



**THIS IS NOT  
AN ORDER**

**REQUEST FOR BIDS/PROPOSALS COVERSHEET**  
**THE UNIVERSITY OF SOUTHERN MISSISSIPPI**  
**Procurement and Contract Services**  
**118 College Drive #5003, Hattiesburg, Mississippi 39406-0001**

**Date:** May 1, 2020

**Bid No. 20-33**

THE UNIVERSITY OF SOUTHERN MISSISSIPPI is considering the purchase of the following item(s). We ask that you submit your bid and retain one copy for your files. Right is reserved to accept or reject any part of your bid. Your quotation will be given consideration if received in Bond Hall, Room 214 on or before:

2:00 p.m. CT

May 20, 2020

**Buyer:** Jessica Whitten

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

TERMS - Bidder should state terms of sale. Our terms are 2% ten days, net 45 days.

These terms will apply per Mississippi law.

AWARDING CONTRACT - Cash terms will not be used as a basis for awarding contracts; however, the University will accept cash discounts when earned.

**NOTE: If you cannot quote on the exact material shown, please indicate any exception giving brand name and complete specifications of any alternate. If additional space is required, use a separate sheet or letter of transmittal.**

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL NET PRICE
		<p><b>RFx #3160003602</b></p> <p><b>DESCRIPTION</b></p> <p><b>Bid 20-33 Unmanned Aerial Vehicle System</b></p> <p>PROPOSAL MUST BE RETURNED TO THE UNIVERSITY IN ACCORDANCE WITH THE SPECIFICATIONS. RFP NUMBER AND DATE OF BID OPENING MUST BE SHOWN ON THE OUTSIDE OF THE ENVELOPE IF USING THAT METHOD.</p>		

We quote you as above-F.O.B. The University of Southern Mississippi. Shipment can be made in \_\_\_\_\_ days from receipt of order. DATE \_\_\_\_\_ TERMS \_\_\_\_\_  
Return quotation to Procurement Services at above address.

**Signature Required** \_\_\_\_\_

**THE UNIVERSITY OF SOUTHERN MISSISSIPPI  
PROCUREMENT SERVICES  
118 COLLEGE DRIVE #5003  
HATTIESBURG, MS 39406-0001**

**GENERAL TERMS, CONDITIONS AND INSTRUCTIONS FOR BIDS/PROPOSALS**

- 1.) Failure to examine any drawings, specifications, and instructions will be at bidder ' s risk.
- 2.) Samples of items when called for must be furnished free of expense and if not destroyed in testing, will, upon request, be returned at the bidder ' s expense. Request for the return of samples must be made within ten (10) days following opening bids. Each individual sample must be labeled with bidder ' s name and manufacturer ' s brand name and number.
- 3.) Bids must be signed and sealed with bidder ' s name and address on the outside of the envelope, and the time and date of the bid opening and the bid file number shown in the lower-left corner of the packages; envelopes, express mailing labels, boxes, etc.
- 4.) In order for your bid to be considered, it must be received and time stamped in our office by 2:00 P.M. of the bid opening date. It is the responsibility of the vendor to ensure their bid is received within the appointed time. If your bid package is not received in Bond Hall, Room 214, by 2:00 P.M. of the bid opening date, it will not be considered.

If you are delivering your bid, you need to hand carry the bid package to:

The University of Southern Mississippi  
Procurement Services  
Bond Hall, Room 214  
Hattiesburg, Mississippi

If you are mailing your bid package via U.S. Postal Service, mail to:

The University of Southern Mississippi  
Procurement Services  
118 College Drive #5003  
Hattiesburg, MS 39406-0001

If you are express mailing your bid package via Federal Express or UPS, or any other delivery service which requires the use of a physical address, deliver to:

The University of Southern Mississippi  
Receiving Department  
2609 West 4<sup>th</sup> Street  
Hattiesburg, MS 39401

- 5.) Bids or proposals shall not be modified, corrected, altered, or amended after the specified closing time and the opening of such bids, unless otherwise noted in the request for bids or proposals.
- 6.) The University of Southern Mississippi reserves the right to reject any and all bids, to waive any informality in bids, and unless otherwise specified by the bidders, to accept any items on the bid. If the bidder fails to state the time within which bids must be accepted, it is understood and agreed that The University of Southern Mississippi shall have 60 days to accept. The University of Southern Mississippi reserves the right to make an award to this bid on an all or none basis, or on a line by line basis, whichever serves the best interest of The University of Southern Mississippi.
- 7.) Contracts and purchases will be made or entered into with the lowest, responsible bidder meeting specifications.
- 8.) A written purchase order or contract award mailed or otherwise furnished to the successful bidder within the time of acceptance specified in the Invitation for Bid results in a binding contract without further action by either party. The contract shall not be assignable by the vendor in whole or in part without the written consent of The University of Southern Mississippi.
- 9.) Bid files may be examined during normal working hours by bid participants. Non-participants will be prohibited from obtaining any information relative to the bid until the official award has been made.
- 10.) If purchase orders or contracts are canceled because of the awarded vendor's failure to perform or request for price increase, that vendor shall be removed from our bidders' list for a period of 24 months.
- 11.) No addendum will be issued within a period of two (2) working days prior to the time and date set for the bid opening. Should it become necessary to issue an addendum within the two-day period prior to the bid opening, the bid date will be reset giving bidders ample time to answer the addendum.
- 12.) Alternate bids, unless specifically requested or allowed, will not be considered.
- 13.) Bid openings will be conducted open to the public. However, they will serve only to open the bids. No discussion will be entered into with any vendor as to the quality or provisions of the specifications, and no award will be made either stated or implied at the bid opening. After the close of the bid opening meeting, the bids will be considered to be in the evaluation process and will not be available for review by bidders. Proposal openings are not required to be open to the public; however, the resulting award is open for public inspection.
- 14.) Prices quoted shall be firm for the term of the contract or for the stated time of

acceptance.

- 15.) The bidder understands that The University of Southern Mississippi is an equal opportunity employer and, therefore, maintains a policy which prohibits unlawful discrimination based on race, color, creed, sex, age, national origin, physical handicap, disability, or any other such discrimination; and the bidder, by signing this bid, agrees during the term of agreement that the bidder will strictly adhere to this policy in its employment practices and provision of products or services.
- 16.) Bidders must upon request of The University of Southern Mississippi furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. The University of Southern Mississippi reserves the right to make the final determination as to the bidder's ability.
- 17.) Questions or problems arising from bid procedures should be directed to the Buyer listed on the solicitation at:

The University of Southern Mississippi  
118 College Drive #5003  
Hattiesburg, MS 39406-0001  
Phone: (601) 266-4131
- 18.) All items must equal or exceed the specifications listed. The absence of detail specifications or the omission of detail description shall be recognized as meaning that only the best commercial practices are to prevail and that only first quality materials and workmanship are to be used.
- 19.) It is the intent of the specifications to obtain a product that will adequately meet the needs of the user while promoting the greatest extent of competition that is practicable. It is the responsibility of the prospective bidder to review the entire Invitation to Bid packet and to notify The University of Southern Mississippi if the Specifications, Instructions, General, or Special Conditions are formulated in a manner which would unnecessarily restrict competition.
- 20.) It shall be incumbent upon the bidders to understand the specifications. Any requests for clarifications shall be in writing and shall be submitted to our Procurement Services office at least five (5) days prior to the time and date set for the bid opening, unless otherwise noted in the bid or proposal specifications.
- 21.) The minimum specifications are used to set a standard and in no case are used with the intention to discriminate against any manufacturer. Bidders should note the name and the manufacturer and model number of the product they propose to furnish and submit descriptive literature.
- 22.) Trade names, brand names, and/or manufacturer's information used in these specifications are for the purpose of establishing quality, unless otherwise noted. Bids on

products of other qualified manufacturers are acceptable, provided they are demonstrated as equal to those specified in construction, design and suitability. Each bidder shall submit with his bid a complete brochure with pictures on each item and shall point out specifically any deviations from the specified items. Failure to do so may disqualify any bid. Please bid as specified or an approved equal.

- 23.) A copy of the manufacturer's standard guarantee/warranty shall accompany and become a part of this bid.
- 24.) There are no federal or state laws that prohibit bidders from submitting a bid lower than a price or bid given to the U.S. Government. Bidders may bid lower than U.S. Government contract price without any liability as The University of Southern Mississippi is exempt from the provisions of the Robinson-Patman Act and other related laws. In addition, the U.S. Government has no provisions in any of its purchasing arrangements with bidders whereby a lower price to The University of Southern Mississippi must automatically be given to the U.S. Government.
- 25.) All invoices, unless noted otherwise, are to be billed to:
- The University of Southern Mississippi  
Accounts Payable  
118 College Drive #5104  
Hattiesburg, MS 39406-0001
- 26.) All equipment bid shall be of current production and of the latest design and construction.
- 27.) Where all, or part(s), of the bid is requested on a unit price basis, both the unit prices and the extension of the unit prices constitute a basis of determining the lowest responsible and responsive bidder. In cases of error in the extension of price, the unit price will govern.
- 28.) Should the University of Southern Mississippi close due to inclement weather conditions, or any other unforeseen events on the bid opening date, sealed bids will open the following business day at the same time and location.
- 29.) As an alternative to traditional sealed bids in envelopes, the University of Southern Mississippi is capable of receiving electronic bid responses. While this option is available, it is not required and we ask that all potential respondents keep in mind that with any electronic system there could be delays or glitches with the submission process; therefore the University highly encourages traditional sealed bids which are either mailed or submitted in person. Should a vendor choose to submit their response electronically, please follow the instructions below using the following website: [https://www.ms.gov/dfa/contract\\_bid\\_search/Home/Sell](https://www.ms.gov/dfa/contract_bid_search/Home/Sell). On this site you will find helpful links to procurement opportunities, as well as a link to supplier registration. If not already registered in this system, potential bidders will first need to click on 'Supplier

Registration' and follow the steps outlined (a one-time process). Once registered, they can return to the original website and click on 'Procurement Opportunities' where they can either search by keyword for the bid they desire to respond to or leave the search box blank and click 'Search' for a listing of all current bids and proposals for the various State of Mississippi offices.

With regard to construction bids, there is one additional step required during the bid submission process. Along with the bid response and other attachments, contractors will also need to attach their Certificate of Responsibility (COR), or a statement that the bid enclosed does not exceed Fifty Thousand Dollars (\$ 50,000.00). If their COR or such statement is not attached, the bid will be invalid and not considered.

**AA/EOE/ADA**

# **SPECIFICATIONS OF AN UNMANNED AERIAL VEHICLE SYSTEM**

## **USM BID #20-33**

### **1. BACKGROUND**

The University of Southern Mississippi requires an unmanned aerial vehicle (UAV) system to conduct research in shoreline mapping and shallow water bathymetry. A reference for intended use is NOAA Technical Memorandum NOS NCCOS 265, "Guidelines for Bathymetric Mapping and Orthoimage Generation Using sUAS and SfM, An Approach for Conducting Nearshore Coastal Mapping"

### **2. PURPOSE**

The purpose of the UAV system is to collect geospatially referenced, high resolution imagery that, when appropriately processed, can produce georeferenced digital orthophoto mosaic datasets and elevation models in which it would be possible to resolve shoreline and seafloor bathymetry (assuming sufficient water clarity).

### **3. GENERAL PERFORMANCE SPECIFICATIONS**

The UAV system must be capable of extended flight times (2 hours or greater), hand launched, capable of beyond visual line of sight (BVLOS) and capable of capturing both still and video imagery. Preference will be given to systems with higher resolution cameras, superior positioning, ease of use, and ability to land on the water. Responses should include a table indicating the tradeoff between flying height, resolution and overall area mapped.

### **4. REQUIREMENTS**

The UAV System must meet or exceed the following guidelines:

1. **Vehicle Type:** In order to match the extended flight time requirement above we expect that the airframe will be a fixed wing style unmanned system. It must have the following capabilities:
  - a. Hand Launch
  - b. Be capable of both direct operation / radio control flight and pre-planned automated flight, including the ability to plan flight missions independent of the vehicle, and then upload them into the vehicle's flight controller.
  - c. Return to home / return to operator override function and failsafe in the event of loss of communication and/or low battery. The vehicle must return home when battery level is critical.
  - d. We prefer that the vehicle be waterproof and have the ability to land on water. It is acceptable if the vehicle can land vertically and be recovered on a small manned watercraft. In either case the vehicle and other operating equipment must

- be able to withstand continued operation from a small watercraft deployed in a marine setting (e.g. salt spray).
- e. Maintain safe operation under moderate (25 mph) wind conditions (typical in marine environments).
  - f. Log all telemetry data on the vehicle in a documented format that can be ingested and read by other computer software.
2. **Camera / Sensor:** There must be a camera, sensitive to visible light (RGB) mounted to acquire nadir or nearly nadir images for use in automatic photogrammetry software for the creation of digital orthophoto mosaics. The camera system ideally will be upgradable and replaceable. It should have the following capabilities:
- a. On-vehicle real time geotagging of image locations as they are collected such that they will be ready to be processed by photogrammetry software immediately after offloading from vehicle.
  - b. Camera resolution of at least 20MP
  - c. The RGB sensitivity of the camera system should be documented
  - d. Ideally the camera will also collect video, controllable by the operator in flight.
  - e. Systems with a supplemental forward-looking HD video camera will also be given preference.
  - f. Sufficient vibration reduction to obtain a clear image, free of distortions such as rolling shutter effects even at speed, particularly in overcast conditions (lower light than full sun which are typical in marine conditions).
3. **Base Station and Communication:** As mentioned above, the system must be capable of both direct operation and pre-planned automated flight. Other required aspects of the communication include:
- a. Ideally the base station software can be loaded on a variety of platforms and operating systems (e.g. Windows desktop, Android, iOS) etc. Responses should include the platform and system requirements for the base station software.
  - b. The base station must report the following telemetry information during operation of the vehicle.
    - Remaining battery life
    - Vehicle speed (ground and air)
    - Vehicle position (including an accuracy and precision estimate)
    - Vehicle altitude
    - Vehicle heading
    - Flight operation mode
    - Next waypoint (if in automatic mode).
  - c. An operating range of 15 miles.
  - d. The base station should log all the telemetry information and have the ability to pull up a log in the case of signal failure.
  - e. The user should have the ability to specify if the UAV will either continue automated flight or return to home in the event of signal loss



4. **Batteries:** The vendor response should include the cost of additional batteries and the charge time for vehicle batteries. The batteries for the vehicle are required to meet the following requirements:
  - a. Have sufficient capacity to power the vehicle for at least 2 hours of operation.
  - b. Must be user replaceable (preference will be given to non-proprietary batteries)
  - c. Charged with a vendor supplied charging device.
5. **GNSS System:** The vendor response should include the estimated accuracy of the GNSS image geotags for the sensor. We desire the option to purchase a PPK or RTK system. Responses should include the cost of these options as separate line items.
6. **Storage/Transportation.** The UAV and all its components should be able to be checked on an airplane as luggage. Preferably 62 inches in length width and height (125 inches max) and less than 50 pounds (70 pounds max). Specify in the response the dimension and estimated weight of all equipment when broken down for transportation.

#### 5. **WARRANTY**

Bidder shall submit a copy of the written warranty. The University is requesting a minimum one (1) year warranty period, including parts, travel and labor.

#### 6. **TRAINING**

The vendor should include in the response as a separate line item training on the operation, software, maintenance, and troubleshooting of the UAV. (In person or virtual).

#### 7. **COPIES**

At least one (1) signed original copy of the bid response **MUST** be provided, as well as a portable electronic virus/malware free copy (thumb drive) of the bid response from the responding Vendor to be included in the bid response package. If an electronic copy is not included, the University reserves the right to request an electronic copy of the **exact** bid response prior to review of the bid.

#### 8. **MANDATORY LEGAL PROVISIONS**

- Any provisions disclaiming implied warranties **shall** be rejected. See Mississippi Code Ann. Sections 11-7-18 and 75-2-719(4). The Vendor **shall** not disclaim the implied warranties of merchantability and fitness for a particular purpose.
- The Vendor **shall** have no limitation on liability for claims related to the following items:
  - Infringement issues;
  - Bodily injury;
  - Death;
  - Physical damage to tangible personal and/or real property; and/or
  - The intentional and willful misconduct or negligent acts of the Vendor and/or Vendor's employees or subcontractors.
- All requirements that the University pay interest prior to 45 days are deleted.

- Should any of the terms and conditions in the purchase contract conflict with the laws of the State of Mississippi, the laws of the State of Mississippi **shall** supersede and govern. A revision of the terms and conditions will be required to ensure compliance with Mississippi state law.
- The University **shall** not pay any attorney's fees, prejudgment interest or the cost of legal action to or for the Vendor unless so ordered by a court competent jurisdiction.

## **9. PAYMENT**

The currency used for payment of costs will be in United States dollars. State law requires that the University receive an **original invoice** from the Vendor and that payment of the invoice is processed **within 45 days of receipt** (Miss Code 31-7-305).

The invoice should be on the Vendor's letterhead and/or include an original Vendor representative signature.

## **10. USM TERMS AND CONDITIONS**

The winning Vendor agrees to be bound by the USM Terms and Conditions, which are incorporated herein, and may be found at <https://www.usm.edu/procurement-contractservices/usm-terms-and-conditions>.

## **11. DELIVERY**

Vendor should quote the lead time required for delivery of the quoted equipment. Quoted prices should be F.O.B. Destination Freight Allowed.

- The University of Southern Mississippi reserves the right to reject any and all bids.
- The University of Southern Mississippi reserves the right to accept or reject optional line items included in the bid response.