

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
GRANT WORK PLAN  
DEP AGREEMENT NO.: R2138**

**ATTACHMENT 3**

**I. TITLE PAGE**

**1. PROJECT TITLE:** Coastal Resiliency Plan

**2. GRANTEE Contact Information:**

Organization Name: City of Melbourne, Florida

Name of Authorized Signer: Shannon M. Lewis

Title: City Manager

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City: Melbourne

Zip Code: 32901

Area Code and Telephone Number: (321) 608-7200

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**3. GRANT MANAGER Contact Information:**

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Title: Assistant to the City Manager

Address: 900 E. Strawbridge Avenue

City: Melbourne

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**4. FISCAL AGENT Contact Information:**

Organization Name: City of Melbourne, Florida

Name: Jeffrey C. Towne

Title: Finance Director

Address: 900 E. Strawbridge Avenue

City: Melbourne

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5. FEID No. (a.k.a. Tax ID#): 59-6000371 Seq No. 002

6. WORK PERFORMED BY: (Select only one)

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

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

Organization Name: S&ME, Inc.  
Name: Chris Dougherty  
Title: Project Manager  
Address: 1615 Edgewater Drive, Suite 200  
City: Orlando  
Zip Code: 32804  
Area Code and Telephone Number: (407) 975-1273  
E-mail Address: [cdougherty@smeinc.com](mailto:cdougherty@smeinc.com)

8. PROJECT LOCATION:

A. List of County(ies): Brevard

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

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.*

*Remainder of this page intentionally left blank.*

## **II. WORK PLAN**

- 9. PROJECT SUMMARY:** The purpose of this project is to educate and engage the public on issues related to sea level rise and to develop a Coastal Resiliency Plan for the City of Melbourne. The proposed project will assess the City's coastal flooding vulnerabilities, develop an adaptation action plan, and augment existing policies. The Coastal Resiliency Plan will include the creation of adaptation action areas (AAAs) for low lying areas. Once these proposed areas are established, the AAAs will guide the prioritization of funding to improve resilience. The AAAs will be developed with citizen input and comments from multiple public meetings.
- 10. PROJECT DESCRIPTION:** In 2017, Melbourne adopted its peril of flood plan amendments as identified in the City's Evaluation and Appraisal Report letter to the Department of Economic Opportunity. One of the policies adopted, Coastal Management Element Policy 2.6.4, stated that the City would undertake a study to evaluate options regarding the establishment of Adaptation Action Areas in locations that experience coastal flooding events. As part of the EAR process, the City also adopted a 2060 Sea Level Rise Map which identified areas vulnerable to coastal flooding. However, due to funding limitations, the initiation of the study was deferred to a later date (by 2020). The City will be using a consultant to assist in the development of the Coastal Resiliency Plan. This consultant will be able to draw upon substantial planning and engineering resources and therefore produce a cohesive plan to address resiliency in low lying areas of the City.

The proposed project will evaluate areas susceptible to coastal flooding events and examine the infrastructural, social, and environmental conditions of these properties. A public participation component will be part of the evaluation process. Public meetings will be held, and stakeholders will be contacted and encouraged to participate in the development of a vulnerability analysis. It will be essential that comprehensive public support for the project is included in this planning effort in order to develop a set of policies to address sea level rise and coastal flooding events in Melbourne. The extent of the project will include the coastal planning area within the City, which generally extends from the City's northern boundary between US 1 and the Indian River Lagoon, along Crane Creek and the Eau Gallie River, to the portions of the City that reside on the barrier island, which is generally depicted on the attached map.

### **11. PROJECT NEED AND BENEFIT:**

- A. Explain the demonstrated need, which the project addresses.** The City of Melbourne is located on the east coast of Florida. It borders the Atlantic Ocean and the Indian River Lagoon. Consequently, the City was required to address Peril of Flood requirements during its 2017 Evaluation and Appraisal Report and a set of policies addressing these matters was adopted into the Coastal Management Element. The next step to address coastal resiliency in the City is for Melbourne to adopt a Coastal Resiliency Plan. This plan will include a vulnerability analysis and the evaluation of adaptation action areas to address sea level rise and coastal flooding events. Based upon the 2060 High Water Scenario from the National Oceanic and Atmospheric Administration (NOAA), multiple areas of the City will be affected by sea level rise. In addition, low lying portions of the City are presently affected by coastal flooding events caused by excessive rainfall and king tides.

In 1969, the cities of Melbourne and Eau Gallie merged to form the present-day City of Melbourne. As a result, the City has two historic downtown areas. Both downtown Eau Gallie and downtown Melbourne are located along coastal bodies of water. Eau Gallie borders the Indian River and the Eau Gallie River and downtown Melbourne borders the Indian River and Crane Creek. Both of these locations have public facilities and historic structures located in close proximity to coastal waters. Consequently, both of these urban areas are susceptible to flooding events caused by storm surge and sea level rise. The proposed project will investigate measures to protect and prioritize infrastructure improvements in areas susceptible to coastal flooding events. In addition, the proposed project will also allow the City to use resiliency as an opportunity to concentrate on redevelopment opportunities,

stormwater improvements, and water quality aspects. Focusing on these matters will benefit both the City and its surrounding communities.

- B. Explain how the proposed project meets the purpose of one or more of the Goals and Priorities for FRCP.** The proposed project entails the development of a Coastal Resiliency Plan. This plan will include a vulnerability assessment component (#3 priority area) and the development of Adaptation Action Areas (#2 priority area). The strategies for the Adaptation Action Areas will be included in the City's Comprehensive Plan. The implementation of the Adaptation Action Areas will further the goals, objectives, and policies of the City's Comprehensive Plan by improving resiliency in coastal areas. The appropriate goals, objectives, and policies will be created as part of the subject project. However, the adoption of the Comprehensive Plan amendments implementing the Adaptation Action Areas will occur outside the scope of the project identified in this grant request.
- C. Discuss how the project is feasible and can be completed by the grant period deadline.** The City will be partnering with S&ME, an engineering firm that has experience in developing coastal resiliency plans and comprehensive plan modifications. A contract with S&ME will be drafted that sets deadlines and deliverable due dates. Consequently, the project is feasible and will be completed on time.
- D. Explain how this project is addressing social vulnerability or vulnerability of historic resources or stormwater management systems.** The project will include an analysis of social vulnerability by Census Tract. This data will then be used to determine if any vulnerable populations will be affected by sea level rise and related coastal flooding events. The City has a master site file of historic properties in the City. The project will include an analysis to determine if any of these structures will be affected by coastal flooding events and sea level rise. In addition, stormwater infrastructure will be evaluated to see if sea level rise impacts to the Indian River Lagoon will cause failure of system components. Once the above factors are evaluated and impacts acknowledged, needed solutions will be identified and included within the proposed Vulnerability Assessment

**12. DESCRIPTION OF PROJECT OUTCOMES:** The project will result in a plan that will enhance and strengthen the City's resilience to sea level rise, coastal flooding, and other related events. The project will identify infrastructure, historical, built environmental, and social vulnerabilities in areas prone to coastal flooding and storm surge. It will also identify goals and objectives to address these vulnerabilities. Specifically, the project will identify public facilities and infrastructure at risk from sea level rise and other climate related events. An Adaptation Action Area will be established in areas prone to coastal flooding events caused by sea level rise, storm surge, and stormwater runoff with the intent to increase the City's adaptability and resilience capacities. Additionally, the project will provide an implementation and action plan that will include specific tasks, level of priority, and when the task should be accomplished to further enhance Melbourne's resiliency.

**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          | Grant Amount Awarded |
|------------------------------|-------------|-----------------|----------------|-----------------|-----------------|----------------------|
| Salaries & Fringe            | Fixed Price | \$0             | \$0            | \$0             | \$0             | \$0                  |
| Contractual Services*        | Fixed Price | \$27,000        | \$8,000        | \$22,000        | \$18,000        | \$75,000             |
| <b>GRANT AGREEMENT TOTAL</b> |             | <b>\$27,000</b> | <b>\$8,000</b> | <b>\$22,000</b> | <b>\$18,000</b> | <b>\$75,000</b>      |

- A. Describe how the project costs was determined:** Costs were based on the number of work hours needed to finish the deliverables, complete the appropriate analyses, and conduct the public meetings.

**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:

- a. 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            | Vulnerability Analysis                   | 04/26/2021           | \$27,000        |
| 2            | Social and Historical Impact Analysis    | 04/26/2021           | \$8,000         |
| 3            | Public Engagement and web-survey results | 04/26/2021           | \$22,000        |
| 4            | Implementation and Action Plan           | 04/26/2021           | \$18,000        |
| <b>Total</b> |                                          |                      | <b>\$75,000</b> |

**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:** Vulnerability Assessment

**B. Goal:** The goal of the Vulnerability Assessment is to determine areas that are currently vulnerable and, in the future, will be vulnerable to stronger and more frequent storms, coastal flooding, and rising sea level within the City's coastal area.

**C. Description:** Building from the Peril of Flood mapping prepared during the latest EAR update to the City's comprehensive plan and utilizing the latest GIS technologies, the City will assess the built environment, infrastructure, sea level rise, storm surge, and king tide/known nuisance flooding in the coastal planning area.

*GIS mapping and analysis:* A comprehensive assessment will be completed which will analyze the vulnerability of land use, roadway network, critical facilities, socio-economic and cultural features, and potential financial loss within the following:

FEMA 100-year and 500-year flood zones

Florida Sketch Planning Tool for Sea Level Rise (2040, 2080, & 2100)

SLOSH Model (Storm Surge)

Flood prone and nuisance flooding areas

*Public Assessment through Engagement:* Online web survey: An interactive online web survey will be utilized to engage the public and to help identify areas that experience coastal flooding and other issues that impact the coastal area.

Following the assessment of the coastal area, a matrix will be developed that rates and charts each variable assessed. A rating will be prepared for each with a summary describing the findings for each of the analyzed variables. Through this process, an Adaptation Action Area (AAA) will be designated to help prioritize infrastructure improvement and policy implementation.

**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 including PDFs and GIS files of Maps
- 2) Copies of announcements/advertisements about the online web survey for the public.
- 3) Survey text (Word and URL)
- 4) Survey Summary of Results
- 5) Overall Assessment Matrix and Summaries

## **Task #2**

**A. Title:** Social and Historical Impacts

**B. Goal:** The goal of this task is to evaluate the potential impacts and vulnerabilities on the City's social and historical assets.

**C. Description:** A significant portion of the City's population lives along the Indian River and the barrier island. This assessment will evaluate the vulnerability of the population (age, socio-economic and demographic makeup) within the assessment area as described above. This area will also be assessed utilizing census information and the Social Vulnerability Index (SVI).

The City includes essentially two urban cores (Eau Gallie and Downtown). These areas were the first to develop due to their proximity to navigable waterways and the abundance of natural resources. As such, a large portion of the City's cultural and historical resources are present within the coastal planning area and may be especially vulnerable to storms and flooding due to their age and proximity to the shore. This task will also evaluate the vulnerabilities to the City's prized inventory of historic structures.

**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) Methodology for identification of vulnerable populations and historical resources
- 2) Results of SVI analysis
- 3) PDF and GIS files for Maps
- 4) Summary of Assessment

## **Task #3**

**A. Title:** Public Engagement

**B. Goal:** The goal of this task is to educate the community and engage Melbourne residents on becoming more resilient, as well as understanding vulnerabilities associated with sea level rise and coastal flooding.

**C. Description:** Public engagement is crucial in building capacity and community buy-in on the plan and what resiliency means to Melbourne. Our proposed public engagement plan includes the following:

*Public Workshop:* The public workshop at a City of Melbourne venue will be the official kickoff of the project with the public. It will focus on education and the intended outcomes of the resiliency plan. During the workshop we will roll out the online web survey (mention in Task #1) and conduct an exercise with base maps that will help identify locations of known coastal flooding and establish the limits of the coastal planning study area.

*Open House:* Following the completion of approximately 80 percent of the plan, an Open House will be held at a City of Melbourne venue. The Open House will feature draft maps, draft findings, a

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preliminary assessment of an adaptation action area (AAA), and potential projects identified for the AAA. This will be a less formal event than the public workshop and will include opportunities for the public to walk through the room freely, review draft exhibits, and discuss their concerns or questions with the project team regarding the resiliency plan.

*Online Web Survey:* Described in Task #1.

- 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 all workshop/meeting announcements/advertisements
  - 2) Agendas and sign-in sheets from each workshop indicating location, date, and time of the meeting
  - 3) Presentations and other meeting materials/handouts
  - 4) Brief summary report from each workshop/meeting including attendee feedback and workshop outcomes
  - 5) Any materials created at each workshop/meeting (as applicable)

#### **Task #4**

- A. Title:** Implementation and Action Plan
- B. Goal:** The goal of this task is to establish recommendations to promote the implementation and actions to create a more resilient Melbourne.
- C. Description:** Following the collection of and synthetization of the analysis and public input, we will prepare recommended goals and objectives, which will lead into the implementation and action plan. The implementation and action plan will include specific tasks, level of priority and when the task should be accomplished. For example, a goal may be established that aspires to create more resilient infrastructure in the coastal area. A specific task in the implementation plan could be to establish standards in the land development code or the City's engineering standards that requires low impact development and sustainable practices in the vulnerable areas. This task would include a priority and duration of years to accomplish the task and a responsible department.

The City will ensure the Melbourne resiliency plan is consistent with Brevard County's Local Mitigation Strategy and the East Central Florida Resiliency Action Plan.

- 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 of recommended goals and objectives comprising the Adaptation Action Area(s)
  - 2) PDFs and GIS files of Finalized Maps