

# Resilient Stafford

## Public Workshop 2

March 14, 2023



Photo Credit: Pennypack Ecological Restoration Trust



Bright ideas.  
Sustainable change.



# Agenda

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Project Context

02

Public Engagement

03

Proposed Action Plan

04

Next Steps and Q&A



*Photo Credit: NJDOT*

*This work was made possible with financial assistance from the Coastal Zone Management Act of 1972, as amended, administered by the Office for Coastal Management, National Oceanic and Atmospheric Administration (NOAA) through the New Jersey Department of Environmental Protection, Coastal Management Program*

# Project Context

Project Purpose/Intent

Project Timeline

Flood Maps

Hazard Vulnerability Assessment

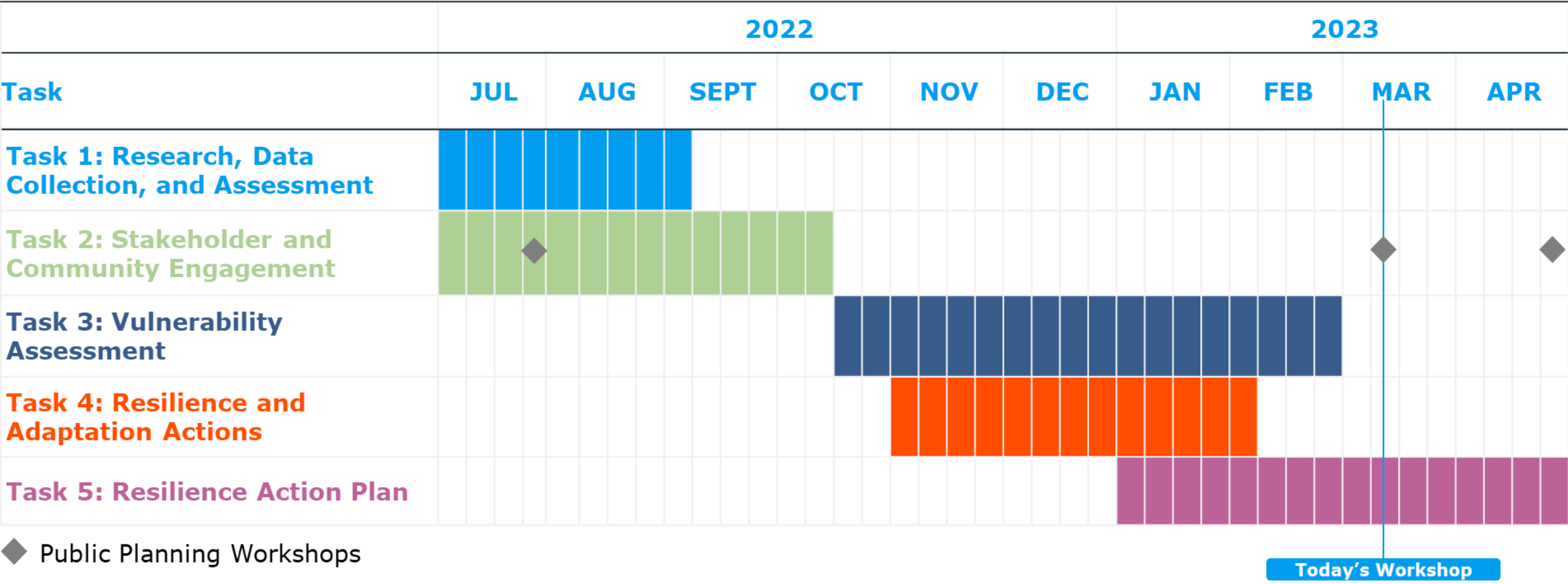
## The purpose of this study is to help:

- Develop a comprehensive understanding of assets at risk to coastal flooding and future flooding-related climate impacts
- Open and support new conversations among groups and community members impacted by coastal flooding and looking for solutions
- Develop near-, mid-, and long-term proactive measures to reduce both present and future flood risks

# Purpose of the Study/Project Intent



# Project Timeline



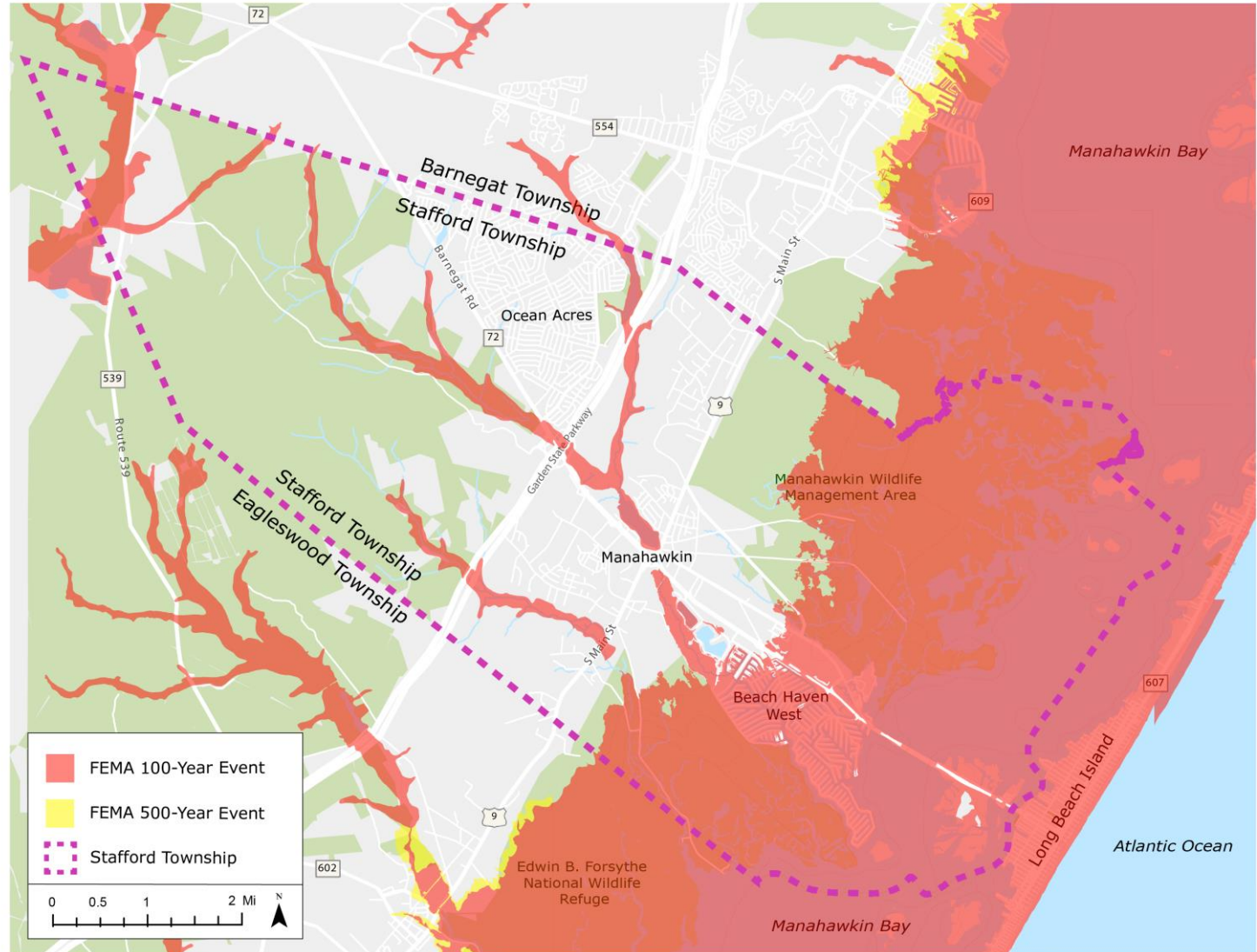
## FEMA Flood Map

- Indicates the 100-year storm event, equating to a 1-percent annual chance flood
- There are no additional areas in Stafford that fall within the 500-year storm event, which equates to a 0.2-percent annual chance flood

The Vulnerability Assessment is based on the following criteria:

- 2050 projected sea level rise (1.41 feet).
- Projected 10% rainfall event (5.91 inches).
- Present day mean higher high water (MHHW) tide.
- Three feet of storm surge.

## FEMA Flood Map



# Public Engagement

Public Workshops

PPI Committee Meetings

## Community Engagement

At several key points during the Resilient Stafford project, the project team held public engagement workshops with several key objectives:

- Inform the public of the work being done during this process and learn about problematic flooding
- Elicit feedback on the goals of the project and the development of the resiliency actions

## Workshop Dates

- July 28th, 2022
- March 14th, 2023 (Today)
- Spring 2023 (Upcoming)

# Public Planning Workshops

JOIN US FOR THE

## RESILIENT STAFFORD PLANNING WORKSHOP

Tuesday March 14th at 6:00 pm  
Stafford Township  
Town Council Meeting Room  
260 East Bay Avenue Manahawkin

Presented by The Township of Stafford, with  
representatives from Owen, Little & Associates  
and Ramboll Group.

Learn more about short-term and long-term resiliency  
planning for our community.

FOR MORE INFORMATION CONTACT RACHEL GIOLITTO AT 609.597.1000 EXT 8509

# Meetings with the Program for Public Information (PPI) Committee

The project team also met with the PPI advisory group to garner additional insights into the Township and receive feedback on the proposed actions

### Meeting Dates

- December 6, 2022
- March 30, 2023

# Proposed Action Plan

Four distinct goals were identified to ensure the Resilient Stafford Action Plan aligns with the community's vision and priorities, informed by:

- 2017 Master Plan: Land Use Element (2017)
- Community and stakeholder engagement
- Resilient NJ Program
- Resilient LBI Action Plan
- Other recent plans and studies

## Action Plan Goals

### **Goal 1: Preservation of Natural Resources**

Protect coastal natural resources from flooding, storm surge, and erosion while promoting conservation and biodiversity.

### **Goal 2: Resilient Infrastructure Design**

Enhance critical infrastructure design to ensure continued service (mobility, stormwater management, utility) to all communities in Stafford Township.

### **Goal 3: Civic Empowerment and Preparedness**

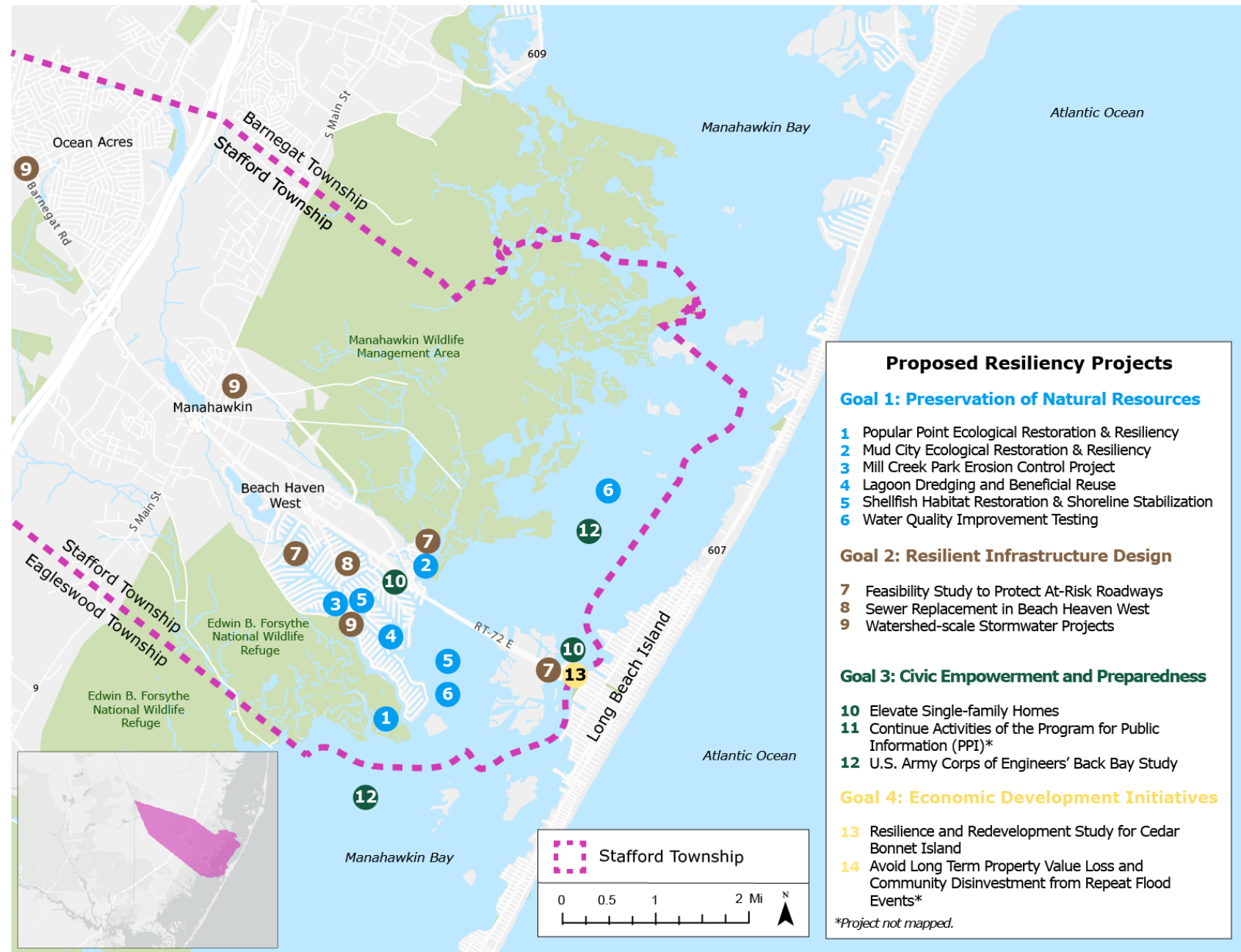
Empower community members to provide input on Township projects and make informed decisions for their own properties. Ensure resilience strategies are equitable for all communities to minimize vulnerability and avoid displacement.

### **Goal 4: Economic Development Initiatives**

Create a sustainable local economy with emphasis on workforce development opportunities, new revenue/funding streams, and mitigation of property value loss.

## Project Locations by Goal

The actions include planning measures, policy recommendations, and proposed projects that can be linked and built upon one another, resulting in multi-tiered benefits and interconnected resilience measures



## Description:

- Restored environmental habitat
- Restore the Popular Point wetland and the shoreline along the Manahawkin Bay
- Project will provide ecological restoration and improved wave attenuation
- Added benefit of additional protection to homes in Beach Haven West

## Goal 1: Preservation of Natural Resources

# Popular Point Ecological Restoration & Resiliency

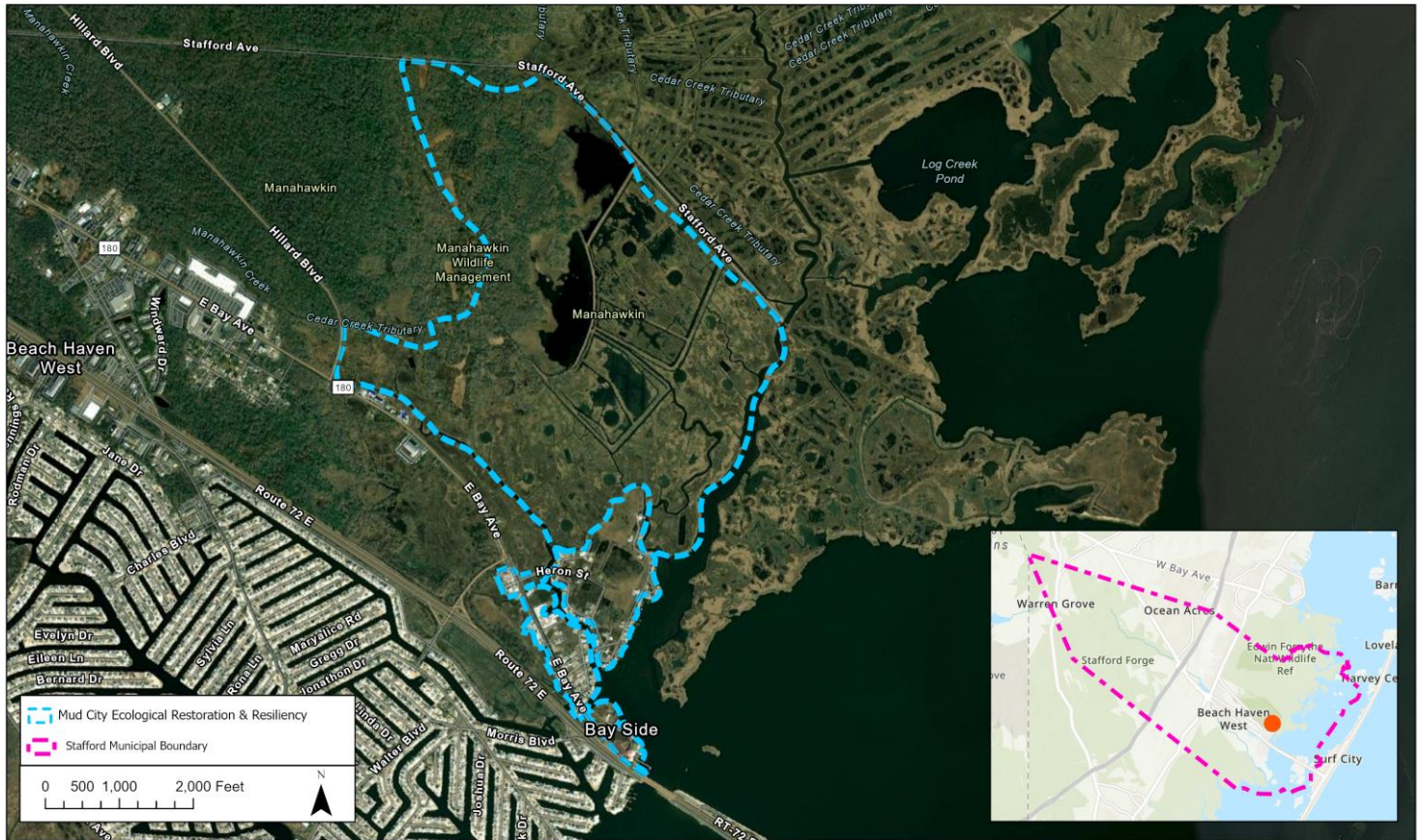


## Description:

- Evaluate wetland restoration and flood mitigation measures in the wetland areas surrounding the Mud City neighborhood
- This area was identified as highly vulnerable to flooding, storm surge, and wave action
- Conceptual plans for ecological restoration and coastal resilience are recommended to initiate community planning efforts and support future grant applications

## Goal 1: Preservation of Natural Resources

# Mud City Ecological Restoration & Resiliency



## Description:

- There are several critical assets located within Mill Creek Park (water tower, pump station, water & sewer building) that are at risk for flooding and erosion damages
- Project proposes creating a living shoreline to improve resilience

## Goal 1: Preservation of Natural Resources

# Mill Creek Park Living Shoreline Conceptual Design

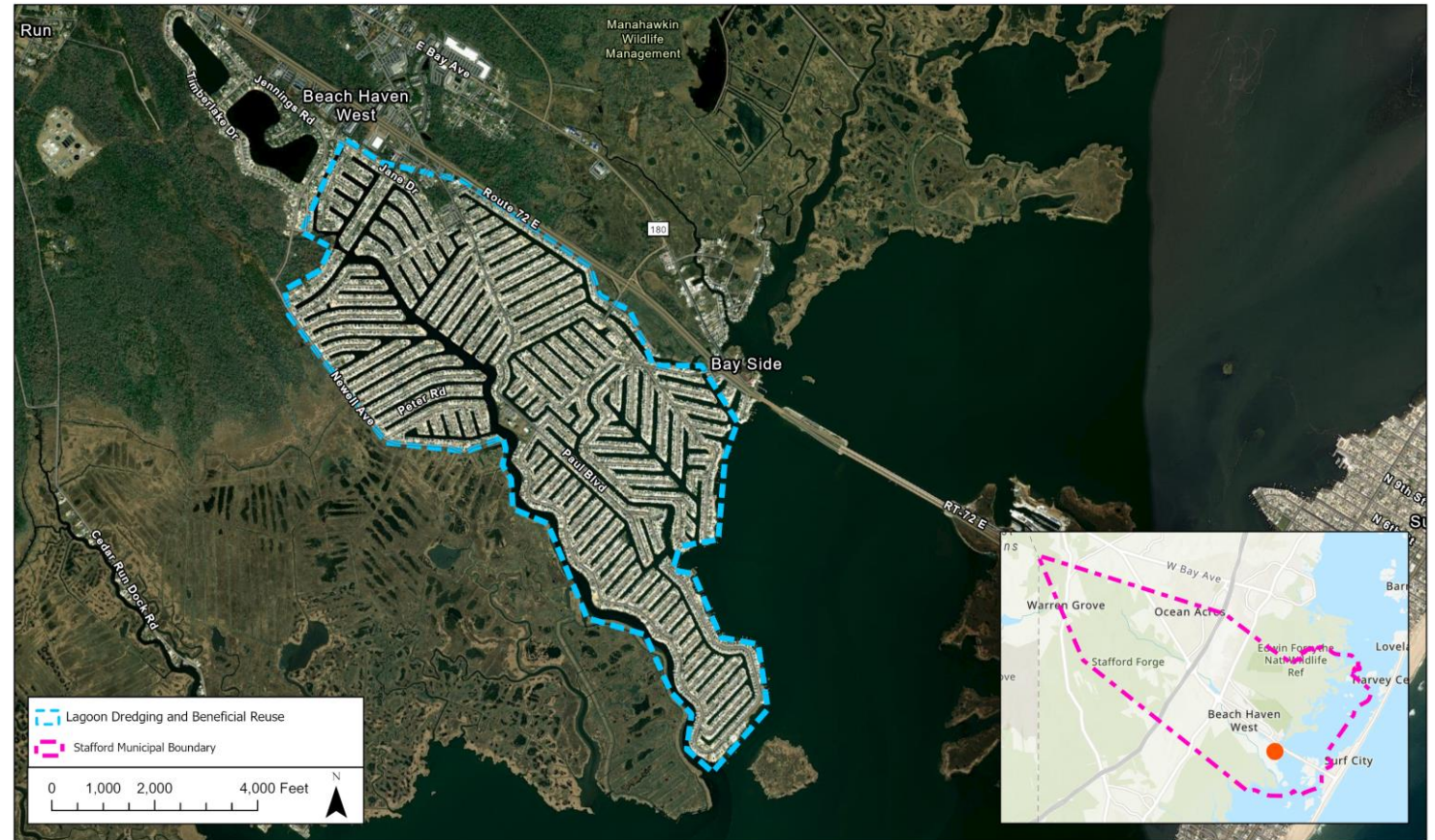


## Description:

- Sediment transport and deposition is increasingly occurring in the Back Bay with storm surge, wave action, and tidal influence
- Multiple grants are being investigated for potential project work to move forward

## Goal 1: Preservation of Natural Resources

# Lagoon Dredging and Beneficial Reuse



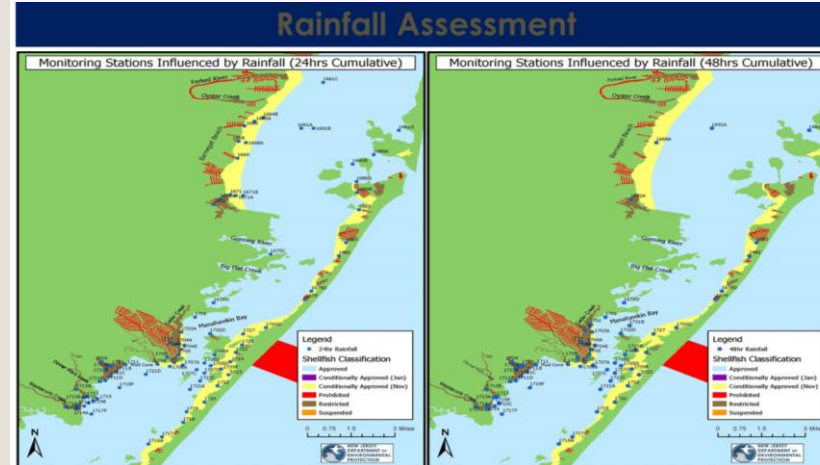
## Description:

- Shellfish habitat restoration has been shown to promote biodiversity and stabilize shorelines in the New Jersey Back Bays
- Oyster reef projects (ReClam the Bay and Stockton University) already underway
- Looking into potential for possible restoration and stabilization options

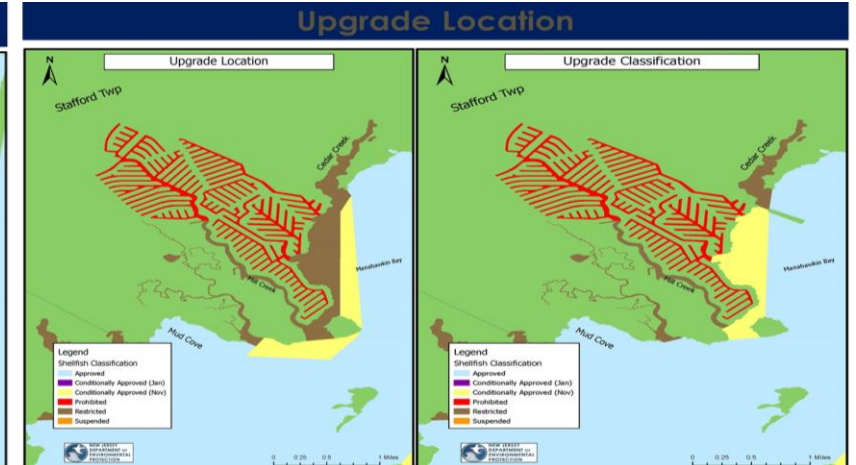
## Goal 1: Preservation of Natural Resources

# Shellfish Habitat Restoration & Shoreline Stabilization

## Testing Sites



## Cleaning of the Bay



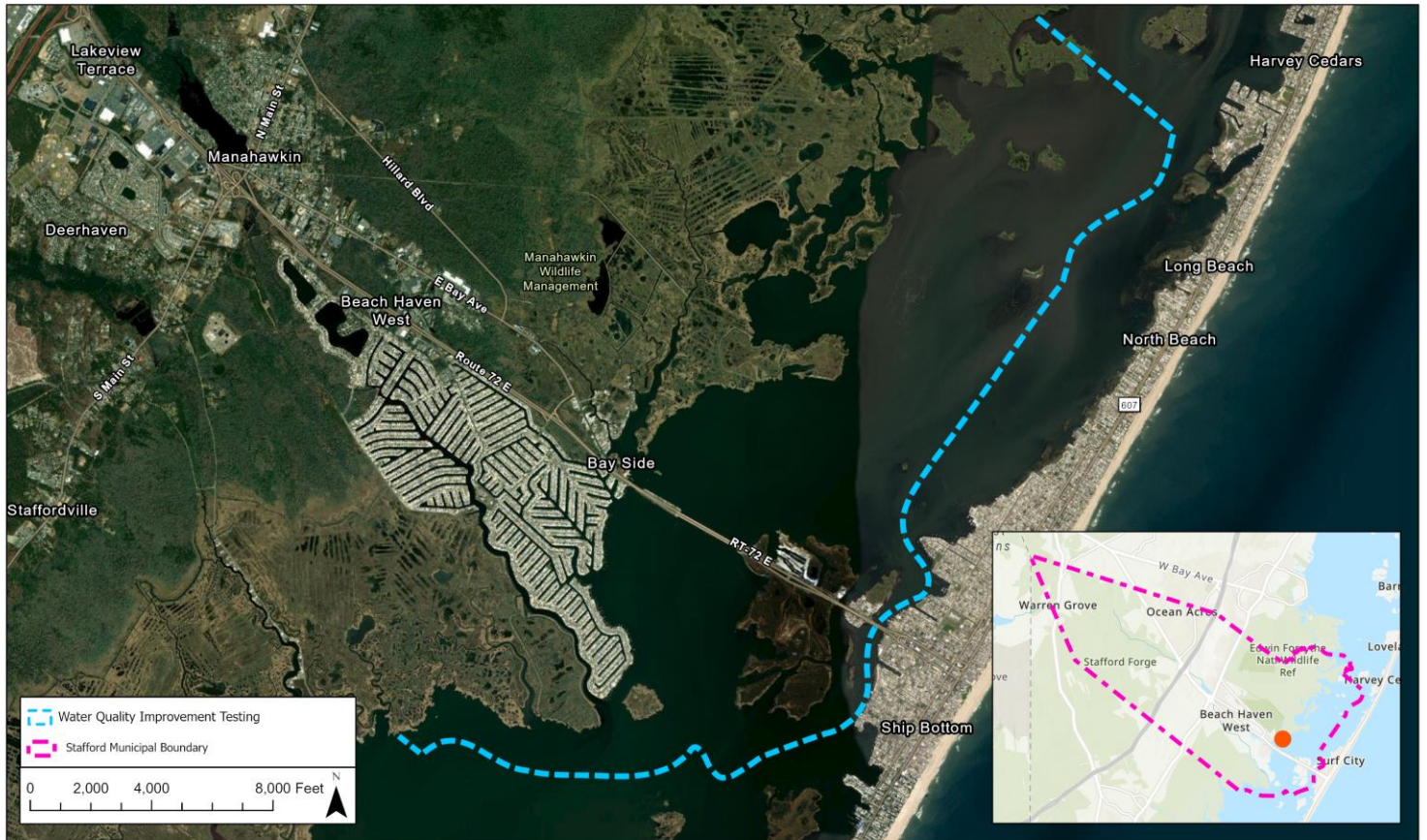
180.6 acres will be upgraded from *Restricted* to *Conditional* (Nov, 2021) and 186.2 acres will be upgraded from *Conditional* (Nov, 2021) to *Approved*.

## Description:

- The Barnegat Bay Partnership (BBP) released a Report in 2022 that indicates water quality issues and the need for additional testing in Manahawkin Bay
- Intent is to develop a testing program

## Goal 1: Preservation of Natural Resources

# Water Quality Improvement – Testing

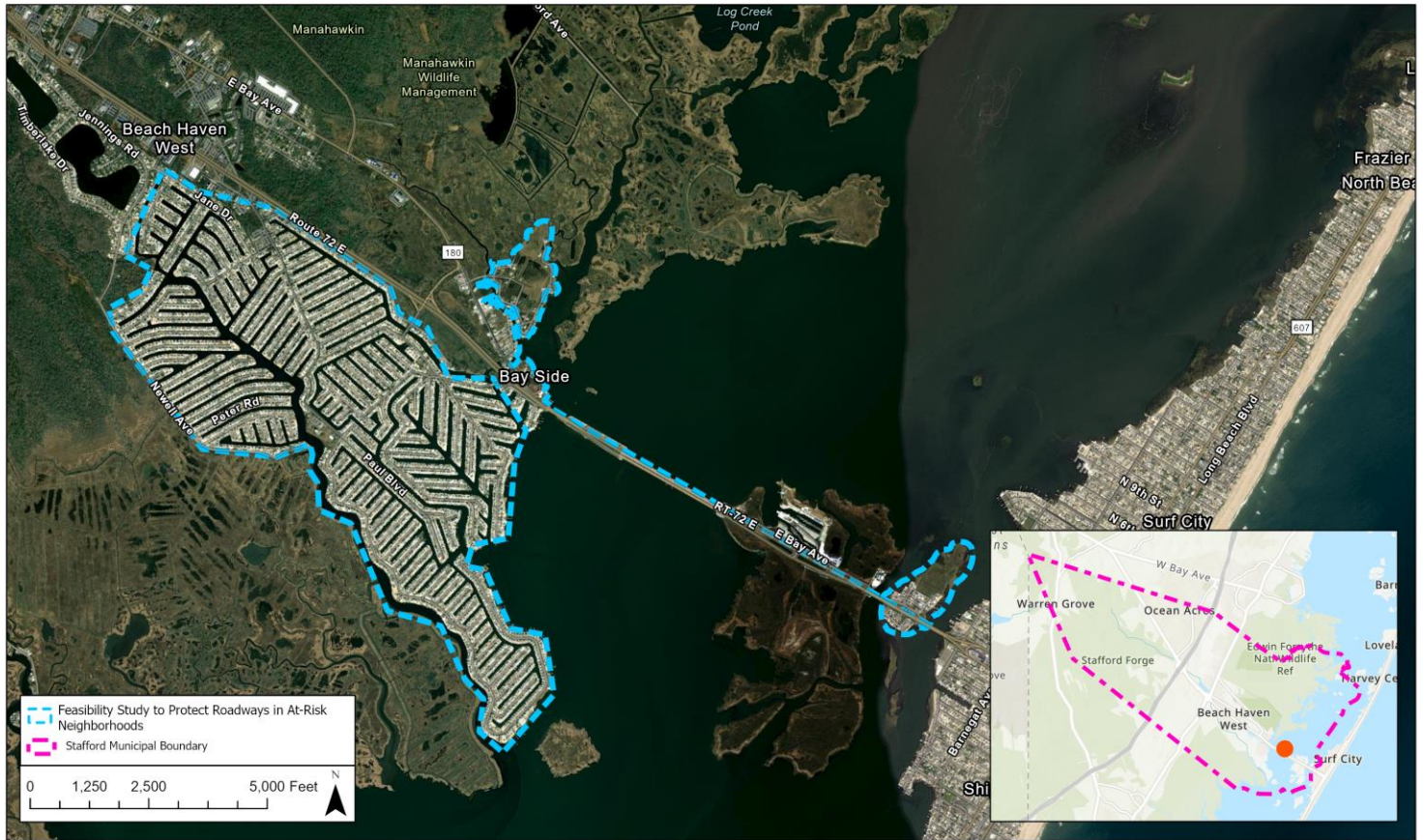


## Description:

- Feasibility study examining the extent, probability, and causes of the future inundation of roadways in Beach Haven West, Mud City, and Cedar Bonnet Island and other at-risk neighborhoods
- Suggest solutions, such as elevating roadways, and determine the cost of flood prevention with a cost-benefit analysis

## Goal 2: Resilient Infrastructure Design

# Feasibility Study to Protect Roadways in At-Risk Neighborhoods

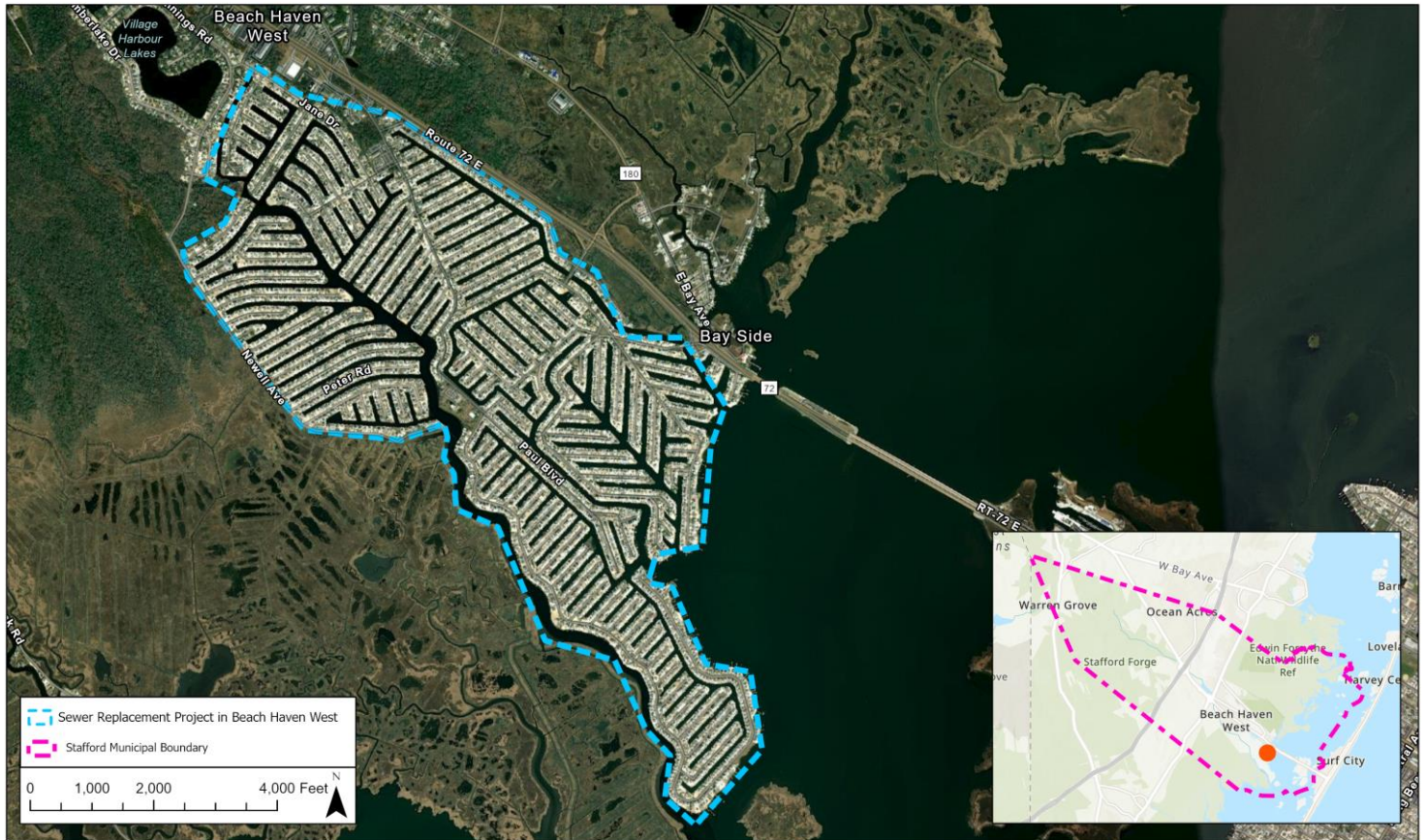


## Description:

- Provides preventative maintenance and strengthens the Township's existing infrastructure through necessary upgrades to vulnerable systems
- The project scope includes the replacement of drainage catch basins, drainage pipe, milling, and repaving roadways, which is already underway

## Goal 2: Resilient Infrastructure Design

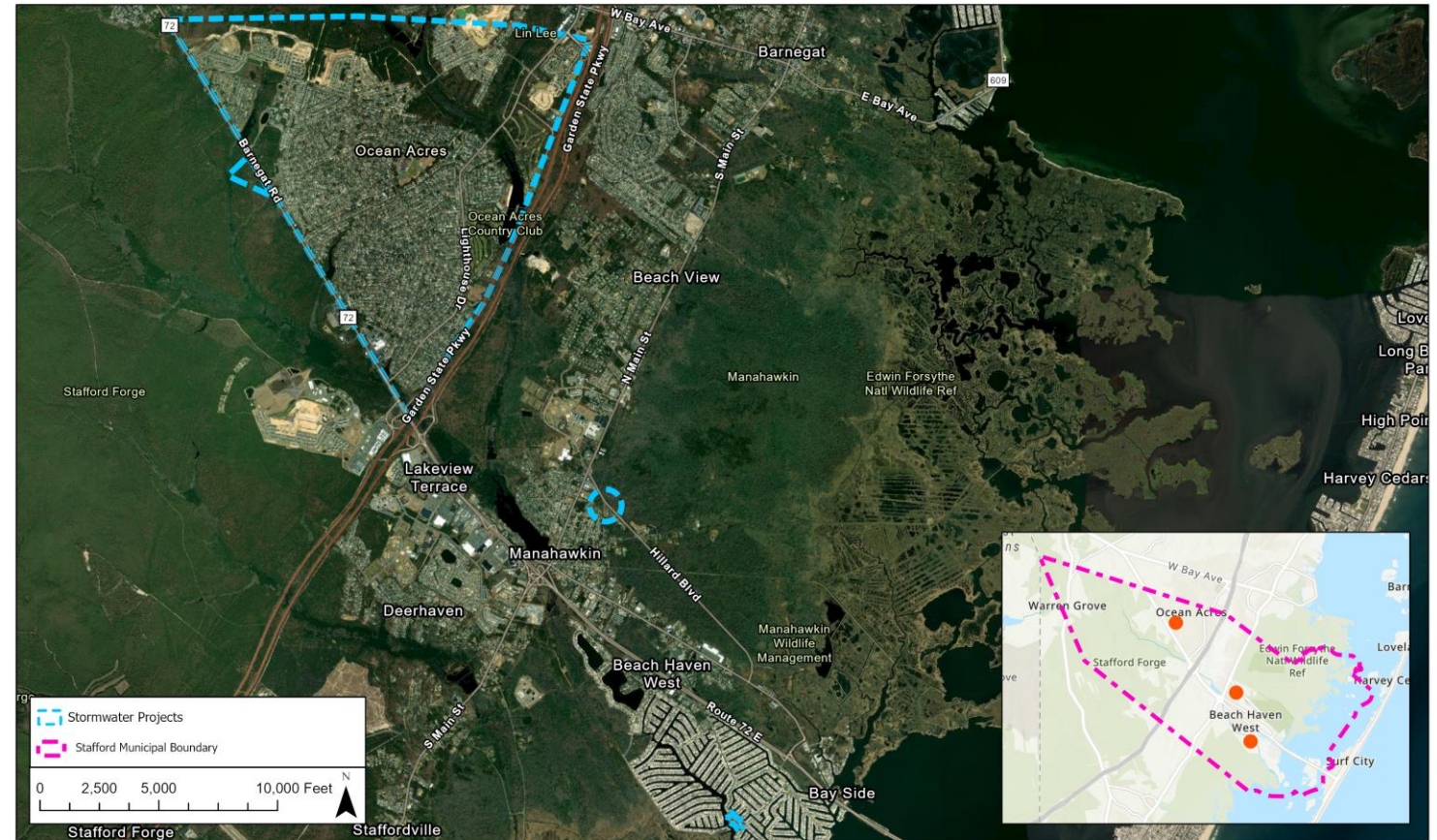
# Sewer Replacement Project in Beach Haven West



## Description:

- Neptune Basin Expansion
- Rutgers study and potential bioswale projects

## Goal 2: Resilient Infrastructure Design Stormwater Projects

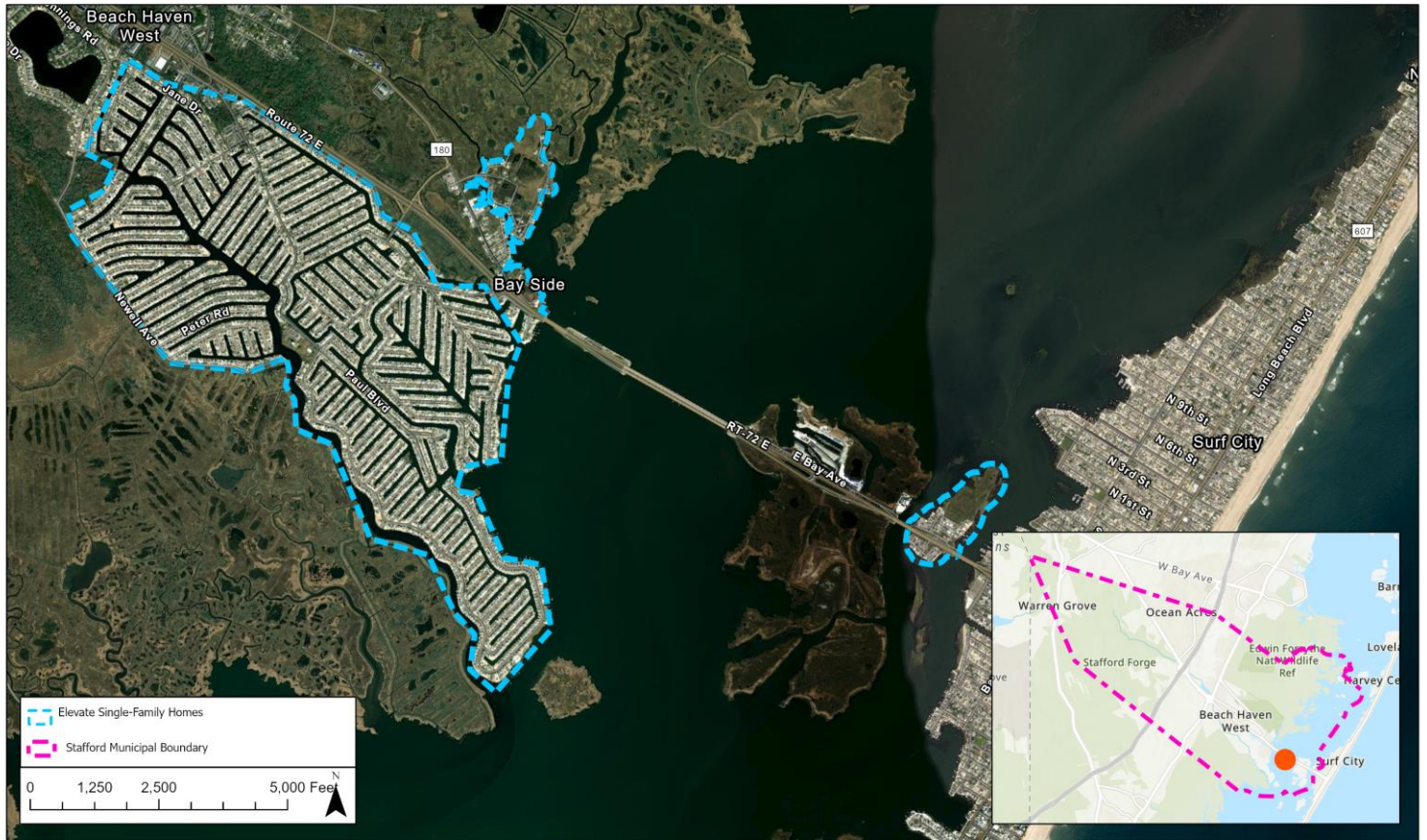


## Description:

- Continuation of elevating homes in substantially damaged, repetitive loss, and severe repetitive loss areas continuation of elevating homes in substantially damaged, repetitive loss and severe repetitive loss areas
- Stafford Township has already successfully elevated 500 homes, with 850 more identified as candidates

## Goal 3: Civic Empowerment and Preparedness

# Elevate Single-Family Homes



## **Description:**

- In early 2022, Stafford Township created their own PPI committee in order to specifically address flooding-related needs for Stafford residents
- Objectives are to improve the Township's FEMA CRS score, lowering insurance premiums, and set the target audience for flood awareness and mitigation related outreach

## Goal 3: Civic Empowerment and Preparedness

# **Continued Activities of the Program for Public Information Committee**

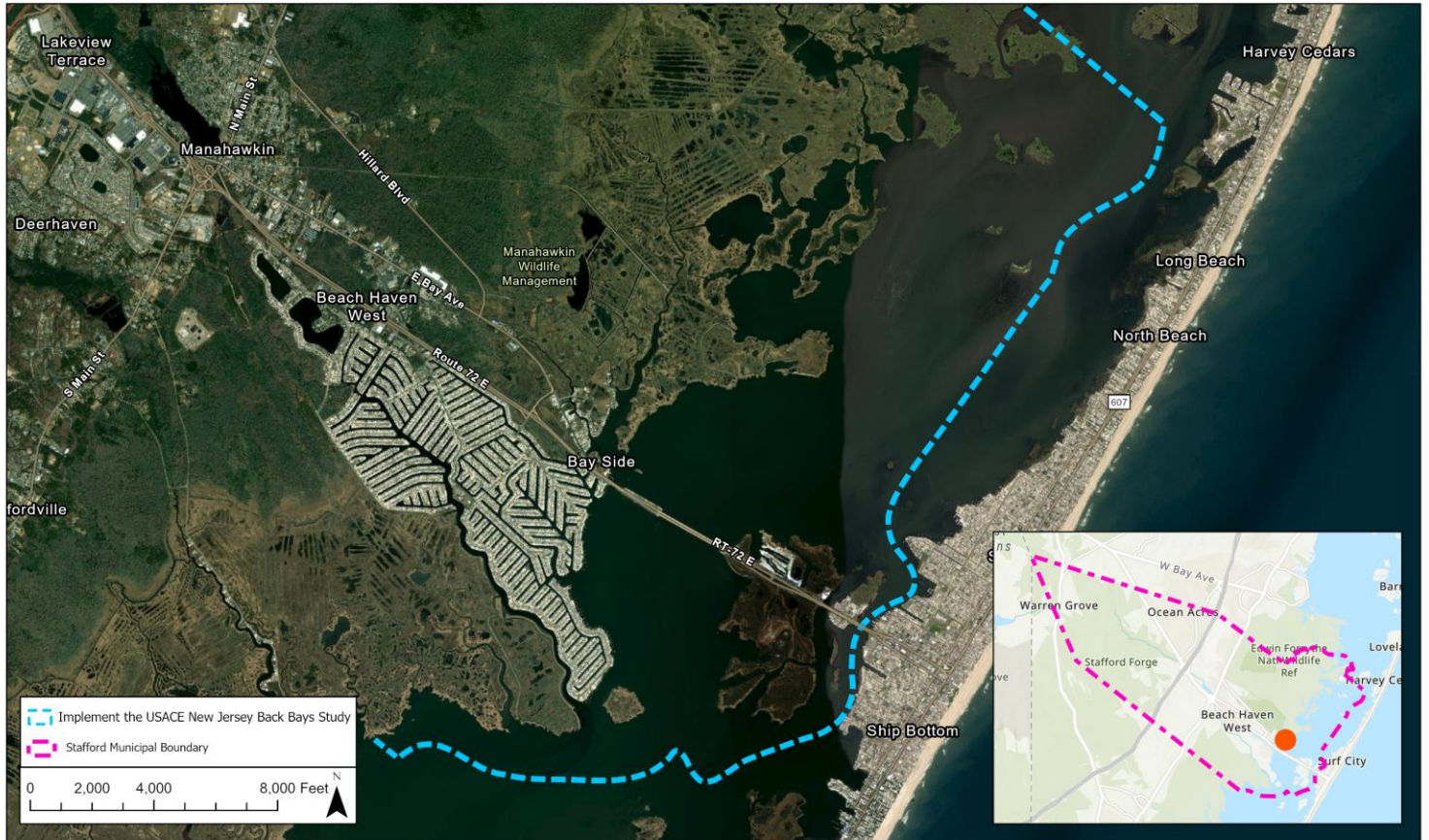


## Description:

- In 2021 the U.S. Army Corps of Engineers (USACE) completed a coastal storm risk management study of NJ's Back Bays
- The study includes relevant recommendations for Stafford including:
  - Elevation and floodproofing of 18,800 structures
  - Floodwalls, levees, and seawalls, cross-bay barriers, and storm surge barriers at select locations

## Goal 3: Civic Empowerment and Preparedness

# Implement the USACE New Jersey Back Bays Study



## Description:

- Single-family homes on Cedar Bonnet island are at high risk for future flooding and repetitive damages
- The redevelopment study would examine the potential of rezoning the north end of Cedar Bonnet Island with the intent of transforming the area into a commercial corridor with elevated properties

## Goal 4: Economic Development Initiatives

# Resilience and Redevelopment Study for Cedar Bonnet Island



**Description:**

- Continue coordinating with FEMA to provide financial assistance to property owners to elevate homes
- Coordinate with the NJIT Repetitive Loss Study
- Continue Township Flood Mitigation Assistance Workshops

**Goal 4: Economic Development Initiatives****Avoid Long-term Property Loss and Community Disinvestment**

# Next Steps & Wrap Up

Next Steps

Q&A

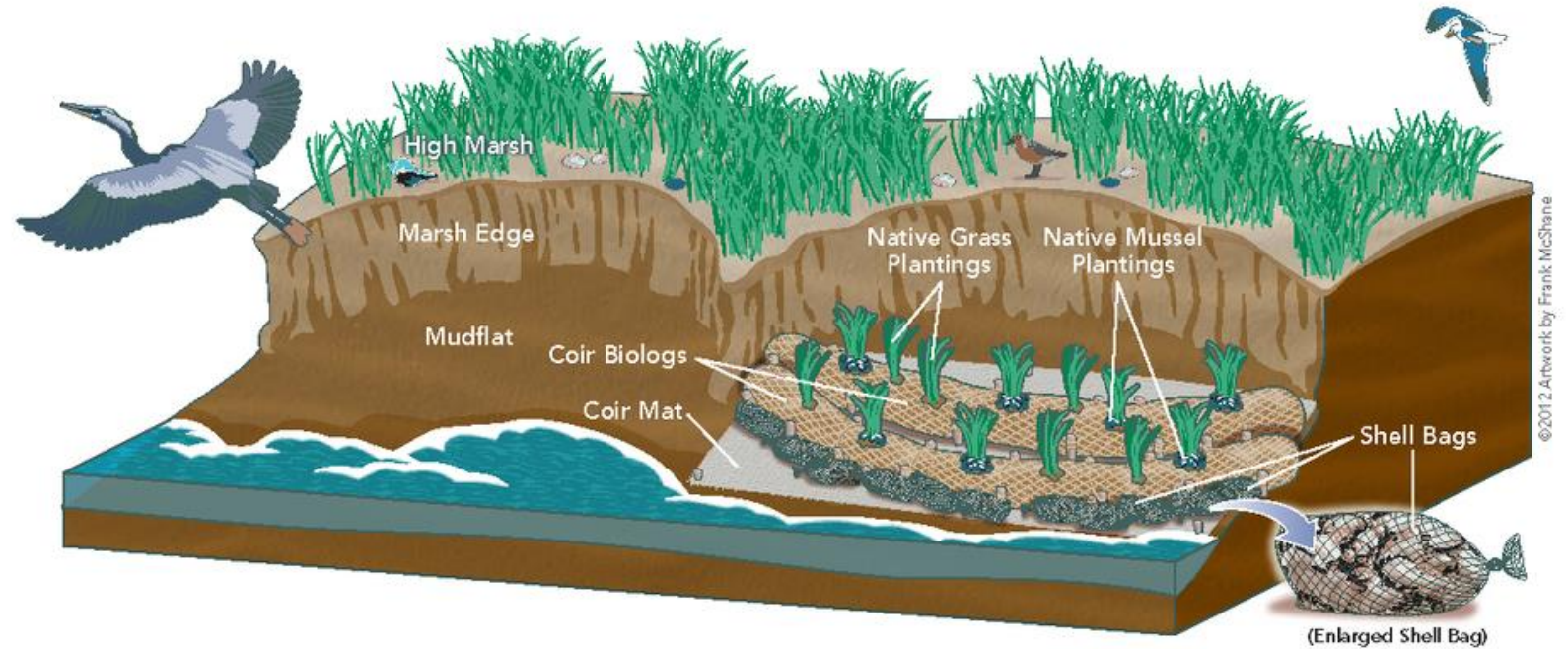
## Project Description:

- Develop a conceptual design plan for a living shoreline and resilient pathway at Mill Creek Park
- The objective is to reduce erosion and mitigate flood risk to critical assets within and adjacent to the Park with the intent of providing Stafford with planning work to obtain a grant for implementation

## Project Scope:

- Task 1: Identity Goals
- Task 2: Existing Conditions Assessment
- Task 3: Stakeholder Coordination
- Task 4: Identify Design Storm
- Task 5: Conceptual Plan

# Mill Creek Park Living Shoreline Conceptual Design



## Living Shoreline Conceptual Drawing

Source: Delaware Living Shoreline Committee

## Next Steps

- Integrate your feedback and finalize the Resilient Stafford Action Plan
- Complete the Mill Creek Park Living Shoreline project and integrate into the Action Plan
- Final public workshop in Spring 2023

## Questions, Comments, Feedback?

