

Bid # 23-03
University of Southern Mississippi
Lease Area Oyster
Reef Plot Creation

1.0 Introduction

The University of Southern Mississippi (USM) Gulf Coast Research Laboratory is looking to procure a contractor to create multiple one acre oyster reef plots (8 per lease area) within four 50-acre lease areas, including base applications of limestone gravel in spring 2023 and surficial enhancements of limestone gravel substrate to different designated plots at two different times, in late spring and fall of 2023.

2.0 Specifications

2.1 GENERAL PERFORMANCE SPECIFICATIONS

Adherence to timing and precision of gravel applications within delineated plots is critical to the success of this project. Prescribed quantities of material must be spread uniformly across created reef plot boundaries as defined by GPS coordinated within the NAD83 CRS as specified in Table 2 below. The contractor must immediately notify USM project manager of any anticipated deviation from the specified times and placements of gravel application, and remediation pursued. A quality control procedure will ensue following each application period to ensure specifications were followed exactly.

Vendor should quote the lead time required for obtaining the materials and conducting the work for the quoted contract. All required materials for the entire project should be acquired as a one-time purchase. Contractor cannot begin reef construction before all required permits have been obtained by the contractee. Sealed bid response to be received by 2:00 PM CDT on Tuesday, February 28, 2023 (see specifications below)

2.2 REQUIREMENTS

The following specifications are to ensure that the contractor will perform the tasks necessary to satisfy the project's objectives. Any deviation from the following specifications must be explained, justified and rectified.

Bidder shall meet or exceed the following specifications:

- four 50-acre lease areas
 - two in western MS Sound and two in Eastern MS Sound
 - Geographic coordinates of lease areas – see tables below
 - Two sets of four one-acre precision plots per lease area (= eight plots per lease area)
 - three deployment events
 - Base reef for 24 one-acre reef plots

- six base application plots for each of the four lease areas
 - To be completed in spring (Mar 2023 – May 2023)
- Surficial enhancement in late spring to early summer 2023 (May – June 2023) for 8 1-acre reef plots
 - two time1 (spring) plots for each of the four lease areas
- Surficial enhancement in fall (August-September) for eight one-acre reef plots
 - two time2 (late summer to early fall 2023) plots for each of the four lease areas
- For each lease area (See Fig. 1 below): two plots get no treatment
- two plots get base reef application only
- two plots get base reef application followed by surface enhancement in late spring to early summer
- two plots get base reef application followed by surface enhancement at in late summer to early fall
- Coordinates of individual plots along with treatments are predetermined
 - See Tables 1 and 2 below for GPS coordinates of lease areas and plots in NAD83 crs
 - Or in NAD 83 Mississippi State Plane feet
 - See Figures 1 and 2 below for layout configuration of plots within lease areas:
 - Plots (one-acre) arranged around perimeter of 50-acre lease areas
 - Bare substrate areas interdigitate with experimental plots
 - Plot treatments are interspersed (see Figs. 1 and 2 below)
 - Two sets of treatments among the eight plots per lease area
- Reef Material
 - #4 LIMESTONE GRAVEL – particle size = 1.0" – 2.5"
 - Estimated 1 cu yd = 1.2 ton
 - Total particle size range of 3/8 – 3.0"
 - Gravel largely consists of ¾ - 1.5" range
 - eight one-acre plots per lease area (see Tables 1 and 2, and Figs. 1 and 2 below)
 - applications of limestone gravel for base and enhancements to be made to uniform thickness within predefined boundaries of experimental plots
 - uniform flat thickness of 6" for base applications (i.e., 800 cubic yards per one-acre plot)
 - uniform flat thickness for surficial enhancement treatments (100 cubic yards per one-acre plot)
- Plot specifications
 - two groups of four plot treatments per lease area
 - three of four treatments for each group receive the base
 - at 800 cubic yards per acre (~6" base depth)
 - three * two groups = six base plots per lease area
 - four lease areas * six base plots = 24 base acres
 - Twenty-four base acres * 800 cubic yards/acre = 19,200 cubic yards base limestone
 - Two of four treatments for each group receive the surficial enhancement
 - Two * two groups = four surficial enhancement treatments per lease area
 - four lease areas * four surficial enhancement treatments = 16 surficial acres
 - ½ of all treatment plots at each of two times (i.e., eight at time1 (late spring to early summer 2023) and eight at time 2 (late summer to early fall 2023))
 - two per lease area per two times = 16 surficial acres

- Labor and deployment costs:
 - Deploy base reefs at same time in spring 2023
 - Deploy first surficial enhancements in late spring to early summer 2023 (t1)
 - Deploy second surficial enhancements in late summer to early fall 2023 (t2)
- **Performance criteria:**
 - Prescribed quantities of material must be spread uniformly across created reef plots boundaries
 - Timing of gravel applications within bi-weekly period designations
 - Spatial accuracy of applications to within 10 m of designated boundaries
 - Contractor must immediately notify USM project manager of any anticipated deviation from the specified times and placements of gravel application
 - A quality control procedure will ensue following each application period to ensure specifications were followed exactly.
 - Non-compliance with contract specifications subject to nonpayment.

Table 1. Lease site boundary GPS coordinates - CRS = NAD83 - Subtidal depth ranges for lease sites: UEBN = 3-6 feet; UEBS = 5-8 feet; UEPW = 5-6 feet; UEPE = 4-5 feet.

Zone	Lease	Site	Corner	Latitude	Longitude
Bay St. Louis	Northern	UEBN	NE	30.3050	-89.2986
Bay St. Louis	Northern	UEBN	SE	30.3009	-89.2986
Bay St. Louis	Northern	UEBN	SW	30.3009	-89.3034
Bay St. Louis	Northern	UEBN	NW	30.3050	-89.3034
Bay St. Louis	Southern	UEBS	NE	30.2626	-89.3041
Bay St. Louis	Southern	UEBS	SE	30.2576	-89.3041
Bay St. Louis	Southern	UEBS	SW	30.2576	-89.3089
Bay St. Louis	Southern	UEBS	NW	30.2626	-89.3089
W Pascagoula R	Eastern	UEPE	NE	30.3331	-88.6470
W Pascagoula R	Eastern	UEPE	SE	30.3289	-88.6490
W Pascagoula R	Eastern	UEPE	SW	30.3304	-88.6533
W Pascagoula R	Eastern	UEPE	NW	30.3348	-88.6512
W Pascagoula R	Western	UEPW	NE	30.3383	-88.6615
W Pascagoula R	Western	UEPW	SE	30.3343	-88.6615
W Pascagoula R	Western	UEPW	SW	30.3343	-88.6664
W Pascagoula R	Western	UEPW	NW	30.3383	-88.6664

Table 2. Specification of plot coordinates along with their numbers and treatment applications within the designated lease sites (see diagram below) – Plots are numbered from left to right starting from upper left corner of each site, and going across and down – corners of plots: UL – upper left; UR upper right; LL – lower left; LR - lower right. NA – not applicable; Base – base reef 800 cubic yards per acre (~6” base depth) applied at time 0; Trtmnt1 – 100 cubic yards/acre reef enhancement application at time 1; Trtmnt2 - 100 cubic yards/acre reef enhancement application at time 2 (see diagram below). GPS coordinate reference system (crs) = NAD83.

Zone	Rel Postn	Lease Name	Trt Plot	Base Spring (2023)	Trtmnt1 Late Spring (2023)	Trtmnt2 Early Fall (2023)	UL Lat	UL Long	UR Lat	UR Long	LL Lat	LL Long	LR Lat	LR Long
Bay St SL	Northern	UEBN	BN-1	NA	NA	NA	30.304381	-89.302653	30.304381	-89.301993	30.303810	-89.302653	30.303810	-89.301993
Bay St SL	Northern	UEBN	BN-2	YES	NA	NA	30.304381	-89.301333	30.304381	-89.300673	30.303810	-89.301333	30.303810	-89.300673
Bay St SL	Northern	UEBN	BN-3	YES	NA	YES	30.304381	-89.300013	30.304381	-89.299353	30.303810	-89.300013	30.303810	-89.299353
Bay St SL	Northern	UEBN	BN-4	YES	NA	YES	30.303238	-89.302653	30.303238	-89.301993	30.302667	-89.302653	30.302667	-89.301993
Bay St SL	Northern	UEBN	BN-5	YES	YES	NA	30.303238	-89.300013	30.303238	-89.299353	30.302667	-89.300013	30.302667	-89.299353
Bay St SL	Northern	UEBN	BN-6	YES	NA	NA	30.302095	-89.302653	30.302095	-89.301993	30.301524	-89.302653	30.301524	-89.301993
Bay St SL	Northern	UEBN	BN-7	YES	YES	NA	30.302095	-89.301333	30.302095	-89.300673	30.301524	-89.301333	30.301524	-89.300673
Bay St SL	Northern	UEBN	BN-8	NA	NA	NA	30.302095	-89.300013	30.302095	-89.299353	30.301524	-89.300013	30.301524	-89.299353
Bay St SL	Southern	UEBS	BS-1	NA	NA	NA	30.261533	-89.308153	30.261533	-89.307493	30.260961	-89.308153	30.260961	-89.307493
Bay St SL	Southern	UEBS	BS-2	YES	NA	NA	30.261533	-89.306833	30.261533	-89.306173	30.260961	-89.306833	30.260961	-89.306173
Bay St SL	Southern	UEBS	BS-3	YES	NA	YES	30.261533	-89.305513	30.261533	-89.304853	30.260961	-89.305513	30.260961	-89.304853
Bay St SL	Southern	UEBS	BS-4	YES	NA	YES	30.260390	-89.308153	30.260390	-89.307493	30.259818	-89.308153	30.259818	-89.307493
Bay St SL	Southern	UEBS	BS-5	YES	YES	NA	30.260390	-89.305513	30.260390	-89.304853	30.259818	-89.305513	30.259818	-89.304853
Bay St SL	Southern	UEBS	BS-6	YES	NA	NA	30.259247	-89.308153	30.259247	-89.307493	30.258675	-89.308153	30.258675	-89.307493
Bay St SL	Southern	UEBS	BS-7	YES	YES	NA	30.259247	-89.306833	30.259247	-89.306173	30.258675	-89.306833	30.258675	-89.306173
Bay St SL	Southern	UEBS	BS-8	NA	NA	NA	30.259247	-89.305513	30.259247	-89.304853	30.258675	-89.305513	30.258675	-89.304853
Pascagoula	Western	UEPW	PW-1	NA	NA	NA	30.337731	-88.665604	30.337731	-88.664944	30.337159	-88.665604	30.337159	-88.664944
Pascagoula	Western	UEPW	PW-2	YES	NA	NA	30.337731	-88.664284	30.337731	-88.663624	30.337159	-88.664284	30.337159	-88.663624
Pascagoula	Western	UEPW	PW-3	YES	NA	YES	30.337731	-88.662964	30.337731	-88.662304	30.337159	-88.662964	30.337159	-88.662304
Pascagoula	Western	UEPW	PW-4	YES	NA	YES	30.336588	-88.665604	30.336588	-88.664944	30.336016	-88.665604	30.336016	-88.664944
Pascagoula	Western	UEPW	PW-5	YES	YES	NA	30.336588	-88.662964	30.336588	-88.662304	30.336016	-88.662964	30.336016	-88.662304
Pascagoula	Western	UEPW	PW-6	YES	NA	NA	30.335445	-88.665604	30.335445	-88.664944	30.334873	-88.665604	30.334873	-88.664944
Pascagoula	Western	UEPW	PW-7	YES	YES	NA	30.335442	-88.664284	30.335445	-88.663624	30.334873	-88.664284	30.334873	-88.663624

Pascagoula	Western	UEPW	PW-8	NA	NA	NA	30.335445	-88.662964	30.335445	-88.662304	30.334873	-88.662964	30.334873	-88.662304
Pascagoula	Eastern	UEPE	PE-1	NA	NA	NA	30.333642	-88.651054	30.333422	-88.650444	30.333112	-88.651314	30.332892	-88.650704
Pascagoula	Eastern	UEPE	PE-2	YES	NA	NA	30.333212	-88.649834	30.332992	-88.649224	30.332672	-88.650084	30.332462	-88.649464
Pascagoula	Eastern	UEPE	PE-3	YES	NA	YES	30.332772	-88.648614	30.332552	-88.648004	30.332242	-88.648864	30.332032	-88.648244
Pascagoula	Eastern	UEPE	PE-4	YES	NA	YES	30.332582	-88.651574	30.332372	-88.650954	30.332052	-88.651824	30.331842	-88.651204
Pascagoula	Eastern	UEPE	PE-5	YES	YES	NA	30.331712	-88.649104	30.331502	-88.648494	30.331182	-88.649344	30.330972	-88.648724
Pascagoula	Eastern	UEPE	PE-6	YES	NA	NA	30.331522	-88.652074	30.331312	-88.651464	30.330992	-88.652324	30.330767	-88.651714
Pascagoula	Eastern	UEPE	PE-7	YES	YES	NA	30.331102	-88.650844	30.330902	-88.650224	30.330572	-88.651104	30.330352	-88.650494
Pascagoula	Eastern	UEPE	PE-8	NA	NA	NA	30.330692	-88.649604	30.330482	-88.648984	30.330162	-88.649854	30.329952	-88.649234

Figure 1. Plots numbered from left to right starting at upper left and going across and down: top row from left to right: Plot 1, Plot 2, Plot 3; middle row from left to right: Plot 4, Plot 5; bottom row from left to right: Plot 6, Plot 7, Plot 8. GPS. See table 1 for site coordinates and table 2 for plot coordinates, site affiliations, and treatment designations.

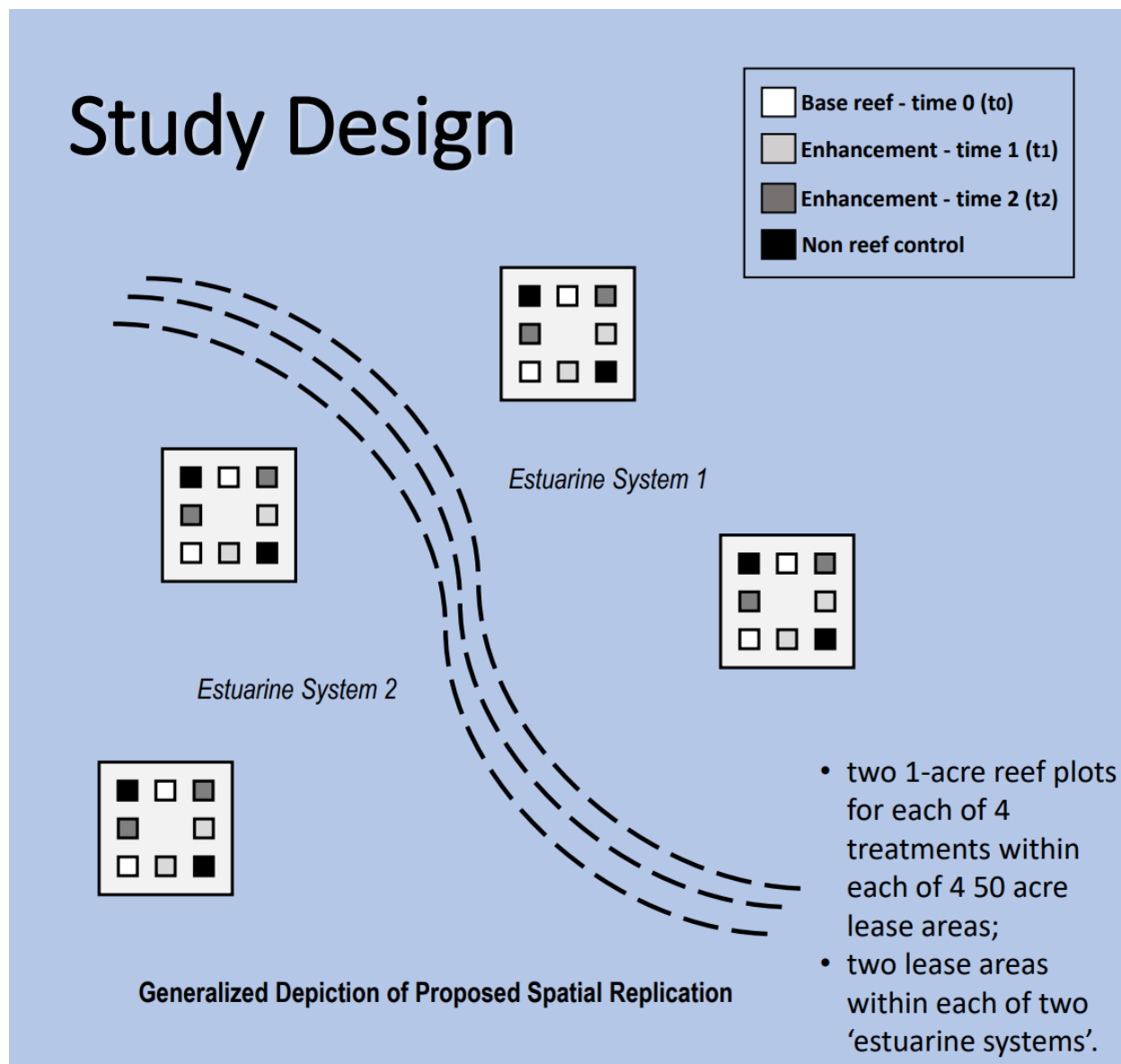
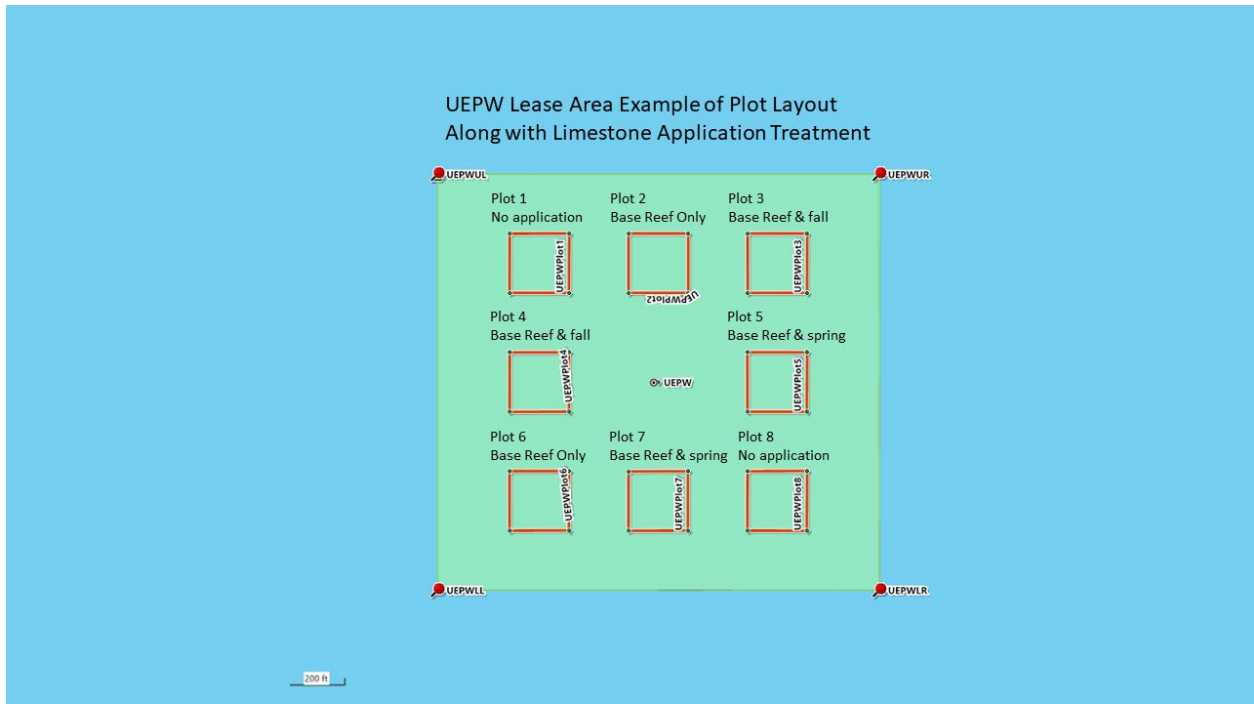


Figure 2. Example lease area UEPW, showing layout and configuration of plots as well as base and treatment applications, each plot will receive. Relative spatial positions and plot number designations will remain the same across all four lease areas.



2.4 CUSTOMER SUPPORT

The vendor should be willing to work with personnel of The University of Southern Mississippi to resolve any technical issues associated with deployment of the material within acceptable tolerances. It is preferred that the vendor can provide technical service through remote access and/or on-site technical support.

2.5 SAFETY

Prescribed and appropriate safety procedures should be followed while fulfilling the contract. Emergency stop procedures should be established.

2.6 WARRANTY

Bidder warrants that the work performed shall be free from defects in materials used, accuracy and areal tolerance of the substrate applications. Defective or inaccurate completion of the work shall be rectified to the mutual satisfaction of the and workmanship under normal

use and service with obligation to repair or replace any parts, which are proven defective, within one year from delivery.

2.7 BONDS AND SURETY

Each bid shall be accompanied by a Certified Check on a solvent bank or a Bidder's Bond issued by a Surety Company licensed to operate in the State of Mississippi, in the amount of five percent (5%) of the total bid price, payable to the University of Southern Mississippi as bid security. Bidders shall also submit a current financial statement, if requested by the University. The successful bidder will be required to furnish a performance and payment bond in the amount of one hundred percent (100%) of the contract amount. Both bonds shall be signed or counter-signed by a Mississippi Resident Agent.

2.8 DELIVERY

Vendor should quote the lead time required for obtaining the materials and conducting the work for the quoted contract. All required materials for the entire project should be acquired as a one-time purchase. Quoted prices should be F.O.B. Destination Freight Allowed.

3.0 Points of Contact

For questions, contact Cathy Catchot at: cathy.catchot@usm.edu

4.0 Submission Instructions to Bidders

One (1) signed original and two (2) copies of the sealed bid response. USM reserves the right to request an electronic copy of the exact bid response prior to review of the bid), subject to the conditions made a part hereof, will be received by 2:00 PM CDT on Tuesday, February 28, 2023 in the USM/Gulf Coast Research Lab Procurement office, as indicated in the General Terms, Conditions, and Instructions to Bidders described herein. It is the responsibility of the respondent to ensure that the proposal package arrives in the Procurement Office.

Each bid **must** be submitted in a sealed envelope bearing on the outside the name "Bid # 23-03 University of Southern Mississippi - Lease Area Oyster Reef Plot Creation," the name of the Vendor, and the opening date specified on the coversheet.

For US mail, FedEx, UPS, or other express couriers the proposal should be addressed as follows:

The University of Southern Mississippi
Gulf Coast Research Lab
Attn: Cathy Catchot
703 East Beach Drive
Ocean Springs, MS 39564

Bid #23-03

Hand-carried responses should be brought to:

USM/Gulf Coast Research Lab
Attn: Cathy Catchot
Oceanography Building, Room 148
Ocean Springs, MS 39564
Bid #23-03

As an alternative to traditional sealed proposals 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 responses* which are either mailed or submitted in person. Additionally, the University will not be responsible for issues with attempted submissions of bids using the electronic method.

Please note that emailed bids will not be accepted.

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.

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, suppliers 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.

When submitting an electronic bid, the bid must be submitted in "pdf" format and shall contain the same information and forms as required for the paper bids. Electronic bids must be secured with a bid bond. When submitting a bid electronically, the authorized signature shall be an electronic signature or handwritten in blue-ink signature. In the event that an electronically submitted bid has a corrupted attachment, the bid will be considered null and void. When bids are submitted electronically, the requirement for including a certificate of responsibility, or a statement that the bid enclosed does not exceed Fifty Thousand Dollars (\$50,000.00), on the exterior of the bid envelope shall be deemed in compliance by including the same information as an attachment with the electronic bid submittal.

Any bid may be withdrawn prior to scheduled time for the opening of bids or authorized

postponement thereof. Any bid received after the time and date specified will not be considered.

The University of Southern Mississippi reserves the right to accept or reject any or all bids and to waive any formalities.

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

Vendors are responsible for examining all specifications, terms, conditions, and instructions of this request. Failure to do so will be at Vendor's risk.

To ensure all interested bidders receive any addenda that may be issued, proposers must email their intent to propose using the Intent to Bid link on the USM Bid Calendar under Bid 23-03 prior to the deadline to submit:

<https://www.usm.edu/procurement-contract-services/current-bids-and-sole-source-notices.php>