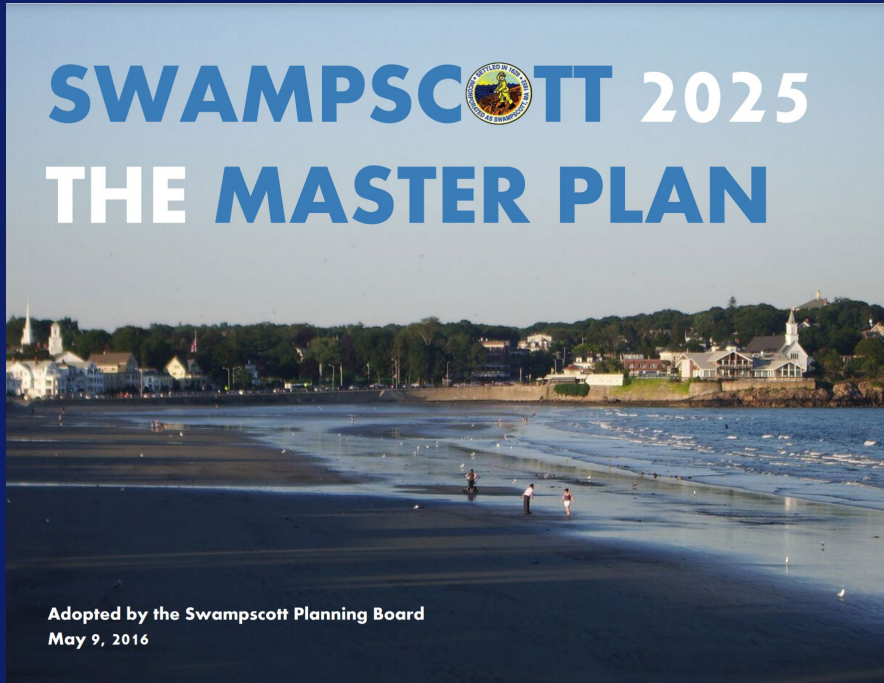


Protecting and Enhancing Our Harbor

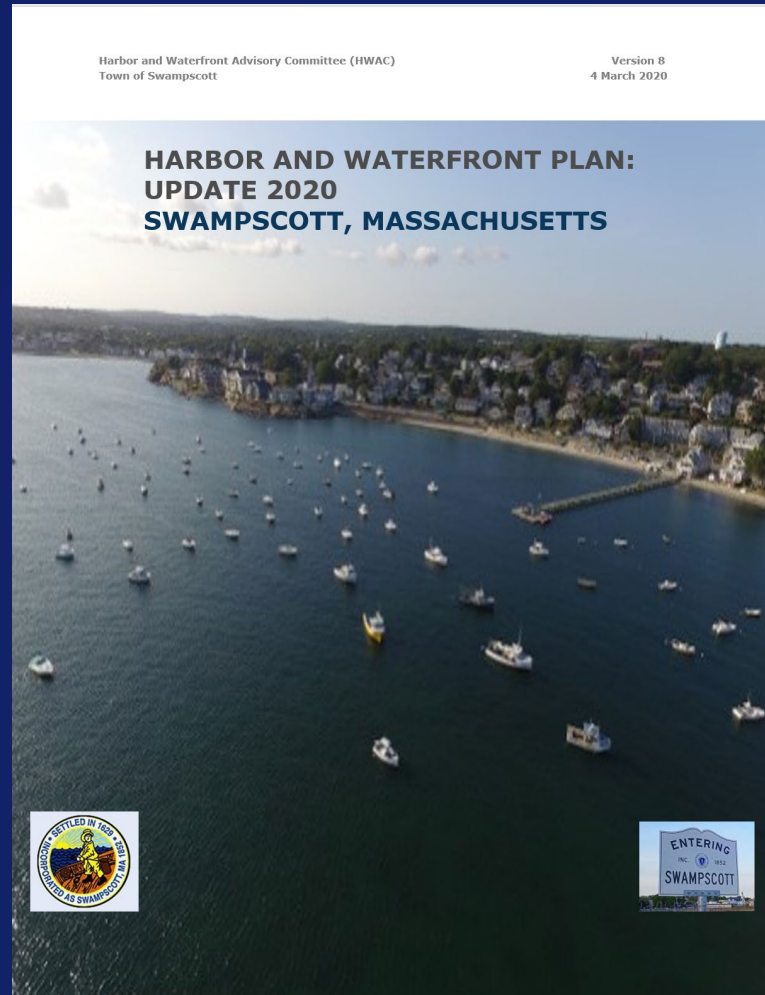
Summary of Existing Conditions and Town and Harbor & Waterfront Advisory Committee (HWAC) Efforts

Update Presentation to the Select Board
February 7, 2024

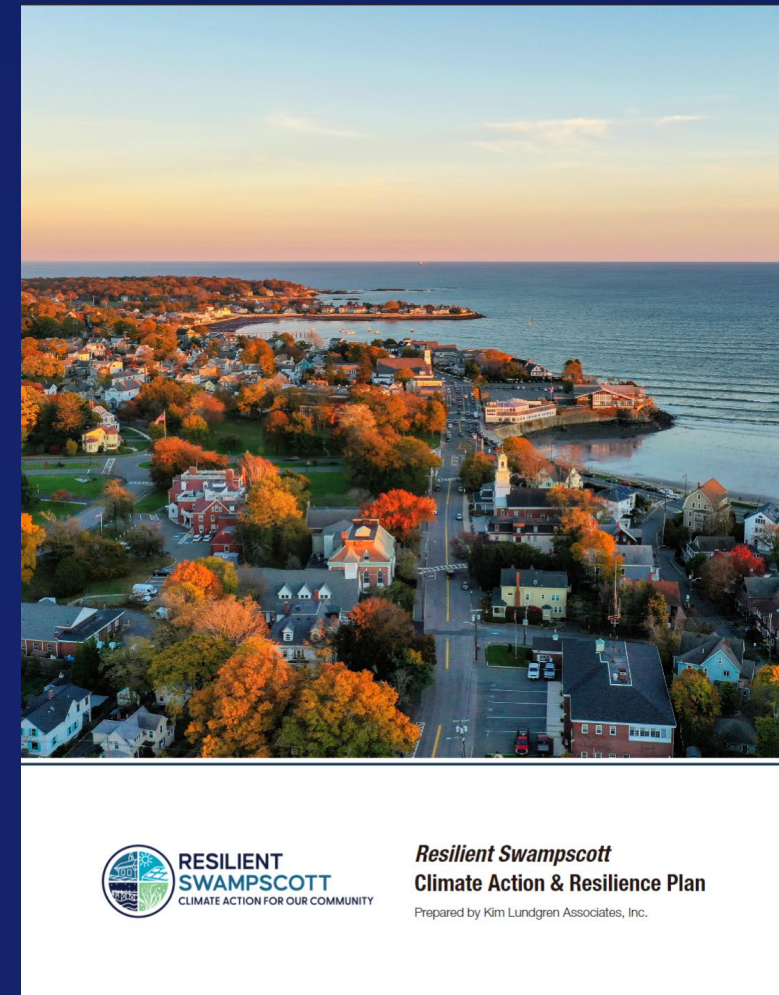
Planning Efforts Defining the Current Work and Guiding the Path Forward



2016



2020



2022

... And Additional Plans Developed by the Town...

The Town and the HWAC are Implementing Key Aspects of the Harbor Plan:

- > Current Focus is on Efforts to Protect and Enhance Fisherman's Beach and Associated Infrastructure
 - > Why Start There? – Because the Situation at Fisherman's is Urgent !!



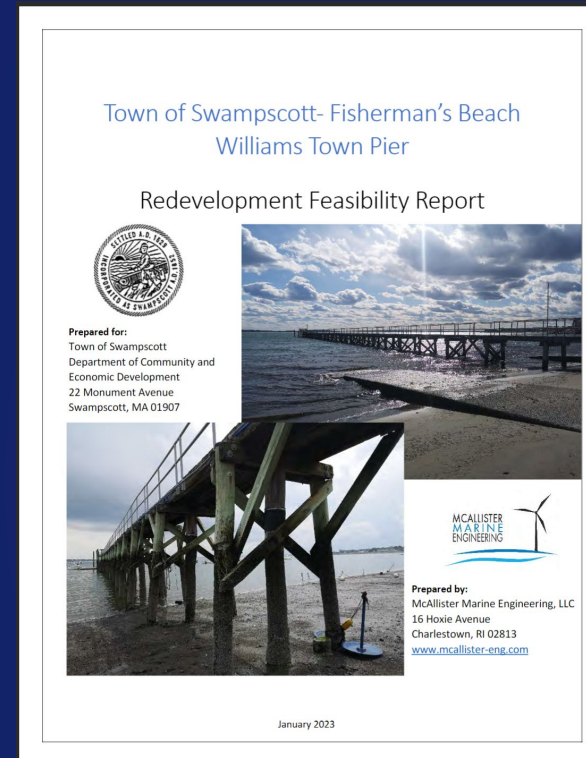
Urgent Projects Include:

- > Town Pier Replacement and Shoreline Enhancements to Protect the Fish House & Humphrey Street;
and
- > A Living Reef Harbor Protection System to add Resiliency & Protect Marine & Shoreline Infrastructure.

Status and Progress:

- In 2020 the Town Submitted Grant Applications to the State Seaport Economic Council (SEC) for both Projects:
 - SEC Indicted Support for Both the Pier and Living Reef Projects;
 - SEC Provided First Funding for the Fisherman's Beach Pier Project;
 - SEC Indicted that it would assist Swampscott in identifying funding sources for the Living Reef Harbor Protection System from other State and Federal sources.

- ▶ The Pier project received an initial State SEC grant in 2021.
- ▶ In 2022, the initial phase of the project was completed with a Feasibility Study.
- ▶ In 2023, the Town received a second State grant to begin the 60% design process for the Pier.
- ▶ **That work began in September 2023 and is currently underway.....**



Emphasizing the Urgency:

- Over the Past several decades, super storms and large named storms have pounded the coast at Fisherman's Beach.



Emphasizing the Urgency:

- Over the Past several years, Climate Change has exacerbated the strength, frequency, and severity of the storms to a point where even “run-of-the-mill” storms are now creating significant damage to the Pier, the Fish House, and the Coastal Infrastructure along Humphry Street.



Emphasizing the Urgency:



Damage to the Fish House Foundation from the January 10, and January 13, 2024 Storms.

Emphasizing the Urgency:



Damage to the Fisherman's Beach Pier from the January 10, and January 13, 2024 Storms.



Emphasizing the Urgency:



Damage to the Fisherman's Beach Pier from the January 10, and January 13, 2024 Storms.



Emphasizing the Urgency:



Damage to the Fisherman's Beach Parking Lot from the January 10, and January 13, 2024 Storms.



The Forces at Work are Incredible and are Causing Extreme Stress on the Infrastructure.

Emphasizing the Urgency:



Damage to the Infrastructure Surrounding Fisherman's Beach from the January 10, and January 13, 2024 Storms.

Emphasizing the Urgency:



Repeated Damage from Multiple Storms, now with higher waves and at a more frequent occurrence is causing the infrastructure to degrade.

Emphasizing the Urgency:

**The Power of the
Storm - from the
January 13, 2024
Storm.**



**Emphasizing
the Urgency:**

**Flooding from
Storms is growing
in severity and
threatens
Humphrey Street
and the businesses
and homes that
exist along
Humphrey.**

The Pier Project: Pier Conditions Were Surveyed as Part of the Feasibility Study

The Pier is over a Decade Past its Design Life. Structural Inspections Indicate the Pier is Aging and Needs to Be Relaced if it is to Withstand the Coming Storms.



The Pier Project: 2022 Study Results Indicated Permitting and Design Challenges that Require Focussed Design Attention:



A Healthy Eel Grass Bed in the Harbor Complicates the Regulatory Picture....



The Pier Project: 2022 Work Results – From 7 Concepts, 2 Preliminary Designs

Town of Swampscott- Fisherman's Beach Williams Town Pier

Redevelopment Feasibility Report

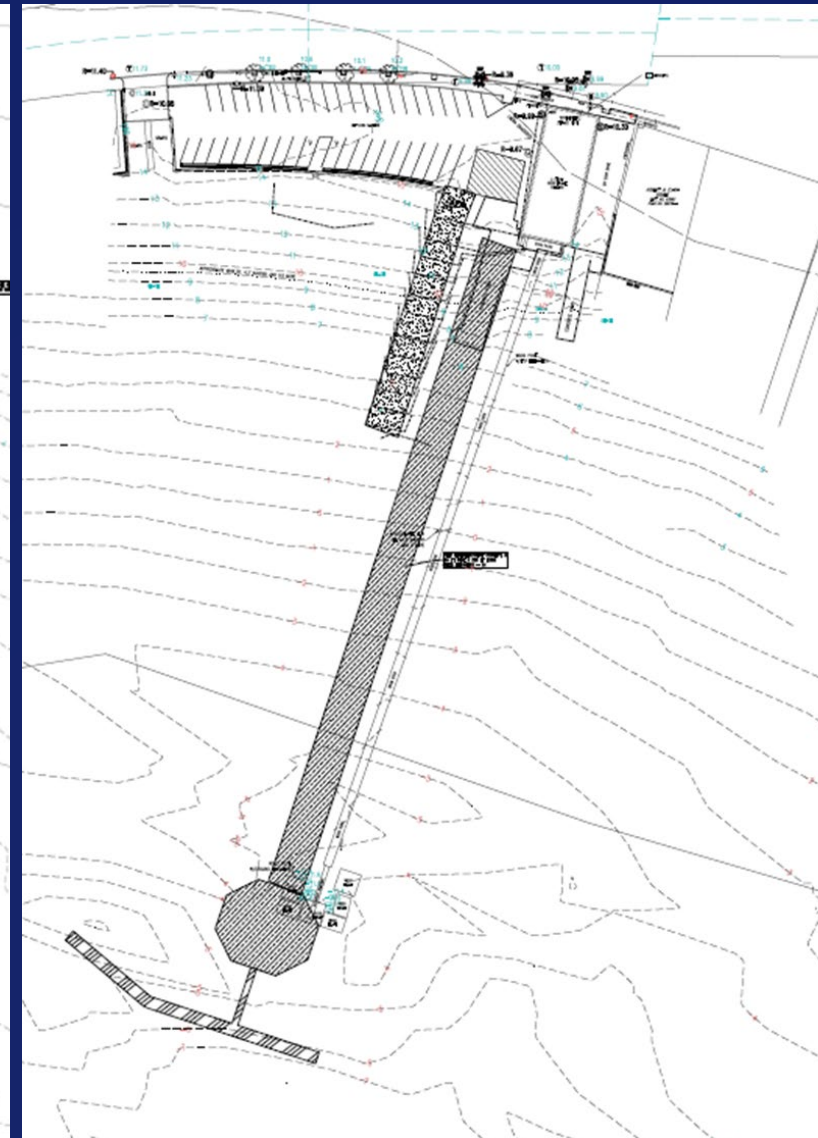
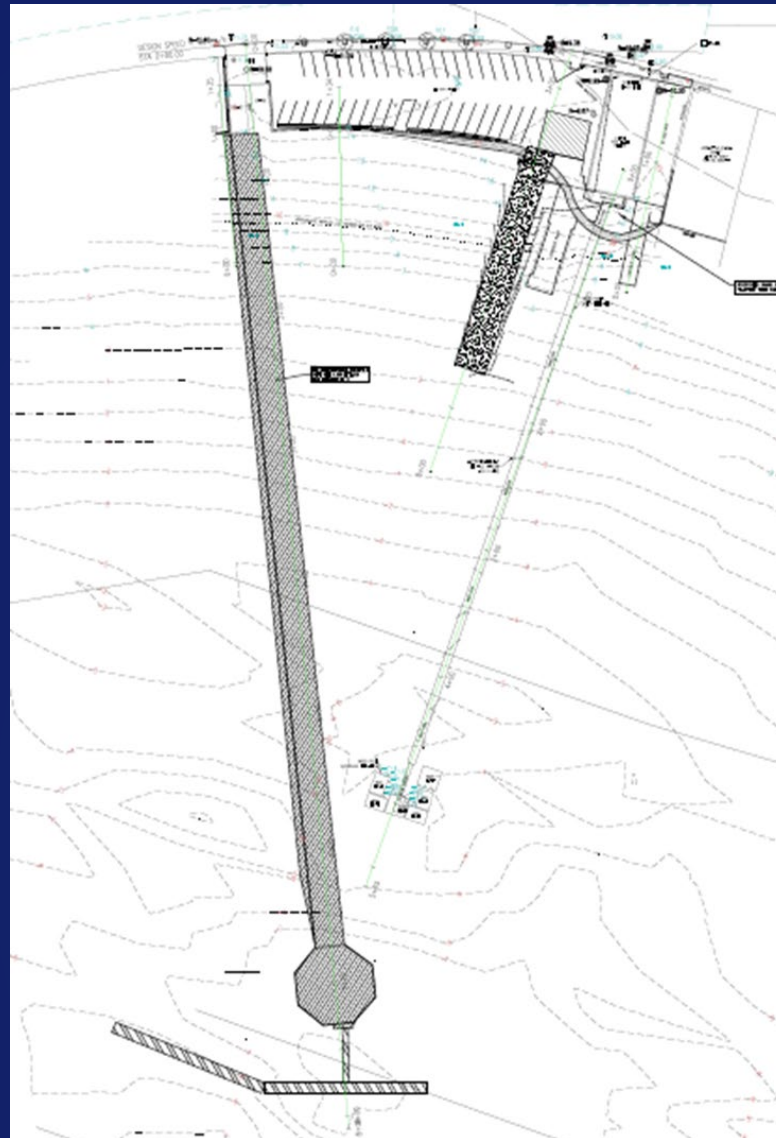


Prepared for:
Town of Swampscott
Department of Community and
Economic Development
22 Monument Avenue
Swampscott, MA 01907



Prepared by:
McAllister Marine Engineering, LLC
16 Hoxie Avenue
Charlestown, RI 02813
www.mcallister-eng.com

January 2023



The Winning Concept (Center) Was Selected After Extensive Review and Outreach.

The Pier Project: Progress and Status – Toward a 60% Design

In 2024 – A Soil Boring Program Is Scheduled to Provide the Critical Geotechnical Information Needed to Advance the Design Process.

- 4 Borings are Planned along the Alignment of the New Pier.
- Regulatory Review of the Plan Registered Concern Over Potential Disturbance the Eel Grass (Even though Minor).
- Necessitating Locating Borings in Low Eel Grass (Sandy) Areas using Underwater Camera to Determine Appropriate Locations.
- Appropriate Boring Locations were Determined from Existing Data and Buoy Blocks were Set at the Appropriate (4 Boring) Locations using GIS.
- Site Marking was Completed in December 2023 – but since then Severe Weather has Hampered the Collection of the Photographic Data.
- Work will Commence Once the Weather Cooperates.
- The Delays will Extend the Work Under this Phase into the Fall.



Marking the Marine Boring Locations to Avoid Eel Grass

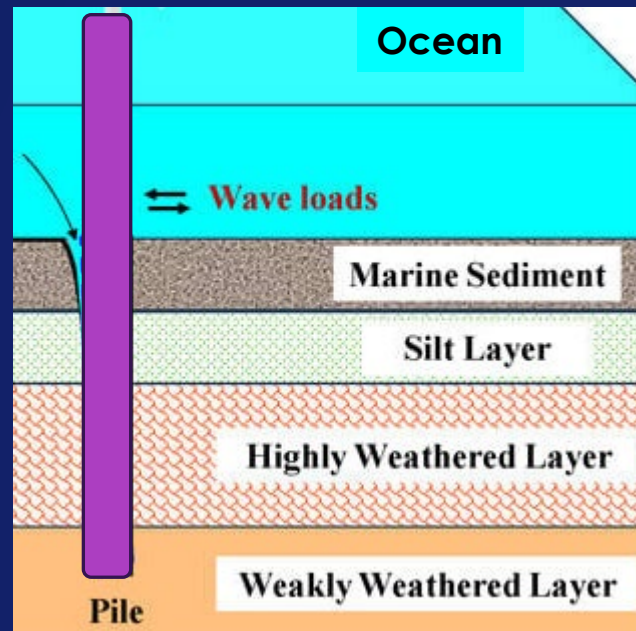


The Pier Project: Next Steps

Conduct Borings



Create Ground Model

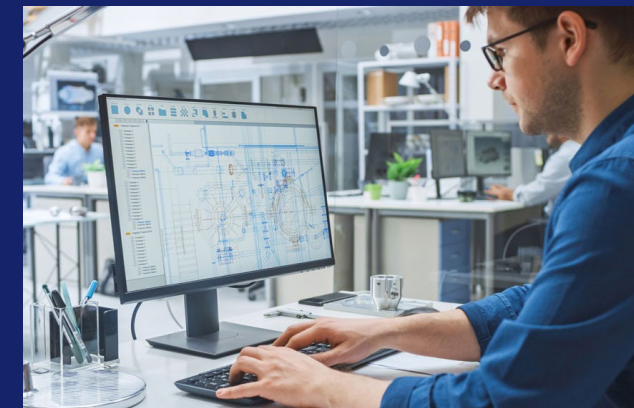


Example Ground Model

Conduct Marine Surveys



Select Pile Sizes and Types and Proceed with Design



60% Design and Town Review Process



**Engineer's Rendering – One Possible Configuration of New Resilient Pier
(More Accurate Rendering will be Compiled Once the 60% Design is Complete)**

The Pier Project: Next Steps as Current Work Scope Matures



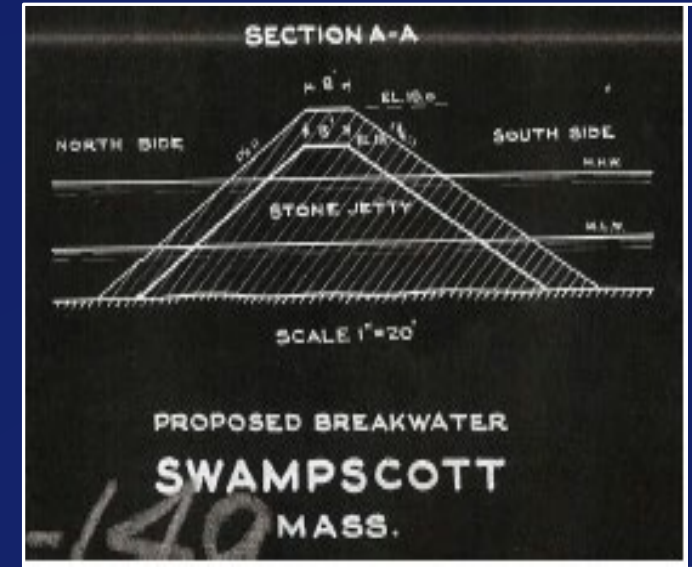
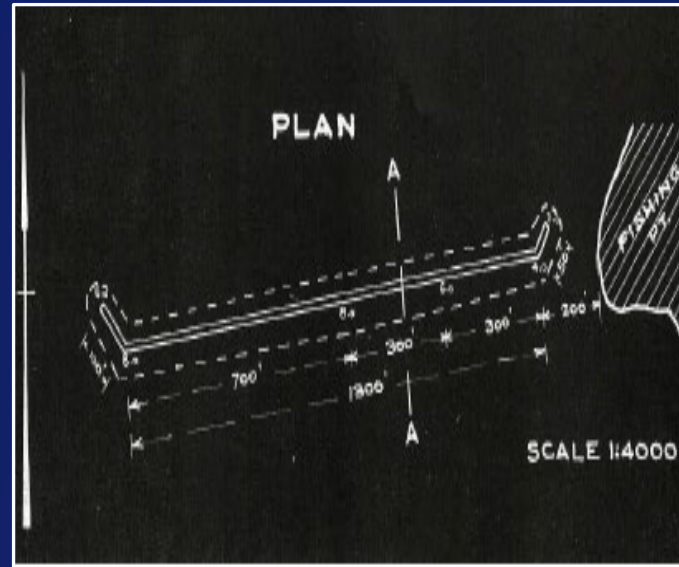
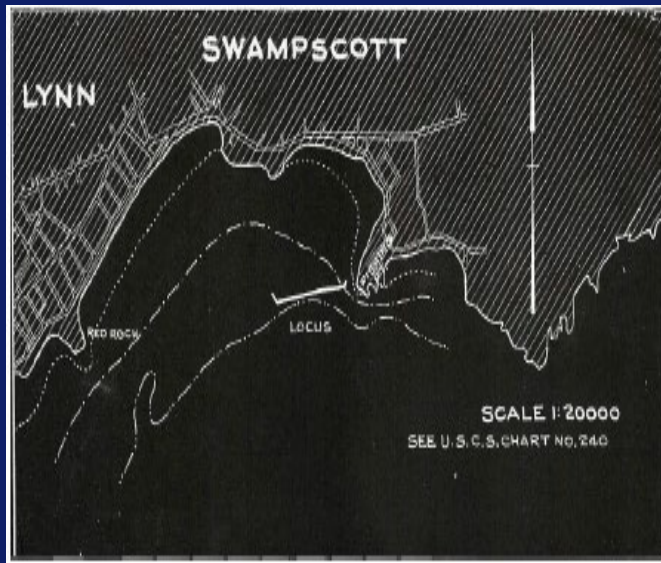
- Acquire Next Phase Grant.
- Next Phase = Permitting.
- Conduct Necessary Studies and Create Reports for Regulatory Review.
- Obtain Permits.
- Acquire Design Grant to Advance to 100% Design.
- Complete 100% Design and Publish Specifications and Bid Package.
- Bid and Select Contractor.
- Construct.

Something to Keep in Mind.....



The City of Revere Lost a Pier in One of the Latest Storms. Once a Pier Falls Into the Water, It Is Very Difficult to Replace.

Future Work...Based on Past Work...



INFRASTRUCTURE INVESTMENTS TO SUPPORT HARBOR AND WATERFRONT RESILIENCY HAVE BEEN PLANNED FOR SOME TIME...

- ▶ **ORIGINAL BREAKWATER DESIGNS - U.S. ARMY CORPS OF ENGINEERS 1924.**
- ▶ **FEDERAL GOVERNMENT FUNDING WAS PULLED FROM THE PROJECT.**
- ▶ **THE HARBOR PLAN SUPPORTS A MODERN TAKE ON THE ORIGINAL ARMY CORPS INTERVENTION - A NATURE-BASED DESIGN "LIVING REEF".**
- ▶ **THE FIRST PHASE OF WORK FOR THIS PROJECT INVOLVES THE COMPLETION OF A FEASIBILITY STUDY TO ASSESS THE EFFICACY AND EFFECTIVENESS.**
- ▶ **THE TOWN IS SEEKING GRANT MONEY TO BEGIN THE FEASIBILITY AND DESIGN PROCESS.**
- ▶ **THE HEALEY ADMINISTRATION HAS A RESILIENCY "CZAR". REGIONAL RESILIENCY ALLIANCES ARE BEING FORMED AMONG NORTH COAST COMMUNITIES.**

The Time is Rapidly Approaching to Decide ...

RETREAT or DEFEND

RESILIENCY

