

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R1906**

ATTACHMENT 3

Project Title: Palm Beach County Coastal Resilience Partnership Phase II

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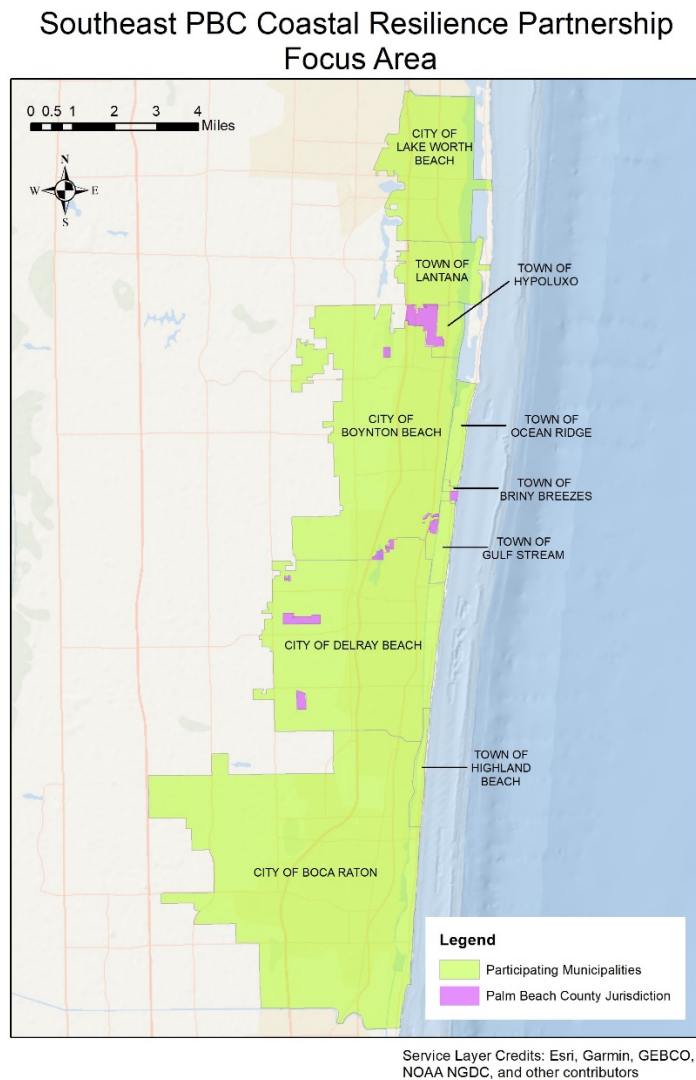
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PROJECT LOCATION: The Palm Beach County Coastal Resilience Partnership (CRP) comprises a number of neighboring communities in coastal southeast Palm Beach County (Figure 1). Up to 10 municipalities, plus the County, may sign a forthcoming Interlocal Agreement to formalize the partnership. These include City of Boca Raton, City of Boynton Beach, City of Delray Beach, City of Lake Worth Beach, Town of Briny Breezes, Town of Gulfstream, Town of Hypoluxo, Town of Lantana, Town of Highland Beach, and Town of Ocean Ridge.

Figure 1: Coastal Regional Partnership Participating Municipalities



WORK PLAN

1. Project Summary:

The City of Boynton Beach requests a Resilience Planning Grant (RPG) of \$75,000 to support Phase II of a multi-jurisdictional adaptation planning collaboration. The Palm Beach County Coastal Regional Partnership (CRP) is now progressing in Phase I and will be ready to solicit proposals for Phase II in September 2019. The CRP will use 2019 RPG funding to engage the community and conduct initial steps of a vulnerability assessment, resulting in a summary of climate threats and a dataset of community assets to be included in the assessment. The project addresses all RPG Priority Areas while reducing costs and fostering synergy among neighboring municipalities.

2. Project Description:

The Palm Beach County Coastal Resilience Partnership (CRP) is seeking to engage in the next phase of resilience planning by contracting a consultant to conduct a micro-regional climate change vulnerability assessment (CCVA). The CRP requests a 2019 Resilience Planning Grant (RPG) of \$75,000 to cover the first two steps of the CCVA and associated public engagement activities. The City of Boynton Beach is serving as grantee, grant manager, and fiscal agent for the 2019 RPG on behalf of the conglomerate of CRP members that are working together on this project. The CRP municipalities will also contribute funding for the joint aspects of the work, and for specific analytical portions related to their respective geographies. The RPG monies will help reduce the cost of the study for all participants, which is critical to enable the smaller jurisdictions to participate in the project. The CCVA will address climate impacts on taxable assets, infrastructure, and government services; and will produce, among other outcomes, maps showing at least two sea level rise scenarios in conjunction with current high-tide flooding events and storm surge. The results will contribute to Adaptation Action Area (AAA) designations for all participants and “Peril of Flood” statute compliance for those not yet compliant. Final deliverables of this Phase II project will include a summary of selected climate threats and at least two scenarios of projected changes for each, and a dataset of assets and attributes to be included in the CCVA.

The following communities are considering signing an Interlocal Agreement to participate in the CRP: Palm Beach County, Boca Raton, Boynton Beach, Delray Beach, Highland Beach, Hypoluxo, Lake Worth Beach, Briny Breezes, Gulf Stream, Ocean Ridge, and Lantana. This region, along a 20-mile stretch of the Intracoastal Waterway, spans barrier island and mainland real estate and unites some of the county’s largest and smallest municipalities. The CRP received a 2018 RPG of \$72,000 for foundational tasks related to data compilation, stakeholder and public engagement, and development of a CCVA methodology. Concurrently, in the spring 2019 semester, the CRP is receiving pro-bono assistance from three students at Harvard Law School’s Emmett Environmental Law and Policy Clinic, under the direction of Clinical Instructor Aladdine Joroff. The students’ projects focus on legal and governance issues involved in a joint request for proposals/ qualifications (RFP/RFQ) and best practices for sharing the costs among participating jurisdictions.

After completion of Phase I in June 2019, the CRP will prepare to solicit proposals for a CCVA and proceed with adaptation planning on the micro-regional scale. RPG 2019 funds, if awarded, will leverage the momentum of Phase I and incentivize participants to contribute to the remaining cost of the study. Currently, seven of the CRP communities have budgeted for the CCVA in FY 19/20. The collaboration will benefit all members by providing a consistent CCVA methodology, coordinated outreach strategy, integrated data outputs and adaptation recommendations, and reduced costs for each municipality.

3. Project Need and Benefit:

- a. Explain the demonstrated need, which the project addresses.

The Southeast Florida Regional Climate Change Compact (Compact) Unified Sea Level Rise Projection predicts a regional sea level increase of 6 to 10 inches above 1992 mean sea level by 2030 and 14 to 26 inches by 2060, as well as a higher curve for long-term, risk-intolerant investments. The Compact’s Regional Climate Action Plan (RCAP) recommends that municipalities incorporate these projections into plans and maps, identify investments through vulnerability analyses, designate Adaptation Action Areas, develop localized and multi-jurisdictional adaptation strategies, and incorporate risk-reduction strategies into planning.

Palm Beach County has unique geographic and social characteristics that affect its climate vulnerability. Most land in the County is higher in elevation than Broward and Miami-Dade counties, giving Palm Beach County more time and options for adapting to impacts of rising seas, coastal flooding, and storm surge. This higher elevation also makes the County a target for future in-migration from displaced

populations to the south. Population growth and the associated increase in vulnerable populations is an important non-climate stressor that must be considered in a localized CCVA. The region faces additional climate-related threats—such as heavy precipitation events, heat stress, and drought—that have localized impacts meriting a micro-regional analysis.

The CRP understands that conducting a CCVA is essential for proactive local and regional resilience planning. Systematic data on community vulnerability can prevent disasters by allowing communities to foresee challenging problems and secure protections early. In addition, CCVAs help prioritize areas that need to be addressed based on physical, social, economic, and environmental impacts. Results lead to more effective spending; increased public support for investments; improved economic confidence for residents, bond rating agencies, and businesses; and improved community rating system (CRS) scores.

Because of the connected CRP geography, every municipality involved will benefit from a unified approach to assessing vulnerability. With municipalities ranging from 98,000 people (Boca Raton) to 600 people (Briny Breezes), each will be able to build off the synergy of the larger group to protect their individual communities at a lower cost. Moreover, the RPG grant will reduce the total project cost, motivating municipalities that may not have participated otherwise to join the effort and contribute funds. The result will be more effective spending, better-informed planning, and more resilient development in each of the participating municipalities and in Palm Beach County.

- b. Explain how the proposed project meets the purpose of one or more of the Goals and/or Priority Areas for the funding source you are applying for.

The proposed project addresses all four of the Resilience Planning Grant Priority Areas. Regarding Priority Area 1, four of the CRP communities have not yet updated the Coastal Management Elements of their comprehensive plans to comply with Peril of Flood statutory requirements: Briny Breezes, Gulfstream, Lantana, and Palm Beach County. The towns of Highland Beach and Ocean Ridge are currently in the process of completing their updates. Palm Beach County will identify the changes required for Peril of Flood compliance in its Evaluation and Appraisal (EAR) Process response by November 2019 and achieve compliance within 12 months of the EAR submittal deadline. The collaboration facilitated by the 2018 RPG is helping the CRP communities address Priority Area 1. The 2019 RPG, if awarded, will strengthen this work by providing vulnerability assessment outputs and public input to inform the comprehensive plan amendments.

The proposed project will address Priority Areas 2 and 3 for all participating jurisdictions. None of the participants have yet designated Adaptation Action Areas (AAAs). The CRP vulnerability assessment will provide a scientific basis for defining AAAs based on vulnerable areas, assets, and populations. Regarding Priority Area 3, the CRP is developing a CCVA methodology to meet its collaborative goals and objectives in consultation with best practices described in the Florida Adaptation Planning Guidebook (2018), the U.S. Climate Resilience Toolkit, the American Flood Coalition guidebook, Compact guidelines, and other models identified in Phase I. After completion of the CCVA, the CRP will proceed in its adaptation planning and develop regional and local strategies to address the vulnerabilities found.

Finally, the CRP is a model regional resilience collaboration that meets the purpose of Priority Area 4. The CRP will use the requested funding to continue its regional collaboration efforts to build public support for resilience planning. The CRP will conduct public engagement workshops involving a diverse and equitably represented set of stakeholders.

- c. Discuss how the project is feasible and can be completed by the Deadline.

The CRP is well equipped to continue its resilience planning efforts in line with the RPG grant deadline of April 30, 2020. The 2018 RPG funding is permitting the group to complete important conceptual and GIS tasks ahead of time, facilitating an efficient transition into Phase II. The CRP members have been collaborating since 2017, and are currently leveraging the assistance of Harvard Law School to develop the administrative structure for a formal partnership. The group has established a Steering Committee consisting of a representative from each municipality and the Palm Beach County Office of Resilience. The City of Boynton Beach is serving as grantee, grant manager, and fiscal agent for the 2018 RPG funding and will continue to serve these roles for the 2019 award on behalf of the CRP.

The City of Boynton Beach is using its continuing contract with Carollo Engineers to implement the tasks in the 2018 RPG project. Carollo's staff resilience experts are leading the project; they are sub-contracting with Florida Technical Consultants for GIS-related services and the Merchant Group for public outreach. On January 18, the CRP Steering Committee hosted a kick-off meeting with City and Town Managers, resulting in their support and the participation of two new towns: Briny Breezes and Gulf Stream. Following the kick-off meeting, the Steering Committee and consultants held a workshop to review CCVA frameworks and methodologies, identify desired outcomes, discuss costs and data requirements, and establish a project timeline. At the next Steering Committee meeting on February 4, 2019, the group will meet the three Harvard students assigned to the project (one studying Law, one studying Public Health, and one pursuing a dual degree in Policy and Urban Planning) to clarify objectives and initiate their work. Currently, the Steering Committee is identifying municipal and County members of the Working Group and scheduling the first Working Group meeting on March 1, 2019. The group will continue on schedule to produce a CCVA scope of work and synthesis of GIS data by June 2019. (Steering Committee meeting agendas are included in the "Supporting Materials" at the end of the Work Plan.)

In July 2019, the start of the 2019 RPG cycle, the CRP will finalize its interlocal agreement and prepare an RFP/RFQ to solicit proposals for the CCVA. The CRP will aim to issue the RFP/RFQ in September and award the CCVA contract no later than January 1, 2020. While the RFP/RFQ is out for solicitation (September–December 2019), the CRP will utilize a portion of the RPG funds to conduct stakeholder engagement workshops. From January 2020 until the grant deadline of April 2020, the CRP will utilize the rest of the RPG funds to complete steps 1 and 2 of the Phase II CCVA, as outlined in Carollo's June 19, 2019 Technical Memorandum (the final deliverable for the 2018 RPG project). According to the Florida Adaptation Planning Guidebook and the American Flood Coalition, four months is sufficient to complete the first two tasks of a CCVA, particularly in the case of the CRP who will have already completed preparatory work in Phase I.

4. **Budget Summary:** Allowable budget categories and costs for this project are listed in the table below.

FIXED PRICE	Grant Amount Awarded
AGREEMENT TOTAL	\$75,000

5. **Project Timeline:** All tasks are to be completed and submitted no later than the Deliverable due date listed in the table below. Request for any change must be submitted prior to the current 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			
Deliverable No.	Deliverable Title	Deliverable Due Date	Funding Amount
1	Conduct Stakeholder Workshops	06/30/2020	\$10,000

2	Explore Climate Threats	06/30/2020	\$35,000
3	Identify & Evaluate Community Assets	06/30/2020	\$30,000
Total			\$75,000

6. **Performance Measure:** The Department's Grant Manager will review the 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. All deliverable documents must be provided in an electronic downloadable format.
7. **Consequences for Non-Performance:** The Department will reduce each Task Funding Amount by 5% for every day that the 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 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.
8. **Payment Request Schedule:** 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 Deliverable Due Date.

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 Deliverable Due Date.

TASKS & DELIVERABLES

Task # 1

A. Title: Conduct Stakeholder Workshops

B. Description: Involving stakeholders throughout the adaptation planning process is important to raise awareness of the need for climate adaptation, gain support for policies, and understand local concerns and preferences for strategy development. During the 2018 RPG, the CRP convened one Executive Team meeting of city/town managers and one Technical Advisory Group meeting of staff from each local government. In addition, Steering Committee members engaged municipal decision makers as needed to support budget requests for the FY19/20 CCVA.

The CRP will use the 2019 RPG funds to formalize and extend stakeholder engagement by conducting workshops with three separate target audiences as described below. The CRP will hire a contractor or nonprofit organization to lead these workshops as a separate procurement from the RFP/RFQ that will be used to complete Tasks 2 and 3.

- 1) Executive Workshop: Roundtable discussion for mayors, city/town managers, and senior representatives from each jurisdiction to build climate literacy, learn from peers, discuss

goals of climate adaptation planning, and consider opportunities for joint planning and implementation.

- 2) Staff Workshop: Training session for cross-disciplinary municipal and County staff to learn about local climate change impacts, the goals of vulnerability assessments and adaptation planning, and how their departments can be involved.
- 3) Collaborator Workshop: Meeting of leaders in the business, nonprofit, and academic sectors across the participating jurisdictions to introduce the CRP and engage them in resilience planning.

C. Deliverables: Sign-in sheets, presentations, post-workshop survey results, and summaries from each workshop.

Task # 2

A. Title: Explore Climate Threats

Description: In September 2019, the CRP will solicit proposals for a CCVA according to the methodology developed in Phase I. The assessment will cover a geographic area defined by the boundaries of all participating municipalities plus unincorporated areas of Palm Beach County that lie within or between those boundaries, as shown in Figure 1. The total cost of the multi-jurisdictional CCVA will depend on the final scope, the status of each community's GIS data, and the chosen vendor, but based on figures provided by three engineering firms (Carollo, Kimley Horn, and APTIM) it is expected to be within the range of \$400,000–\$500,000. The CRP will apply the 2019 RPG funding to support Steps 1 and 2 of the assessment (see below). Steps 3–5 will be completed after the 2019 RPG cycle (April 2020–TBD) and the cost will be shared among the participating communities in a cost-sharing framework developed with assistance from the Harvard Law School Clinic students.

Carollo's June 19, 2019 Technical Memorandum outlines the following five-step scope of work for Phase II, which represents the core of the CCVA:

1. Explore Climate Threats
2. Identify & Evaluate Community Assets
3. Assess Vulnerabilities and Risks
4. Investigate Potential Adaptation Strategies
5. Prioritize Adaptation Strategies

This task covers Step 1 in the overall CCVA scope of work, *Explore Climate Threats*, which will entail the following:

- a. Identify climate-related threats to be assessed in this project, which may include but not be limited to the following: extreme precipitation events, coastal storms, storm surge, high winds, lightning, beach erosion, sea level rise, saltwater intrusion, drought, extreme heat, and wildfire.
- b. Review the latest regional climate science and available data, and select at least two scenario projections to be assessed with respect to the range in magnitude and frequency of each threat (identified in Step 1.a). This task includes review of CCVAs performed for surrounding communities (e.g., West Palm Beach's Resilience Assessment and the work of the [Southeast Florida Regional Climate Change Compact](#)) to determine if the climate change scenarios (and the associated projections for selected climate threats) can be reasonably applied to the CRP region, or if collaboration with a local academic or research institution is needed to develop unique scenario projections. The climate threats are to be evaluated over 10-, 25-, and 50-year time horizons or in accordance with horizons recommended by the selected firm.

- B. Deliverables:** Summary of selected climate threats for the CCVA and projected changes for each for at least two scenarios spanning the selected time horizons. This summary is to include the approach for selecting the climate threats, as well as the basis for the selected scenarios and time horizons.

Task # 3

- A. Title:** Identify & Evaluate Community Assets

- B. Description:** In Phase I, the CRP determined the following asset categories should be included in the CCVA: people, property, critical facilities, water infrastructure, transportation infrastructure, economy, and natural resources. A preliminary assessment of the geographic information system (GIS) data available for each asset category was performed in Phase I and was included with the final deliverable for the 2018 RPG.

In this task, the selected firm will work with the CRP to refine the draft list of community assets and attributes within each asset category, determine the scale at which the community assets and/or attributes will be assessed (in some cases the assets/attributes may be assessed in aggregate), and fill in the data gaps for each asset category to result in a GIS dataset of community assets to include in the CCVA.

- C. Deliverables:** GIS dataset of assets and attributes within each asset category to be included in the CCVA, providing the scale at which each will be assessed.