


# Memorandum



**Date:** April 27, 2015

**To:** Gary Hartfield, Division Director  
Internal Services Department, Small Business Development

**From:** Milton L. Collins, Associate Director   
Miami-Dade Aviation Dept., Minority Affairs Division

**Subject:** Re-Submittal of Recommendation of Contract Measures:  
Photogrammetric Mapping and Light Detection and Ranging (LIDAR) Services  
ISD Project No. E15-MDAD-01

## **RECOMMENDATION:**

This is a re-submittal request for the Small Business Development (SBD) Division to approve the attached project, for contract measures in order for the department to proceed with the **Photogrammetric Mapping and Light Detection and Ranging (LIDAR) Services, ISD Project No. E15-MDAD-01** project.

The User Division advised that this project will need to be re-submitted due to the estimated Project Amount being reduced to \$6,300,000.00 from the previous Contract Estimated Amount of \$12,000,000.00 (\$600,000/yr. per Department). The Term of the Agreement has also been revised to a term of four (4) years plus three (3) one-year options (total of seven (7)). There were No changes in the Scope of Services or the breakdown of Services.

This project was approved by the Review Committee on 2/25/15 but is being re-submitted due to the Estimated Project Amount and the Term of the agreement being decreased. (Worksheet attached 2/25/15)

The Contract Measure established for the previous solicitation (E10-MDAD-03) was a No Measure based on the "Sole Consultant" requirement. (Previous Project Worksheet dated 6/23/2010 attached). MDAD is recommending an SBE-No Measure as the Contract Measure for this project.

This Agreement will be split between MDAD and ITD, as was the last Agreement for these services. The User Division has advised that an SBE-A/E "No Measure" is appropriate for this Contract. Also note that there are "No Special Requirements for a Sole Consultant" on this project.

## **BACKGROUND:**

The Scope of Work provides for professional services to be performed for the ongoing need of photogrammetric/topographic/planimetric/LiDAR mapping for the Miami-Dade Aviation Department, Miami International Airport and the four County owned auxiliary airports which include Miami Executive Airport, Miami-Opa Locka Executive Airport, Miami Homestead General Airport and Dade Collier Training and Transition Airport, as well as, the coverage area of the County's enterprise Geographic Information System ("GIS") supported by the Information Technology Department ("ISD").

The selected Consultant shall provide the following services which may include but not be limited to the following:

**Photogrammetric Mapping Services:** photogrammetric mapping of Miami-Dade County, aerial photography, ground control, conventional topographic mapping, planimetric mapping, airspace mapping, cross sections, raster imagery, orthophoto products, photographic prints, and global positioning systems survey data.

**Topographic LiDAR Services:** collection and processing of LiDAR (light detection and ranging) data and generation of elevation data products, including but not limited to digital elevation model (DEM) data, airport exclusion zones, as well as professional services for integration of multiple 3D Laser Scanning Data, BIMs & analyses; 3D imaging which will provide 2D CAD plans, elevations and 3D geometric models and/or BIM required documenting as-built conditions. Services may be requested for many project types, including, but not limited to: new construction, renovations, and modernizations.

The areas covered include the airports serviced by MDAD, as well as the coverage area of the County's enterprise Geographic Information System (GIS) supported by ITD.

The areas included in the above mentioned services are as follows:

**MDAD**

MIA and the four (4) County owned auxiliary airports that include (1) Miami Executive Airport, (2) Miami-Opa Locka Executive Airport, (3) Dade Collier Training and Transition Airport, and, (4) Miami Homestead General Aviation Airport.

**ITD**

The main GIS coverage area consists of approximately 564 square miles inside the Urban Development Boundary (UDB) and 1,048 square miles outside the UDB. However, it may be possible that services will be requested for other square miles within the boundaries of Miami-Dade County such as areas within Everglades National Park.

Note: All data provided to MDAD must be compliant with the current Federal Aviation Administration ("FAA") guidelines and be compatible with MDAD's GIS database. All data provided to ITD must be compatible with the County's enterprise GIS database.

The Project Breakdown (Attached) shows that the Prime Certification Categories are:  
15.01 Surveying and Mapping – Land Surveying (5%)  
15.02 Surveying and Mapping – Aerial Photogrammetry (95%)

**Attachments**

cc: K. Delapenha, MDAD  
M. Clark-Vincent, MDAD  
L. Johnson, SBD  
C. Corrales, MDAD  
C. Taylor, SBD  
Project File

**REVISED MDAD's CONTRACT MEASURES AND ANALYSIS WORKSHEET**

**To:** Gary Hartfield, Division Director  
Internal Services Department, Small Business Development

**From:** Milton L. Collins, Associate Director  
Miami-Dade Aviation Department  
Minority Affairs Division



**PROJECT/CONTRACT TITLE:** Photogrammetric Mapping and Light  
Detection and Ranging (LiDAR) Services

**PROJECT/CONTRACT NUMBER:** ISD Project No. E15-MDAD-01

**DEPARTMENT:** Miami Dade Aviation Department

**ESTIMATED PROJECT COST:** \$6,300,000.00

**FUNDING SOURCE:** Revenue Funds

**DESCRIPTION OF PROJECT/BID:**

The Scope of Work provides for professional services to be performed for the ongoing need of photogrammetric/topographic/planimetric/LiDAR mapping for the Miami-Dade Aviation Department, Miami International Airport and the four County owned auxiliary airports which include Miami Executive Airport, Miami-Opa Locka Executive Airport, Miami Homestead General Airport and Dade Collier Training and Transition Airport, as well as, the coverage area of the County's enterprise Geographic Information System ("GIS") supported by the Information Technology Department ("ISD").

**CONTRACT MEASURES RECOMMENDATION:**

Measures SBE-No Measure

**REASONS FOR RECOMMENDATION:**

Analysis of the factors contained in Implementing Order #3-32 indicates that a SBE-No Measure Goal is appropriate for this contract.



AVIATION FACILITIES DIVISION

CAT. NO.	SERVICE DESCRIPTION *	PRIME CONSULTANT	SUB-CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
1.00	TRANSPORTATION PLANNING			
	1.01 URBAN AREA AND REGIONAL TRANSPORTATION PLANNING			
	1.02 MASS AND RAPID TRANSIT PLANNING			
	1.03 AVIATION SYSTEMS AND AIRPORT MASTER PLANNING			
	1.04 PORT AND WATERWAY SYSTEMS PLANNING			
2.00	MASS TRANSIT SYSTEMS			
	2.01 MASS TRANSIT PROGRAM (SYSTEMS) MANAGEMENT			
	2.02 MASS TRANSIT FEASIBILITY & TECHNICAL STUDIES			
	2.03 MASS TRANSIT VEHICLE & PROPULSION STUDIES			
	2.04 MASS TRANSIT CONTROLS, COMMUNICATIONS, & INFORMATION SYSTEMS			
	2.05 GENERAL QUALITY ENGINEERING			
	2.06 MASS TRANSIT SAFETY CERTIFICATION FOR SYSTEM ELEMENTS			
3.00	HIGHWAY SYSTEMS			
	3.01 SITE DEVELOPMENT AND PARKING LOT DESIGN			
	3.02 HIGHWAY DESIGN			
	3.02A TUNNEL DESIGN			
	3.03 BRIDGE DESIGN			
	3.04 TRAFFIC ENGINEERING STUDIES			
	3.05 TRAFFIC COUNTS			
	3.06 TRAFFIC CALMING			
	3.07 TRAFFIC SIGNAL TIMING			
	3.08 INTELLIGENT TRANSPORTATION SYSTEMS ANALYSIS, DESIGN, AND IMPLEMENTATION			
	3.09 SIGNING, PAVEMENT MARKING, AND CHANNELIZATION			
	3.10 LIGHTING			
	3.11 SIGNALIZATION			
	3.12 UNDERWATER ENGINEERING INSPECTION			
4.00	AVIATION SYSTEMS			
	4.01 ENGINEERING DESIGN			



CAT. NO.	SERVICE DESCRIPTION	PRIME CONSULTANT	SUB CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
	4.02 ARCHITECTURAL DESIGN			
5.00	PORT AND WATERWAY SYSTEMS			
	5.01 ENGINEERING DESIGN			
	5.02 ARCHITECTURAL DESIGN			
	5.03 CRUISE TERMINAL DESIGN			
	5.04 CRUISE TERMINAL EQUIPMENT DESIGN			
	5.05 CARGO TERMINAL DESIGN			
	5.06 CARGO TERMINAL EQUIPMENT DESIGN			
	5.07 SECURITY SYSTEMS			
	5.08 MARINE ENGINEERING DESIGN			
	5.09 ENVIRONMENTAL DESIGN			
	5.10 TRANSPORTATION SYSTEMS DESIGN			
	5.11 CONSTRUCTION MANAGEMENT			
6.00	WATER AND SANITARY SEWER SYSTEMS			
	6.01 WATER DISTRIBUTION AND SANITARY SEWAGE COLLECTION AND TRANSMISSION SYSTEMS			
	6.02 MAJOR WATER AND SANITARY SEWAGE PUMPING FACILITIES			
	6.03 WATER AND SANITARY SEWAGE TREATMENT PLANTS			
7.00	SOLID WASTE COLLECTION AND DISPOSAL SYSTEMS			
8.00	TELECOMMUNICATION SYSTEMS			
9.00	SOILS, FOUNDATIONS AND MATERIALS TESTING			
	9.01 DRILLING, SUBSURFACE INVESTIGATION AND SEISMOGRAPHIC SERVICES			
	9.02 GEOTECHNICAL AND MATERIALS ENGINEERING SERVICES			
	9.03 CONCRETE AND ASPHALT TESTING SERVICES			
	9.04 NON-DESTRUCTIVE TESTING AND INSPECTIONS			
	9.05 ROOF TESTING AND CONSULTING			
	9.06 MATERIALS TESTING/CONSULTING/TRAINING			
	INDUSTRIAL HYGIENE			
	ASBESTOS			
	AMBIENT AIR			



AVIATION FACILITIES DIVISION

EXT. NO.	SERVICE DESCRIPTION *	PRIME CONSULTANT	SUB-CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
	BIO-HAZARDOUS			
	OSHA			
10.00	ENVIRONMENTAL ENGINEERING			
	10.01 STORMWATER DRAINAGE DESIGN ENGINEERING SERVICES			
	10.02 GEOLOGY SERVICES			
	10.03 BIOLOGY SERVICES			
	10.04 CHEMISTRY SERVICES			
	10.05 CONTAMINATION ASSESSMENT AND MONITORING			
	10.06 REMEDIAL ACTION PLAN DESIGN			
	10.07 REMEDIAL ACTION PLAN IMPLEMENTATION/OPERATION/MAINTENANCE			
	10.08 PATHOGEN AND CONTAINMENT RISK ANALYSIS			
	10.09 WELLFIELD, GROUNDWATER, AND SURFACE WATER PROTECTION AND MANAGEMENT			
	10.10 COASTAL PROCESSES AND OCEAN ENGINEERING			
11.00	GENERAL STRUCTURAL ENGINEERING			
12.00	GENERAL MECHANICAL ENGINEERING			
13.00	GENERAL ELECTRICAL ENGINEERING			
14.00	ARCHITECTURE			
15.00	SURVEYING AND MAPPING			
	15.01 LAND SURVEYING	5%		5%
	15.02 AERIAL PHOTOGRAMMETRY	95%		95%
16.00	GENERAL CIVIL ENGINEERING			
17.00	ENGINEERING CONSTRUCTION MANAGEMENT			
18.00	ARCHITECTURAL CONSTRUCTION MANAGEMENT			
19.00	VALUE ANALYSIS AND LIFE-CYCLE COSTING			
	19.01 TRANSPORTATION PLANNING			
	19.02 MASS TRANSIT SYSTEMS			
	19.03 HIGHWAY SYSTEMS			
	19.04 AVIATION SYSTEMS			
	19.05 PORT AND WATERWAY SYSTEMS			



CAT. NO.	SERVICE DESCRIPTION *	PRIME CONSULTANT	SUB-CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
	19.08 WATER AND SANITARY SYSTEMS			
	19.07 SOLID WASTE COLLECTION AND DISPOSAL SYSTEMS			
	19.08 TELECOMMUNICATION SYSTEMS			
	19.09 SOILS, FOUNDATIONS, AND MATERIALS TESTING			
	19.10 ENVIRONMENTAL ENGINEERING			
	19.11 GENERAL STRUCTURAL ENGINEERING			
	19.12 GENERAL MECHANICAL ENGINEERING			
	19.13 GENERAL ELECTRICAL ENGINEERING			
	19.14 ARCHITECTURE			
	19.16 GENERAL CIVIL ENGINEERING			
	19.16 LANDSCAPE ARCHITECTURE			
20.00	LANDSCAPE ARCHITECTURE			
21.00	LAND USE PLANNING			
22.00	ADA TITLE II CONSULTANT			
23.00	AVIATION ACOUSTICAL AND LAND USE COMPATIBILITY PLANNING			
24.00	BUILDING PRODUCT EVALUATION SERVICES			
25.00	AVIATION PLANNING CONSULTANT SERVICES			
26.00	CLAIMS ANALYSIS SERVICES			

\*Detailed descriptions of certification categories may be obtained from MDAD Contracts Administration.



**Small Business Development Division**  
*Project Worksheet*

Project/Contract Title: PHOTOGRAMMETRIC MAPPING AND LIGHT DETECTION AND RANGING (LIDAR) SERVICES Received Date: 02/25/2015  
 Project/Contract No: E15-MDAD-01 Funding Source: REVENUE FUNDS  
 Department: AVIATION Resubmittal Date(s):  
 Estimated Cost of Project/Bid: \$12,000,000.00  
 Description of Project/Bid: To establish a contract for professional services to be performed for the ongoing need of photogrammetric/topographic/planimetric/LIDAR mapping for the Miami-Dade Aviation Department, Miami International Airport, and the four County owned auxiliary airports which include Miami Executive Airport, Miami-Opa Locka Executive Airport, Miami Homestead General Airport and Dade Collier Training and Transition Airport, as well as, the coverage area of the County's enterprise Geographic Information System ("GIS") supported by the Information Technology Department ("ITD").

Contract Measure Recommendation		
Measure	Program	Goal Percent
No Measure	CBE	
No Measure	SBE	

**Reasons for Recommendation**

This project meets all the criteria set forth in I.O. 3-32, Section V and I.O. 3-41. Due to the "Sole Consultant" requirement, no measure is applicable to this solicitation. The consultant must be certified in both 15.01 - Land Surveying (@ 5%) and 15.02 - Aerial Photogrammetry (@ 95%); there are only two (2) SBE-A/Es satisfying these requirements. There is no opportunity for a sub-consultant goal, as the prime (a "Sole Consultant") will be providing the entire scope of services. (SIC 871 - Architectural and Engineering Services)

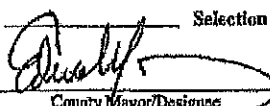
There are no SBE-G&S firms certified in commodity code 90504 (Aerial Photogrammetry). Therefore no measure is applicable for the SBE-G&S program.

Technical Category: 1501-Surveying And Mapping-Land Surveying; 1502-Aerial Photogrammetry

Small Business Contract Measure Recommendation				
Subtrade	Cat.	Estimated Value	% of Items to Base Bid	Availability
AERIAL PHOTOGRAMMETRY	CBE			2
SURVEYING AND MAPPING-LAND SURVEYING	SBE			0
<b>Total</b>				

Living Wages: YES  NO   
 Responsible Wages: YES  NO

*Responsible Wages and Benefits applies to all construction projects over \$100,000 that do not utilize federal funds. For federally funded projects, unless prohibited by federal or state law or disallowed by a governmental funding source, the HIGHER wage between Davis Bacon and Responsible Wages and Benefits shall apply.*

REVIEW RECOMMENDATION			
Tier 1 Set Aside _____	Tier 2 Set Aside _____		
Set Aside _____	Level 1 _____	Level 2 _____	Level 3 _____
Trade Set Aside (MCC) _____	Goal _____	Bid Preference _____	
No Measure _____	Deferred _____	Selection Factor _____	
CWP _____	 County Mayor/Designee		Date _____





## Dept. of Small Business Development Project Worksheet

**Project/Contract Title:** PHOTOGRAMMETRIC MAPPING, LIGHT DETECTION, AND RANGING (LIDAR) SERVICES (SIC 871) **RC Date:** 06/23/2010  
**Project/Contract No:** E10-MDAD-03 **Funding Source:** REVENUE-BUDGET  
**Department:** MIAMI DADE AVIATION DEPARTMENT **Item No:** 1-01  
**Estimated Cost of Project/Bid:** \$6,500,000.00 **Resubmittal Date(s):**  
**Description of Project/Bid:** TO ESTABLISH A PROFESSIONAL FOR THE ONGOING NEED OF PHOTOGRAMMETRIC / TOPOGRAPHIC / PLANIMETRIC / LIDAR MAPPING FOR THE MIAMI -DADE AVIATION DEPARTMENT OF MIAMI INTERNATIONAL AIRPORT AND THE FOUR COUNTY OWNED AUXILIARY AIRPORTS WHICH INCLUDE KENDALL-TAMIAMI, EXECUTIVE AIRPORT, OPA-LOCKA EXECUTIVE AIRPORT, HOMESTEAD GENERAL AIRPORT AND DADE COLLIER TRAINING AND TRANSITION AIRPORT, AS WELL AS, THE COVERAGE AREA OF THE COUNTY'S ENTERPRISE GEOGRAPHIC INFORMATION SYSTEM (GIS) SUPPORTED BY (ESTD).

### Contract Measures Recommendation

<u>Measure</u>	<u>Program</u>	<u>Goal Percent</u>
No Measure	CBE	

### Reasons for Recommendation

This project meets all the criteria set forth in A.O. 3-32, Section V  
 \*\*\*Based on the "Sole Consultant" requirement, the only applicable measures are: a "Set-aside" or a "No Measure". The dollar value of this PSA precludes a "Set-aside"; additionally, the consultant must be certified in both 15.01- Land Surveying (@ 5%) and 15.02 - Aerial Photogrammetry (@ 95%); there are only two (2) CBEs satisfying these requirements. There are no options for a sub-consultant goal as the prime (a "Sole Consultant"), will be providing the entire scope/s of work.  
 SIC 871- Architectural and Engineering Services

### Analysis for Recommendation of a Goal

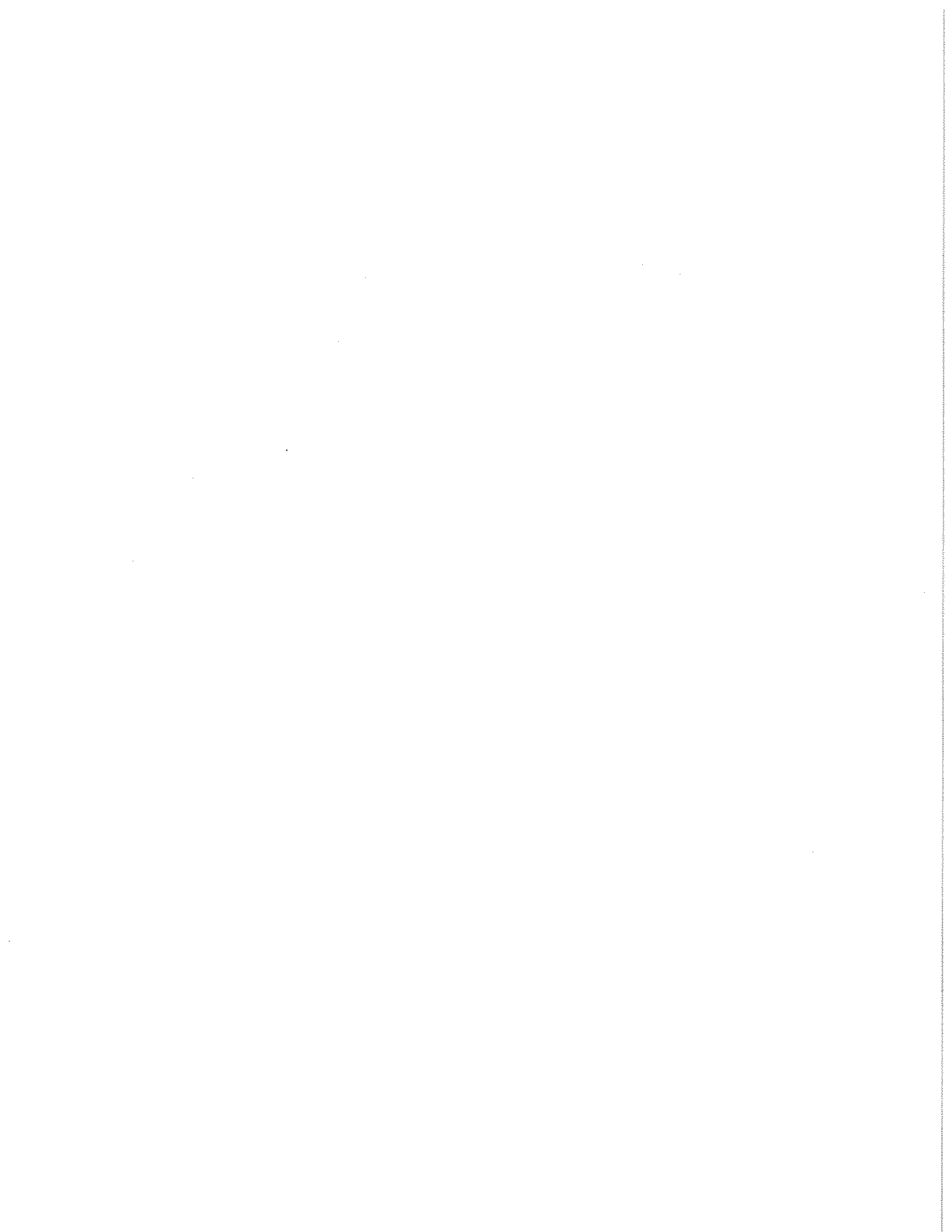
<u>Subtrade</u>	<u>Cat.</u>	<u>Estimated Value</u>	<u>% of Items to Base Bid</u>	<u>Availability</u>
	CBE	\$0.00	0.00%	0
<b>Total</b>		\$0.00	0.00%	

**Living Wages:** YES  NO   
**Responsible Wages:** YES  NO

*Responsible Wage and Benefits applies to all construction projects over \$100,000 that do not utilize federal fund. For federally funded projects, unless prohibited by federal or state law or disallowed by a governmental funding source, the HIGHER wage between Davis Bacon and Responsible Wages and Benefits shall apply.*

### REVIEW COMMITTEE RECOMMENDATION

**Tier 1 Set Aside** \_\_\_\_\_  
**Set Aside** \_\_\_\_\_ **Level 1** \_\_\_\_\_ **Level 2** \_\_\_\_\_ **Level 3** \_\_\_\_\_  
**Trade Set Aside (MCC)** \_\_\_\_\_ **Goal** \_\_\_\_\_ **Bid Preference** \_\_\_\_\_  
**No Measure**  **Deferred** \_\_\_\_\_ **Selection Factor** \_\_\_\_\_  
1d/23/10  6/23/10  
 Chairperson, Review Committee Date County Manager / Designee Date



# Memorandum



**Date:** March 3, 2015

**To:** Gary Hartfield, Division Director  
Internal Services Department, Small Business Development

**From:** Milton L. Collins, Associate Director *MSC*  
Miami-Dade Aviation Dept., Minority Affairs Division

**Subject:** Recommendation of Contract Measures:  
Photogrammetric Mapping and Light Detection and Ranging (LIDAR) Services  
ISD Project No. E15-MDAD-01

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## RECOMMENDATION:

This is a request for the Small Business Development (SBD) Division to approve the attached project, for contract measures in order for the department to proceed with the advertisement for bids for the **Photogrammetric Mapping and Light Detection and Ranging (LIDAR) Services, ISD Project No. E15-MDAD-01.**

The Contract Measure established for the previous solicitation (E10-MDAD-03) was a No Measure based on the "Sole Consultant" requirement. (Previous Project Worksheet dated 6/23/2010 attached). MDAD is recommending an SBE-No Measure as the Contract Measure for this project.

This Agreement will be split between MDAD and ITD, as was the last Agreement for these services. The User Division has advised that an SBE-A/E "No Measure" is appropriate for this Contract. Also note that there are "No Special Requirements for a Sole Consultant" on this project.

Term of this Agreement will be for five (5) years and five (5) one year Options to Renew. The Contract Estimated Amount: \$12,000,000.00 (\$600,000/yr. per Department)

## BACKGROUND:

The Scope of Work provides for professional services to be performed for the ongoing need of photogrammetric/topographic/planimetric/LIDAR mapping for the Miami-Dade Aviation Department, Miami International Airport and the four County owned auxiliary airports which include Miami Executive Airport, Miami-Opa Locka Executive Airport, Miami Homestead General Airport and Dade Collier Training and Transition Airport, as well as, the coverage area of the County's enterprise Geographic Information System ("GIS") supported by the Information Technology Department ("ISD").

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**Topographic LIDAR Services:** collection and processing of LIDAR (light detection and ranging) data and generation of elevation data products, including but not limited to digital elevation model (DEM) data, airport exclusion zones, as well as professional services for integration of multiple 3D Laser Scanning Data, BIMs & analyses; 3D imaging which will provide 2D CAD plans, elevations and 3D geometric models and/or BIM required documenting as-built conditions. Services may be requested for many project types, including, but not limited to: new construction, renovations, and modernizations.

The areas covered include the airports serviced by MDAD, as well as the coverage area of the County's enterprise Geographic Information System (GIS) supported by ITD.

The areas included in the above mentioned services are as follows:

**MDAD**

MIA and the four (4) County owned auxiliary airports that include (1) Miami Executive Airport, (2) Miami-Opa Locka Executive Airport, (3) Dade Collier Training and Transition Airport, and, (4) Miami Homestead General Aviation Airport.

**ITD**

The main GIS coverage area consists of approximately 564 square miles inside the Urban Development Boundary (UDB) and 1,048 square miles outside the UDB. However, it may be possible that services will be requested for other square miles within the boundaries of Miami-Dade County such as areas within Everglades National Park.

Note: All data provided to MDAD must be compliant with the current Federal Aviation Administration ("FAA") guidelines and be compatible with MDAD's GIS database. All data provided to ITD must be compatible with the County's enterprise GIS database.

The Project Breakdown (Attached) shows that the Prime Certification Categories are:

- 15.01 Surveying and Mapping – Land Surveying (5%)
- 15.02 Surveying and Mapping – Aerial Photogrammetry (95%)

**Attachments**

cc: K. Delapenha, MDAD  
M. Clark-Vincent, MDAD  
L. Johnson, SBD  
C. Taylor, SBD  
C. Corrales, MDAD  
Project File

**REVISED MDAD's CONTRACT MEASURES AND ANALYSIS WORKSHEET**

**To:** Gary Hartfield, Division Director  
Internal Services Department, Small Business Development

**From:** Milton L. Collins, Associate Director  
Miami-Dade Aviation Department  
Minority Affairs Division



**PROJECT/CONTRACT TITLE:** Photogrammetric Mapping and Light  
Detection and Ranging (LiDAR) Services

**PROJECT/CONTRACT NUMBER:** ISD Project No. E15-MDAD-01

**DEPARTMENT:** Miami Dade Aviation Department

**ESTIMATED PROJECT COST:** \$12,000,000.00 (\$600,000.00 per year per  
Department)

**FUNDING SOURCE:** Revenue Funds

**DESCRIPTION OF PROJECT/BID:**

The Scope of Work provides for professional services to be performed for the ongoing need of photogrammetric/topographic/planimetric/LiDAR mapping for the Miami-Dade Aviation Department, Miami International Airport and the four County owned auxiliary airports which include Miami Executive Airport, Miami-Opa Locka Executive Airport, Miami Homestead General Airport and Dade Collier Training and Transition Airport, as well as, the coverage area of the County's enterprise Geographic Information System ("GIS") supported by the Information Technology Department ("ISD").

**CONTRACT MEASURES RECOMMENDATION:**

Measures SBE-No Measure

**REASONS FOR RECOMMENDATION:**

Analysis of the factors contained in Implementing Order #3-32 indicates that a SBE-No Measure Goal is appropriate for this contract.



AVIATION FACILITIES DIVISION

CAT. NO.	SERVICE DESCRIPTION	PRIME CONSULTANT	SUB CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
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	9.06 MATERIALS TESTING/CONSULTING/TRAINING			
	INDUSTRIAL HYGIENE			
	ASBESTOS			
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AVIATION FACILITIES DIVISION

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	OSHA			
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13.00	GENERAL ELECTRICAL ENGINEERING			
14.00	ARCHITECTURE			
15.00	SURVEYING AND MAPPING			
	15.01 LAND SURVEYING	5%		5%
	15.02 AERIAL PHOTOGRAMMETRY	95%		95%
16.00	GENERAL CIVIL ENGINEERING			
17.00	ENGINEERING CONSTRUCTION MANAGEMENT			
18.00	ARCHITECTURAL CONSTRUCTION MANAGEMENT			
19.00	VALUE ANALYSIS AND LIFE-CYCLE COSTING			
	19.01 TRANSPORTATION PLANNING			
	19.02 MASS TRANSIT SYSTEMS			
	19.03 HIGHWAY SYSTEMS			
	19.04 AVIATION SYSTEMS			
	19.05 PORT AND WATERWAY SYSTEMS			





AVIATION FACILITIES DIVISION

CAT. NO.	SERVICE DESCRIPTION	PRIME CONSULTANT	SUB-CONSULTANT	PERCENT OF TOTAL CONSULTANT FEE
	19.06 WATER AND SANITARY SYSTEMS			
	19.07 SOLID WASTE COLLECTION AND DISPOSAL SYSTEMS			
	19.08 TELECOMMUNICATION SYSTEMS			
	19.09 SOILS, FOUNDATIONS, AND MATERIALS TESTING			
	19.10 ENVIRONMENTAL ENGINEERING			
	19.11 GENERAL STRUCTURAL ENGINEERING			
	19.12 GENERAL MECHANICAL ENGINEERING			
	19.13 GENERAL ELECTRICAL ENGINEERING			
	19.14 ARCHITECTURE			
	19.15 GENERAL CIVIL ENGINEERING			
	19.16 LANDSCAPE ARCHITECTURE			
20.00	LANDSCAPE ARCHITECTURE			
21.00	LAND USE PLANNING			
22.00	ADA TITLE II CONSULTANT			
23.00	AVIATION ACOUSTICAL AND LAND USE COMPATIBILITY PLANNING			
24.00	BUILDING PRODUCT EVALUATION SERVICES			
25.00	AVIATION PLANNING CONSULTANT SERVICES			
26.00	CLAIMS ANALYSIS SERVICES			

\*Detailed descriptions of certification categories may be obtained from MWAD Contracts Administration