

**AMAJUBA DISTRICT MUNICIPALITYO**

**INVITATION TO BID**

**BID No.: T2023/17**

**PROVISION OF AN ONLINE SATELLITE IMAGERY, PORTAL FOR VIEWING, DOWNLOADING SATELLITE IMAGERY AND VALUE-ADDED SERVICES FOR A PERIOD OF 36 MONTHS.**

Bids are hereby invited from service providers registered on the Central Supplier Database for the provision of an online satellite imagery, portal for viewing, downloading satellite imagery and value-added services for a period of 36 months. Bid documents will be emailed to the bidder upon producing proof of payment of a non-refundable fee of R500.00 per document. Cash Deposits/EFT must be made into the Amajuba District Municipality bank account: **Standard Bank Account N° 062156624** with the reference number **00000002318**. Bidders are required to email proof of payment, name of bidding company and its contact details before **12h00, 15 September 2023 to [khethiwem@amajuba.gov.za](mailto:khethiwem@amajuba.gov.za)**. Evaluations will be done on bid companies that submitted their proof of payment before the closing date and time **15 September 2023**. NB: This bid will be evaluated on price in terms of the 80/20 preference point system as prescribed in the Preferential Procurement Policy Framework Act and Preferential Procurement Regulations of 2022 wherein 80 points are for price and 20 points are for specific goals.

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Verification documents
HDI Points: 1. No Franchise before 1993 2. Gender = Female 3. Disability = (Medical certificate) 4. Youth	4 4 4 4	1. Company registration certificate 2. CSD report/ID copies 3. Medical Certificate 4. ID copies
The promotion of enterprises located in KwaZulu-Natal for work to be done or services to be rendered in the Province of KwaZulu-Natal	4	Municipal rates and taxes or municipal charges to the municipality or municipal entity, or to any other municipality / municipal entity, that is not older than 3 months.

The enclosed forms must be scrutinized, fully completed, and submitted together with your bid. The tender validity period is 90 days after tender closing date.

Bidders are required to submit original tax clearance certificates or Tax Compliance Status Pin or CSD number. Completed bid documents in sealed envelopes endorsed "**Bid No. T2023/17 PROVISION OF AN ONLINE SATELLITE IMAGERY, PORTAL FOR VIEWING, DOWNLOADING SATELLITE IMAGERY AND VALUE-ADDED SERVICES FOR A PERIOD OF 36 MONTHS**" must be deposited in the Municipality's tender box located in the reception of the Amajuba District Municipality on or before the closing date, whereby bids will be opened in public. Bids that are not sealed and numbered will not be considered.

Late bids will not be considered. Amajuba DM reserves the right not to award the lowest or any bid.

Technical enquiries must be directed to **Udiv Budhal** on 034 329 7200 or by email [udivb@amajuba.gov.za](mailto:udivb@amajuba.gov.za) and SCM enquiries must be directed to **Sabelo Zulu** on 034 329 7200 or by email: [sabeloz@amajuba.gov.za](mailto:sabeloz@amajuba.gov.za).

.....  
**Closing date: Tuesday, 26 September 2023 at 12h00 noon**

**MR P.M MANQELE**  
**MUNICIPAL MANAGER**





# **DRAFT TERMS OF REFERENCE FOR APPOINTMENT OF A SERVICE PROVIDER FOR PROVISION OF AN ONLINE SATELLITE IMAGERY, PORTAL FOR VIEWING, DOWNLOADING SATELLITE IMAGERY AND VALUE-ADDED SERVICES FOR A PERIOD OF 36 MONTHS**

---

## **1. INTRODUCTION**

Change detection implies quantifying temporal effects using multi temporal dataset. The application of remote sensing data is a popular change detection technique because of its high temporal frequency, digital computation, synoptic view, & wider selection of spatial and spectral resolution. The general objectives of change detection in remote sensing include recognizing the geographical location and type of changes, quantifying the changes, and assessing the accuracy of change detection results. Detecting temporal changes for the earth surface by observation at different times is one of the most important applications of earth orbiting satellites because they can provide multi-date digital imaging with consistent image quality, at short interval, on global scale, and during complete seasonal cycle.

## **2. PROJECT DESCRIPTION**

The project will consist of weekly satellite imagery and digital mapping to capture household points, population data, gap analysis for service delivery, analysis of optimum cost-effective solutions for minimizing gaps in service delivery to citizens of the Amajuba District Municipality.

## **3. OBJECTIVES**

- 3.1. To have access to weekly refreshed processed satellite imagery products on a once off subscription arrangement for the period of thirty-six (36) months that covers the extent specified by the Amajuba District Municipality.
- 3.2. Undertake change detection and produce reliable accurate reports and spatial datasets related to disaster events tracking, identification and monitoring of water bodies, forestry changes and vegetation health, dwelling count, and settlement change detection.

#### 4. MANDATORY BID REQUIREMENTS

- 4.1. Bidders must be registered with the South African Council for Planners (SACP) as a Professional Planner & have a minimum tertiary qualification of a Bachelor's degree in Town or Urban and Regional Planning.
- 4.2. Bidders must be registered with the South African Geomatics Council (SAGC) as a GISc Technologist or GISc Professional Practitioner & have a minimum tertiary qualification of a Bachelor's degree in Geomatics or equivalent.
- 4.2. Bidders must submit evidence of completed projects conducted within the Local Government sector pertaining to change detection focused on landscape, vegetation & settlement pattern changes.

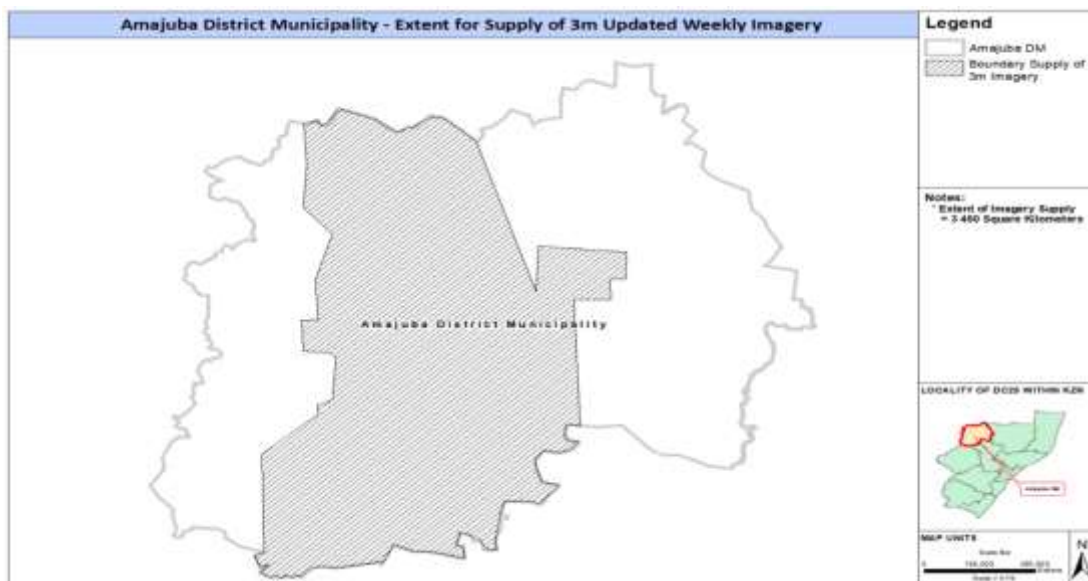
### PART A: SATELLITE IMAGERY SUBSCRIPTION SERVICE AND CHANGE DETECTION

#### 5. PROVISION OF SATELLITE IMAGERY

One of the main project deliverables is that the municipality must be subscribed to an online satellite image service for a period of 36 months to access, view and download processed satellite data. Sections 5 herein contains the specifications to be adhered to and the terms of services to be provided.

##### 5.1. IMAGERY ACQUISITION COVERAGE

The appointed service provider is to ensure provision of satellite imagery, value added services and related software / portal for the Amajuba District Municipality for an extent that covers approximately 3 450 km<sup>2</sup>.



Map 1: Extent of Supply for 3m Updated Weekly Imagery

## 5.2. IMAGE RESOLUTION

Satellite imagery is to be provided at both high- and low-resolution colour (RGB & NIR) imagery at 3m GSD and 50cm GSD.

## 5.3. IMAGE QUALITY

- 5.3.1. Only imagery satisfactory to the requirement shall be accepted.
- 5.3.2. Samples of imagery shall be submitted with the tender documents on a CD/DVD or flash drive.
- 5.3.3. Imagery quality shall allow detection and monitoring as outlined below:
  - A. **Disaster Events Tracking:** Damage caused by floods, fires, storms, etc. shall be detected and reported on. This shall include burnt land/structures, soil erosion, water level changes, exposed foundations, etc. This shall also include before and after images.
  - B. **Identification and Monitoring of Water Bodies:** Water bodies within the Amajuba District Municipality area shall be identified and monitored. The water bodies to be monitored shall be specified by the municipality. The surface area of said water bodies shall be monitored and reported monthly.
  - C. **Forestry Changes and Vegetation Health:** The changes of forest cover and vegetation health shall be monitored and reported. Changes shall be reported every three months to track seasonal patterns.
  - D. **Dwelling Count and Settlement Change Detection:** Specific formal and/or informal settlements shall be monitored. The Bidder shall provide an initial dwelling count of such areas and shall update this count on a quarterly basis. Changes in the specified settlements shall also be detected and reported.
  - E. **Historical Satellite Imagery:** The Bidder shall provide Amajuba District Municipality with access to historical satellite imagery. Any form of encroachment shall be monitored on natural and formal legislated protected areas. Encroachment shall be monitored and reported biweekly.

#### 5.4. IMAGERY SPECIFICATION

The imagery specification is contained herein the table below:

Item	Description	Specification
1	Extent	Amajuba District Municipality - approximately 3450km <sup>2</sup>
2	Datum	WGS84
3	Imagery Resolution	Maximum 50cm, Minimum 3m daily acquisition
4	Spectral band compositions	4 Bands (RGB & NIR) & 5 Band (RGB & NIR)
5	Image Format	TIFF
6	Maximum cloud cover %	<15% cloud

**TABLE 1: IMAGERY SPECIFICATIONS**

#### 5.5. ACCESSING THE SATELLITE IMAGERY

- 5.5.1. The service provider shall provide a software / portal for viewing, downloading satellite imagery and analysis reports for the purpose of monitoring events such as land invasion, disaster events, project management, and town planning related activities.
- 5.5.2. Users must also have access to historical imagery of the district for analysis purposes.
- 5.5.3. Imagery must be adaptable to ESRI GIS software (desktop and server products).
- 5.5.4. The system / portal must be able to display weekly refreshed datasets and compare datasets from different dates for purposes of change analysis.
- 5.5.5. The system/ portal shall be available to Amajuba District Municipality users 24 hours 7 days a week.
- 5.5.6. Service provider shall clearly indicate backup, recovery strategies and contingency plans in the event of an application failure. Additionally, the system information including settings shall be backed up weekly.
- 5.5.7. Users shall have access to the system for the full duration of the contract (36 months).
- 5.5.8. Updates for the software required for the online portal shall be freely available to Amajuba District Municipality for the duration of the contract.
- 5.5.9. All other specifications not listed here should be specified when submitting this bid.

- 5.5.10. The Service provider will be expected, as part of the evaluation process, to provide temporary access for the Amajuba DM to their solution for assessment of all functionality to qualify for this tender.
- 5.5.11. In respect of stipulation 5.5.10, bidders that are deemed compliant will be contacted in advance to arrange the temporary access.

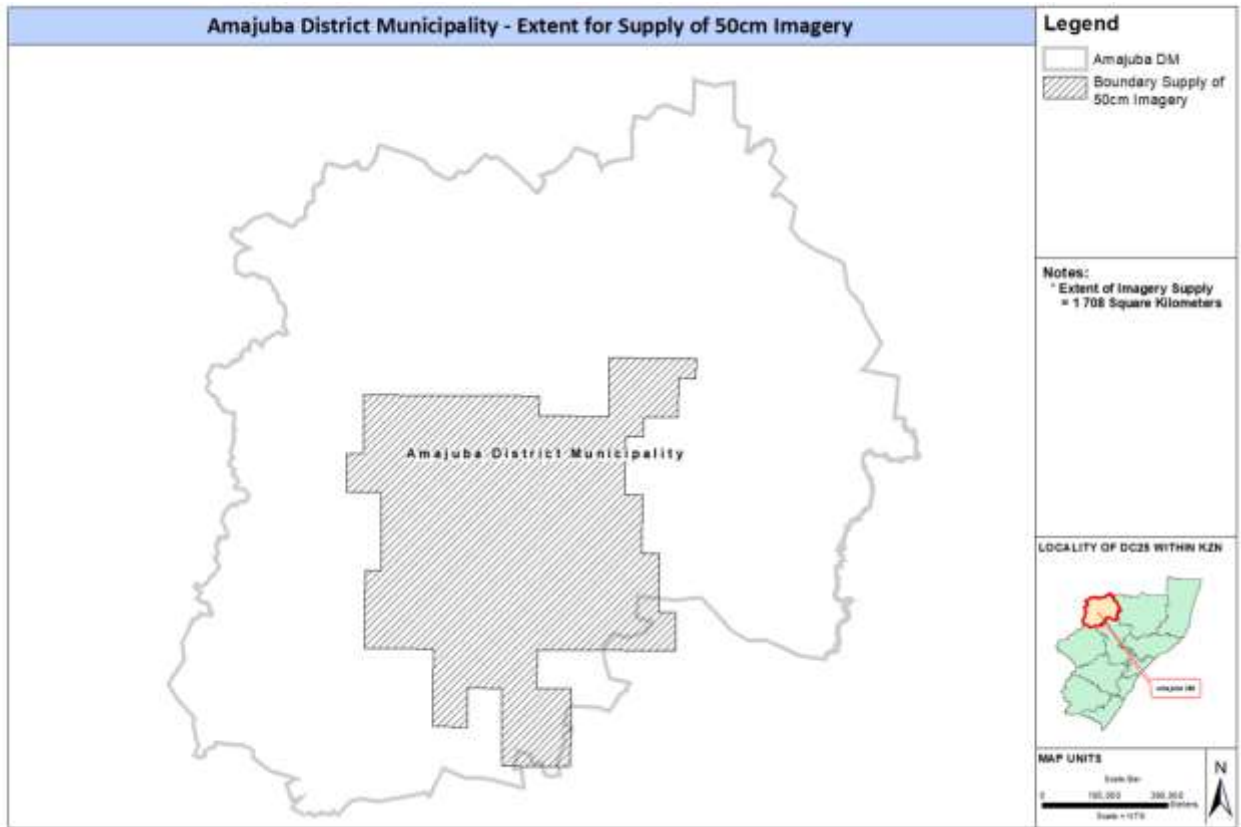
## **6. OPERATION AND CONTRACT DELIVERABLE**

- 6.1. The successful service provider will be expected to enter into a 36-month contract with the Amajuba District Municipality. This contract shall commence on the date of signature and shall endure until the last day of the contract which will be the final date of delivery.
- 6.2. The successful service provider shall be expected to supply the following contract deliverable:
- A. Monitor and detect changes as outlined in section 5.3.
  - B. Provide analysis reports for changes detected as outlined in section 5.3 of this document.
  - C. Satellite imagery shall meet specifications outlined on section 5 above.
  - D. Provide software / portal for viewing, downloading satellite imagery and analysis reports as per the specifications contained in section 5.5.

## **PART B. SETTLEMENT MAPPING**

### **7. DESKTOP MAPPING OF SETTLEMENTS**

- 7.1. Desktop point feature mapping of settlement structures will be undertaken in an ArcMap GIS (ArcMap 10.8.2 or earlier) environment using the 50cm satellite imagery as a base.
- 7.2. In farming areas, one point will be captured per homestead.
- 7.3. In urban areas and formal settlements, one point will be captured per property stand.
- 7.4. In rural areas, all buildings/structures greater than 2m by 2m in size will be mapped. In all cases, the point feature will be placed in the centre of a building or at the centre of a building cluster where appropriate.
- 7.5. Digitize all households for a specified area of interest within the Amajuba District Municipality that covers an extent of 1708km<sup>2</sup>.
- 7.6. Count of all Households (HH). Deliverables include the following:
- A. The final database will be delivered in a File geo-database compatible with ESRI suite of products.
  - B. All settlement features mapped and supplied per local municipality.
  - C. Full colour 50cm base satellite image, <15% cloud cover in a three-dimensional format (3d) or compatible.



Map 2: Extent of Supply for 50cm Imagery

## 8. TENDER VALIDITY PERIOD

- 8.1. Price(s) quoted must be valid for at least ninety (90) days from date of offer for evaluation purposes. Thereafter, the prices will be fixed for a period of twelve months before escalation will be allowed.

## 9. BID EVALUATION

- 9.1. Bids will be evaluated according to price and functionality, based on 80/20 preference point system.

## 10. BID EVALUATION: FUNCTIONALITY

- 10.1. Selection criteria for functionality are described in the table below

FUNCTIONALITY	SUB WEIGHTING	TOTAL WEIGHTING
<b>EVIDENCE OF CHANGE DETECTION PROJECTS WITHIN THE LOCAL GOVERNMENT SECTOR &amp; REFERENCES</b>	15	<b>15</b>
Relevant evidence of change detection projects undertaken within the Local Government Sector coupled with references for projects (provide evidence of projects in either a soft or hard copy and reference letters with traceable referee's details for the projects)		
<ul style="list-style-type: none"> <li>Evidence of 1 project &amp; reference = 5 points</li> <li>Evidence of 2 projects &amp; references = 10 points</li> <li>Evidence of 3 or more projects &amp; references=15 points</li> </ul>	5 10 15	

<b>PRESENTATION OF PROPOSED PORTAL</b>	30	<b>30</b>
<ul style="list-style-type: none"> <li>• 3m weekly updated satellite imagery.</li> <li>• Embedded image comparison tool</li> <li>• Image Download functionality</li> </ul>	10 10 10	
<b>DESKTOP MAPPING OF SETTLEMENTS</b>	20	<b>20</b>
<ul style="list-style-type: none"> <li>• 50cm satellite image sample that covers the extent depicted in Map 2 on to be provided in a Tiff format.</li> </ul>	20	
<b>TOTAL SCORE</b>		<b>65</b>
<b>MINIMUM SCORE REQUIRED</b>		<b>50</b>

**NB: A bidder that does not comply with the mandatory requirements and a bidder that score less than 50 points for functionality will be deemed non-compliant with the bid specifications and will not be evaluated any further.**

**11. RETURNABLE DOCUMENTS**

- All MBD documents must be fully completed and signed
- Central supplier Database (CSD) registration number.
- Business registration Certificate
- Supporting documents for specific goals
- Attached municipal rates and taxes or municipal charges to the municipality municipal entity, or to any other municipality / municipal entity, that is not older than 3 months.

**TERMS OF REFERENCE APPROVED BY**

**MR PM MANQELE**

**MUNICIPAL MANAGER**