

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R2114**

ATTACHMENT 3

I. TITLE PAGE

1. PROJECT TITLE: Indian River County Vulnerability Assessment

2. GRANTEE Contact Information:

Organization Name: Indian River County Board of County Commissioners

Name of Authorized Signer: Jason E. Brown

Title: County Administrator

Address: 1801 27th Street, Building A

City: Vero Beach

Zip Code: 32960

Area Code and Telephone Number: 772-226-1253

E-mail Address: jbrown@ircgov.com

3. GRANT MANAGER Contact Information:

Organization Name: Indian River County Board of County Commissioners

Name: Andy Sobczak

Title: Chief, Environmental Planning and Code Enforcement

Address: 1801 27th Street, Building A

City: Vero Beach

Zip Code: 32960

Area Code and Telephone Number: 772-226-1258

E-mail Address: asobczak@ircgov.com

4. FISCAL AGENT Contact Information:

Organization Name: Indian River County Board of County Commissioners

Name: Raeanne Cone

Title: Senior Accountant

Address: 1801 27th Street, Building A

City: Vero Beach

Zip Code: 32960

Area Code and Telephone Number: 772-226-1219

E-mail Address: RCone@clerk.indian-river.org

5. FEID No. (a.k.a. Tax ID#): 59-6000674 Seq No. 075

6. WORK PERFORMED BY: (Select only one)

☐ Grantee ONLY
☐ Subcontractor ONLY
☒ BOTH the Grantee & Sub-Contractor
☐ To Be Determined

7. SUBCONTRACTORS CONTACT INFORMATION: *(If applicable & known)*

Organization Name: TBD Following Applicant's RFQ Process

Name: _____

Title: _____

Address: _____

City: _____

Zip Code: _____

Area Code and Telephone Number: _____

E-mail Address: _____

8. PROJECT LOCATION:

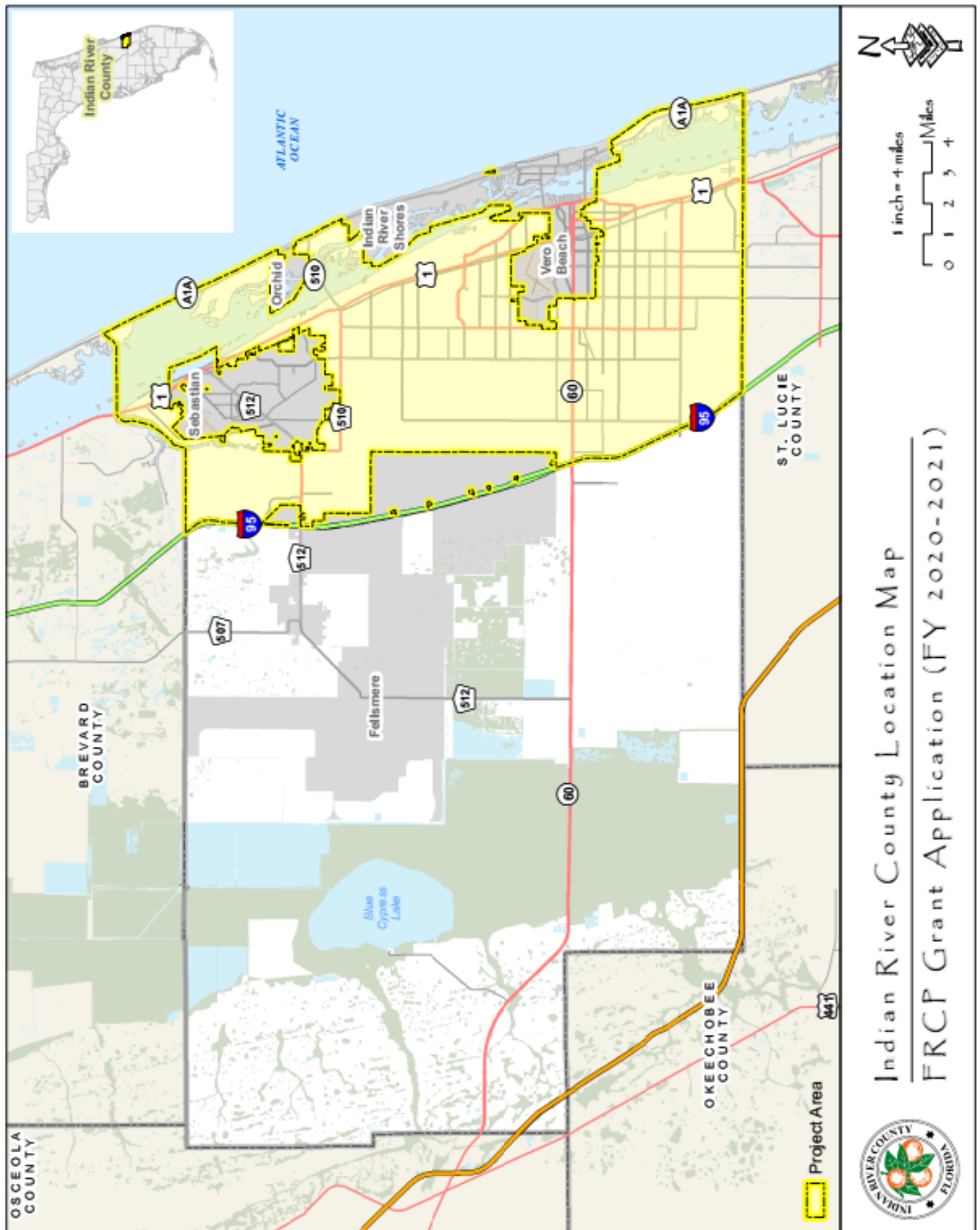
A. List of County(ies): Indian River County (please see Attachment No. 1, Map of Project Area)

B. List of City(ies)/Town(s)/Village(s): N/A

C. State Lands Lease Agreement Number(s): N/A

Provide lease agreement number(s) for any work that will be performed on State Lands. If work will not be on any state lands, please indicate N/A.

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II. WORK PLAN

9. **PROJECT SUMMARY:** In 2018, Indian River County revised its 2030 Comprehensive Plan – Coastal Management Element (CME) to bring it into compliance with the Peril of Flood Requirements of Sec. 163.3178(2)(f) F.S. During that process, potential sea level rise (SLR) inundation scenarios were mapped and impacts based on general land use types were analyzed. Basic mitigation and adaptation strategies were also discussed during the CME update.

To build upon this effort, a more specific analysis of SLR and flooding risk is needed. To do this, a vulnerability assessment for assets, infrastructure, and communities in Indian River County will be completed. In addition, and as part of this project, the vulnerability assessment will be used to develop adaptation strategies that address the risk of impacts from SLR and coastal flooding.

While the proposed grant project will cover the unincorporated areas of Indian River County located east of I-95 (excluding the City of Vero Beach, City of Sebastian, City of Fellsmere, Town of Orchid and Town of Indian River Shores), the main area of focus will be the coastal areas along the eastern end of the study area (*See Attachment No. 1, Map of Project Area*).

10. **PROJECT DESCRIPTION:** In order to develop a detailed vulnerability assessment, this project will incorporate the latest SLR projection data, as well as data related to rainfall, elevations, repetitive loss flooding, king tides, and hurricane storm surge. It will also include data from public outreach meetings, a County Staff working group assembled for the project, and a preliminary exposure analysis that will be completed as part of this project.

In addition to the need for a vulnerability assessment, the recent CME update highlights the need for SLR and coastal flooding adaptation strategies that consider disadvantaged and vulnerable groups, evaluate both the man-made and natural environment, and are economically feasible. While the main focus of this project is on the vulnerability assessment, a secondary component will be the development of adaptation strategies that specifically address, among others, disadvantaged and vulnerable communities at risk.

The County anticipates hiring a qualified consultant to complete the project after completing a Request for Qualifications (RFQ) process. County Staff will work in close coordination with the consultant on the project.

11. **PROJECT NEED AND BENEFIT:**

- A. **Explain the demonstrated need, which the project addresses.** Preliminary SLR inundation scenarios were analyzed during a recent CME update; however, many valuable data sources could not be incorporated due to time and budget constraints. In order to identify specific threats to County assets, infrastructure, and communities, a more detailed analysis of potential impacts related to SLR and flooding is needed.
- B. **Explain how the proposed project meets the purpose of one or more of the Goals and Priorities for FRCP.** FRCP Priority Area No. 3 includes the completion of a vulnerability assessment and adaptation strategies, other than those required for compliance with Peril of Flood Requirements. Since Indian River County recently completed updates to its CME to achieve compliance with the Peril of Flood Requirements, this grant project helps to address the remaining items included in FRCP Priority Area No. 3.
- C. **Discuss how the project is feasible and can be completed by the grant period deadline.** Completion of this project within the deadline is feasible since the project will use many existing data sources, projections, and models. In addition, the County's GIS Department maintains some of the

required data in-house for the project. The project work; therefore, primarily consists of the assemblage and interpretation of existing information, and the County anticipates using a consultant familiar with the FRCP Grant projects to complete the work.

- D. Explain how this project is addressing social vulnerability or vulnerability of historic resources or stormwater management systems.** The project will include public meetings that solicit information from the general public, as well as from traditionally vulnerable communities in the County. Historic and culturally significant resources will also be included in the project's threat matrix, which is an output of the project's preliminary exposure analysis.

- 12. DESCRIPTION OF PROJECT OUTCOMES:** As a result of this project, County assets, infrastructure, and communities at risk of impacts from SLR and coastal flooding can be identified so that adaptation strategies can be implemented during future community development and capital improvement planning. In addition, the data generated from the vulnerability assessment will be used in future spatial analyses to facilitate hazard mitigation planning, local mitigation strategy working group planning, and in the development of land development regulations and comprehensive plan amendments. Spatial data outputs will also enable the County to evaluate land use changes within urbanized areas that are potentially impacted by SLR, track impacts to public assets and property values, and improve disaster preparedness.

An additional benefit of this project is that the vulnerability assessment and adaptation strategies developed can be used to develop a County resiliency/adaptation plan as a future endeavor.

- 13. BUDGET SUMMARY:** Allowable budget categories and form of payment with the costs for this project are listed in the table below.

BUDGET SUMMARY BREAKDOWN

Budget Categories	Payment	Task 1	Task 2	Task 3	Task 4
Salaries & Fringe	Fixed Price	\$2,068	\$1,034	\$1,034	\$1,034
Contractual Services*	Fixed Price	\$2,932	\$8,966	\$20,966	\$8,966
GRANT AGREEMENT TOTAL		\$5,000	\$10,000	\$22,000	\$10,000

BUDGET SUMMARY BREAKDOWN

Budget Categories	Payment	Task 5	Task 6	Grant Amount Awarded
Salaries & Fringe	Fixed Price	\$2,068	\$1,034	\$8,272
Contractual Services*	Fixed Price	\$5,932	\$18,966	\$66,728
GRANT AGREEMENT TOTAL		\$8,000	\$20,000	\$75,000

- A. Describe how the project costs was determined:** The cost estimates included in this grant application were derived from the review of previous successful FRCP grant applications for other jurisdictions, and from consultation with local consultants familiar with this type of project.
- B. Contractual Services Selection*:** Upon a selected Sub-Contractor(s) (if applicable), the Grantee will Provide a signed certification statement giving a description of the procurement process that was utilized for the selection of the sub-contractors. The description must include:
- What procurement process was utilized

- b. Justification as to how & why you made your final selection.
- c. For competitively obtained Sub-Contractor also include:
 - i. A list of all entities that you received bids/quotes from,
 - ii. Names and addresses of those entities that provided bids/quotes,
 - iii. Actual amounts of the bids/quotes that were submitted.

14. PROJECT TIMELINE: All tasks are to be completed and submitted no later than the task/deliverable due date listed in the table below. Requests for any change must be submitted prior to the current task/deliverable due date listed in the project timeline. Requests are to be sent via separate email to the Department's Grant Manager, with the details of the request being made and the reason for the request.

PROJECT TIMELINE

Task No.	Task Title	Deliverable Due Date	Task Amount
1	Coordination and Public Meeting	07/31/2020	\$5,000
2	Data Collection and Review	08/31/2020	\$10,000
3	Preliminary Exposure Analysis	10/31/2020	\$22,000
4	Initial Vulnerability Assessment	11/30/2020	\$10,000
5	Public Meeting	02/28/2021	\$8,000
6	Development of Adaptation Strategies	04/30/2021	\$20,000
Total			\$75,000

15. PERFORMANCE MEASURES: The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline. The Department's Grant Manager will review the task/deliverables to verify that they meet the specifications in the Grant Work Plan and this task description, to include any work being performed by any sub-contractor(s). Upon review and written acceptance by the Department's Grant Manager of all deliverables under this task, the Grantee may proceed with payment request submittal.

16. CONSEQUENCES FOR NON-PERFORMANCE: The Department will reduce each Task Funding Amount by 5% for every day that the task/deliverable(s) is not received on the specified due date in the most recent Project Timeline, for the Agreement. Should a Change Order or Amendment be requested on the date of or after the most current task/deliverable due date, the 5% reduction of that Task Funding Amount will be imposed until the date of the requested change is received, via email by the Department.

17. PAYMENT REQUEST SCHEUDLE: Grantee may submit a request for the Task Funding Amount to be paid using the Exhibit C, after all deliverables for that task have been approved by the Department. Request(s) for payment must include the Exhibit A showing 100% completion of that task and must be submitted within 45 days of the task/deliverable due date. Please refer to the [website Grants page](#) for "How to Request Payment", and "Checklist for Requesting Payment".

Or

Grantee may submit one request for the Grant Amount Awarded, by using the Exhibit C, after the project is 100% completed. The request for the Grant Amount Awarded, must include an Exhibit A showing 100% completion for all tasks, and must be submitted within 45 days of the last task/deliverable due date.

18. FUNDING SOURCE: Grantee agrees to include on all publications, printed reports, audiovisuals (including videos, slides, and websites except that unless required under special terms of this Agreement, this requirement does not apply to audiovisuals produced as research instruments or for documenting experimentation or findings and which are not intended for presentation to the general public) or similar materials must include the DEP logo (which can be found on the Department’s website at <https://floridadep.gov/resilience> or by contacting the Department’s Grant Manager for a copy) and the following statement on, the following language.

“This work was funded in part through a grant agreement from the Florida Department of Environmental Protection, Florida Resilient Coastlines Program, by a grant provided by the Office of Resilience and Coastal Protection. The views, statements, findings, conclusions and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the State of Florida or any of its subagencies.”

The next printed line shall identify the month and year of the publication.

III. TASKS & DELIVERABLES

Task #1

A. Title: Coordination and Public Meeting

B. Goal: Establish a working group of County Staff who will be involved in the project and conduct a meeting with the participants. Advertise and schedule a public meeting to solicit information from the general public, community representatives, and stakeholders.

C. Description: (COORDINATION) Identify, assemble, and conduct a meeting with County Staff (working group) to solicit information regarding perceived or real threats from SLR and coastal flooding to assets, infrastructure, and communities in the County. The working group members will provide the following information to the consultant for inclusion in the project:

- Latest GIS files including shapefiles of the COUNTY’s boundaries;
- Existing and future land use;
- Inventory or stormwater/water/wastewater assets;
- COUNTY-maintained streets;
- Shelters/Schools/Hospitals/County buildings – shapefile of building foot prints;
- County Maintained parks;
- Highwater marks and repetitive loss reports at or near the critical infrastructure owned or maintained by the COUNTY;
- Known trouble spots or reports of concern at or near as selected by the COUNTY.

Description: (PUBLIC MEETING): Advertise and schedule a public meeting to solicit information from the public, community representatives, and stakeholders regarding real and perceived threats from SLR and coastal flooding for inclusion in the project.

D. Deliverable(s): The Grantee will submit all deliverables for each task via **one pdf document** to the Department’s Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.

- 1) Copies of announcements/advertisements for all public workshops/meetings
- 2) Agendas and sign-in sheets for all workshops/meetings showing the location, date and time of the workshop/meetings
- 3) Copies of presentations and workshop/meeting materials
- 4) Brief summary reports of each workshop/meeting including attendee input and workshop/meeting outputs
- 5) Report of inventory of assets, infrastructure, and communities identified during both prior meetings.

Task #2

A. Title: Data Collection and Review

B. Goal: Acquire the most up-to-date SLR and coastal flooding data from government sources. Establish a planning level horizon for vulnerability assessment.

C. Description: The consultant will review the data provided by the County in Task 1 and will acquire the latest Digital Elevation Model (DEM) to use as the basis for the vulnerability assessment. The consultant will also collect the following published data:

- SLR information from both the Army Corps of Engineers and National Oceanic and Atmospheric Administration (NOAA). SLR information will be based on the 2017 NOAA rates;
- Available tidal elevations from nearby NOAA gauges;
- Design rainfall event based on the South Florida Water Management District's Basis of Review for the 100-year/1-day event;
- Latest Federal Emergency Management Agency (FEMA) floodmaps;
- Predicted storm surge for a Category 1 and 3 Hurricanes (based on available data from the Indian River County Emergency Management Division)

The consultant will facilitate a meeting with County Staff to establish the planning horizon for the project.

D. Deliverable(s): The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.

- 1) Report summarizing the data collection results and the planning level horizon.

Task #3

A. Title: Preliminary Exposure Analysis

B. Goal: Create a paired asset threat matrix based on ranking of SLR and coastal flooding impacts to County assets, infrastructure, and communities.

C. Description: Based on the assets identified in Task 1 (Working Group and Public Meeting) unincorporated areas of the county located east of I-95 will be screened for exposure to SLR and coastal flooding using online tools such as NOAA's Coastal Flood Exposure Mapper, NOAA's Sea Level Rise Viewer, University of Florida Sea Level Rise Sketch Tool Viewer, and other resources.

Attachment 3, DEP Agreement #: R2114

8 of 10

The following are examples of screening parameters for Task 3:

- SLR for the low/medium/high projections – given exposure (i.e. if SLR does not impact all assets on a given curve – the next highest curve will be used)
- Top 3 King Tide elevations (highest recorded elevation through 2019 as available on nearby NOAA gauge)
- Predicted storm surge for a Category 1 Hurricane (based on data from Indian River County Emergency Management Division)
- Predicted storm surge for Category 3 Hurricane (based on data from Indian River County Emergency Management Division)
- Combined sea-level rise (low projection) with FEMA flood information
- Combined sea-level rise (high projection) with FEMA flood information
- Category 1 event with combined SLR – high projection (static evaluation – no coastal modeling of wave action will be performed)

A preliminary ranking of areas, as reasonably defined by topography or exposure limits, will be established based on flooding depths and potential disruption of services. The areas will be ranked to develop a paired asset threat matrix for the purposes of completing a vulnerability assessment.

D. Deliverable(s): The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.

- 1) Summary report of the paired asset threat matrix, showing the preliminary exposure analysis.

Task #4

A. Title: Vulnerability Assessment

B. Goal: Complete a vulnerability assessment based on a paired-asset threat matrix, flood inundation information, and other available risk data.

C. Description: The Preliminary Exposure Analysis from Task 3 will be populated with DEM and SLR inundation data to generate flood rasters. Once the paired-asset threat matrix has been populated with these data, risks will be assigned based on direct or operational impact to the assets, infrastructure, and communities. The results will be organized into the formal vulnerability assessment.

D. Deliverable(s): The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.

- 1) Vulnerability Assessment Report

Task #5

A. Title: Public Meeting

B. Goal: Present draft project report(s) during advertised/scheduled public meeting to solicit feedback prior to final acceptance of report.

- C. Description:** The project results will be presented during a public meeting and feedback will be incorporated into the final report.
- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.
- 1) Copies of announcements/advertisements for the workshop/meeting
 - 2) Agenda and sign-in sheets from each workshop/meeting, indicating location, date, and time of workshop/meeting
 - 3) Presentation(s) and other materials from each workshop/meeting
 - 4) Brief summary report from each workshop/meeting including attendee input and workshop/meeting outcomes
 - 5) Any materials created at each workshop/meeting (as applicable)

Task #6

- A. Title:** Development of Adaptation Strategies
- B. Goal:** Develop adaptation strategies for the assets, infrastructure, and communities identified to be at risk from exposure to SLR or coastal flooding.
- C. Description:** Based on the results from Task 3 and Task 4, a range of adaptation strategies for the exposed assets, infrastructure, and communities in the County will be assembled. These strategies will be screened according to the following criteria:
- Ability to Increase Resilience
 - Economic Feasibility
 - Environmental Impacts
 - Ability to Implement
- The results from the screening will be provided in a report.
- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.
- 1) Adaptation Strategies Report.