

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R2113

ATTACHMENT 3

I. TITLE PAGE

1. PROJECT TITLE: Resilient Marathon- Phase 2

2. GRANTEE Contact Information:

Organization Name: City of Marathon

Name of Authorized Signer: Steve Cook

Title: Mayor

Address: 9805 Overseas Highway

City: Marathon

Zip Code: 33050

Area Code and Telephone Number: 305 289 3140

E-mail Address: bartusj@ci.marathon.fl.us

3. GRANT MANAGER Contact Information:

Organization Name: City of Marathon

Name: George Garrett

Title: Planning Director

Address: 9805 Overseas Highway

City: Marathon, Florida

Zip Code: 33050

Area Code and Telephone Number: 305 289 4111

E-mail Address: garrettg@ci.marathon.fl.us

4. FISCAL AGENT Contact Information:

Organization Name: Bishop & Rosasco

Name: Jennifer Johnson

Title: Finance Director

Address: 9805 Overseas Highway

City: Marathon

Zip Code: 33050

Area Code and Telephone Number: 305 743 6586

E-mail Address: jjohnson@keyscpa.com

5. FEID No. (a.k.a. Tax ID#): F65-0984873 Seq No. 004

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: Bermello Ajamil and Partners
Name: Jose L. Lopez
Title: Director of Environmental Engineering
Address: 900 SE 3rd Ave., Suite 203
City: Ft. Lauderdale, Florida
Zip Code: 33316
Area Code and Telephone Number: 954 260-5383
E-mail Address: jlopez@bermelloajamil.com

8. PROJECT LOCATION:

- A. List of County(ies): Monroe
B. List of City(ies)/Town(s)/Village(s): City of Marathon, Florida
C. State Lands Lease Agreement Number(s): None

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:** Based on recommendations on the FDEP Coastal Resiliency grant completed in June 2019, the City of Marathon will select a vulnerable area within the City to develop an Adaptation Action Area (AAA) that could be used for subsequent studies. This AAA will focus on critical infrastructure and vulnerable areas subject to tidal flooding as a result of sea level rise within this area. The AAA will be developed using validated site information and alternative solutions presented in Phase 1 to reduce damages and risks from impacts to the infrastructure. A comprehensive outreach plan will be implemented concurrently by the City.
10. **PROJECT DESCRIPTION:** The City of Marathon in coordination with their project team has recently completed a study funded by a FDEP grant (Resilient Marathon) to review and upgrade the current City Policies and Regulations to continue maintaining surface water management and flood damage prevention in compliance with 2015 Peril of Flood; to provide 3D maps using lidar-based digital elevation data and UAV (drone) technology; to model the current and future impact of nuisance flooding for at two potential flood scenarios (2030 and 2060) in accordance to the Southeast Climate Compact's Unified Sea Level Rise Projection; provide several adaptation alternatives as part of their Adaption Action Plan; and to prepare an outreach plan with educational material and stakeholder meetings to educate local residents and elected officials.

Following the recommendations from this study, the City of Marathon is seeking funding to obtain consultant and engineering services to develop an AAA with a robust vulnerability assessment and reflect how the community will adapt to future flood and sea level rise. This AAA will be developed to evaluate the level of protection with respect to sea level rise and king tides, and to assess several alternatives to ensure that all environmental issues are addressed in the plan including the area vulnerability and stormwater management system, and to provide a roadmap for other areas within the City with similar characteristics. As discussed in detail in the following Scope of Work, this project complies with FRCP priority areas 1, 2, 3, and 4.

11. **PROJECT NEED AND BENEFIT:**

- A. **Explain the demonstrated need, which the project addresses.** The City of Marathon lies entirely within the SFHA and elevations do not exceed 10 feet and are generally less. The City is highly vulnerable to the impact of seasonal high tides, coastal flooding, erosion, events involving storm surge, ecosystem changes and, ultimately, climate change-based sea level rise. Delaying action will be costlier and the City of Marathon is taking incremental actions to mitigate and adapt for these impacts. The City of Marathon is request funding to develop a AAA that could be used city-wide.
- B. **Explain how the proposed project meets the purpose of one or more of the Goals and Priorities for FRCP.** This project supports Priority Areas 2 and 3 by establishing an Adaptation Action Area (AAA) for the AAA following the City of Marathon guidelines in the Coastal Management Element in the City Comprehensive Plan and assessing social vulnerabilities and stormwater management toward future potential area mitigation with the goal of enhancing resiliency. This project also addresses Priority 4 as it is regional collaboration effort with Monroe County, the South Florida Regional Planning Council and academia as the City is currently working with Florida Atlantic University, Florida International University, University of Florida and University of Miami.
- C. **Discuss how the project is feasible and can be completed by the grant period deadline.** This project is a planning-based effort intended to establish the City's first AAA. The City has previously collected LIDAR and drone based photogrammetric data for the area as well as having completed an assessment of beach erosion and vulnerability within the chosen area. With that data at hand,

utilizing a team of professional consultants and field crew that the City has worked with successfully in the past, the City will complete the project objectives, on time and within budget.

D. Explain how this project is addressing social vulnerability or vulnerability of historic resources or stormwater management systems.

In the inception of the FDEP Coastal Resiliency program, residents are assured of some additional resiliency enhancement which mitigate for forthcoming issues of sea level rise. The AAA will evaluate any historical records of the chosen area; facilities owned by the City, including critical city-owned and private infrastructure for both wastewater and stormwater in the area which will be useful for expanding the results to the entire City. Thus, this AAA will help protect those and other city owned structures when the plan implemented and will present a community-driven plan to better, safer and smarter developments for future flood risks.

12. DESCRIPTION OF PROJECT OUTCOMES: The main outcome of the work proposed by the City of Marathon will be an AAA and comprehensive vulnerability assessment for the AAA. This AAA will follow the City of Marathon vision and City development strategy for critical areas and this report will be the first planning effort by the City to address City vulnerability to high tides and sea level rise so that it can be used as a road map for the entire City of Marathon. This AAA will evaluate storm water management, road and structure elevation, utility and critical city-owned and private infrastructure flood vulnerability as well as eventual land loss, and, social and economic liability resulting from chronic and episodic flooding. Parallel to the technical aspects of the AAA the City will prepare a community-driven outreach plan, including educational materials and will conduct at least two public meetings. The public outreach plant will use social media to educate the local residents and other stakeholders on the importance of this project. Meeting minutes and City Commission meetings/council notes will all be available to the public.

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	Grant Amount Awarded
Salaries & Fringe	Fixed Price	\$1,205	\$1,800	\$3,595	\$6,600
Contractual Services	Fixed Price	\$18,000	\$38,000	\$12,000	\$68,000
GRANT AGREEMENT TOTAL		\$19,205	\$39,800	\$15,595	\$74,600

A. Describe how the project costs was determined: The City of Marathon has used the hourly fees negotiated with Consultant Bermello Ajamil and Partners and has evaluated the number of man-hours and total fees for each task based on past experience with similar projects completed and funded by FDEP.

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	Funding Amount
1	Background Information on selected	03/15/2021	\$19,205

	AAA by the City of Marathon		
2	Adaptation Action Planning. Develop and Adaptation Action Area	04/15/2021	\$39,800
3	Public Outreach and Regional Collaboration	04/30/2021	\$15,595
Total			\$74,600

- 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:** Background Information on selected AAA by the City of Marathon
- B. Goal:** The main goal of this task is to follow up on the work completed during Phase 1 of the FDEP grant to validate the data obtained during the field and background information, and to create a baseline for the AAA that could be used for the development of the vulnerability report.
- C. Description:** Under this task, the Digital Elevation Model and mapping conditions of the AAA will be updated to a higher level of detail, better point cloud density and accuracy, reflecting current conditions of all above ground infrastructure. Information and knowledge derived from this task provide a robust framework for the tasks to follow. Following subject technical areas or subtasks will be addressed:
- a) *Survey.* A new flight mission at lower altitude (100 ft) will be carried out for the Area of Interest (AOI). This will allow for more detail on the resulting map as well as higher accuracy on Digital Elevation Model, besides capturing the current conditions of the AOI
 - b) *Geographical Information System (GIS)* of the Area of Interest. ArcGIS 10.6 will be used for transferring data to appropriate GIS layers. The data will be displayed in the vector format (points, lines, polygons). Some of the layers we anticipate include:
 - AAA Water Layer – (Stormwater basins, sewer and canals)
 - AAA Land-use Layer (Non-structural features like beaches, mangroves, wetlands)
 - Critical Facilities Layer – power stations, lift stations, shelters, water and wastewater treatment plants, hospitals, emergency shelters, schools, marinas, etc.
 - A layer and composite map of AAA showing flood vulnerability based on a ranking method
 - A layer of recommendations of where flood mitigation action is mostly required.
 - Digital Elevation Model of the AAA
 - Coastal and Shoreline layer of the AAA
 - A layer of approximate property boundaries, extracted from existing records
- D. Deliverables:** 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) Site Information report including:
 - a. High resolution orthorectified map depicting current conditions (0.8 pixels/inch)
 - b. High resolution digital elevation model
 - c. Vector map depicting the linear features, above ground structural features (manholes, valves, hydrants, catch basins, electrical poles, polygons enclosing or delimiting nonstructural features (wetlands, mangroves, beaches) GIS for the area of interest with the following layers:
 - i. Digital Elevation Model
 - ii. Vector Map
 - iii. Orthorectified map
 - iv. Water
 - v. AAA Land-use
 - vi. Critical Facilities
 - vii. Flood vulnerability
 - viii. Flood mitigation action

- ix. Coastal and Shoreline
- x. Property boundaries

Task #2

- A. Title:** Adaptation Action Planning. Develop an Adaptation Action Area
- B. Goal:** Upon completion of Task 1, where baseline conditions will be determined for the AAA, the City will create an Adaptation Action Area document including strategies and conceptual adaptations in compliance with the Peril of Flood requirements which will serve as a road map for the City for the project area and serve as pilot project and a strategic guidance document for the City. This plan will integrate natural as well as engineered alternatives that will serve as strategic guidance in a document for other areas in the City.
- C. Description:** Under this task, the baseline conditions determined for the AAA in Task 1 will be analyzed in further detail in accordance to statutory requirements, relative to high tides, storm surges and SLR impacts and adaption strategies, to prepared and prioritize strategies considering the following considerations
- ✓ Flooding and drainage problems including stormwater management and drainage, flooding city-owned and private infrastructure (e.g. marina, roads, septic tanks, sewage pump stations)
 - ✓ Level of protection relative to sea level rise and king tides, including fortify residences, raising roads and homes, build higher seawalls and bulkheads among other soft (green alternatives preferred) and hard alternatives.
 - ✓ Environmental review. Impacts to environmental resources including beaches and dunes, wetlands and upland habitats, wildlife (e.g. sea turtles, shorebirds and wading birds, marine species) mangroves and seagrass. The City of Marathon will obtain a list of threatened and endangered species and designated critical habitats that might be present in the project area.
 - ✓ Evaluate increased shoreline erosion in the AAA and the use of soft engineering alternatives like a natural resource-based shoreline armoring or protection system and beach nourishment
 - ✓ Coastal, social vulnerability and vulnerability of historic resources
 - ✓ Existing City Zoning Code and land use considerations. Review land use plans with resiliency guidelines as anticipating action to direct new developments away from vulnerable areas; evaluate land conservation and conservation easements, as necessary. Strategic redevelopment to safer areas.
 - ✓ Building Form Aesthetics and Urban design considerations
 - ✓ Permit feasibility
 - ✓ Potential phasing of future adaption
 - ✓ Operational impacts and maintenance assessment
 - ✓ Service life
 - ✓ Overall resiliency
 - ✓ Social vulnerability. An assessment of any impact or environmental effects on minority or low-income residents and evaluate project features that will mitigate such effect.
 - ✓ Public participation and regional collaboration (to be addressed separately in Task 3).
- D. Deliverables:** 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 Action Plan with the following sections:
 - a. Introduction

- b. AAA objectives, justification for the project, benefits and impacts
- c. Methodology
- d. Project area information. Detailed information on the local area as identified in Task 1, including location of critical infrastructure.
- e. Land use and spatial structure. Zoning code building form controls recommendations
- f. Engineering assessment for water, sanitation and stormwater. All documents will be signed and sealed by a professional engineer.
- g. Environmental impacts to wildlife and habitat, including a discussion of any significant adverse effects upon flora, fauna, surface water bodies, wetlands or undisturbed natural areas.
- h. Implementation of protection strategies and concepts
- i. Public participation and regional concepts
- j. Executive Summary

Task #3

A. Title: Public Outreach and Regional Collaboration

- B. Goal:** Under this task, the City of Marathon shall coordinate with Monroe County, South Florida Planning Council and academia and shall prepare educational material including presentations, renderings and handouts on the work to be completed during this Task. The City of Marathon shall utilize multiple means of public engagement like social media and on-line surveys or polling apps in order to collect local resident's opinion and build public support.

Information will be presented in two public meetings supplemented with live polling as well as on-line surveys. These meetings will focus in informing the public on adaptation options and vulnerabilities addressing climate change and sea level rise to be incorporated into future plans and policies. All materials will be produced in English and Spanish.

Description: Information will be presented in two public meetings supplemented with live polling as well as on-line surveys. These meetings will focus in informing the public on adaptation options and vulnerabilities addressing climate change and sea level rise to be incorporated into future plans and policies. All materials will be produced in English and Spanish.

Goals of the public meeting:

- Residents and participants will share their perceptions of flooding causes in the AAA.
- The City will overview what has been learned about the causes of flooding in their area and flood resiliency/adaptation strategies which have been developed.

Goals: The main goal in this task is to organize a public meeting so that:

- Participants can share their perceptions of flooding causes in their neighborhoods.
- Participants can learn about the causes of flooding in their area as well as get familiar with several flood resiliency/adaptation strategies.

- C. Description:** Upon completion of Task 1 the City of Marathon staff shall organize a public meeting/workshop in coordination with local residents and other stakeholders to present an educational PowerPoint which will address proposed flood resiliency/adaptation alternatives and perform a live polling survey. Under this Task, the City shall prepare the invitation, draft/final agendas, create the live polling survey as well as handle the meeting minutes. The materials shall be electronically distributed for comments by City of Marathon staff.

The focus of the public meeting will be to educate local residents and other stakeholders, about the risks of flooding in their community. It will present a suite of flood resiliency/adaptation strategies possible. The meeting will use live audience polling to present images of the flood resilience solutions to gain the residents' preferences. The meeting will also catalyze a continuing dialogue with the residents of Marathon to make sure they are an integral part of the solution.

Upon completion of the public meeting the City of Marathon will prepare and upload the same survey and brief educational material presented at the Public Meeting for online response by local residents to provide their input and comments for a period of 15-days. The survey shall be available online ("Survey Monkey" or similar tool) through social media (to be shared via City of Marathon's Facebook page and with partners).

Upon completion of Task 2 the City of Marathon staff, shall organize a public meeting/workshop to present the educational PowerPoint which will update the proposed flood resiliency/adaptation alternatives, and then perform a live polling survey. Under this Task, the City shall prepare the invitation, draft/final agendas, create the live polling survey as well as handle the meeting minutes. The materials shall be electronically distributed for comments by City of Marathon staff.

The focus of the public meeting will be to educate local residents and other stakeholders, about the risks of flooding in their community and the suite of flood resiliency/adaptation strategies possible. The meeting will use live audience polling to present images of the flood resilience solutions to gain the residents' preferences.

D. Deliverables: 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) Electronic versions in pdf of invitations to each workshop/meeting
- 2) Draft and final agendas from each workshop/meeting
- 3) images loaded into the live polling platform for in-person surveying use in addition to the online survey platform (i.e. survey monkey) (Questions in the survey will be presented in English and in Spanish.)
- 4) Sign-in sheets from each workshop/meeting, indicating location, date, and time of workshop/meeting
- 5) Presentation(s) and handouts from each workshop/meeting
- 6) Brief summary report from each workshop/meeting including attendee input and workshop/meeting outcomes.
- 7) Any materials created at each workshop/meeting (as applicable)
- 8) Final report summarizing the information obtained from the community workshop meeting and the public survey and will evaluate the comments for appropriateness and incorporate the community's comments into the draft documents of the Adaptation Action Area as noted in Task 2.