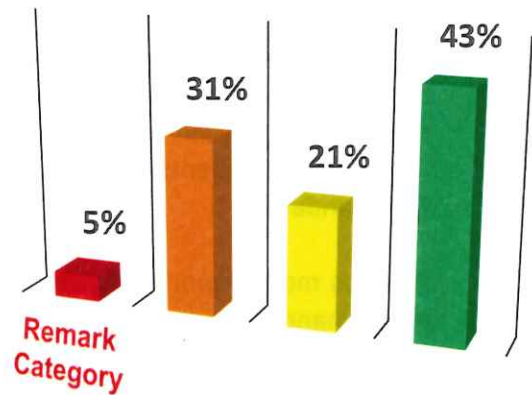
Material	Retro-reflectance mcd/m <sup>2</sup> /lux		
	White	Yellow	Red
Initial Type I	300	175	35
Initial Type III	600	300	35
Initial Thermoplastic	225	100	35
All materials, remark when less than <sup>1</sup>	100	75	10

<sup>1</sup> Prior to remarking determine if removal of contaminants on markings will restore retro-reflectance

Today, airports are leveraging our Airfield Marking Assessments to objectively determine which markings fall into the “remark” category and therefore require maintenance. As a result, airports are empowered by data-driven planning and budget analysis, resulting in significant cost savings.

Based on more than 3.5 million data points collected by Sightline’s assessment teams, the average Part 139 airport can save hundreds of thousands of dollars in the short term by using assessment data to eliminate unnecessary maintenance based on FAA guidance.

**Bottom line: The return on your investment in an assessment will pay dividends.**



# Proposed Scope of Work



## Airfield Marking Assessment

Sightline will provide highly experienced professionals and all necessary equipment to perform an airfield marking assessment of the movement area at Palm Beach International Airport (PBI). The assessment consists of two primary features:

### **1 | Retro-Reflectance Assessment (Suggested frequency: Every year)**

In order for PBI to know with any certainty its airfield markings are compliant with FAA guidance according to ASTM standards, they must be measured. In order for PBI to quickly measure the entire airfield marking system, it must leverage an airfield marking assessment using a combination of mobile and handheld retroreflectivity equipment.



Sightline uses state-of-the-art American-made measuring instruments to quickly and objectively evaluate airfield marking retro-reflectance. A comprehensive analysis of the movement area at PBI will be completed to accurately measure retroreflectivity and color per ASTM E1710 and D6628, respectively.



The data is reported on an interactive overlay of your airfield via Google Earth providing an accurate visual representation of current and future maintenance requirements. With objective input, data-driven decisions related to airfield marking maintenance can be made easily.

Taxiway Delta Filename	Taxiway Delta
Taxiway Delta Description	TPA
Taxiway Delta Record #	75
Taxiway Delta Odometer	0.69
Taxiway Delta Date	2/11/2020
Taxiway Delta Time	9:49:00
Taxiway Delta Latitude	27.9691
Taxiway Delta Longitude	-82.5278
Taxiway Delta GPS Accuracy	0.47
Taxiway Delta Vehicle Speed	11
Taxiway Delta Temperature	80.96
Taxiway Delta Humidity	54.40%
Taxiway Delta Valid_Scans_Left	1143
Taxiway Delta Retro_Left_Maximum	259.3
Taxiway Delta Retro_Left_Minimum	59.1
Taxiway Delta Retro_Left_Average	153.8
Taxiway Delta Retro_Left_StdDev	42.7
Taxiway Delta Retro_Left_Stripwidth	6
Taxiway Delta Retro_Left_Contrast	0.98
Taxiway Delta Retro_Left_CIE1931_x	0.489
Taxiway Delta Retro_Left_CIE1931_y	0.422
Taxiway Delta Retro_Left_Color	Fail
Taxiway Delta RPMS_Found_Left	0
Taxiway Delta Valid_Scans_Right	1053

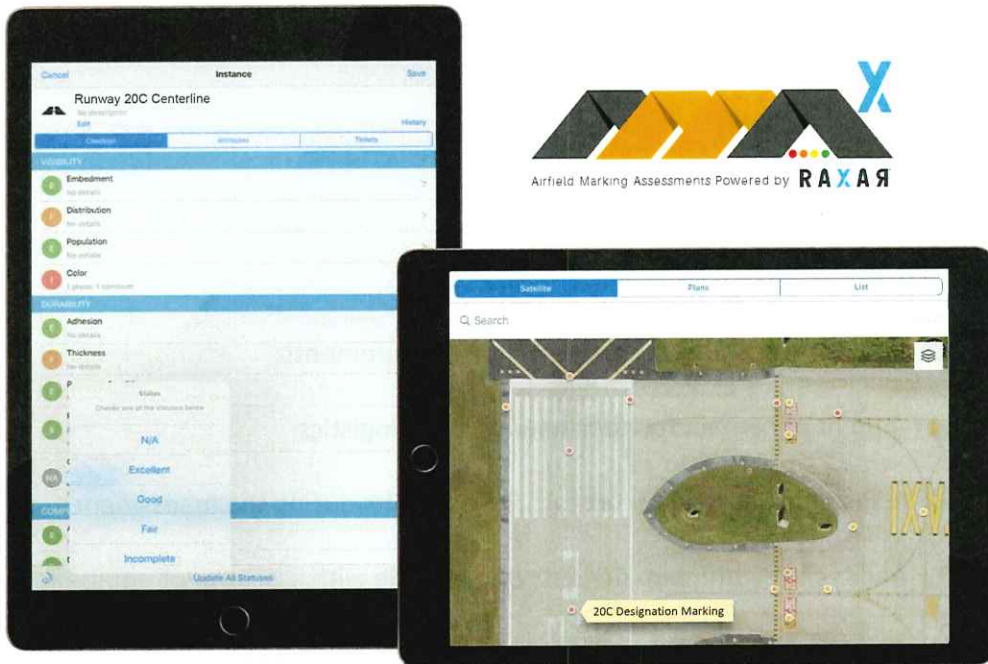
## 2 | Maintenance Plan (Suggested frequency: Every three years)

A full-scale “on-foot” visual inspection using the Marking Condition Index (MCI) evaluation process will verify multiple physical characteristic of the markings including FAA compliance related to dimensions, alignment and placement criteria defined within FAA Advisory Circulars 150/5340-1 and 150/5370-10.

A comprehensive phased Maintenance Plan is constructed based on the MCI data to advise PBI about what requires immediate attention and is prioritized accordingly. Quantities of various maintenance activities are compiled and assigned unit costs to build custom budgetary estimates allowing PBI to plan, procure equipment, hire additional personnel, etc.











### Optional AMA<sup>X</sup> Marking Management Software

Sightline will use the AMA<sup>X</sup> Marking Management software to build PBI’s airfield marking inventory and populate the custom database. Use of the AMA<sup>X</sup> software is not included as part of this proposal, however, PBI has the option to use this application at an additional cost.



# Deliverables

The collected data will be analyzed and used to create several deliverables:

-  Summary report of current conditions
-  Interactive GIS retroreflectivity overlay on PBI airfield using Google Earth
-  Customizable reflectivity thresholds for predictive maintenance
-  Prioritized airfield marking maintenance plan
-  Quantitative analysis
-  Budgetary estimates
-  Custom airfield marking project specifications
-  Data for integration with existing software or optional AMA<sup>X</sup> platform
-  Custom airfield marking inventory, populated with assessment data
-  Online presentation and discussion with stakeholders

The Airfield Marking Assessment is anticipated to require four days on-site to complete, weather permitting, and can be completed day or night in consideration of PBI Operations. Reporting will be delivered within 30 calendar days of completing the assessment.

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# Requirements

AECOM/PBI is responsible for the following requirements:

- 1) A point of contact for coordination of all logistics
- 2) A seasoned airfield escort for all work shifts during the assessment
- 3) Ability for Sightline to drive its own vehicle with assessment equipment
- 4) All necessary closures, NOTAM's, etc. to facilitate assessment

# Fee Proposal

<b>AIRFIELD MARKING ASSESSMENT</b>	
System-Wide Mobile Reflectivity Assessment	<b>\$ 21,200 USD</b>
+ Maintenance Plan	<b>\$ 12,200 USD</b>
<b>TOTAL</b>	<b>\$ <u>33,400 USD</u></b>

**Payment terms:**

All pricing in US Dollars.

Proposal includes all deliverables outlined in "Scope of Work". In the event the Scope of Work is revised, Sightline reserves the right to revise pricing.

50% due upon conclusion of the assessment. Remainder due upon delivery of final reporting.

Net 30 days upon receipt of invoice.

A contract/purchase order will be required prior to scheduling services.



# Additional Services



## Airfield Marking Quality Assurance

Have you ever had an issue with a striping contractor?

Using Sightline's expertise ensures your new airfield marking project will be a total success, regardless of which low-bidder was awarded the work. From design to line, our team works with you on specification and plan review, equipment calibration, final retro-reflectance performance testing, etc.

Having Sightline involved gives you peace of mind. Your life just got easier.



## Airfield Marking Professional (AMP) Certificate Program

The Federal Aviation Administration (FAA) specifies the following in Advisory Circular (AC) 150/5340-1M, Standards for Airfield Markings:

**Paragraph 1.3.8.** "Personnel involved in the application of airfield surface markings should complete training which includes surface preparation, removal and application of surface markings, and maintenance standards."

Sightline's AMP Certificate program was created in accordance with ASTM E2659-17 Standard Practice for Certificate Programs. The AMP Certificate is your best option to maximize your team's proficiency and improve overall performance, FAA compliance, and ultimately airfield safety.

# Qualifications

Sightline, Inc. is a specialty consultant committed to improving airfield marking performance around the world. Owned and operated by Donna J. Speidel, we are a woman-owned DBE based in Culpeper, Virginia. Our experts bring over 50 years of experience to this specialized field.



At its core, we are a training organization dedicated to educating the aviation industry about the proper methodology associated with designing and maintaining highly effective airport marking systems. Borrowing from our experiences, we have developed services, including the Airfield Marking Assessment, Quality Control, and On-Site Training, to assist airports of every size increase efficiency and safety.

In 2006, Sightline published the *Airfield Marking Handbook* for the Innovative Pavement Research Foundation through a Cooperative Research Agreement with the Federal Aviation Administration (FAA). Published in 2008, the Handbook provides the industry with definitive guidance on the details of applying airfield markings properly.

The publishing of the Handbook has positioned us as the recognized authority on the subject. The Handbook is currently used as the course literature in Airfield Marking Symposiums; training courses we present around the world. We have had the honor of training the Part 139 Airport Certification Safety Inspectors multiple times at the FAA's recurrent training, and many FAA employees continue to use our experts as a resource for markings.

Our clients are airports of every size, some are the busiest airports in the world including ATL, LAX, DFW, DEN, CLT, JFK, SFO, PHX, YYZ, etc. References to these and other organizations may be available upon request:



Sightline

<b>Billing Rate:</b>		\$	275				\$	150		
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Task Description	Labor Estimate (Hours)								Fee Estimate (\$)			
	Total	Senior Project Principal				Technician			Total	Labor	Expenses	Total
<b>1.0 Airfield Marking Assessment Services</b>	<b>Total</b>	<b>104</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>136</b>	<b>\$33,400</b>	<b>\$0</b>	<b>\$33,400</b>
1.1 Airfield Marking Assessment (On-Site)		24				24			48	\$ 10,200	\$ -	\$ 10,200
1.2 Assessment Data Analysis (Remote)		40							40	\$ 11,000	\$ -	\$ 11,000
1.3 Maintenance Plan (Remote)		40				8			48	\$ 12,200	\$ -	\$ 12,200
<b>Total Fee - Sightline, Inc.</b>		<b>104</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>136</b>	<b>\$33,400</b>	<b>\$0</b>	<b>\$33,400</b>

Prepared by: Sightline, Inc.

# Introduction

The safety and efficiency of airfield operations at PBI is of the utmost importance. Airfield marking systems are a fundamental component of operational safety providing a critical function: to convey accurate information to pilots and drivers to safely navigate the airfield. The performance of the pavement markings correlates directly with the quality of information being received.

PBI maintains the airfield marking system per Federal Aviation Administration (FAA) guidance and its Airport Certification Manual (ACM). FAA Advisory Circular (AC) 150/5340-1M, Standards for Airfield Markings, specifies the following:

*Paragraph 1.3.8 “Personnel involved in the application of airfield surface markings should complete training which includes surface preparation, removal and application of surface markings, and maintenance standards.”*



Sightline’s **Airfield Marking Professional (AMP) Certificate Program** was created in accordance with ASTM E2659-17 Standard Practice for Certificate Programs. By leveraging the AMP Certificate training, PBI will maximize the efficiency of its maintenance activities and improve marking performance, safety, and comply with FAA guidance.



# Scope of Work

## Airfield Marking Professional (AMP) Certificate Training

Per the FAA Advisory Circular (AC) 5340-1, Paragraph 1.3.8: “Personnel involved in the application of airfield surface markings should complete training which includes surface preparation, removal and application of surface markings, and maintenance standards.”



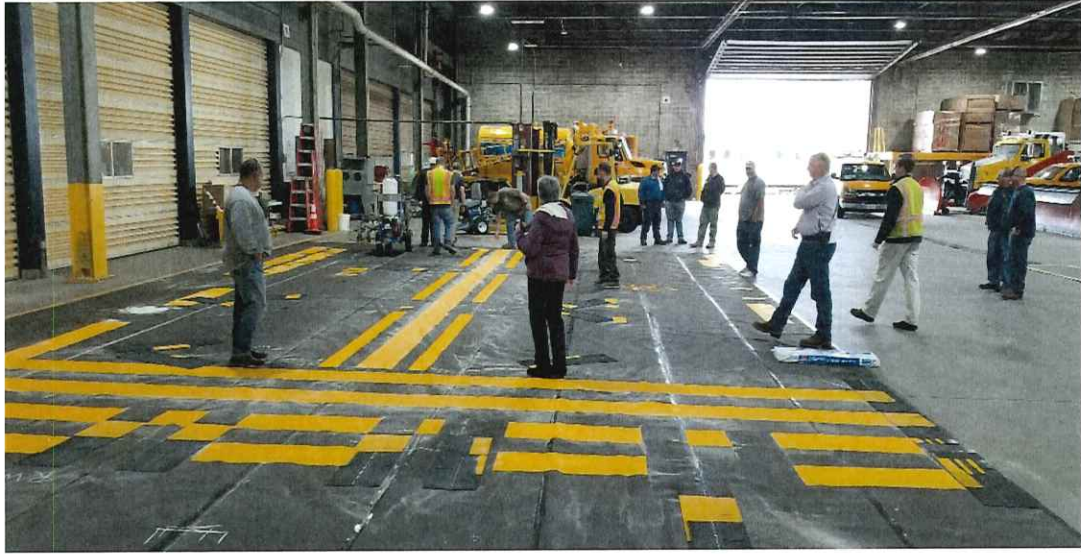
Sightline’s Airfield Marking Professional (AMP) Certificate Training was created per ASTM E2659-17 Standard Practice for Certificate Programs. Certificate Programs developed this way ensure the training is based on current federal, state and local best practices for airfield marking projects. The AMP Certificate is the gold standard for this specialized training.

Instructor(s) will deliver an on-site AMP Certificate Program at Palm Beach International Airport for its team and others invited to attend. The training will benefit personnel including, Maintenance, Operations, Engineers, Inspectors, Management, etc., and will take place in a classroom setting.



Each attendee will receive a hardcopy of the AMP Certificate Workbook, the course literature, all relevant guidance literature, and tools to assist inspections. Classroom presentations will include findings derived from the [Airfield Marking Assessment](#), when applicable.

An optional, additional day of field training may be added using airport equipment to demonstrate the details of layout, application, inspection, etc. in a practical setting. Field training is not a requirement of the AMP Certificate Program.



The AMP Certificate Program includes the following intended learning outcomes:

- ≡ Standards (e.g. AC 5340-1, 5370-10)
- ≡ Project Plan and Administration
- ≡ Materials
- ≡ Equipment
- ≡ Installation
- ≡ Inspection
- ≡ Performance
- ≡ Common Problems

The AMP Certificate Program schedule is flexible and proposed as:

- ≡ Completion of the Airfield Markings Training Course
- ≡ Passing score on the Airfield Markings Certificate Assessment
- ≡ Certificate Term: 3 years

# Requirements

PBI is responsible for the following requirements:

- 1) A point of contact for coordination of all logistics
- 2) A classroom configured for certificate program presentation

# Fee Proposal

<b>AIRFIELD MARKING PROFESSIONAL CERTIFICATE TRAINING</b>	
AMP Certificate Training	\$ 13,200 USD
<b>TOTAL</b>	\$ <u>13,200 USD</u>

**Payment terms:**

All pricing in US Dollars.

Proposal includes all deliverables outlined in "Scope of Work". In the event the Scope of Work is revised, Sightline reserves the right to revise pricing.

100% due upon conclusion of the training.

Net 30 days upon receipt of invoice.

A contract/purchase order will be required prior to scheduling services.

# Additional Services



## **Airfield Marking Quality Assurance**

Have you ever had an issue with a striping contractor?

Using Sightline's expertise ensures your new airfield marking project will be a total success, regardless of which low-bidder was awarded the work. From design to line, our team works with you on specification and plan review, equipment calibration, final retro-reflectance performance testing, etc.

Having Sightline involved gives you peace of mind. Your life just got easier.



# Qualifications

Sightline, Inc. is a specialty consultant committed to improving airfield marking performance around the world. Owned and operated by Donna J. Speidel, we are a woman-owned DBE based in Culpeper, Virginia. Our experts bring over 50 years of experience to this specialized field.



At its core, we are a training organization dedicated to educating the aviation industry about the proper methodology associated with designing and maintaining highly effective airport marking systems. Borrowing from our experiences, we have developed services, including the Airfield Marking Assessment, Quality Control, and On-Site Training, to assist airports of every size increase efficiency and safety.

In 2006, Sightline published the *Airfield Marking Handbook* for the Innovative Pavement Research Foundation through a Cooperative Research Agreement with the Federal Aviation Administration (FAA). Published in 2008, the Handbook provides the industry with definitive guidance on the details of applying airfield markings properly.

The publishing of the Handbook has positioned us as the recognized authority on the subject. The Handbook is currently used as the course literature in Airfield Marking Symposiums; training courses we present around the world. We have had the honor of training the Part 139 Airport Certification Safety Inspectors multiple times at the FAA's recurrent training, and many FAA employees continue to use our experts as a resource for markings.

Our clients are airports of every size, some are the busiest airports in the world including ATL, LAX, DFW, DEN, CLT, JFK, SFO, PHX, YYZ, etc. References to these and other organizations may be available upon request:



Sightline

Billing Rate:		\$	275				\$	150		
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Labor Estimate (Hours)

Fee Estimate (\$)

Task Description	Total	Senior Project	Sr. Design	Senior Project	Engineer	Technician			Total	Fee Estimate (\$)		
		Principal	Consultant	Manager						Labor	Expenses	Total
Airfield Marking Training Services	48	48	0	0	0	0	0	0	48	\$13,200	\$0	\$13,200
Airfield Marking Professional Certificate Program (On-Site)	48	48							48	\$13,200	\$-	\$13,200
<b>Total Fee - Sightline, Inc.</b>		48	0	0	0	0	0	0	48	\$13,200	\$0	\$13,200

Prepared by: Sightline, Inc.

## EXHIBIT A-2

**PALM BEACH INTERNATIONAL AIRPORT GENERAL  
CONSULTING SERVICES**

**EXHIBIT A-2**

**Miscellaneous Planning Services**

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**Palm Beach International Airport (PBI)  
Task I-20-PBI-A-033: Miscellaneous Financial Planning Services**

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**OVERVIEW**

Palm Beach International Airport has requested that AECOM Technical Services, Inc. (AECOM or CONSULTANT) provide Professional Services for the Task I-20-PBI-A-033: Miscellaneous Financial Planning Services (Project). The scope of work prescribed herein encompasses the financial planning services provided by Ricondo & Associates, Inc. (RICONDO).

**SCOPE OF SERVICES**

The Following comprises our Team for this Task:

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project / Task Management
RICONDO & ASSOCIATES, INC. (RICONDO)	Financial Planning

Exhibit B-1														
Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-033: Miscellaneous Financial Planning Services														
Billing Rate:														
		\$ 340	\$ 161	\$ 247	\$ 162	\$ 120	\$ 97	\$ 89	\$ 90					
Labor Estimate (Hours)										Fee Estimate (\$)				
Task Description		Principal	QC Reviewer	Senior Project Manager	Construction Manager	Project Engineer	Resident Project Representative	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total	
Task I-20-PBI-A-033: Miscellaneous Financial Planning Services														
1.0	PROJECT MANAGEMENT SERVICES (LUMP SUM)	0	0	8	0	12	0	0	20	40	\$5,216	\$0	\$5,216	
A	Task management and Coordination			8					10	18	\$2,876		\$2,876	
B	Project Start-up and Document Control					12			10	22	\$2,340		\$2,340	
<b>Total Fee - AECOM Technical Services, Inc.</b>		0	0	8	0	12	0	0	20	40	5,216	0	5,216	
<b>Subconsultant Fees Task 1.0</b>														
1	Total Subconsultant Fee - Ricondo & Associates, Inc. (T&M)												\$ 51,552	
1	Total Subconsultant Fee - Ricondo & Associates, Inc. (Exp.)												\$ 3,000	
										Task 1.0 (Lump Sum)	\$5,216			
										Task 2.0 (Time & Material)	\$51,552			
										Expenses	\$3,000			
										Total	\$59,768			
<b>Total Fee - Subconsultants</b>										\$	54,552			
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>										\$	59,768			

Prepared by: AECOM Technical Services, Inc.

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## **Palm Beach County Department of Airports Miscellaneous Financial Planning Services Scope of Work and Budget**

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### **Scope**

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Ricondo and Associates, Inc. (Ricondo) is pleased to submit this proposal to provide miscellaneous financial planning services to the Palm Beach County Department of Airports (the County) related to financial and business planning efforts for the Palm Beach International Airport. This task will cover on-call services requested from the County.

### **Proposed Budget**

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Number of hours and expenses, which will be reimbursed at cost, will be estimated at the start of each requested effort. Our estimated not-to-exceed effort for the miscellaneous tasks is \$54,552.

**Palm Beach International Airport  
Palm Beach County Department of Airports**

MANHOURS BY CATEGORY

Task #	Description	SENIOR VICE PRESIDENT	VICE PRESIDENT	DIRECTOR	MANAGING CONSULTANT	SENIOR CONSULTANT	CONSULTANT	TOTAL HOURS	TOTAL LABOR COSTS	EXPENSES <sup>1</sup>	TOTAL
	Billing Rates:	\$424	\$324	\$299	\$210	\$135	\$103	Hours			
<b>Miscellaneous Services</b>											
1.1	Miscellaneous Meetings with DOA (including prep)		24		24		8	56	\$13,640	\$3,000	\$16,640
1.2	Revisions to Rates and Charges Model		8		56		80	144	\$22,592		\$22,592
1.3	Revisions to Airline Agreement and Exhibits <sup>2</sup>		24		32		8	64	\$15,320		\$15,320
	<b>Subtotal</b>	<b>0</b>	<b>56</b>	<b>0</b>	<b>112</b>	<b>0</b>	<b>96</b>	<b>264</b>	<b>\$51,552</b>	<b>\$3,000</b>	<b>\$54,552</b>
<b>TASK TOTAL</b>		<b>0</b>	<b>56</b>	<b>0</b>	<b>112</b>	<b>0</b>	<b>96</b>	<b>264</b>	<b>\$51,552</b>	<b>\$3,000</b>	<b>\$54,552</b>

Prepared by Ricondo & Associates, Inc. July 2020

No

1. Expenses include travel to PBI for meetings. \$1000 per person trip.
2. Assumes the Department maintains document. Ricondo to review and provide feedback / edits.



## EXHIBIT A-3



# PALM BEACH DOA GENERAL CONSULTING SERVICES

## EXHIBIT A-3

### Task I-20-PBI-A-034: PBI Terminal Roof Improvements

## OVERVIEW

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM or CONSULTANT) provide professional services related to the Task I-20-PBI-A-034: PBI Terminal Roof Improvements Project (Project) at Palm Beach International Airport (PBI). The AECOM Team will develop construction documents (plans and specifications) focused on the areas identified within the PBI Roof Evaluation / Study dated December 9, 2019, prepared by Knopf and Associates, Inc.

### PROJECT TEAM

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (AECOM) (CONSULTANT)	Project Management, Structural Engineering for Roof and Water Intrusion Construction Documents, and Permitting
Johnson, Levinson, Ragan, Davila, Inc. (JLRD) (SUBCONTRACTOR)	HVAC and Roof Drain Construction Documents/Permitting. Support Bidding
Colome and Associates, Inc. (Colome) (SUBCONTRACTOR)	Architectural Construction Documents/Permitting. Support Bidding
Quantum Electrical Engineering, Inc. (QEE) (SUBCONTRACTOR)	Electrical Engineering Construction Documents/Permitting. Support Bidding

### SCOPE OF SERVICES

The scope of work will include 60%, 90%, 100%, and Bid documents pertaining to approximately 106,300 square feet of the main terminal roof that will be replaced, along with the coordination of structural engineering wind loads and roof top unit tie-down requirements, along with the mechanical, plumbing, and electrical engineering services related to the removal and resetting of all roof top equipment on the new roof. **Design will include modifications to the short term garage expansion joints.**

Colome will develop the architectural plans, details, and specifications required to replace the roof. JLRD will develop roof drain plans, details, and specifications required to complete the removal and re-installation of all HVAC equipment. All roof drains and overflow drains shall be replaced within the limits of work. **Colome will also develop design documents to address Water Intrusion from the short term garage expansion joints based on report prepared by Coating Consultants Inc.** QEE will develop electrical plans, details,

and specifications required for the removal and replacement of the existing HVAC, exhaust and ventilation fans, lighting systems, and lightning protection systems.

AECOM will prepare structural calculations associated with the new roof, which will include: wind load analysis, fastener selection, equipment curb member selection, and opener cover material selection to ensure the structural integrity of the new roof. The construction documents will include repair details and specifications required for the new roof.

AECOM will coordinate throughout the design development process with our team and the DOA throughout the development of this project.

## **BASIC SERVICES**

### **1.0 TASK 1 DESIGN DEVELOPMENT (60% DESIGN)**

#### **Preliminary Investigation / Contract Documents (60%)**

~~This effort will include a design kickoff meeting, coordination with the DOA and our team, and site visits for data collection. The initial meeting with the DOA and our team is included to establish the parameters and expectations, by the DOA, for this project.~~

This effort will include developing 60% design plans and technical specifications, with a project cost estimate. The drawings and specifications for this task will address the scope of work.

A design review meeting with the DOA will be held to review the 60% design documents and cost estimate before developing the 90% Contract Documents. AECOM will respond to comments and incorporate applicable input, from the 60% design review meeting, into the 90% Contract Documents. A thorough QA Review will be performed on all documents.

#### **Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Task:

- a. 60% Construction Plans;
- b. 60% Specifications;
- c. 60% Construction Cost Estimate
- d. Facilitate 60% Design Review Meeting and Develop Minutes

### **2.0 TASK 2 – DESIGN DEVELOPMENT (90% DESIGN)**

#### **Contract Documents (90% Submittal)**

During this task, comments from the 60% review meeting will be implemented into 90% contract documents and the design will be further developed.

A 90% design review meeting with the DOA will be held to review the 90% drawings, specifications, and cost estimate before proceeding toward developing the 100% Construction / Permit Documents. AECOM will respond to comments and incorporate applicable comments from the 90% design review meeting into the 100% Construction / Permit Documents. A thorough QA Review will be performed on all documents.

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Task:

- a. 90% Construction Plans;
- b. 90% Specifications;
- c. 90% Construction Cost Estimate
- d. Facilitate 90% Design Review Meeting and Develop Minutes

**3.0 TASK 3 – 100% SUBMITTAL**

**100% Construction /Permit Documents**

During this task, comments from the 90% review meeting will be implemented, along with all final modifications, into the drawings and specifications. The 100% / three (3) sets signed and sealed permit drawings, necessary technical specifications, completing the required permitting processes, and a cost estimate for the project will be completed under this task. AECOM will address PBC PZB Comments to the Permit Drawings.

This submittal will include a 100% Project Cost Estimate for construction, an estimate of the probable construction schedule.

In providing opinions of probable construction costs, the DOA understands that the CONSULTANT has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made based on the CONSULTANT'S qualifications and experience. The CONSULTANT makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Task:

- a. 100% Construction Plans;
- b. 100% Specifications;
- c. 100% Construction Cost Estimate
- d. Facilitate 100% Design Review Meeting and Develop Minutes

**4.0 TASK 4 – BIDDING AND AWARD OF CONTRACT DOCUMENTS**

After authorization to proceed with the Bidding Phase, CONSULTANT will assist the DOA in advertising for and obtaining bids for each separate prime contract for construction, materials, equipment and services; and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, via the County's Vendor Self-Service Website. CONSULTANT will support the DOA in conducting a pre-bid to share pertinent bidding and technical information and requirements with prospective bidders; issue addenda as appropriate to interpret and clarify or expand the Bidding Documents during the Bidding phase; and attend the bid opening, prepare bid tabulation sheets and assist DOA in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services.

**Meetings**

The CONSULTANT will attend the following meetings during this Phase:

- a. One (1) Pre-Bid Meeting;

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. Four (4) sets of Bidding Documents;
- b. Electronic Bid Documents;
- c. Applicable Addenda during the Bidding process;
- d. Pre-Bid Agenda and Meeting Minutes;
- e. Bid Tabulation of Bids; and,
- f. Bid Recommendation Letter for Award.

**Assumptions:**

- DOA will provide all record documents applicable to this task.
- DOA will pay for all permitting costs.
- Construction Administration and Resident Project Representative Services are not included in this scope of services. The CONSULTANT will gladly perform Construction Administration and Resident Project Representative Services via a separate task order.
- CONSULTANT shall not be responsible for the means, methods, techniques, and sequences, procedures of construction or selection of materials selected by the Contractor or the safety precautions and programs incident to the work of the Contractor. The CONSULTANT shall not guarantee the performance of the Contractor nor be responsible for the acts, errors, omissions, or the failure of the Contractor to perform the construction work in accordance with the Contract Documents.

**PROJECT SCHEDULE**

<b>Deliverable</b>	<b>Days From NTP</b>
<b>60% Contract Documents</b>	60 Days
<b>90% Contract Documents</b>	105 Days
<b>100% Construction / Permitting Documents</b>	135 Days

Exhibit B-1												
Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-034: PBI Terminal Roof Improvements												
Billing Rate: \$ 181   \$ 247   \$ 185   \$ 120   \$ 89   \$ 90												
Task Description	Labor Estimate (Hours)						Fee Estimate (\$)					
	QC Reviewer	Senior Project Manager	Project Manager / Senior Engineer	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total		
<b>1.0 DESIGN DEVELOPMENT (60% CONTRACT DOCUMENTS)</b>	9	22	90	158	0	8	287	\$ 43,393	\$ -	\$ 43,393		
Design Kickoff Meeting							0	\$ -	\$ -	\$ -		
Data Collection and Field Investigations							0	\$ -	\$ -	\$ -		
Structural analysis, Calculations, Wind analysis		2	12	32			46	\$ 6,554	\$ -	\$ 6,554		
Fastener Selection, Equipment Curb Member Selection, Opening Cover Material Selection		2	12	24			38	\$ 5,594	\$ -	\$ 5,594		
Structural Drawings Including Roof Repair Details		2	12	24			38	\$ 5,594	\$ -	\$ 5,594		
Structural Drawings Parking Expansion Joint Repairs			4	32			86	\$ 12,908	\$ -	\$ 12,908		
Structural Specifications			2	8			26	\$ 3,894	\$ -	\$ 3,894		
Project Cost Estimate		1	4	2			11	\$ 2,019	\$ -	\$ 2,019		
Assemble All Plans, Specifications and Cost Estimates		8	2	8			26	\$ 4,382	\$ -	\$ 4,382		
Coordination and Task Management			4	4			16	\$ 2,448	\$ -	\$ 2,448		
<b>2.0 DESIGN DEVELOPMENT (90% CONTRACT DOCUMENTS)</b>	13	16	78	116	8	12	243	\$ 36,447	\$ 200	\$ 36,647		
DOA Design Review Meeting		2	4	4		2	12	\$ 1,894	\$ 200	\$ 2,094		
Implement DOA Review Comments/Further Detail Design		1	8	8		2	19	\$ 2,867	\$ -	\$ 2,867		
Structural analysis, Calculations, Wind analysis		2	1	4			15	\$ 2,309	\$ -	\$ 2,309		
Fastener Selection, Equipment Curb Member Selection, Opening Cover Material Selection			1	6			23	\$ 3,277	\$ -	\$ 3,277		
Structural Drawings Including Roof Repair Details			1	6			23	\$ 3,277	\$ -	\$ 3,277		
Structural Drawings Parking Expansion Joint Repairs			2	32			84	\$ 12,414	\$ -	\$ 12,414		
Structural Specifications		2	1	4			11	\$ 1,829	\$ -	\$ 1,829		
Project Cost Estimate		1	1	2			6	\$ 1,038	\$ -	\$ 1,038		
Assemble All Plans, Specifications and Cost Estimates		8	2	8		8	34	\$ 5,094	\$ -	\$ 5,094		
Coordination and Task Management			4	4			16	\$ 2,448	\$ -	\$ 2,448		
<b>3.0 DESIGN DEVELOPMENT (100% CONTRACT DOCUMENTS / PERMIT DOCUMENTS)</b>	13	16	64	86	0	12	191	\$ 29,545	\$ 200	\$ 29,745		
DOA Design Review Meeting		2	4	4		2	12	\$ 1,894	\$ 200	\$ 2,094		
Implement DOA Review Comments/Further Detail Design		1	8	8		2	19	\$ 2,867	\$ -	\$ 2,867		
Structural analysis, Calculations, Wind analysis		2	1	2			9	\$ 1,459	\$ -	\$ 1,459		
Fastener Selection, Equipment Curb Member Selection, Opening Cover Material Selection			1	4			13	\$ 1,947	\$ -	\$ 1,947		
Structural Drawings Including Roof Repair Details			1	8			21	\$ 3,167	\$ -	\$ 3,167		
Structural Drawings Parking Expansion Joint Repairs			2	20			58	\$ 8,514	\$ -	\$ 8,514		
Structural Specifications		2	1	4			11	\$ 1,829	\$ -	\$ 1,829		
Project Cost Estimate		1	1	2			6	\$ 1,038	\$ -	\$ 1,038		
Assemble All Plans, Specifications and Cost Estimates		8	2	8			26	\$ 4,382	\$ -	\$ 4,382		
Coordination and Task Management			4	4			16	\$ 2,448	\$ -	\$ 2,448		
<b>4.0 BIDDING AND AWARD OF CONTRACT DOCUMENTS</b>	6	10	22	32	0	14	84	\$ 12,726	\$ 200	\$ 12,926		
Prepare for and attend Pre-Bid Conference, Meeting Minutes		1	2	4		2	17	\$ 2,555	\$ 200	\$ 2,755		
Prepare Addenda		4	2	8		16	4	\$ 4,978	\$ -	\$ 4,978		
Prepare Bid Tabulation			1	2		2	5	\$ 857	\$ -	\$ 857		
Review Bidder Submittals, Prepare Bid Recommendation Letter		1	1	4		6	12	\$ 1,898	\$ -	\$ 1,898		
Task Management and Coordination			4	4			16	\$ 2,448	\$ -	\$ 2,448		
<b>Total Fee - AECOM Technical Services, Inc.</b>	<b>41</b>	<b>64</b>	<b>254</b>	<b>392</b>	<b>8</b>	<b>46</b>	<b>805</b>	<b>\$122,111</b>	<b>\$600</b>	<b>\$122,711</b>		
<b>Subconsultant Fees Task 1.0</b>												
1 Total Subconsultant Fee - Johnson, Levinson, Ragan, Davila, Inc. (LS)										\$ 27,260		
Total Subconsultant Fee - Johnson, Levinson, Ragan, Davila, Inc. (T&M)										\$ -		
2 Total Subconsultant Fee - Colome & Associates, Inc. (LS)										\$ 175,498		
Total Subconsultant Fee - Colome & Associates, Inc. (Exp)										\$ 450		
3 Total Subconsultant Fee - Quantum Electrical Engineering, Inc. (LS)										\$ 11,400		
Total Subconsultant Fee - Quantum Electrical Engineering, Inc. (T&M)										\$ -		
<b>Total Fee - Subconsultants</b>										<b>\$ 214,608</b>		
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>										<b>\$ 337,319</b>		

Task 1.0 (Lump Sum)	\$336,269
Task 2.0 (Time & Material)	\$0
Expenses	\$1,050
<b>Total</b>	<b>\$337,319</b>

Prepared by: AECOM Technical Services, Inc.



JOHNSON, LEVINSON,  
RAGAN, DAVILA, INC.  
CONSULTING ENGINEERS

1450 Centrepark Boulevard, Suite 350  
West Palm Beach, FL 33401  
(561) 689-2303 • (561) 689-2302 Fax  
www.jlrdinc.com

April 13, 2020

Mr. Andy Kacer, PE, Greater Florida Manager – Airports  
**AECOM Technical Services, Inc.**  
7650 West Courtney Campbell Causeway  
Tampa, Florida 33607

Re: PBI Main Terminal Roof Replacement

## **PALM BEACH COUNTY GENERAL CONSULTING SERVICES**

### **Task Scope Sheet**

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#### **Scope – Subcontractor Johnson, Levinson, Ragan, Davila, Inc. (JLRD)**

Per the request of PBI, JLRD, Inc. would like to provide a proposal to remove and re-install or replace (as required) all HVAC equipment to coordinate with the re-roof of the existing main terminal. All plumbing roof drains and overflow drains shall be replaced within the scope of work. The estimated roof area to be replaced is about 106,300 square feet. This covers the third-floor ticketing and office areas and a portion of the second-floor open terminal roof area.

#### **The general scope of services shall be provided as follows and to specifically include:**

1. Acquisition and review of various existing as-built documents to confirm the identity, location, and spaces effected within the scope of work for HVAC equipment and roof drains.
2. Review test and balance reports for fan performance (pre and post construction).
3. Perform field visits to locate and document all existing HVAC equipment and roof drains within the scope of work.
4. Provide construction documents and specifications which provide the intent of the removal and reinstallation of mechanical equipment and roof drains, including overflow drains and associated piping as required. Any HVAC equipment that requires replacement will be brought to the attention of the owner.
5. Attend meetings with the design team and the owner to review drawings.
6. Construction cost estimating as it relates the scope provided. A rough order of magnitude cost estimate procedure will be used.

Mr. Andy Kacer, Greater Florida Manager – Airports  
April 13, 2020  
Re: PBI Main Terminal Roof Replacement

### PROJECT SCHEDULE

JLRD offers the following schedule:

- 60% CD's and specs: 5 weeks after NTP
- 90% CD's and specs: 2 weeks after 60% comments are received
- 100% / Permit CD's and specs: 2 weeks after 90% comments are received
- Conformed Set for CMAR: 2 weeks after Permit comments are received

### PROJECT DELIVERABLES

Project Deliverables shall be 3 sets of signed and sealed drawings and specifications, one clean set of drawings and .pdf's.

### PROJECT ASSUMPTIONS / GENERAL COMMENTS:

1. JLRD shall not be responsible for the means, methods, techniques, sequences, procedures of construction or the safety precautions and programs incident to the work of the contractor. JLRD shall not guarantee the performance of the contractor nor be responsible for the acts, errors, omissions, or the failure of the contractor to perform the construction work in accordance with the Contract Documents.

JLRD will use a company vehicle when needed to perform all Project related work. Cost for, fuel, and use of the company vehicle have not been included in the budget estimate due to our close location.

JLRD will perform all services listed in this scope of services and it is expected that the DOA will perform all other construction related services that are not listed.

JLRD assumes that the DOA will be responsible for the following:

- i. Ensuring the contractor is in compliance with airport badging requirements and safety regulations.
  - ii. Verifying barricades are placed in accordance with the construction drawings or as directed by Airport Operations; Accepting work performed by the CMAR.
  - iii. Providing consolidated red-line mark-ups for preparation of Record Drawings.
  - iv. Providing JLRD with As-Built construction documents.
2. In the event that the DOA and JLRD believe it to be in the best interests of the Project that additional construction engineering inspection services, or additional services beyond what is provided in this scope of work be provided by JLRD, a separate Task Authorization, which specifies the proposed scope of services to be performed, will be prepared.

Mr. Andy Kacer, Greater Florida Manager – Airports  
April 13, 2020  
Re: PBI Main Terminal Roof Replacement

3. JLRD understands and agrees that the DOA shall have the responsibility for the general administration of the construction contract. JLRD shall not have the authority or responsibility to accept or reject work done by the contractor and is only responsible for providing recommendations to the DOA based on the available information.

Fee:

To provide the work presented, JLRD shall be paid a lump sum fee of Twenty-Seven Thousand Two Hundred Sixty Dollars (**\$27, 260.00**).

Excluded from JLRD scope:

1. There is no electrical, fire alarm, structural, or fire protection work included in this project.
2. Commissioning of HVAC equipment.
3. Construction administration services such as shop drawing review, RFI responses, periodic site visits during construction, and as-built documentation.

Sincerely,

**JOHNSON, LEVINSON, RAGAN, DAVILA, INC.**



Michael P. Linden, PE, LEED AP®  
Vice President

MPL/khg

*AECOM PBI Terminal Re-Roof 04-13-2020 PRO.doc*



DESIGN LABOR BREAKDOWN																	
TASK	HOURS													Tot	Cost		
	Principal		PE		Eng		Sr. Dsgn		Dsgn		Off Hours		CAD			SEC	
	200	200	130	130	85	85	120	120	75	75	128	128	55			65	
	M	E	M	E	M	E	M	E	M	E	M	E	-	-			
<b>BASE DESIGN SCOPE</b>																	
<i>General</i>																	
General Project Management	3		2												7	12	\$ 1,315.00
Locate and Study Existing As-Built and Roof Assessment Report			2				12									14	\$ 1,700.00
Review Test and Balance Report (Pre and Post Construction)																-	-
Coordination with consultants (arch, struct, elec)							5							2		7	\$ 710.00
<i>On-site Tasks</i>																	
Verify existing HVAC equipment locations, curb sizes, and roof drains							12							12		24	\$ 2,100.00
Design Meetings (60%, 90%, 100% review)							6							2		8	\$ 850.00
<i>Construction Documents</i>																	
M-01 Legend, General Notes, and Schedules							3							4		7	\$ 580.00
M-02 HVAC Schedules			1				6							3		10	\$ 1,015.00
M-03 HVAC Partial Roof Plan							10							8		18	\$ 1,640.00
M-04 HVAC Partial Roof Plan							10							8		18	\$ 1,640.00
M-05 HVAC Partial Roof Plan							10							8		18	\$ 1,640.00
M-06 HVAC Partial Roof Plan							10							8		18	\$ 1,640.00
M-07 HVAC Details			1				6							2		9	\$ 960.00
<i>Plumbing</i>																	
P-01 General Notes and Schedule			1				2							1		4	\$ 425.00
P-02 Plumbing Roof Plan							5							4		9	\$ 820.00
P-03 Plumbing Roof Plan							5							4		9	\$ 820.00
P-04 Plumbing Roof Plan							5							4		9	\$ 820.00
P-05 Plumbing Roof Plan							5							4		9	\$ 820.00
P-06 Plumbing Details			1				2							1		4	\$ 425.00
<i>Construction Cost Estimating</i>																	
Construction Cost Estimating			2				12									14	\$ 1,700.00
Specification Writing (HVAC and Plumbing)			2				12								8	22	\$ 2,220.00
QA/QC			6				6									12	\$ 1,500.00
Address Comments (HVAC and Plumbing)			2				8							8	4	22	\$ 1,920.00
<b>BASE DESIGN SUBTOTAL</b>	<b>3</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>21</b>	<b>277</b>	<b>\$ 27,260.00</b>
<b>CONSTRUCTION ADMINISTRATION</b>																	
Shop Drawings																	
Pre-Con, Pre-Bid, Field Obs																	
RFIs and ASIs																	
As-Built																	
<b>CONSTRUCTION ADMIN SUBTOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>JLRD DIRECT LABOR</b>	<b>3</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>21</b>	<b>277</b>	<b>\$ 27,260.00</b>
<b>SUBCONTRACTORS</b>																	
NONE																	
OH&P @ 10%																	\$ -
<b>SUBCONTRACTOR SUBTOTAL</b>																	\$ -
<b>EXPENSES</b>																	
<i>Travel</i>																	
Parking																	\$ -
<i>Overnights</i>																	
Hotel & Meals																	\$ -
<i>Reproduction</i>																	
Large Format Docs			0		3		3										\$ -
8.5" x 11": Report, Systems Manuals			0		3		3										\$ -
<b>EXPENSES SUBTOTAL</b>																	\$ -
<b>SUMMARY</b>																	
<b>JLRD DIRECT LABOR</b>																	\$ 27,260.00
<b>SUBCONTRACT</b>																	\$ -
<b>EXPENSES</b>																	\$ -
<b>PROJECT TOTAL</b>																	\$ 27,260.00

Revised: July 13, 2020

Mr. Andy Kacer, P.E.  
AECOM  
2090 Palm Beach Lakes Blvd., Suite 600  
West Palm Beach, Florida 33409

Re: **PBIA Main Terminal Roof Replacement**  
**Architectural Design / Bidding / Permit Phases**  
Palm Beach International Airport - West Palm Beach, Florida

Dear Mr. Kacer:

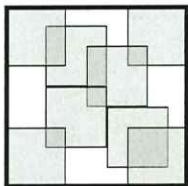
Our Firm – Colomé & Associates, Inc. (Architect) – would like to thank you for the opportunity to provide AECOM with this proposal for architectural professional services for the proposed replacement and short-term garage water intrusion at the PBIA Main Terminal roof areas at Palm Beach International Airport in West Palm Beach, Florida.

The project will consist of replacing the Terminal roof areas as identified within the PBI Roof Evaluation / Study dated December 9, 2019, prepared by Knopf and Associates, Inc., and incorporate design documents to address Water Intrusion from the short term garage expansion joints based on report prepared by Coating Consultants Inc., within the completed set construction documents for the project. Scope of work includes coordination of structural engineering wind loads and roof top unit tie-down requirements and mechanical, plumbing and electrical engineering related to removing and resetting all roof top equipment on the new roof curbs, roof drain piping, and roof and equipment lightning protection, detailing specific expansion joint conditions throughout the garage levels, and detailing of Terminal exterior exposed floor deck areas of stairs off the garage at each level.

The scope of services shall include the preparation of 60%, 90% design submittals, cost estimating, construction / permit documents, bidding or negotiating project phases. A portion of the work effort that was in this scope and fee related to the Kick-Off Meeting, portion of Data Collection, and portion of Architectural Drawings (Total Amount 49,974.34) has been removed and included in Task III-20-PBI-A-039 for PBI Terminal Roof Evaluation and Preliminary Replacement Design.

The scope of work shall include the following:

- Design and Construction Documents
  - Based on the field investigations performed by this office, provide working drawings and specifications, described in detail sufficient for construction, including coordination of structural engineering and MEP engineering services (limited to items described above) within the completed set of construction documents.



**Colomé & Associates, Inc.**

Florida Registration AA0003439

Architecture □ Planning □ Interiors

530 24th Street □ West Palm Beach, Florida 33407 □ Telephone: (561) 833-9147 □ Facsimile: (561) 833-9356 □ E-mail: colome@colome-arch.net



- Bidding / Prebid Conference
  - Assist AECOM in preparation of addenda and respond to General Contractor's RFI's during Bidding process.
- Preparation and Permitting Submissions
  - Prepare permit documents for PBC DOA to submit to Palm Beach County Building Department.
- Fees
- Architectural Design Services: - Construction Documents, Cost Estimating, Bidding, and Permit Documents Phases: Fees for performing services as outlined above shall be based upon the stipulated lump sum of one hundred seventy-five thousand nine hundred forty-eight dollars and twelve (\$175,948.12) cents.
- Additional Services
  - Additional Services as requested by the Owner shall be on the Architectural and Engineering Hourly Basis as set forth in the executed AECOM Contract for Architectural Service or stipulated lump sum.
  - Items excluded from this professional services fee proposal:

The following items are not included as part of this professional services fee proposal: This proposal does not include the documentation or analysis of green or sustainable building components or measures incorporated into this design. If the documentation or analysis (including life cycle analysis) of this building is required to meet Florida Statutes 255.251-255.259, this service can be provided as an "Additional Services", LEED design services, Fees related to project applications, registrations, and permitting, water intrusion consulting services, full time roof inspection services during construction, exterior wall repairs, connecting existing or new roof drainage to storm system, new lightning protection system design, civil, structural, and M.E.P. engineering services, moisture surveys, conformance drawings, and re-design as a result of value engineering.

G24. FS558.0035. – PURSUANT TO FLORIDA STATUTE 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE. (AS LONG AS THE BUSINESS ENTITY MAINTAINS THE PROFESSIONAL LIABILITY INSURANCE REQUIRED UNDER THIS CONTRACT AND AS LONG AS ANY DAMAGES ARE SOLELY ECONOMIC IN NATURE AND THE DAMAGES DO NOT EXTEND TO PERSONAL INJURIES OR PROPERTY NOT SUBJECT TO THE CONTRACT).

Sincerely,



Elizabeth A. G. Colome' – Architect

Labor/Fee Estimate Summary (Colome & Associates, Inc.) - DOA PBI TERMINAL ROOF REPLACEMENT



**Colome & Associates, Inc.**  
 ARCHITECTURE · PLANNING · INTERIORS  
 Florida Registration - AA 0003439  
 530 24th Street West Palm Beach Florida 33407  
 Phone: (561) 833-9147 Fax: (561) 833-9358

<b>Billing Rate:</b>	\$ 169.04	\$ 138.65	\$ 85.96	\$ 43.68
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Task Description	Labor Estimate (Hours)							Labor Total	Expenses	Total	
	Principal		Project Manager		Architect Drafting		Clerical				
<b>Architectural Design, Construction Documents, Bid, and Permit Phases</b>											
<b>Task Description Total</b>	<b>162</b>		<b>416</b>		<b>1017</b>		<b>69</b>	<b>\$175,498.12</b>	<b>\$450.00</b>	<b>\$175,948.12</b>	
<b>Architect Administration</b>											
Subconsultant Coordination	8	\$1,352.32	32	\$4,436.80	24	\$2,063.04	2	\$87.36	\$ 7,940	\$ 7,940	
Design Coordination with DOA		\$0.00	12	\$1,663.80	6	\$515.76		\$0.00	\$ 2,180	\$ 2,180	
Kichoff Meeting		\$0.00	0	\$0.00	0	\$0.00		\$0.00	\$ -	\$ -	
										\$10,119.08	
<b>60% Architectural Construction Documents</b>											
Data Collection / Field Investigation		\$0.00	8	\$1,109.20	24	\$2,063.04	6	\$262.08	\$ 3,434	\$ 3,434	
Architectural Drawings	22	\$3,718.88	41	\$5,684.65	238	\$20,458.48	6	\$262.08	\$ 30,124	\$ 30,124	
60% Architectural Specifications	8	\$1,352.32	18	\$2,495.70	18	\$1,547.28	6	\$262.08	\$ 5,657	\$ 5,732	
<b>Added Task</b> Architectural 60% Design Documents - (Garage Expansion Joint Repairs)	<b>8</b>	<b>\$1,352.32</b>	<b>28</b>	<b>\$3,882.20</b>	<b>98</b>	<b>\$8,424.08</b>	<b>4</b>	<b>\$174.72</b>	<b>\$ 13,833</b>	<b>\$ 13,883</b>	
Cost Estimate	4	\$676.16	28	\$3,882.20	4	\$343.84	3	\$131.04	\$ 5,033	\$ 5,033	
QA/QC & Production	24	\$4,056.96	20	\$2,773.00		\$0.00		\$0.00	\$ 6,830	\$ 6,830	
DOA Design Review Meeting		\$0.00	2	\$277.30	1	\$85.96		\$0.00	\$ 363	\$ 363	
Implement DOA Review Comments		\$0.00	1	\$138.65	6	\$515.76		\$0.00	\$ 654	\$ 654	
										\$66,054.98	
<b>90% Architectural Construction Documents</b>											
Data Collection / Field Investigation		\$0.00	12	\$1,663.80	32	\$2,750.72	6	\$262.08	\$ 4,677	\$ 4,752	
Architectural Drawings	16	\$2,704.64	34	\$4,714.10	260	\$22,349.60	8	\$349.44	\$ 30,118	\$ 30,193	
90% Architectural Specifications	8	\$1,352.32	18	\$2,495.70	12	\$1,031.52	6	\$262.08	\$ 5,142	\$ 5,142	
<b>Added Task</b> Architectural 90% Design Documents - (Garage Expansion Joint Repairs)	<b>10</b>	<b>\$1,690.40</b>	<b>32</b>	<b>\$4,436.80</b>	<b>98</b>	<b>\$8,424.08</b>	<b>4</b>	<b>\$174.72</b>	<b>\$ 14,726</b>	<b>\$ 14,776</b>	
Cost Estimate	4	\$676.16	28	\$3,882.20	4	\$343.84	3	\$131.04	\$ 5,033	\$ 5,033	
QA/QC & Production	20	\$3,380.80	20	\$2,773.00		\$0.00		\$0.00	\$ 6,154	\$ 6,154	
DOA Design Review Meeting		\$0.00	1	\$138.65	1	\$85.96		\$0.00	\$ 225	\$ 225	
Implement DOA Review Comments		\$0.00	1	\$138.65	6	\$515.76		\$0.00	\$ 654	\$ 654	
										\$66,928.06	
<b>Permit Architectural Documents</b>											
Architectural Drawings	12	\$2,028.48	18	\$2,495.70	110	\$9,455.60	2	\$87.36	\$14,067.14	\$ 14,142	
Architectural Specifications	6	\$1,014.24	12	\$1,663.80	8	\$687.68	4	\$174.72	\$3,540.44	\$ 3,540	
Bldg. Department Comments	10	\$1,690.40	16	\$2,218.40	42	\$3,610.32	4	\$174.72	\$7,693.84	\$ 7,694	
										\$25,376.42	
<b>Bidding Documents</b>											
DOA/Contractor or CM Coordination		\$0.00	4	\$554.60	2	\$171.92		\$0.00	\$ 727	\$ 727	
Pre-Bid Meeting		\$0.00	4	\$554.60	4	\$343.84		\$0.00	\$ 898	\$ 898	
Bid RFI Review / Response	2	\$338.08	24	\$3,327.60	18	\$1,547.28	4	\$174.72	\$ 5,388	\$ 5,388	
Bid Review - Recommendations		\$0.00	2	\$277.30	1	\$85.96	1	\$43.68	\$ 407	\$ 407	
										\$7,469.58	
<b>Grand Total</b>	<b>162.00</b>	<b>\$27,384.48</b>	<b>416.00</b>	<b>\$57,678.40</b>	<b>1,017.00</b>	<b>\$87,421.32</b>	<b>69.00</b>	<b>\$3,013.92</b>	<b>\$175,498.12</b>	<b>\$450.00</b>	<b>\$175,948.12</b>

Source: Colome & Associates, Inc.

July 13, 2020

AECOM Technical Services, Inc.  
Mr. Andy Kacer P.E.  
Southeast Aviation Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607

Subject: Electrical Design Services Fee Proposal for the Palm Beach County Department of Airports (DOA) – Electrical Design Services Fee Proposal for the Palm Beach County Department of Airports (DOA) – PBIA Terminal Roof Replacement

Dear Andy:

Quantum Electrical Engineering, Inc. (QUANTUM) is pleased to provide AECOM an electrical design services fee proposal for the DOA PBIA Terminal Roof Replacement Project. QUANTUM will provide all required electrical design for the replacement of the existing roof including removal and replacement of electrical systems for existing HVAC, exhaust and ventilation fans, lighting systems, and lightning protection systems.

The following items are included in our scope:

- Includes coordination meetings with DOA Departments and AECOM Design Team Meetings.
- Includes record drawings reviews & on-site electrical verifications and assessment of existing conditions assistance of DOA Electrical Maintenance Department.
- Includes all electrical and photometric calculations. Design shall be per all DOA requirements, NEC and County codes & standards criteria.
- Includes electrical demolition plans for existing rooftop HVAC equipment. Including supply, exhaust and ventilation fans and lighting systems within the scope of work limits.
- Does not include removal/installation of existing cooling towers or associated equipment.
- Includes removal of existing lightning protection and specification for new lightning protection system for new rooftop.
- Includes electrical design to support the new HVAC systems, exhaust and ventilation fans, (designed by JLRD) including power, disconnect switches, receptacles, control wiring and conduit systems as specified and required by the mechanical designer.
- Includes removal of existing parking lot light fixture, poles, conduits and conductors
- Includes new design of rooftop security lighting, including fixtures, conduit and wiring and connection to existing lighting control system.
- AECOM shall provide all base building & site drawings to AECOM on AutoCAD 2020.

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

- QUANTUM shall provide 1-set of electronic electrical plans & specifications to AECOM for 90%, 100%, and permit/bid documents.
- AECOM shall provide all printing of Plans & Specifications for reviews, bid phase, permits and construction phases.
- Does not include construction services.
- Includes Bid and Award Services.
- Includes Addenda revisions and Permitting comments revisions.
- Includes review of bid results and recommendation of award.
- Task 1 60% Design Documents for this scope of work completed under Task III-20-PBI-A-039 PBI Terminal Roof Evaluation and Preliminary Replacement Design.

Lump-Sum fee for Task 2 90% Design Documents is:	\$ 6,057.62
Lump-Sum fee for Task 3 100% Documents is:	\$ 1,286.52
Lump-Sum fee for Task 4 Permit/Bid Documents is:	\$ 2,117.28
Lump-Sum fee for Task 5 Bid & Award is:	<u>\$ 1,938.44</u>
<b>Our proposed total Lump-Sum fee is:</b>	<b>\$11,399.86</b>

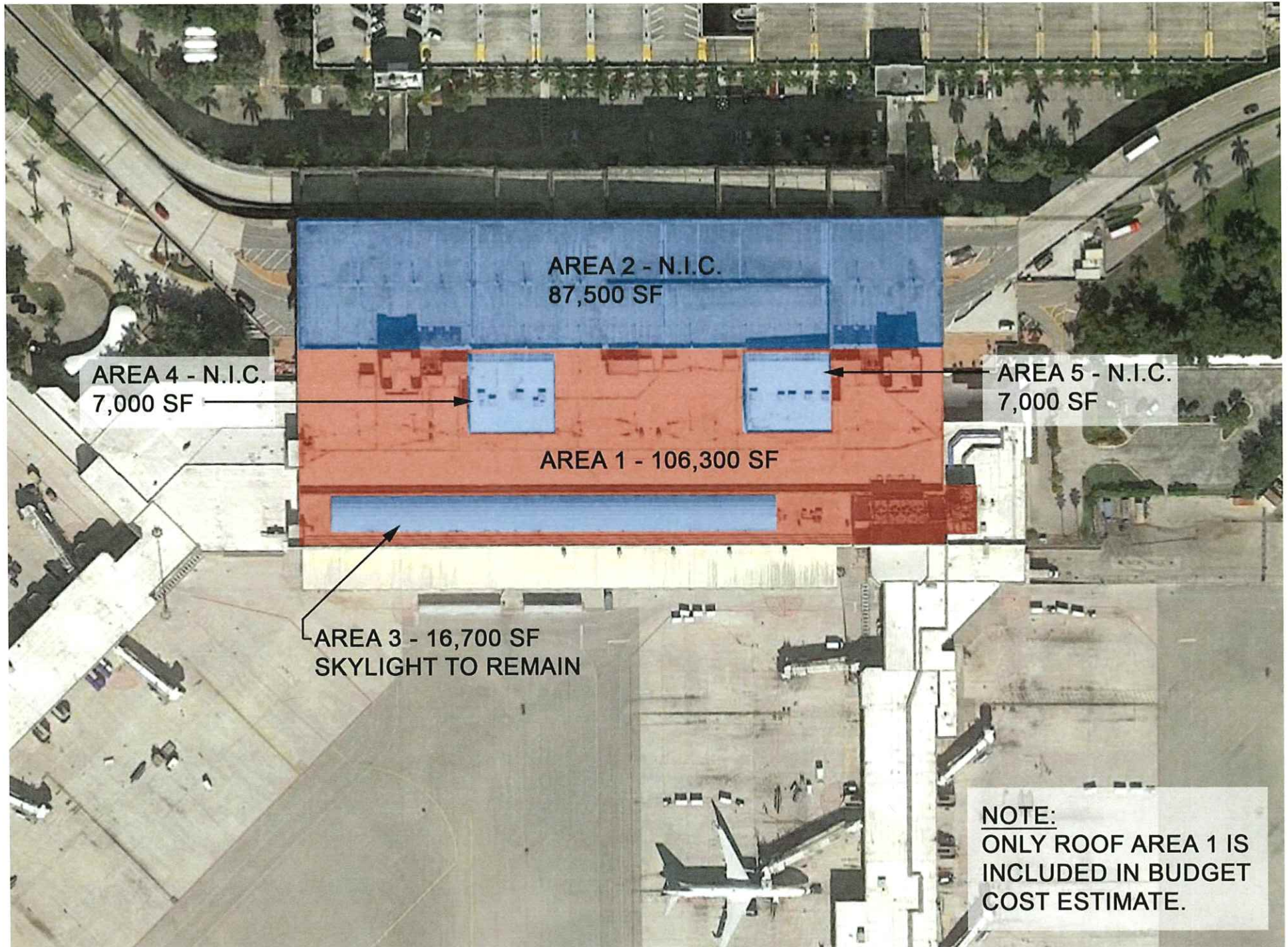
(See attachment breakdown)

Sincerely,



Amy L. Champagne-Baker, PE  
President

PALM BEACH COUNTY DEPARTMENT OF AIRPORTS- PBIA TERMINAL ROOF REPLACEMENT									
QUANTUM ELECTRICAL ENGINEERING, INC.									
SCOPE FEE SUMMARY									
FEE PROPOSAL ELECTRICAL DESIGN to AE 7/13/2020									
	Rate	\$161.54	\$144.23	\$138.46	\$69.23	\$132.69	\$46.15		
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST
<b>Task 1: 60% Design Documents under Preliminary Task</b>									
Design Review Mtgs DOA, P&Z, AE							0		\$0.00
On site verifications\Discovery Phase							0		\$0.00
Demolition, Phasing & Temporary drawings							0		\$0.00
Electrical Design Drawings							0		\$0.00
Specifications & Cost Estimate							0		\$0.00
QA/QC & Comment Incorporation							0		\$0.00
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>\$0.00</b>
<b>Task 2: 90% Design Documents</b>									
Design Review Mtgs DOA, P&Z, AE		2				1	3		\$334.61
Demolition, Phasing & Temporary drawings		2	2	2			6		\$703.84
Electrical Design Drawings		8	8	8			24		\$2,815.36
Specifications & Cost Estimate		4	4			4	12		\$1,315.36
QA/QC & Comment Incorporation		2	2	4		1	9		\$888.45
<b>Subtotal</b>	<b>0</b>	<b>18</b>	<b>16</b>	<b>14</b>	<b>0</b>	<b>6</b>	<b>54</b>		<b>\$6,057.62</b>
<b>Task 3: 100% Design Documents</b>									
Design Review Mtgs DOA, P&Z, AE		2					2		\$288.46
Demolition, Phasing & Temporary drawings			1	1			2		\$207.69
Electrical Design Drawings			1	1			2		\$207.69
Specifications & Cost Estimate		1	1			1	3		\$328.84
QA/QC & Comment Incorporation			1	1		1	3		\$253.84
<b>Subtotal</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>12</b>		<b>\$1,286.52</b>
<b>Task 4: Permit &amp; Bid Documents</b>									
Design Review Mtgs DOA, P&Z, AE		2				1	3		\$334.61
Demolition, Phasing & Temporary drawings		1	1	1			3		\$351.92
Electrical Design Drawings		1	1	1			3		\$351.92
Specifications & Cost Estimate		1	1			1	3		\$328.84
QA/QC & Comment Incorporation		1	1	1			3		\$351.92
Addenda & Permitting Comment Revisions		1	1	1		1	4		\$398.07
<b>Subtotal</b>	<b>0</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>19</b>		<b>\$2,117.28</b>
<b>Task 5: Bid &amp; Award Services</b>									
Review of Bid Results & Recommendation			4				4		\$576.92
RFI Responses			4	4	2		12		\$1,361.52
<b>Subtotal</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>16</b>		<b>\$1,938.44</b>
<b>Grand Total Hours</b>	<b>0</b>	<b>33</b>	<b>25</b>	<b>20</b>	<b>0</b>	<b>11</b>	<b>89</b>		<b>\$11,399.86</b>
<b>Grand Total Labor Cost</b>	<b>\$0.00</b>	<b>\$4,759.59</b>	<b>\$3,461.50</b>	<b>\$1,384.60</b>	<b>\$0.00</b>	<b>\$507.65</b>			



AREA 2 - N.I.C.  
87,500 SF

AREA 4 - N.I.C.  
7,000 SF

AREA 5 - N.I.C.  
7,000 SF

AREA 1 - 106,300 SF

AREA 3 - 16,700 SF  
SKYLIGHT TO REMAIN

**NOTE:**  
ONLY ROOF AREA 1 IS  
INCLUDED IN BUDGET  
COST ESTIMATE.



## EXHIBIT A-4

## **PALM BEACH DOA GENERAL CONSULTING SERVICES**

### **EXHIBIT A-4**

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#### **Palm Beach International Airport (PBI) Task I-20-PBI-A-035: Stormwater Master Plan Update**

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### **OVERVIEW**

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM or CONSULTANT) provide Engineering Services (ES) associated with the Palm Beach International Airport (PBI): Stormwater Master Plan (SWMP) Update. The purpose of this task order is to update the current PBI Conceptual Stormwater Management Master Plan that was developed on February 18, 2008 and to conceptually permit the improvements proposed in the Final September 2018 PBI Airport Layout Plan (ALP). The goal of the plan is to develop improvements for the master stormwater management system to accommodate the projects planned in the approved Airport Layout Plan. By developing this SWMP Update, the DOA will be able to permit and construct the individual projects in a timely manner.

CONSULTANT will provide the above mentioned services with the support of the following Sub-consultants:

- A.D.A. Engineering, Inc. (ADA)
- Cyriacks Environmental Consulting Services, Inc. (CECOS)

The following describes the proposed Scope of Services, Deliverables, Schedule and Method of Compensation.

### **Scope of Work**

AECOM will perform the following tasks and subtasks as part of this task order:

1. Task Management and Administration
2. Data Collection and Evaluation
3. Modeling Support
4. Conceptual Environmental Resource Permit (ERP)
5. Conceptual Plans
6. Stormwater Master Plan Update

The following sub-sections describe the work and level of effort associated with each task and subtask.

**Task 1 – Task Management and Administration**

Throughout the duration of the study, various activities associated with the management of the study team will occur. The activities include: contract management, coordination with the various sub consultants, and kick-off meetings.

***Task 1.1 – Contract Management AECOM***

This includes all efforts associated with coordinating this project with the DOA including meeting organization, progress reports, and invoicing. AECOM will also perform a cursory QA/QC of the drainage calculations and the environmental services elements for the draft and final report.

***Task 1.2 – Sub-consultant Coordination (ADA and CECOS)***

Due to the nature of the effort, the team will conduct both intermittent and regularly scheduled coordination meetings. No formal agendas or meeting notes will be prepared or distributed for these internal coordination meetings.

***Task 1.3 - Kick-off Meeting***

An initial meeting with the DOA and team is included to establish the parameters and expectations on the project.

***Task 1.4 – Progress Meetings***

A draft and a final stormwater master plan will be prepared as deliverables. As part of those deliverables, the team will meet with the DOA at these two phases of the project to provide the findings of the reports.

**Task 2 – Data Collection and Evaluation**

AECOM will collect all required data to support the modeling effort needed to update the PBI SWMP. At a minimum, the following data will be collected by AECOM and provided to ADA to support the modeling effort outlined in Task 3.

1. Construction ERP applications, staff reports and as-built plans for projects completed within the PBI since approval of the current Conceptual ERP.
2. Construction ERP applications, staff reports and design plans for projects under construction within the PBI since approval of the current Conceptual ERP on April 1, 2009.
3. Supplemental topographic surveys and geotechnical studies completed since the approval of the current Conceptual ERP.
4. Latest Palm Beach County LiDar data in electronic format when available from the County.
5. Most current C-51 Basin Reports and Design Criteria.
6. Final September 2018 Airport Layout Plan (ALP) with proposed improvements to be included in the new Conceptual ERP application.
7. CAD files and/or GIS shapefiles of proposed improvements in the Final ALP
8. CAD files and/or GIS shapefiles of utilities within the PBI.
9. Updated Stub Canal Basin Interconnected Pond Routing (ICPR) model, if significantly modified from the current Conceptual ERP.
10. Other reports, as-builts, studies and documents available from the DOA, South Florida Water Management District (SFWMD), Lake Worth Drainage District (LWDD), Palm Beach County, Florida Department of Transportation (FDOT), and Stub Canal Task Force that will facilitate the modeling effort described in Task 3.

ADA will unarchive the ICPR hydrologic/hydraulic model, water quality calculations, and floodplain compensation calculations used to complete the 2008 PBI SWMP and prepare the current Conceptual ERP application. The model will be updated into a one dimensional version 4 ICPR Model.

As part of this task, the AECOM Project Engineer and Subconsultants will attend up to two, one-day field reconnaissance site visits to evaluate the site conditions of projects completed since the current Conceptual ERP was approved and review key as-built plan conditions of the primary drainage system.

### **Task 3 – Modeling Support**

#### ***Task 3.1 – Hydrologic/Hydraulic Model Setup and Analyses***

ADA will perform the following activities to develop an existing conditions hydrologic/hydraulic model that is representative of the current conditions within the PBI.

1. Convert the existing conditions ICPR V3, 1 dimensional (1D) model used to obtain the current Conceptual ERP to the ICPR V4 model. The same model vertical datum (NAVD88) will be maintained in the converted model.
2. Execute the converted model for the following design storm events to ensure the converted model is generating comparable stages and flows as the existing conditions ICPR V3 model:
  - 5-year, 24-hour
  - 10-year, 24-hour
  - 10-year, 3-day
  - 25-year, 3-day
  - 100-year, 3-day
3. Incorporate the projects completed since the current Conceptual ERP was obtained, based on the data collected as part of Task 2. For scoping purposes, it is assumed that a total of twenty-seven (27) projects have been completed since the Conceptual ERP was obtained according to the South Florida Water Management District e-permitting site. Only the primary conveyance systems will be incorporated in the hydraulic model.
4. Incorporate the projects currently under construction since the current Conceptual ERP permit was obtained, based on the data collected as part of Task 2. For scoping purposes, it is assumed that a total of five (5) projects have been permitted and are under construction since the Conceptual ERP was obtained. Only the primary systems will be incorporated in the hydraulic model.
5. Revise the Basin and sub-basin delineations based on the available as-built and design plans.
6. Revise the following basin and sub-basin hydrologic parameters based on the as-built and design plans:
  - Area
  - Stage-storage
  - Runoff Curve Number
  - Direct Connected Impervious Area
  - Time of Concentration
7. Couple new/updated Stub Canal ICPR model with the revised PBI model. This task will require the following activities:
  - a. Convert Stub Canal ICPR model to ICPR V4 if not in that format.

- b. Execute the Stub Canal ICPR V4 model for the same five (5) design storm events outlined above to ensure comparable stages and flows are being computed with the updated model.
  - c. Incorporate the proposed stormwater management systems for Outparcel Groups 1 through 5 in the Stub Canal ICPR V4 model, based on the systems included in the current Conceptual ERP.
8. Execute the revised ICPR V4 model for the following design storm events to determine if the stormwater management systems constructed to date meet the water quantity requirements included in the current Conceptual ERP.
- 5-year, 24-hour
  - 10-year, 24-hour
  - 10-year, 3-day
  - 25-year, 3-day
  - 100-year, 3-day

The ICPR V4 model to be developed as part of this task will be referred to as the existing conditions or baseline model.

**Task 3.2 – ALP Hydrologic/Hydraulic Model Setup**

ADA will perform the following activities to develop a Final ALP hydrologic/hydraulic model that is representative of the Final ALP planning horizon conditions within the PBI. As for the proposed conditions model, Outparcel Groups outside of the PBI limits will not be modified in this model, but the naming will be updated to correspond to the ALP.

1. Incorporate the Final ALP projects in the ICPR V4 model developed as part of Task 3.1. For scoping purposes, it is assumed that the projects listed within Table 9.5 of the 2018 Master Plan that require stormwater management facilities will be incorporated in the model.
2. Revise the basin and sub-basin delineations based on the Final ALP project limits.
3. Evaluate projected sea level and groundwater rise for the ALP planning horizon.
4. Revise model design high water and boundary conditions based on agreed upon sea level and groundwater rise projections.
5. Revise the following basin and sub-basin hydrologic parameters based on the Final ALP projects:
  - Area
  - Stage-storage
  - Runoff Curve Number
  - Direct Connected Impervious Area
  - Time of Concentration
6. Execute the revised ICPR V4 model for the following design storm events to determine if the stormwater management systems constructed to date meet the water quantity requirements included in the current Conceptual ERP with the Final ALP projects implemented.
  - 5-year, 24-hour
  - 10-year, 24-hour
  - 10-year, 3-day
  - 25-year, 3-day
  - 100-year, 3-day

The ICPR V4 model to be developed as part of this task will be referred to as the ALP model. Only one (1) ALP will be evaluated and ALP phasing elements will not be evaluated as part of this task. The model will be evaluated for the ultimate buildout plan (Post 2035) per Figures 9.5, 9.7, 9.8, 9.10, 9.11, 9.12, and 9.13 of the plan. Separate analysis for each phase is not included.

**Task 3.3 – Water Quality Analyses**

ADA will perform the following activities as part of this task:

1. Perform water quality volumetric requirement calculations for each basin within the PBI, based on the addition of the Final ALP projects.
2. Determine if current water quality criteria is being met by each basin with the currently constructed stormwater management systems.
3. Determine how much additional water quality volume must be provided within each basin, including required modifications to pump on elevations, to meet current water quality retention/detention requirements.

**Task 3.4 – Floodplain Encroachment Assessment**

ADA will perform the following activities as part of this task:

1. Perform floodplain compensation volumetric requirement calculations for each basin within the PBI and PBI/Outparcel Groups combined, based on the addition of the Final ALP projects.
2. Determine if floodplain compensation criteria are being met by each basin and PBI/Outparcels combined.
3. Develop a floodplain compensation plan to determine where additional floodplain compensation volume can be allocated to meet the C-51 Basin current floodplain compensation requirements.

**Task 3.5 – Alternative Formulation and Analyses**

AECOM and ADA will identify the stormwater management system modifications required to meet the required water quality and quantity requirements for the Final ALP projects. These modifications will be included in the ALP Model developed as part of Task 3.2. The revised ALP model will be executed for the following design storm events to ensure that the proposed stormwater management system revision will meet the current water quantity, water quality and floodplain compensation requirements.

- 5-year, 24-hour
- 10-year, 24-hour
- 10-year, 3-day
- 25-year, 3-day
- 100-year, 3-day

**Task 3.6 – Modeling Technical Memorandum**

ADA will prepare a Modeling Technical Memorandum documenting the work completed as part of Task 3.1 through 3.5. AECOM will use the Technical Memorandum to develop the stormwater master plan.

**Task 4 – Conceptual Environmental Resource Permit (ERP)**

AECOM and ADA will attend one (1) pre-application meeting and two (2) follow-up meetings with the SFWMD to address concerns and constraints that may arise during the review process. AECOM will prepare the Conceptual ERP application, using the information included in the Modeling Technical Memorandum to be prepared as part of Task 3. This information will be used to provide the water quantity, water quality and flood plain encroachment requirements of the application. AECOM will submit the application through SFWMD e-permitting portal.

AECOM will address up to one (1) Request for Additional Information (RAI) response to address comments from SFWMD staff on the water quantity, water quality and floodplain encroachment requirements of the application.

As part of the application, the environmental assessment that was completed on Parcels 7, 9A, 9B, 9C, 10, 35 and 37 from the 2008 SWMP needs to be updated. At this time, there are no current plans to construct these improvements so the purpose of this effort is to evaluate potential environmental constraints that need to be incorporated into the ERP. CECOS will conduct a desktop review prior to beginning field reviews. The purpose of this desktop review is to ascertain known environmental constraints/conditions to ensure they are adequately field reviewed. After completion of the desktop review, CECOS will field review each of the aforementioned parcels for the presence of wetlands, other surface waters and potential for listed species. In the event jurisdictional wetlands are identified, boundary data points will be collected using a sub-meter accurate GPS unit and representative flags placed, where practical. The previously identified jurisdictional wetlands on Parcels 9A and 37 will be reviewed and their existing Uniform Mitigation Assessment Method (UMAM) functional assessment scores updated. Please note if credits from the Loxahatchee Mitigation Bank are proposed as potential, future mitigation, then the Modified Wetland Rapid Assessment Procedure (M-WRAP) functional assessment must be used. Preparation of typical M-WRAP data sheets for the previously identified wetlands and new wetlands associated with will be included in this effort. Representative USACE wetland data sheets will be prepared, where applicable. Concurrent with the wetland review, CECOS will also record incidental observations of wildlife, i.e. burrows, nests.

A write up for inclusion in the ERP and the Stormwater Master Plan Report will be prepared summarizing the results of the environmental assessment. The write up will include an aerial location map of the areas reviewed and subsequent wetland jurisdictional areas identified as well as soil and Florida Land Use and Cover Classification System (FLUCCS) maps. Wildlife burrows/nest locations and other pertinent features will also be shown on an environmental features map, if applicable.

In addition to the environmental assessment, SFWMD requires a consumptive use permit to be prepared for any irrigation or dewatering activities. AECOM will prepare the application and the associated calculations for this application as needed.

**Task 5 – Conceptual Drawing Plans**

Based on the updated ALP, the ALP modeling effort, and the information gathered since the last modification, conceptual plans will be developed on components needed for the primary drainage system. CADD drawings from CH2M Hill that were produced for the 2008 SWMP will be updated. These plans will consolidate the information gathered and proposed. The survey information (topographic and control plan) within the 2008 plans will be used for this plan and will be updated with information gathered in the data collection. For the 2008 plans, Hillers

Electrical Engineering, Inc. included a lighting demolition and layout plan. These conceptual stormwater master plans will not include lighting elements.

The following information is proposed to be included in the conceptual plans and shall be updated with information from the 2018 ALP:

- Cover and Index of Drawings
- Program Plan
- Part 77 Airspace Analysis (from the 2018 ALP)
- Outparcel Highest and Best Uses with Airspace Restrictions (from 2008 SWMP)
- Survey Control Plan (from 2008 SWMP)
- Demolition Plan
- Runway Profiles (from the 2008 SWMP, updated per 2018 ALP)
- Taxiway and Connector Profiles (from the 2008 SWMP, updated per 2018 ALP)
- Grading and Drainage Plan (assumes Outparcel assumptions remain from 2008 SWMP)
- Existing Surface Water (determined by aerial)
- Existing drainage culvert map (from 2008 SWMP updated with current information)
- Proposed Drainage Culvert Map (from 2008 SWMP updated with modeling effort)
- Overall Impervious/Pervious Map (update with modeling effort)
- Conceptual Stormwater Basin Delineation Map (update with modeling effort)
- Typical Open Surface Water Sections (update with modeling effort)
- Typical Sections (update 2008 SWMP sections)
- Sedimentation and Erosion Control Plan

#### **Task 6 – Stormwater Master Plan Update**

After compiling the information from the previous tasks, AECOM will develop a stormwater master plan document. The document will be in a similar format as the 2008 SWMP. Recommendations will be made for the primary system to accommodate the future ALP as well as including a cost estimate and schedule with the assistance from the DOA.

Based on the projects proposed in the ALP, an engineer's preliminary estimate of probable construction costs will be prepared for the primary stormwater management elements. These costs will be in 2019 dollars and can be used in budget planning.

A preliminary schedule will be developed for the stormwater management improvements. Collaboration with the DOA is needed to coordinate plans made in the ALP for the future.

For ease of administrating the plan with multiple consultants, summary tables will be prepared in order to track impervious, pervious, and building areas as well as allowable storage within each basin and outparcel and any other requirements that may be needed in order to receive a construction permit through SFWMD. This will help tenants as well as the DOA to have a system to track development at PBI.

#### **PROJECT SCHEDULE**

CONSULTANT is scheduled to complete this project within 365 Calendar Days following receipt of the Notice to Proceed.



## **PROJECT DELIVERABLES**

Project Deliverables are the Conceptual ERP application and the Stormwater Master Plan which will include the Modeling Technical Memorandum in Task 3.

## **PROJECT ASSUMPTIONS**

1. Data Collection shall be limited to obtaining existing data in the DOA, SFWMD, LWDD, Palm Beach County, and FDOT files. Survey activities are not proposed for developing this master plan. Should information be needed that could not be obtained from these methods, AECOM will approach the DOA for additional services for limited surveying.
2. For the purpose of the drainage analysis, outparcel groups included in the 2008 SWMP will not be modified or evaluated. Therefore, only the modifications proposed within the PBI airport limits will be evaluated.
3. Permit application fees for the initial submittal for the conceptual ERP and the consumptive use permit are included in the expenses/fee.
4. Hydrologic/hydraulic models to be developed as part of this task order will be conceptual to support the Conceptual ERP application and future detailed design projects. Only the primary drainage systems will be included in the model.
5. Only improvements included in the Final ALP will be modeled to ensure maximum allowable discharge and stages as per the current permit. ALP phasing will not be evaluated separately.
6. AECOM or its sub-consultants will not attend any Stub Canal Task Force meetings.
7. For the environmental assessment, field reviews of additional parcels are not included.
8. Wetland permitting and mitigation design are not included.
9. Species-specific surveys, agency coordination, and listed species permitting are not included.
10. Historic/archaeological investigations are not included.
11. Legal reviews/fees are the responsibility of others.
12. Unrestricted access to parcels will be provided to AECOM and its sub-consultants.
13. Surveying is not included. Surveying information is being used from the 2008 SWMP or as-built drawings provided by the DOA.
14. Groundwater modeling is not included in the scope of services.

**Exhibit B-1**  
**Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-035: PBIA: Stormwater Master Plan Update**

<b>Billing Rate:</b>	\$ 340	\$ 181	\$ 247	\$ 185	\$ 120	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)								Fee Estimate (\$)		
	Principal	QC Reviewer	Senior Project Manager	Project Manager	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total
<b>Task I-20-PBI-A-035: PBIA: Stormwater Master Plan Update</b>											
<b>1.0 TASK MANAGEMENT AND ADMINISTRATION</b>	<b>0</b>	<b>7</b>	<b>19</b>	<b>25</b>	<b>23</b>	<b>0</b>	<b>13</b>	<b>87</b>	<b>\$ 14,515.00</b>	<b>\$ 1,140</b>	<b>\$ 15,655.00</b>
1.1 Contract Management AECOM			4	4			4	12	\$ 2,088		\$ 2,088
1.2 Sub-consultant Coordination (ADA and CECOS)			2	12	12		6	32	\$ 4,694		\$ 4,694
1.3 Kick-off Meeting		7	8	4	6		1	26	\$ 4,793	\$ 230	\$ 5,023
1.4 Progress Meetings			5	5	5		2	17	\$ 2,940	\$ 910	\$ 3,850
<b>2.0 DATA COLLECTION AND EVALUATION</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>90</b>	<b>216</b>	<b>120</b>	<b>0</b>	<b>456</b>	<b>\$ 60,660.00</b>	<b>\$ -</b>	<b>\$ 60,660.00</b>
2.1 Data Collection			6	20	60			86	\$ 12,362		\$ 12,362
2.2 Consolidation of data into CADD/GIS			10	14	40	120		184	\$ 20,540		\$ 20,540
2.3 Review Data			10	40	100			150	\$ 21,870		\$ 21,870
2.4 Un-archive model and calculations			2					2	\$ 494		\$ 494
2.5 Field Visits			2	16	16			34	\$ 5,374		\$ 5,374
<b>3.0 MODELING SUPPORT</b>	<b>0</b>	<b>42</b>	<b>34</b>	<b>36</b>	<b>34</b>	<b>0</b>	<b>0</b>	<b>146</b>	<b>\$ 26,740.00</b>	<b>\$ -</b>	<b>\$ 26,740.00</b>
3.1 Hydrologic/Hydraulic Model Setup and Analyses		10	14					24	\$ 5,268		\$ 5,268
3.2 ALP Hydrologic/Hydraulic Model Setup		10	10					20	\$ 4,280		\$ 4,280
3.3 Water Quality Analyses		4						4	\$ 724		\$ 724
3.4 Floodplain Encroachment Assessment		4						4	\$ 724		\$ 724
3.5 Alternative Formulation and Analysis		4		12	24			40	\$ 5,824		\$ 5,824
3.6 Modeling Technical Memorandum		10	10	24	10			54	\$ 9,920		\$ 9,920
<b>4.0 CONCEPTUAL ENVIRONMENTAL RESOURCE PERMIT (ERP)</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>28</b>	<b>109</b>	<b>0</b>	<b>0</b>	<b>149</b>	<b>\$ 20,828.00</b>	<b>\$ -</b>	<b>\$ 20,828.00</b>
4.1 Pre-Application Meeting			2	4	5			11	\$ 1,834		\$ 1,834
4.2 Application Preparation		4	2	8	40			54	\$ 7,498		\$ 7,498
4.3 Follow-up Meetings			2	4	4			10	\$ 1,714		\$ 1,714
4.4 One (1) Request for Additional Information (RAI)				4	20			24	\$ 3,140		\$ 3,140
4.5 Environmental Assessment		2		2				4	\$ 732		\$ 732
4.6 Consumptive Use Permit				6	40			46	\$ 5,910		\$ 5,910
<b>5.0 CONCEPTUAL PLANS</b>	<b>0</b>	<b>20</b>	<b>10</b>	<b>20</b>	<b>80</b>	<b>240</b>	<b>0</b>	<b>370</b>	<b>\$ 40,750.00</b>	<b>\$ -</b>	<b>\$ 40,750.00</b>
5.1 Update 2008 Plans		20	10	20	80	240		370	\$ 40,750		\$ 40,750
<b>6.0 STORMWATER MASTER PLAN UPDATE</b>	<b>0</b>	<b>42</b>	<b>24</b>	<b>90</b>	<b>168</b>	<b>0</b>	<b>100</b>	<b>424</b>	<b>\$ 59,340.00</b>	<b>\$ 1,000</b>	<b>\$ 60,340.00</b>
6.1 Draft Report		20	8	30	100		60	218	\$ 28,546	\$ 500	\$ 29,046
6.2 Engineer's Estimate of Probable Cost		10	4	20	40			74	\$ 11,298		\$ 11,298
6.3 Schedule		4	4	20				28	\$ 5,412		\$ 5,412
6.4 Final Report		8	8	20	28		40	104	\$ 14,084	\$ 500	\$ 14,584
<b>Total Fee - AECOM Technical Services, Inc.</b>	<b>0</b>	<b>117</b>	<b>123</b>	<b>289</b>	<b>630</b>	<b>360</b>	<b>113</b>	<b>1,632</b>	<b>\$ 222,833</b>	<b>2,140</b>	<b>\$ 224,973</b>

<b>Subconsultant Fees Task 1.0</b>	<b>\$ 3,240</b>	
1 Total Subconsultant Fee - A.D.A. (LS)	\$ 3,240	
Total Subconsultant Fee - A.D.A. (Expenses)	\$ -	
<b>Subconsultant Fees Task 2.0</b>	<b>\$ 10,316</b>	
2 Total Subconsultant Fee - A.D.A. (LS)	\$ 10,316	
Total Subconsultant Fee - A.D.A. (Expenses)	\$ -	
<b>Subconsultant Fees Task 3.0</b>	<b>\$ 136,035</b>	
2 Total Subconsultant Fee - A.D.A. (LS)	\$ 136,035	
Total Subconsultant Fee - A.D.A. (Expenses)	\$ -	
<b>Subconsultant Fees Task 4.0</b>	<b>\$ 24,819</b>	
2 Total Subconsultant Fee - A.D.A. (LS)	\$ 7,306	
Total Subconsultant Fee - A.D.A. (Expenses)	\$ 500	
3 Total Subconsultant Fee - CECOS (LS)	\$ 16,751	
Total Subconsultant Fee - CECOS (Expenses)	\$ 262	
<b>Total Fee - Subconsultants</b>	<b>\$ 174,410</b>	
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>	<b>\$ 399,383</b>	

LS \$396,481  
T&M \$0  
Exp \$2,902  
**\$399,383**

Prepared by: AECOM Technical Services, Inc.

## **Task Order**

### **PALM BEACH COUNTY INTERNATIONAL AIRPORT (PBI) STORMWATER MASTER PLAN (SWMP) UPDATE**

#### **MODELING AND CONCEPTUAL ENVIRONMENTAL RESOURCES PERMIT (ERP) SUPPORT**

A.D.A. Engineering, Inc.

#### **I. Objectives**

The purpose of this task order is for A.D.A. Engineering, Inc. (ADA) to provide hydrologic/hydraulic modeling, water quality, and floodplain compensation analyses to support AECOM in updating the current PBI SWMP and renew the current Conceptual ERP to conceptually permit the improvements proposed in the Final Airport Layout Plan (ALP).

The following sections outline the Scope of Work, Key Assumptions, Work Schedule and Compensation associated with the task order.

#### **II. Scope of Work**

ADA will perform following tasks and subtasks as part of this task order:

1. Project Coordination
2. Data Collection and Evaluation
3. Modeling Support
  - 3.1. Existing Conditions Hydrologic/Hydraulic Model Setup and Analyses
  - 3.2. ALP Hydrologic/Hydraulic Model Setup
  - 3.3. Water Quality Analyses
  - 3.4. Floodplain Encroachment Assessment
  - 3.5. Alternative Formulation and Analyses
  - 3.6. Modeling Technical Memorandum
4. Conceptual Environmental Resources Permit (ERP) Support

The following sub-sections describe the work and level of effort associated with each task and subtask.

##### **Task 1 – Project Coordination**

ADA's Project Manager and Staff Engineer will attend a project kick-off meeting with AECOM and the Palm Beach County Department of Airport (PBCDOA). As part of this task, ADA will also attend a total of two (2) progress meetings at AECOM's West Palm Beach office. ADA's Project Manager and Staff Engineer will attend each meeting. It is assumed that each meeting will last two (2) hours. It is assumed that ADA will not prepare meeting minutes.

ADA will also attend two (2) additional one-hour meetings with AECOM to address key project issues and discuss methodologies, project alternatives, and results. It is assumed that the two (2) meetings will be held via conference call. Meeting minutes will not be prepared as part of these meetings.

## **Task 2 – Data Collection and Evaluation**

AECOM will collect all required data to support the modeling effort needed to update the PBI SWMP and prepare the Conceptual ERP application. At a minimum, the following data will be collected by AECOM and provided to ADA to support the modeling effort outlined in Task 3.

1. Construction ERP applications, staff reports and as-built plans for projects completed within the PBI since approval of the current Conceptual ERP.
2. Construction ERP applications, staff reports and design plans for projects under construction within the PBI since approval of the current Conceptual ERP.
3. Supplemental topographic surveys and geotechnical studies completed since the approval of the current Conceptual ERP.
4. Latest Palm Beach County LiDar data in electronic format.
5. Most current C-51 Basin Reports and Design Criteria.
6. Final ALP with proposed improvements to be included in the new Conceptual ERP application.
7. CAD files and/or GIS shapefiles of proposed improvements in the Final ALP.
8. CAD files and/or GIS shapefiles of utilities within the PBI.
9. Updated Stub Canal Basin ICPR model, if significantly modified from the current Conceptual ERP.
10. Other reports, as-builts, studies and documents available from the PBCDOA, South Florida Water Management District (SFWMD), Lake Worth Drainage District (LWDD), Palm Beach County, Florida Department of Transportation (FDOT), and Stub Canal Task Force that will facilitate the modeling effort described in Task 3.

ADA will unarchive the ICPR hydrologic/hydraulic model, water quality calculations and floodplain compensation calculations used to complete the current PBI SWMP and prepare the Current Conceptual ERP application.

ADA will collect from AECOM and review the collected data outlined above. As part of this task, the ADA Project Engineer and Staff Engineer will attend up to two, one-day field reconnaissance site visits to evaluate the site conditions of projects completed since the current Conceptual ERP was approved and review key as-built plan conditions of the primary drainage system.

## **Task 3 – Modeling Support**

### ***Task 3.1 – Existing Conditions Hydrologic/Hydraulic Model Setup and Analyses***

ADA will perform the following activities to develop an existing conditions hydrologic/hydraulic model that is representative of the current conditions within the PBI.

1. Convert the ALP ICPR V3, 1 dimensional (1D) model used to obtain the current Conceptual ERP to the ICPR V4 model. The converted model will be a 1D hydrologic/hydraulic model. The same model vertical datum (NAVD88) will be maintained in the converted model.
2. Execute the converted model for the following design storm events to ensure the converted model is generating comparable stages and flows as the current ALP ICPR V3 model:
  - 5-year, 24-hour
  - 10-year, 24-hour
  - 10-year, 3-day
  - 25-year, 3-day
  - 100-year, 3-day
3. Incorporate the projects completed since the current Conceptual ERP was obtained, based on the data collected as part of Task 2. For scoping purposes, it is assumed that a total of 20 projects have been completed since the Conceptual ERP was obtained. Only the primary conveyance systems will be incorporated in the hydraulic model.
4. Incorporate the projects currently under construction since the current Conceptual ERP permit was obtained, based on the data collected as part of Task 2. For scoping purposes, it is assumed that a total of five (5) projects have been permitted and are under construction since the Conceptual ERP was obtained. Only the primary systems will be incorporated in the hydraulic model.
5. Revise the Basin and sub-basin delineations based on the available as-built and design plans.
6. Revise the following basin and sub-basin hydrologic parameters based on the as-built and design plans:
  - Area
  - Stage-storage
  - Runoff Curve Number
  - Direct Connected Impervious Area
  - Time of Concentration
7. Couple new/updated Stub Canal ICPR model with the revised PBI model. This task will require the following activities:
  - a. Convert Stub Canal ICPR model to ICPR V4 if not in that format.
  - b. Execute the Stub Canal ICPR V4 model for the same five (5) design storm events outlined above to ensure comparable stages and flows are being computed with the updated model.
  - c. Incorporate the proposed stormwater management systems for Outparcel Groups 1 through 5 in the Stub Canal ICPR V4 model, based on the systems included in the current Conceptual ERP.
8. Execute the revised ICPR V4 model for the following design storm events to determine if the stormwater management systems constructed to date meet the water quantity requirements included in the current Conceptual ERP.
  - 5-year, 24-hour

- 10-year, 24-hour
- 10-year, 3-day
- 25-year, 3-day
- 100-year, 3-day

The ICPR V4 model to be developed as part of this task will be referred to as the existing conditions or baseline model.

***Task 3.2 – ALP Hydrologic/Hydraulic Model Setup***

ADA will perform the following activities to develop a Final ALP hydrologic/hydraulic model that is representative of the Final ALP planning horizon conditions within the PBI. As for the existing conditions model, Outparcel Groups outside of the PBI limits will not be modified in this model.

1. Incorporate the Final ALP projects in the ICPR V4 model developed as part of Task 3.1. For scoping purposes, it is assumed that up to 10 future projects will be incorporated in the model.
2. Revise the basin and sub-basin delineations based on the Final ALP project limits.
3. Evaluate projected sea level and groundwater rise for the ALP planning horizon.
4. Revise model design high water and boundary conditions based on agreed upon sea level and groundwater rise projections.
5. Revise the following basin and sub-basin hydrologic parameters based on the Final ALP projects:
  - Area
  - Stage-storage
  - Runoff Curve Number
  - Direct Connected Impervious Area
  - Time of Concentration
6. Execute the revised ICPR V4 model for the following design storm events to determine if the stormwater management systems constructed to date meet the water quantity requirements included in the current Conceptual ERP with the Final ALP projects implemented.
  - 5-year, 24-hour
  - 10-year, 24-hour
  - 10-year, 3-day
  - 25-year, 3-day
  - 100-year, 3-day

The ICPR V4 model to be developed as part of this task will be referred to as the ALP model. Only one (1) ALP will be evaluated, and ALP phasing elements will not be evaluated as part of this task.

***Task 3.3 – Water Quality Analyses***

ADA will perform the following activities as part of this task:

1. Perform water quality volumetric requirement calculations for each basin within the PBI, based on the addition of the Final ALP projects.
2. Determine if current water quality criteria is being met by each basin with the currently constructed stormwater management systems.
3. Determine how much additional water quality volume must be provided within each basin, including required modifications to pump on elevations, to meet current water quality retention/detention requirements.

#### ***Task 3.4 – Floodplain Encroachment Assessment***

ADA will perform the following activities as part of this task:

1. Perform floodplain compensation volumetric requirement calculations for each basin within the PBI and PBI/ Outparcel Groups combined, based on the addition of the Final ALP projects.
2. Determine if floodplain compensation criteria is being met by each basin and PBI/Outparcels combined.
3. Develop a floodplain compensation plan to determine where additional floodplain compensation volume can be allocated to meet the C-51 Basin current floodplain compensation requirements.

#### ***Task 3.5 – Alternative Formulation and Analyses***

ADA will identify the stormwater management system modifications required to meet the required water quality and quantity requirements for the Final ALP projects. These modifications will be included in the ALP Model developed as part of Task 3.2. The revised ALP model will be executed for the following design storm events to ensure that the proposed stormwater management system revision will meet the current water quantity, water quality and floodplain compensation requirements.

- 5-year, 24-hour
- 10-year, 24-hour
- 10-year, 3-day
- 25-year, 3-day
- 100-year, 3-day

It is assumed that AECOM will prepare the required proposed stormwater management system conceptual plans and opinion of probable construction cost estimates.

#### ***Task 3.6 – Modeling Technical Memorandum***

ADA will prepare a draft Modeling Technical Memorandum documenting the work completed as part of Task 3.1 through 3.5 and provide five (5) hardcopies and one (1) electronic copy of the draft memorandum for review by AECOM. ADA will incorporate applicable comments and

provide AECOM with five (5) hardcopies and one (1) electronic copy of the final Modeling Technical Memorandum.

#### **Task 4 – Conceptual Environmental Resources Permit (ERP) Support**

ADA will attend one (1) pre-application meeting and one (1) follow-up meeting with the SFWMD to address concerns and constraints that may arise during the review process. AECOM will prepare the Conceptual ERP application, using the information included in the Modeling Technical Memorandum to be prepared as part of Task 3. This information will be used to provide the water quantity, water quality and flood plain encroachment requirements of the application.

ADA will address up to one (1) Request for Additional Information (RAI) response to address comments from SFWMD staff on the water quantity, water quality and floodplain encroachment requirements of the application.

## **II. Key Assumptions**

Several assumptions were made in estimating the level of effort associated with the Scope of Work and man-hour estimate. These assumptions are as follow:

1. AECOM will collect all required data to support the modeling effort needed to update the PBI SWMP and prepare the Conceptual ERP application.
2. Outparcel groups included in the current Conceptual ERP will not be modified or evaluated. Therefore, only the modifications proposed within the PBI airport limits will be evaluated.
3. AECOM will prepare the Conceptual ERP application. ADA will only provide support relative to the required hydrologic/hydraulic modeling, water quality requirements and floodplain compensation requirements, based on the information to be included in the Modeling Technical Memorandum to be prepared as part of Task 3.
4. AECOM will prepare all conceptual stormwater management improvements design sketches and develop opinion of probable construction cost.
5. AECOM will prepare required soil erosion and sediment control plans and the stormwater pollution prevention plan (SWPPP) required for the Conceptual ERP application.
6. AECOM will perform all Consumptive Use Permit calculations required for the Conceptual ERP application.
7. AECOM will submit Conceptual ERP application to the SFWMD with associated permit fees.
8. All coordination meetings between AECOM and ADA will be held at AECOM's West Palm Beach office.
9. Hydrologic/hydraulic models to be developed as part of this task order will be conceptual to support the Conceptual ERP application and future detailed design projects. Only the primary drainage systems will be included in the model.
10. Only improvements included in the Final ALP will be modeled to ensure maximum allowable discharge and stages as per the current permit. ALP phasing will not be evaluated separately.
11. ADA will not attend any Stub Canal Task Force meetings.



12. Wetland impact assessments, mitigation plans and calculations will be performed by others.

**III. Work Schedule**

ADA will work closely with AECOM in preparing a detailed work schedule for each task included in the Scope of Work to meet the PBCDOA Conceptual ERP Application submittal to the SFWMD.

**IV. Compensation**

ADA will be compensated \$156,897 on a lump basis for the work outlined in the Scope of Work. ADA will be compensated \$500 on an expense basis for the work outlined in the Scope of Work. Exhibit A attached includes a detailed man-hour and cost estimate for each task and subtask included in the Scope of Work.

**Exhibit A - ADA Engineering, Inc.**

Labor/Fee Estimate Summary - Palm Beach International Airport: Stormwater Master Plan Update Support

Task Description	Billing Rate:							Total Labor Hours	Total Labor Fee
	\$ 300.00	\$ 231.00	\$ 201.00	\$ 155.00	\$ 118.00	\$ 130.00	\$ 99.00		
	Labor Estimate (Hours)								
	Program Manager / Principal	Project Manager	Project Engineer / Associate PM	Staff Engineer / Planner	Senior Technician	Design Technician	Admin.		
<b>1.0 Project Coordination</b>	<b>Total</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>\$ 3,240</b>
1.1 Attend project kick-off meeting			2		2			4	\$ 772
1.2 Attend 2 progress meetings					2			6	\$ 1,234
1.3 Attend 2 coordinating meetings (teleconference)			4		2			6	\$ 1,234
<b>2.0</b>									<b>\$ 10,316</b>
2.1 Collect and review that collected by AECOM			2		16		4	26	\$ 4,218
2.2 Un-archive ADA project files				2				2	\$ 402
2.3 Attend 2, 1-day field site visits				16				32	\$ 5,696
<b>3.0 Modeling Support</b>	<b>Total</b>	<b>0</b>	<b>42</b>	<b>198</b>	<b>540</b>	<b>6</b>	<b>4</b>	<b>790</b>	<b>\$ 136,035</b>
<b>3.1 Existing Conditions Hydrologic/Hydraulic Model Setup and Analyses</b>	<b>Total</b>	<b>0</b>	<b>12</b>	<b>62</b>	<b>198</b>	<b>0</b>	<b>0</b>	<b>272</b>	<b>\$ 45,924</b>
3.1.1 Convert ALP ICPR V3 Model to ICPR V4			1	2	6			3	\$ 633
3.1.2 Execute model and compare results with current Conceptual ERP results				2	6			8	\$ 1,332
3.1.3 Incorporate up to 20 projects constructed after obtaining current Conceptual ERP			4	20	60			84	\$ 14,244
3.1.4 Incorporate up to 5 projects under construction after obtaining current Conceptual ERP			2	8	30			40	\$ 6,720
3.1.5 Revise Basin and sub-basing boundaries			1	8	32			41	\$ 6,799
3.1.6 Revise sub-basin hydrologic parameters			2	6	30			38	\$ 6,318
3.1.7 Couple latest Stub Canal ICPR model with PBIA updated model			1	8	30			39	\$ 6,489
3.1.8 Execute updated existing conditions model and compare with current ERP criteria			1	2	8			10	\$ 1,642
3.1.9 Summarize basins not meeting current ERP criteria			1	6	2			9	\$ 1,747
<b>3.2 ALP Hydrologic/Hydraulic Model Setup</b>	<b>Total</b>	<b>0</b>	<b>10</b>	<b>44</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>164</b>	<b>\$ 28,204</b>
3.2.1 Incorporate up to 10 Final ALP projects in existing conditions ICPR V4 model			1	24	60			88	\$ 15,048
3.2.2 Revise Basin and sub-basing boundaries			1	4	16			21	\$ 3,515
3.2.3 Evaluate projected sea level and groundwater rise			2	4	16			5	\$ 1,266
3.2.4 Update model boundary conditions			1	2	8			11	\$ 1,873
3.2.5 Revise sub-basin hydrologic parameters			1	2	16			19	\$ 3,113
3.2.6 Execute updated existing conditions model and compare with current ERP criteria			1	2	8			10	\$ 1,642
3.2.7 Summarize basins not meeting current ERP criteria			1	6	2			9	\$ 1,747
<b>3.3 Water Quality Analyses</b>	<b>Total</b>	<b>0</b>	<b>5</b>	<b>20</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>97</b>	<b>\$ 16,335</b>
3.3.1 Volumetric Computations by Basin			2	8	32			42	\$ 7,030
3.3.2 criteria			1	4	16			21	\$ 3,515
3.3.3 Identify BMPs required to meet required water quality requirements			2	8	24			34	\$ 5,790
<b>3.4 Floodplain Encroachment Assessment</b>	<b>Total</b>	<b>0</b>	<b>5</b>	<b>28</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>105</b>	<b>\$ 17,943</b>
3.4.1 Perform floodplain compensation volumetric requirements			2	8	32			42	\$ 7,030
Determine if floodplain compensation is not being met and amount of mitigating compensating required.			1	4	16			21	\$ 3,515
3.4.3 Develop Floodplain Compensation Plan to meet criteria			2	16	24			42	\$ 7,398
<b>3.5 Alternative Formulation and Analyses</b>	<b>Total</b>	<b>0</b>	<b>5</b>	<b>20</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>65</b>	<b>\$ 11,375</b>
3.5.1 Incorporate stormwater management systems in the ALP ICPR V4 model to meet water quantity and quality requirements			4	12	30			46	\$ 7,986
3.5.2 Execute model to verify proposed systems will meet water quality and quantity requirements			1	2	8			10	\$ 1,642
3.5.3 Summary results and elements of required stormwater management systems			1	6	2			9	\$ 1,747
<b>3.6 Modeling Technical Memorandum</b>	<b>Total</b>	<b>0</b>	<b>5</b>	<b>24</b>	<b>48</b>	<b>6</b>	<b>4</b>	<b>87</b>	<b>\$ 16,254</b>
3.6.1 Prepare draft Modeling Technical Memorandum			4	16	32	4	2	58	\$ 9,770
3.6.2 Address comments and submit Final Modeling Technical Memorandum			1	8	16	2	2	29	\$ 4,753
3.6.3 Reproduction of deliverable									\$ 1,731
<b>4.0 Conceptual Environmental Resources Permit (ERP) Support</b>	<b>Total</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>28</b>	<b>2</b>	<b>0</b>	<b>44</b>	<b>\$ 7,306</b>
4.1 Attend pre-application meeting with SFWMD			2	2	2			6	\$ 1,174
4.2 Address up to 1 RAI				4	24	2		32	\$ 4,958
4.3 Attend follow up meeting with SFWMD to discuss response to RAI			2	2	2			6	\$ 1,174
<b>5.0 Expenses</b>									<b>\$ 500</b>
5.1 Mileage at \$0.56 / mile for progress meetings and site visits									\$ 500
<b>ADA Total Lump Sum Fee</b>	<b>0</b>	<b>56</b>	<b>206</b>	<b>574</b>	<b>8</b>	<b>0</b>	<b>6</b>	<b>850</b>	<b>\$ 156,897</b>
<b>ADA Total Expenses Fee</b>									<b>\$ 500</b>



November 30, 2018rev

Ms. Amy Eason  
AECOM  
2090 Palm Beach Lakes Blvd.  
Suite 600  
West Palm Beach, FL 33409

**Re: Environmental Permit Evaluation - PBI Stormwater Master Plan  
Palm Beach County Department of Airports  
Environmental Services**

Dear Ms. Eason:

Cyriacks Environmental Consulting Services, Inc. (CECOS) is pleased to submit a fee proposal to provide environmental consulting services for the subject project. Our project understanding, scope of work, fee and schedule are provided below.

## **Understanding of Project**

AECOM was tasked to evaluate potential drainage improvements and update the Stormwater Master Plan at Palm Beach International Airport (PBI). As part of this effort, CECOS will conduct an environmental evaluation of the following proposed drainage improvement areas: Parcels 7, 9A, 9B, 9C, 10, 35 and 37 (as shown in the Airport's Master Plan, pages 7-35 and 7-41). The environmental assessment data within the Airport's Master Plan was collected in 2007. Therefore, an update to this information is needed to facilitate this evaluation. At this time, there are no current plans to construct these improvements so the purpose of this effort is to evaluate potential environmental constraints (wetlands and listed species) that need to be incorporated into the Airport's Conceptual Environmental Resource Permit (EPR). Based on our review of previous permitting correspondence, dated 10/20/08, it is our understanding the wetland areas previously identified on Parcel 37 were designated as preservation areas and impacts are not proposed in the previously issued conceptual permit.

## **Scope of Work**

### **1.0 Environmental Data and Field Reviews**

A desktop review will be performed prior to beginning field reviews. The purpose of this desktop

review is to ascertain known environmental constraints/conditions to ensure they are adequately field reviewed. After completion of the desktop review, CECOS will field review each of the aforementioned parcels for the presence of wetlands, other surface waters and potential for listed species. In the event jurisdictional wetlands are identified, boundary data points will be collected using a sub-meter accurate GPS unit and representative flags placed, where practical. The previously identified jurisdictional wetlands on Parcels 9A and 37 will be reviewed and their existing Uniform Mitigation Assessment Method (UMAM) functional assessment scores updated. Please note if credits from the Loxahatchee Mitigation Bank are proposed as potential, future mitigation, then the Modified Wetland Rapid Assessment Procedure (M-WRAP) functional assessment must be used. Preparation of typical M-WRAP data sheets for the previously identified wetlands and new wetlands associated with the above parcels are included in this effort. Representative USACE wetland data sheets will be prepared, where applicable.

Concurrent with the wetland review, CECOS will also record incidental observations of wildlife, i.e., burrows, nests.

## **2.0 Coordination/Meeting Attendance**

CECOS will coordinate with AECOM and Palm Beach County Department of Airports (PBDOA) and attend up to two meetings, as directed by AECOM. Attendance at additional meetings can be provided as an additional service. Please note, as the wetlands on Parcel 37 were previously designated as preservation areas, additional coordination with SFWMD may be necessary to ascertain the steps needed to impact these areas to facilitate the proposed improvements.

## **3.0 Summary Report**

A write up for inclusion in the Stormwater Master Plan Report will be prepared summarizing the results of Tasks 1 and 2. The write up will include an aerial location map of the areas reviewed and subsequent wetland jurisdictional areas identified as well as soil and Florida Land Use and Cover Classification System (FLUCCS) maps. Wildlife burrows/nest locations and other pertinent environmental features will also be shown on an environmental features map, if applicable. Meeting summaries of all agency coordination will be documented and included as an appendix.

## **Estimated Fee Summary**

Our fee for the proposed scope of services shall be on a Time & Material basis. Total fee is **\$16,751.38 (labor) and \$262 (expenses)**, see attached fee estimate. We will issue invoices on a monthly basis for services performed to date.

*Cyriacks Environmental Consulting Services, Inc  
3001 SW 15<sup>th</sup> Street, Suite B  
Deerfield Beach, FL 33442  
954.571.0290 Fax: 954.480.6692*

## Schedule

Upon receipt of project authorization, work activities, as outlined above, will commence. The evaluation will be complete within four weeks after notice to proceed.

## Assumptions

- Field reviews of additional parcels are not included.
- Review fees, if applicable, will be paid by others.
- Wetland permitting and mitigation design are not included.
- Species-specific surveys, agency coordination, and listed species permitting are not included.
- Historic/archaeological investigations will be performed by others.
- Legal reviews/fees are the responsibility of others.
- Engineering information, plans and permit sketch preparation will be prepared by AECOM.
- Unrestricted access to the parcels will be provided to CECOS.
- The Client shall pay additional compensation associated with efforts not specified in this proposal, if required. CECOS will notify the Client if this situation arises. Any additional effort shall be negotiated between the Client and CECOS and must be approved before the required action.

We appreciate the opportunity to provide these services to you. Please contact me if you have any questions or need additional information.

Very truly yours,

Cyriacks Environmental Consulting Services, Inc.

*Wendy Cyriacks*

Wendy Cyriacks  
President

Attachment: Fee estimate

Cc: Andy Kacer

*Cyriacks Environmental Consulting Services, Inc  
3001 SW 15<sup>th</sup> Street, Suite B  
Deerfield Beach, FL 33442  
954.571.0290 Fax: 954.480.6692*



## EXHIBIT A-5

# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-5**

### **Palm Beach International Airport (PBI) Task I-20-PBI-A-036: Airport Plans Review and Revision Services**

#### **OVERVIEW**

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM or CONSULTANT) provide Professional Services associated with the Palm Beach International Airport (PBI) Task I-20-PBI-A-036: Airport Plans Review and Revision Services Project.

#### **PROJECT TEAM**

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (AECOM)	Project Management / Technical QA/QC Reviews
Ross & Baruzzini	Emergency Preparedness and Planning Services

The purpose of this task order is to:

1. Update the AEP and related documents per Standards – Update existing plans to address current Federal, State, and local requirements and standards;
2. Align the AEP with Current Threat Posture and Best Practices – Incorporate lessons learned from other major events within the aviation sector and other relevant risk;
3. Align and Coordinate Planning Structure – Work with other county agencies to ensure consistency and coordination with all airport plans and to link airport plans and operating parameters with other County plans, particularly those involving emergency response and recovery stakeholders;
4. Format for Ease of Use – Through development of a planning structure and concept of operations, standardize formats among DOA response and recovery plans to facilitate ease of use during an emergency; and
5. Address Hazard- and Threat-Specific Planning Needs – Update or develop plans for specific events include active shooter, infectious disease, pandemic, hurricane, bomb threat, and hijacking.



The following describes the proposed Scope of Services, Deliverables, Schedule and Method of Compensation.

**Scope of Work**

AECOM will perform the following tasks and subtasks as part of this task order:

1. Plan Review and Assessment
2. Develop a Planning Protocol
3. Update and Develop Plans

**Task 1 – Plan Review and Assessment**

This task will initiate the project via a kickoff meeting with DOA stakeholders to confirm project goals, timeline, and resource needs, to gather documentation, and to assess the current state of PBI plans and relevant Palm Beach County (PBC) plans.

**Subtask 1.1 – Kickoff Meeting**

AECOM will host a kickoff meeting via Microsoft Teams to review the Project Charter, confirm a mutual understanding of goals, timelines, and other project parameters, and to obtain access to reference materials including, but not limited to, the following (due to current travel restrictions it is requested all documents be provided in secured electronic format):

- PBI Airport Emergency Plan (AEP), with appendices;
- PBC Mass Casualty/Mass Fatality Plan;
- PBC Communicable Diseases Plan; and
- PBC Transportation Hazard Specific Plan.

Other information that may be useful includes After-Action Reports, risk assessments, organizational charts, and memoranda between emergency response stakeholders.

**Subtask 1.2 – Gap Analysis**

Our team will review all documents gathered in Subtask 1.1 to analyze the current state of relevant documents, identify gaps in relation to current requirements and standards, and identify recommendations relative scope, content, structure, and multi-agency coordination. Based on identified gaps, recommendations will be formulated based on experiential data and on applicable requirements set forth in both 14 CFR Part 139, Certification of Airports, and 49 CFR 1542, Airport Security. In addition, emergency preparedness measures will be reviewed in relation to guidelines set forth in the following documents, along with any others identified by PBI or AECOM as pertinent and applicable:

- ACRP Report 74, Application of Enterprise Risk Management at Airports. Airport Cooperative Research Program, National Academy of Sciences, 2012;
- ACRP Report 112, Airport Terminal Incident Response Planning, Airport Cooperative Research Program. National Academy of Sciences, 2014;
- FEMA Comprehensive Preparedness Guide (CPG)101, Developing and Maintaining Emergency Operations Plans, U.S. DHS, November 2010;
- FEMA CPG 502, Considerations for Fusion Center and Emergency Operations Center Coordination, U.S. DHS, September 2009;
- Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters, U.S. DHS, November 2010;
- Homeland Security Exercise and Evaluation Program (HSEEP), U.S. DHS, April 2013;

- National Disaster Recovery Framework (NDRF), U.S. DHS, June 2016;
- National Incident Management System (NIMS), U.S. DHS, 2008;
- National Infrastructure Protection Plan (NIPP), U.S. DHS, 2013;
- National Mitigation Framework, U.S. DHS, June 2016;
- National Prevention Framework, U.S. DHS, June 2016;
- National Response Framework, U.S. DHS, June 2016;
- Program for Applied Research in Airport Security, Recommended Security Guidelines for Airport Planning, Design, and Construction, 2017;
- Public Area Security National Framework (PASNF). U.S. DHS, May 2017; and
- Other industry best practices.

In addition to the documents and standards described above, AECOM will review the most current PBC Hazard Mitigation Plan and/or Threat and Hazard Identification and Risk Assessment (THIRA) to identify established local and regional hazards and threats and to synchronize DOA planning efforts with identified needs.

#### **Subtask 1.3 – Leadership Presentation of Findings**

AECOM will host a follow-up meeting after completion of the gap analysis, to present to DOA leadership our team’s findings and discuss the go-forward plan to update and amend the AEP and related documents.

#### **Task 2 – Develop a Planning Protocol**

This task will ultimately define how plans are coordinated resulting in an organized plan structure and consistent formatting. Adherence to consistency in plan layout and format supports ease of use.

##### **Subtask 2.1 – Develop a Planning Structure**

Our team will work with DOA staff and other county agencies to align plan, develop a planning structure, and ensure consistency and coordination with all airport plans. Airport plans will be linked internally and with other PBC plans, particularly those involving emergency response and recovery stakeholders. Goals include creating a consistent concept of operations for emergency response and recovery, providing necessary hazard- and threat-specific procedures, and providing a structure to support effective and consistent multi-agency coordination.

##### **Subtask 2.2 – Develop a Consistent Format**

Based on the planning structure, AECOM will develop a suggested format for top-level plans as well as annexes. Formats will follow requirements set forth in regulatory guidance as well as FEMA Comprehensive Preparedness Guide (CPG) 101. Our team typically uses Microsoft Word to develop planning documents and takes advantage of the styles and table of contents functions to allow ease of navigation in electronic versions. In addition, while some flexibility is necessary, plans and annexes should generally follow a similar structure and include tactical-use tools.

#### **Task 3 – Update and Develop Plans**

This task will focus on updating the AEP and existing, related documents, along with the development of select new plans as described below.

##### **Subtask 3.1 – Update the AEP and Existing Plans**

Using data gathered in Tasks 1 and 2, our team will update existing plans per current requirements and standards and consistently with the established formats and planning structure. Modification of existing plans will focus on aligning procedures with the current threat posture and

best practices and will incorporate lessons learned from other major events within the aviation sector and beyond, as needed.

**Subtask 3.2 – Hazard- and Threat-Specific Planning Needs**

As identified in the example planning structure, plans for specific hazards and threats will be updated or developed including:

- Emergency communications;
- Active shooter response and recovery;
- Infectious disease/pandemic response;
- Mass casualty/fatality; and
- Transportation hazard response.

Consistent with DOA requests, the AEP and associated documents will include:

1. Hazard- and threat-specific Standard Operating Procedures (SOPs) and checklists designed for tactical use by responding parties based on their individual roles;
2. Role-specific checklists based on the National Incident Management System and Incident Command System which will assist in coordination with external response agencies; and
3. As an AEP annex, an emergency communications plan which includes procedures for emergency notifications for the Communications Center, news media and designated media staging areas when appropriate, and public notifications consistent with established Public Information Officer duties. The emergency communications plan will include a message map for hazard- and threat-specific public messaging.

**PROJECT DELIVERABLES**

Project Deliverables include the following:

**Task 1**

- Kickoff meeting agenda, presentation, project charter, and meeting minutes;
- Periodic consultation regarding existing plans; and
- Draft and final Technical Memoranda providing results of the gap analysis and specific recommendations for revisions.
- Leadership presentation

**Task 2**

- Draft and final Technical Memoranda regarding the planning structure;
- Draft and final formats for plans and annexes; and
- Periodic consultation regarding existing plans.

**Task 3**

- Draft and final versions of each updated or new plan;
- Periodic consultation with DOA regarding plan modification; and
- Coordination with external response stakeholders to validate consistency regarding specific plans.

**PROJECT SCHEDULE**

CONSULTANT is scheduled to complete this project within 180 Calendar Days following receipt of the Notice to Proceed.

**PROJECT ASSUMPTIONS**

1. DOA to provide all relevant documents described herein to support plan review, revision, and development;
2. DOA will review draft documents and provide comments in a timely manner to avoid schedule delays;
3. DOA will provide access to and participation of staff and stakeholders for relevant tasks identified herein;
4. Due to the current pandemic, travel will be limited and meetings will be held via Microsoft Teams.

**Exhibit B-1**

Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) -Task I-19-PBI-A-036: Airport Plans Review and Revision Services

<b>Billing Rate:</b>		\$ 250	\$ 247	\$ 185	\$ 120	\$ 89	\$ 90
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	Labor Estimate (Hours)							Fee Estimate (\$)		
	AECOM Subject Matter Expert	Senior Project Manager	Project Manager / Senior Engineer	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total
<b>Task 1: Plan Review and Assessment</b>	6	5	0	0	0	0	11	\$ 2,735	\$ -	\$ 2,735
1.1 Kick-Off Meeting (Schedule, coordinate, and develop meeting contact, meeting minutes)	1	2					3	\$ 744	\$ -	\$ 744
1.2 Gap Analysis	3	1					4	\$ 997		\$ 997
1.3 Presentation for DOA leadership	2	2					4	\$ 994	\$ -	\$ 994
<b>Task 2: Develop Planning Protocol</b>	3	2	0	1	0	0	6	\$ 1,364	\$ -	\$ 1,364
2.1 Develop Planning Structure	2	1		1			4	\$ 867		\$ 867
2.2 Develop a Consistent Format	1	1					2	\$ 497		\$ 497
<b>Task 3: Update AEP/Develop AEP-Related Plans</b>	28	14	0	12	0	0	54	\$ 11,898	\$ -	\$ 11,898
<b>3.1 Update AEP and Related Plans</b>	10	4	0	4	0	0	18	\$ 3,968	\$ -	\$ 3,968
3.1.1 PBI Airport Emergency Plan	8	2		2			12	\$ 2,734	\$ -	\$ 2,734
3.1.2 Bomb Threats (within AEP)	1	1		1			3	\$ 617		\$ 617
3.1.3 Hijackings (within AEP)	1	1		1			3	\$ 617		\$ 617
<b>3.2 AEP-Related Plan Development</b>	18	10	0	8	0	0	36	\$ 7,930	\$ -	\$ 7,930
3.2.1 PBI Emergency Communications Plan	4	2		2			8	\$ 1,734		\$ 1,734
3.2.2 Active Shooter Response and Recovery Plan	6	2		2			10	\$ 2,234		\$ 2,234
3.2.3 Infectious Disease and Pandemic Response Plan	6	2		2			10	\$ 2,234		\$ 2,234
3.2.4 Mass Casualty/Fatality Plan (link to PBC plan)	1	2		1			4	\$ 864	\$ -	\$ 864
3.2.5 Transportation Hazard Response (link to PBC plan/SWPP)	1	2		1			4	\$ 864	\$ -	\$ 864
<b>Task Management and Coordination (Including Stakeholder Coordination)</b>	8	12		20		12	52	\$ 8,444		\$ 8,444
	45	33	0	33	0	12	123	\$24,441	\$0	\$24,441

Total Subconsultant Fee - Ross and Baruzzini (LS)	\$ 185,855
Total Subconsultant Fee - Ross and Baruzzini(T&M)	\$ -

Task 1.0 (Lump Sum)	\$210,296
Task 2.0 (Time & Material)	\$0
Expenses	\$0
	<u>\$210,296</u>

	\$ 185,855
	\$ 210,296

July 23, 2020

Andy Kacer  
AECOM  
7650 West Courtney Campbell Causeway  
Tampa, Florida 33607

Re: Proposal – Airport Plans Review and Revision Services

Dear Mr. Kacer,

We are pleased to submit this Proposal to provide professional emergency preparedness and planning services on behalf of the Palm Beach County (PBC) Department of Airports (DOA) for the Palm Beach International Airport (PBI). Ross & Baruzzini (R&B) is a nationally recognized leader in emergency preparedness, resilience management, and security planning. Our team is comprised of an Accredited Airport Executive (AAE), resiliency subject matter experts, Project Management Professionals (PMP), and Professional Engineers (PE) with significant expertise in analyzing emergency response protocols and operational resilience in the aviation sector. R&B is the ideal professional services firm to develop and deliver plan review and revision services on behalf of DOA.

## PROJECT UNDERSTANDING

Based on discussions with prime contractor AECOM and DOA representatives, stated goals of this project include:

1. **Update the AEP per Standards** – Update the existing plan to address current Federal, State, and local requirements and standards;
2. **Align the AEP with Current Threat Posture and Best Practices** – Incorporate lessons learned from other major events within the aviation sector and other relevant risk;
3. **Align and Coordinate the Planning Structure** – Work with other PBC agencies to ensure consistency and coordination with all airport plans and to link airport plans and operating parameters with other PBC plans, particularly those involving emergency response and recovery stakeholders;
4. **Format for Ease of Use** – Through development of the AEP planning structure, standardize formats among Airport response and recovery plans to facilitate ease of use during an emergency; and
5. **Address Hazard- and Threat-Specific Planning Needs** – Update or develop plans for specific events include active shooter, infectious disease and pandemic response, bomb threat, and hijacking.

The proposed scope of work provided herein is premised on these project goals, some of which are combined into logical tasks based established planning protocols and best practices.

## TEAM MEMBERS

Mark Crosby, AAE will serve as the Senior Project Principal. Mark served as the Director of Public Safety and Security for the Port of Portland, a joint port authority that operates three airports and three seaport terminals including Portland International Airport (PDX). Mark was responsible for managing the Public Safety and Security Department which included the Airport and Marine Security Departments, the Airport Police Department, Fire Department, the Communications Center. At the national level, Mark is an AAE with the American Association of Airport Executives (AAAE), served as the Chair of AAAE's Airport Security Committee from 2008-2013, and was co-founder of the Western Airports Disaster Operations Group (WESTDOG). Currently, Mark is the Chair of the Security Committee for the Airport Consultants Council (ACC), on the Board of Directors for the International Association of Airport Executives, the Public Safety & Security Steering Group for the Airport Council International-North America (ACI-NA), the ACI World Standing Security Committee, the Insider Threat subcommittee for the

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Congressionally-directed Aviation Security Advisory Council (ASAC), and the Corporate Committee Steering Group liaison to AAAE's Operations, Safety, Planning and Emergency Management Committee.

The Project Principal and Technical Lead will be Michael Steinle who has significant emergency preparedness and response experience in the aviation sector. Michael served as the Environmental, Health, and Safety Manager at Kansas City International Airport and has been involved in many high-profile emergency response operations, planning initiatives, and training and exercise development and conduct. Michael has performed security and all-hazards risk assessments within the agriculture and food, aviation, chemical, commercial, defense, education, energy, government, maritime, nuclear, transit, and water sectors. In addition, Michael has numerous Federal Emergency Management Agency training certifications and has conducted over 200 Homeland Security Exercise and Evaluation Program (HSEEP)-compliant emergency exercises. Recently, Michael served as the Technical Lead on the National Safe Skies Alliance, Program for Applied Research in Airport Security (PARAS) 0016, Airport Security Vulnerability Assessments.

David McGhee will serve as the Senior Design Consultant. David has over 25 years of experience in specialized airport security planning and engineering. He is a member of the team that authored the US Transportation Security Administration (TSA) security guidelines, is well versed in physical and electronic security, and has designed numerous security systems for international airports. David will assist in developing plan components and procedures relative to security operations and technology.

Additional design consultants will be utilized as necessary to support research and delivery tasks.

Guiding the team will be Senior Project Manager Mike Adams, PMP, RCDD. Mike has over 30 years of experience in managing aviation and critical infrastructure projects in South Florida and will provide administrative leadership, client interface and coordinate additional project resources as needed.

## PROPOSED SCOPE OF WORK

In accordance with discussions held with prime contractor AECOM and DOA representatives, our professional consulting and planning services include the following tasks and associated subtasks to address project goals.

### Task 1 – Plan Review and Assessment

This task will initiate the project via a kickoff meeting with DOA stakeholders to confirm project goals, timeline, and resource needs, to gather additional documentation, and to assess the current state of PBI plans and relevant PBC plans. Task 1 is an enabling task to initiate and support Tasks 2 – 3.

#### Subtask 1.1 – Kickoff Meeting

Our team will host a kickoff meeting via video- or teleconference to review the Project Charter, confirm a mutual understanding of goals, timelines, and other project parameters, and to obtain access to reference materials including, but not limited to, the following (due to current travel restrictions it is requested all documents be provided in secured electronic format):

- PBI Airport Emergency Plan (AEP), with appendices (PDF received; source file(s) requested);
- PBC Mass Casualty/Mass Fatality Plan (received);
- PBC Communicable Diseases Plan (received); and
- PBC Transportation Hazard Specific Plan (received).

Other information that may be useful includes After-Action Reports, risk assessments, organizational charts, and memoranda between emergency response stakeholders.

#### Subtask 1.2 – Gap Analysis

Our team will review all documents gathered in Subtask 1.1 to analyze the current state of relevant documents, identify gaps in relation to current requirements and standards, and identify recommendations relative scope, content, structure, and multi-agency coordination. Based on identified gaps, recommendations will be formulated based on experiential data and on applicable requirements set forth in both 14 CFR Part 139, Certification of

Airports, and 49 CFR 1542, Airport Security. In addition, emergency preparedness measures will be reviewed in relation to guidelines set forth in the following documents:

- ACRP Report 74, Application of Enterprise Risk Management at Airports. Airport Cooperative Research Program, National Academy of Sciences, 2012;
- ACRP Report 112, Airport Terminal Incident Response Planning, Airport Cooperative Research Program. National Academy of Sciences, 2014;
- FEMA Comprehensive Preparedness Guide (CPG)101, Developing and Maintaining Emergency Operations Plans, U.S. DHS, November 2010;
- FEMA CPG 502, Considerations for Fusion Center and Emergency Operations Center Coordination, U.S. DHS, September 2009;
- Guidance on Planning for Integration of Functional Needs Support Services in General Population Shelters, U.S. DHS, November 2010;
- Homeland Security Exercise and Evaluation Program (HSEEP), U.S. DHS, April 2013;
- National Disaster Recovery Framework (NDRF), U.S. DHS, June 2016;
- National Incident Management System (NIMS), U.S. DHS, 2008;
- National Infrastructure Protection Plan (NIPP), U.S. DHS, 2013;
- National Mitigation Framework, U.S. DHS, June 2016;
- National Prevention Framework, U.S. DHS, June 2016;
- National Response Framework, U.S. DHS, June 2016;
- Program for Applied Research in Airport Security, Recommended Security Guidelines for Airport Planning, Design, and Construction, 2017;
- Public Area Security National Framework (PASNF). U.S. DHS, May 2017; and
- Other industry best practices.

In addition to the documents and standards described above, Ross & Baruzzini will review the most current PBC Hazard Mitigation Plan to identify established local and regional hazards and threats and to synchronize PBI planning efforts with identified needs.

The gap analysis will benefit from an experienced team who has developed a wide range of hazard-, threat-, and function-specific plans. The team has also been at the forefront of assessing and addressing emerging hazards and threats.

#### Subtask 1.3 – Leadership Presentation

Our team will host an online presentation for DOA leadership to identify findings of the gap analysis, identify desired modifications, and coordinate subsequent steps.

#### Deliverables

Deliverables under this task include:

1. Kickoff meeting agenda, presentation, project charter, and meeting minutes;
2. Periodic consultation regarding existing plans;
3. Draft and final Technical Memoranda providing results of the gap analysis and specific recommendations for revisions; and
4. Leadership presentation (PowerPoint) delivered remotely.

#### Task 2 – Develop a Planning Protocol

This task will ultimately define how the AEP and associated documents are coordinated resulting in an organized plan structure and consistent formatting. Adherence to consistency in plan layout and format supports ease of use. Task 2 is an enabling task to initiate and support Task 3.

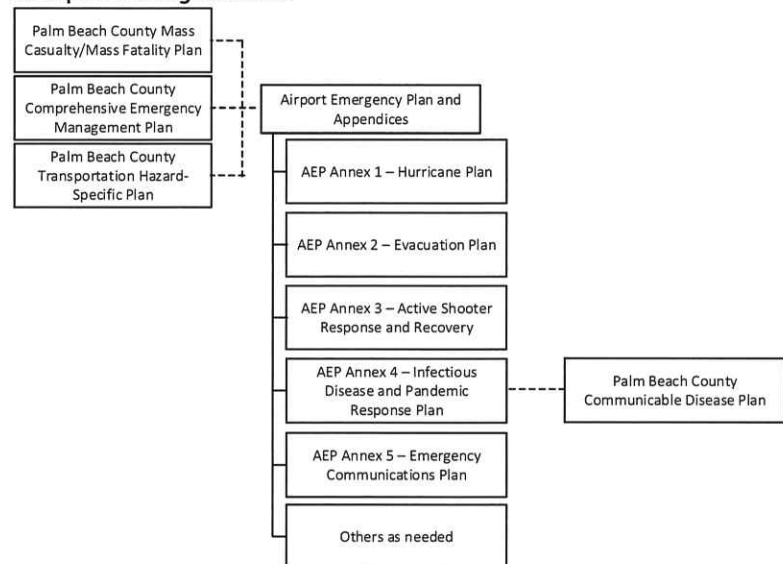


### Subtask 2.1 – Develop a Planning Structure

Our team will work with DOA staff and other PBC agencies to align the AEP with associated annexes, develop a planning structure, and ensure consistency and coordination with all airport plans. Airport plans will be linked internally and with other PBC plans, particularly those involving emergency response and recovery stakeholders. For this phase, the planning structure will focus on AEP-related documents. An example planning structure is provided below. Dotted lines indicate linkage to County-level plans.

Goals include creating a consistent concept of operations for emergency response and recovery, providing necessary hazard- and threat-specific procedures, and providing a structure to support effective and consistent multi-agency coordination. The planning structure will reflect prior experience in developing plans consistently with the structure defined in the National Response Framework and other DHS/FEMA guidance.

#### Example Planning Structure



### Subtask 2.2 – Develop a Consistent Format

Based on the planning structure, Ross & Baruzzini will develop a suggested format for top-level plans as well as annexes. Formats will follow requirements set forth in regulatory guidance as well as FEMA Comprehensive Preparedness Guide (CPG)101. Our team typically uses Microsoft Word to develop planning documents and takes advantage of the styles and table of contents functions to allow ease of navigation in electronic versions.

In addition, while some flexibility is necessary, plans and annexes should generally follow a similar structure and include tactical-use tools. Our team has developed hazard/threat-specific checklists and tools specifically for airports and will utilize that background to support efficient development of PBI-specific tools. In addition, multi-agency coordination principles will be defined in the AEP and carried over to other hazard-specific plans.

#### Deliverables

Deliverables under this task include:

1. Draft and final Technical Memoranda regarding the planning structure;
2. Draft and final formats for plans and annexes; and
3. Periodic consultation regarding existing plans.

### Task 3 – Update AEP/Develop AEP-Related Plans

Task 3 will focus on the AEP and existing related plans as well as development of additional plans as described below.

#### Subtask 3.1 – Update the AEP and Existing Plans

Using data gathered in Tasks 1 and 2, our team will update the existing AEP per current requirements and standards and consistently with the established formats and planning structure. Modification of the AEP will focus on aligning procedures with the current threat posture and best practices and will incorporate lessons learned

from other major events within the aviation sector and beyond, as needed. Procedures for specific hazards and threats will be updated, as needed, including bomb threats and hijackings.

### Subtask 3.2 – Hazard- and Threat-Specific Planning Needs

As identified in the example planning structure, plans for specific hazards, threats, and functions will be developed including emergency communications, active shooter response and recovery, and infectious disease/pandemic response. Our team has developed a wide range of hazard and threat-specific plans and will utilize lessons learned and current guidelines to address necessary procedural additions or modifications. Newly developed plans will address specific hazards and threats and align with the AEP and PBC plans, as needed.

Consistent with DOA requests, the AEP and associated documents will include:

1. Hazard- and threat-specific Standard Operating Procedures (SOPs) and checklists designed for tactical use by responding parties based on their individual roles;
2. Role-specific checklists based on the National Incident Management System and Incident Command System which will assist in coordination with external response agencies; and
3. As an AEP annex, an emergency communications plan which includes procedures for emergency notifications for the Communications Center, news media and designated media staging areas when appropriate, and public notifications consistent with established Public Information Officer duties. The emergency communications plan will include a message map for hazard- and threat-specific public messaging.

In addition to development of the Emergency Communications Plan, our team provides specialized expertise in developing the Active Shooter Response and Recovery Plan and the Infectious Disease and Pandemic Response Plan. Team members Mark Crosby and Michael Steinle developed the After-Action Review on behalf of the Broward County Aviation Department (BCAD) for the active shooter incident that occurred in 2017 and subsequently developed active shooter response and recovery plans for two top 30 airports in 2018. Team member Michael Steinle led pandemic planning efforts on behalf of the Santa Clara County Public Health Department as well as two state-level pandemic and infectious disease response plans. Lessons learned from these planning experiences will be utilized to support best-practices development on behalf of DOA.

### Deliverables

Deliverables under this task include:

1. Subtask 3.1 - Draft and final versions of the following plans:
  - a. PBI Airport Emergency Plan (modification to include hazard/threat-specific and role-specific checklists);
  - b. Bomb Threats (modification within AEP);
  - c. Hijackings (modification within AEP); and
  - d. Procedures to coordinate mass casualty/fatality and transportation hazard response with existing PBC plans.
2. Subtask 3.2 - Draft and final versions of the following plans:
  - a. PBI Emergency Communications Plan (development);
  - b. Active Shooter Response and Recovery Plan (development); and
  - c. Infectious Disease and Pandemic Response Plan (development);
3. Periodic consultation with the DOA regarding plan modification; and
4. Coordination with external response stakeholders to validate consistency regarding specific plans.

## FEES AND PAYMENT

Ross & Baruzzini, Inc. proposes to provide the above noted services for the fees specified in the table below for each task. Invoices will be submitted monthly based on work performed through the end of the month. Tasks 1 and 2 are enabling tasks. Task 3 addresses Phase 1 items to address AEP updates as requested.

Task	Michael Steinle Project Principal	Mark Crosby Sr. Project Principal	Mike Adams Sr. Project Manager	Dave McGee Sr. Design Consultant	(Staff) Design Consultant	(Staff) Sr. Project Coordinator	ODCs	Total Labor Hours	Total Labor
Rate	\$245	\$275	\$180	\$210	\$160	\$85	---	---	---
<b>Task 1: Plan Review and Assessment</b>									<b>\$15,895</b>
1.1 Kickoff Meeting	4	4	4			1		13	\$2,885
1.2 Gap Analysis	24	4	8		4	1		41	\$9,145
1.3 Leadership Presentation	8	4	4			1		17	\$3,865
<b>Task 2: Develop Planning Protocol</b>									<b>\$6,020</b>
2.1 Develop Planning Structure	4	2	2			1		9	\$1,975
2.2 Develop Consistent Format	8		4		8	1		21	\$4,045
<b>Task 3: Airport Emergency Plan/Related Plans</b>									<b>\$163,940</b>
<b>3.1 Update the AEP and Existing Plans</b>									<b>\$55,250</b>
3.1.1 PBI Airport Emergency Plan	120	16	8	8	40	2		194	\$43,490
3.1.2 Bomb Threats (within AEP)	8	2	4	4	4	2		24	\$4,880
3.1.3 Hijackings (within AEP)	8	2	4	4	4	2		24	\$4,880
<b>3.2 AEP-Related Plan Development</b>									<b>\$110,690</b>
3.2.1 PBI Emergency Communications Plan	80	4	4		24	2		114	\$25,430
3.2.2 Active Shooter Response/Recovery Plan	120	8	8	8	40	2		186	\$41,290
3.2.3 Infectious Disease/Pandemic Response Plan	120	8	8	8	40	2		186	\$41,290
3.2.4 Mass Casualty/Fatality Plan	4		2					6	\$1,340
3.2.5 Transportation Hazard Response	4		2					6	\$1,340
<b>Totals</b>	<b>512</b>	<b>54</b>	<b>62</b>	<b>32</b>	<b>164</b>	<b>17</b>	<b>\$0</b>	<b>841</b>	<b>\$185,855</b>

Fees provided above are based on the following approved rates:

Description	Hourly Billing Rates
Senior Project Principal	\$275
Project Principal	\$245
Senior Design Consultant	\$210
Senior Project Manager	\$180
Design Consultant	\$165
Project Manager	\$160
Commissioning Authority	\$160
Senior Engineer/Architect	\$145
Construction Engineer/Architect	\$135
Project Engineer/Architect	\$130
Engineer	\$125

Description	Hourly Billing Rates
Commissioning Agent	\$120
Architect	\$110
Senior Designer	\$100
Commissioning Field Engineer	\$85
Designer	\$85
Senior Project Coordinator	\$85
Interior Designer	\$70
Technician	\$65
Project Coordinator	\$65
Intern	\$50

## ASSUMPTIONS

This proposal was developed under the following assumptions:

- DOA agrees that it is their responsibility to provide all relevant documents (in writable source files, if possible) described herein to support plan review, revision, and development;
- AECOM will support meeting scheduling and facilitate client interactions;
- Enabling tasks (Tasks 1 and 2) are necessary to support modification and development of any subset of plans discussed in this proposal;

4. DOA will review draft documents and provide comments in a timely manner to avoid schedule delays;
5. DOA will provide access to and participation of staff and stakeholders for relevant tasks identified herein;
6. All draft submittal comments will be returned to Ross & Baruzzini in one consolidated volume; and
7. Due to the current pandemic, travel will be limited and meetings will be held via video or teleconference.

## SCHEDULE

Our team can begin work within two weeks of a notice to proceed and will work with PBI to schedule the Kickoff Meeting. The project duration will be determined in consultation with DOA management. The extent of project deliverables suggests a duration of no less than six months.

## LIMIT OF LIABILITY

All parties agree that R&B's liability and exposure shall be limited to the applicable insurance coverage carried by R&B.

## FUTURE PHASES

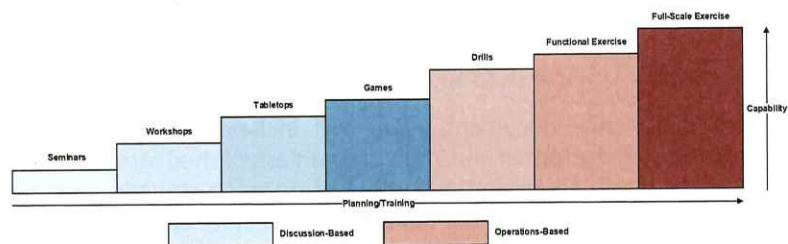
Deliverables and scope items described above represent Phase 1. Based on DOA needs, additional phases can be accomplished in the future as described below.

### Potential Phase 2 – Multi-Year Training and Exercise Plan

Understanding roles and responsibilities during an emergency and in concert with established plans requires competency building among those assigned to respond. To develop and establish training protocols, our team recommends developing a Multi-Year Training and Exercise Plan (MYTEP) consistent with standards set forth in the DHS Homeland Security Exercise and Evaluation Program (HSEEP). HSEEP provides guidelines to develop the MYTEP focusing on a three- to five-year window to establish a step-wise, graduated training and exercise program.

Performing training and exercises in a controlled manner over time helps to build competencies and ensure compliance with and understanding of plans. The MYTEP will suggest hazard- and function-specific training and exercises to familiarize assignees with their responsibilities, resources available, and overall command and control structure. The training and exercises described in the MYTEP will be based on the seven types of exercises defined in HSEEP including discussion-based and operations-based exercises. Discussion-based exercises familiarize participants with current plans, policies, agreements, and procedures, or may be used to develop new plans, policies, agreements, and procedures. Operations-based exercises validate plans, policies, agreements and procedures; clarify roles and responsibilities; and identify resource gaps in an operational environment. HSEEP uses a building block approach to ensure that exercise participants' progress at a logical pace. The figure below indicates the building block approach including both discussion-based and operations-based exercises.

**HSEEP Building Block Approach**



Discussion-based exercises include the following:<sup>1</sup>

- Seminar - An informal discussion, designed to orient participants to new or updated plans, policies, or procedures;

<sup>1</sup> Homeland Security Exercise and Evaluation Program, Department of Homeland Security, April 2013, pg. 2-4.

- Workshop – Resembles a seminar but is employed to build specific products such as a draft plan or policy;
- Tabletop Exercise - Involves key personnel discussing simulated scenarios in an informal setting and can be used to assess plans, policies, and procedures; and
- Game – A simulation of operations that often involves two or more teams, usually in a competitive environment, using rules, data, and procedures designed to depict an actual or assumed real-life situation.

Operations-based exercises include the following:<sup>2</sup>

- Drill – A coordinated, supervised activity usually employed to test a single specific operation or function within a single entity;
- Functional Exercise – Examines/validates coordination, command, and control among various multi-agency coordination centers (e.g., EOC, joint field office, etc.) and does not require “boots on the ground” (i.e., first responders or ICS management responding to an incident in real time); and
- Full-Scale Exercise – A multi-agency, multi-jurisdictional, multi-discipline exercise involving functional (e.g., emergency operation centers) and boots on the ground responses.

The MYTEP will provide details regarding how to develop, conduct and evaluate training and exercises and will provide a recommended schedule for various types of training and exercise opportunities. Team member Michael Steinle has developed many MYTEPs in accordance with HSEEP guidelines and to support a variety of critical infrastructures. Coordinated with the AEP, ASP and associated documents the MYTEP will provide a roadmap for building strategic and tactical capabilities across the workforce and for a variety of hazards, threats, and functions.

#### Deliverables

Deliverables under this task:

1. Initial MYTEP development meeting to discuss existing training and exercises and to identify gaps;
2. Draft and final versions of the MYTEP;
3. Supplemental training curriculum for general orientation to the new plans;
4. Supplemental documents to support exercise development, conduct, and evaluation; and
5. Recommendations for coordinating training and exercises with other PBC departments.

#### Potential Phase 3 – Update ACM and ASP

Our team will update the ACM and ASP per current requirements and standards and consistently with the established formats and planning structure. Modification of the ACM will focus on aligning procedures with current best practices while modifications to the ASP will focus on addressing the current threat posture and best practices and will incorporate lessons learned from other major events within the aviation sector and beyond, as needed.

#### Subtask 1 – Update the PBI Airport Certification Manual

As a compliance document, effort will include maintaining compliance with current regulations while synchronizing the format and structure with established formats and planning structure within the confines. The goal is to create an organized and linked planning structure to support ease of use and maintenance and to streamline the ACM within the bounds of compliance obligations.

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<sup>2</sup> Homeland Security Exercise and Evaluation Program, Department of Homeland Security, April 2013, pg. 2-5.

### Subtask 2 – Update the PBI Airport Security Program

The ASP will be modified as needed in consultation with PBI stakeholders. Modifications will adhere to regulatory requirements, address threat-specific security needs, and link to other documents, as needed, to support coherent and coordinated response for a variety of security threats. Consistent with DOA requests, the ASP will include:

1. Revised threat-specific Standard Operating Procedures (SOPs) and checklists designed for tactical use and based on the current threat posture;
2. Links to the AEP for role-specific checklists based on the National Incident Management System and Incident Command System to assist in coordination with external response agencies; and
3. Procedures to support emergency communications, coordination with external agencies, and co-activation of ASP procedures with the AEP for resourcing purposes.

### Deliverables

Deliverables under this task:

1. Draft and final versions of the PBI Airport Certification Manual (modification);
2. Draft and final versions of the PBI Airport Security Program (modification);
3. Periodic consultation with the DOA regarding plan modification; and
4. Coordination with external response stakeholders, as need, to validate specific security procedures.

### ADDITIONAL SERVICES

In addition to the services described above, Ross & Baruzzini offers a full range of services to support an effective airport safety, security, and emergency preparedness posture as described in the Resiliency Cycle.

#### Risk Assessment Services

Our team includes certified experts with extensive experience performing threat and vulnerability assessments across a multitude of sectors. Ross & Baruzzini recently developed an Airport Security Risk Assessment Methodology on behalf of the National Safe Skies Alliance. Our approach includes criticality assessment, hazard and threat analysis, vulnerability assessment, consequence analysis, and risk assessment through a documented process to identify, prioritize, and manage risk to people, property, and information. Team members have performed risk assessments for Al Maktoum International Airport; Dallas/Fort Worth International Airport; Federal Express Cargo Operations; Fort Lauderdale-Hollywood International Airport; Los Angeles Worldwide Airports; Port Authority of New York and New Jersey (LaGuardia, JFK, and Newark); and San Francisco International (Terminal 1), among others.



#### Training and Exercises

In addition to Multi-Year Training and Exercise Plans, Ross & Baruzzini provides customized training for DOA staff and stakeholders to orient personnel to plan modifications and to introduce concepts provided in newly written plans. Our team also provides HSEEP-compliant exercises. While it is important to build internal capabilities to conduct training and exercises, Ross & Baruzzini recommends assistance in developing and conducting initial

Andy Kacer  
Palm Beach County Department of Airports  
July 23, 2020

**Ross & Baruzzini**

discussion-based (tabletop exercises) and operations-based (drills) exercises immediately following development of a Multi-Year Training and Exercise Plan. Our "train-the-trainer" model is designed to transfer exercises development, conduct, and evaluation skills to clients to provide a sustainable exercise program. In short, the Multi-Year Training and Exercise Plan defines the types of exercises to be conducted; initial support by our team in the first few exercises provides a "how to" approach to performing exercises.

#### Design Services

To support risk-based consultative services, Ross & Baruzzini provides a full range of expert design and engineering services. These services support hazard and threat mitigation through capital projects as well as a full-range of airport operational needs.

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We appreciate the opportunity provide this proposal and look forward to working with you toward the successful completion of the project.

Respectfully,  
ROSS & BARUZZINI, INC.



Michael W. Zoia, CPP, PSP, RCDD  
Vice President, Director of Aviation – North America

## EXHIBIT A-6



# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-6**

### **Task I-20-PBI-A-037: Restriping Common Use Gates**

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#### **Palm Beach International Airport (PBI)**

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## **OVERVIEW**

The Palm Beach Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM or CONSULTANT) provide professional services for Task I-20-PBI-A-037: Restriping Common Use Gates Project (Project). AECOM will develop construction documents to be utilized for restriping common use gates at PBI Terminals B and C.

## **PROJECT OBJECTIVE AND APPROACH**

AECOM will develop Construction Documents (CDs) for proposed apron marking based on the Terminal Gate Layouts at all DOA common-use gates (14 total gates) at Terminals B and C<sup>1</sup>. The CDs will provide sufficient information for the Contractor to eradicate the obsolete existing apron markings in the field and install the new markings. Northings and Eastings will be provided for the new markings (point and curve data), in North American Datum of 1983 (NAD83), Florida State Plane, East Zone 3601, US Survey Foot.

The new markings will be consistent with the DOA's apron marking standard template for common-use gates<sup>2</sup> and will include the following elements:

- Limit of Construction/work Line
- Aircraft Lead-in Lines
- Aircraft Safety Envelope
- Aircraft Lead-in Line
- Gate ID
- Wheel Stop Bars
- Aircraft Designations
- PBB Wheel Bogie Box
- PBB Safety Zone
- Apron Parking Restriction Line (APRL)
- General and Striping Notes
- Paint Specifications

Sufficient dimensions, angles, details, and location information will be provided for each feature so they can be painted relative to the proposed aircraft parking positions.

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<sup>1</sup> 2020\_05\_21 PROP-AIRC-GATE-MARK

<sup>2</sup> 2020\_05\_06 PBI-APRN-MARK

The existing topographic data will be obtained from a 2018 apron marking survey provided by the DOA and used as the basis of the existing conditions. If any existing conditions in the field are found to be inconsistent with the plan, the Contractor shall coordinate with the airport engineer or RPR to reconcile.

### **CONTRACT DOCUMENTS (90%) (Phase 1)**

The following elements are included as part of this task:

- a) Kick-off meeting will be held with DOA and Design Team at the beginning of task in order to discuss design objective and goals.
- b) 90% CDs will be developed. Drawings will include general notes, haul route, staging plans, existing conditions, demolition plans, proposed markings, and marking details.

During this phase, the 90% review meeting will be held with DOA and Design Team to evaluate the proposed plans and design intent. Any findings during this phase will be summarized and any changes to the project due to unforeseen conditions will be brought to the attention of the DOA.

### **Deliverables (Phase 1)**

1. Kick-Off Meeting Minutes
2. 90% CDs
  - o Contract Drawings - Four (4) sets of half size prints;
  - o Estimate of Probable Construction Cost;
  - o Technical Specifications;
  - o Draft Construction Phasing and Safety Plan.
3. Meeting Minutes from the 90% Design Review Meeting.

### **CONTRACT DOCUMENTS (100%) (Phase 2)**

Following the 90% CD submittal the CONSULTANT will develop 100% CDs. These CDs will consist of the information contained in the 90% CDs, as well as incorporate any comments provided and by DOA or other authorized reviewers, as directed by DOA. The following elements are included as part of this task:

The 100% Contract Plans will include, but are not limited to:

1. Cover Sheet (100%).
2. Drawings Index / Summary of Quantities/General Notes (100%).
3. Staging and Haul Route Plan (100%).
4. Construction Phasing and Security Notes and Details (100%).
5. Existing Conditions Plans (100%).
6. Demolition Plans (100%).
7. Pavement Marking Plans (100%).
8. Markings Details (100%).

As part of this phase, a 100% design review meeting will be held with DOA and Design Team to evaluate the proposed plans and design intent. Any findings during this phase will be summarized and any changes to the project due to unforeseen conditions will be brought to the attention of the DOA.

**Deliverables (Phase 2)**

1. 100% Contract Drawings (Four sets of half-size prints);
2. 100% Project Manual - Technical Specifications, Front Ends and FAA General Provisions;
3. Construction Phasing and Safety Plan Report;
4. 100% Project Cost Budget Estimates;
5. Meeting minutes from the 100% Review Meeting;

**BIDDING AND AWARD OF CONTRACT DOCUMENTS (Phase 3)**

After authorization to proceed with the Bidding Phase, CONSULTANT will assist the DOA in advertising for and obtaining bids for each separate prime contract for construction, materials, equipment and services; and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, via the County's Vendor Self-Service Website. CONSULTANT will support the DOA in conducting a pre-bid to share pertinent bidding and technical information and requirements with prospective bidders; issue addenda as appropriate to interpret and clarify or expand the Bidding Documents during the Bidding phase; and attend the bid opening, prepare bid tabulation sheets and assist DOA in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services.

**3.1 Meetings**

The CONSULTANT will prepare for and attend the following meetings during this Phase:

- a. One (1) Pre-Bid Meeting; and,
- b. One (1) Bid Opening Meeting;

**3.2 Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. Four (4) sets of Bidding Documents;
- b. Electronic Bid Documents;
- c. Applicable Addenda during Bidding process;
- d. Pre-Bid Agenda and Meeting Minutes;
- e. Bid Tabulation of Bids; and,
- f. Bid Recommendation Letter for Award.

**PROJECT SCHEDULE**

AECOM anticipates to submit the 90% Contract Documents following 45 days after NTP. AECOM anticipates to submit the 100% Contract Documents following 75 days after NTP. AECOM anticipates to complete this project within 105 Calendar Days from NTP for the work specific to the AECOM for this Task.

**PROJECT ASSUMPTIONS**

AECOM will perform all services listed in this scope of services and it is expected that the DOA will perform all other coordination's with PBI airport operations and related services that are not listed.

The following assumptions were made pertaining to the design approach for this project:

- No utility relocation will be necessary for this project.
- DOA will process and file any NOTAMs necessary for this project.
- DOA will provide Front End Contract Documents and all changes recommended by the CONSULTANT shall be reviewed by the DOA.
- DOA will submit the Construction Safety Phasing Plan to the FAA.
- Construction Administration and Resident Project Representative Services are not included in this scope of services. The CONSULTANT will gladly perform Construction Administration and Resident Project Representative Services via a separate task order.

Exhibit B-2

Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-037: Restriping Common Use Gates

Billing Rate:	\$ 181	\$ 247	\$ 182	\$ 219	\$ 120	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)							Fee Estimate (\$)				
	QC Reviewer	Senior Project Manager	Design Manager	Senior Planner	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total	
<b>Task I-20-PBI-A-037: Restriping Common Use Gates</b>												
Phase 1 CONTRACT DOCUMENTS (90% SUBMITTAL)	<b>Total</b>	<b>4</b>	<b>15</b>	<b>10</b>	<b>8</b>	<b>110</b>	<b>4</b>	<b>4</b>	<b>155</b>	<b>\$21,917</b>	<b>\$150</b>	<b>\$22,067</b>
Project Site Visit to Confirm Marking Locations						8	4		12	\$ 1,316	\$ -	\$ 1,316
Kick-Off Meeting			3			3			6	\$ 1,101	\$ -	\$ 1,101
100% Design Development Drawings:									0	\$ -	\$ 150	\$ 150
Cover Sheet (90%).						2			2	\$ 240	\$ -	\$ 240
Drawings Index / Summary of Quantities/General Notes (90%).						2			2	\$ 240	\$ -	\$ 240
Staging and Haul Route Plan (90%).				2		3			5	\$ 724	\$ -	\$ 724
Construction Phasing and Security Notes and Details(90%)(Coordination w DOA Operations).		2	2			12			16	\$ 2,298	\$ -	\$ 2,298
Existing Conditions (90%).				2		12			14	\$ 1,878	\$ -	\$ 1,878
Pavement Marking Removal (90%).				2		6			8	\$ 1,158	\$ -	\$ 1,158
Pavement Markings Plans (90%).				2		40			42	\$ 5,238	\$ -	\$ 5,238
Pavement Markings Details (90%).				2		6			8	\$ 1,158	\$ -	\$ 1,158
90% Technical Specifications		4	2			6			12	\$ 2,072	\$ -	\$ 2,072
90% Construction Phasing and Safety Plan Report			2			4			6	\$ 844	\$ -	\$ 844
90% Project Construction Cost Estimate			2			2			4	\$ 604	\$ -	\$ 604
ISO 9001 - QA/QC Review		4							4	\$ 724	\$ -	\$ 724
90% Review Meeting			2			2			4	\$ 734	\$ -	\$ 734
Task Management			4			2		4	10	\$ 1,588	\$ -	\$ 1,588

Exhibit B-2

Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-037: Restriping Common Use Gates

Billing Rate:		\$ 181	\$ 247	\$ 182	\$ 219	\$ 120	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)							Fee Estimate (\$)				
	QC Reviewer	Senior Project Manager	Design Manager	Senior Planner	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total	
<b>Task I-20-PBI-A-037: Restriping Common Use Gates</b>												
Phase 2 CONTRACT DOCUMENTS (100% SUBMITTAL)	Total	4	7	14	7	87	0	5	124	\$17,424	\$150	\$17,574
100% Design Development Drawings:									0	\$ -	\$ 150	\$ 150
Cover Sheet (100%).									0	\$ -	\$ -	\$ -
Drawings Index / Summary of Quantities/General Notes (100%).						2			2	\$ 240	\$ -	\$ 240
Staging and Haul Route Plan (100%).				1		2			3	\$ 422	\$ -	\$ 422
Construction Phasing and Security Notes and Details(100%).(Coordination w DOA Operations)				4		8			12	\$ 1,688	\$ -	\$ 1,688
Existing Conditions (100%).					2	4			6	\$ 918	\$ -	\$ 918
Pavement Marking Removal (100%).					1	3			4	\$ 579	\$ -	\$ 579
Pavement Marking Plans (100%).					2	40			42	\$ 5,238	\$ -	\$ 5,238
Pavement Marking Details (100%).					2	8			10	\$ 1,398	\$ -	\$ 1,398
100% Technical Specifications				2		3			5	\$ 724	\$ -	\$ 724
100% Front End Specifications & FAA General Provisions				4		4		1	9	\$ 1,298	\$ -	\$ 1,298
100% Construction Phasing and Safety Plan Report				1		4			5	\$ 662	\$ -	\$ 662
100% Project Construction Cost Estimate				2		2			4	\$ 604	\$ -	\$ 604
ISO 9001 - QA/QC Review		4							4	\$ 724	\$ -	\$ 724
100% Review Meeting				3		3			6	\$ 1,101	\$ -	\$ 1,101
Task Management				4		4		4	12	\$ 1,828	\$ -	\$ 1,828

Exhibit B-2

Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Task I-20-PBI-A-037: Restriping Common Use Gates

Billing Rate:	\$ 181	\$ 247	\$ 182	\$ 219	\$ 120	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)								Fee Estimate (\$)			
	QC Reviewer	Senior Project Manager	Design Manager	Senior Planner	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total	
<b>Task I-20-PBI-A-037: Restriping Common Use Gates</b>												
<b>Phase 3 - BIDDING AND AWARD</b>	<b>1</b>	<b>5</b>	<b>14</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>44</b>	<b>\$6,844</b>	<b>\$250</b>	<b>\$7,094</b>	
<i>Submit Bid Documents to DOA:</i>								0	\$ -	\$ -	\$ -	
Bid Drawings	1	1	2		4			8	\$ 1,272	\$ 250	\$ 1,522	
Bid Technical Specifications		1	2		2			5	\$ 851	\$ -	\$ 851	
Final Updates Bid Front End Specifications & FAA General Provisions			2		4			6	\$ 844	\$ -	\$ 844	
Bid Project Construction Cost Estimate			2		2			4	\$ 604	\$ -	\$ 604	
Pre-Bid Conference		2	2		4			8	\$ 1,338	\$ -	\$ 1,338	
Addenda			2		8			10	\$ 1,324	\$ -	\$ 1,324	
Bid Recommendation Letter		1	2					3	\$ 611	\$ -	\$ 611	
<b>Total Fee - AECOM Technical Services, Inc.</b>	<b>9</b>	<b>27</b>	<b>38</b>	<b>15</b>	<b>221</b>	<b>4</b>	<b>9</b>	<b>323</b>	<b>46,185</b>	<b>550</b>	<b>46,735</b>	
<b>Subconsultant Fees</b>												
<b>Total Fee - Subconsultants</b>	<b>\$ -</b>											
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>	<b>\$ 46,735.00</b>											

Lump Sum	\$ 46,185.00
T&M	\$ -
Expenses	\$ 550.00
	\$ 46,735.00

Prepared by: AECOM Technical Services, Inc.

## EXHIBIT A-7



# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-7**

### **Palm Beach International Airport (PBI)**

#### **Task I-20-PBI-A-038: Terminal Temperature and Humidity Issues CA Services – Phase 2**

## **OVERVIEW**

The Palm Beach Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM) provide Construction Administration (CA) Services associated with the Terminal Temperature and Humidity Issues CA Services – Phase 2 Project (Project) at Palm Beach International Airport (PBI).

The estimated project construction duration shall consist of Three Hundred and Sixty-Five (365) Calendar Days. Final acceptance shall be achieved within a period of Thirty (30) Calendar Days from the date of substantial completion.

## **PROJECT TEAM**

The Project Team for this task includes:

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project Management / Periodic Site Inspections
Colomé & Associates, Inc. (Colome)	Architect CA Services
Johnson, Levinson, Ragan, Davila, Inc. (JLRD)	Mechanical CA Services
Quantum Electrical Engineering, Inc. (Quantum)	Electrical CA Services

## **Task I – CA Services**

AECOM will provide the following CA Services:

- A. Conformed Documents: Prepare (6) sets of Conformed Contract Plans and Specifications for Contract Execution. Prepare (6) sets of Executed Contract Documents for Construction, (3) for DOA and (3) for the Contractor. Prepare a CD with Deliverables;
- B. Conferences and Meetings: Attend and facilitate meetings between the DOA, CMAR, and Stakeholders, such as progress meetings (a maximum of 26 bi-weekly construction progress meetings), job conferences and other project related meetings;

- C. Shop Drawings: Review and approve shop drawings prior to the beginning of construction activities. Develop and maintain a log that summarizes status of all shop drawings;
- D. Interpretation and clarification of Contract Documents: Respond to various Requests for Information, Job memoranda, and other field prepared inquiries;
- E. Records: Maintain electronic files of correspondence, meeting minutes, shop drawings and Contract Documents including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, clarifications and interpretations of the Contract Documents, progress reports and other project related documents. Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of material and equipment;
- F. Payment Requests: Review applications for payment with information provided by the CMAR;
- G. Periodic site visits to monitor construction activity;
- H. AECOM will be responsible for preparation, processing, review and document control of Change Orders, Field Instructions, Field Bulletins, Construction Change Proposals and Directives, and Notices of Non-Compliance.
- I. AECOM will review Contractor as-builts for completeness and obvious errors based on readily available information to AECOM. AECOM will provide comments prior to acceptance of the Contractor's As-builts.
- J. Substantial and Final Completion: Conduct substantial and final completion inspection in the company of the owner, and Contractor and prepare a substantial completion, and if necessary a final punch list of items in conjunction with Owner to be completed or corrected;
- K. AECOM will use all readily available information including the Contractor's As-builts to prepare Record Drawings for the completed work.
- L. Task Management and Coordination: Coordinate as needed with DOA, CMAR, and other Project stakeholders.
- M. Project Close-out Activities: AECOM will prepare Certificate of Substantial Completion and other Project related Close-out activities.

### **PROJECT SCHEDULE**

AECOM is scheduled to complete this project within 395 Calendar Days following the beginning of Construction.

### **PROJECT DELIVERABLES**

Project Deliverables are as described in the above-mentioned Task I.

### **PROJECT ASSUMPTIONS**

1. AECOM shall not be responsible for the means, methods, techniques, sequences, procedures of construction or selection of materials selected by the CMAR or the safety precautions and programs incident to the work of the CMAR. AECOM shall not guarantee the performance of the Contractor nor be responsible for the acts, errors, omissions, or the failure of the CMAR to perform the construction work in accordance with the Contract Documents.

2. AECOM will perform all services listed in this scope of services and it is expected that the DOA will perform all other construction related services that are not listed.
3. These Construction Administration Services shall be provided for a period of 365 calendar days of construction; if construction is to lengthen past the estimated 365 calendar days of construction, a separate Task Authorization, which specifies the additional days of construction, will be prepared.
4. In the event that the DOA and AECOM believe it to be in the best interests of the Project that additional construction engineering inspection services, or additional services beyond what is provided in this scope of work be provided by AECOM, a separate Task Authorization, which specifies the proposed scope of services to be performed, will be prepared.
5. AECOM understands and agrees that the DOA shall have the responsibility for the general administration of the construction contract. AECOM shall not have the authority or responsibility to accept or reject work done by the Contractor, and is only responsible for providing recommendations to the DOA based on the available information.

Exhibit B-1

Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Terminal Temperature and Humidity Issues CA Services - Phase 2

Billing Rate:	\$ 340	\$ 181	\$ 247	\$ 182	\$ 120	\$ 97	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)									Fee Estimate (\$)														
	Principal	QC Reviewer	Senior Project Manager	Construction Manager	Project Engineer	Resident Project Representative	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total												
<b>Terminal Temperature and Humidity Issues CA Services - Phase 2</b>																								
<b>1.0 CONSTRUCTION ADMINISTRATION SERVICES (LUMP SUM + REIM.)</b>	<b>Total</b>	<b>0</b>	<b>14</b>	<b>42</b>	<b>77</b>	<b>220</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>401</b>	<b>\$57,618</b>	<b>\$800</b>	<b>\$58,418</b>											
A Prepare Conformed Documents		6	1	2	2			8	2	21	\$ 2,829	\$ 200	\$ 3,029											
B Meetings (26 Const. Meetings + 4 Miscellaneous Meetings)			4	15	30				4	53	\$ 7,678		\$ 7,678											
C Process Review and Approve Shop Drawings and Submittals			2	8	16					26	\$ 3,870		\$ 3,870											
D Interpretation and Clarification of Contract Documents/RFI's			8	12	24		8			52	\$ 7,752		\$ 7,752											
E Establish and Maintain Project Records			1	4	8				6	19	\$ 2,475		\$ 2,475											
F Review Applications for Payment				8	8					16	\$ 2,416		\$ 2,416											
G Periodic Site Visits			4	16	52				4	76	\$ 10,500	\$ 200	\$ 10,700											
H Preparation of Change Orders, Notices of Non-Compliance etc...			2	4	32					38	\$ 5,062		\$ 5,062											
I As Built Review			2	4	8					14	\$ 2,182		\$ 2,182											
J Substantial w/ Punch List and Final Completion Inspection			2	2	8				2	14	\$ 1,998	\$ 200	\$ 2,198											
K Prepare Record Drawings		8		2	8		8			26	\$ 3,484	\$ 200	\$ 3,684											
L Task management and Coordination			8		8				4	20	\$ 3,296		\$ 3,296											
M Project Closeout			8		16				2	26	\$ 4,076		\$ 4,076											
<b>Total Fee - AECOM Technical Services, Inc.</b>		<b>0</b>	<b>14</b>	<b>42</b>	<b>77</b>	<b>220</b>	<b>0</b>	<b>24</b>	<b>24</b>	<b>401</b>	<b>\$57,618</b>	<b>800</b>	<b>\$58,418</b>											
<b>Subconsultant Fees Task 1.0</b>																								
Colome & Associates, Inc. (LS)	\$ 23,619																							
Colome & Associates, Inc. (Exp.)	\$ 100																							
Quantum Electrical Engineering, Inc. (LS)	\$ 34,886																							
Quantum Electrical Engineering, Inc. (Exp.)																								
JLRD (LS)	\$ 12,155																							
JLRD (Exp.)																								
<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;"></td> <td style="text-align: right;">Task 1.0 (Lump Sum)</td> <td style="text-align: right;">\$128,278</td> </tr> <tr> <td></td> <td style="text-align: right;">Task 2.0 (Time &amp; Material)</td> <td style="text-align: right;">\$0</td> </tr> <tr> <td></td> <td style="text-align: right;">Expenses</td> <td style="text-align: right;">\$900</td> </tr> <tr> <td></td> <td style="text-align: right;"><b>Total</b></td> <td style="text-align: right;"><b>\$129,178</b></td> </tr> </table>														Task 1.0 (Lump Sum)	\$128,278		Task 2.0 (Time & Material)	\$0		Expenses	\$900		<b>Total</b>	<b>\$129,178</b>
	Task 1.0 (Lump Sum)	\$128,278																						
	Task 2.0 (Time & Material)	\$0																						
	Expenses	\$900																						
	<b>Total</b>	<b>\$129,178</b>																						
<b>Total Fee - Subconsultants</b>	<b>\$ 70,760</b>																							
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>	<b>\$ 129,178</b>																							

Prepared by: AECOM Technical Services, Inc.

July 15, 2020

Mr. Andy Kacer, P.E.  
AECOM  
2090 Palm Beach Lakes Blvd., Suite 600  
West Palm Beach, Florida 33409

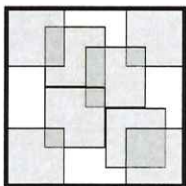
Re: **PBIA Terminal Level 2 Temperature & Humidity Corrections**  
**Architectural Construction Administration Phase (Add Services 2)**  
Palm Beach International Airport - West Palm Beach, Florida

Dear Mr. Kacer:

Enclosed is Colomé' & Associates, Inc.'s proposal for architectural construction administration services for the proposed Terminal Level 2 Temperature and Humidity Corrections at the Palm Beach International Airport in West Palm Beach, Florida.

The scope of work shall include the following:

- Construction Administration
  - Provide Conforming Architectural drawings for construction.
  - Attend preconstruction meeting.
  - Attend bi-weekly construction project meetings and observe the progress and quality of the executed work and to determine in general if the work is proceeding in accordance with the Contract Documents. The Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality of work, nor shall the Architect be responsible for the means, methods, techniques or procedures of construction selected by Contractor(s).
  - Prepare architectural Field Observation reports and review of Contractor's change order proposals during the construction phase.
  - Review and approve the Contractor's architectural shop drawings, or take other appropriate action, but only for the limited purpose of checking for conformance with information given and the design concepts expressed in the contract documents.
  - Prepare phased architectural substantial and final punch list.
  - Prepare Final architectural "As-Built" CAD and PDF files for owner based on general contractor's record drawings.
  - Expenses – (Included in the Construction Administration Phase Fees)



**Colomé & Associates, Inc.**

Florida Registration AA0003439

Architecture □ Planning □ Interiors

530 24th Street □ West Palm Beach, Florida 33407 □ Telephone: (561) 833-9147 □ Facsimile: (561) 833-9356 □ E-mail: colome@colome-arch.net

- Fees
- Architectural Construction Administration Phase and Expenses: Fees for performing services as outlined above shall be based upon the stipulated lump sum of twenty-three thousand seven hundred thirteen dollars and eighty-one (\$23,713.81) cents.

**Fee Breakdown:**

Architectural - Design / Bid Addendum Documents / Bidding Phase	\$23,618.81
Expenses	\$ 100.00
<b>Total Fee</b>	<b>\$23,718.81</b>

- Additional Services
  - Additional Services as requested by the Owner shall be based on the Architectural Hourly Basis as set forth in the executed AECOM Contract Agreement for Architectural Services or stipulated lump sum.

- Items excluded from this professional services fee proposal:


The following items are not included as part of this professional services fee proposal: This proposal does not include: Fees related to project applications, registrations, sound system design, interior design services, public announcement system design, acoustical design services, and re-design as a result of value engineering.

G24. FS558.0035. –PURSUANT TO FLORIDA STATUTE 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

Sincerely,



Elizabeth A. G. Colome' – Architect

Labor/Fee Estimate Summary (Colome & Associates, Inc.) - PBI TERMINAL LEVEL 2 TEMP & HUMIDITY CORRECTIONS - (PHASE 2) Task I-20-PBI-A-038											
<b>Billing Rate:</b>		\$ 169.04	\$ 138.65	\$ 85.96	\$ 43.68						
 <b>Colome' &amp; Associates, Inc.</b> ARCHITECTURE • PLANNING • INTERIORS Florida Registration - AA 0003439 530 24th Street West Palm Beach Florida 33407 Phone: (561) 833-8147 Fax: (561) 833-9358											
Labor Estimate (Hours)											
		Principal	Sn. Project Manager	Architect Drafting	Clerical	Labor Total		Expenses	Total		
Architectural Construction Administration Phase											
Task Description	Total	9	81	116	20.5	\$23,618.81	\$100.00	\$23,718.81			
Architect Administration											
Pre-Bid Meeting		\$0.00	2	\$277.30	2	\$171.92	\$0.00	\$ 449		\$ 449	
Pre-Construction Meeting		\$0.00	2	\$277.30	2	\$171.92	\$0.00	\$ 449		\$ 449	
Field Work		\$0.00	4	\$554.60	4	\$343.84	\$0.00	\$ 898		\$ 898	
Subconsultant Coordination		\$0.00	4	\$554.60	4	\$343.84	2	\$87.36		\$ 986	
										\$2,782.68	
Construction Administration Services											
Prepare Architectural Conforming Drawings	2	\$338.08	2	\$277.30	32	\$2,750.72	1	\$43.68	\$ 3,410	\$ 25.00	\$ 3,435
RFI Review / Response	2	\$338.08	4	\$554.60	12	\$1,031.52	6	\$262.08	\$ 2,186		\$ 2,186
Attend Bi-Weekly Construction Project Meetings		\$0.00	24	\$3,327.60	16	\$1,375.36	2	\$87.36	\$ 4,790	\$ 25.00	\$ 4,815
Submittal / Shop Drawing Review	2	\$338.08	6	\$831.90	12	\$1,031.52	2	\$87.36	\$ 2,289		\$ 2,289
Field Observation Reports	1	\$169.04	8	\$1,109.20	4	\$343.84	2	\$87.36	\$ 1,709		\$ 1,709
Field Bulletins / Change Order Reviews	1	\$169.04	6	\$831.90	4	\$343.84	1	\$43.68	\$ 1,388		\$ 1,388
Substantial Comp. Punch List - (Phased)		\$0.00	8	\$1,109.20	8	\$687.68	2	\$87.36	\$ 1,884	\$ 25	\$ 1,909
Final Completion Punch List - (Phased)		\$0.00	8	\$1,109.20	8	\$687.68	2	\$87.36	\$ 1,884	\$ 25	\$ 1,909
Close Out Documents		\$0.00	2	\$277.30		\$0.00	0.5	\$21.84	\$ 299		\$ 299
As-Builts	1	\$169.04	1	\$138.65	8	\$687.68		\$0.00	\$ 995		\$ 995
<b>Grand Total</b>										\$20,936.13	
		9.00	81.00	\$11,230.65	116.00	\$9,971.36	20.50	\$895.44	\$2,782.68	\$100.00	\$23,718.81

Source: Colomé & Associates, Inc.



JOHNSON, LEVINSON,  
RAGAN, DAVILA, INC.  
CONSULTING ENGINEERS

1450 Centrepark Boulevard, Suite 350  
West Palm Beach, FL 33401  
(561) 689-2303 • (561) 689-2302 Fax  
www.jlrdinc.com

April 13, 2020

Mr. Andy Kacer, PE, Greater Florida Manager – Airports  
**AECOM Technical Services, Inc.**  
7650 West Courtney Campbell Causeway  
Tampa, Florida 33607

Re: Construction Administration for PBIA Terminal Humidity and Condensation Phase 2

## **PALM BEACH COUNTY GENERAL CONSULTING SERVICES**

### **Task Scope Sheet**

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#### **Scope – Subcontractor Johnson, Levinson, Ragan, Davila, Inc. (JLRD)**

JLRD, Inc. has been requested to provide scope of services for Construction Administration (CA) for the following project as follows:

PBIA Terminal Humidity and Condensation – Phase 2

The following describes the scope as identified by JLRD for Construction Administration Services

1. Provide Shop Drawing review, Field Observations (monthly), Monthly OAC meetings, respond to construction RFI's, ASI's and produce AS-BUILT drawings from contractors redlines at the end of the project.
2. The estimated CA duration for project is 365 Days.

#### **PROJECT SCHEDULE**

The Construction Administration will last for the duration of the projects.

#### **PROJECT DELIVERABLES**

Construction Administration will provide Field Observations, Shop Drawing Comments, RFI responses in electronic form.



Mr. Andy Kacer, Greater Florida Manager – Airports

April 13, 2020

Re: Construction Administration for PBIA Terminal Humidity and Condensation – Phase 2

Fee:

PBIA Terminal Humidity and Condensation – Phase 2 – (\$12,160)

**Total Fee: \$12,160**

Sincerely,

**JOHNSON, LEVINSON, RAGAN, DAVILA, INC.**

A handwritten signature in blue ink, appearing to read "Michael P. Linden". The signature is fluid and cursive, with a long vertical line extending downwards from the end of the name.

Michael P. Linden, PE, LEED AP®  
Vice President

MPL/khg

*AECOM Construction Administration proposals*



April 13, 2020

AECOM Technical Services, Inc.  
Mr. Andy Kacer P.E.  
Southeast Aviation Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607

Subject: Electrical Construction Administration Services Fee Proposal for the Palm Beach County Department of Airports (DOA) – TASK I-PBI-A-038 TEMPERATURE AND HUMIDITY ISSUES CORRECTIONS PHASE 2 CONSTRUCTION SERVICES

Dear Andy:

Quantum Electrical Engineering, Inc. (Quantum) is pleased to provide AECOM an electrical construction administration services fee proposal for the DOA PBI-A 2<sup>nd</sup> Level Terminal Temperature and Humidity Issues Corrections Project for Electrical, Lighting, Fire Alarm and Public Address Systems.

**TASK 1 Base Design Construction Services the following items are included in our scope:**

- Based on 12 months of construction time
- Includes electrical construction bi-weekly progress meetings (26) with DOA, AECOM and Contractor.
- Includes electrical shop drawings submittals reviews & approvals.
- Includes plans and photometric calculations for temporary lighting under the proposed scaffolding.
- Includes plans for relocation of temporary fire alarm devices under scaffolding.
- Includes requests for information reviews & approvals.
- Includes change order reviews and comments.
- Includes periodic site observation visits.
- Includes substantial and final completion inspections.
- Includes record drawings based on Contractor "Red Line Plan Mark-ups."

**Our proposed total Lump-Sum fee is:**  
(See attachment breakdown)

**\$ 34,886.01**

Sincerely,



Amy L. Champagne-Baker, PE  
President

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

**PALM BEACH COUNTY DEPARTMENT OF AIRPORTS- TASK I-PBI-A-038 TEMPERATURE AND HUMIDITY ISSUES CORRECTIONS PHASE 2**  
**QUANTUM ELECTRICAL ENGINEERING, INC.**  
**SCOPE FEE SUMMARY**  
**FEE PROPOSAL ELECTRICAL CA to AE 04-13-2020**

	Rate	\$161.54	\$144.23	\$138.46	\$69.23	\$132.69	\$46.15		
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST
<b>TASK 1 Terminal Construction Services</b>									
Pre-Construction Conference		2					2		\$288.46
Prepare Conformed Documents			1	1			2		\$207.69
Temporary Lighting/FA plans		8	16	8			32		\$3,923.04
Review and Approve Shop Drawings		24				4	28		\$3,646.12
On-site Observations/Field Visits (26)		12			52	20	84		\$9,553.64
Bi-weekly Construction Coordination Meetings (26)					52		52		\$6,899.88
Respond to Requests for Information (RFI)		8	8	8		4	28		\$2,999.96
Change Orders		4	4	4			12		\$1,407.68
Pay Applications					12		12		\$1,592.28
Substantial Completion		8					8		\$1,153.84
Final Completion		4			4		8		\$1,107.68
Review As-builts			2		4		6		\$807.68
Prepare Record Documents		1	4	8		1	14		\$1,298.06
<b>Subtotal</b>	<b>0</b>	<b>71</b>	<b>35</b>	<b>29</b>	<b>124</b>	<b>29</b>	<b>288</b>		<b>\$34,886.01</b>
<b>Grand Total Hours</b>	<b>0</b>	<b>71</b>	<b>35</b>	<b>29</b>	<b>124</b>	<b>29</b>	<b>288</b>		
<b>Grand Total Labor Cost</b>	<b>\$0.00</b>	<b>\$10,240.33</b>	<b>\$4,846.10</b>	<b>\$2,007.67</b>	<b>\$16,453.56</b>	<b>\$1,338.35</b>			<b>\$34,886.01</b>

## EXHIBIT A-8

# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-8**

### **Palm Beach International Airport (PBI)**

#### **Task I-20-PBI-A-039: UPS Replacement Construction Administration (CA) Services and Arc Flash Update**

## **OVERVIEW**

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM) provide Construction Administration (CA) Services associated with the Uninterruptible Power System (UPS) Replacement Construction Administration (CA) Services and Arc Flash Update Project (Project) at Palm Beach International Airport (PBI).

The Contractor's construction schedule shall consist of a materials procurement and mobilization phase of Sixty (60) Calendar Days from the Notice to Proceed (NTP). Project construction shall consist of Sixty (60) Days to substantial completion. Final acceptance shall be achieved within a period of Thirty (30) Calendar Days from the date of substantial completion.

## **PROJECT TEAM**

The Project Team for this task includes:

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project Management / Periodic Inspections
Quantum Electrical Engineering, Inc. (Quantum)	Electrical CA Services and Arc Flash Update

## **Task I – CA Services**

AECOM will provide the following CA Services:

- A. Conformed Documents: Prepare (6) sets of Conformed Contract Plans and Specifications for Contract Execution. Prepare (6) sets of Executed Contract Documents for Construction, (4) for DOA and (2) for the Contractor. Prepare a CD with Deliverables;
- B. Conferences and Meetings: Attend and support meetings between the DOA, CMAR, and Stakeholders, such as progress meetings (a maximum of 1 pre-con + 4 bi-weekly construction progress meetings), job conferences and other project related meetings;
- C. Shop Drawings: Review and approve shop drawings prior to the beginning of construction activities. Develop and maintain a log that summarizes status of all shop drawings;

- D. Interpretation and clarification of Contract Documents: Respond to various Requests for Information, Job memoranda, and other field prepared inquiries;
- E. Records: Maintain electronic files of correspondence, meeting minutes, shop drawings and Contract Documents including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, clarifications and interpretations of the Contract Documents, progress reports and other project related documents. Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of material and equipment;
- F. Payment Requests: Review applications for payment with information provided by the CMAR;
- G. Periodic site visits to monitor construction activity;
- H. AECOM will be responsible for preparation, processing, review and document control of Change Orders, Field Instructions, Field Bulletins, Construction Change Proposals and Directives.
- I. AECOM will review Contractor as-builts for completeness and obvious errors based on readily available information to AECOM. AECOM will provide comments prior to acceptance of the Contractor's As-builts.
- J. Substantial and Final Completion: Conduct substantial and final completion inspection in the company of the owner, and Contractor and prepare a substantial completion, and if necessary a final punch list of items in conjunction with Owner to be completed or corrected;
- K. AECOM will use all readily available information including the Contractor's As-builts to prepare Record Drawings for the completed work.
- L. Task Management and Coordination: Coordinate as needed with DOA, CMAR, and other Project stakeholders.
- M. Project Close-out Activities: AECOM will prepare Certificate of Substantial Completion and other Project related Close-out activities.

#### **Task II - Arc Flash Analysis Update for Building 846**

AECOM Team will complete an Arc Flash Analysis Update for Building 846 that will include the following:

- Up-dating circuit breakers data in existing SKM Systems model for Switchboard "Admin".
- Re-run the Short Circuit, Coordination and Arc Flash Studies.
- Update one-lines and written report and Arc Flash /Breaker(s) tables.
- Develop and Replace Arc Flash labels on modified equipment.

**PROJECT SCHEDULE**

AECOM is scheduled to complete this project within 150 Calendar Days following receipt of the Notice to Proceed.

**PROJECT DELIVERABLES**

Project Deliverables are as described in the above-mentioned Task I and Task II.

**PROJECT ASSUMPTIONS**

1. AECOM shall not be responsible for the means, methods, techniques, sequences, procedures of construction or selection of materials selected by the CMAR or the safety precautions and programs incident to the work of the CMAR. AECOM shall not guarantee the performance of the CMAR nor be responsible for the acts, errors, omissions, or the failure of the CMAR to perform the construction work in accordance with the Contract Documents.
2. AECOM will perform all services listed in this scope of services and it is expected that the DOA will perform all other construction related services that are not listed.
3. In the event that the DOA and AECOM believe it to be in the best interests of the Project that additional construction engineering inspection services, or additional services beyond what is provided in this scope of work be provided by AECOM, a separate Task Authorization, which specifies the proposed scope of services to be performed, will be prepared.
4. AECOM understands and agrees that the DOA shall have the responsibility for the general administration of the construction contract. AECOM shall not have the authority or responsibility to accept or reject work done by the Contractor, and is only responsible for providing recommendations to the DOA based on the available information.



Exhibit B-1													
Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Uninterruptible Power System (UPS) Replacement Construction Administration (CA) Services and Arc Flash Update													
Billing Rate: \$ 340 \$ 181 \$ 247 \$ 182 \$ 120 \$ 97 \$ 89 \$ 90													
Task Description	Labor Estimate (Hours)								Fee Estimate (\$)				
	Principal	QC Reviewer	Senior Project Manager	Construction Manager	Project Engineer	Resident Project Representative	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total	
<b>UPS Replacement Construction Administration (CA) Services and Arc Flash Update</b>													
<b>CONSTRUCTION ADMINISTRATION SERVICES (LUMP SUM)</b>													
A	Prepare Conformed Documents	0	4	10	0	48	0	0	0	62	\$8,954	\$0	\$8,954
B	Meetings (5 Const. Meetings)		2			2				4	\$ 602		\$ 602
C	Process Review and Approve Shop Drawings and Submittals			2		10				12	\$ 1,694		\$ 1,694
D	Interpretation and Clarification of Contract Documents/RFI's			2		4				6	\$ 974		\$ 974
E	Establish and Maintain Project Records			2		2				2	\$ 240		\$ 240
F	Review Applications for Payment					2				2	\$ 240		\$ 240
G	Periodic Site Visits					6				6	\$ 720		\$ 720
H	Review/Processing of Change Orders, Field Instructions, Field Bulletins, Construction Change Proposals and Directives.					4				4	\$ 480		\$ 480
I	As Built Review					2				2	\$ 240		\$ 240
J	Substantial w/ Punch List and Final Completion Inspection					4				4	\$ 480		\$ 480
K	Prepare Record Drawings		2			4				6	\$ 842		\$ 842
L	Task management and Coordination			2		2				4	\$ 734		\$ 734
M	Project Closeout			2		2				4	\$ 734		\$ 734
<b>ARC FLASH UPDATE FOR BUILDING 846 (LUMP SUM)</b>													
	Update Arc Flash Analysis for PBI Building 846	0	4	2	0	2	0	0	0	8	\$1,458	\$0	\$1,458
			4	2		2				8	\$ 1,458		\$ 1,458
<b>Total Fee - AECOM Technical Services, Inc.</b>		0	8	12	0	50	0	0	0	70	\$10,412	0	\$10,412
<b>Subconsultant Fees Task 1.0</b>													
Quantum Electrical Engineering, Inc. (LS)		\$ 18,582.49											
Quantum Electrical Engineering, Inc. (Exp.)													
<b>Total Fee - Subconsultants</b>		\$ 18,582											
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>		\$ 28,994											

Task 1.0 (Lump Sum)	\$28,994
Task 2.0 (Time & Material)	\$0
Expenses	\$0
<b>Total</b>	<b>\$28,994</b>

Prepared by: AECOM Technical Services, Inc.

July 2, 2020

AECOM Technical Services, Inc.  
Mr. Andy Kacer P.E.  
Southeast Aviation Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607

Subject: Electrical Construction Administration Services Fee Proposal for the Palm Beach County Department of Airports (DOA) – PBI Building 846 Uninterruptible Power System (UPS) Replacement TASK 1 and 2

Dear Andy:

Quantum Electrical Engineering, Inc. (Quantum) is pleased to provide AECOM an electrical construction administration services fee proposal for the DOA PBI Building 846 UPS System Replacement Project TASK 1 and 2.

**TASK 1: Construction Services includes the following items in our scope:**

- Based on 60 days of construction time.
- Includes pre-construction conference with DOA, AECOM and Contractor.
- Includes creating conform documents.
- Includes electrical shop drawings submittals reviews & approvals.
- Includes 8 site visits (2 hours each) for onsite observation.
- Includes electrical construction progress meetings (4) with DOA, AECOM and Contractor.
- Includes requests for information reviews & approvals.
- Includes change order reviews.
- Includes substantial and final completion inspections.
- Includes review of as-builts and close out information.
- Includes record drawings based on Contractor "Red Line Plan Mark-ups."

Our TASK 1 proposed lump-sum fee is: \$ 14,224.09

**TASK 2: Arc Flash Analysis Update for Building 846 includes the following items in our scope:**

- Up-dating circuit breakers data in existing SKM Systems model for Switchboard "Admin".
- Updating UPS, transformer, and conductor information in existing SKM Systems Model.
- Re-run the Short Circuit, Coordination and Arc Flash Studies.
- Update one-lines and written report and Arc Flash /Breaker(s) tables.
- Develop and Replace Arc Flash labels on project related equipment.

Our TASK 2 proposed lump-sum fee is: \$ 4,338.40

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

Our proposed Lump-Sum fee for TASK 1 is:	\$ 14,244.09
Our proposed Lump-Sum fee for TASK 2 is:	\$ 4,338.40
<b>Our proposed total Lump-Sum fee is:</b>	<b>\$ 18,582.49</b>

(See attachment breakdown)

Sincerely,



Amy L. Champagne-Baker, PE  
President

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

**PALM BEACH COUNTY DEPARTMENT OF AIRPORTS- BUILDING 846 UPS REPLACEMENT CONSTRUCTION SERVICES**  
**QUANTUM ELECTRICAL ENGINEERING, INC.**  
**SCOPE FEE SUMMARY**  
**FEE PROPOSAL ELECTRICAL CA & STUDY to AE 07-02-2020**

	Rate	\$161.54	\$144.23	\$138.46	\$69.23	\$132.69	\$46.15		
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST
<b>TASK 1 UPS Construction Services</b>									
Pre-Construction Conference		2					2		\$288.46
Prepare Conformed Documents			1	1			2		\$207.69
Review and Approve Shop Drawings		30	8			4	42		\$5,619.18
On-site Observations		16				4	20		\$2,492.28
Bi-weekly Construction Coordination Meetings		4					4		\$576.92
Respond to Requests for Information (RFI)		2	4	4			10		\$1,119.22
Change Orders		2	4	4			10		\$1,119.22
Substantial Completion		4				1	5		\$623.07
Final Completion		4				1	5		\$623.07
Review as-builts and closeout information			4				4		\$553.84
Prepare Record Documents		1	4	4		1	10		\$1,021.14
<b>Subtotal</b>	<b>0</b>	<b>65</b>	<b>25</b>	<b>13</b>	<b>0</b>	<b>11</b>	<b>114</b>		<b>\$14,244.09</b>
<b>TASK 2 Update Bldg 846 Arc Flash Study</b>									
Model Update/Arc Flash Analysis		8	6				14		\$1,984.60
Update Report & Labeling		8	4	4		8	24		\$2,353.80
<b>Subtotal</b>	<b>0</b>	<b>16</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>38</b>		<b>\$4,338.40</b>
<b>Grand Total Hours</b>	<b>0</b>	<b>81</b>	<b>35</b>	<b>17</b>	<b>0</b>	<b>19</b>	<b>152</b>		
<b>Grand Total Labor Cost</b>	<b>\$0.00</b>	<b>\$11,682.63</b>	<b>\$4,846.10</b>	<b>\$1,176.91</b>	<b>\$0.00</b>	<b>\$876.85</b>			<b>\$18,582.49</b>

## EXHIBIT A-9

# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-9**

### **Palm Beach International Airport (PBI)**

#### **Task I-20-PBI-A-040: Fire Pump Replacement Construction Administration (CA) Services and Arc Flash Studies**

### **OVERVIEW**

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (AECOM) provide Construction Administration (CA) Services associated with the Fire Pump Replacement Construction Administration (CA) Services and Arc Flash Studies Project (Project) at Palm Beach International Airport (PBI).

The Contractor's construction schedule shall consist of a materials procurement and mobilization phase of Sixty (60) Calendar Days from the Notice to Proceed (NTP). Project construction shall consist of One Hundred and Twenty (120) Days to substantial completion. Final acceptance shall be achieved within a period of Thirty (30) Calendar Days from the date of substantial completion.

### **PROJECT TEAM**

The Project Team for this task includes:

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project Management / Periodic Inspections
Johnson, Levinson, Ragan, Davila, Inc. (JLRD)	Mechanical CA Services
Quantum Electrical Engineering, Inc. (Quantum)	Electrical CA Services and Arc Flash Studies

### **Task I – CA Services**

AECOM will provide the following CA Services:

- A. Conformed Documents: Prepare (6) sets of Conformed Contract Plans and Specifications for Contract Execution. Prepare (6) sets of Executed Contract Documents for Construction, (4) for DOA and (2) for the Contractor. Prepare a CD with Deliverables;
- B. Conferences and Meetings: Attend and support/facilitate meetings between the DOA, CMAR, and Stakeholders, such as progress meetings (a maximum of 9 bi-weekly construction progress meetings), job conferences and other project related meetings;

- C. Shop Drawings: Review and approve shop drawings prior to the beginning of construction activities. Develop and maintain a log that summarizes status of all shop drawings;
- D. Interpretation and clarification of Contract Documents: Respond to various Requests for Information, Job memoranda, and other field prepared inquiries;
- E. Records: Maintain electronic files of correspondence, meeting minutes, shop drawings and Contract Documents including all work directive changes, addenda, change orders, field orders, additional drawings issued subsequent to the execution of the contract, clarifications and interpretations of the Contract Documents, progress reports and other project related documents. Record names, addresses and telephone numbers of all Contractors, subcontractors and major suppliers of material and equipment;
- F. Payment Requests: Review applications for payment with information provided by the CMAR;
- G. Periodic site visits to monitor construction activity;
- H. AECOM will be responsible for preparation, processing, review and document control of Change Orders, Field Instructions, Field Bulletins, Construction Change Proposals and Directives.
- I. AECOM will review Contractor as-builts for completeness and obvious errors based on readily available information to AECOM. AECOM will provide comments prior to acceptance of the Contractor's As-builts.
- J. Substantial and Final Completion: Conduct substantial and final completion inspection in the company of the owner, and Contractor and prepare a substantial completion, and if necessary a final punch list of items in conjunction with Owner to be completed or corrected;
- K. AECOM will use all readily available information including the Contractor's As-builts to prepare Record Drawings for the completed work.
- L. Task Management and Coordination: Coordinate as needed with DOA, CMAR, and other Project stakeholders.
- M. Project Close-out Activities: AECOM will prepare Certificate of Substantial Completion and other Project related Close-out activities.

### **Arc Flash Analysis for Building 1475 and Main Terminal Building**

AECOM Team will complete an Arc Flash Analysis Update for PBI Main Terminal Building that will include the following:

- Update circuit breakers data in existing SKM Systems model for Substation D, Substation ET and Panel EMT3.
- Re-run the Short Circuit, Coordination and Arc Flash Studies.
- Update one-lines and written report and Arc Flash /Breaker(s) tables.
- Develop and Replace Arc Flash labels on modified equipment.

AECOM Team will complete an Arc Flash Analysis for Building 1475 that will include the following:

- Kick-Off Meeting
- Data Gathering
- Arc Flash Study for Building 1475
  - Model Creation and Arc Flash Analysis
  - Draft and Final Arc Flash Report
  - Generate arc flash labels that comply with NFPA 70E-2018

### **PROJECT SCHEDULE**

AECOM is scheduled to complete this project within 210 Calendar Days following receipt of the Notice to Proceed.

### **PROJECT DELIVERABLES**

Project Deliverables are as described in the above-mentioned Task I.

### **PROJECT ASSUMPTIONS**

1. AECOM shall not be responsible for the means, methods, techniques, sequences, procedures of construction or selection of materials selected by the CMAR or the safety precautions and programs incident to the work of the CMAR. AECOM shall not guarantee the performance of the Contractor nor be responsible for the acts, errors, omissions, or the failure of the CMAR to perform the construction work in accordance with the Contract Documents.
2. AECOM will perform all services listed in this scope of services and it is expected that the DOA will perform all other construction related services that are not listed.
3. In the event that the DOA and AECOM believe it to be in the best interests of the Project that additional construction engineering inspection services, or additional services beyond what is provided in this scope of work be provided by AECOM, a separate Task Authorization, which specifies the proposed scope of services to be performed, will be prepared.
4. AECOM understands and agrees that the DOA shall have the responsibility for the general administration of the construction contract. AECOM shall not have the authority or responsibility to accept or reject work done by the Contractor, and is only responsible for providing recommendations to the DOA based on the available information.



Exhibit B-1														
Labor/Fee Estimate Summary - CONSULTANT (AECOM Technical Services, Inc.) - Fire Pump Replacement Construction Administration (CA) Services and Arc Flash Studies														
Billing Rate: \$ 340 \$ 181 \$ 247 \$ 182 \$ 120 \$ 97 \$ 89 \$ 90														
Task Description	Labor Estimate (Hours)									Fee Estimate (\$)				
	Principal	QC Reviewer	Senior Project Manager	Construction Manager	Project Engineer	Resident Project Representative	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total		
<b>Fire Pump Replacement Construction Administration (CA) Services and Arc Flash Studies</b>														
	<b>CONSTRUCTION ADMINISTRATION SERVICES (LUMP SUM + REIM.)</b>	<b>Total</b>	<b>0</b>	<b>6</b>	<b>14</b>	<b>24</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>129</b>	<b>\$18,932</b>	<b>\$400</b>	<b>\$19,332</b>
A	Prepare Conformed Documents			2	2	8					12	\$ 1,686		\$ 1,686
B	Meetings (9 Const. Meetings)			2	8	9					19	\$ 3,030		\$ 3,030
C	Process Review and Approve Shop Drawings and Submittals			1	2	6					9	\$ 1,331		\$ 1,331
D	Interpretation and Clarification of Contract Documents/RFI's			1	1	4					6	\$ 909		\$ 909
E	Establish and Maintain Project Records				1	4					5	\$ 662		\$ 662
F	Review Applications for Payment					4					4	\$ 480		\$ 480
G	Periodic Site Visits					4	16				20	\$ 2,648	\$ 200	\$ 2,848
H	Review/Processing of Change Orders, Field Instructions, Field Bulletins, Construction Change Proposals and Directives.				2	8					10	\$ 1,324		\$ 1,324
I	As Built Review				2	4					6	\$ 844		\$ 844
J	Substantial w/ Punch List and Final Completion Inspection				2	4					6	\$ 844	\$ 200	\$ 1,044
K	Prepare Record Drawings		4	2		4				2	12	\$ 1,878		\$ 1,878
L	Task management and Coordination			4		4				4	12	\$ 1,828		\$ 1,828
M	Project Closeout			4		4					8	\$ 1,468		\$ 1,468
	<b>ARC FLASH ANALYSIS FOR BUILDING 1475 AND MAIN TERMINAL BUILDING (LUMP SUM + REIM.)</b>	<b>Total</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>\$4,277</b>	<b>\$200</b>	<b>\$4,477</b>
	Kick-Off Meeting for Arc Flash Analysis for Building 1475				2		2				4	\$ 734		\$ 734
	Update Arc Flash Analysis for PBI Main Terminal Building				4		2				6	\$ 1,228		\$ 1,228
	Review Meeting				2		2				4	\$ 734		\$ 734
	Data Gathering for Arc Flash Analysis for Building 1475				1		1				2	\$ 367		\$ 367
	Arc Flash Study Draft Report for Building 1475				1		3				4	\$ 607	\$ 100	\$ 707
	Arc Flash Study Final Report for Building 1475				1		3				4	\$ 607	\$ 100	\$ 707
<b>Total Fee - AECOM Technical Services, Inc.</b>			<b>0</b>	<b>6</b>	<b>25</b>	<b>24</b>	<b>92</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>153</b>	<b>\$23,209</b>	<b>600</b>	<b>\$23,809</b>
<b>Subconsultant Fees Task 1.0</b>														
Quantum Electrical Engineering, Inc. (LS)		\$ 44,214.88										Task 1.0 (Lump Sum)		\$74,499
Quantum Electrical Engineering, Inc. (Exp.)		\$ 7,075										Task 2.0 (Time & Material)		\$0
JLRD (LS)												Expenses		\$600
JLRD (Exp.)												Total		\$75,099
<b>Total Fee - Subconsultants</b>			<b>\$ 51,290</b>											
<b>GRAND TOTAL FEE - BASIC ENGINEERING SERVICES</b>			<b>\$ 75,099</b>											

Prepared by: AECOM Technical Services, Inc.

May 8, 2020

AECOM Technical Services, Inc.  
Mr. Andy Kacer P.E.  
Southeast Aviation Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607

Subject: Electrical Construction Administration Services Fee Proposal for the Palm Beach County Department of Airports (DOA) – Terminal and Building 1475 Fire Pump Replacement Project TASK 1,2,3 and 4.

Dear Andy:

Quantum Electrical Engineering, Inc. (Quantum) is pleased to provide AECOM an electrical construction administration services fee proposal for the DOA Fire Pump Replacement TASK 1,2,3 and 4.

**TASK 1 Fire Pump Construction Services includes the following items in our scope:**

- Based on 120 days of construction time
- Includes electrical construction progress meetings (9) with DOA, AECOM and CMAR.
- Includes 8 site visits (2 hours each) for onsite observation
- Includes electrical shop drawings submittals reviews & approvals.
- Includes requests for information reviews & approvals.
- Includes change order reviews
- Includes periodic site observation visits.
- Includes substantial and final completion inspections.
- Includes record drawings based on Contractor "Red Line Plan Mark-ups."

Our TASK 1 proposed lump-sum fee is: \$ 14,030.59.

**TASK 2 Arc Flash Analysis Update for Terminal includes the following items in our scope:**

- Up-dating circuit breakers data in existing SKM Systems model for Substation D, Substation ET and Panel EMT3.
- Re-run the Short Circuit, Coordination and Arc Flash Studies.
- Update one-lines and written report and Arc Flash /Breaker(s) tables.
- Develop and Replace Arc Flash labels on modified equipment.

Our TASK 2 proposed lump-sum fee is: \$ 5,769.16

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

**TASK 3 Arc Flash Analysis for Building 1475 includes the following items in our scope:**

➤ Task 3.1: Project Kick-Off Meeting

1. Project Kick-off meeting with AE/Quantum, DOA Personnel. Establish roles and points of contact; discuss objectives of the study and schedule. Discuss with DOA maintenance personnel any electrical system equipment problems, failures and maintenance issues.

➤ Task 3.2: Data Gathering

Perform site surveys of existing electrical power distribution system and equipment:

- Data Gathering: Field verification will include sufficient information to perform the short circuit, device coordination and arc flash study.

➤ Task 3.3A, B & C: Arc Flash Study

Task 3.3A: Model Creation and Arc Flash Analysis.

- Using the existing one-line diagrams and field collected data, create an electrical system model in SKM Power\*Tools For Windows® and perform a short circuit to determine the available fault current at each major bus of the distribution system. The analysis will be for power systems beginning at utility transformer and continuing downstream to 208V distribution/panel board level.
- Compare calculated fault currents at major equipment in the power system against existing withstand/interrupt ratings. Provide recommendations for areas where expected fault current exceed equipment withstand/interrupt ratings.
- Perform an over current device coordination study for selective coordination and provide recommendations for improving selective coordination.
- Perform arc flash hazard incident energy calculations in accordance with IEEE 1584-2018 and NFPA 70E (2018) on all equipment such as panelboards, switchgear, switchboards, motor control centers (MCCs), industrial control panels, meter socket enclosures that are likely to require examination, adjustment, servicing or maintenance while energized.

Task 3.3B: Deliverable #1

- Prepare and submit a draft Arc Flash Draft Report to the DOA for review and comment. Deliverable shall consist of one electronic PDF copy. Attend review meeting with the DOA and address comments.

Task 3.3C: Deliverable #2

- Generate arc flash labels that comply with NFPA 70E-2018 requirements based upon the results of the arc flash portion of the study. Verify/modify overcurrent protective device settings against recommended settings from the study and apply arc flash labels to electrical equipment as appropriate. Submit final study after incorporating and addressing comments from the DOA and after application of labels. Deliverable shall consist of one electronic PDF copy.

Task 3 Assumptions:

- All system model drawings produced under this Task Order will be in SKM Power\*Tools For Windows® and/or AutoCAD 2018, or higher. Reports will be in Microsoft Word or Excel as appropriate.

- Scope does not include a detailed analysis of facility, site or building lighting or control systems.
- Proposal does not include design services to address any findings or recommendations made in the study.
- "As-Built" information will be utilized, when necessary, for equipment that cannot be deenergized for internal visual inspection.
- The proposal does not include an arc flash safety program/risk assessment. The information contained in the study is for use by the DOA's Risk Management Team in implementing safe electrical system work practices. Development of safety programs to mitigate risk of personnel injury related to electrical work practices and/or arc flash hazards is beyond the scope of services provided by Quantum.
- "As-Built" of control wiring or control logic diagrams within electrical equipment including motor starters, generator paralleling switchgear, normal utility switchgear, control panels, etc. is not part of the scope of this proposal.
- Based on the recommended results of the coordination study, Quantum may need to modify various overcurrent device (circuit breaker and/or relay) settings. Quantum assumes that all the overcurrent devices operate according to manufacturer's specifications. Should the overcurrent devices fail to operate and/or not function as designed, Quantum takes no responsibilities for those events.

Our TASK 3 proposed lump-sum fee for Building 1475 Arc Flash Study is: \$ 24,415.13.

Our proposed Lump-Sum fee for TASK 1 is:	\$ 14,030.59
Our proposed Lump-Sum fee for TASK 2 is:	\$ 5,769.16
Our proposed Lump-Sum fee for TASK 3 is:	\$ 24,415.13
<b>Our proposed total Lump-Sum fee is:</b>	<b>\$ 44,214.88</b>

(See attachment breakdown)

Sincerely,



Amy L. Champagne-Baker, PE  
President

PALM BEACH COUNTY DEPARTMENT OF AIRPORTS- TERMINAL & 1475 BUILDING FIRE PUMP REPLACEMENT CONSTRUCTION SERVICES										
QUANTUM ELECTRICAL ENGINEERING, INC.										
SCOPE FEE SUMMARY										
FEE PROPOSAL ELECTRICAL CA & STUDY to AE 05-08-2020										
	Rate	\$161.54	\$144.23	\$138.46	\$69.23	\$132.69	\$46.15			
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL	
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST	
<b>TASK 1 Fire Pump Construction Services</b>										
Pre-Construction Conference		2					2		\$288.46	
Prepare Conformed Documents			1	1			2		\$207.69	
Review and Approve Shop Drawings		24				4	28		\$3,646.12	
On-site Observations		4			16	4	24		\$2,884.56	
Bi-weekly Construction Coordination Meetings					9		9		\$1,194.21	
Respond to Requests for Information (RFI)		4	4	4			12		\$1,407.68	
Change Orders		4					4		\$576.92	
Substantial Completion		4			4	1	9		\$1,153.83	
Final Completion		4			4		8		\$1,107.68	
Review As-builts			2		2		4		\$542.30	
Prepare Record Documents		1	4	4		1	10		\$1,021.14	
<b>Subtotal</b>	<b>0</b>	<b>47</b>	<b>11</b>	<b>9</b>	<b>35</b>	<b>10</b>	<b>112</b>		<b>\$14,030.59</b>	
<b>TASK 2 Update Terminal Arc Flash Study</b>										
Model Update/Arc Flash Analysis		16	8				24		\$3,415.36	
Update Report & Labeling		8	4	4		8	24		\$2,353.80	
<b>Subtotal</b>	<b>0</b>	<b>24</b>	<b>12</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>48</b>		<b>\$5,769.16</b>	
<b>TASK 3 Bldg 1475 Arc Flash Study</b>										
Task 3.1 Mtgs DOA, AE, Quantum		4	4			1	9		\$1,176.91	
Task 3.2 Data Gathering/Site Verifications		16	16			4	36		\$4,707.64	
Task 3.3A Model Creation/Arc Flash Analysis		48	24	8			80		10,799.92	
Task 3.3B Draft Report		16	8	8		10	42		\$4,430.70	
Task 3.3C Final Report & Labeling		12	8	4		4	28		\$3,299.96	
<b>Subtotal</b>	<b>0</b>	<b>96</b>	<b>60</b>	<b>20</b>	<b>0</b>	<b>19</b>	<b>195</b>		<b>\$24,415.13</b>	
<b>Grand Total Hours</b>	<b>0</b>	<b>167</b>	<b>83</b>	<b>33</b>	<b>35</b>	<b>37</b>	<b>355</b>			
<b>Grand Total Labor Cost</b>	<b>\$0.00</b>	<b>\$24,086.41</b>	<b>\$11,492.18</b>	<b>\$2,284.59</b>	<b>\$4,644.15</b>	<b>\$1,707.55</b>			<b>\$44,214.88</b>	



JOHNSON, LEVINSON,  
RAGAN, DAVILA, INC.  
CONSULTING ENGINEERS

1450 Centrepark Boulevard, Suite 350  
West Palm Beach, FL 33401  
(561) 689-2303 • (561) 689-2302 Fax  
www.jlrdinc.com

April 13, 2020 (REV #1 5-11-2020)

Mr. Andy Kacer, PE, Greater Florida Manager – Airports  
**AECOM Technical Services, Inc.**  
7650 West Courtney Campbell Causeway  
Tampa, Florida 33607

Re: Construction Administration for PBIA Fire Pump Replacements

## **PALM BEACH COUNTY GENERAL CONSULTING SERVICES**

### **Task Scope Sheet**

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#### **Scope – Subcontractor Johnson, Levinson, Ragan, Davila, Inc. (JLRD)**

JLRD, Inc. has been requested to provide scope of services for Construction Administration (CA) the project at PBIA as follows:

Project 1 – PBIA Fire Pump Replacements (Main Terminal and Bldg 1475 Air Cargo)

The following describes the scope as identified by JLRD for Construction Administration Services

1. Provide Shop Drawing review, Field Observations (bi-weekly), Bi-Weekly OAC meetings (9 meetings total), respond to construction RFI's, ASI's and produce AS-BUILT drawings from contractors redlines at the end of the project.
2. The estimated CA duration for the project is 120 Days.

#### **PROJECT SCHEDULE**

The Construction Administration will last for the duration of the projects.

#### **PROJECT DELIVERABLES**

Construction Administration will provide Field Observations, Shop Drawing Comments, RFI responses in electronic form.

Mr. Andy Kacer, Greater Florida Manager – Airports  
April 13, 2020  
Re: Construction Administration for PBIA Fire Pump Replacements

Fee:

PBIA Fire Pump Replacements – (\$7,075.00)

**Total Fee: \$7,075.00**

Sincerely,

**JOHNSON, LEVINSON, RAGAN, DAVILA, INC.**



Michael P. Linden, PE, LEED AP®  
Vice President

MPL/khg

*AECOM Construction Administration proposals*





## EXHIBIT A-10

# **PALM BEACH DOA GENERAL CONSULTING SERVICES**

## **EXHIBIT A-10**

### **Miscellaneous Architectural, Planning, Engineering and Construction Services**

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#### **Palm Beach International Airport (PBI)**

#### **Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement**

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### **OVERVIEW**

The Palm Beach County Department of Airports (DOA) has requested that AECOM Technical Services, Inc. (CONSULTANT) provide Professional Services associated with the Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement (Project) at Palm Beach International Airport (PBI). The scope of work for this Project includes data collection, cost estimating, and design development for 60%, 90%, 100%/Permit, and CMAR bid documents for the replacement of PBI Chillers 4 and 5.

A brief overview of pertinent tasks to be performed by the CONSULTANT for this Project includes:

1. Attend One (1) DOA Design Kick-Off Meeting and develop Meeting Minutes;
2. Coordinate One (1) Internal Design Team Kick-Off Meeting;
3. Data Collection and Analysis of Existing Conditions;
4. Minimum of One (1) Field Coordination Meeting;
5. Prepare/assemble 60%, 90%, and 100% Contract/Permit Documents including: Technical Specifications, Drawings, Project Schedule, Cost Estimates, and Permitting Documents;
6. Develop Project Cost Estimate;
7. Provide Quality Assurance for all deliverables;
8. Attend Three (3) DOA Submittal Review Meetings. Prepare meeting agenda and meeting minutes (60%, 90%, and 100% Contract Documents);
9. Respond to RFIs and issue Addenda;
10. Evaluate Bid Prices in GMP submitted by CMAR;
11. Construction Administration Services **are not** be included in this task authorization.

---

Task I-20-PBI-A-041:

PBI Chiller 4 and 5 Replacement

A-10-1

August 2020

**SCOPE OF SERVICES**

This task will be carefully coordinated by the Team provided below:

<b>Firm Name (CONSULTANT / SUBCONTRACTOR)</b>	<b>Type of Services</b>
AECOM Technical Services, Inc. (CONSULTANT)	Project Management, Deliverable Assembly and Submittals, Meetings, Development of Base Sheets, QAQC
Johnson, Levinson, Ragan, Davila, Inc. (SUBCONTRACTOR)	Mechanical and Plumbing
Quantum Electrical Engineering, Inc. (SUBCONTRACTOR)	Electrical Engineering Support
Master Consulting Engineers, Inc. (SUBCONTRACTOR)	Structural Analysis and Design

**Project Management**

Overall management of project including coordination and facilitation of site visits and data collection. Facilitation of design review meetings and preparation of meeting minutes. Coordination and assembly of technical specifications, plans, and cost estimates for each deliverable. Development of base sheets, record data collection, and review of deliverables prior to submittal. Delivery of permit submittals. Coordination with CMAR.

**Mechanical / Plumbing**

Mechanical / Plumbing design services include design for the replacement of chiller #4 and chiller #5 (currently serving the passenger terminal and concourses. Specifications for the phased chiller replacement will be included. All services will be in compliance with the current building codes, standards, and additional requirements.

**Electrical**

Electrical design services include all required electrical design for the replacement of two existing chillers, four pumps, and replacement of supporting electrical equipment. Includes all electrical calculations. Design shall be per all DOA requirements, NEC and County codes & standards criteria.

**Structural**

Structural design services include the design documents for an existing CMU wall that needs to be cut to allow for the existing chillers to be removed and replaced with new ones.

**BASIC SERVICES**

**TASK 1 PRELIMINARY INVESTIGATION**

**Preliminary Investigation (Task 1)**

This effort will include a design kickoff Meeting, coordination with the DOA, and our subconsultant team, and site visits for data collection. The initial meeting with the DOA and our team is included to establish the parameters and expectations, by the DOA, of this project.

**TASK 2 DESIGN DEVELOPMENT (60% DESIGN)**

**Contract Documents (60%) (Task 2)**

This effort will include developing 60% design plans and technical specifications, with a project cost estimate. A proposed list of drawings for this Task will include:

- 60% Cover Sheet
- 60% Drawing Index and General Notes
- 60% Chiller Plant Demolition Plan Phase 1
- 60% Chiller Plant Demolition Piping Schematic Phase 1
- 60% Chiller Plant New Work Plan Phase 1
- 60% Chiller Plant New Work Piping Schematic Phase 1
- 60% Chiller Plant Demolition Plan Phase 2
- 60% Chiller Plant Demolition Piping Schematic Phase 2
- 60% Chiller Plant New Work Plan Phase 2
- 60% Chiller Plant New Work Piping Schematic Phase 2
- 60% Mechanical Details
- 60% Mechanical Controls Legend and General Notes
- 60% Mechanical Controls Schematic Diagram
- 60% Mechanical Controls Sequence of Operations and Points Tables
- 60% Electrical Demolition (4)
- 60% Electrical Plan for new HVAC systems (2)
- 60% Switchgear Details
- 60% Electrical Legend
- 60% Electrical Details
- 60% Structural Details

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. 60% Specifications;
- b. 60% Plans;
- c. 60% Project Cost Estimate,
- d. 60% Design Review Meeting Minutes

A design review meeting with the DOA will be held to review the 60% design documents and cost estimate before developing the 90% Contract Documents. AECOM will incorporate applicable input, from the 60% design review meeting, into the 90% Contract Documents.

### **TASK 3 DESIGN DEVELOPMENT (90% DESIGN)**

#### **Contract Documents (90% Submittal) (Task 3)**

During this task, comments from the 60% review meeting will be implemented into 90% contract documents and the design will be further developed. A proposed index of drawings to be included with this submittal is listed below:

- 90% Cover Sheet
- 90% Drawing Index and General Notes
- 90% Chiller Plant Demolition Plan Phase 1
- 90% Chiller Plant Demolition Piping Schematic Phase 1
- 90% Chiller Plant New Work Plan Phase 1
- 90% Chiller Plant New Work Piping Schematic Phase 1
- 90% Chiller Plant Demolition Plan Phase 2
- 90% Chiller Plant Demolition Piping Schematic Phase 2
- 90% Chiller Plant New Work Plan Phase 2
- 90% Chiller Plant New Work Piping Schematic Phase 2
- 90% Mechanical Details
- 90% Mechanical Controls Legend and General Notes
- 90% Mechanical Controls Schematic Diagram
- 90% Mechanical Controls Sequence of Operations and Points Tables
- 90% Electrical Demolition (4)
- 90% Electrical Plan for new HVAC systems (2)
- 90% Switchgear Details
- 90% Electrical Legend
- 90% Electrical Details
- 90% Structural Details

#### **Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. 90% Specifications;
- b. 90% Plans;
- c. 90% Project Cost Estimate,
- d. 90% Design Review Meeting Minutes

A 90% design review meeting with the DOA will be held to review the 90% drawings, specifications, and cost estimate before proceeding toward developing the 100% Construction / Permit Documents. AECOM will respond to comments and incorporate applicable comments from the 90% design review meeting into the 100% Construction / Permit Documents.

### **TASK 4 DESIGN DEVELOPMENT (100% DESIGN)**

#### **100% Construction /Permit Documents (Task 4)**

During this task, comments from the 90% review meeting will be implemented, along with all final modifications, into the drawings and specifications. The 100% permit drawings, necessary technical specifications, completing the required permitting processes, and a cost estimate for the project will be completed under this task. A proposed index of drawings to be included with this submittal is listed below:

- 100% Cover Sheet

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Task I-20-PBI-A-041:

PBI Chiller 4 and 5 Replacement

A-10-4

August 2020

- 100% Drawing Index and General Notes
- 100% Chiller Plant Demolition Plan Phase 1
- 100% Chiller Plant Demolition Piping Schematic Phase 1
- 100% Chiller Plant New Work Plan Phase 1
- 100% Chiller Plant New Work Piping Schematic Phase 1
- 100% Chiller Plant Demolition Plan Phase 2
- 100% Chiller Plant Demolition Piping Schematic Phase 2
- 100% Chiller Plant New Work Plan Phase 2
- 100% Chiller Plant New Work Piping Schematic Phase 2
- 100% Mechanical Details
- 100% Mechanical Controls Legend and General Notes
- 100% Mechanical Controls Schematic Diagram
- 100% Mechanical Controls Sequence of Operations and Points Tables
- 100% Electrical Demolition (4)
- 100% Electrical Plan for new HVAC systems (2)
- 100% Switchgear Details
- 100% Electrical Legend
- 100% Electrical Details
- 100% Structural Details

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. 100% Specifications;
- b. 100% Plans;
- c. 100% Project Cost Estimate,
- d. 100% Design Review Meeting Minutes

In providing opinions of probable construction costs, the DOA understands that the CONSULTANT has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probable construction costs provided herein are to be made based on the CONSULTANT'S qualifications and experience. The CONSULTANT makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

**TASK 5 CMAR BIDDING**

**CMAR (Task 5)**

After incorporating the DOA and CMAR 100% comments into bid documents, AECOM will assist the DOA in negotiating a Guaranteed Maximum Price (GMP) with the CMAR. CONSULTANT will coordinate with DOA and the CMAR to incorporate any changes to the Bid Set of Drawings or Bid Technical Specifications that result from comments made by the DOA and the CMAR. CONSULTANT will prepare and issue any addenda and respond to CMAR's RFI's. CONSULTANT will evaluate CMAR's GMP.

The CONSULTANT will assist CMAR with submitting the Permit Document to PBC for their approval.

**Deliverables**

The CONSULTANT will deliver the following major Deliverables for this Phase:

- a. Permit Documents;
- b. Applicable Addenda;
- c. Responses to RFIs; and,
- d. Evaluation of CMAR's GMP.

**Assumptions:**

- DOA will provide all record documents applicable to this task.
- DOA will pay for all permitting costs.
- Construction Administration and Resident Project Representative Services are not included in this scope of services. The CONSULTANT will gladly perform Construction Administration and Resident Project Representative Services via a separate task order.
- CONSULTANT shall not be responsible for the means, methods, techniques, and sequences, procedures of construction or selection of materials selected by the Contractor or the safety precautions and programs incident to the work of the Contractor.
- The CONSULTANT shall not guarantee the performance of the Contractor nor be responsible for the acts, errors, omissions, or the failure of the Contractor to perform the construction work in accordance with the Contract Documents.

**Deliverables and Estimated Duration**

Deliverable	Days From NTP
60% Contract Documents	60 Days
90% Contract Documents	90 Days
100% Construction / Permitting Documents	120 Days

Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement  
 Labor/Fee Estimate Summary - AECOM

Billing Rate:	\$ 247	\$ 181	\$ 182	\$ 120	\$ 89	\$ 90
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Task Description	Labor Estimate (Hours)							Fee Estimate (\$)		
	Senior Project Manager	QC Reviewer	Design Manager	Project Engineer	Senior CADD Designer	Clerical	Total	Labor	Expenses	Total
<b>1.0 TASK 1 - PRELIMINARY INVESTIGATION</b>	<b>6</b>	<b>0</b>	<b>11</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>36</b>	<b>\$ 5,734</b>	<b>\$ 200</b>	<b>\$ 5,934</b>
Design Kickoff Meeting	1		3	3			7	\$ 1,153	\$ -	\$ 1,153
Site Visit	1		4	8			13	\$ 1,935	\$ 200	\$ 2,135
Data Collection and Analysis of Existing Conditions	1		4	4			9	\$ 1,455	\$ -	\$ 1,455
Coordination, Task Management and Invoicing	3			3		1	7	\$ 1,191	\$ -	\$ 1,191
<b>2.0 TASK 2 - CONTRACT DOCUMENTS (60%)</b>	<b>10</b>	<b>7</b>	<b>16</b>	<b>49</b>	<b>0</b>	<b>6</b>	<b>88</b>	<b>\$ 13,069</b>	<b>\$ -</b>	<b>\$ 13,069</b>
60% Cover Sheet				2			2	\$ 240	\$ -	\$ 240
60% Drawing Index and General Notes	1		2	4			7	\$ 1,091	\$ -	\$ 1,091
Submit Drawings	1	4	8	16		2	31	\$ 4,527	\$ -	\$ 4,527
Submit Specifications	1	2	2	4		2	11	\$ 1,633	\$ -	\$ 1,633
Cost Estimate		1	4	16			21	\$ 2,829	\$ -	\$ 2,829
DOA Review Meeting	3			3			6	\$ 1,101	\$ -	\$ 1,101
Coordination, Task Management and Invoicing	4			4		2	10	\$ 1,648	\$ -	\$ 1,648
<b>3.0 TASK 3 - CONTRACT DOCUMENTS (90% SUBMITTAL)</b>	<b>12</b>	<b>8</b>	<b>16</b>	<b>46</b>	<b>0</b>	<b>2</b>	<b>84</b>	<b>\$ 13,024</b>	<b>\$ -</b>	<b>\$ 13,024</b>
90% Cover Sheet				1			1	\$ 120	\$ -	\$ 120
90% Drawing Index and General Notes	1		2	2			5	\$ 851	\$ -	\$ 851
Submit Drawings	2	4	8	16			30	\$ 4,594	\$ -	\$ 4,594
Submit Specifications	1	2	2	8			13	\$ 1,933	\$ -	\$ 1,933
Cost Estimate	1	2	4	12			19	\$ 2,777	\$ -	\$ 2,777
DOA/CMAR Review Meeting	3			3			6	\$ 1,101	\$ -	\$ 1,101
Coordination, Task Management and Invoicing	4			4		2	10	\$ 1,648	\$ -	\$ 1,648
<b>4.0 TASK 4 - 100%/PERMIT DOCUMENTS</b>	<b>10</b>	<b>8</b>	<b>17</b>	<b>42</b>	<b>0</b>	<b>2</b>	<b>79</b>	<b>\$ 12,232</b>	<b>\$ -</b>	<b>\$ 12,232</b>
100% Cover Sheet				1			1	\$ 120	\$ -	\$ 120
100% Drawing Index and General Notes			2	2			4	\$ 604	\$ -	\$ 604
Submit Drawings	2	4	8	16			30	\$ 4,594	\$ -	\$ 4,594
Submit Specifications	1	2	2	4			9	\$ 1,453	\$ -	\$ 1,453
Cost Estimate		2	2	12			16	\$ 2,166	\$ -	\$ 2,166
DOA/CMAR Review Meeting	3		3	3			9	\$ 1,647	\$ -	\$ 1,647
Coordination, Task Management and Invoicing	4			4		2	10	\$ 1,648	\$ -	\$ 1,648
<b>5.0 TASK 5 - Bidding CMAR</b>	<b>11</b>	<b>0</b>	<b>20</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>79</b>	<b>\$ 12,117</b>	<b>\$ -</b>	<b>\$ 12,117</b>
Issue Signed and Sealed Permit Documents for PBC	3		4	16			23	\$ 3,389	\$ -	\$ 3,389
Respond to CMAR Comments / RFIs / Issue Addendum	4		8	24			36	\$ 5,324	\$ -	\$ 5,324
Review GMP	4		8	8			20	\$ 3,404	\$ -	\$ 3,404
<b>Total Fee - AECOM Technical Services, Inc.</b>	<b>49</b>	<b>23</b>	<b>80</b>	<b>203</b>	<b>0</b>	<b>11</b>	<b>366</b>	<b>\$ 56,176</b>	<b>\$ 200</b>	<b>\$ 56,376</b>

**Subcontractor Fees**

1	Total Subcontractor Fee - Master (LS)	\$ 2,727
	Total Subcontractor Fee - Master (Expenses)	\$ 56
2	Total Subcontractor Fee - Quantum (LS)	\$ 53,821
	Total Subcontractor Fee - Quantum (Expenses)	\$ -
3	Total Subcontractor Fee - JLRD (LS)	\$ 85,900
	Total Subcontractor Fee - JLRD (Expenses)	\$ 571
4	Total Subcontractor Fee	\$ -
	Total Subcontractor Fee	\$ -
5	Total Subcontractor Fee	\$ -
	Total Subcontractor Fee	\$ -
6	Total Subcontractor Fee	\$ -
	Total Subcontractor Fee	\$ -

Lump Sum	\$ 198,624
Expenses	\$ 827
T&M	\$ -
<b>Total</b>	<b>\$ 199,451</b>

**GRAND TOTAL FEE - BASIC ENGINEERING SERVICES \$ 199,451**

Prepared by: AECOM Technical Services, Inc.





JOHNSON, LEVINSON,  
RAGAN, DAVILA, INC.  
CONSULTING ENGINEERS

1450 Centrepark Boulevard, Suite 350  
West Palm Beach, FL 33401  
(561) 689-2303 • (561) 689-2302 Fax  
www.jlrdinc.com

February 25, 2020

Mr. Andrew Kacer, PE, Greater Florida Manager – Airports  
**AECOM Technical Services, Inc.**  
7650 West Courtney Campbell Causeway  
Tampa, Florida 33607

Re: PBI Chiller 4 and 5 Replacement

## **PALM BEACH COUNTY GENERAL CONSULTING SERVICES**

### **Task Scope Sheet**

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#### **SCOPE – Subcontractor Johnson, Levinson, Ragan, Davila, Inc. (JLRD)**

We are pleased to provide the following proposal for professional engineering services in conjunction with the replacement of chiller #4 and chiller #5 serving the passenger terminal and concourses. These services shall include an engineered design and specifications for the phased chiller replacement thru AECOM for PBI. All services will be in compliance with the current building codes, standards, and additional requirements as mutually agreed upon by the authority having jurisdiction. A general description of the scope of work and clarifications are described as:

#### **Mechanical:**

1. Verify and document existing chilled water piping arrangements and equipment locations within the existing plant related to the replacement of chillers #4 and #5. Existing pumping capacities will be reviewed to verify compatibility with replacement chiller pressure drop flow characteristics.
2. Verify and document existing refrigerant monitoring system capabilities and control requirements to meet the needs of the new chillers and refrigerant type.
3. Provide code compliant construction documents and specifications to coordinate with replacement of chillers #4 and #5. All chilled water system equipment and piping design shall comply with the latest versions of applicable building codes and requirements set forth by the authorities having jurisdiction.
4. Conduct site visits as required, to observe and document conditions that will affect the constructability and phased installation of chillers #4 and #5. Any discrepancies, that can be observed, will be brought to the attention of the Owner for resolution.
5. Perform refrigerant leak purge ventilation air calculations for the existing plant to accommodate all refrigerants in the chiller plant.

Re: PBI Chiller 4 and 5 Replacement

6. Perform piping and pump performance calculations to ensure compatibility with the new chillers as specified in the construction documents.
7. Provide for a phased design for the removal and installation of chillers to minimize interruption of critical facility operation.
8. BIM piping model design and coordination using Revit design software produced by Autodesk.

Construction Cost estimation:

1. Rough order of magnitude construction cost estimation shall be provided as it relates specifically to the scope of work provided as proposed. Review of general contractor GMP is also included.

**PROJECT SCHEDULE**

JLRD is scheduled to complete this project within the agreed upon submittal schedule for 60%, 90%, 100%, and bid construction document submissions and review periods following receipt of the Notice to Proceed.

**PROJECT DELIVERABLES**

Project Deliverables shall be 2 sets of signed and sealed drawings and specifications, one clean set of drawings and .pdf's.

**PROJECT ASSUMPTIONS/ GENERAL**

1. JLRD shall not be responsible for the means, methods, techniques, sequences, procedures of construction or selection of materials selected by the CMAR or the safety precautions and programs incident to the work of the CMAR. JLRD shall not guarantee the performance of the CMAR nor be responsible for the acts, errors, omissions, or the failure of the CMAR to perform the construction work in accordance with the Contract Documents.
2. JLRD will use a company vehicle and rental vehicle when needed to perform all Project related work. Cost for the rental vehicle, fuel, and use of the company vehicle have been included in the budget estimate.
3. JLRD will perform all services listed in this scope of services, and it is expected that the DOA will perform all other construction related services that are not listed.
4. JLRD assumes that the DOA will be responsible for the following:
  - i. Ensure the CMAR is in compliance with airport badging requirements and safety regulations
  - ii. Verify construction vehicles are properly marked, lighted, registered, and are in good operating condition
  - iii. Verifying barricades are placed in accordance with the construction drawings or as directed by Airport Operations; Accepting work performed by the CMAR;
  - iv. Provide consolidated red-line mark-ups for preparation of Record Drawings.
  - v. Provide JLRD with As-Built construction documents.
5. In the event that the DOA and JLRD believe it to be in the best interests of the Project that additional construction engineering inspection services, or additional services beyond what is provided in this scope of work be provided by JLRD, a separate Task Authorization, which specifies the proposed scope of services to be performed, will be prepared.

Mr. Andy Kacer, Greater Florida Manager – Airports  
February 25, 2020

Re: PBI Chiller 4 and 5 Replacement

6. JLRD understands and agrees that the DOA shall have the responsibility for the general administration of the construction contract. JLRD shall not have the authority or responsibility to accept or reject work done by the CMAR and is only responsible for providing recommendations to the DOA based on the available information.

**FEE:**

To provide the work presented, JLRD shall be paid a lump sum fee of Eighty-Six Thousand Four Hundred Seventy-One Dollars and Twenty Cents (\$86,471.20)

**SPECIFIC EXCLUSIONS:**

1. Electrical portion of the work is not included.
2. Plumbing design is not included.
3. Fire Protection system design and calculations are not included.
4. Construction administration services such as shop drawing review, RFI responses, periodic site visits during construction, commissioning, and as-built documentation.

Sincerely,

**JOHNSON, LEVINSON, RAGAN, DAVILA, INC.**



Michael P. Linden, PE, LEED AP®  
Vice President

MPL/bev

*AECOM PBIA Chiller 4 and 5 Replacement 2-25-2020 PRO.doc*

DESIGN LABOR BREAKDOWN														Tot	Cost		
TASK	HOURS																
	Principal		PE		Eng		Sr. Dsgn		Dsgn		Off Hours		CAD			SEC	
	200	200	130	130	85	85	120	120	75	75	128	128	55	65			
	M	E	M	E	M	E	M	E	M	E	M	E	-	-			
<b>BASE DESIGN SCOPE</b>																	
<i>General</i>																	
General Project Management	6		12												6	24	\$ 3,150.00
Study Existing As-Builts and Assessment Reports							6									6	\$ 720.00
BIM Coordination (clash detection review and resolution)	2		4				60									80	\$ 12,520.00
Piping Calculations (study new chiller pressure drop system effect)	1		2				16									19	\$ 2,380.00
Chiller Selections			1				4									5	\$ 610.00
New Refrigerant Monitoring System Design and Controls			2				6									8	\$ 980.00
Chiller Plant Phasing Coordination with PBI			2				4									6	\$ 740.00
<i>On-site Tasks</i>																	
Verify/Document Existing CHW System Piping/Equipment Layout/Control							16								16	32	\$ 2,800.00
Verify/Document Existing Refrigerant Monitoring System/Control							2								2	4	\$ 350.00
Design Review Meetings (60%, 90%, 100%/Permit, Bid review)	2		2				8								4	16	\$ 1,880.00
																-	-
<i>Construction Documents</i>																	
M-01 Legend and General Notes							3								2	5	\$ 470.00
M-02 HVAC Schedules							3								2	5	\$ 470.00
M-03 Chiller Plant Demolition Plan Phase 1			4				32								40	76	\$ 6,560.00
M-04 Chiller Plant Demolition Piping Schematic Phase 1			2				12								16	30	\$ 2,580.00
M-05 Chiller Plant New Work Plan Phase 1			4				32								40	76	\$ 6,560.00
M-06 Chiller Plant New Work Piping Schematic Phase 1			2				12								16	30	\$ 2,580.00
M-07 Chiller Plant Demolition Plan Phase 2			4				32								40	76	\$ 6,560.00
M-08 Chiller Plant Demolition Piping Schematic Phase 2			2				12								16	30	\$ 2,580.00
M-09 Chiller Plant New Work Plan Phase 2			4				32								40	76	\$ 6,560.00
M-10 Chiller Plant New Work Piping Schematic Phase 2			2				8								16	26	\$ 2,100.00
M-11 Mechanical Details							6								6	12	\$ 1,050.00
M-12 Mechanical Details							6								6	12	\$ 1,050.00
M-13 Mechanical Controls Legend and General Notes							2								2	4	\$ 350.00
M-14 Mechanical Controls Schematic Diagram							16								12	28	\$ 2,580.00
M-15 Mechanical Controls Sequence of Operations and Points Tables							16								12	28	\$ 2,580.00
M-16 Mechanical Controls Details							4								2	6	\$ 590.00
																-	-
																-	-
																-	-
																-	-
<i>Comissioning</i>																	
Review of Contractors GMP	1		6				3								2	12	\$ 1,470.00
ROM Construction Cost Estimating During Design	4						16									20	\$ 2,720.00
Specifications Writing	2		12				12								16	42	\$ 4,440.00
QA/QC	4		12				12							12	40	\$ 4,460.00	
Address Comments			2				6							4	4	16	\$ 1,460.00
<b>BASE DESIGN SUBTOTAL</b>	<b>22</b>	<b>0</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>399</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>382</b>	<b>32</b>	<b>916</b>	<b>\$ 85,900.00</b>
<b>CONSTRUCTION ADMINISTRATION</b>																	
Shop Drawings																	
Pre-Con, Pre-Bid, Field Obs																	
RFIs and ASIs																	
As-Builts																	
<b>CONSTRUCTION ADMIN SUBTOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>JLRD DIRECT LABOR</b>	<b>22</b>	<b>0</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>399</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>382</b>	<b>32</b>	<b>916</b>	<b>\$ 85,900.00</b>
<b>SUBCONTRACTORS</b>																	
NONE																	
OH&P @ 10%																	\$ -
<b>SUBCONTRACTOR SUBTOTAL</b>																	\$ -
<b>EXPENSES</b>																	
<i>Travel</i>																	
Parking																	\$ -
<i>Overnights</i>																	
Hotel & Meals																	\$ -
<i>Reproduction</i>																	
Large Format Docs			16				3										\$ 211.20
8.5" x 11": Report, Systems Manuals			300				3										\$ 360.00
<b>EXPENSES SUBTOTAL</b>																	<b>\$ 571.20</b>
<b>SUMMARY</b>																	
<b>JLRD DIRECT LABOR</b>																	<b>\$ 85,900.00</b>
<b>SUBCONTRACT</b>																	<b>-</b>
<b>EXPENSES</b>																	<b>\$ 571.20</b>
<b>PROJECT TOTAL</b>																	<b>\$ 86,471.20</b>

February 20<sup>th</sup>, 2020

AECOM Technical Services, Inc.  
Mr. Andy Kacer P.E.  
Southeast Aviation Manager  
7650 West Courtney Campbell Causeway  
Tampa, FL 33607

Subject: Electrical Design Services Fee Proposal for the Palm Beach County Department of Airports (DOA) –PBI Chiller Plant Repairs based on information provided by AECOM and JRLD dated 2/18/20.

Dear Andy:

Quantum Electrical Engineering, Inc. (QUANTUM) is pleased to provide AECOM an electrical design services fee proposal for the DOA PBI Chiller Plant Improvements Project. QUANTUM will provide all required electrical design for the replacement of two existing chillers, four pumps and replacement of supporting electrical equipment based on the site visit conducted on 1/31/2020.

The following items are included in our scope:

- Includes record drawings reviews & on-site electrical verifications and assessment of existing conditions.
- Includes all electrical calculations. Design shall be per all DOA requirements, NEC and County codes & standards criteria.
- Includes extensive electrical demolition plans that will reflect required temporary power systems (equipment, cable & conduit systems, portable generators & etc.) during construction phases that will avoid any type of disruption to the Terminal operations. Note: (there will be designed / planned / DOA approved short period disruptions to normal & emergency power during night time periods.)
- Includes demolition of electrical systems supporting (2) existing chillers and associated chilled water pumps, demolition of (4) VFDs, demolition of receptacles and conduit systems due to the demolition of the existing exterior wall to remove the (2) existing Chillers and associated equipment.
- Includes electrical modifications to the existing 4160V Switchgear line-up, including replacement of damaged tie breaker/switch and (1) new 4160V soft start for Chillers No 5.
- Including all installation details and plan layout for main / secondary normal & emergency electrical / control systems, electrical equipment, and new conduit and conductor systems to HVAC equipment.

Palm Beach County  
2755 Vista Parkway, Suite I-9  
West Palm Beach, FL 33411  
561.210.9224

[www.QuantumElectricalEngineering.com](http://www.QuantumElectricalEngineering.com)

Broward County  
5571 N. University Drive, Suite 101  
Coral Springs, FL 33067  
954.369.5810

- Includes electrical design to support the new HVAC systems (designed by JRLD) in chiller plant. Including control wiring and conduit systems as specified and required by the mechanical design.
- Includes replacement of existing MCC “N” with a new MCC that has a main breaker and tie breaker to connect to existing MCC-1. Includes a new automatic transfer switch for to connect the new MCC to the normal and emergency distribution systems. Modify existing MCC-1 and install new main breaker to connect to MCC-N. This will provide 480V power redundancy for the chiller plant.
- Includes the assumption that the existing fire pump transformer “T-43” will already be removed under a separate project.
- AECOM shall provide all base building & site drawings to AECOM on AutoCAD 2020.
- QUANTUM shall provide 1-set of electronic electrical plans & specifications to AECOM for 60%, 90%, 100% reviews, permit documents.
- AECOM shall provide all printing of Plans & Specifications for reviews, permits and construction phases.
- Does not include coordination study or arc flash analysis (to be included in construction services).
- Does not include construction services.
- Includes CMAR bidding and award phase.
- Includes Addenda revisions and Permitting comments revisions.
- Includes review of CMR pricing results.

Our proposed Lump-Sum fee for Task 1: 60% Design Documents is:	\$24,247.83
Our proposed Lump-Sum fee for Task 2: 90% Design Documents is:	\$14,624.85
Our proposed Lump-Sum fee for Task 3: 100% Design Documents is:	\$ 7,621.07
Our proposed Lump-Sum fee for Task 4: Permit & Bid Documents is:	\$ 5,388.39
Our proposed Lump-Sum fee for Task 5: CMAR is:	<u>\$ 1,938.44</u>
<b>Our proposed total Lump-Sum fee is:</b>	<b>\$53,820.58</b>

(See attachment breakdown)

Sincerely,



Amy L. Champagne-Baker, PE  
President

PALM BEACH COUNTY DEPARTMENT OF AIRPORTS- PBI CHILLER PLANT REPAIRS									
QUANTUM ELECTRICAL ENGINEERING, INC.									
SCOPE FEE SUMMARY									
FEE PROPOSAL ELECTRICAL DESIGN to AE 2/20/2020									
	Rate	\$161.54	\$144.23	\$138.46	\$69.23	\$132.69	\$46.15		
	Proj. Mgr.	Prof. Eng	Proj. Eng	CADD/Tech	Field Eng.	Clerical	Total		TOTAL
PHASE OF WORK	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Expenses	TASK COST
<b>Task 1: Chiller Plant 60% Design</b>									
Design Review Mtgs DOA, P&Z, AE		3				1	4		\$478.84
On site verifications\Discovery Phase		8	16			2	26		\$3,461.50
Demolition, Phasing & Temporary drawings		8	8	8			24		\$2,815.36
Electrical Design Drawings		32	46	30			108		\$13,061.42
Specifications & Cost Estimate		4	16			4	24		\$2,976.88
QA/QC & Comment Incorporation		4	4	4		1	13		\$1,453.83
<b>Subtotal</b>	<b>0</b>	<b>59</b>	<b>90</b>	<b>42</b>	<b>0</b>	<b>8</b>	<b>199</b>		<b>\$24,247.83</b>
<b>Task 2: Chiller Plant 90% Design</b>									
Design Review Mtgs DOA, P&Z, AE		3				1	4		\$478.84
Demolition, Phasing & Temporary drawings		8	8	8			24		\$2,815.36
Electrical Design Drawings		18	30	16			64		\$7,857.62
Specifications & Cost Estimate		8	10			4	22		\$2,723.04
QA/QC & Comment Incorporation		2	2	2		1	7		\$749.99
<b>Subtotal</b>	<b>0</b>	<b>39</b>	<b>50</b>	<b>26</b>	<b>0</b>	<b>6</b>	<b>121</b>		<b>\$14,624.85</b>
<b>Task 3: Chiller Plant 100% Design</b>									
Design Review Mtgs DOA, P&Z, AE		3				1	4		\$478.84
Demolition, Phasing & Temporary drawings		4	8	4			16		\$1,961.52
Electrical Design Drawings		8	8	4			20		\$2,538.44
Specifications & Cost Estimate		8	4			4	16		\$1,892.28
QA/QC & Comment Incorporation		2	2	2		1	7		\$749.99
<b>Subtotal</b>	<b>0</b>	<b>25</b>	<b>22</b>	<b>10</b>	<b>0</b>	<b>6</b>	<b>63</b>		<b>\$7,621.07</b>
<b>Task 4: Permit &amp; Bid Documents</b>									
Design Review Mtgs DOA, P&Z, AE		3				1	4		\$478.84
Demolition, Phasing & Temporary drawings		2	2	2			6		\$703.84
Electrical Design Drawings		4	4	2			10		\$1,269.22
Specifications & Cost Estimate		4	2			4	10		\$1,038.44
QA/QC & Comment Incorporation		1	1	1		1	4		\$398.07
Addenda & Permitting Comment Revisions		4	4	4		2	14		\$1,499.98
<b>Subtotal</b>	<b>0</b>	<b>18</b>	<b>13</b>	<b>9</b>	<b>0</b>	<b>8</b>	<b>48</b>		<b>\$5,388.39</b>
<b>Task 5: CMAR</b>									
Review of GMP Costs		4					4		\$576.92
CMAR RFI Responses		4	4	2		2	12		\$1,361.52
<b>Subtotal</b>	<b>0</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>16</b>		<b>\$1,938.44</b>
<b>Grand Total Hours</b>	<b>0</b>	<b>149</b>	<b>179</b>	<b>89</b>	<b>0</b>	<b>30</b>	<b>447</b>		<b>\$53,820.58</b>
<b>Grand Total Labor Cost</b>	<b>\$0.00</b>	<b>\$21,490.27</b>	<b>\$24,784.34</b>	<b>\$6,161.47</b>	<b>\$0.00</b>	<b>\$1,384.50</b>			

February 19, 2020

Mr. Christopher Rive.  
AECOM

RE: Palm Beach International Airport.  
Chiller Plant Improvements

Dear Mr. Rive:

Master Consulting Engineers, Inc. (MCE) is pleased to present this proposal for structural engineering services for the improvements to the Chiller Plant at the Palm Beach International Airport.

Project Description:

Based on information and drawings provided, the following is MCE's understanding and assumptions of the required tasks for this project:

- a) An existing CMU wall needs to be cut to allow for the existing chillers to be removed and replaced with new ones.

MCE Basic Scope of Service for this project is limited to:

- a) Structural analysis of the existing wall to determine the reinforcement required to cut the opening and provide protection after the mechanical equipment (Chiller) is removed and replaced.
- b) No additional work is required at this time, it is assumed that the existing chiller pads will be re-used and will not require any changes.
- c) MCE deliverable includes 60%, 90% and 100% documents plus permit documents.
- d) We will provide wind loads design pressures to be used by windows, doors manufacturer and exterior walls and skin manufacturer.
- e) Coordination meetings during the design phase will be done personally or via web meetings.

Any service not included in the Project Description, Basic Scope of Services are considered Additional services and will be billed as per customary schedule of charges included herein. This project is not a threshold building therefore MCE will not perform periodic visits.



Information and Services provided by the Client:

The Client shall provide the following information and/or services for performance of the Basic Scope of Services indicated above:

- a) Base sheet drawings in AutoCAD or Revit submitted to MCE electronically. Drawings should be provided without any third party software applications.
- b) Since this is an addition to an existing building, the as built drawings (structural) must be submitted to properly analyze the areas that will be affected by the addition. If not drawings are available, a testing lab must be contracted to verify foundation sizes, wall reinforcement, concrete physical properties, etc.
- c) **If new foundations are required, we require a Geotechnical Engineering – Soils Testing Report. Any redesign required because the geotechnical report was not provided prior to our foundation design, will be billed as additional charges.**
- d) Sign and seal Engineering documents (Calculations and Drawings) for those elements to be designed by a delegated engineer and that are not included in the Basic Scope of Services including but not limited to Metal Pan Stairs, Exterior Stud walls. Ample time for review must be provided as indicated above.
- e) Notification at least 4 days prior to any inspection to allow scheduling, a more precise day and time can be provided within 24 hrs. notice.
- f) Steel connections (Welds and Bolts) Calculations with Steel Shop Drawings Signed and sealed by a Registered Professional Engineer in the State where the Project is being built, including roof metal deck connection to supporting elements.
- g) Steel Connections testing reports from a testing lab signed and sealed by a Registered Professional Engineer in the State where the project is being built.
- h) Concrete test reports from a testing lab signed and sealed by a Registered Professional Engineer in the State where the project is being built.

MCE proposes to provide the Basic Scope of Services indicated above for a lump sum fee of **\$2,727.00** . A detailed schedule of charges is included in Appendix "A" for information. MCE will cover the expense of sending drawings, reports, shop drawings using regular mail. If special delivery, overnight delivery or any other service is requested, those charges will be billed at our cost.

Very truly yours,  
Master Consulting Engineers, Inc.

  
Armando Castellon, P.E.  
Sr. Principal

## APPENDIX "A"

Task	Principal		Senior Project Engineer		Project Engineer		Structural CAD Technician		Line Item cost	Sub-total by Task
	Hours	Rate	Hours	Rate	Hours	Rate	Hours	Rate		
		\$184.80		\$111.06		\$92.55		\$84.08		

**Project**

Task 1 - Information Gathering											
I	Request all drawings, reports and any helpful information for the building. Coordinate the area to be checked by a testing lab to determine the existing structural members sizes and reinforcement that are hidden from clear sight.	0.5	\$	92.40		\$	-		\$	-	\$92.40
II	Site visit to observe existing building	4	\$	739.20		\$	-		\$	-	\$739.20
III	Calculate the Wind Pressures and create diagrams with all pressures.		\$	-		\$	-	1	\$	92.55	\$260.71
			\$	-		\$	-		\$	-	\$0.00
										\$1,092.31	

Task 2 - Building Analysis / strengthening and Construction documents for expansion																	
I	Analysis of the structure, determine the reinforcement required for the area where the wal will be cut and provide details for the opening.	1	\$	184.80		2	\$	222.12		6	\$	555.30		8	\$	672.64	\$1,634.86
			\$	-		\$	-		\$	-		\$	-		\$	-	\$0.00
										\$1,634.86							

Engineering fee	\$2,727.17
Estimated Expenses, printing, delivery	\$55.91
Total Fee	\$2,783.08

## EXHIBIT A-11

Task III Services – Miscellaneous Planning and Engineering Services: Work to be completed under these Task III Services will be issued per the level of authority contained in PPM CW-F-050, by way of a separate proposal or task authorization, as described in the original Consulting Agreement (R-2019-0301).

## EXHIBIT B:

# DETAILED FEES, EXPENSES AND PAYMENTS

EXHIBIT B-I Summary of Fees

EXHIBIT B-II Schedule of Payments



## EXHIBIT B-I

### SUMMARY OF FEES

Project	Lump Sum	T&M	Reimbursable Expenses	Total
<b>TASK I SERVICES</b>				
Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training	\$53,102.00			\$53,102.00
Task I-20-PBI-A-033: Ricondo Financial Task 2020	\$5,216.00	\$51,552.00	\$3,000.00	\$59,768.00
Task I-20-PBI-A-034: PBI Terminal Roof Improvements	\$336,269.00		\$1,050.00	\$337,319.00
Task I-20-PBI-A-035: Stormwater Master Plan Update	\$396,481.00		\$2,902.00	\$399,383.00
Task I-20-PBI-A-036: Airport Plans Review and Revision Services	\$210,296.00			\$210,296.00
Task I-20-PBI-A-037: Bid Package for Re-Striping Common Use Gates Utilizing "Standard" Safety Envelope	\$46,185.00		\$550.00	\$46,735.00
Task I-20-PBI-A-038: Humidity Issues - Phase 2	\$128,278.00		\$900.00	\$129,178.00
Task I-20-PBI-A-039: UPS Replacement CA	\$28,994.00			\$28,994.00
Task I-20-PBI-A-040: Fire Pump Replacement CA Services and Arc Flash Studies	\$74,499.00		\$600.00	\$75,099.00
Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement	\$198,624.00		\$827.00	\$199,451.00
<b>TASK III SERVICES</b>				
Task III: Deliverable(s) As required in accordance with specific Task Authorizations				\$250,000.00
			<b>Total</b>	<b>\$1,789,325.00</b>

## EXHIBIT B-II SCHEDULE OF PAYMENTS

The Scope of Work to be completed by CONSULTANT as defined in Exhibit "A" consists of specific completion phases which shall be clearly identified upon submission to the COUNTY of certain "deliverables" as expressly indicated below. Compensation for the work tasks stated herein shall be in accordance with the following Schedule of Payments:

**Tasks to Be Completed:**

<b>Project</b>	<b>Duration</b>	<b>Total</b>
<b>TASK I SERVICES</b>		
Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training	45 Calendar Days	\$53,102.00
Task I-20-PBI-A-033: Ricondo Financial Task 2020	TBD	\$59,768.00
Task I-20-PBI-A-034: PBI Terminal Roof Improvements	135 Calendar Days	\$337,319.00
Task I-20-PBI-A-035: Stormwater Master Plan Update	365 Calendar Days	\$399,383.00
Task I-20-PBI-A-036: Airport Plans Review and Revision Services	180 Calendar Days	\$210,296.00
Task I-20-PBI-A-037: Bid Package for Re-Striping Common Use Gates Utilizing "Standard" Safety Envelope	105 Calendar Days	\$46,735.00
Task I-20-PBI-A-038: Humidity Issues - Phase 2	395 Calendar Days	\$129,178.00
Task I-20-PBI-A-039: UPS Replacement CA	150 Calendar Days	\$28,994.00
Task I-20-PBI-A-040: Fire Pump Replacement CA Services and Arc Flash Studies	210 Calendar Days	\$75,099.00
Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement	120 Calendar Days	\$199,451.00
<b>TASK III SERVICES</b>		
Task III: Deliverable(s) As required in accordance with specific Task Authorizations	TBD	\$250,000.00
	<b>Total</b>	<b>\$1,789,325.00</b>

## EXHIBIT C

### PROPOSED SCHEDULES

<b>Project</b>	<b>Duration</b>
<b>TASK I SERVICES</b>	
Task I-20-PBI-A-032: PBI Airfield Marking Assessment, Development of Maintenance Plan, and Training	45 Calendar Days
Task I-20-PBI-A-033: Ricondo Financial Task 2020	365 Calendar Days
Task I-20-PBI-A-034: PBI Terminal Roof Improvements	135 Calendar Days
Task I-20-PBI-A-035: Stormwater Master Plan Update	365 Calendar Days
Task I-20-PBI-A-036: Airport Plans Review and Revision Services	180 Calendar Days
Task I-20-PBI-A-037: Bid Package for Re-Striping Common Use Gates Utilizing "Standard" Safety Envelope	105 Calendar Days
Task I-20-PBI-A-038: Humidity Issues - Phase 2	395 Calendar Days
Task I-20-PBI-A-039: UPS Replacement CA	150 Calendar Days
Task I-20-PBI-A-040: Fire Pump Replacement CA Services and Arc Flash Studies	210 Calendar Days
Task I-20-PBI-A-041: PBI Chiller 4 and 5 Replacement	120 Calendar Days
<b>TASK III SERVICES</b>	
Task III: Deliverable(s) As required in accordance with specific Task Authorizations	TBD

## EXHIBIT D

### DBE



**SCHEDULE 1(A)  
LIST OF PROPOSED DBE FIRMS  
(Professional Services)**

LOI/SOQ Project Description: Airport General Consulting  
 Name of Respondent: AECOM Technical Services, Inc. Change Order/Task/Amendment No. (if applicable): Amendment 4  
 Contact Person: Andrew Kacer E-mail Address: Andy.Kacer@aecom.com  
 Address: 7650 West Courtney Campbell Causeway, Tampa, FL 33607  
 Phone No: (O) 813.636.2425 (C) 352.634.4363 Fax No: 813.287.8591

Name, Address & Phone No. of DBE Firm	Description of Type of Work	Classification (Check applicable box)	Dollar Amount			
			Black	Hispanic	Women	Other (Please Specify)
A.D.A. Engineering, Inc. 1800 Old Okeechobee Road, Suite 202 West Palm Beach, FL 33409 (561) 227-9114	Hydraulic and Hydrologic Modeling	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>8.80</u> %	_____ %
Colome and Associates 530 24th ST, West Palm Beach, FL 33407 561.833.9147	Architectural	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>11.16</u> %	_____ %
Cyriacks Environmental Consulting Services, Inc. 3001 SW 15 <sup>th</sup> Street, Suite B Deerfield Beach, FL 33442 (954) 571-0290	Environmental Consulting Services	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>0.95</u> %	_____ %
Quantum Electrical Engineering, Inc. 2755 Vista Parkway, Suite I-9 West Palm Beach, FL 33411 (561) 210-9224	Electrical Services	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>9.10</u> %	_____ %
Master Consulting Engineers, Inc. 5523 W Cypress St # 200 Tampa, FL 33607 (813) 287-3600	Structural Services	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>0.16</u> %	_____ %
Sightline, Inc. 15483 Enterprise Way, Culpeper, VA 22701 540.212.4544	Airfield Marking Consultant	<input type="checkbox"/> Prime Consultant <input checked="" type="checkbox"/> Subcontractor <input type="checkbox"/> Supplier <input type="checkbox"/> Manufacturer	_____ %	_____ %	<u>2.60</u> %	_____ %

**Total Percentage of DBE Participation: 32.77 %**

**Notes:**

- The percentages listed on this form for each DBE Firm must be supported by the percentages included on Schedule 2(A), "Letter of Intent to Perform as a Disadvantaged Business Enterprise", in order to be counted toward attainment of the DBE goal.
- Firms identified on this form must be certified as a DBE by the State of Florida's Unified Certification Program. Certification status can be verified on the Florida Department of Transportation's Biznet website at <https://www3.dot.state.fl.us/EqualOpportunityOffice/biznet/mainmenu.asp>.
- If materials or supplies are proposed to be purchased from a DBE regular dealer, the undersigned acknowledges that only sixty percent (60%) of the proposed expenditure will be counted toward attainment of the DBE goal.

By signing this form the undersigned Respondent is committing to utilize the above referenced DBE Firms on the Project and that the Respondent will monitor the DBE Firms to ensure that the work is actually performed by the by the DBE Firms.

By:  Date: 08/05/2020

Signature  
Andrew Kacer - Vice President  
 Print Name/Title of Person Executing on Behalf of the Respondent

**SCHEDULE 2(A)**  
**LETTER OF INTENT TO PERFORM AS A DISADVANTAGED BUSINESS ENTERPRISE**  
**(Professional Services)**

LOI/SOQ Project Description: Airport General Consulting

Change Order/Task /Amendment No. (if applicable): Amendment 4

Name of Prime Respondent: AECOM Technical Services, Inc

Name of DBE Firm: A.D.A. Engineering, Inc.

The undersigned is certified as a Disadvantaged Business Enterprise by the State of Florida's Unified Certification Program. Check one or more classifications as applicable:

- Black       Hispanic       Women       Other (Please Specify)  
 Prime Consultant     Subcontractor     Manufacturer       Supplier

The undersigned is prepared to perform the following described work in connection with the above-referenced project (specify in detail the particular work and/or parts thereof to be performed):

Hydraulic and Hydrologic Modeling

(Additional Sheets may be used as necessary.)

**Total Percentage of Participation by DBE Firm for this Project: 8.80%**


and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

**If the undersigned intends to subcontract any portion of the work described above to another subcontractor, please complete the following:**

\_\_\_\_\_ %       DBE Certified  
(Name of Subcontractor)      (Percentage of work to be subcontracted)       Non-DBE

**The undersigned affirms that it has the resources necessary to perform the work described above without subcontracting the work to another subcontractor, except as noted above.**

A.D.A. Engineering, Inc.  
Printed Name of DBE Subcontractor

By:   
Signature

Date: 7/15/20



**SCHEDULE 2(A)**  
**LETTER OF INTENT TO PERFORM AS A DISADVANTAGED BUSINESS ENTERPRISE**  
**(Professional Services)**

LOI/SOQ Project Description: Airport General Consulting

Change Order/Task /Amendment No. (if applicable): Amendment 4

Name of Prime Respondent: AECOM Technical Services, Inc

Name of DBE Firm: Cyriacks Environmental Consulting Services, Inc.

The undersigned is certified as a Disadvantaged Business Enterprise by the State of Florida's Unified Certification Program. Check one or more classifications as applicable:

- Black       Hispanic       Women       Other (Please Specify)  
 Prime Consultant    Subcontractor    Manufacturer       Supplier

The undersigned is prepared to perform the following described work in connection with the above-referenced project (specify in detail the particular work and/or parts thereof to be performed):

Environmental Services

(Additional Sheets may be used as necessary.)

**Total Percentage of Participation by DBE Firm for this Project: 0.95 %**

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

**If the undersigned intends to subcontract any portion of the work described above to another subcontractor, please complete the following:**

\_\_\_\_\_ %       DBE Certified  
(Name of Subcontractor)      (Percentage of work to be subcontracted)       Non-DBE

**The undersigned affirms that it has the resources necessary to perform the work described above without subcontracting the work to another subcontractor, except as noted above.**

Cyriacks Environmental Consulting Services, Inc.  
Printed Name of DBE Subcontractor

By: [Signature]  
Signature

Date: 7/15/00

**SCHEDULE 2(A)**  
**LETTER OF INTENT TO PERFORM AS A DISADVANTAGED BUSINESS ENTERPRISE**  
**(Professional Services)**

LOI/SOQ Project Description: Airport General Consulting

Change Order/Task /Amendment No. (if applicable): Amendment No. 4

Name of Prime Respondent: AECOM Technical Services, Inc

Name of DBE Firm: Quantum Electrical Engineering, Inc.

The undersigned is certified as a Disadvantaged Business Enterprise by the State of Florida's Unified Certification Program. Check one or more classifications as applicable:

- Black       Hispanic       Women       Other (Please Specify)  
 Prime Consultant    Subcontractor    Manufacturer       Supplier

The undersigned is prepared to perform the following described work in connection with the above-referenced project (specify in detail the particular work and/or parts thereof to be performed):

Electrical Services

(Additional Sheets may be used as necessary.)

**Total Percentage of Participation by DBE Firm for this Project: 9.10 %**

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

**If the undersigned intends to subcontract any portion of the work described above to another subcontractor, please complete the following:**

\_\_\_\_\_ %       DBE Certified  
(Name of Subcontractor)      (Percentage of work to be subcontracted)       Non-DBE

**The undersigned affirms that it has the resources necessary to perform the work described above without subcontracting the work to another subcontractor, except as noted above.**

Quantum Electrical Engineering, Inc.  
Printed Name of DBE Subcontractor

By:



\_\_\_\_\_  
Signature

Date: 7/13/2020

**SCHEDULE 2(A)**  
**LETTER OF INTENT TO PERFORM AS A DISADVANTAGED BUSINESS ENTERPRISE**  
**(Professional Services)**

LOI/SOQ Project Description:   Airport General Consulting  

Change Order/Task /Amendment No. (if applicable):   Amendment No. 4  

Name of Prime Respondent:   AECOM Technical Services, Inc  

Name of DBE Firm:   Master Consulting Engineers, Inc.  

The undersigned is certified as a Disadvantaged Business Enterprise by the State of Florida's Unified Certification Program. Check one or more classifications as applicable:

- Black       Hispanic       Women       Other (Please Specify)  
 Prime Consultant    Subcontractor    Manufacturer       Supplier

The undersigned is prepared to perform the following described work in connection with the above-referenced project (specify in detail the particular work and/or parts thereof to be performed):

Structural Services

(Additional Sheets may be used as necessary.)

**Total Percentage of Participation by DBE Firm for this Project: 0.16%**

and will enter into a formal agreement for work with you conditioned upon your execution of a contract with Palm Beach County.

**If the undersigned intends to subcontract any portion of the work described above to another subcontractor, please complete the following:**

\_\_\_\_\_ %       DBE Certified  
(Name of Subcontractor)      (Percentage of work to be subcontracted)       Non-DBE

**The undersigned affirms that it has the resources necessary to perform the work described above without subcontracting the work to another subcontractor, except as noted above.**

Master Consulting Engineers, Inc.  
Printed Name of DBE Subcontractor

By:   
Signature

Date:   07/27/2020

