

## **EXHIBIT A SCOPE OF SERVICES**

The Scope of Services defined herein is for the CONSULTANT, Coastal Protection Engineering LLC (CPE), to provide the stated services to assist Martin County (County) in its role as a local sponsor for the U.S. Army Corp of Engineers (USACE) in connection with the Management & Maintenance of the St. Lucie Inlet South Jetty project (Project). This work consists of professional services for design, permitting, performing baseline environmental and engineering investigations and analysis, pre-project surveys, bid support, construction engineering inspection (CEI) services, permit-required pre-, during- and post-construction monitoring and surveys, and other services related to Martin County's St. Lucie Inlet management as needed.

The South Jetty at St. Lucie Inlet has been damaged by waves, currents, and storm surges that have occurred since the USACE completed its initial construction in 1982. The project site is in Martin County at the north end of the St. Lucie Inlet Preserve State Park adjacent to the St. Lucie Inlet. The South Jetty stabilizes the north end of Jupiter Island and is a recreational area for fishing and beach users. Congress authorized the South Jetty construction as part of the St. Lucie Inlet federal navigation project in 1974.

CONSULTANT shall provide services for all phases of work as specified below:

### **1. Contract Administration and Project Management (Time & Materials)**

#### **1.1. Project Management:**

CPE will comply with County contract requirements and perform detailed tracking of schedule and budget. Task 1 will include our team's project management services on all tasks related to the Management & Maintenance of the St. Lucie Inlet South Jetty project (Project).

#### **1.2. Progress Meetings and Conference Calls:**

CPE will be available to attend or lead virtual or in-person progress meetings with the County, USACE, Florida Department of Environmental Protection (FDEP) or other identified stakeholders. Meetings will be coordinated with County staff.

#### **1.3. USACE PDT Coordination:**

CPE will attend monthly virtual meetings with the USACE Project Delivery Team (PDT) to discuss project coordination. CPE may accompany County staff to USACE's Jacksonville offices to discuss items related to the project and will be available for site visits, or additional in-person or virtual meetings with USACE as requested by the County.

1.4. State Park Coordination:

CPE will assist the County in their coordination with State Park staff related to the South Jetty project. The State Park will be notified prior to each field data collection effort by the CPE Team.

1.5. Project Partnership Agreement:

CPE will be available to assist the County in reviewing the federal Project Partnership Agreement (PPA) and commenting on items or terms that may be beneficial for the County to have included in the agreement.

1.6. Federal Grant (Work Plan):

As needed, CPE staff are available to aid in estimating project needs, timing or other information needed to support incorporation of the South Jetty Project into a federal Work Plan. CPE can assist the County in their federal grant reporting requirements.

**2. Field Investigations and Site Assessments (Lump Sum)**

2.1. Data Collection and Condition Assessment

CPE will review previous studies and existing publicly available data related to the South Jetty and the surrounding habitats. Based on that review, a field data collection plan will be developed and presented to County staff to perform an updated conditions assessment. An engineer will snorkel and/or SCUBA dive to observe the condition of the structure's visible components both above and below water to the greatest extent possible considering safety and current site conditions.

2.2. Aerial Photography Compilation

CPE will compile publicly available aerial photographs to develop an up-to-date basemap for field planning purposes and at a scale and resolution to readily interpret vegetative types in wetland and upland areas

2.3. Design Level Physical Surveys and Aerial Mapping

A detailed physical survey and aerial mapping of the existing jetty will be performed to collect pertinent details for design, permitting and communication with future construction contractors about site conditions. The assessment will include design-level physical surveys of the South Jetty and adjacent shorelines to the south and west within the State Park under the direction of a Florida registered Professional Surveyor and Mapper.

This scope includes establishing horizontal and vertical control. Approximately 500ft long cross-sections spaced 100ft apart will be collected along the jetty and inlet shoreline extending north into the water. Up to 21 full length beach profiles will be collected along the State Park shoreline between the jetty and FDEP Range

Monument R-53; beach profiles will be collected at the established monitoring azimuths. Remote sensing will be performed to develop a digital elevation model providing detailed elevations covering the existing structure and inlet shoreline. Updated site photographs will be collected by drone, or similar high-resolution camera during the updated conditions assessment.

Survey deliverables will include signed and sealed plan and profile survey drawings, a digital elevation model of the structure, georeferenced photographs and xyz survey data files.

#### 2.4. Baseline Biological Surveys and Resource Mapping

CPE will conduct a desktop analysis and compile existing relevant data describing the natural resources within and adjacent to the project area including, but not limited to, those pertaining to listed/protected species and essential fish habitat. This will include assembling existing and historic aerial photography (at a scale and resolution to readily interpret vegetative types in wetland and upland areas) and surveys conducted under the auspices of other projects.

CPE will also conduct a baseline survey of the biological resources on and adjacent to the South Jetty. This will include an assessment of the wetland/upland vegetation on the south side of the jetty, an underwater assessment of the armor stone, and an assessment of biological resources in proximity to the project area. CPE will delineate the northern boundary of the vegetation located on the south side of the jetty and describe the dominant vegetation. We will conduct an underwater assessment of the benthic and fish communities around the jetty armor stone. The assessment will also investigate potential resources located in proximity to the jetty that may include submerged aquatic vegetation (SAV) and/or hardbottom resources. All resources will be recorded/delineated using DGPS linked to Hypack Navigation system (or similar system).

CPE will develop an observation report that details the results of the desktop analysis and the in-situ baseline assessment. The report will include the location and description of the resources observed, maps of the project area overlaid on recent clear aerials that delineate the assessment area, and biological resources identified. Raw data in the form of an ESRI geodatabase, photographs and videos will be provided.

#### 2.5. Easement Boundary Review

To support permitting, construction, or funding of a project at the St. Lucie Inlet South Jetty, CPE will support the County and USACE PDT in reviewing easements, land boundary records, adjacent resource habitat boundaries, or other physical boundaries relevant to the project.

## **2.6. Data Compilation and Preliminary Analyses**

Results from the analysis of existing data and field investigations performed in Task 2 will be compiled into a report deliverable to the County. The assessment report will document physical and biological surveys, the updated engineering conditions assessment, results of any land boundary record reviews, and any other preliminary analyses performed to develop an updated conditions assessment of the St. Lucie Inlet South Jetty.

## **3. Engineering Design (Lump Sum)**

### **3.1. Conceptual Design**

In coordination with County staff and the USACE PDT, project objectives will be identified. CPE will then develop conceptual designs to meet the County's goals for the St. Lucie Inlet South Jetty project.

### **3.2. Preliminary Engineering**

Preliminary engineering will consist of the development of multiple alternatives for improvements to the St. Lucie Inlet South Jetty. These alternatives will consider several parameters and requirements including but not limited to the navigational purpose of the coastal structure, potential sea level rise and storm scenarios, nearby environmental resources, jetty orientation, scour protection foundation options and building materials. Federal design documents related to the St. Lucie Inlet South Jetty will be reviewed as part of this effort and design alternatives will be presented to the County that comply with the interpreted intent of the federally authorized design. Graphical representations of the preliminary engineering design alternatives will be prepared for presentation and discussion with the County.

### **3.3. Alternatives Analysis**

After the presentation of preliminary engineering alternatives to the County, CPE will perform in-depth analyses of the proposed South Jetty design alternatives, which may include numerical modeling of waves, flows, sediment transport and morphology changes within the St. Lucie Inlet and shorelines adjacent to the South Jetty. While making the best use of existing data, site specific data collection may be deemed necessary to support a numerical modeling study pending results of the existing data reviews. This scope includes the deployment of 2 ADCPs or similar gauges, for up to a period of 30 days offshore and adjacent to the project area, if needed.

In addition to alternatives being evaluated for structural performance, cost effectiveness and constructability will be considered. A technical discussion will be arranged to review alternatives with USACE to evaluate compliance with the federal authorization and to acquire feedback from federal stakeholders on the proposed alternatives. If desired, CPE may accompany the County to Jacksonville for this discussion utilizing travel funds scoped under Task 1.

A report documenting the findings of the alternative analyses will be developed to support future engineering design work.

### 3.4. Engineering Design

Following the alternatives analysis, CPE engineers and CAD specialists will develop design details for the selected alternative utilizing design-level survey data collected in Task 2. Engineering design may include rock quantity and density calculations, slope stability analyses, and refinement of scour protection and jetty dimensions (orientation, slopes, width, and elevation). The South Jetty will be designed within the previously authorized footprint unless otherwise coordinated with USACE and directed by the County.

## 4. **Permitting (Time & Materials)**

### 4.1. Permit Sketches

CPE will prepare permit sketches including plan views and cross-sections of the jetty construction template and adjacent shorelines. The sketches will include information pertinent to environmental permitting of the proposed project such as: available construction access(es) and staging areas, the location of the federal navigation channel and Atlantic Intracoastal Waterway, topographic and bathymetric survey data, identified regulatory restrictions, known mangrove, hardbottom or SAV areas, and exclusion zones. The permit sketches will be signed and sealed by a Professional Engineer registered in the State of Florida and submitted with the application. If permit sketches or permit plates are prepared by the USACE PDT, CPE will be available to do independent technical reviews and provide comments to the County related to the USACE PDT's provided drawings.

### 4.2. Pre-Application Regulatory Coordination

Prior to preparing FDEP or Department of the Army (DA) permit applications, CPE will request, prepare for, and attend pre-application meetings with the FDEP and USACE regulatory staff. The meetings will be held virtually via webinar. The overall purpose of the pre-application meetings is to present the proposed project, obtain agency input and guidance and identify any additional data needs and/or concerns. Feedback received during the pre-application meetings will be used to refine the proposed field investigations, complete the design, and prepare and submit comprehensive permit applications.

### 4.3. State Water Quality Certificate / Joint Coastal Permit Application

Based on feedback obtained in the pre-application meeting and analyses described above, the CPE Team will compile available environmental data, permit sketches, and relevant attachments to support a Joint Coastal Permit Application to FDEP.

#### 4.4. NEPA Compliance / Federal Department of Army Permit Application

Based on feedback obtained in the pre-application meeting and analyses described above, the CPE Team will compile available environmental data, permit sketches, and relevant attachments to support the application. CPE will develop a DA permit application to request a permit that includes relevant aspects and features of the St. Lucie Inlet South Jetty maintenance project. We anticipate the project will meet the requirements of the NMFS South Atlantic Regional Biological Opinion (SARBO) and the USFWS Statewide Programmatic Biological Opinion (SPBO) and Piping Plover Programmatic Biological Opinion (P3BO). We will provide USACE with data anticipated to be needed for consultations with NMFS and USFWS. If USACE deems a DA permit unnecessary for this construction event, CPE staff will coordinate with USACE regulatory staff to supply project information and data needed for NEPA Compliance.

#### 4.5. Agency Coordination

Following submittal of the state and federal permit applications, CPE will provide post-submittal coordination to aid in expediting agency reviews. This may include attending meetings and/or participation in teleconferences with agencies as needed.

#### 4.6. Permit Processing and Review

CPE will respond to up to two (2) Requests for Additional Information (RAIs) from each regulatory agency (FDEP and USACE) during the permit review process. RAIs may include comments from state or federal agencies, and/or the public. We will coordinate with the County on the extent of the response and what the implication may be to the permitting process and construction timeline. CPE will draft RAI responses and provide the County an opportunity for review prior to submittal. In cases where protracted coordination and response efforts may exceed the level of effort estimated herein, CPE will contact the County to discuss an approach and use of extended permitting funds.

### 5. **Construction Management (Time & Materials)**

#### 5.1. Plans and Specifications

Once the detailed design has been completed and permitted by the environmental regulatory agencies, CPE will work to prepare construction documents including technical specifications, detailed construction plans, and bid form. CPE engineers and CAD specialists will work to prepare construction plans that will include survey control, cross sections illustrating project design details including material specifications, elevations, slopes, and tolerances, and plan view drawings indicating staging areas, construction access points, pertinent demolition plans, jetty construction areas, construction baseline and project stationing, and relevant environmental resources or restrictions.

The construction plans and quantities for bidding will be based on the site assessment surveys collected in Task 2 and supplemented by inlet, beach, or environmental monitoring surveys collected by others, as part of ongoing monitoring in the County. Technical specifications to accompany the construction plans will integrate environmental standards and permit conditions into the work, and provide the basis for measurement of progress and payment. CPE will provide draft construction plans and specifications to the County and/or USACE for their review and input. Finalized construction documents can be provided in multiple digital formats for ease of incorporation by procurement such as: Word, PDF, Excel, geodatabase, or .dwg files. If construction documents are prepared by the USACE PDT, CPE will be available to do independent technical reviews and provide comments to the County for permit compliance, improvement or clarification of the USACE PDT's construction documents.

#### 5.2. Opinion of Probable Cost

CPE will contact marine construction contractors who have successfully constructed projects of similar scope. Based on knowledge of the current marine construction industry, contractor feedback, material availability and sound engineering judgement, CPE can prepare an Opinion of Probable Cost for the County, perform an independent review of cost estimates prepared by USACE, or provide consulting services to the County related to project budgeting or funding. The opinion of probable cost will include project features as itemized on the bid form and detail the assumptions made.

#### 5.3. Bid Support

CPE will assist the County in identifying qualified contractors and provide technical support and consulting services during the bidding process for construction of the project. We will attend a pre-bid meeting with interested contractors and assist the County or USACE in issuing addenda, if needed, to interpret, clarify or expand upon the bid documents.

#### 5.4. Construction Administration

During times of construction, CPE will provide an engineering representative to provide onsite administrative services on a regular basis. The representative will provide open communication with County staff to inform them of the construction status and address outstanding issues or complaints. This scope assumes construction will take place over a period of up to 18 months with an additional period of up to 6 months for mobilization and demobilization. It is assumed that transportation to the project site during the construction period will be available to CPE by the marine contractor from a nearby boat ramp or marina.

The work proposed by the CPE team during construction includes the following items:

- Attendance at pre-construction conferences and preparatory meetings

- Assisting with site coordination related to access, material deliveries, staging areas and equipment storage
- Submittal or review of agency required pre-construction submittals including notice of commencement
- Engineering representative site observations on a regular basis and during key construction activities up to twice per week, on average
- Visual observation of the contractor's work, analysis of during-construction surveys and contractor quality control reports, to review that the work is compliant with the permits, construction plans and contract documents
- Periodic collection of aerial photographs by drone of the construction progress
- Attending progress meetings to discuss the construction status with the contractor and USACE
- Project updates to the County following each site visit regarding the construction progress
- Monthly reporting to the County on construction progress and environmental permit compliance including presentation of aerial progress photos
- Submittal or review of agency required during-construction submittals such as environmental monitoring reports prepared by others
- As directed by the County, CPE will notify USACE and regulatory agencies of any observed non-compliance with a condition or limitation specified in the project permits
- Review of payment calculations, if requested
- If required by permit or desired by the County or USACE, CPE will be available to provide biological assessment/monitoring support throughout construction as described in Task 5.2

#### 5.5. Post-Construction Certification

In accordance with permit requirements, a CPE Professional Engineer will be available to prepare or review the project completion statement and certifications within 30 days of construction completion. The certifications will be based on during-construction surveys, contractor reporting, and periodic on-site observations of the work performed.

In accordance with the project's Physical Monitoring Plan or other applicable permit conditions, CPE will prepare a post-construction engineering monitoring report. The post-construction report will be based on pre- and post-construction project surveys and include key project details, report on the quantity and location of material placed, and document environmental compliance tasks performed during construction. This report will be finalized and submitted to agencies within 90 days of the post-construction survey.

### **6. Permit Required Monitoring (Lump Sum)**

This permit required monitoring scope has been prepared before permit conditions are established with assumptions made based on other coastal structure and inlet



projects. Specific survey protocols may vary depending on permit conditions. Additional post-construction monitoring can be performed by the CPE Team based on mutually agreeable terms or coordinated for incorporation into county-wide monitoring after the term of this contract.

#### 6.1. Pre- and Post-Construction Physical Monitoring and Reporting

- **Immediate Pre-Construction Physical Monitoring**

Physical monitoring will be conducted to document pre-construction conditions of the structure and adjacent inlet and oceanfront shoreline. This survey will include approximately 22 cross sections spaced approximately 100ft apart along the jetty and inlet shoreline to the west of the structure and 21 full length profiles on the oceanfront shoreline between the South Jetty and R-53. Cross-sections will be surveyed into the water for a total distance of approximately 500ft per inlet cross-section and oceanfront beach profiles will be collected consistent with previously performed physical monitoring azimuths and lengths. In addition, remote sensing will be performed to collect detailed elevations along the exposed rocks of the structure and subaerial inlet shoreline to develop a digital elevation model of the planned construction area.

The pre-construction conditions will be used for permit compliance, technical communication with USACE or construction contractors, and used for project certification or reporting under Task 4. Survey deliverables will include signed and sealed plan and profile survey drawings, a digital elevation model, georeferenced photographs and xyz survey data files.

- **Immediate Post-Construction Physical Monitoring**

Immediately post-construction, the extents of the pre-construction survey will be repeated and an as-built survey of the new construction along the jetty will be performed under the direction of a Florida registered Professional Surveyor and Mapper. The survey may vary depending on the permit requirements.

These as-built conditions may be used for post-construction certification or reporting under Task 4. Survey deliverables will include signed and sealed plan and profile survey drawings, a digital elevation model, georeferenced photographs and xyz survey data files.

- **1-Year Post-Construction Physical Monitoring**

A post-construction physical monitoring survey will follow the same extents as the pre-construction survey described above. Timing of the survey approximately 1-year after construction, will depend on post-construction permit requirements. CPE will provide a monitoring report that details the post-construction condition of the structure compared to previous monitoring conditions. The report will include observed physical and structural comparisons to the as-built condition. Survey deliverables will include

signed and sealed plan and profile survey drawings, a digital elevation model, georeferenced photographs and xyz survey data files.

- **2-Year Post-Construction Physical Monitoring**

A post-construction physical monitoring survey will follow the same extents as the pre-construction survey described above. Timing of the survey approximately 2-years after construction, will depend on post-construction permit requirements. CPE will provide a monitoring report that details the post-construction condition of the structure compared to previous monitoring conditions. The report will include observed physical and structural comparisons to the as-built condition. Survey deliverables will include signed and sealed plan and profile survey drawings, a digital elevation model, georeferenced photographs and xyz survey data files.

## 6.2. Pre-, During- and Post-Construction Biological Monitoring and Reporting

- **Immediate Pre-Construction Biological Monitoring**

The immediate pre-construction biological monitoring will be conducted to verify and assess resources observed during the Baseline Biological Survey (Section 2.4) immediately prior to construction. The location of resources will be recorded/delineated using DGPS linked to Hypack Navigation system (or similar system). The resources will be identified and qualitatively described. The immediate pre-construction conditions will be compared to the immediate post-construction conditions to determine potential impacts incurred during construction. The specific protocol may vary depending on the permit requirements; however, we have anticipated 3 days of fieldwork for each event.

CPE will provide an observation report that details the immediate pre-construction assessment of biological resources. The report will include the location and description of the resources observed. It will also include maps of the project area overlaid on recent clear aerials that delineate the assessment area and biological resources identified. Raw data in the form of an ESRI geodatabase, photographs, and videos will also be provided.

- **During Construction Biological Support Services**

CPE will provide biological assessment/monitoring support throughout construction. This task assumes up to 18 months of construction and provides for up to 12 field days to observe resources and/or clear the work zone as requested.

For each field day spent observing biological resources, an observation report will be provided that details the operations for the day in relation to those resources. Raw data in the form of an ESRI geodatabase, photographs, and videos will also be provided.

- **Immediate Post-Construction Biological Monitoring**

The immediate post-construction biological monitoring will follow the same protocol as described in the immediate pre-construction biological monitoring section above and may vary depending on the permit requirements.

CPE will provide an observation report that details the immediate post-construction assessment of biological resources compared to the immediate pre-construction conditions. The report will include the location and description of the resources observed. It will also include maps of the project area overlaid on recent clear aerials that delineate the assessment area and biological resources identified. Raw data in the form of an ESRI geodatabase, photographs and videos will also be provided.

- **1-Year Post-Construction Biological Monitoring**

The 1-year post-construction biological monitoring will follow the same protocol as described in the immediate pre-construction biological monitoring section above and may vary depending on the permit requirements.

CPE will provide an observation report that details the 1-year post-construction assessment of biological resources compared to previous monitoring conditions. The report will include the location and description of the resources observed. It will also include maps of the project area overlaid on recent clear aerials that delineate the assessment area and biological resources identified. Raw data in the form of an ESRI geodatabase, photographs and videos will be provided.

- **2-Year Post-Construction Biological Monitoring**

The 2-year post-construction biological monitoring will follow the same protocol as described in the immediate pre-construction biological monitoring section above and may vary depending on the permit requirements.

CPE will provide an observation report that details the 2-year post-construction assessment of biological resources compared to previous monitoring conditions. The report will include the location and description of the resources observed. It will also include maps of the project area overlaid on recent clear aerials that delineate the assessment area and biological resources identified. Raw data in the form of an ESRI geodatabase, photographs and videos will also be provided.

### 6.3. Permit Compliance Support

CPE will assist County staff in tracking permit compliance actions and submittals pre-during- and post-construction. Tracking will include state and federal regulatory permit conditions for construction activities at the St. Lucie Inlet South Jetty.

## **7. Data Management (Lump Sum)**

### **7.1. Physical Survey Data**

CPE will compile existing physical survey data of the St. Lucie Inlet, South Jetty and State Park shoreline for review and awareness as it relates to the Project. Periodic coordination with other County consultants will be performed to obtain updated physical surveys.

### **7.2. Biological Resource Data**

CPE will compile existing biological resources data of the St. Lucie Inlet, South Jetty, State Park and pertinent regional extents for review and awareness as it relates to the Project. Periodic coordination with other County consultants or environmental agencies will be performed to obtain updated biological resource data.

### **7.3. Aerial Photography and GIS Mapping**

CPE will access aerial photographs collected annually by the County, or by other governmental agencies related to storm impacts, or nearby studies for review and awareness as it relates to the Project. Periodic coordination with the County or their consultants will be performed to obtain updated aerials, when applicable.

### **7.4. Geodatabase Maintenance**

Data produced by the efforts described within this scope of work will be formatted when possible for integration into the County's GIS databases. Detailed metadata will be provided with any geodatabases when submitted to the County.

## **8. Public Relations and Outreach (Time & Materials)**

CPE and our public relations & marketing subconsultants The Firefly Group (Firefly) will work with the County to develop a comprehensive and proactive community outreach and education campaign and support its implementation for this project. The overarching communications goal will be to educate and inform the community, especially the boating community and residents who live near the inlet, about issues relating to the reconstruction of the St. Lucie Inlet South Jetty.

### **8.1. Public Information Management Support**

Our team is available to develop a project logo/graphic design template and create printed and digital collateral and coordinate written and graphic content for creation of Facts Sheets, Frequently Asked Questions, Flyers, Navigational signage, PowerPoint presentations, Display Boards, Social Media graphics, etc. Website content to be created for inclusion on Martin County's website will be in keeping with County protocols.

Firefly can track media coverage generated, monitor the Board of County Commission meetings to track commissioner, staff or public comments referencing the project, and monitor social media and reporting on references to the Project. When needed we're available to provide counsel as to appropriate responses, if any. Through these efforts, we will identify relevant social media pages such as Friends of the St. Lucie Inlet and MIATC for information to be shared with, based on County approvals.

#### 8.2. Stakeholder Involvement (Design Phase)

During the design phase, we will work with the County to identify key environmental, marine-related (MIATC), neighbors (Sailfish Point), and others who should be updated on a periodic basis. We will support County communications efforts with stakeholders including email, direct mail and in-person or virtual meetings as needed.

We can assist in the coordination of in-person smaller stakeholder meetings and/or larger public meetings both in person and virtual option. Services under this task include meeting logistics, communications and outreach with stakeholders, and CPE team's attendance at up to three stakeholder meetings.

#### 8.3. Public Outreach (Construction Phase)

For the construction phase including mobilization and demobilization, the CPE Team members are available to develop press releases, media advisories, or prepared statements in keeping with Martin County PIO protocols. Creation and curation of social media posts including written and visual content. Firefly may serve as media contact liaison for photo/video opportunities or ghostwrite guest columns and Letters to the Editor as requested.

### **9. Miscellaneous Support Services (Time & Materials)**

#### 9.1. Supplemental Coastal Consulting

CPE is available to the County under this task for supplemental coastal consulting not included in Tasks 1-8. This may include work performed by specialized sub-consultants at the request of County staff.

#### 9.2. Inlet Management Support

The CPE Team will be available to the County to provide inlet management support such as attending meetings, performing independent technical reviews, or coordinating with permitting agencies, stakeholders, or other County consultants related to work around the St. Lucie Inlet.

### 9.3. Engineering and Environmental Support

CPE can be available for additional engineering services as directed by the County that may arise during the development of this project. Coordination with USACE PDT or permitting agencies may require additional engineering or environmental analyses unforeseen at this time. Should efforts for permitting exceed 2 written RAI responses to either state or federal permitting agencies, the CPE Team will be available under this task for extended permitting support to the County.

This task may also include additional coordination efforts related to storm impacts, environmental or cultural resources found during permitting or construction beyond those assumed as part of this detailed scope of work such as coordination with marine archaeologists, County contracted shorebird monitors, turtle monitors, or other environmental specialists.

END OF EXHIBIT A

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**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Project Total      \$2,498,000.00**

<b>Task Description</b>	<b>Task Total</b>
1. Contract Administration and Project Management (Time & Materials)	\$193,728.00
2. Field Investigations and Site Assessments (Lump Sum)	\$206,986.00
3. Design (Lump Sum)	\$399,484.00
4. Permitting (Time & Materials)	\$199,976.00
5. Construction Management (Time & Materials)	\$555,892.00
6. Permit Required Monitoring (Lump Sum)	\$553,403.00
7. Data Management (Lump Sum)	\$98,165.00
8. Public Relations and Outreach (Time & Materials)	\$142,234.00
9. Miscellaneous Support Services (Time & Materials)	\$148,132.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 1. Contract Administration and Project Management (Time & Materials)**

**Task Total \$193,728.00**

Task Descriptions		1.1 Project Management	1.2 Progress Meetings and Conference Calls	1.3 USACE PDT Coordination	1.4 State Park Coordination	1.5 Project Partnership Agreement	1.6 Federal Grant (Work Plan)	Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	15	72	72	8	4	4	175	\$289.00	\$50,575.00
	Principal Coastal Scientist	15	40					55	\$289.00	\$15,895.00
	Program Manager							0	\$210.00	\$0.00
	Project Manager	60	144	72	16	8	8	308	\$195.00	\$60,060.00
	Senior Coastal Engineer							0	\$195.00	\$0.00
	Senior Marine Geologist							0	\$190.00	\$0.00
	Senior Marine Biologist		72	36	8	4	4	124	\$175.00	\$21,700.00
	Senior Coastal Modeler							0	\$160.00	\$0.00
	Coastal Engineer		108	36	4	2	2	152	\$140.00	\$21,280.00
	Marine Geologist		32	36			6	74	\$130.00	\$9,620.00
	Coastal Modeler							0	\$125.00	\$0.00
	Junior Coastal Engineer						8	8	\$120.00	\$960.00
	Junior Coastal Scientist			18				18	\$110.00	\$1,980.00
	Junior Marine Biologist						8	8	\$110.00	\$880.00
	CAD/GIS Operator							0	\$100.00	\$0.00
	Administrative Assistant	60						60	\$75.00	\$4,500.00
Reimbursable Costs	SCUBA Diving (diver/day)							0	\$75.00	\$0.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)		1	2	1			4	\$1,263.50	\$5,054.00
	Lodging (night)			4				4	\$168.00	\$672.00
	Per Diem (person/day)			8				8	\$69.00	\$552.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group							0	1.10	\$0.00
	Morgan & Eklund							0	1.10	\$0.00



**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 2. Field Investigations and Site Assessments (Lump Sum)**

**Task Total \$206,986.00**

Task Descriptions		2.1 Data Collection and Condition Assessment	2.2 Aerial Photography Compilation	2.3 Design Level Physical Surveys and Aerial Mapping	2.4 Baseline Biological Surveys and Resource Mapping	2.5 Easement Boundary Review	2.6 Data Compilation and Preliminary Analyses	Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	8		4		16	12	40	\$289.00	\$11,560.00
	Principal Coastal Scientist		2		2	4	12	20	\$289.00	\$5,780.00
	Program Manager							0	\$210.00	\$0.00
	Project Manager	16	4	12		4	40	76	\$195.00	\$14,820.00
	Senior Coastal Engineer	16			40	12		68	\$195.00	\$13,260.00
	Senior Marine Geologist	4						4	\$190.00	\$760.00
	Senior Marine Biologist	8	4		112		32	156	\$175.00	\$27,300.00
	Senior Coastal Modeler							0	\$160.00	\$0.00
	Coastal Engineer	48		48		12	60	168	\$140.00	\$23,520.00
	Marine Geologist	20					16	36	\$130.00	\$4,680.00
	Coastal Modeler							0	\$125.00	\$0.00
	Junior Coastal Engineer	20		12		4	40	76	\$120.00	\$9,120.00
	Junior Coastal Scientist		24	16		8	6	54	\$110.00	\$5,940.00
	Junior Marine Biologist	12			116		6	134	\$110.00	\$14,740.00
	CAD/GIS Operator	16	16	4	24	12	16	88	\$100.00	\$8,800.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)	2			8			10	\$75.00	\$750.00
	RTK-Drone (day)			1				1	\$498.00	\$498.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)	1		1				2	\$1,263.50	\$2,527.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA				\$16,370.00			\$16,370.00	1.10	\$18,007.00
	Firefly Group							\$0.00	1.10	\$0.00
	Morgan & Eklund			\$40,840.00				\$40,840.00	1.10	\$44,924.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 3. Design (Lump Sum)**

**Task Total \$399,484.00**

Task Descriptions		3.1 Conceptual Design	3.2 Preliminary Engineering	3.3 Alternatives Analysis	3.4 Engineering Design			Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	16	20	80	20			136	\$289.00	\$39,304.00
	Principal Coastal Scientist		8	100				108	\$289.00	\$31,212.00
	Program Manager	4	6	60	20			90	\$210.00	\$18,900.00
	Project Manager	40	60	140	24			264	\$195.00	\$51,480.00
	Senior Coastal Engineer		40	92	40			172	\$195.00	\$33,540.00
	Senior Marine Geologist			24	10			34	\$190.00	\$6,460.00
	Senior Marine Biologist		8	24	4			36	\$175.00	\$6,300.00
	Senior Coastal Modeler	8		160				168	\$160.00	\$26,880.00
	Coastal Engineer	60	100	180	80			420	\$140.00	\$58,800.00
	Marine Geologist		8	40	16			64	\$130.00	\$8,320.00
	Coastal Modeler		12	260				272	\$125.00	\$34,000.00
	Junior Coastal Engineer	60	80	100	16			256	\$120.00	\$30,720.00
	Junior Coastal Scientist		8	80				88	\$110.00	\$9,680.00
	Junior Marine Biologist			24				24	\$110.00	\$2,640.00
	CAD/GIS Operator	40	80	100				220	\$100.00	\$22,000.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)			6				6	\$75.00	\$450.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)			2				2	\$6,000.00	\$12,000.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group							0	1.10	\$0.00
	Morgan & Eklund			\$6,180.00				\$6,180.00	1.10	\$6,798.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 4. Permitting (Time & Materials)**

**Task Total \$199,976.00**

Task Descriptions		4.1 Permit Sketches	4.2 Pre- Application Regulatory Coordination	4.3 State Water Quality Certificate / Joint Coastal Permit Application	4.4 NEPA Compliance / Federal Department of Army Permit Application	4.5 Agency Coordination	4.6 Permit Processing and Review	Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	4	4	24	2	8	8	50	\$289.00	\$14,450.00
	Principal Coastal Scientist	2		4	2		6	14	\$289.00	\$4,046.00
	Program Manager	16	4	8	8		12	48	\$210.00	\$10,080.00
	Project Manager		8	8	4	24	4	48	\$195.00	\$9,360.00
	Senior Coastal Engineer	40		52	28		28	148	\$195.00	\$28,860.00
	Senior Marine Geologist	4		4	4		4	16	\$190.00	\$3,040.00
	Senior Marine Biologist	32	20	120	80	48	64	364	\$175.00	\$63,700.00
	Senior Coastal Modeler	8	4	8	8		16	44	\$160.00	\$7,040.00
	Coastal Engineer	40	4	40	48		40	172	\$140.00	\$24,080.00
	Marine Geologist	8	2	8	8		4	30	\$130.00	\$3,900.00
	Coastal Modeler						8	8	\$125.00	\$1,000.00
	Junior Coastal Engineer	16		16	16		12	60	\$120.00	\$7,200.00
	Junior Coastal Scientist	8		8	10		16	42	\$110.00	\$4,620.00
	Junior Marine Biologist	8		12	12		8	40	\$110.00	\$4,400.00
	CAD/GIS Operator	120	4		2		16	142	\$100.00	\$14,200.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)							0	\$75.00	\$0.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group							0	1.10	\$0.00
	Morgan & Eklund							0	1.10	\$0.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 5. Construction Management (Time & Materials)**

**Task Total \$555,892.00**

Task Descriptions		5.1 Plans and Specifications	5.2 Opinion of Probable Cost	5.3 Bid Support	5.4 Construction Administration	5.5 Post- Construction Certification			
							Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	16	20	8	206	8	258	\$289.00	\$74,562.00
	Principal Coastal Scientist						0	\$289.00	\$0.00
	Program Manager	8	8	4	8		28	\$210.00	\$5,880.00
	Project Manager		24	16	364	40	444	\$195.00	\$86,580.00
	Senior Coastal Engineer	40	4		312		356	\$195.00	\$69,420.00
	Senior Marine Geologist	4	2		16	4	26	\$190.00	\$4,940.00
	Senior Marine Biologist	4		4	78	16	102	\$175.00	\$17,850.00
	Senior Coastal Modeler						0	\$160.00	\$0.00
	Coastal Engineer	80	20	2	1248	80	1430	\$140.00	\$200,200.00
	Marine Geologist		8			8	16	\$130.00	\$2,080.00
	Coastal Modeler						0	\$125.00	\$0.00
	Junior Coastal Engineer	40	4		312	8	364	\$120.00	\$43,680.00
	Junior Coastal Scientist					12	12	\$110.00	\$1,320.00
	Junior Marine Biologist					8	8	\$110.00	\$880.00
	CAD/GIS Operator	240				50	290	\$100.00	\$29,000.00
	Administrative Assistant						0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)						0	\$75.00	\$0.00
	RTK-Drone (day)						0	\$498.00	\$0.00
	Drone non-RTK (day)				78		78	\$250.00	\$19,500.00
	ADCP (1/month)						0	\$6,000.00	\$0.00
	Boat Rental (day)						0	\$1,263.50	\$0.00
	Lodging (night)						0	\$168.00	\$0.00
	Per Diem (person/day)						0	\$69.00	\$0.00
Sub-Consultants	CSA						0	1.10	\$0.00
	Firefly Group						0	1.10	\$0.00
	Morgan & Eklund						0	1.10	\$0.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 6. Permit Required Monitoring (Lump Sum)**

**Task Total \$553,403.00**

Task Descriptions		6.1 Pre- and Post- Construction Physical Monitoring and Reporting	6.2 Pre- and Post- Construction Biological Monitoring and Reporting	6.3 Permit Compliance Support				Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	12		16				28	\$289.00	\$8,092.00
	Principal Coastal Scientist		24	16				40	\$289.00	\$11,560.00
	Program Manager			8				8	\$210.00	\$1,680.00
	Project Manager			120				120	\$195.00	\$23,400.00
	Senior Coastal Engineer		96					96	\$195.00	\$18,720.00
	Senior Marine Geologist			8				8	\$190.00	\$1,520.00
	Senior Marine Biologist		448	240				688	\$175.00	\$120,400.00
	Senior Coastal Modeler			8				8	\$160.00	\$1,280.00
	Coastal Engineer			60				60	\$140.00	\$8,400.00
	Marine Geologist			20				20	\$130.00	\$2,600.00
	Coastal Modeler							0	\$125.00	\$0.00
	Junior Coastal Engineer							0	\$120.00	\$0.00
	Junior Coastal Scientist			60				60	\$110.00	\$6,600.00
	Junior Marine Biologist		416	20				436	\$110.00	\$47,960.00
	CAD/GIS Operator		68					68	\$100.00	\$6,800.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)		56					56	\$75.00	\$4,200.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA		\$121,820.00					\$121,820.00	1.10	\$134,002.00
	Firefly Group							\$0.00	1.10	\$0.00
	Morgan & Eklund	\$141,990.00						\$141,990.00	1.10	\$156,189.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 7. Data Management (Lump Sum)**

**Task Total \$98,165.00**

Task Descriptions		7.1 Physical Survey Data	7.2 Biological Resource Data	7.3 Aerial Photography and GIS Mapping	7.4 Geodatabase Maintenance			Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer							0	\$289.00	\$0.00
	Principal Coastal Scientist							0	\$289.00	\$0.00
	Program Manager							0	\$210.00	\$0.00
	Project Manager							0	\$195.00	\$0.00
	Senior Coastal Engineer	15		8	8			31	\$195.00	\$6,045.00
	Senior Marine Geologist				8			8	\$190.00	\$1,520.00
	Senior Marine Biologist		50	16	8			74	\$175.00	\$12,950.00
	Senior Coastal Modeler							0	\$160.00	\$0.00
	Coastal Engineer	120						120	\$140.00	\$16,800.00
	Marine Geologist				40			40	\$130.00	\$5,200.00
	Coastal Modeler			10	8			18	\$125.00	\$2,250.00
	Junior Coastal Engineer	30			20			50	\$120.00	\$6,000.00
	Junior Coastal Scientist			80	40			120	\$110.00	\$13,200.00
	Junior Marine Biologist		100		20			120	\$110.00	\$13,200.00
	CAD/GIS Operator	50	40	60	60			210	\$100.00	\$21,000.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)							0	\$75.00	\$0.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group							0	1.10	\$0.00
	Morgan & Eklund							0	1.10	\$0.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 8. Public Relations and Outreach (Time & Materials)**

**Task Total \$142,234.00**

Task Descriptions		8.1 Public Information Management Support	8.2 Stakeholder Involvement (Design Phase)	8.3 Public Outreach (Construction Phase)				Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	8	18					26	\$289.00	\$7,514.00
	Principal Coastal Scientist							0	\$289.00	\$0.00
	Program Manager							0	\$210.00	\$0.00
	Project Manager	16	18	52				86	\$195.00	\$16,770.00
	Senior Coastal Engineer							0	\$195.00	\$0.00
	Senior Marine Geologist							0	\$190.00	\$0.00
	Senior Marine Biologist	6	12					18	\$175.00	\$3,150.00
	Senior Coastal Modeler							0	\$160.00	\$0.00
	Coastal Engineer		24					24	\$140.00	\$3,360.00
	Marine Geologist							0	\$130.00	\$0.00
	Coastal Modeler							0	\$125.00	\$0.00
	Junior Coastal Engineer		12					12	\$120.00	\$1,440.00
	Junior Coastal Scientist							0	\$110.00	\$0.00
	Junior Marine Biologist							0	\$110.00	\$0.00
	CAD/GIS Operator							0	\$100.00	\$0.00
	Administrative Assistant							0	\$75.00	\$0.00
Reimbursable Costs	SCUBA Diving (diver/day)							0	\$75.00	\$0.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group	\$30,000.00	\$30,000.00	\$40,000.00				\$100,000.00	1.10	\$110,000.00
	Morgan & Eklund							0	1.10	\$0.00

**EXHIBIT B  
FEE PROPOSAL**

**RFQ2023-3528: Professional Services for the Management & Maintenance of the St. Lucie Inlet South Jetty  
Coastal Protection Engineering LLC**

**Task 9. Miscellaneous Support Services (Time & Materials)**

**Task Total \$148,132.00**

Task Descriptions		9.1 Supplemental Coastal Consulting	9.2 Inlet Management Support	9.3 Engineering and Environmental Support				Sum	Rate	Subtotal
Labor (Hours)	Principal Engineer	16	48	32				96	\$289.00	\$27,744.00
	Principal Coastal Scientist	20	40	32				92	\$289.00	\$26,588.00
	Program Manager							0	\$210.00	\$0.00
	Project Manager	12	8	24				44	\$195.00	\$8,580.00
	Senior Coastal Engineer	40	32	64				136	\$195.00	\$26,520.00
	Senior Marine Geologist	8	4	8				20	\$190.00	\$3,800.00
	Senior Marine Biologist	16	12	80				108	\$175.00	\$18,900.00
	Senior Coastal Modeler	4	8	12				24	\$160.00	\$3,840.00
	Coastal Engineer	40	8	24				72	\$140.00	\$10,080.00
	Marine Geologist	4	8	4				16	\$130.00	\$2,080.00
	Coastal Modeler		8					8	\$125.00	\$1,000.00
	Junior Coastal Engineer	12	4	8				24	\$120.00	\$2,880.00
	Junior Coastal Scientist	8	4	20				32	\$110.00	\$3,520.00
	Junior Marine Biologist	8	4	8				20	\$110.00	\$2,200.00
	CAD/GIS Operator	40	12	40				92	\$100.00	\$9,200.00
	Administrative Assistant	16						16	\$75.00	\$1,200.00
Reimbursable Costs	SCUBA Diving (diver/day)							0	\$75.00	\$0.00
	RTK-Drone (day)							0	\$498.00	\$0.00
	Drone non-RTK (day)							0	\$250.00	\$0.00
	ADCP (1/month)							0	\$6,000.00	\$0.00
	Boat Rental (day)							0	\$1,263.50	\$0.00
	Lodging (night)							0	\$168.00	\$0.00
	Per Diem (person/day)							0	\$69.00	\$0.00
Sub-Consultants	CSA							0	1.10	\$0.00
	Firefly Group							0	1.10	\$0.00
	Morgan & Eklund							0	1.10	\$0.00