STATEMENT OF OBJECTIVES
for

Oyster Pads and Wave Trip at Long Bird Island
for
Houston Ship Channel, Segment 1: Package 3/4A

1.0 PURPOSE

1.1 The Houston Ship Channel, Segment 1: Package 3/4A environmental program ensures military mission activities are conducted in compliance with all applicable environmental laws, regulations and policies. Article I B of the master agreement states the objectives of the CESU are to: provide research, technical assistance and education to federal land management, environmental and research agencies and their potential partners; develop a program of research, technical assistance and education that involves the biological, physical, social sciences needed to address resource issues and interdisciplinary problem-solving at multiple scales and in an ecosystem context at the local, regional, and national level; and place special emphasis on the working collaboration among federal agencies and universities and their related partner institutions.

1.2 This work requires occasional onsite support person located at Long Bird Island. The work shall involve: Oyster surveys completed in accordance with the Texas Parks and Wildlife Department Oyster Restoration Monitoring Protocols (TPWD 2024). The survey activities include the use of electronic equipment and bottom grabs/cores to identify reef structure and oyster success.

2.0 AUTHORITY

2.1 This cooperative agreement will be awarded using the Water Resources Development Act - Delegation of Authority under Section 213(a) of the Water Resources Development Act. An act to provide for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the United States, and for other purposes. The collection, analyzation, and application of resource data from this project will be used to develop management strategies that will support sound conservation and public safety for water resources associated with Houston Ship Channel, Segment 1 and will support resource management planning.

2.2 In accordance with section 6305 – *Using cooperative agreements* of the Federal *Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), all CESU projects must carry out a public purpose of support or

stimulation. Examples of carrying out a public purpose may include, but are not limited to, the following:

- Project results are made available to a wide audience (including nonfederal entities)
- Project results/outputs add to the scientific literature/knowledge base, with applicability and utility beyond the scope of the project footprint/study area
- Academic and other nonfederal partner institutions (and their personnel) gain professional experience, increase knowledge, and develop skills and abilities
- Students benefit from direct interaction with federal scientists, program and technical staff, and field unit managers

2.3 In accordance with section *6305 – Using cooperative agreements* of the *Federal Grant and Cooperative Agreements Act of 1977* (31 U.S.C. § 6301 et seq.), substantial involvement is expected between the Department of Defense (DoD) and the recipient when carrying out the activity contemplated by the cooperative agreement. The DoD agrees to participate at a national level in support of the CESU program as accepted in the Master MOU for the establishment and continuation of the CESU program Article II 1-4 and Article VI 1-7.

The USACE Galveston District and USACE Fort Worth Regional Planning and Environmental Center (RPEC) agrees to provide substantial involvement as directed under the appropriate master agreement to include, but are not limited to, the following:

- Technical assistance and guidance.
- Close monitoring during performance.
- Involvement in technical decisions, such as methodology.
- Participation in status meetings, including kick off meeting.

3.0 DESCRIPTION OF OBJECTIVES

3.1 Task 1: Reef Dimensions Data Reporting.

Post-restoration side scan and single-beam sonar data would be collected and processed into ArcGIS data layers to identify reef project footprint, reef area, and reef height.

Each should be determined by using side-scan sonar (single or dual frequency 255/400/900 KHz) run as transects in a grid pattern. The surveys should collect all position data with a minimum requirement of using higher level DGPS technologies or RTK GPS that provide sub-meter accuracy. If the water is too shallow for the use of side-scan, but shallow enough to see the shelly bottom, a GPS may be fixed to a kayak or small craft to walk, paddle, or pole the craft along the perimeter of the project footprint while taking continuous measures with

the GPS. TPWD Sonar Survey Guidance should be followed when completing the surveys.

A map(s) showing the project footprint, reef area, and reef topography should be produced from collected data. Additionally, the area of project footprint and reef area and minimum, maximum, and mean heights should be reported.

Project footprint is defined as the maximum areal extent of the footprint of each constructed reef pad and ignores possible patchiness within each reef pad.

Reef area is the actual area (summed) of patches living and non-living oyster shell (or other construction material with or without live oysters) within the project footprint. For determination of the reef area, the edge of the reef is defined as a continuous line where the percent coverage of surficial living or non-living shell substrate (or alternate material) is equal to or greater than 25%.

Reef height is a measure of the mean height of the reef above the surrounding substrate (in relation to the substrate immediately adjacent to the reef, not the shoreline).

3.2 Task 2: Oyster Monitoring

Oyster success will be measured by the density, size-frequency distribution, recruitment, and health of each reef. The characteristics of each restored site will be compared with the reference site and a determination made as to whether or not the restored sites are of similar conditions and note any reef or oyster metrics that are of concern to achieving success at the restored sites.

Oyster success will be surveyed using patent tongs or similar grab sample methodology. Samples will be taken on a randomly stratified grid sample over each reef pad and wave trip with a minimum of one 0.25 square meter quadrat per acre of reef spaced a minimum of 150 feet apart. Data on oyster size, density, and disease, following the TPWD Oyster Metric Guidance (Attachment 2, Appendix 2), as well as bottom conditions such as hydrologic conditions (water temperature, salinity, pH, dissolved oxygen), substrate type, inventory of resident fauna, and presence and estimated coverage of encrusting organisms will be collected from each sample site. Specifically for oyster size, all live and dead oyster shell brought to the surface must be enumerated, lengths measured (in 5 mm increments) and recorded in final report using following categories (# Spat (0-1.5 inches = 0-40 mm), # Submarket/Juvenile (1.5-2.9) inches = 41-75 mm), # Market (3.0+ inches = 76+ mm). Both Live and Dead shell must be categorized.

3.3 Task 3: Data Reporting

The oyster survey results will be presented in a written report to document the methods and results. The report will include survey maps depicting the extent of the survey area(s), results of data collected, and the location/distribution of oyster

resources. It will also include representative photographs of survey methods and oyster success samples. Additionally, digital geo-referenced ESRI-compatible (ArcView 10.0+) shape files of the extent of the survey area(s), processed side-scan and single-beam imagery, and oyster habitats should be provided along with the written report.

A draft report of the survey results shall be submitted to the USACE 60 days after completion of the survey. After the draft report is received, USACE will have 15 days to review and comment. The draft report with USACE comments will then be returned and the final report shall be submitted within 30 days.

4.0 QUALIFICATIONS

4.1 The crew leader must have at least a bachelor's degree in biology, ecology, limnology, or similar natural resources fields and have at least five years' experience in identification of bivalve species and monitoring and surveying techniques. Other crew members must have the ability to identify bivalve species and have at least one year experience conducting similar monitoring or surveys. SCUBA diving crew members must be certified. Biographical sketches are required for each of the personnel supporting this project. The NFE will coordinate with USACE before any key personnel changes or hiring occurs.

5.0 GOVERNMENT FURNISHED MATERIALS OR PROPERTY

5.1 Equipment, Supplies, and Materials:
Government furnished materials or property is governed by 2 C.F.R. Part 200.312 which states that a) Title to federally-owned property remains vested in the Federal government. The non-Federal entity must submit annually an inventory listing of federally-owned property in its custody to the Federal awarding agency. Upon completion of the Federal award or when the property is no longer needed, the non-Federal entity must return the property to the Federal awarding agency for further Federal agency utilization.

6.0 BASE PERIOD and OPTIONS

6.1 Base Period will be 12 months, with an April 1st start date to correlate with species survey window. Four (4), 12-month follow-on periods are anticipated subject to availability of funds.

7.0 PERIOD OF PERFORMANCE

7.1 Base Period will be for a 12-month period from date of award.
7.2 Follow-On Period 1 will be for a 12-month period from the date of award and shall be exercised prior to the expiration of the Base Period.
7.3 Follow-On Period 2 will be for a 12-month period from the date of award and shall be exercised prior to the expiration of Follow-On Period 1.

7.4 Follow-On Period 3 will be for a 12-month period from the date of award and shall be exercised prior to the expiration of Follow-On Period 2.
7.5 Follow-On Period 4 will be for a 12-month period from the date of award and shall be exercised prior to the expiration of Follow-On Period 3.

8.0 COORDINATION

- USACE CESU Fort Worth District POC
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- USACE CESU Fort Worth District POC (Alternate)
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- USACE Project Management Galveston District POC
  Elizabeth McCarty
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  Elizabeth.w.McCarty@usace.army.mil

9.0 DELIVERABLES

9.1 Deliverable 1

Draft Final Project Report. One (1) paper copy of a draft final report should be submitted no later than 60 days after the completion of the survey. The report will include survey maps utilizing the GPS data depicting the extent of the survey area(s), results of data collected, and the location/distribution of oyster resources. It will also include representative photographs of survey methods and oyster success samples. Additionally, digital geo-referenced ESRI-compatible (ArcView 10.0+) shape files of the extent of the survey area(s), processed side-scan and single-beam imagery, and oyster habitats should be provided along with the written report. USACE staff will review and provide comments, if any, within fifteen (15) calendar days after receipt.

9.2 Deliverable 2

Final Project Report. One (1) paper copy of the final report, incorporating USACE review comments on the draft, if any, shall be submitted no later than thirty (30) days after receipt of the USACE POC comments.

Additionally, one (1) copy of the final report shall be submitted in a MSWord file(s), on digital media. Must provide an electronic copy to the USACE POC at the time this document is submitted to the Installation POC.

10.0 POST AWARD REQUIREMENTS AND INVOICE PROCESS

10.1 Invoicing and Progress Reports - Submit Payment Request and additional required documents to: swf-cesu-invoice@usace.army.mil. Carbon Copy the assigned USACE Project Manager as well as your organization's POCs for the additional required documents as well as the delinquent accounts POC.

For successful set up of Electronic Transfer of Funds (EFT) the recipient must assure that your documents reflect the exact name that appears in the System for Award Management (SAM) Website at www.sam.gov.

10.1.1 Frequency: Quarterly plus 30-day grace period. If the coverage dates are not quarterly or preapproved by the PM (or the first/last submittal), the payment request will be **rejected**.

Quarters	**Invoice pkgs due No Later Than (NLT):**
Q1: Oct-Dec	Q1: 31 Jan
Q2: Jan-Mar	Q2: 30 Apr
Q3: Apr-Jun	Q3: 30 Jul
Q4: Jul-Sep	Q4: 31 Oct

10.1.2 Payment Requests must be submitted on form SF270 with the accompanying SF-PPR progress report. SF270s will be **rejected** if the SF-PPR progress report has not been received.

Please ensure to include the following on the SF-PPR progress report:

- Separate details by CLIN
- Achievements
- Percent Completion
- Project Status
- Problems encountered and impact of activities and personnel on schedule
- Anticipated work in next reporting period

If the SF-PPR is incomplete, it will be rejected causing the SF270 to also be rejected. SF-PPR Forms with above fields may be requested at: swf-cesu-invoice@usace.army.mil

The SF270 may have multiple pages. May request Excel version @ **swf-cesu-invoice@usace.army.mil**
Must be submitted in PDF or it will be rejected.

SF270 Block 11 (a), (b), (c) are for the description of funds. Preferred description is: CLIN/POP Type, POP start and end dates, amount awarded. At minimum include the CLIN.
Example:

CLIN 0001/ Base
22SEP23 – 21SEP24
$100,000.00

Funding must be separated as specified on the Award document. For Sub-CLINs that specify "*for funding only*", may be rolled into the primary CLIN unless otherwise instructed. All others require PM approval. If the description is missing; payment request will be **rejected**.

10.1.3 The **FINAL** invoice package must include the following documents. The entire Final invoice package is due no later than 90 days from the period of performance (POP) end date:

- Final SF270
- SF-PPR
- Final SF425
- DD882
- SF428 plus attachment B (C&S if applicable)
- SF298
- Final Report

Missing any of the above required documents, the Payment Request will be **rejected**.

Forms may be requested from the district office or found at: www.grants.gov

11.0 This cooperative agreement may be administered through a CESU only upon mutual agreement and official authorization by both parties of the acceptance of the application of the CESU Network IDC rate (17.5%).

Any resulting cooperative agreement will be subject to and recipient/cooperator shall comply with 2 CFR 200.313 "Equipment", 200.314 "Supplies", and 200.315 "Intangible Property" which includes use of research data.