

WORK ORDER 1

This Work Order Number 1 is entered into as of this ___ day of _____, _____, pursuant to that certain Continuing Contract Agreement, dated August 29, 2023 (referred to as the "Agreement"), by and between INDIAN RIVER COUNTY, a political subdivision of the State of Florida ("COUNTY") and Coastal Technology Corporation ("Consultant").

The COUNTY has selected the Consultant to perform the professional services set forth on Exhibit A (Scope of Work), attached to this Work Order and made part hereof by this reference. The professional services will be performed by the Consultant for the mutually agreed upon lump sum or maximum amount not-to-exceed professional fee. Any additional costs must be approved in writing, and at a rate not to exceed the prices set forth in Exhibit B (Rate Schedule) of the Agreement, made a part hereof by this reference. The Consultant will perform the professional services within the timeframe more particularly set forth in Exhibit A (Scope of Work/Time Schedule), attached to this Work Order and made a part hereof by this reference all in accordance with the terms and provisions set forth in the Agreement. Pursuant to paragraph 1.4 of the Agreement, nothing contained in any Work Order shall conflict with the terms of the Agreement and the terms of the Agreement shall be deemed to be incorporated in each individual Work Order as if fully set forth herein.

IN WITNESS WHEREOF, the parties hereto have executed this Work Order as of the date first written above.

CONSULTANT:

By: _____

Print Name: _____

Title: _____

**BOARD OF COUNTY COMMISSIONERS
OF INDIAN RIVER COUNTY**

By: _____

Joseph H. Earman, Chairman

BCC Approval Date: _____

Attest: Ryan L. Butler, Clerk of Court and Comptroller

By: _____

Deputy Clerk

By: _____

John A. Titkanich, Jr., County Administrator

Approved as to form and legal sufficiency:

William K. DeBraal, County Attorney

Exhibit 1
Scope of Work
Sector 4 Beach and Dune Restoration Project
Conceptual Design, Pre-Application Meeting, and Public Outreach

Introduction: The “Indian River County Beach Preservation Plan Update” (Plan, dated June 2020) defines the limits of Sector 4 as from Florida Department of Environmental Protection (FDEP) Reference Monument R-55 (about $\frac{3}{4}$ mile south of the northern limit of John’s Island) to R-70 (about 2,000 feet north of the County’s Tracking Station Beachfront Park). The 2019 BPP identifies that prior to 2005, Sector 4 experienced an accretional trend; however, an erosional trend of 1.7 ft/yr was experienced from 2013 to 2019. To offset recent erosional trends, private entities have performed emergency dune restoration projects following significant hurricane events. The dune system within Sector 4 and elsewhere within the Treasure Coast were most recently damaged by Hurricane’s Ian and Nicole in 2022. This Work Order provides services in support of conceptual design, pre-application meeting with regulatory staff, and a public outreach meeting to support a dune restoration project within Sector 4. It is our understanding that the Sector 4 Dune Restoration Project is intended to only place sand above the mean high water line to avoid the FDEP and USACE requiring the COUNTY to perform nearshore hardbottom monitoring which is typical for beach restoration projects proposed in close proximity to nearshore hardbottom. The work is proposed to be performed by Coastal Technology Corporation (Coastal Tech).

Task 1 – Design - Conceptual: Coastal Tech will meet with the County to identify the County’s specific objectives and design criteria for the Project. The County will provide available historic hydrographic beach profile surveys of the Project area including the most recent survey data conducted in the fall of 2022 or summer 2023 following Hurricanes Ian and Nicole. The surveys are expected to be accepted by FDEP for a pre-construction survey. The County will provide records of prior nourishment efforts performed by the County and by upland property owners. It is our understanding that the County is seeking an FDEP Coastal Construction Control Line (CCCL) and USACE Nationwide permits for authorization of the work. Informally, FDEP staff have identified a Joint Coastal Permit could be a more desirable method of FDEP authorization. The design effort is intended to provide the information required for a USACE Nationwide Permit Authorization and FDEP CCCL Permit Authorization. If the USACE or FDEP require additional design information, we can provide this additional information as an additional service to the County under separate authorization.

Task 1a – Conceptual Design: To develop the proposed dune restoration conceptual design, Coastal Tech will:

- Perform an assessment of historical and existing shoreline and volume change analysis based upon:
 - review of the prior Beach Preservation Plans (BPP) – to identify historical volume and shoreline changes; and
 - review of survey data provided by the County collected after the 2019 BPP – to identify recent volume and shoreline changes since completion of the 2019 BPP.
- Estimate the sand volumes required to maintain a stable beach, based upon the historical volume change analysis.
- Review historical native beach geotechnical information provided in the BPP, in the Sector 3 or Sector 5 design documents, on FDEP ROSSI website, or as provided by the County.
- Compare the native beach geotechnical information to the geotechnical information for the upland sand mines that responded to the County's most recent dune restoration solicitations or as identified by the County. The native beach and upland mine geotechnical comparison will be based upon mean grain size, percent fines, sorting value, percent carbonate, and munsell color (wet/dry) sediment color, composition data
- Develop a conceptual design for sand fill placement based upon historic dune crest widths and heights that maximizes sand placement within the dune without placement of sand below the mean high water line. The conceptual design template is expected to restore the dune up to pre-Ian and Nicole conditions while maintaining sand placement above the mean high water line. This approach is expected to avoid permit required nearshore Hardbottom monitoring.
- Prepare an opinion of probable construction costs (OPC) for the proposed conceptual design.
- Prepare a summary letter report documenting the results of the above with Conceptual Design Drawings illustrating the proposed construction template.
- Confer with the County to (a) discuss the proposed dune restoration template, and (b) identify any revisions to the letter report deemed appropriate.

Task 2 – Permitting – Pre-Application Conference

Task 2a – Pre-Application Conferences: Coastal Tech will request an informal Pre-Application Conference with FDEP and a second conference with USACE staff to discuss the Project as envisioned or formulated, any issues and how they might be addressed, and requirements for obtainment of permits. Coastal Tech, in collaboration with FDEP staff and USACE staff, will invite representatives from FWC, USFWS, NMFS, USACE, and others as may be identified by the FDEP, USACE, and/or County to participate in the Pre-Application Conferences; Coastal Tech will then prepare a written summary of each conference.

Task 3 – Public Outreach Meetings: Following completion of the conceptual design performed under Task 1a and upon request by the County, Coastal Tech will prepare a presentation and participate in up to two (2) public outreach meetings with individual citizens and concerned stakeholders, County staff, Board of County Commissioners, and/or County Beach & Shore Preservation Advisory Committee. The purpose of the meetings are to:

- generally inform the public regarding:
 - the County’s objectives and design criteria;
 - the general scope of the Project;
 - environmental and community resources surrounding the Project and expected measures to avoid and minimize adverse impacts to these resources; and
 - the expected performance of the proposed Project.
- review and discuss the historical shoreline and volume change with Sector 4; and
- obtain public input for refinement and advancement of the Project design.

General: The table below summarizes the proposed fees and expected schedule for the work. Task 1, 2, and 3 services will be provided at the cited flat fee.

| Notice To Proceed | | | Task Description | Task Total |
|------------------------|-----------|------|--|-----------------|
| Start | Finish | Days | | |
| August 29, 2023 | | | | |
| 29-Aug-23 | 12-Sep-23 | 14 | 1 - Conceptual Design | \$16,210 |
| 29-Aug-23 | 19-Sep-23 | 21 | 2 - Permitting - Pre-Application Conference | \$3,120 |
| 29-Aug-23 | 12-Sep-23 | 14 | 3 - Public Outreach Meetings | \$4,700 |
| | | | Total Costs: | \$24,030 |