

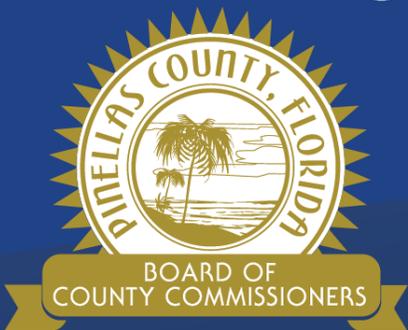
Resilient Infrastructure Update



County Administration

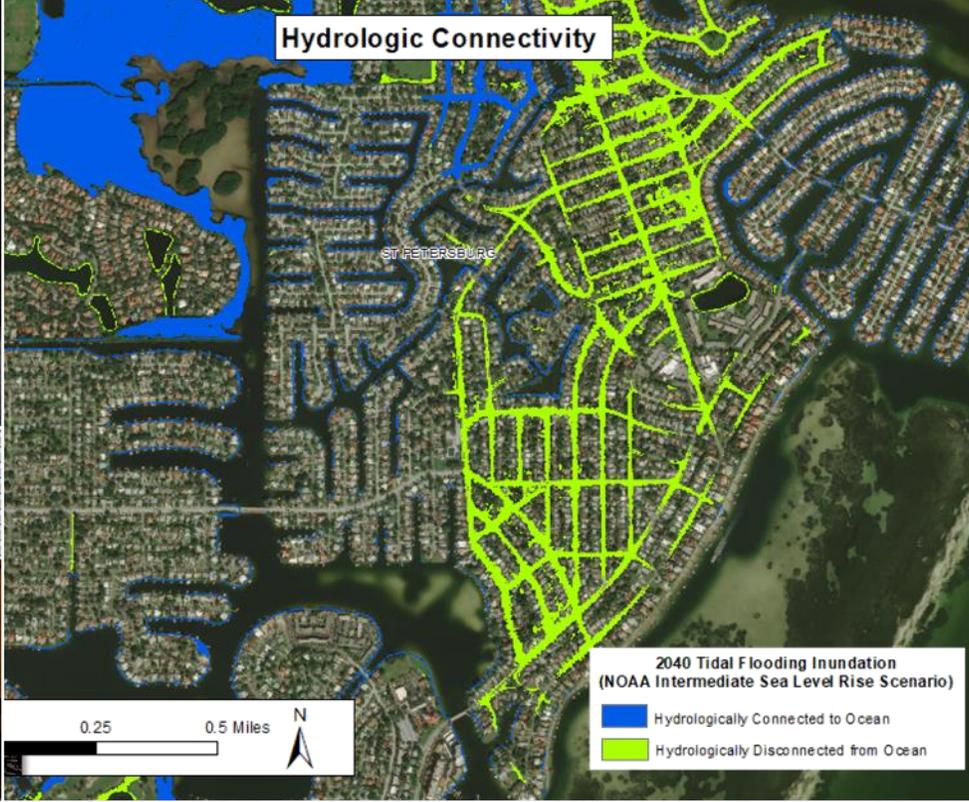
Hank Hodde, MS, CFM, ENV SP

Sustainability & Resiliency Coordinator

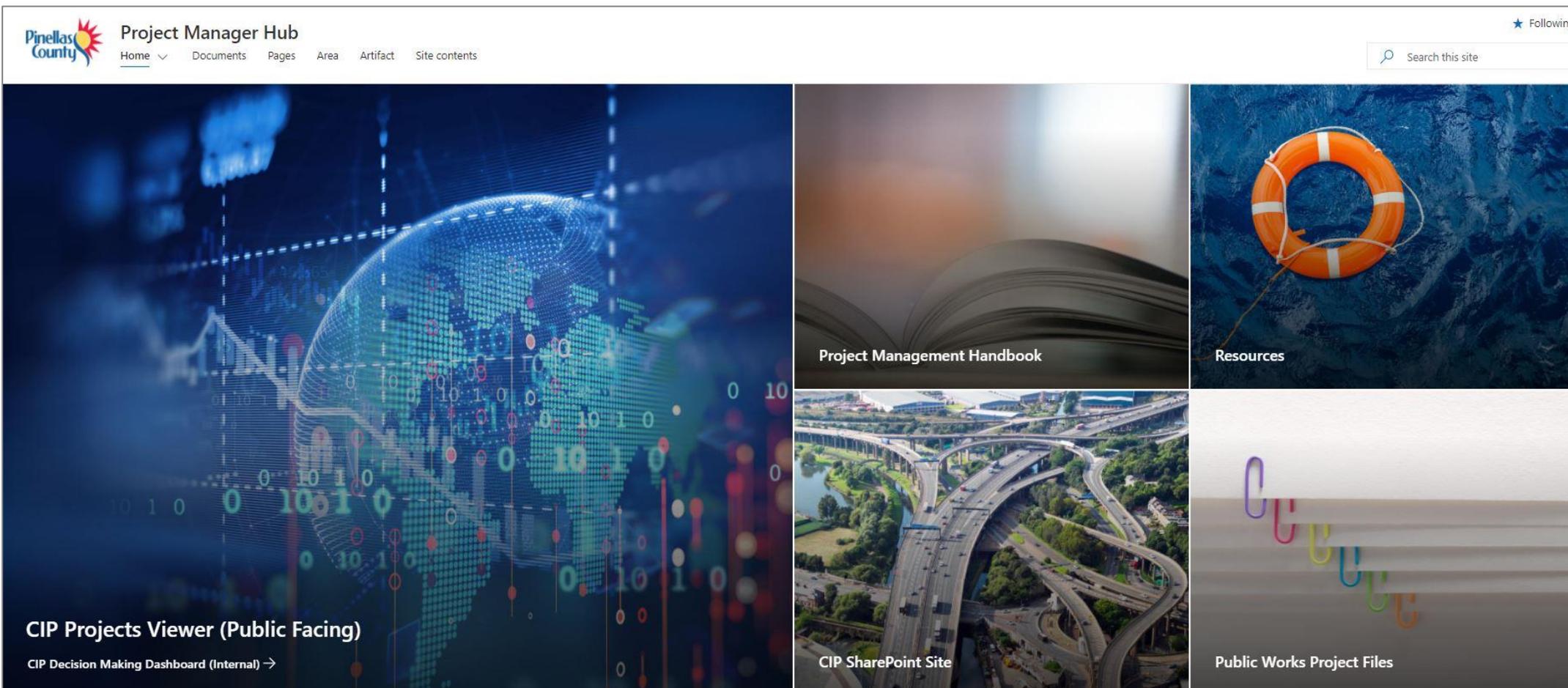


Our Vision: To Be the Standard for Public Service in America





Advancing Policy and Practice



The screenshot displays the 'Project Manager Hub' website. At the top left is the Pinellas County logo. The main header includes the title 'Project Manager Hub' and a navigation menu with 'Home', 'Documents', 'Pages', 'Area', 'Artifact', and 'Site contents'. A search bar on the right contains the text 'Search this site' and a 'Following' indicator. The main content area is divided into six tiles:

- CIP Projects Viewer (Public Facing)**: A large tile with a blue background featuring a globe and binary code. Below the title is a link for 'CIP Decision Making Dashboard (Internal) →'.
- Project Management Handbook**: A tile with a blurred background of an open book.
- Resources**: A tile with a blue background showing an orange life preserver floating in water.
- CIP SharePoint Site**: A tile with an aerial view of a complex highway interchange.
- Public Works Project Files**: A tile with a background of colorful paper clips.

SLR & Storm Surge Vulnerability Assessment



Develop Full Inventory of Stressors: SLR, Surge, Groundwater Rise, Precipitation



Determine Impacts on County Facilities, Assets, Community Features



Monetize Risks in Today's Dollars for Every Asset



Develop Present Value Costs for Areas at Risk County-wide



Focus Investment Where Most Effective

Flood Risk Management

- FEMA Community Rating System
\$7.94M Annual Flood Insurance Savings!
- Realtor Training Course
- Flood warning & response
- Data acquisition and utilization
- Floodplain preservation
- Stormwater operations & maintenance

Pinellas County Flood Map Service Homepage Pinellas County Flood Information

Know Your Risk for Flooding

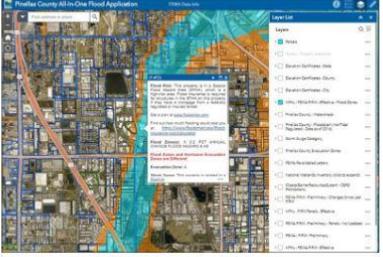
In Pinellas County, flooding and other drainage problems can result after several inches of rain in a short period of time or after several days of continued rain. Hurricanes, tropical storms and other threatening weather can also present flood hazards to residents due to high tides, storm surges caused by winds, and heavy rainfall.

My Flood Risk Map App



Provides an overview of your flood risk and flood insurance requirement by clicking on your property.

All-In-One Flood Map App



Provides detailed flood information in one map app by clicking on your property and turning data layers on and off.



Additional Information

- > Flood Zones and Hurricane Evacuation Zones are Different!
- > Understanding Flood Maps
- > Protect your home or business and your belongings with a flood insurance policy
- > Flood Insurance Discounts are available in Pinellas County and most of its municipalities

Green Infrastructure Program

Green Infrastructure

A great solution for Pinellas County

In Pinellas County, we're surrounded by water. Protecting the quality of that water is a top priority. Clean beaches and bays are critical not only to wildlife, but also to residents and tourists and the overall economy. Our countywide Strategic Plan calls upon us to practice superior environmental stewardship. One way we can do that is to increase the use of green infrastructure.

What is Green Infrastructure?
Green infrastructure describes practices that create habitat and allow rainwater to filter through vegetation and soil rather than running into storm drains. When rain falls in undeveloped areas, the water is filtered by plants and the ground. In traditionally built areas, much of the rainwater can't soak into the ground because of pavement or buildings (impervious cover). Green infrastructure helps rainwater be filtered more naturally, minimizing the impacts of development on the environment and reducing long-term costs of treatment and maintenance. Green roofs, bioswales, pervious pavement and living shorelines are examples of green infrastructure.

Green Infrastructure vs. Gray Infrastructure
Gray infrastructure describes older methods of stabilizing shorelines and managing rain water by collecting and directing it away from developed areas using curbs/gutters, pipes and storm drains. Gray infrastructure lacks habitat and dumps stormwater into nearby waterbodies—a major cause of pollution in lakes, bays and the Gulf of Mexico. Managing stormwater and shoreline protection with green infrastructure not only reduces water pollution, but also creates a healthier urban environment by providing habitat for wildlife, flood protection, cleaner air and cleaner water.

How Impervious Cover Affects the Water Cycle

Natural Ground Cover	10-20% Impervious Surface	35-50% Impervious Surface	75-100% Impervious Surface
40% Evapo-Transpiration	38% Evapo-Transpiration	35% Evapo-Transpiration	30% Evapo-Transpiration
10% Runoff	20% Runoff	30% Runoff	55% Runoff
25% Shallow Infiltration 25% Deep Infiltration	21% Shallow Infiltration 21% Deep Infiltration	20% Shallow Infiltration 15% Deep Infiltration	10% Shallow Infiltration 5% Deep Infiltration

Economic, Environmental and Social Benefits
Green infrastructure has many benefits, including:

- Improved water quality:** Stormwater filters through plants and soil at or near its source, reducing pollutants.
- Reduced flooding and erosion:** Runoff is greatly reduced because more water is absorbed where it falls, which in turn reduces flash flooding and erosion issues.
- Habitat restoration:** Florida-Friendly plants provide food and/or a place to live for wildlife in an increasingly urban environment where non-native turf grass dominates the landscape.
- Increased groundwater recharge:** Rainwater filters through soil at its source, replenishing groundwater.
- Cooler temperatures:** Less asphalt and concrete reduces the urban heat island effect.
- Less impact on the climate:** Plants absorb carbon dioxide, a greenhouse gas.
- Enhanced community aesthetics:** Landscapes with green infrastructure can result in higher property values and faster property sales.
- Reduced energy use:** Tree shading and green roofs lead to lower air conditioning use. More planted areas require less lawn mowing. Less gray infrastructure reduces the amount used on making/transporting materials like concrete.
- Decreased air pollution:** Trees and plants clean the air. Reduced energy use leads to lower power plant emissions.
- Educational opportunities:** Green infrastructure sites can include informational signs and be used as outdoor classrooms, which educate the public about important environmental issues.
- Expanded community value:** More green space can lead to greater recreational opportunities.

2019

SITING TOOLBOX

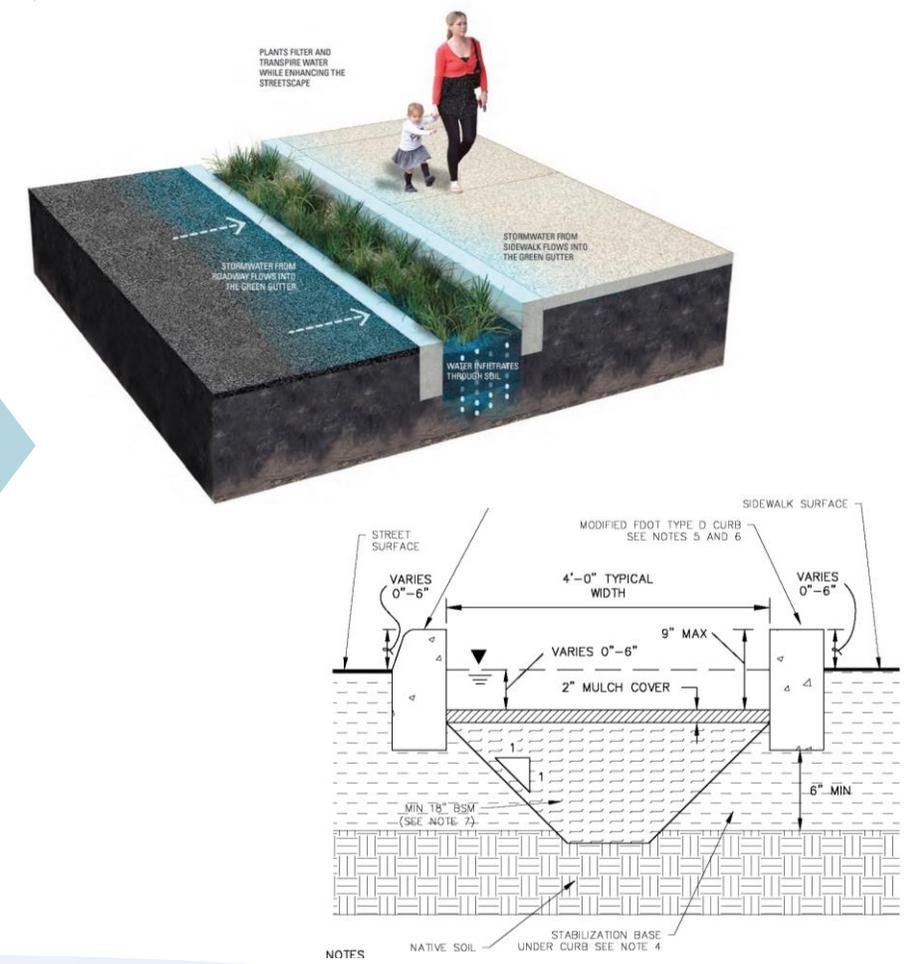
Geosyntec
consultants

engineers | scientists | innovators

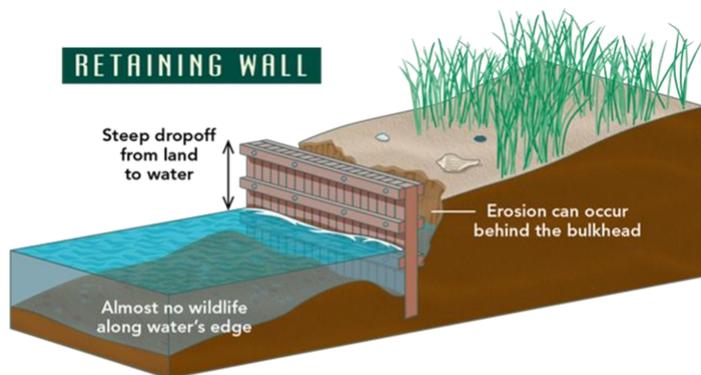
2020

DESIGN TEMPLATES

APPLIED SCIENCES



Creating Living Shorelines



'Hard' infrastructure like retaining walls abruptly severs the ecological connection between the coast and water.

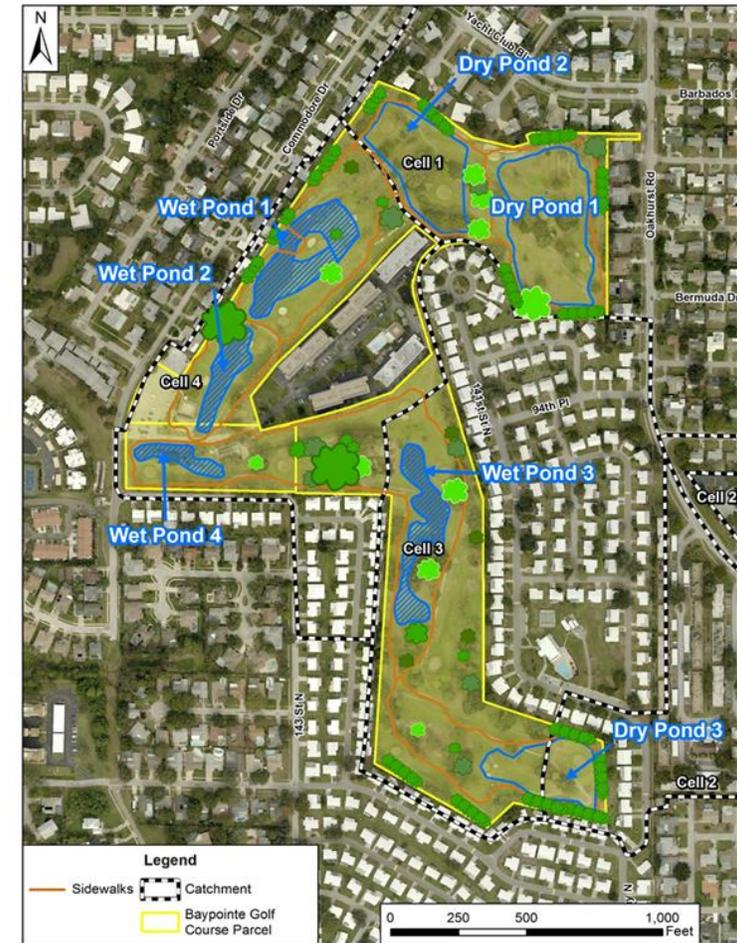


Not only do Living Shorelines defend land against destructive waves, but they also provide crucial habitat for fish and wildlife.



Baypointe Stormwater Park

- Former 42-acre golf course
- County purchased it in 2020
- Improve flood control
- Improve stormwater quality
- Provide passive park elements
- Provide native habitat



Recent Infrastructure Upgrades



Planning Integration



Resilient Florida Program (380.093, F.S)



1 Resilient Florida Grant Program

- **\$520M** in FY21-22 for planning and infrastructure grants
- Due Sept 1, 2021

2 Comprehensive Statewide Flood Vulnerability Data Set and Assessment

- **\$4M** in FY21-22 for collection and aggregation of data
- Data due July 1, 2022 | Assessments due July 1, 2023

3 Statewide Flooding and Sea Level Rise Resilience Plan

- Up to **\$100M** in FY22-23 for a 3-year statewide planning initiative
- Initial plan due to Legislature Dec. 1, 2021

4 Regional Resilience Entities

- **\$2M** for technical assistance for multijurisdictional projects
- Due Sept 1, 2021

5 Florida Flood Hub

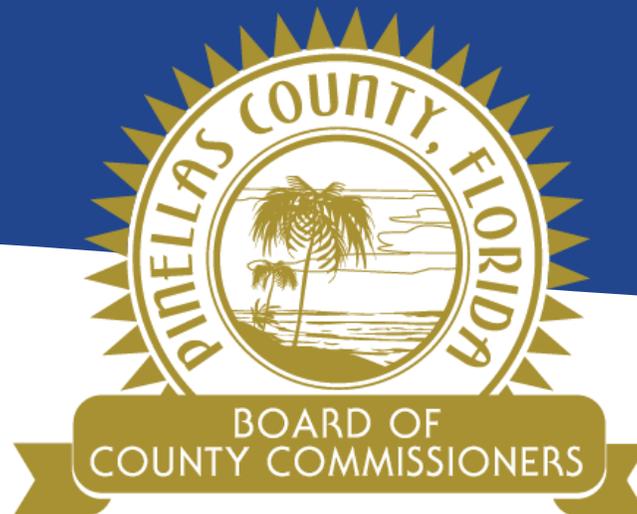
- Established central research center at **USF College of Marine Sciences**
- Annual report due by July 1, 2022

THANK YOU!

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