ISSUING DEPARTMENT INPUT DOCUMENT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

☑ New ☐ OTR ☐ Sole Source ☐ Bid Waiver ☐ Emergency Previous Contract/Project No.: None, New Services

☐ Contract Re-Bid ☐ Other – Access of Other Entity Contract LIVING WAGE APPLIES: ☐ YES ☐ NO

Requisition No./Project No.: RQID2100666 TERM OF CONTRACT: 10 YEAR(S) WITH: YEAR(S) OTR

Requisition /Project Title: Asset Management

Description:

Miami-Dade County, hereinafter referred to as the County, as represented by the Miami-Dade County, Department of Transportation and Public Works (DTPW), is soliciting Request for Proposals for Asset Management to improve its inventory of assets, condition assessment and maintenance, using Light Detection and Ranging (LiDAR), Street Level Imagery. Funding: Road Impact Fees.

Issuing Department: SPD for DTPW Contact Person: Rodney McMillian Phone: 375-2698

Estimate Cost: $5,500,000.00

	GENERAL	FEDERAL	OTHER
Funding Source:			Road Impact

ANALYSIS

Commodity Codes: 92968

Contract/Project History of previous purchases three (3) years

Check here ☐ if this is a new contract/purchase with no previous history.

	EXISTING	2ND YEAR	3RD YEAR
Contractor:			
Small Business Enterprise:			
Contract Value:			

Comments: New Contract

Continued on another page (s): ☐ YES ☐ NO

RECOMMENDATIONS

	Set-Aside	Subcontractor Goal	Bid Preference	Selection Factor
SBE				

Basis of Recommendation:

Signed: Jesus Lee Date sent to SBD: 2/27/23

Date returned to SPD:

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS ASSET COLLECTION AND EVALUATION

Scope of Work

DTPW - 10/20/22

Contents

OVERVIEW

Project Background and Description

Miami-Dade County (MDC), Department of Transportation and Public Works (DTPW) seeks to improve its inventory of assets, condition assessment and maintenance, using Light Detection and Ranging (LiDAR), Street Level Imagery.

Project Scope

The ~~selected proposer~~ Awarded contractor shall provide Miami-Dade County (the County), with Asset Inventory, and Condition Assessment Services including:

A. Terrestrial Light Detection and Ranging (LiDAR) scan and street level imagery system capable of providing 360° horizontal field of view (HFOV), and 180° vertical field of view (VFOV) images taken every five (5) meters at a minimum on all public roads (Approximately 13,230 Miles) and asset condition assessment.

B. Imagery:

1. The Awarded contractor ~~Vendor~~ must be capable of providing a minimum resolution of 50 megapixels. Photo quality must be sufficient to identity details on object on the outer reach of photo. Higher scoring will be provided to companies providing higher resolution/quality photos.
2. Clear and realistic colors with good appearance and visibility of objects in shadow areas with options to enhance each images contrast and brightness.
3. Parallax free, with no distortion or seamlines between each image.
4. Ability to look in all directions including forward, backward, left, right, and directly overhead.
5. Precise measurement of objects X, Y, and Z with a sub-inch accuracy or better.
6. Metadata associated with each image to include location, date, and time of scan date.
7. Imagery must be collected using a moving vehicle and/or mobile collection method without disrupting traffic patterns.

C. LiDAR:

1. Availability to obtain raw LiDAR LAZ files for use in MDC ~~County~~ software applications.
2. Must generalize the raw LiDAR point cloud to a 3D surface that is available online for the county to measure features within a 3D streetscape with sub-inch accuracy.
3. LiDAR point cloud delivered in coordinate system specified by County – NAD83 Florida State Plane East.

D. Asset extraction

1. Provide asset extraction services and condition assessments across two different areas of interest as listed in attached spreadsheet included within this RFP:
    i. Approximately 5,900 miles of County-maintained roadways
        a. Pavement (visual inspection and grading using a nationally recognized system)
        b. Sidewalks
        c. Guardrails
        d. Attenuators
        e. Streetlight bases
        f. Streetlight bulbs
        g. Drainage points
        h. Curb and Gutter
        i. ADA Ramps

    ii. Approximately 13,230 miles of all roadways (to include County, State, and Municipal Roads)
        a. Pavement striping
        b. Crosswalks
        c. Pavement symbols
        d. Flexible posts
        e. Stop bars
        f. Traffic signs
        g. Sign support and base
        h. Traffic light foot
        i. Traffic light signal
        j. Vertical clearance of all obstructions over roadways including, but not limited to, trees, utility lines, and signs.

2. Must include manual and automatic asset extraction.
3. Asset inventory must be delivered as ESRI Geodatabase files and compatible with ESRI GIS platforms, one feature class and/or table per asset or one shapefile per asset.
4. Individual asset point locations to include an X, Y, and Z value coordinate that is accurate on each asset to 6 inches.
5. Individual asset line and polygon accurate on each asset to 6 inches.
6. Vendor to provide a phase zero sample of all assets before beginning work on entire geodatabase.
7. Metadata associated with each feature class and/or table that follows the FGDC CSDGM metadata stylesheet.

8. Data structure must comply with Miami-Dade County GIS Data and Metadata Standards and Procedure.

E. Software and integrations

1. The Awarded contractor ~~Vendor~~ must provide tools that allow the County to bring street-level imagery and a 3D depth surface directly into the native ESRI ArcGIS environment. The tools must support both displays of the 3D street-level imagery as well as an overlay of feature layers as well as take measurements on the imagery with sub-inch accuracy.
2. The Awarded contractor ~~Vendor's~~ ESRI ArcGIS integrations must allow editing of the County's asset feature classes in the 3D street-level imagery and depth surface. Supported geometries must include points, lines, and polygons. The integrations must support live and direct editing of a feature class and tables in Esri Geodatabases, and web feature services.
3. The Awarded contractor ~~Vendor~~ shall provide application programming interfaces (API) that can be used to bring street-level imagery, 3D depth surface, and mobile LiDAR scans into existing County web-enabled applications.
4. The Awarded contractor ~~Vendor's~~ application must allow the County to take new street-level images and upload them to the existing imagery and LiDAR collection for an on-demand update after the initial imagery collection has occurred.
5. The Awarded contractor ~~Vendor~~ must provide the County with a web-based viewing platform that will permit DTPW employees to visualize 360-degree street-level imagery with elevation and 3D streetscape embedded to measure assets with sub-inch accuracy.
6. The Awarded contractor ~~Vendor~~ must provide a tool that allows the County to visualize floodwaters and elevation within the 360-degree imagery and LiDAR that displays water inundation at certain flood levels and can assist with the identification of first-floor elevations of structures and ponding of water in the roadways.
7. The Awarded contractor ~~Vendor~~ must maintain vendor software compatible with the Esri software version deployed in the county, due to upgrades within the time established by the County.
8. The Awarded contractor shall p~~P~~rovide access to the imagery and software, as well as support, for five (5) years from the final delivery date.
9. The Awarded contractor shall p~~P~~rovide optional pricing for continued access to the imagery and data passed the initial five (5) year period.

F. Asset condition assessment

1. The Awarded contractor ~~Vendor~~ shall specify the standards and guidelines proposed to determine the condition of each asset.

G. Experience and References

1. Bidder ~~Vendor~~ shall have a minimum of five (5) years of experience performing similar projects.
2. Bidder shall p~~P~~rovide a minimum of three (3) references from County and/or Municipalities in which the vendor is either currently contracted or has been contracted for similar projects.

H. Project schedule and timeline:

1. Project to begin one (1) month from notice to proceed.
2. Imagery and LiDAR to be available to county within four (4) months of commencement.
3. Asset analytics to be delivered to county within eight (8) months from imagery and LiDAR collection commencement.

I. Training:

1. The Awarded contractor shall p~~P~~rovide a minimum of two (2) hours web-based training for an unlimited number of users to view collected imagery data and software use.
2. The Awarded contractor shall p~~P~~rovide an initial on-site training – Number of users to be determined by the County.
3. The Awarded contractor shall p~~P~~rovide training in the use of the integration APIs – Number of users to be determined by the County.

J. Technical Support:

1. Technical support services, via phone or email, must be available via the vendors Service Desk and/or website.
2. Response/resolution time for technical support inquiries shall be provided within 24 hours of initial contact.

K. Meetings:

1. A project kickoff meeting will be held between the Vendor and the County within two weeks following the executed agreement, the notice to proceed, or as scheduled by the

County. The standard definitions of each of the assets in the data dictionary and the attributes of each of them will be reviewed during the kickoff meeting.

- Additional meetings will be held between the Vendor and the County for the delivery of the LiDAR, completion of Assessment, and as required by the County.

K. Quality Assurant

Vendor shall provide a 98.5% of accuracy in the data collected. The Vendor will use guidelines provided by the American National Standards Institute (ANSI) standard and a combination of automated checks, followed by visual inspection, to validate the quality of the data collected. The vendor will provide a quality control report on the data delivered to the County.

ANSI provides technical inspection and acceptance standards that can be used to define the number of features (i.e., sidewalks) that need to be reviewed during the quality control process and in turn the maximum number of errors allowed in the sample to achieve a given acceptance criteria standard. For example, in a delivery of 50,000 sidewalk features, as per the ANSI standards, a random sample of 500 sidewalks would need to be checked for quality. To achieve 98.5% accuracy in the data, no more than 14 errors would be considered acceptable. In this example, if 15 errors were found, the data would then be considered unacceptable.

For additional information on the ANSI Standards and how to use them please check https://progc.com/quality-resources/ansi-sampling-tables/

~~APPROVAL AND AUTHORIZATION~~

~~We approve the project as described above, and authorize the team to proceed.~~

~~Name~~	~~Title~~	~~Date~~

~~ATTACHMENTS:~~

~~1. Data Dictionary~~