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MIAMI-DADE COUNTY, FLORIDA
NOTICE TO PROFESSIONAL CONSULTANTS
MIAMI-DADE OFFICE OF THE PROPERTY APPRAISER
PROFESSIONAL SERVICES AGREEMENT FOR
DIGITAL REFERENCED OBLIQUE AERIAL IMAGERY SOLUTIONS,
AND OPTIONAL ORTHOPHOTOGRAPHY SERVICES
PROJECT NO. E14-PA-01, CONTRACT NO. S2014-

The County Mayor, Miami-Dade County, pursuant to Chapter 287.055, Florida Statutes, Sections 2-8.1 and 2-10.4 of the Miami-Dade County Code, Implementing Order 3-34, and Administrative Order 3-39, announces that the Miami-Dade Office of the Property Appraiser (PA) will require one (1) qualified consultant to provide digital referenced oblique aerial imagery solutions, and optional orthophotography services.

The Prime Consultant shall provide professional services, to include, but shall not be limited to: aerial services and photography, format oblique images to be delivered in GeoTiff or tiff format, provide metadata describing oblique's, and any supportive tasks ancillary to the primary scope of services. The solicitation will also include an option to negotiate and add Orthophotography services at a future date.

The Prime Consultant will perform aerial services and photography including, but not limited to, that noted on the attached Scope of Services (inclusive of Experience and Qualifications).

The Prime Consultant must hold Technical Certification 15.02 Surveying & Mapping Aerial Photography. Interested Professional Firms (Consultants) shall be certified by the County at the time of proposal submittal in the Technical Certification Category identified above.

The Prime Consultant performing Technical Certification Category 15.02 Surveying & Mapping Aerial Photography shall demonstrate performance of these services on at least three comparable sized or larger Property Appraisal Agencies throughout the United States.

The Agreement will be in the approximate amount of $4,323,000.00, which includes 10% contingency, and shall remain in effect for a total of five (5) years with two, five-year options to extend.

A/E TECHNICAL CERTIFICATION REQUIREMENT / BREAKDOWN:

Technical Certification No.	Description	Percentage	Amount
15.02	Surveying & Mapping Aerial Photography (PRIME)	100%	$4,323,000.00
	Total Estimated Professional Fees	100%	$4,323,000.00

There is no CBE Goal recommendation for this project.

Digital Reference Oblique Aerial Imagery Solutions and Optional Orthophotography Services

SCOPE OF SERVICES

INTRODUCTION

The purpose of this project is to obtain a complete turnkey digital geo-referenced oblique aerial imagery and associated software technology to assist the Miami-Dade County Property Appraiser (PA) in meeting its statutory requirement of physically inspecting all parcels within the limits of Miami-Dade County (County) at least once every five years. The primary focus of each inspection is to ensure that each property within the County is accurate for Ad Valorem purposes and meets the legal requirement of F.S. 193.023. The oblique aerial imagery will also assist the PA in the identification of un-permitted improvements and the defense of assessments during appeals.

The PA also wishes to install a fully tested and proven software application for the County's use of the digital geo-referenced oblique aerial imagery that fully complies with all applicable federal and state laws, and business requirements of Miami-Dade County. This technology will enhance the existing Geographic Information System (GIS) enterprise infrastructure that is maintained by the County's Information Technology Department (ITD), for the use and benefit of all County departments.

The County operates many computer applications that rely on GIS technology to provide information to staff, businesses, citizens, and augment the County's professional ability to analyze data. Currently, these applications display traditional orthogonal (straight down) images that are extremely useful for their spatial accuracy, but do not provide the visual information that oblique images can provide. The oblique imagery technology requested in this proposal shall provide multiple high-resolution views of any property, building, highway, landmark, etc. from different angles or directions enabling users to see every aspect of the County in a natural way. Additionally, specialized software shall be provided to browse, navigate, and allow the measurement of distance, height, elevation, and area, directly from the oblique imagery as well as the integration of GIS data and applications.

The PA and the County requests the following be provided by the Selected Consultant:

1. Project Management
2. Oblique and NADIR Imagery
3. Oblique Imagery Application Software
4. CAMA System Integration
5. Omega Crime View Dashboard Interface
6. Installation Services
7. Documentation
8. Training
9. System Support
10. Software Maintenance
11. Image Refresh and Emergency Imagery
12. Optional Orthogonal Imagery
13. Optional Change Detection Software
14. Optional CAD-911 Interface
15. Optional Orthophotography Services

The intent of the PA is for the Consultant to seamlessly integrate these services with the PA Computer Assisted Mass Appraisal (CAMA) System, Countywide GIS, ground imagery and future applications within open environment architecture.

The PA performs the functions of appraisal and assessment of real and tangible personal property in accordance with the Florida Statutes, the Miami-Dade County Administrative Rules, and the Florida Department of Revenue Rules and Regulations, Directives and Opinions.

The PA uses a CUSTOMCAMA system. It is a Computer Assisted Mass Appraisal (CAMA) system. The CAMA system uses Oracle as the database management system and is integrated with the County's GIS. The Oracle database is hosted on AIX servers. Reports and recalculations are executed in Windows servers and the client portion resides in Windows XP workstations.

The County's GIS utilizes ArcGIS products developed by ESRI (Environmental Systems Research Institute). Desktop GIS Products include ArcView, ArcEditor, ArcInfo and ArcGIS extensions made available through CITRIX. Server GIS Products include ArcSDE for spatial database management using Oracle with Sun Solaris as well as ArcGIS Server for Web applications and ArcGIS Image Server for publishing the imagery. These last two run in Windows platforms. This architecture relies on the geodatabase model to manage geographic data and build relationships between different data types. The County has over 700 geographic layers as well as current digital orthophotography and digital elevation model (DEM).

EXPIRIENCE AND QUALIFICATION REQUIREMENTS

- Consultant shall demonstrate that firm has provided these services to three agencies similar in size to Miami-Dade County throughout the continental United States.
- Consultant shall have capture technology to capture Obliques and Orthos simultaneously.
- Consultant shall have desktop software with capability to measure; distance, height, area, elevation, bearing, latitude/longitude, and display GIS layers.
- Consultant shall have web based software with capability to measure same tools described above.
- Consultant shall have on staff a certified surveyor to approve data accuracy.
- Consultant shall provide documentation that it has the adequate amount of planes and pilots to provide the services being requested. The documentation shall describe planes owned and pilots on staff or provide proof through established contracts with reputable subcontractors that provide flight services.

Contract Service Requirements

The Miami-Dade County Property Appraiser's Office has the following requirements. The Consultant shall provide the following:

- The Consultant shall provide project management for all activities pertaining to the requirements of this system.

- The Consultant shall provide the PA with high resolution color nadir and oblique (angle) images, from four perpendicular directions, for the Oblique Photography Coverage Area, approximately 926 square miles of Miami-Dade County. The oblique imagery should have a front line ground sample distance of 3 inches per pixel maximum.

- Photography should be performed no earlier than December 15th of each year and not later than January 31st of the following year as weather conditions permit.

- The positional accuracy of oblique imagery should be based on the accuracy of the Digital Elevation Model (DEM) to be provided by the County. This DEM was updated to support the accuracy requirements of the 2013 orthophotography. DEM digital data is available in ESRI shapefile format (points and breaklines), in Florida State Plane coordinates NAD83/90 and elevations in NAVD88 expressed in U.S. survey feet.

- 0.25-foot pixel resolution with ±1.0-foot horizontal accuracy for areas within the (Urban Development Boundary (UDB) – an area covering approximately 498 square miles.
- 1.0-foot pixel resolution with ±5-foot horizontal accuracy for areas outside the UDB – an area covering approximately 428 square miles.
- Consultant should provide an accuracy statement of the oblique imagery being proposed.

- Whenever possible, images should be delivered in GeoTiff or tiff (with world files) electronic format.
- Georeferencing information should be provided in State Plane Coordinate System, Florida East (FIPS 0901) Zone, NAD83 Datum, US Survey Feet Linear Units.
- Images stored in proprietary formats should have the ability to be exported to industry standard formats.

- Delivery Media: USB external hard drive interchangeable media should be used for the initial delivery of imagery. PA should also have the option of supplying its own USB external hard drive(s) to the vendor.

- Delivery Dates: Weather permitting, the imagery in the Oblique Photography Area of Coverage shall be delivered before March 1st of the year the aerial photography is taken.

- PA should have the ability to house the imagery in a load balance and/or failover infrastructure. Current County failover infrastructure implementations include the use of Microsoft Cluster environment and Storage Array Network (SAN) technology Therefore, any imagery housed in a fail over infrastructure will have to conform to these technical requirements.

- It is the PA preference to own the imagery collected. The PA will consider a licensing option as part of the proposal response.

- The PA shall have the ability to use the imagery in perpetuity.
- The PA shall have unfettered access to the imagery including the ability to display oblique imagery on the Internet and Intranet via mapping Web applications.
- The PA shall have the right to distribute the imagery to County cities, municipalities and other local governmental agencies.
- The PA shall have the right to allow agencies working at the County's Emergency Operations Center during emergency activations to utilize the imagery and software.

- The Consultant shall provide a stand-alone application software for the performance of browsing and analysis operations.
- The Consultant shall provide a desktop-based solution that integrates oblique imagery browsing and analysis capabilities with current ESRI ArcGIS Desktop versions (10.X), e.g. ArcGIS extension.

- The Consultant shall provide a web-based component that allows the browsing and analysis of oblique imagery within web applications, e.g. API, widget, etc.
- The Consultant shall provide a web-based solution that permits browsing and analysis of oblique)e imagery within ArcGIS Server 10.X applications (Refer to Appendix B for ARCGIS Server infrastructure).
- The Consultant shall be able to interface the software to Miami Dade County Property Appraiser's CAMA system.
- Any Oblique Imagery Application Software should be compatible with Windows XP, Windows 7, and Windows 2008 Server..
- All solutions must allow the visualization of oblique imagery with the County's GIS vector data. It is highly desirable that this integration of oblique imagery and vector data (ARCSDE 10.X, shape files) be implemented without performing any modification, conversion or preprocessing to the GIS vector layers.
- Stand-alone software and/or extensions should be compatible with Citrix XenApp technology. (Refer to Appendix C for more information on the County's Citrix infrastructure.)
- Stand-alone software and/or extensions must allow the overlay of oblique imagery with GIS vector layers.
- Oblique imagery application software must contain API, web service, or a similar component that allows integration with ESRI product ArcGIS Server 10.X.
- Consultant should provide programming code, extension(s), API(s) or similar component(s) that allows integrating the web-based solutions with ArcSDE 10.X.
- Integration with ArcGIS Image Server Extension 10.X although optional is a highly desirable feature.
- The components that will facilitate the integration with ArcGIS 10.X, and/or ArcGIS Server 10.X should provide the following functionality: viewing tools, navigation tools, measurement tools, other GIS tools, ground level imagery integration, annotations, attachments, 3D models, Change detection, and CAD 9-1-1 integration.
- The Consultant should offer professional consulting services to the County for the following:
  Installation of oblique imagery library/database on County servers;
  Configuration and optimization of infrastructure;
  Installation and configuration of all software/applications that are part of the oblique imagery solution on either client machines or servers depending on software requirements;
  Configuration, optimization and test of any oblique imagery component that is part of the integration with ESRI or any other supported 3rd party software;
  Configuration of any web application component such as IIS, .NET framework etc. that is required for the implementation of the oblique imagery solution;
  Testing of functionality and performance of installed system.
- The Consultant is required to provide the County with the system documentation for the following type's of users: End User, Software Developer, and System Administration and Support Staff.
- The Consultant is required to provide the County onsite training. At a minimum the training classes shall provide the users with the following information: End User, Advanced user/developer, And System Administration and Support Staff.

- Consultant shall provide Miami-Dade County with telephone and onsite technical support. Web based support can be an alternative but not a substitute.
- Consultant will provide the County with ongoing maintenance, updates and support of licensed software products.

* The PA is interested in a change detection solution that allows the comparison of land and property features between existing and new imagery of the same area for the identification of changes.

  - The change detection solution is optional and should allow the identification of additions to existing structures, demolitions, land use changes, and new construction.
  - Consultant should offer tools and/or services that facilitate the change detection in both visual and automated fashion.
  - The proposed solution should utilize and integrate orthogonal and oblique imagery regardless of whether they have been captured by the Contractor.
  - The County has implemented the Motorola/Printrak 911 product suite, including Computer Aided Dispatch and the Premier Mobile Data Communication System. The GIS functionality of the system is provided using Motorola's MGU server and Advanced Tactical Mapping (ATM). The County's Digital Ortho-photography is updated for call takers, dispatchers and field personnel on an annual basis.

- Consultant should provide the County with the ability to integrate the oblique imagery technology with the County's CAD-911 system. This is an optional feature that will be reviewed by the County.

* Although it is not the County's intention to add Orthophotography services to the resultant contract, the County is requesting Contractors to describe if orthophotography is a service currently being provided by Contractor.