

**DEP AGREEMENT NO. R1910  
CHANGE ORDER NO. 002**

**GRANTEE**

City of Naples  
735 Eighth Street S.  
Naples, FL 34102

DEP Agreement No. **R1910** as entered into on the 1<sup>st</sup> day of July 2019, and as amended, is hereby revised as follows:

1. **Attachment 3, Grant Work Plan, Project Timeline** is hereby deleted in its entirety and replaced with the following, due to the Corona Virus Outbreak:

| <b>PROJECT TIMELINE</b> |                                                             |                             |                       |
|-------------------------|-------------------------------------------------------------|-----------------------------|-----------------------|
| <b>Task No.</b>         | <b>Task Title</b>                                           | <b>Deliverable Due Date</b> | <b>Funding Amount</b> |
| 1                       | Engage Consultant (Contract/Agreement)                      | 11/18/2019                  | \$1,000               |
| 2                       | Outreach & Education                                        | 06/30/2020                  | \$11,000              |
| 3                       | Climate Vulnerability Assessment Report                     | 06/30/2020                  | \$50,000              |
| 4                       | Draft Comprehensive Plan Coastal Management Element Changes | 06/30/2020                  | \$8,000               |
| 5                       | Final Report                                                | 06/30/2020                  | \$5,000               |
| <b>Total</b>            |                                                             |                             | <b>\$75,000</b>       |

All other terms and conditions of the Agreement shall remain unchanged.

CITY OF NAPLES

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
Stephanie Molloy, Grantee Grant Manager

\_\_\_\_\_  
Whitney Gray, DEP Grant Manager

Date: 3/20/2020

Date: \_\_\_\_\_

DEP AGREEMENT NO. **R1910**  
CHANGE ORDER NO. #1

GRANTEE

City of Naples  
735 Eighth Street S.  
Naples, FL 34102

DEP Agreement No. **R1910** as entered into on the 1<sup>st</sup> day of July 2019, is hereby revised as follows:

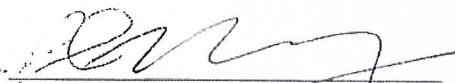
1. **Attachment 3, Grant Work Plan, Task 1, Deliverable Due Date**, is hereby changed to October 11, 2019.

All other terms and conditions of the Agreement shall remain unchanged.

The parties agree to the terms and conditions of this Change Order and have duly authorized their respective representatives to sign it on the dates indicated below.

CITY OF NAPLES

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
Stephanie Molloy, Grantee Grant Manager

Date: 9/9/19

  
Whitney Gray, DEP Grant Manager

Date: 9/9/19

**STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
GRANT WORK PLAN  
DEP AGREEMENT NO.: R1910**

**ATTACHMENT 3**

**Project Title:** Climate Vulnerability Assessment

**Grantee Contact Information:**

Organization Name: City of Naples  
Authorized Signer for the Organization: Bill Barnett  
Title: Mayor  
Address: 735 Eighth Street South  
City: Naples  
Zip Code: 34102  
Area Code and Telephone Number: 239-213-1031  
E-mail Address: [mayorbill@naplesgov.com](mailto:mayorbill@naplesgov.com)

**Grant Manager Contact Information:**

Organization Name: City of Naples  
Grant Manager Name: Stephanie Molloy, Natural Resources Manager  
Address: 295 Riverside Circle  
City: Naples  
Zip Code: 34102  
Area Code and Telephone Number: 239-213-1031  
E-mail Address: [smolly@naplesgov.com](mailto:smolly@naplesgov.com)

**Fiscal Agent Contact Information:**

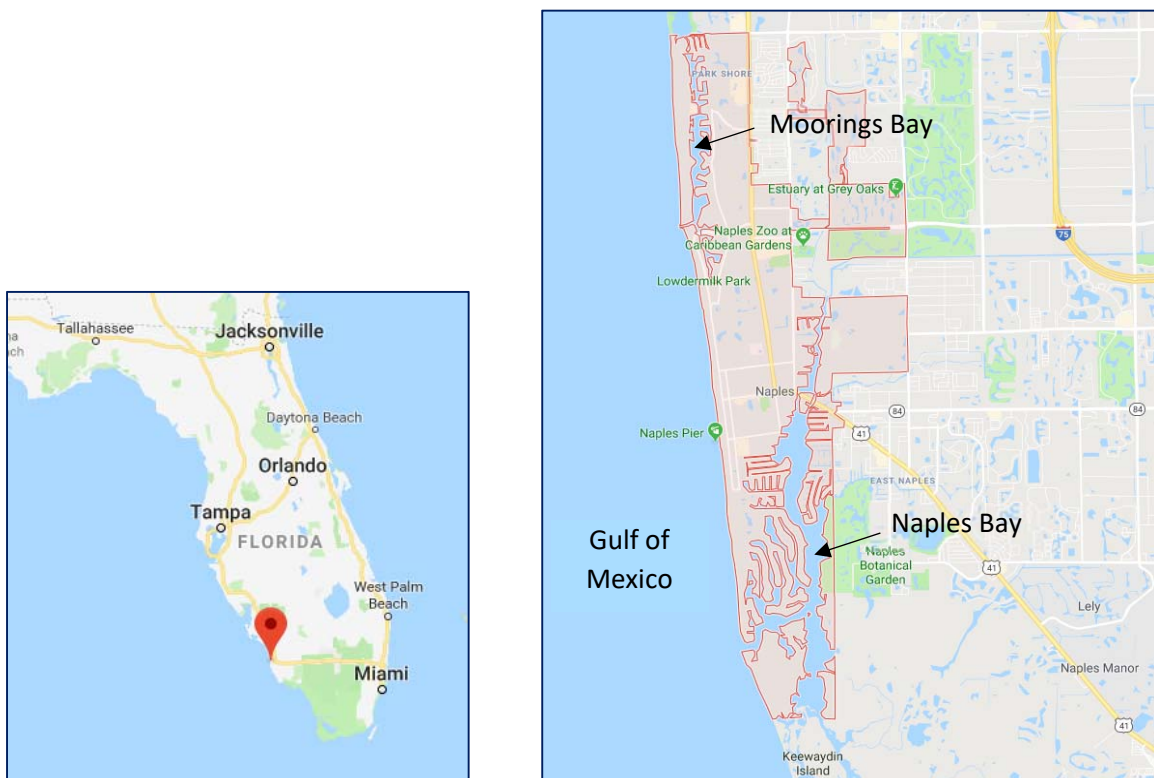
Organization Name: City of Naples  
Fiscal Agent Name: Gary Young, Finance Director  
Address: 735 Eighth Street South  
City: Naples  
Zip Code: 34102  
Area Code and Telephone Number: 239-213-1815  
E-mail Address: [gyoung@naplesgov.com](mailto:gyoung@naplesgov.com)

**FEID No.:** 59-6000-382

**DUNS No.:** 084130293

**PROJECT LOCATION:** The City of Naples is located in Collier County, Florida, on U.S. Highway 41 between Miami to the east and Fort Myers to the north. It is home to approximately 22,000 full-time residents<sup>1</sup>, with the population thought to at least double in season. The City hosts approximately 10,000 businesses<sup>1</sup> and the beaches are the main draw for the county’s tourism - over 1.8 million people visit the area annually, with an economic impact to the region of nearly \$2 billion<sup>2</sup>. Naples-Immokalee-Marco Island was listed as the “healthiest, happiest city in the U.S.” (Gallup) for the third time in a row and is a “Blue Zone Community”<sup>3</sup>.

The City of Naples is a low-lying coastal area (elevation ranges from approximately 3’ – 9’), located on the Gulf of Mexico (Figure 1). There are two major inlets, Moorings Bay in the north of the city, and Naples Bay in the lower two-thirds of the city. Much of the coastal development is reclaimed mangrove swamp that was cleared and dredged to form subdivisions. Most of the city’s Gulf coastline is comprised of residential single-family homes and condominiums. The median home value in Naples is \$853,000 (2013-2017)<sup>1</sup>, with prices on the beach or bay reaching up to \$50 million. Taxable values in Naples were \$21.6 billion in 2016. The beaches are narrow, with low narrow vegetated dunes in some, but not all, areas. The east side of Naples Bay is largely comprised of mangrove estuary, with the southeast end comprising part of the Rookery Bay National Estuarine Research Reserve.



**Figure 1. Left – map showing location of the City of Naples, Florida. Right – red shaded area delineates the City of Naples.**

## WORK PLAN

1. **Project Summary:** The coastal City of Naples is at high risk from threats associated with sea level rise and climate change. Delaying action is costlier than taking incremental actions now to mitigate and adapt for impacts. The City of Naples will develop a Climate Vulnerability Assessment, identifying the risks on public assets and critical infrastructure (built and natural). Understanding these risks will allow the City to develop a Climate Adaptation Plan for resources

and assets most affected. Draft language will be developed for the City's Coastal Management Element of its Comprehensive Plan to comply with the "Peril of Flood" statute.

2. **Project Description:** One way to reduce impact severity of sea level rise and natural disaster events is to strengthen the ability of the Naples community to respond and build a capacity for resiliency. The first step in resiliency building and adaptation is to determine what resources are at risk to sea level rise and climate change impacts. The Climate Vulnerability Assessment will identify how and to what degree Naples' assets and infrastructure, both built and natural, are vulnerable to climate impacts and sea level rise. The assessment will utilize NOAA sea level rise projections, models, maps, and other tools generated by a University of Florida and Florida Gulf Coast University Sea Level Rise mapping and modeling project of Collier County ("A Web-based Interactive Decision-support Tool for Adaptation of Coastal Urban and Natural Ecosystems (ACUNE) in Southwest Florida"; 2017 NOAA National Centers for Coastal Ocean Science award) to assess the vulnerability of the City of Naples' public assets and infrastructure to a changing climate.

The goal is to identify critical systems and assets by assessing their sensitivity and adaptive capacity to eventually rank them by vulnerability levels. Sensitivity levels indicate the degree to which a system might be affected from climate impacts by determining how much exposure it receives. Adaptive capacity reflects a system's ability to respond successfully to climate variability or extreme events. Both indicators combine for an overall vulnerability ranking that reflects how susceptible the systems or sub-systems are to the effects of climate change. Infrastructure includes transportation like roads, bridges, and airports while utilities include water supplies, wastewater management, and stormwater management. Natural infrastructure and environmental resources include water bodies and waterways, seagrass beds, oyster reefs, and mangrove estuarine habitat.

The public will be engaged via public meetings, and the development of a webpage on the City of Naples website that provides basic information on climate change impacts, sea level rise, and uploads of this project's products, including the Climate Vulnerability Assessment report.

Draft changes to the City's Coastal Management Element of its Comprehensive Plan will also be produced. The Comprehensive Plan is designed as a blueprint for development, establishes the regulatory framework for growth, and is used as a guide for land use decision making. Local governments must relate all development decisions to the Plan and not approve any development programs or actions that would be inconsistent with it. The Plan must be firm enough to provide adequate direction, yet flexible enough to deal with new problems and challenges. A key to decision making regarding development and protection of natural resources in the City is an understanding of those resources that are at risk to sea level rise and climate change impacts. The Climate Vulnerability Assessment will be used to drive draft changes to the Coastal Management Element of the City's Comprehensive Plan to guide planning and resource management decisions.

### 3. **Project Need and Benefit:**

#### **a. Explain the demonstrated need, which the project addresses.**

Understanding current and future sea level trends is vital for assessing the risk sea level rise has on coastal Florida communities and infrastructures. Sea level change is contributed by the transfer of fresh water from land to oceans and thermal expansion of ocean water caused by higher global temperatures (DOE, 2014). The City of Naples has many low-lying streets, low and deteriorating seawalls, a lack of greenspace, and aging infrastructure. Coastal community infrastructures are fixed in place and built to withstand a certain level of storm surges but were not built to accommodate vast increases of sea level rise nor the cumulative effect sea level rise and more

frequent/more intense storms. Over time these buildings could begin to deteriorate with too much damage to the point of collapsing. A good portion of the inland areas of Florida are low and flat, which adds to the effect sea level rise has on the state (FOCC, 2010). Sea level rise increases the chance of contamination in freshwater supplies with a higher concentration of saltwater (Bloetscher et al., 2011). Saltwater is capable of penetrating further inland into upstream rivers, bays, wetlands, and aquifers with the rise of sea level. The increase in salinity would be harmful to aquatic plants and animals, as well as become a threat to human used water sources (Titus et al., 1991), such as aquifers. Natural resource areas far inland from the coastline, like Florida's Biscayne Aquifer, experience saltwater intrusion, which affects the water supply for drinking, cooking, bathing, and to the point where the water is too salty for human consumption or use (FOCC, 2010). Sea level rise may push mangrove/wetland communities further inland, or if urbanization prevents this migration, it may eliminate these natural resources. Aquatic plants can adapt to slight changes in salinity, but a rapid increase of saltwater intrusion could lead to a major die off if plants are unable to adjust. A vulnerability assessment will support an adaptation plan allowing the identification of areas and systems most likely to be impacted by projected climate changes and build an understanding as to why these areas are vulnerable.

The rate of sea level rise considers the global and local effects into current findings. The projection of sea level rise in the City of Naples by the year 2050 will reach to 11 inches over the course of 40 years (Zervas et al., 2009). King tide flooding increasingly affects coastal areas by reducing property values, lowering coastal infrastructure values, and increasing salinity levels, which kills coastal forests as well as contaminating freshwater supplies (Climate Central, 2018). Figure 1.1 shows the result of a 2018 King Tide flood in Naples Bay, with the water level rising higher than a private dock. Global warming has progressively made sea level rise worse and the additional rise with a King Tide makes flooding in low level areas of Florida more severe. The southwest coastline of Florida has a moderate to high vulnerability to sea level rise (Figure 1.2). Although the threat of sea level rise is not as major on the southwest coast as the southeast, there are problems that will affect the coastline throughout this century. Nuisance flooding will continue occurring as sea level rises and King Tides increase in size during the tidal cycle. Since 1900, about 6 inches of the world's sea level rise is due to human-caused global warming and shows an acceleration to be expected with the current carbon emission levels (Climate Central, 2016). The outcome of continued flooding will erode beaches at a faster pace, result in road closures, cause sewage overflows, and negatively impact intertidal reefs and mangrove estuaries.



**Figure 1.1 King tide flooding docks in the City of Naples Level Rise**



**Figure 1.2 Vulnerability to Sea**

A rapid increase in the average temperature of the United States has occurred over the past decades. The progression of temperature change has been inconsistent since the beginning of the 20<sup>th</sup> century, but there is a range of an average temperature increase based over different periods in the last century. The temperature increase throughout 1895-2016 is assessed as 1.2°–1.8°F (CSSR, 2017). The increase in temperature could have major implications for natural and built systems further in the future. The Fifth Assessment Report (AR5) written by the

Intergovernmental Panel on Climate Change (IPCC) states that the observed changes in frequency and intensity of temperature extremes are highly likely caused by human activity (Bindoff et al., 2013). Greenhouse gas concentrations are quickly warming the Earth and if the current trend continues the average temperature increases are projected to range between 2.5°- 2.9°F between 2021-2050. As the average temperature increases, we will start seeing record-breaking temperature years become a common thing (CSSR, 2017). With increased temperatures comes more frequent and higher intensity storms, such as hurricanes. The number of Category 4 and 5 hurricanes has increased since the 1980s due to warmer sea surface temperatures. Warmer climates increase hurricane precipitation near the eye of the storm by 20% and the intensity of storms expect to increase by 2-11%. Sea level rise aids in the destruction hurricanes and other storms have on coastal communities. Flooding, infrastructure and community damage, and storm surges have increased in severity when hurricanes hit as a result of sea level rise (Bradford, 2019). Tourism in Naples is growing with over 1.7 million visitors who spend over \$2 billion annually. The economy relies on visitors to increase revenue for the city, but the effects of sea level rise, climate change, and increased temperatures could show a decrease in visitors and revenue over time.

**The City of Naples is a coastal community** that provides utility services that include potable water treatment and distribution, wastewater collection and treatment and reuse water distribution. The City's utility services area extends beyond the city limits into unincorporated Collier County. The wastewater collection system is a conventional system with gravity sewer mains and a series of pump stations that transfer the collected sewage to the city's treatment plant located on the Gordon River.

The wastewater system has 123 submersible pump stations constructed as early as the 1950's. These stations were constructed at ground elevation with the electrical panels within the flood plain. The pump stations and associated infrastructure in the immediate coastal areas would be affected by a rise in sea level. Flooded areas would cause the wastewater collection to fill with surface water rendering them useless.

Flooded areas would limit access to the potable water system concerning system maintenance related to water main repairs and reading the water meters. Health and safety of the public would be jeopardized if the Fire Department could not locate or access fire hydrants for fire protection.

Naples Airport is a key driver of regional tourism and business that is estimated to contribute \$284 million annually to the economy. The airport served an average of 300 operations per day in 2018 with 380 aircraft based at the field and many more visiting during the winter months. Additionally, critical public services such as EMS, the Collier County Sheriff and Mosquito Control are based at and operate from the Naples Airport. It is also a critical community asset in times of need, such as in response to hurricanes and wildfires, for humanitarian aid and logistical support needed by the community.

However, the airport is also vulnerable since runways stand at an elevation of only 5-7 feet above sea level and is bordered on its west and south sides by the Gordon River and Naples Bay respectively. Routine flooding of runways and other airport facilities would be detrimental for necessary access to the community and the critical services provided.

**The City of Naples has lost much of its natural habitat through urbanization**, including major losses of oyster reef, seagrass habitat, and mangrove habitat. The remaining habitat is vital to the City as natural habitat, for the ecological services they provide, and for protection from sea level rise and storm surge. The City has an understanding of the importance of these natural resources and is undertaking an oyster reef restoration project to construct some of the lost oyster

reef habitat and restore these functions to a part of Naples Bay, however little is known of the risk these resources in the City are subjected to as a result of projected of sea level rise and climate impacts such as more frequent and more intense storms. Mangrove estuaries, oyster reefs, and beaches, which provide fishery habitat and flood protection, are highly vulnerable to sea level rise and climate change stressors. This project will identify natural habitat critically at risk from sea level rise and storm surge that should be conserved, and those natural habitat components such as oyster reef that should be enhanced and/or expanded, to protect from sea level rise and storm impacts.

**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.**

On May 21, 2015, Governor Rick Scott signed into law Florida Senate Bill 1094, “An Act relating to the peril of flood.” SB 1094 requires local governments to address future flood risk from high-tide events, stormwater runoff, storm surge and sea level rise in the coastal management element of their comprehensive plan. The 2015 Florida Peril of Flood Act addresses flood risks to real property and the built environment. **This project will meet the purpose of Priority Area 1** through the production of a Climate Vulnerability Assessment, which will provide valuable information in meeting the “Peril of Flood” act requirement by determining the level of risk to flooding of City-owned property and infrastructure, including natural infrastructure, as a result of climate change impacts and sea level rise. Figure 1.3 provides four sea level rise scenarios reaching the end of the century. The highest scenario of sea level rise is based on a combination of ocean warming and the maximum loss of glacier and ice sheet melting. The lowest scenario is based on tide gauge records for the past century showing an 8-inch increase in sea level (Parris, et al., 2012). The same increase is anticipated for the current century. These scenarios will help describe potential conditions for the future to facilitate decision-making processes. A vulnerability assessment will be conducted to retrieve reliable data on where effects of sea level rise occur in the city, who may be affected, and what infrastructures/populations are the focus.

**Project products:**

- City of Naples Climate Vulnerability Assessment Report, that encompasses at least two seal level rise scenarios, and incudes inundation maps of critical built and natural infrastructure under these scenarios, a narrative describing the resources and their risks, and a ranking of risk vulnerability of these resources.
- The agendas, minutes and presentations of at least two public meetings.
- Draft Coastal Management Element of the City’s Comprehensive Plan (compliant with the “Peril of Flood” act).

Vulnerability assessments are science-based and identify how and why coastal resources are affected by present and future climate conditions. Information can allocate limited resources efficiently by identifying manageable areas that need a response of action. Assessments can also explain why a resource is vulnerable or not to climate change or sea level rise, which could provide a proper response in how to properly manage the situation (Hutto et al., 2015). Current trends help predict future impacts sea level rise will have on the coast. Initially focusing on sea level rise and storm surges will form a basis for researching other natural and man-made disasters occurring more frequently. North America consists of varying subregions and the potential climate change effects are important to note. There are positive and negative effects towards ecosystems that are sensitive to changes in climate. Vulnerability assessments address all the major possibilities sea level rise and climate change have on a region. Water sources, food productivity, coastal systems, and human health are topics addressed in vulnerability assessments. An increase in runoff during winter and spring with a decrease in soil moisture and runoff during summer are potential impacts. Increasing temperature scenarios are projected to have negative

impacts in eastern, southeastern, and corn belt regions, but northern plains and western regions are projected to have positive effects. Sea level rise will eventually push wetlands and beaches closer to dikes and seawalls built to protect coastal infrastructures and homes. The intruding saltwater could potentially seep further into freshwater supplies in several areas along the coasts affecting human health (Watson, et al., 1997). Adapting management plans with detailed figures and maps allows the chance to lessen and likely avoid further damage to areas with existing effects from sea level rise and climate change.

The Climate Vulnerability Assessment will utilize data and output from a Florida Gulf Coast University / University of Florida NOAA-funded study “A Web-Based Interactive Decision-Support Tool for Adaptation of Coastal Urban and Natural Ecosystems (ACUNE) in Southwest Florida”, and will assess at least two sea level rise scenarios as identified from this study. Inundation maps for at least two sea level rise scenarios derived from this study will be utilized for overlay with built and natural resources infrastructure to assess vulnerability.

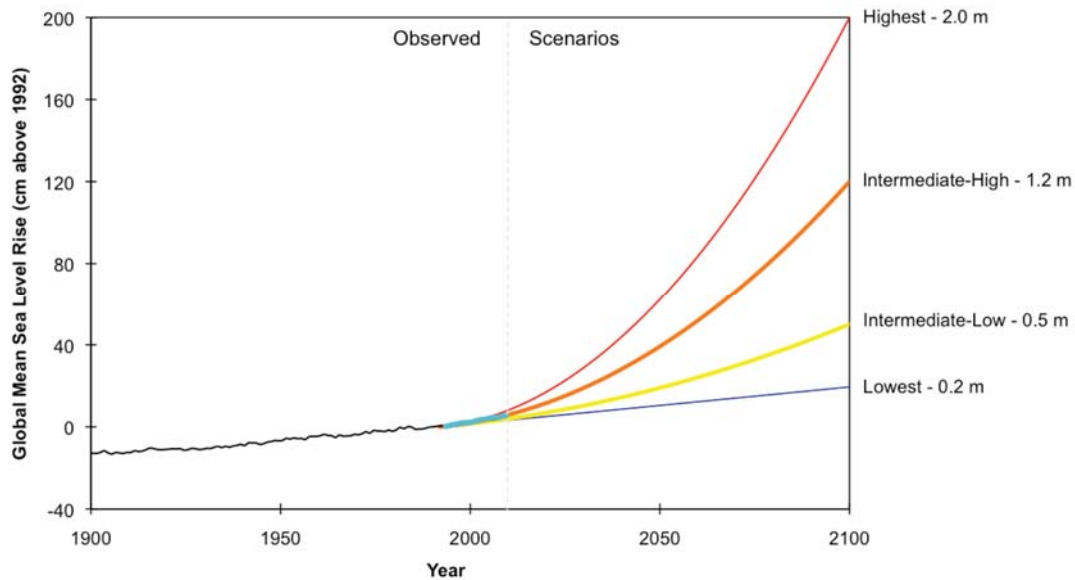
Public meetings will be conducted to educate City Council and all members of the public on climate vulnerability and the risk towards the city’s resources. These meetings will allow the opportunity for people to voice their concerns related to climate vulnerability and provide input to the process. The City of Naples will also develop a webpage providing updated educational information on climate vulnerability. The educational webpage will provide general information on the potential impacts of sea level rise and climate change to the community, include maps of built and natural resources at risk in the community, and once the Climate Vulnerability Assessment report is developed from this grant it will also be posted on the site.

The City of Naples will produce a draft proposed comprehensive plan as part of the project funded by the grant. Suggested changes to the Coastal Management Element of the City’s Comprehensive Plan will be produced that will comply with the “Peril of Flood” act. The City is currently undergoing an update of its Comprehensive Plan, including the Coastal Management Element. Minor changes to the plan have been submitted to the state, however, further detailed changes will be made as the language is more critically evaluated and refined in line with the results of the City’s Vision Update currently in process. The Climate Vulnerability Assessment will provide valuable information for input in the Coastal Management Element planning section. This will identify coastal zone boundaries, natural resources in need of preservation or restoration, manageable uses and activities, and an outline of a management program. The draft proposed amendments will be produced in strike-through and underline format as required for City Council.

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

**i. RPG’s have a deadline of June 19, 2020**

The project timeline below lays out each task that will be conducted throughout the full year provided by the grant. The project is feasible and will be completed by the RPG deadline. Upon award status we will begin by engaging with a consultant to start a contract/agreement for an evaluation and agreement negotiations for the RFP bid. Context will be set by building a team and engaging stakeholders and partners in the study area. Environmental themes and indicators will be laid out to focus on for the assessment. We plan to spend around forty-five days working on this first task.



**Figure 1.3 Sea Level Rise Scenarios**

The second task will involve public outreach and education. Throughout the course of the project a webpage will be developed with current information on the Climate Vulnerability Report. Once the report is finished, the webpage will be updated with the final draft for the public to read. Two public meetings will be held during City Council Workshops so council and members of the public can learn about the process and voice their opinions and concerns. These meetings will be held once in the fall and once in the spring to allow ample time to make adjustments based on input from the public.

The third task is a Climate Vulnerability Report that will be developed at the start of the project with a finishing date at the end of May 2020. This report will build an understanding of current exposure and sensitivity to climate change and sea level rise. It will utilize products such as inundation maps from a local study. These available data and maps will strengthen the project's ability to complete these tasks on schedule.

The fourth and final task is a draft of the Comprehensive Plan for Coastal Management Element changes developed mid-project and finalized by June 19<sup>th</sup>, 2020 in time for the RPG deadline. An estimation of future vulnerability and risks combined with results of the analyses for all elements will set the stage for adaptation actions. The timeline portrays a manageable workload for all tasks to be finished by each specific deadline with limited overlapping to cause an overflow of work.

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

|                        |                             |
|------------------------|-----------------------------|
| <b>FIXED PRICE</b>     | <b>Grant Amount Awarded</b> |
| <b>AGREEMENT TOTAL</b> | <b>\$75,000</b>             |

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. Request 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**

| <b>Task No.</b> | <b>Task Title</b>                                           | <b>Deliverable Due Date</b> | <b>Funding Amount</b> |
|-----------------|-------------------------------------------------------------|-----------------------------|-----------------------|
| 1               | Engage Consultant (Contract/Agreement)                      | 09/18/2019                  | \$1,000               |
| 2               | Outreach & Education                                        | 04/30/2020                  | \$11,000              |
| 3               | Climate Vulnerability Assessment Report                     | 04/30/2020                  | \$50,000              |
| 4               | Draft Comprehensive Plan Coastal Management Element Changes | 04/30/2020                  | \$8,000               |
| 5               | Final Report                                                | 04/30/2020                  | \$5,000               |
| <b>Total</b>    |                                                             |                             | <b>\$75,000</b>       |

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:** Engage Consultant (Contract/Agreement)

**B. Description:**

An environmental consultant will be selected to gather the information and conduct a Climate Vulnerability Assessment for the City of Naples' public critical built and natural infrastructure and resources, and to draft Comprehensive Plan Coastal Element language that complies with the "Peril of Flood" act. Selection of the consultant will take place via a Formal Competitive Bid process, specifically the Formal Proposal Process, whereby a Request for Proposals (RFP) will be developed and publicized on the City's website and also sent out via email blast to identified potential bidders. The City will identify evaluation criteria for the submitted proposals, to determine the most qualified, responsive and responsible proposer. The City will select a five-member evaluation team, and then enter negotiations with the selected firm. The resulting contract/agreement will be presented to City Council at a regular council meeting for approval.

- C. Deliverable:** Submit a copy of the consultant RFP, council meeting agenda and minutes including the results of any applicable votes, and consultant contract/agreement for City of Naples Climate Vulnerability Assessment.

**Task # 2**

- A. Title:** Outreach & Education

**B. Description:**

**1) Develop Webpage**

An educational website will provide public access to current information on the Climate Vulnerability Report. Once the report is finalized, the public will have an updated assessment of future vulnerability scenarios and risks. The webpage will present scientific articles related to sea level rise and climate change to inform the public on risks coastal southwest Florida could endure in the future. Updated pictures, maps, and figures will provide a visual for past and present conditions of Naples. Before and after images of storms, like hurricanes, will present the effects of climate change and how much the coast is altered. Pictures will be added on the webpage portraying sea level rise on the coast and within the bays, like the flooding of areas due to King Tide or storm surges. The webpage will be informative and interactive for all viewers to be updated on current data and provide a basis of information for public meetings.

**2) Public Meeting 1 (Fall 2019)**

The first public meeting will be a starting point to increase awareness of the sea level rise and climate issues to the Naples community. A presentation on Climate Vulnerability will be made. The meeting will allow the public the chance to express concerns regarding sea level rise and climate change vulnerability in Naples. This educational and interactive opportunity will inform the public how the city is preparing to mitigate the growing problem. A record of the input from the community will be posted onto the webpage and the public will be notified of the additional public meeting at a later date.

**3) Public Meeting 2 (Spring 2020)**

The second public meeting will begin with a synopsis of the first meeting to inform any new individuals. A detailed discussion will announce the actions that have been taken since the beginning of the Climate Vulnerability Report. All new data will be presented with provision for Council questions and public input.

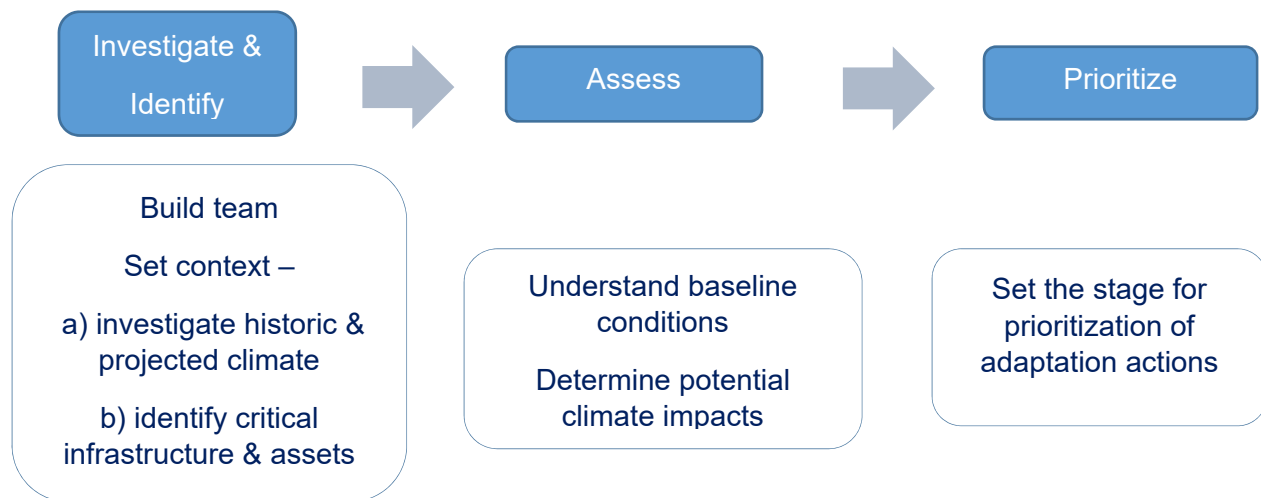
- C. Deliverables:** Submit agendas, sign-in sheets, minutes, presentations, & webpage updates for each Public Meeting.

**Task # 3**

**A. Title:** Climate Vulnerability Assessment Report

**B. Description:**

The Climate Vulnerability Assessment Report will be compiled by the consultant selected in Task 1. The report will provide a narrative description focusing on environmental themes and indicators. The methodologies of the research will be discussed to evaluate the effectiveness of the report. Critical systems, including built and natural City assets will be identified to build an understanding of the current exposure and sensitivity Naples has to sea level rise and climate change. The environmental systems effected by sea level rise and climate change will be summarized in the report. Potential examples include surface water quality, aquatic vegetation and terrestrial wildlife, air quality, and infrastructures. Credible evidence of sea level rise and climate change will be presented to explain the methods and data sources. Relevant statistics and a relative timeline of sea level rise and climate change will be summarized to cover the background of the report. Additional information will be applied to scenarios incorporating future climate projections of non-climatic factors, like population growth and development. The report will analyze all elements to set the stage for prioritizing adaptation actions and to finalize an environmental management plan. It will include maps of city built and natural infrastructure, with an impact analysis showing at least two sea level rise scenarios, sunny day king tide flooding, and potential effects of storm surge. The assessment and report development will follow the process shown in the diagram below:



**C. Deliverable:** Submit a copy of the City of Naples Climate Vulnerability Assessment Report

**Task # 4**

**A. Title:** Draft Comprehensive Plan Coastal Management Element Changes

**B. Description:**

The project will identify effective adaptation strategies, to comply with the “Peril of Flood” statute (Sec.163.3178(2)(f)F.S.) Coastal Management Element required for the Comprehensive Plan. The goals, objectives and policies of this element will be drafted pursuant to Sec.163.3178(2)(f) F.S. The draft Coastal Element revision will be underlined for additions and strike-through for deletions, as typically presented to City Council for review.

The purpose of the Conservation and Coastal Management Element is to provide direction for protection, preservation and enhancements of the City’s natural and coastal resources which is vital for the community’s long-term economic, environmental, social and aesthetic values. The

goal, objectives and policies of this element will address the management and utilization of the natural resources of the City's coastal environment, taking into account the vulnerabilities identified in the Climate Vulnerability Assessment. The draft Coastal Management Element will set the stage for prioritization of adaptation actions.

**C. Deliverable:** Submit a copy of the Draft Comprehensive Plan Coastal Management Element

**Task # 5**

**A. Title:** Final Report

**B. Description:**

A Final Report for the project will be produced, summarizing the project goals and outcomes. Project products, e.g. Climate Vulnerability Assessment report and draft Coastal Management Element for the Comprehensive Plan will be included as addenda.

**C. Deliverable:** Submit a Final Project Report (Exhibit F)