

**SCOPE OF SERVICES
FOR
COASTAL ENGINEERING SERVICES – 2018 IDIQ**

I. INTRODUCTION

The Coastal Protection and Restoration Authority (CPRA) is responsible for planning, designing, evaluating, permitting, implementing, maintaining, operating, and monitoring Coastal Restoration and Flood Protection projects in the Louisiana Coastal Zone. The proposed contracts will provide Coastal Engineering Services on projects initiated by CPRA. Services may be comprised of civil, hydraulic, hydrologic, geotechnical, environmental, surveying, mapping, and CAD support. Work may include, but is not limited to, engineering support for data collection, feasibility studies, numerical computer modeling, preparation of design reports, performing design analyses, value engineering, independent technical review, preparation of conceptual and contract drawings, contract specifications, cost estimating, construction contract administration and construction inspection services. Teaming is encouraged for Consultants submitting on these contracts.

A copy of the contract you will be required to sign if selected is attached. **Please review the contract prior to submitting your proposal. No requests for changes to the contract language will be considered.** Multiple contracts may be awarded as a result of this advertisement. Standardized rate sheets will be distributed to each Consultant selected from this advertisement. **Rate sheets will include a negotiated Office Rate and a Field Rate for each of the labor categories. The Office Rate shall be inclusive of all costs associated with labor, overhead, administrative costs, software, account management, and any other costs associated with the provision of services (including but not limited to standard equipment, computers, field sampling supplies, office supplies, copies, and routine safety equipment and materials). The Field Rate shall consist of the items described in the Office Rate plus be inclusive of lodging, travel and per diem. Rates and descriptions for specialized equipment should be submitted on a separate schedule. Compensation to the Consultant for services rendered in connection with each Task Order shall be based on negotiated work-hours using established billable rates mentioned above for the actual work performed on the Task Order or negotiated lump sum compensation.**

II. SCOPE OF WORK

Consultants will perform engineering and related services for CPRA projects on an **as needed, Task Order basis**. Consultants will be required to execute a Task Order which will specify the scope of services, task schedule, and compensation. Each Task Order will become a part of the IDIQ Contract.

Consultants will be required to provide some or all of the following services for each Task Order.

A. Services Required

The specific services for this contract consist of the following:

1. Coastal and Hydraulics Engineering. Provide personnel and equipment needed to perform complex coastal engineering services such as but not limited to:
 - Engineering assistance with the design of unique coastal restoration projects including but not limited to barrier island restoration, inlet stability, ridge restoration, marsh creation, hydrologic and hydraulic restoration, shoreline protection, and beneficial use of dredged material.
 - Utilization of hydraulic, morphological and hydrodynamic models to predict coastal, riverine and estuarine processes including, but not limited to, flow, circulation, wave climate, sediment transport and tidal influence.
 - Review and development of construction cost estimates and technical reports.
 - Preparation of construction documents including plans, specifications and bid packages.
 - Technical presentations.
 - Interfacing with all engineering and scientific disciplines.
 - Other coastal engineering tasks as assigned.

2. Dredge Engineering. Provide personnel and equipment to analyze and design large scale dredge projects in a marine environment such as but not limited to:
 - Knowledge of pertinent data collection and analysis associated with borrow and fill sites.
 - Dredge borrow area and fill site design including determination of fill elevations, site layout for booster and pipeline routing and interpretation of borrow and fill site geotechnical data.
 - Written dredge specifications and contract language specific to projects that involve riverine, inland or offshore site locations.
 - Dredge construction inspection and contract management, including dredge log review and verification.
 - Claim and dispute resolution.

3. General Engineering. Provide personnel and equipment to perform engineering design to support coastal restoration projects including, but not limited to:
 - General civil engineering and hydraulic studies
 - Analysis and manipulation of data sets and GIS software
 - Technical document development, review and presentation
 - Preparation of construction documents including plans, specifications and bid

- packages
 - Engineer's opinion of probable construction cost
4. Geotechnical Engineering. Provide personnel and equipment to provide all geotechnical services necessary to perform geotechnical investigations, analysis, and design. These services may include, but not limited to:
- Historical data gap analysis and evaluation
 - Land based exploration, marine/deep water exploration and marsh/shallow water exploration
 - Undisturbed shallow and deep soil borings using fixed piston sampler for both 3-inch and 5-inch diameter samples
 - Cone Penetrometer Testing (CPT)
 - Vibracore sampling
 - Soil classification testing (e.g., moisture content, organic content, unit weight, Atterberg limits, grain size distribution, and pH testing, etc.)
 - Strength testing (e.g., unconfined compression – UC; triaxial - UU)
 - Settlement testing (e.g., consolidation test, settling column test, low stress consolidation test, etc.)
 - Geotechnical Engineering (e.g., slope stability analysis, settlement analysis of both underlying soils and self-weight consolidation of dredge material, settlement curves, geotechnical instrumentation, etc.)
 - Subsurface profiles (e.g., strength profiles, geologic profiles, etc.)
 - Detailed engineering reports with analyses and recommendations
 - Reviewing geotechnical reports prepared by other professionals
 - Construction related geotechnical engineering services
5. Geophysical and Geological Investigations. Provide personnel and equipment to conduct reconnaissance level and detailed geophysical investigations for riverine and offshore sediment searches. Investigations may include collection and analysis of:
- Bathymetric survey
 - Preliminary sampling plan (grab samples and vibracores)
 - Seismic survey / Sub-bottom profiling
 - Jet probing
 - Side scan sonar survey
 - Magnetometer survey
 - Evaluation of geophysical data
 - Borrow area delineation and volume calculations
 - Technical report writing

Sand search investigations should follow CPRA's General Guidelines for Exploration of Offshore Sand Sources.

6. Surveying Services. Provide personnel and equipment to provide all surveying services necessary to perform topographic, bathymetric and boundary surveying, develop right-of-way or servitude maps, and provide other existing site data. These services may include, but are not limited to:
 - Topographic surveys to determine the horizontal and vertical position of existing natural features (ground elevations, bodies of water, vegetation, etc.)
 - Bathymetric and hydrographic surveys to determine the shoreline and depths of bays, tidal inlets, and other bodies of water within the project area.
 - Magnetometer surveys to locate pipelines, obstructions or anomalies as necessary to clearly define borrow areas, flotation access channels or fill areas.
 - Geophysical surveys utilizing side scan, sub-bottom acoustic sonar, and seismic sub-bottom profiling to facilitate geophysical and archeological investigations.
 - Establish Secondary benchmarks, both temporary (surface monument) and permanent (deep rod driven to refusal), as described by the latest CPRA GPS guidelines and as required to carry out field survey work
 - Surveying and engineering services to produce plan drawings, topographic and contour maps, cross sectional diagrams, and data sets.
 - Surveys suitable for the determination of property lines and corners and the preparation of Legal Descriptions, Property, and Right-of-Way Maps. These surveys will be used to define project boundaries and for the acquisition of property needed for project construction.
 - Control Accuracy Standards - Contractors must recognize and follow the recommendations and guidelines established in the latest CPRA GPS Guide for performing GPS Surveys & Establishing GPS derived orthometric heights.
 - Construction related surveying services
7. Project Management. Provide personnel and equipment to manage a wide array of coastal restoration and flood protection projects. These services could consist of managing and developing budgets and schedules, scoping and administering tasks for sub-consultants. Emphasis should be placed on communication and coordination to ensure timely and cost efficient project execution.
8. Environmental and Permitting Services. Provide personnel to perform all environmental and permitting services necessary to obtain project permits. Required permits may include, but are not limited to:
 - Cultural Resources clearances
 - NEPA documentation
 - Coastal Use permits (CUP) from the LA Department of Natural Resources
 - Wetland permits (404 and Nationwide) and Section 10 permits from the US Army Corps of Engineers
 - 408 permissions
 - Water Quality Certification from the LA Department of Environmental Quality
 - Scenic Stream permits from the LA Department of Wildlife and Fisheries

- DOTD permits
- Levee board permits

9. Construction Administration and Inspection. Provide personnel and equipment to perform construction administration and inspection services on a wide array of coastal projects. Duties may include, but are not limited to:

- Contractor supervision and representation of owner
- Resident inspection in remote locations
- Review of daily work logs
- Technical document development and review
- Verification of pay requests

B. Personnel and Equipment Requirements

- 1) Engineer Requirements. Engineering work accomplished under this Scope of Services will be performed in accordance with the laws and rules of the State Board of Registration for Professional Engineers and Land Surveyors (LAPELS).
- 2) Equipment. Provide computer hardware, software and other equipment necessary to accomplish the services requested by the Department.

C. Typical Deliverables

- 1) Plans typically are 11" x 17" size drawings bearing the seal of the responsible Professional Engineer or Professional Land Surveyor and may include:

- <Elevation contour maps
- <Cross-sections
- <Plan views (Overlay on aerial or satellite photography and the Lambert Conformal Conic Projection, Louisiana State Plane Coordinate System South Zone, NAD83 may be required.)

Plans shall be submitted as directed by CPRA. Digital copies of plans shall also be submitted in AutoCAD 2015 or newer (*.dwg) format, *.dwf and *.pdf formats. All Plans shall be produced on CPRA standard title block.

- 2) Specifications (compatible with the CPRA standard format, hardcopy and digitally in MS Word and Adobe formats) and bid documentation.
- 3) Technical presentations
- 4) Technical reports
- 5) Progress reports
- 6) Data Collection Reports

A specific list of deliverables, with reporting format requirements, will accompany each Task Order when issued. All deliverables shall be accompanied by a typed Letter of Transmittal.