



EasyGrantsID: 68852

National Fish and Wildlife Foundation – National Coastal Resilience Fund 2020, Full Proposal

Title: Old Tampa Bay Philippe Park Seawall Enhancement (FL)

Organization: Pinellas County

### Grant Information

#### Title of Project

Old Tampa Bay Philippe Park Seawall Enhancement (FL)

<b>Total Amount Requested</b>	\$ 130,000.00
<b>Matching Contributions Proposed</b>	\$196,000.00
<b>Proposed Grant Period</b>	01/01/ 2021 - 01/31/ 2022

#### Project Description

This project consists of site assessment and preliminary design of 2,850 linear feet of seawall enhancement options in Tampa Bay, at Philippe Park in Safety Harbor, Florida, with a goal of demonstrating and monitoring several treatments to compare resiliency against storm surges and sea level rise, create salt marsh and oyster reef habitat, and assess cost-effectiveness and applicability for implementation along other critical, hardened shorelines in Pinellas County. The immediate outcome of the project will be 60% design of several different living shoreline treatments, both traditional and innovative, along a concrete seawall, baseline monitoring, and creation of an effective decision-support tool and performance matrix to assess future living shoreline projects. The ultimate outcome will be installation of the chosen treatments based on input from a technical working group, increased aquatic habitat, public education, long-term monitoring, and application throughout the region.

#### Project Abstract

This project focuses on seawall enhancement initiatives in Tampa Bay, Florida’s largest open water estuary, to create aquatic habitats and improve coastal resiliency. The project area is located within the County-owned Philippe Park, in the City of Safety Harbor, Pinellas County, Florida. The County seeks to restore wildlife and aquatic habitat and protect an existing traditional seawall which must remain to protect a national historic landmark. This site will serve as a demonstration project since much of Pinellas County’s critical infrastructure is protected by similar hardened seawalls. A consultant will be hired to conduct a technical site assessment and design multiple living shoreline treatments for the 2,850 linear foot seawall, which will create salt marsh, oyster reef habitat, bird wading areas, and protection for aquatic species. A direct result will be 60% design of multiple options, prioritized for implementation leveraging the County’s future capital improvement funding, and baseline monitoring. An existing County-based, sea-level rise tool will be enhanced to compare effectiveness and adaptability of different designs for application throughout the County. A technical working group consisting of local, state, and federal officials, local stakeholders, and habitat restoration experts/practitioners will assess options, inform tool development, and assist with outreach. The project is supported by priorities listed in several regional plans.

#### Organization and Primary Contact Information

Organization	Pinellas County
Organization Type	State or Local Government
City, State, Country	*,Florida,North America - United States

Region (if international)

<b>Primary Contact</b>	Stacey Day
Position/Title	



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Phone and E-mail

x ; sday@pinellascounty.org

### Additional Contacts

Role	Name



NFWF

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### **Project Location Information**

Project Location Description	Philippe Park, City of Safety Harbor, Pinellas County, Florida
Project Country(ies)	North America - United States
Project State(s)	Florida
Project Congressional District(s)	District 12 (FL) District 13 (FL)

### **Permits and Approvals**

Permits/Approvals Description:

Permits/Approvals Status:

Permits/Approvals Agency-Contact Person:

Permits/Approvals Submittal-Approval Date:



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**Activities and Outcomes**

**Funding Strategy: Capacity, Outreach, Incentives**

Metric: Resilience - Outreach/ Education/ Technical Assistance - # gov't entities participating

Required: Recommended

Description: Enter the number of municipalities, local, state, and federal government entities participating in the project and add the names of these institutions in the notes.

**Starting Value**                    0.00 # gov't entities participating  
**Target value**                    8.00 # gov't entities participating

Note: As part of the technical working group that will help choose potential seawall enhancement options and help hone the living shoreline decision matrix tool, at least 8 government entities will participate, including municipalities, counties, and state entities, as well as nonprofits and, potentially, private company representatives.

**Funding Strategy: Capacity, Outreach, Incentives**

Metric: Resilience - Outreach/ Education/ Technical Assistance - # people reached

Required: Recommended

Description: Enter the number of people demonstrating a minimum level of knowledge, attitudes, or skills to enable them to become resiliency leaders. This metric refers to people other than staff or FTEs who are engaged in comprehensive planning and prioritization. In the notes include the participant demographics.

**Starting Value**                    0.00 # people reached  
**Target value**                    550.00 # people reached

Note: One-on-one interactions with at least 50 participants at 2 living shoreline workdays are planned. Pre- and post-event surveys will be part of these events, in order to measure knowledge gained during the events. Additionally, brochures about coastal resilience and living shorelines/seawall enhancements will be created and made available at the park and in city and County offices, and the number taken/distributed during the project period will be quantified, with an initial target of 500 brochures. Educational signage will be posted at the park, so many more people will be reached, but it will not be possible to quantify that number.





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**I. PERSONNEL \$0.00**

Staff Name	Position	Annual Salary	Project Hours	Hourly Rate	LOE (%)	Project Salary	% Fringe	\$ Fringe	Total Personnel

Totals \$0.00 \$0.00 \$0.00

**II. TRAVEL \$0.00**

Domestic Airfare – Per Flight

Purpose/Destination	Unit Cost	Quantity	Total Cost

SubTotal \$0.00

International Airfare – Per Flight

Purpose/Destination	Unit Cost	Quantity	Total Cost

SubTotal \$0.00

Train – Per Ticket

Purpose/Destination	Unit Cost	Quantity	Total Cost

SubTotal \$0.00



Title: Old Tampa Bay Philippe Park Seawall Enhancement (FL)  
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**Rental Car – Per Day**

Purpose/Destination	Days/Duration	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>				<b>\$0.00</b>

**Taxis – Per Trip**

Purpose/Destination	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>			<b>\$0.00</b>

**Mileage – Per Mile**

Purpose/Destination	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>			<b>\$0.00</b>

**Gasoline – Per Gallon**

Purpose/Destination	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>			<b>\$0.00</b>

**Per Diem (M&IE) – Per Day**

Purpose/Destination	Days/Duration	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>				<b>\$0.00</b>



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**Lodging – Per Night**

Purpose/Destination	Days/Duration	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>				<b>\$0.00</b>

**Meals (no M&IE) – Per Meal**

Purpose/Destination	Days/Duration	Unit Cost	Quantity	Total Cost
<b>SubTotal</b>				<b>\$0.00</b>

**III. EQUIPMENT \$0.00**

Item Name	Description	Unit Cost	Quantity	Total Cost

**IV. MATERIALS & SUPPLIES \$0.00**

Type	Purpose	Unit of Measure	Unit Cost	Quantity	Total Cost

**V. CONTRACTUAL SERVICES \$130,000.00**

**Subcontract/Contract – Per Agreement**

Contractor Name	Description	Total Cost
Environmental Science Associates	Site assessment and up to 60% design	\$109,000.00
University of South Florida	Wave energy data collection and analysis	\$21,000.00
<b>SubTotal</b>		<b>\$130,000.00</b>



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**Subgrant – Per Agreement**

Subrecipient	Description	Total Cost

**SubTotal** **\$0.00**

<b>VI. OTHER DIRECT COSTS</b>	<b>\$0.00</b>
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Type	Purpose	Unit of Measure	Unit Cost	Quantity	Total Cost

<b>VII. TOTAL DIRECT COSTS</b>	<b>\$130,000.00</b>
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<b>VIII. INDIRECT COSTS</b>	<b>\$0.00</b>
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Explanation of Modified Total Direct Cost Base(MTDC)	Rate Type	NICRA Expiration	\$MTDC	Rate(%)	Total Cost

<b>IX. TOTAL PROJECT COSTS</b>	<b>\$130,000.00</b>
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### Budget Narrative

**Budget Narrative:** Please follow up if more detail is needed. There didn't seem to be much detail in the contract services area, which is the only area we are submitting for. Thanks!

#### 1. Personnel

Personnel -

#### 2. Travel

Domestic Airfare - Per Flight -

International Airfare - Per Flight -

Train - Per Ticket -

Rental Car - Per Day -

Taxis - Per Trip -

Mileage - Per Mile -

Gasoline - Per Gallon -

Per Diem (M&IE) - Per Day -

Lodging - Per Night -

Meals (No M&IE) - Per Meal -



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### 3. Equipment

Equipment -

### 4. Materials and Supplies

Materials and Supplies -

### 5. Contractual Services

Subcontract/Contract - Per  
Agreement -

1) ESA will perform all site assessment work, produce 30% and 60% design plans for seawall enhancement options, including a variety of plans that can be scaled up throughout the County, and assist with pre-app permit meetings. Costs were estimated from a draft scope of work received from ESA. ESA is one of several firms on the County's General Engineering Contract (GEC), selected under the State of Florida Consultants' Competitive Negotiation Act (CCNA).  
2) USF will perform pre-construction baseline wave energy monitoring and analysis for 9-12 months, which will be followed up with post-implementation monitoring (with another funding source) to measure wave energy dissipation from living shoreline elements as compared to a sterile seawall. The lead on this monitoring effort has provided the County an estimate of costs associated with this monitoring. The County has a contract agreement in place for work done through USF, a public state university.

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Subgrant - Per Agreement -

### 6. Other Direct Costs



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Other Direct Costs -

## 7. Indirect Costs

Indirect Costs -



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**Matching Contributions**

<b>Matching Contribution Amount:</b>	\$144,000.00
<b>Type:</b>	Cash
<b>Status:</b>	Pledged
<b>Source:</b>	Tampa Bay Estuary Restoration Fund
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	Materials and installation of living shoreline elements at south end of Philippe Park, which will allow side-by-side comparison with planned seawall enhancements.

<b>Matching Contribution Amount:</b>	\$10,000.00
<b>Type:</b>	In-kind
<b>Status:</b>	Pledged
<b>Source:</b>	Pinellas County
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	Staff time for baseline water quality monitoring in the project area at least every quarter and data management, approx \$5,000. Supplies for monitoring events and lab analysis of full suite of parameters, approx \$5,000.

<b>Matching Contribution Amount:</b>	\$3,000.00
<b>Type:</b>	In-kind
<b>Status:</b>	Pledged
<b>Source:</b>	Technical working group and Pinellas County
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	Volunteer time to participate in technical working group, approx 2 hours quarterly, 10 members. County staff time to oversee working group and collate pertinent materials for improving decision matrix tool, approx 40 hours over project.

<b>Matching Contribution Amount:</b>	\$9,000.00
<b>Type:</b>	Cash
<b>Status:</b>	Pledged





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<b>Source:</b>	Pinellas County
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	A coastal conditions model will be created and analysis performed for the current living shoreline project. This model will be tweaked and extended to include the proposed seawall enhancement area, which will be a cost-savings to the current project.

<b>Matching Contribution Amount:</b>	\$20,000.00
<b>Type:</b>	In-kind
<b>Status:</b>	Pledged
<b>Source:</b>	Pinellas County
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	Estimated cost of acoustic doppler wave sensor, full set-up, for baseline wave energy monitoring in front of the seawall. Will also be used for post-project monitoring to measure wave dissipation due to seawall enhancement.

<b>Matching Contribution Amount:</b>	\$10,000.00
<b>Type:</b>	In-kind
<b>Status:</b>	Pledged
<b>Source:</b>	Pinellas County
<b>Source Type:</b>	Non-Federal
<b>Description:</b>	Staff time and materials for 1) Educational signage at Philippe Park: design and install; 2) Brochures: design and print; 3) Surveys: design, facilitate, and analyze.

<b>Total Amount of Matching Contributions:</b>	\$196,000.00
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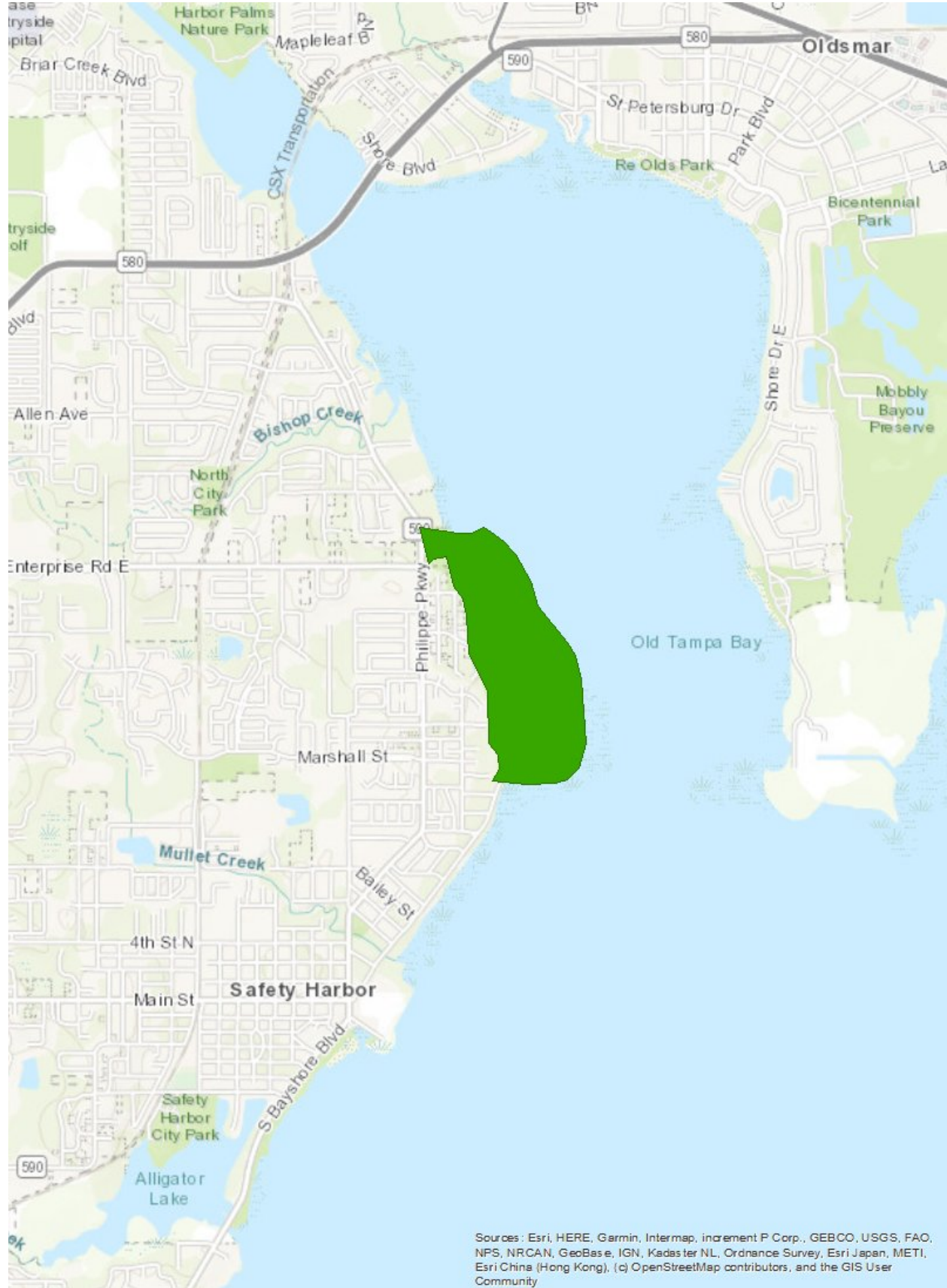
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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



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The following pages contain the uploaded documents, in the order shown below, as provided by the applicant:

Upload Type	File Name	Uploaded By	Uploaded Date
NCRF Full Proposal Narrative 2020	NCRF Full Proposal Narrative Pinellas Co.docx	Day, Stacey	06/25/2020
Project Map	PhilippeTB.pdf	Day, Stacey	06/18/2020
Project Map	PhilippeParkProjectMap.pdf	Day, Stacey	06/24/2020
Letters of Support	Letters of Support Pinellas County.pdf	Day, Stacey	06/25/2020
Photos - Jpeg	Photo 1.JPG	Day, Stacey	06/24/2020
Photos - Jpeg	Photo 2.jpg	Day, Stacey	06/24/2020
Photos - Jpeg	Photo 3.jpg	Day, Stacey	06/24/2020
Statement of Litigation	Statement+of+Litigation.doc	Day, Stacey	06/18/2020
Board of Trustees, Directors, or equivalent	Pinellas County Board.docx	Day, Stacey	06/18/2020

The following uploads do not have the same headers and footers as the previous sections of this document in order to preserve the integrity of the actual files uploaded.



## Philippe Park Seawall Enhancement, Full Proposal Project Narrative

**Priority Addressed:** Project Site Assessment and Preliminary Design

### 1. Coastal Community Context:

Pinellas County, located on the central western coast of Florida, is described as a “peninsula on a peninsula,” bordered by the Gulf of Mexico on the west and Tampa Bay to the south and east. The County has nearly 600 miles of waterfront, including natural coastline and manmade canals, so it is particularly vulnerable to coastal flooding and sea level rise. Additionally, Pinellas County is the mostly densely populated county in Florida, with approximately one million residents, and over 2.7 million reside in the larger Tampa Bay area, which includes Pinellas, Hillsborough, and Manatee Counties, so there are many community assets at risk in this area.

A 2019 study by The Center for Climate Integrity Resilient Analytics found Florida to be the most at-risk state for sea-level rise and estimated that more than three billion dollars could be needed to construct seawalls in Pinellas County alone by 2040 due to rising seas. In fact, the longest-recording tide gauge in the area has shown a near one-inch sea level rise per decade,<sup>1</sup> and predictive models/threat assessments by NOAA project sea level rise of between two and eight feet by 2100. Local governments and private industry are becoming more cognizant of this threat and taking action in various ways. Pinellas County government is currently conducting a county-wide vulnerability assessment to predict tidal and storm surge flooding out to 2100 and has developed a sea level rise tool for capital planning, to ensure that long-range plans and structures incorporate prudent adaptation strategies.

Regional efforts to address coastal vulnerabilities are underway, as the County and its local partners, including 24 municipalities and neighboring Hillsborough and Manatee Counties, signed an MOU and formed the Tampa Bay Regional Resiliency Coalition to ensure effective collaboration to increase resiliency, including better seawall and shoreline standards and practices. The region is also increasing its capacity to collect and analyze data, as evidenced by the release of the Living Shoreline Suitability Model for Tampa Bay developed in 2019 by Fish and Wildlife Research Institute’s Center for Spatial Analysis (through Florida Fish and Wildlife Conservation Commission; funded through grant from Gulf of Mexico Alliance).

Currently, County projects must fit into goals described in the Pinellas County Strategic Plan<sup>2</sup> and Pinellas County Comprehensive Plan<sup>3</sup>. Due to the existing environmental, social, and economic vulnerabilities and increased awareness of future risk, updates to the internal planning efforts are ongoing to reflect additional needed sustainability and resiliency measures. The County is updating its comprehensive plan<sup>4</sup> and is soliciting proposals for a Sustainability and Resiliency Action Plan. All of these promote increasing environmental stewardship and mitigation measures to increase the resiliency of the natural and built environments. Additionally, the Tampa Bay Estuary Program (TBEP) has identified living shorelines as an objective in action BH-6 of their revised comprehensive plan: “Expand use of living shorelines instead of traditional seawalls along waterfront properties. Support demonstration projects; explore regulatory rule revisions to support living shorelines; assess the use of living shorelines to mitigate climate change; and support education of waterfront homeowners about the benefit of living shorelines.”<sup>5</sup>

There are approximately **340 miles of hardened seawall in Pinellas County**, and hundreds more in the larger Tampa Bay area. Much of this seawall was erected decades ago when development practices resulted in 4,750 acres of waterbodies filled with dirt to build structures and infrastructure. In many locations, major infrastructure (i.e., evacuation routes, schools, hospitals, coast guard facilities, an international airport) is protected by hardened seawalls which will need to be maintained and retrofitted and/or enhanced to accommodate sea level rise and potentially prolong the life of the existing wall. Pinellas County would like to promote living shoreline enhancement options in these cases, using natural elements installed along the seawall to provide additional resilience and create

<sup>1</sup> [https://tidesandcurrents.noaa.gov/sltrends/sltrends\\_station.shtml?id=8726520](https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?id=8726520)

<sup>2</sup> <http://www.pinellascounty.org/strategicplan/pdf/goals-strategies-landscape.pdf>

<sup>3</sup> [http://www.pinellascounty.org/Plan/comprehensive\\_plan.htm](http://www.pinellascounty.org/Plan/comprehensive_plan.htm)

<sup>4</sup> <https://planpinellas.wpcomstaging.com/>

<sup>5</sup> [https://www.tbep.org/pdfs/TBEP\\_CCMP\\_Public\\_Summary\\_web.pdf](https://www.tbep.org/pdfs/TBEP_CCMP_Public_Summary_web.pdf)

habitat rather than the sterile environment that currently exists along most seawalls; however, there are limited local examples of these types of projects, and little to no monitoring has been done to prove the effectiveness and benefits of seawall enhancements as compared to standard seawall maintenance.

At the proposed project location, Philippe Park, which is owned by Pinellas County and located in the City of Safety Harbor, a traditional concrete seawall extends for 2,850 feet, separating a portion of Philippe Park from Tampa Bay. The southern portion of the park is more natural, and a living shoreline project has been funded and is currently in the final design and permitting phase. This high-profile public park location provides an excellent opportunity to install several different seawall enhancements adjacent to a fully natural living shoreline, monitor the effectiveness of each option with regard to longevity, resilience to boating activities and storm surge, and improvement in water quality and aquatic habitat, and educate the public about coastal resilience issues and solutions.

There has been recent support for living shorelines in the Safety Harbor area, and the proposed project will be a much-needed extension of the ongoing and newly completed projects. With cooperative funding from the Tampa Bay Estuary Program, Pinellas County has a living shoreline project designed but not yet implemented just south of the seawall within Philippe Park, which will provide a more resilient shoreline and create additional salt marsh and oyster habitat. Additionally, the City of Safety Harbor has just completed a living shoreline project that resulted in 225 linear feet of salt marsh vegetation and oyster bags for shoreline armoring. Both of these living shoreline projects have education components and included/will include volunteer engagement for at least part of the installation of elements. These projects are “true” living shoreline projects, with no hardened seawall. The presence of a fully “green” living shoreline adjacent to the proposed seawall enhancement demonstration areas will provide an excellent opportunity to compare effectiveness in protecting the shoreline at Philippe Park and in recruiting various organisms to the newly created habitats.

## **2. Activities:**

**Preliminary Site Assessment/Survey:** The existing hardened seawall at Philippe Park is 2,850 linear feet in length. Due to the steep slopes landward along the seawall and the presence of a nationally recognized historic site (a Tocobaga Indian Mound) that requires protection, the seawall must remain in place. An engineering assessment of the seawall has recently been completed which identified a few minor repairs, and the report indicated that riprap or other protection in front of the seawall would extend the life of the seawall. This provides additional incentive to install seawall enhancements at this location. The following data will be collected prior to designing seawall enhancement options:

- A topographic/bathymetric survey will be conducted to determine depths and substrate type along the seawall, out to approximately 50 feet from the seawall.
- A seagrass survey will be conducted to identify the locations of seagrass beds in front of the seawall in order to avoid impact from proposed enhancement elements. Patchy seagrass is present in parts of Old Tampa Bay. The presence of any oyster reef areas or other habitat types will be mapped and assessed as part of this survey as well.
- A coastal conditions analysis of the area will be completed as part of the current living shoreline project at the south end of the park, and these results will be extended to include the seawall area. The cost of this analysis will be cash match from Pinellas County for the project.

**Baseline Monitoring:** To accurately assess the effects of the installed seawall enhancement options, water quality and wave energy data will be collected prior to project implementation. Data will be collected both along the seawall, where the proposed project will occur, and along the non-hardened area where the currently designed living shoreline project will be located. This will allow comparison among the different seawall enhancement designs as well as with a fully natural living shoreline, and the results will be vital to prioritizing designs and implementing similar projects in other locations throughout the County.

- Water quality data will be collected at least quarterly at four points along the seawall. Parameters will include in-situ readings of dissolved oxygen, pH, salinity, temperature, and conductivity at multiple depths, water clarity, and lab analysis of nitrate-nitrite, ammonia, total Kjeldahl nitrogen, total nitrogen, total phosphorus, ortho-phosphorus, turbidity, total suspended solids, and chlorophyll. This data collection and analysis will be in-kind match from Pinellas County for the proposed project.

- Water quality data will be collected at least quarterly at four points in the southern end of the park where there is no seawall and a currently planned living shoreline project will be implemented. The same parameters described above will be measured. This data collection and analysis will be in-kind match from Pinellas County for the proposed project.
- An acoustic directional wave sensor will be deployed at multiple points and in various conditions for a period of nine to 12 months in front of the seawall to obtain baseline data on wave deflection / energy from the seawall prior to living shoreline enhancement. Literature on living shorelines often describes how wave energy is dissipated and erosion is reduced when natural elements are present rather than a smooth seawall; however, little data has been collected to support this supposition. The University of South Florida, who has experience with this type of monitoring, will be contracted to collect and analyze this data. The cost of the monitoring equipment will be in-kind match for the proposed project.

**Alternatives, Design to 30%:** Based on the preliminary assessment, up to eight seawall enhancement options will be designed. Innovative options as well as traditional designs will be proposed. Some of the more innovative designs may be more aesthetically pleasing and less well tested, but all will provide habitat and additional protection for the seawall. Variables such as ease of obtaining permitting, costs and time to install, potential longevity of design elements, and linear feet of habitat created/enhanced will be estimated for each design. In addition, the resultant design plans will have generic elements that could be shared with waterfront property owners to streamline the design process and further promote the use of these alternative shoreline protection design options throughout the County.

**Technical Working Group:** A technical working group will be convened three or four times over the expected 12-month project period. Members will be invited primarily from the Tampa Bay Estuary Program's various member groups, which include local and state governments such as municipalities, counties, water management districts, and Florida Department of Environmental Protection, nonprofits such as Keep Pinellas Beautiful and Tampa Bay Watch, and private industries such as Mosaic and Tampa Bay Water. Expertise from outside the Tampa Bay area will be invited as well, including staff from The Nature Conservancy who have experience with living shorelines projects in the Gulf states. One of the functions of the technical working group will be to offer guidance on the options considered, narrow down the 30% design alternatives, and help inform which options should be further developed. Additionally, in order to facilitate this process and make it replicable for application elsewhere in the region, the working group will assist with designing an improved decision matrix specific to living shorelines/seawall enhancements, building from existing tools that are in use currently (sea level rise tool, green infrastructure siting tool, habitat suitability tool). This living shoreline-specific decision matrix will be vetted and enhanced through this project and finalized within the 12-month project period. Monitoring data will be added into the matrix after installation of the different options to strengthen the efficacy of the tool for broader, more informed application throughout the County and region. Participant time for the working group will be in-kind match.

**Design to 60%:** After consideration of the proposed alternatives and prioritization by the technical working group, the top five or six options will go forward to 60% design. The goal is to install three or four options so that they extend at least 600 linear feet each, for side-by-side comparison along the seawall. Permit pre-application meetings will be held with the appropriate agencies to discuss these designs, in order to help decide which are most likely to be submitted for permitting and full design.

**Outreach and Community Engagement:** Brochures will be created as part of the currently funded Philippe Park living shoreline project, and there will be multiple signs installed at the park describing the benefits of living shoreline elements as well as information about coastal risks and resilience. The local community will be invited to help install the living shoreline elements for the current living shoreline project, described below, which will provide additional one-on-one educational opportunities. There will likely be two work days, with a target of at least 25 participants each. Surveys will be conducted to gauge knowledge about living shorelines, seawalls, and nearshore habitats pre- and post-event. Additionally, park visitors may be asked to provide opinions about the top five potential designs, to help determine which elements would be preferred aesthetically at the park as well as elsewhere in the County. All elements in this activity, including staff time and materials, will be provided as in-kind match.

**Living Shoreline Installation:** The southern shoreline of Philippe Park is a relatively natural area, with no hardened seawall. Erosion in this area of the park has led to murky nearshore waters, as well as smothering of some mangroves. Pinellas County, with matching funds from the Tampa Bay Estuary Restoration Fund, is currently finalizing design and permitting for living shoreline elements in this area of the park. Funding is secured for planting native shoreline and marsh vegetation and installing oyster bags along approximately 1,300 linear feet of shoreline, in addition to creating 0.64 acres of oyster beds in the area. Funding for installation of this living shoreline area will be used as cash match for the seawall enhancement project, as it will allow side-by-side comparison of how living shorelines perform versus various seawall enhancement elements. Additionally, Philippe Park will serve as an optimal demonstration area for viewing these projects all in one location, which will help facilitate the ultimate goal of installing the appropriate seawall enhancements and living shoreline elements throughout the County and Tampa Bay region.

**3. Outcome(s):**

This project is expected to be completed within 12 months. The **immediate outcomes** of this project include baseline water quality and wave energy monitoring data, 30% and 60% design plans for seawall enhancement options at Philippe Park, an improved decision matrix specifically for implementing living shoreline projects throughout Pinellas County, educational signage and brochures, data from surveys about public knowledge/perceptions with regard to coastal resilience and living shorelines, and generic engineering design plans that can be promoted to residents to implement nature-based shoreline protection elements in areas with similar site conditions.

**Timeline/schedule:**

Project Outcome	Start Month	Duration	End Month
Baseline water quality data (at least quarterly)	1	12 months	12
Baseline wave energy data (continuous)	2	10 months	12
30% design plans for up to 8 options	1	4 months	5
60% design plans for up to 6 options	5	6 months	11
County decision matrix for living shoreline projects	1	12 months	12
Educational signage and brochures; public outreach	1	12 months	12
Data from surveys (targeted events)	6	6 months	12

Funding for final design, permitting, and installation of the chosen enhancement options will be secured from County Capital Improvement Projects (CIP) and general operating funds as well as, potentially, from additional grants. Due to the importance of demonstrating and assessing the performance of elements in this project so that similar projects will be promoted and implemented throughout the area, funds from local, State, and federal partners are likely to be obligated to bring this project to full implementation.

**Additional anticipated outcomes** from this project, once full design and implementation have occurred, include:

- There will be an increase in oyster habitat and salt marsh acreage and associated water quality improvement. If able to install four different treatments at about 600 linear feet each, the result could be at least 1.5 acres of salt marsh and oyster reefs at Philippe Park. A number of threatened and endangered species reproduce and/or live in Tampa Bay, including four sea turtle species, West Indian manatees (25% of the Gulf Coast population winter here), piping plovers, and Gulf sturgeon. Additionally, more than 200 species of fish reside in Tampa Bay, and approximately 26,000 pairs of herons, egrets, and other colonial waterbirds nest on bay islands. All of these species will benefit from increased habitat and improved water quality. As water clarity improves due to reduced wave energy along the seawall and increased filtering from the oysters, seagrass abundance and health should also increase/improve.
- The existing seawall at Philippe Park will be more protected and resilient, and the installed elements will be easily accessible to view and monitor over time. Lessons learned from this project will be applied to promote other projects in the County, which could eventually impact hundreds of miles of shoreline just in Pinellas County. Coastal infrastructure will be more protected and resilient to rising seas and storm surges.



- The preliminary designs created for this project will have generic elements to be used as starting points for other projects in similar conditions, which will streamline the design process and, hopefully, result in adoption even by private homeowners.
- Monitoring data pre-and post-project will be available to provide more robust assessments and comparisons of living shoreline elements both in front of a seawall and along a natural shoreline. Baseline data is often lacking, and this project provides an excellent opportunity to fill in gaps in knowledge and quantify the performance of various elements side-by-side.
- Monitoring of the effect of the living shoreline treatments on wave energy dissipation will provide data that is currently lacking from nearly all living shoreline projects.
- The local coastal community will be informed about options to protect property from sea level rise and storm surge and will be able to view firsthand how several options look and perform. Outreach will be continued beyond the 12-month project period, and public participation in installing certain elements, such as planting grasses and placing oysters, will be encouraged.
- The improved living shoreline-specific decision matrix will be available for prioritizing projects. Monitoring data will be added into the matrix after installation of the different options to strengthen the tool. The development of a decision tool to specifically assess potential living shoreline projects will increase the likelihood of available funds for implementation of living shoreline and seawall enhancement projects. It will also result in a more standardized approach to planning and implementing living shoreline projects across the 24 municipalities in the County.

Overall, this project should lead to more seawall enhancement installations and a more resilient coastline in Pinellas County and the Tampa Bay area. Much of the shoreline in Pinellas County is hardened, including areas that border evacuation routes, an international airport, and residences, so there is an enormous need to use lessons learned from this project to prioritize and cost-effectively enhance other seawall areas.

#### **4. Tracking Metrics:**

Project tracking metrics will include:

- The number of agencies (municipal, local, state, private, and nonprofits) participating in the technical working group and providing feedback on the preliminary designs and decision matrix. It is expected that at least eight different entities will be represented.
- The number of people reached through the outreach and community engagement tasks. This will include the number of volunteers engaged in living shoreline implementation, the number of pre- and post-event surveys completed, and the number of brochures distributed. At least two implementation days will be planned, with a target of at least 25 participants per event. Surveys will be given to all participants, and additional surveys may be given to park visitors, along with education. At least 500 brochures will be printed initially.

Community Benefits and Capacity Building metrics:

- Survey results from citizens who participate in the events and from park visitors will provide data about the base knowledge and attitudes about coastal resilience and living shorelines, as well as what they learn after an outreach event.
- The number of volunteer hours from both the working group and living shoreline events will be tracked and reported.

Although not required for this project focus area, ecological parameters will be measured in order to obtain baseline conditions data, to be compared to post-project metrics. A seagrass survey and wave energy analysis will be performed. Any oyster reefs/beds or other aquatic habitat in the area will be measured and mapped. Measures of eroding shoreline protected/restored as part of the living shoreline project (part of project match) will be reported in linear feet, and oyster habitat and salt marsh created will be reported in acres. Water quality data will be collected pre- and post-project as well.



## **5. Project Team:**

**Stacey Day, PhD**-- Environmental Program Manager, Pinellas County Department of Public Works, Division of Environmental Management (DEM); will serve as project manager; will oversee monitoring and coordination of volunteers and staff to assist with installation of living shoreline elements; will create educational outreach and signage and oversee surveys. Stacey manages the Monitoring and Assessment Section of DEM, which performs ambient monitoring across the County, coordinates the volunteer/intern program and Adopt-a-Pond Program focused on educational outreach and citizen involvement, and oversees TMDL implementation projects. Stacey is project manager for the current living shoreline project at Philippe Park.

**Hank Hodde, MS, CFM, ENV SP**-- Sustainability & Resiliency Program Coordinator, Office of Pinellas County Administrator; will lead technical working group and facilitate honing of decision matrix tool; will be liaison between County and stakeholders responsible for community engagement. Hank coordinates the County's plans to address and respond to regional sustainability challenges to ensure that social, environmental, and economic impacts are considered across County programs.

**Jennifer Calvert**-- Senior Grants Specialist, Pinellas County Parks and Conservation Resources (PCR); will manage the grant agreement and reporting requirements. Jennifer will work with Pinellas County Budget Analysts to ensure grant funding and matching cash requirements are handled properly. She will gather data from Stacey Day to ensure all reporting is completed on time and that the grant is managed and closed out properly.

**Thomas Ries**-- Vice President and SE Biological Services and Restoration Director, Environmental Science Associates, Inc. (ESA); specializes in living shoreline and seawall enhancement design and implementation; will assist with enhancement options, facilitate the permitting process, and oversee project design process working closely with the County and ESA's coastal engineer (Bryan Flynn, PE).

**Bryan Flynn, PE**-- Program Manager and Coastal Engineer, Environmental Science Associates, Inc. (ESA); will assess the shoreline conditions and frame a model to formulate the stabilization plan for the various sections along the shoreline to provide protection and resiliency. He will also produce the engineering design plans and the associated technical specifications for bidding purposes.

**University of South Florida**--Faculty with the Center for Maritime and Port Studies have performed wave energy monitoring for other projects in the Tampa Bay region and will oversee wave energy data collection and analysis.

## **6. Other (Optional):**

Philippe Park is a popular public space, accessible both by land and water. This project provides an exceptional opportunity to demonstrate and monitor multiple living shoreline treatments side-by-side, including a fully "green" living shoreline installation as well as both traditional and innovative enhancements along a hardened seawall. It is rare to have such a long stretch of both seawall and more natural shoreline that is accessible to the public for viewing and for monitoring performance of enhancements side-by-side. The area of Tampa Bay in which the park is located is a popular recreation area, and the creation of additional aquatic habitat for fish and wading birds will likely increase the public's interest in the project.

### In response to pre-proposal reviewer comments:

1) The lessons learned from this project will be transferred to other areas in the County and the Tampa Bay region. The demonstration-level designs will be used as a starting point for similar seawall/shoreline projects, which will result ultimately in greater protection for the County's abundant coastal infrastructure and increased aquatic habitat. The improved decision matrix that will result from the working group will increase the likelihood of County funds being committed once projects are identified and prioritized. Demonstrating the effectiveness of living shoreline elements is necessary to strengthen the likelihood of funding through County Capital Improvement Projects. Monitoring the various shoreline resilience options will allow more efficient protection of resources, since only the most effective treatments will be recommended for implementation elsewhere.

2) There is a possibility that patchy seagrass is located in the area. A seagrass survey will be performed as part of the site assessment to determine the location and extent of all submerged aquatic vegetation, and negative impacts to existing seagrasses will be avoided.

**7. Representative Project Photos:**

Photo 1: Stacey Day, Pinellas County. Photo of seawall at typical high tide.

Photo 2: Stacey Day, Pinellas County. Photo of seawall at typical low tide, shows lack of aquatic habitat along seawall.

Photo 3: Stacey Day, Pinellas County. Photo of seawall at Tocobaga Indian mound, shows the steep slope adjacent to Tampa Bay in some areas of the park.

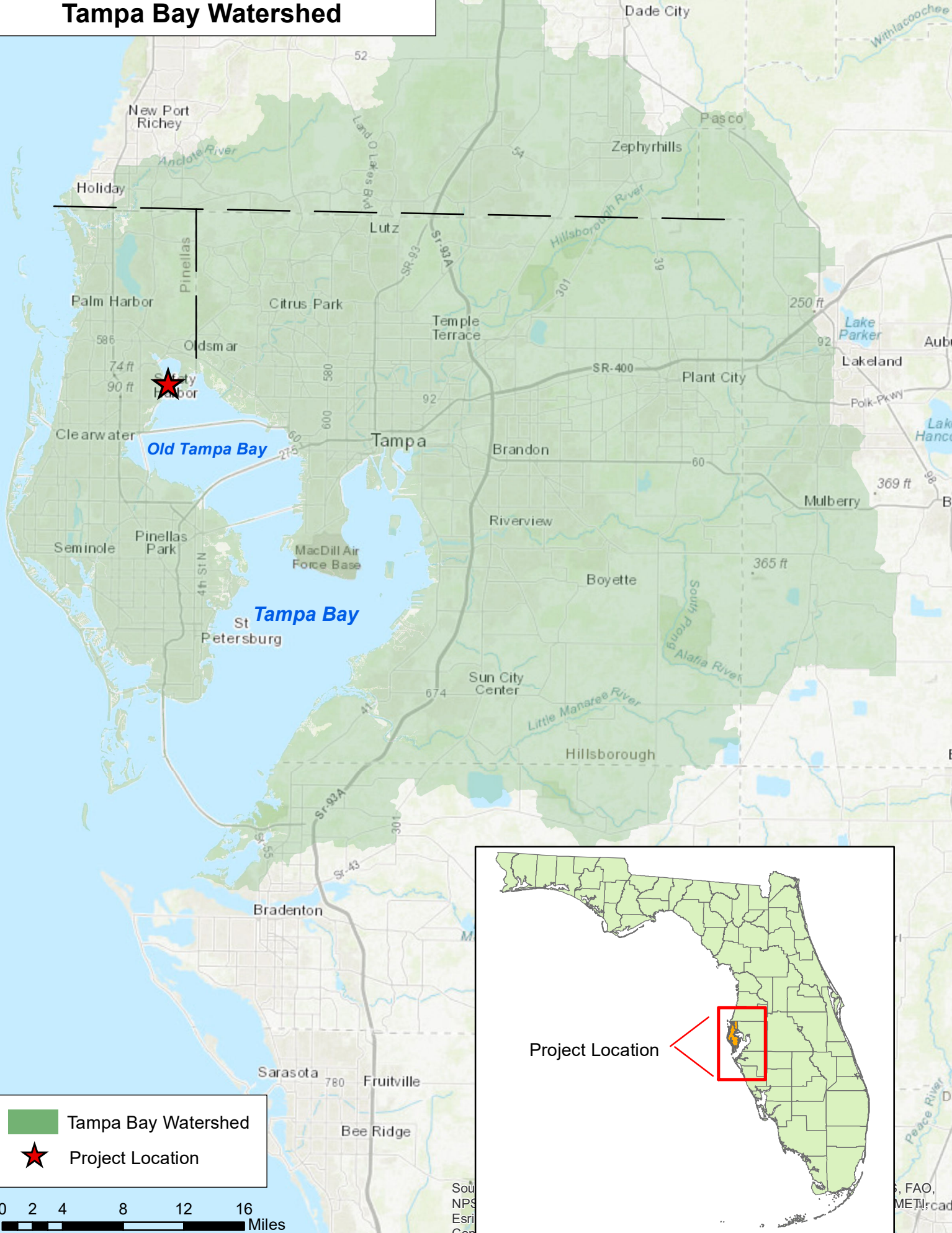
**8. Designs, Site Maps, and Letters of Support:**


Site maps have been uploaded and include 1) “PhilippeTB” – location of the project at the State and County level; 2) “PhilippeParkProjectMap” – aerial image of Philippe Park with the seawall enhancement and living shoreline project areas delineated


Letters of support have been provided by:

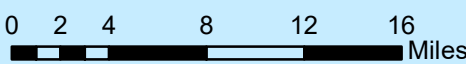
- The City of Safety Harbor, the municipality in which the project site is located
- The Tampa Bay Estuary Program (TBEP), a regional group established in 1991 as a partnership with Tampa Bay counties, municipalities, water management district, FDEP, and EPA that leads and coordinates public/private efforts to protect and improve Tampa Bay
- The Nature Conservancy (TNC), a national nonprofit that will participate in technical working group

# Philippe Park Seawall Enhancement Tampa Bay Watershed



 Tampa Bay Watershed

 Project Location





# Philippe Park Seawall Enhancement Project Safety Harbor, Florida, Pinellas County

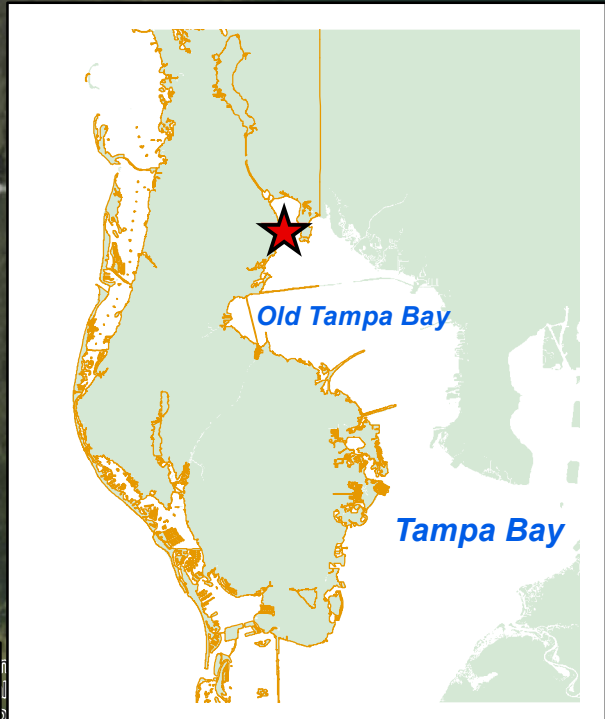
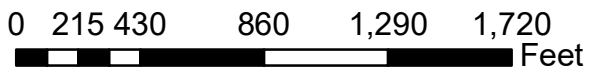
*Hardened Seawall, Project Area*



*Ongoing Living Shoreline Project*

Philippe Park

Safety Harbor







June 3, 2020

National Fish and Wildlife Foundation  
Re: 2020 National Coastal Resilience Fund  
Submitted electronically through Pinellas County

To Whom it May Concern:

The Tampa Bay Estuary Program is pleased to provide this letter of support for the "Philippe Park Seawall Enhancement" project submitted by Pinellas County for the 2020 National Coastal Resilience Fund Grant.

Living Shorelines are recognized as an important component for the restoration of highly urbanized coastal systems such as Tampa Bay. I am especially interested in the anticipated outcomes of the project that lead to the: 1) construction and monitoring of several different living shoreline treatments to better compare their resiliency against storm surges and sea level rise, 2) specific creation of salt marsh and oyster reef habitat within the designs, and 3) evaluation of cost-effectiveness and applicability for implementation along other hardened shorelines throughout the region.

TBEP will utilize these anticipated outcomes and encourage its partners to improve design elements of future living shorelines based on the results – an important strategy identified in the TBEP's recently updated [2017 Comprehensive Conservation and Management Plan](#), as well as, support the habitat restoration targets and goals developed in the 2020 Habitat Master Plan Update (final report expected Summer 2020).

I strongly support the proposed project and appreciate the opportunity to express our support for the proposal. I also look forward to participating in the technical working group to assess options, inform tool development, and assist with outreach. Please feel free to contact our office with any comments or questions you might have regarding our support for the project.

Regards,

A handwritten signature in blue ink that reads "Ed Sherwood".

Ed Sherwood, Executive Director  
Tampa Bay Estuary Program



# City of Safety Harbor Florida

HOME OF ESPIRITU SANTO MINERAL SPRINGS

750 Main Street † Safety Harbor, Florida 34695  
(727) 724-1555 † Fax (727) 724-1566  
[www.cityofsafetyharbor.com](http://www.cityofsafetyharbor.com)

June 10, 2020

National Fish and Wildlife Foundation  
RE: National Coastal Resilience Fund

Dear NFWF Review Committee,

The City of Safety Harbor is writing to express support for Pinellas County's proposed project, Philippe Park Seawall Enhancement, which will entail designing several different living shoreline options in front of a large existing seawall as a pilot project for seawall enhancement throughout the County and the Tampa Bay region.

Philippe Park is a Pinellas County park located within the City of Safety Harbor. The City of Safety Harbor has recently completed a Waterfront Park project just south of Philippe Park that involved restoration of natural areas on the shores of Old Tampa Bay, seawall removal, and installation of a living shoreline.

The proposed Pinellas County project aligns with and extends the Safety Harbor project and will create additional salt marsh, mangrove, and oyster habitat in Tampa Bay. Demonstrating and monitoring the effectiveness of several different living shoreline designs along the seawall at Philippe Park will provide valuable information that will be used to increase resilience and aquatic habitat along the large amount of hardened seawall that is protecting infrastructure in Pinellas County. Importantly, the location of this pilot project will facilitate educational outreach about the numerous benefits of living shorelines and allow more stakeholder engagement for expanding seawall enhancement and living shoreline projects across the County.

Thank you for your favorable consideration of the Pinellas County grant application.

Sincerely,

Matthew Spoor  
City Manager  
City of Safety Harbor

June 19, 2020

National Fish and Wildlife Foundation  
RE: National Coastal Resilience Fund

Dear NFWF Review Committee,

The Nature Conservancy (TNC) is writing to express support for Pinellas County's proposed Philippe Park Seawall Enhancement project. This project entails conducting site assessments and designing several different living shoreline strategies for approximately 2,850 feet of existing seawall. It also entails establishing monitoring and performance protocols as well as forming a technical working group to inform and evaluate these strategies and assist with public scoping and outreach, which may be used to promote expansion of living shorelines and increase coastal resilience throughout Pinellas County. Additionally, this project will demonstrate the benefits of living shorelines by creating salt marsh, mangrove, and oyster habitat in Tampa Bay – an estuary of national significance that is one of 28 estuaries in the National Estuary Program. The location of this project will also facilitate public education, outreach, and engagement opportunities that will promote greater stakeholder involvement in replicating similar projects elsewhere in Pinellas County.

TNC has been invited to participate in the technical working group that is proposed as part of this project. TNC has convened and coordinated many technical working groups including: a community-based watershed planning group for six watersheds of the Panhandle region of Florida, a technical working group for the Pensacola East Bay Oyster Habitat Restoration project, as well as a stakeholder working group for Oyster Ecosystem-Based Fisheries in support of restoration of the Greater Pensacola Bay System. TNC also coordinated the Shoreline Resilience Working Group for the Southeast Florida Climate Change Regional Compact, which seeks to facilitate, promote, and expand living shorelines in Broward, Miami-Dade, Monroe, and Palm Beach Counties.

The proposed Philippe Park Seawall Enhancement project furthers the goals of TNC in Florida to restore coastal habitat and protect residents from the effects of climate change through demonstration and implementation of nature-based infrastructure projects.

Thank you for considering Pinellas County's grant proposal. I can be reached at [rod.braun@tnc.org](mailto:rod.braun@tnc.org) or 561-351-1210.

Sincerely,



Rod Braun  
Florida Climate & Coastal Resilience Program Manager













NFWF

## Statement of Litigation

**Instructions:** Save this document on your computer and complete. The final narrative should not exceed two (2) pages; do not delete the text provided below. Once complete, upload this document into the on-line application as instructed.

**Litigation:** In the space provided below, state any litigation (including bankruptcies) involving your organization and either a federal, state, or local government agency as parties. This includes anticipated litigation, pending litigation, or litigation completed within the past twelve months. **Federal, state, and local government applicants are not required to complete this section.** If your organization is not involved in any litigation, please state below.

**Pinellas County is a local government and is not required to complete this section.**

**Pinellas County Board of County Commissioners, 2020**

Janet Long, District 1

Pat Gerard, District 2

Charlie Justice, District 3

Dave Eggers, District 4

Karen Williams Seel, District 5

Kathleen Peters, District 6

Kenneth Welch, District 7

<http://www.pinellascounty.org/commission/default.htm>