

Fenwick Island Bayside Flooding & Resiliency

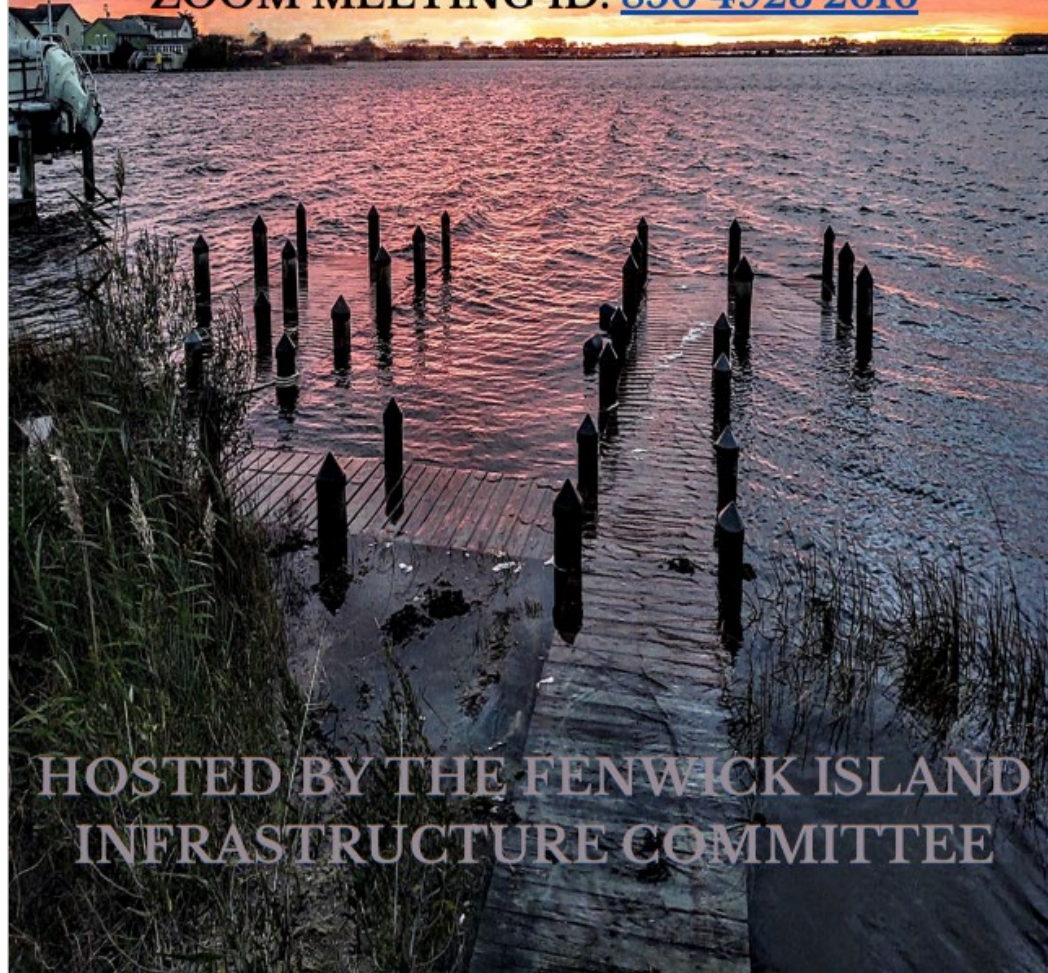
INFORMATION AND DISCUSSION

THURSDAY, AUGUST 31, 2023

TOWN HALL 2:30-4:30 PM

ZOOM MEETING ID: [850 4923 2616](https://fenwickisland.com/join/85049232616)

HOSTED BY THE FENWICK ISLAND
INFRASTRUCTURE COMMITTEE



Agenda (90 minutes)

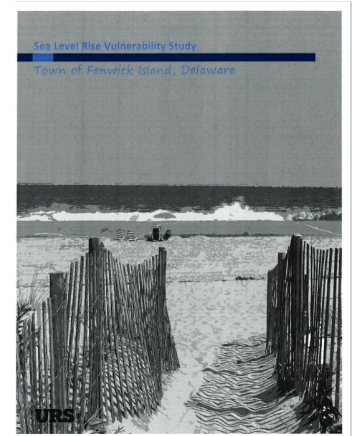
- Previous Town Resiliency Efforts
- F. I. Resiliency Study, March 14, 2023
 - Recent Sea Level Rise (SLR) efforts in Delaware
 - FI 2023 Comprehensive Plan: Chapter 7, Resiliency
 - Projected SLR from 2030 to 2080
 - Probable impacts by street
 - Short term action items: 2030-2040
 - Although AECOM's primary focus was on the bayside, beach replenishment is an action item for 2030-2040
 - Medium term action items: 2050-2060
 - Action items: 2070-2080 ?????
- Break and refreshments:
 - Information Stations
 - Browse documents and handouts
 - Fill out comment/question forms (also for feedback and follow-up)
- Moderated Q&A (same as the candidate's forum)



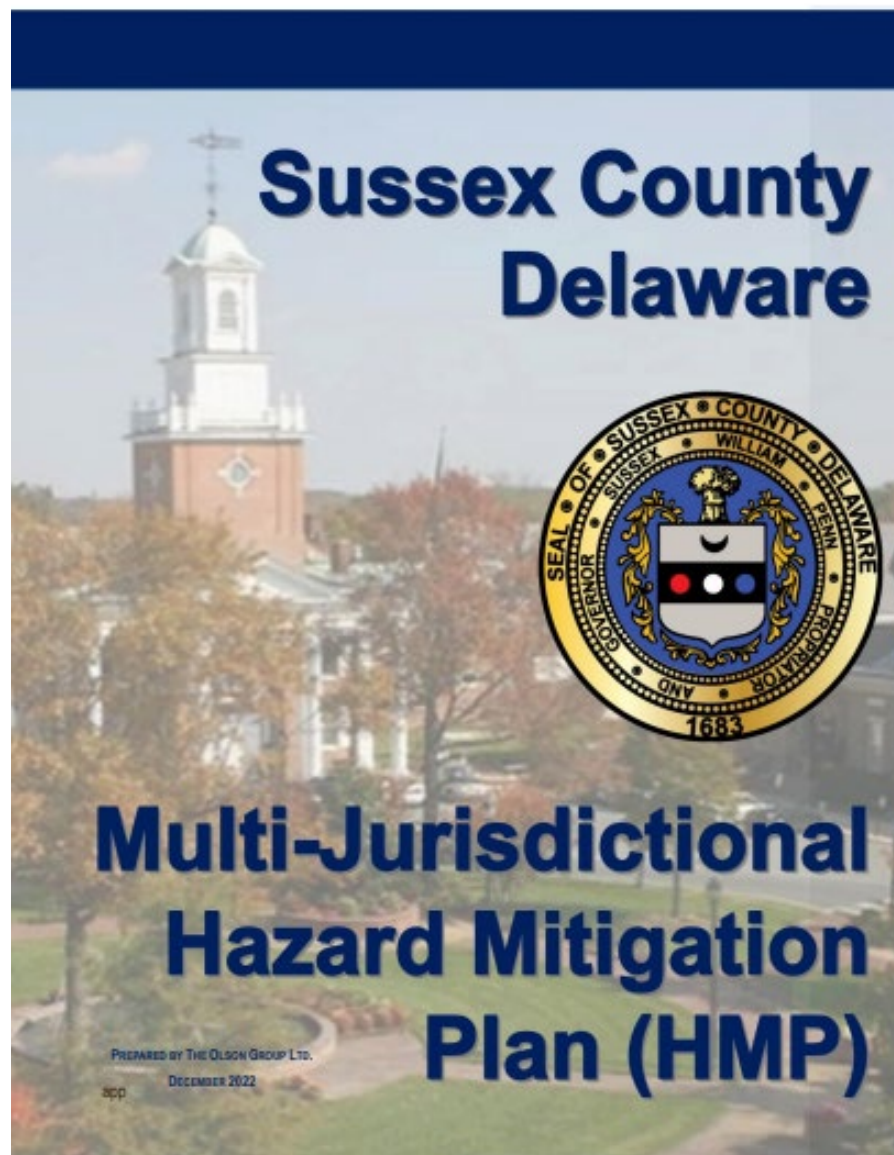
Previous Town Resiliency Efforts

- **2013 Stormwater Infrastructure Plan and GIS Mapping** AECOM
- **2015 Sea Level Rise Vulnerability Study** AECOM
- *Town of Fenwick Island: Preparing for Sea Level Rise (brochure)*
- **2016 Needs Assessment for the Town of Fenwick Island** Salisbury U.
- **2017 F.I. Comprehensive Plan update** AECOM
- **2019 Community Sustainability Plan** KCI
- **2019 Coastal Municipalities Impervious Surface Coverage Report** AECOM

Sea Level Rise Vulnerability Study, 2015



- As a result of severe damages from Hurricane Sandy (2012) Fenwick chose a *proactive approach* to flooding issues
- As a first step, the Town undertook the Sea Level Rise Vulnerability Study
- The study documented anticipated problems and identified mitigation measures and best practices
- Based on projections for 2100, maps showed the extent of flooding
 - .5 meters (20 inches): almost all Bay side properties
 - 1 meter (40 inches): SR1 is completely under water
 - 1.5 meters (60 inches): maximum inundation of entire town
- Major recommendations:
 - raise streets and bulkheads
 - adopt new ordinances
 - develop a disaster recovery plan
 - public education and outreach
 - coordinate with other towns



PARTICIPATING JURISDICTIONS		
City of Lewes	Town of Delmar	Town of Laurel
City Rehoboth Beach	Town of Dewey Beach	Town of Millsboro
City Seaford	Town of Ellendale	Town of Millville
Sussex County	Town of Fenwick Island	Town of Milton
Town of Bethany Beach	Town of Frankford	Town of Ocean View
Town of Blades	Town of Georgetown	Town of Selbyville
Town of Bridgeville	Town of Henlopen Acres	Town of Slaughter Beach
Town of South Bethany	Sussex County	

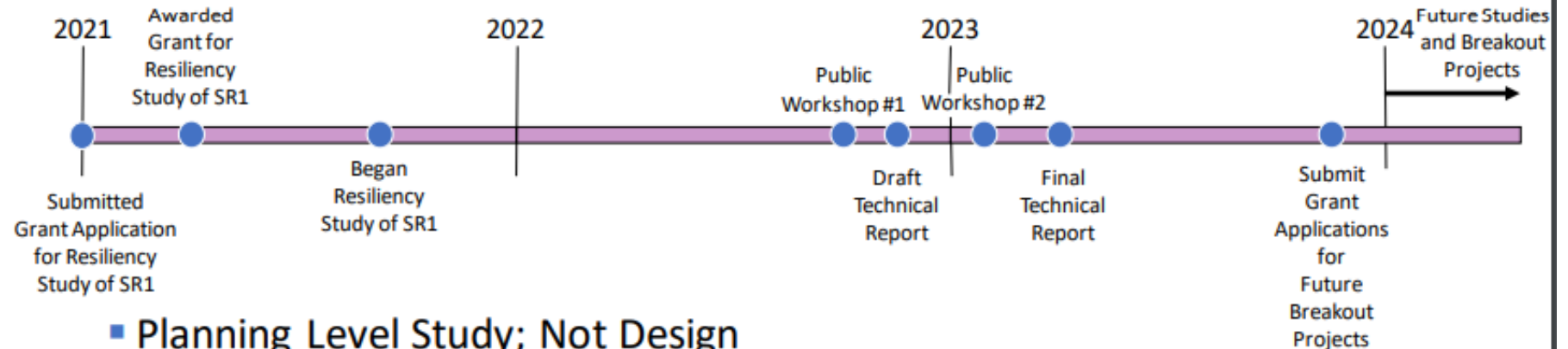
Table 1-1. Participating Jurisdictions

<https://fenwickisland.delaware.gov/files/2023/04/SussexCounty-Multi-Jurisdictional-Hazard-Mitigation-Plan-2022.pdf>

Department of Transportation (DELDOT)



■ SR1 Coastal Corridor Resiliency Study Timeline



- Planning Level Study; Not Design
- Future Projects will be identified as part of the Study


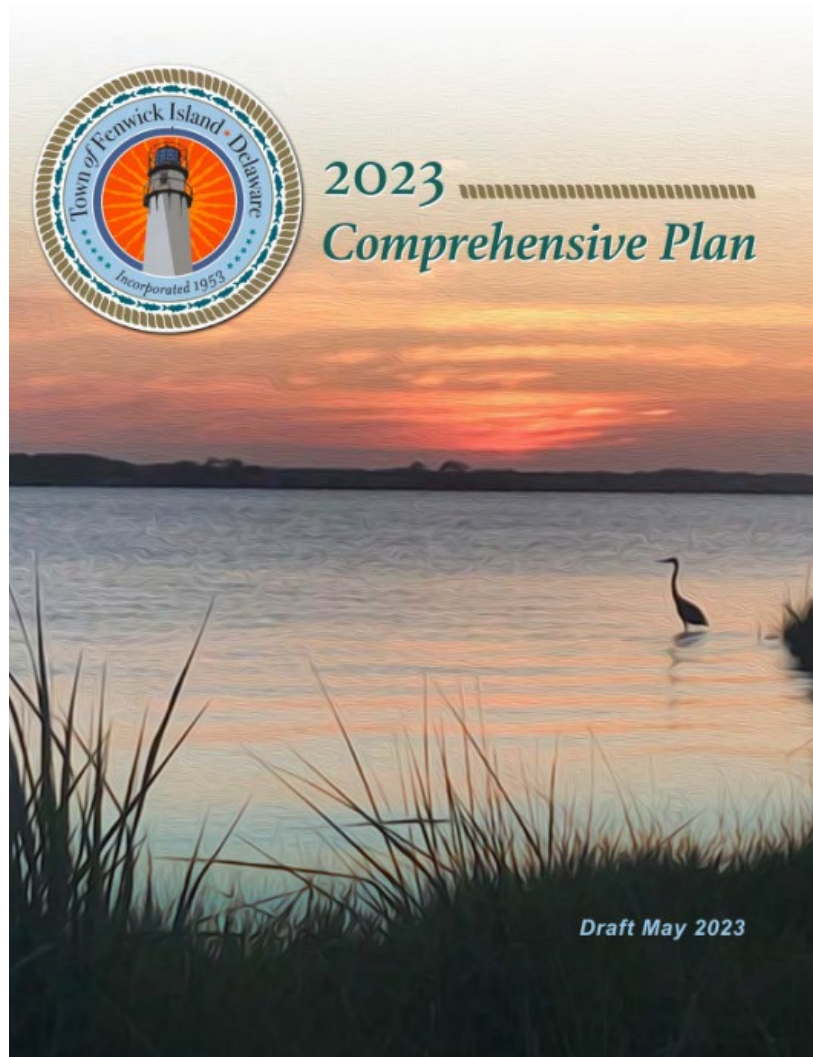


SR1 COASTAL CORRIDOR RESILIENCY STUDY

Virtual Public Workshops 9/20/2022 and 5/22/2023

<https://deldot.gov/projects/Studies/sr1-coastal-corridor/>


F.I. Comprehensive Plan, draft June 2023



Chapter 7. Resiliency: Sea Level Rise and Coastal Flooding

7.1 Introduction

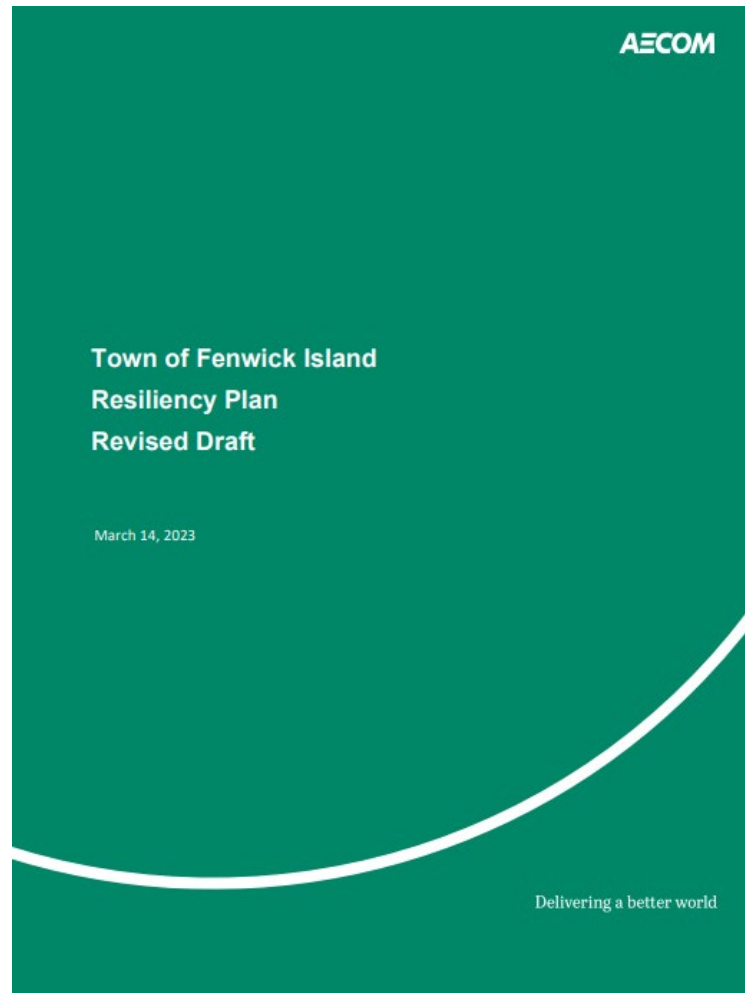
The Town of Fenwick Island is the southernmost municipality in Sussex County, DE. The average sea level calculation for the town is 7 feet above sea level. Most properties, especially on the west side of SR 1 are no higher than 5 feet above sea level and the lowest level on the bayside is just 1.7 feet above sea level. In contrast, the beach end parking areas, located on the ocean side of town are between 7 to 9 feet above sea level. SR 1, which bisects the town and is roughly the midpoint, averaging 4 feet above sea level.



Draft: 06/16/2023

59

F.I. Resiliency Plan Revised Draft, March 14, 2023



Flood inundation on the bayside of Fenwick Island with water levels exceeding half a foot. Photo Courtesy of WBOC

https://fenwickisland.delaware.gov/files/2023/03/FIResiliencyPlan_031423.pdf

Expected inundation over time

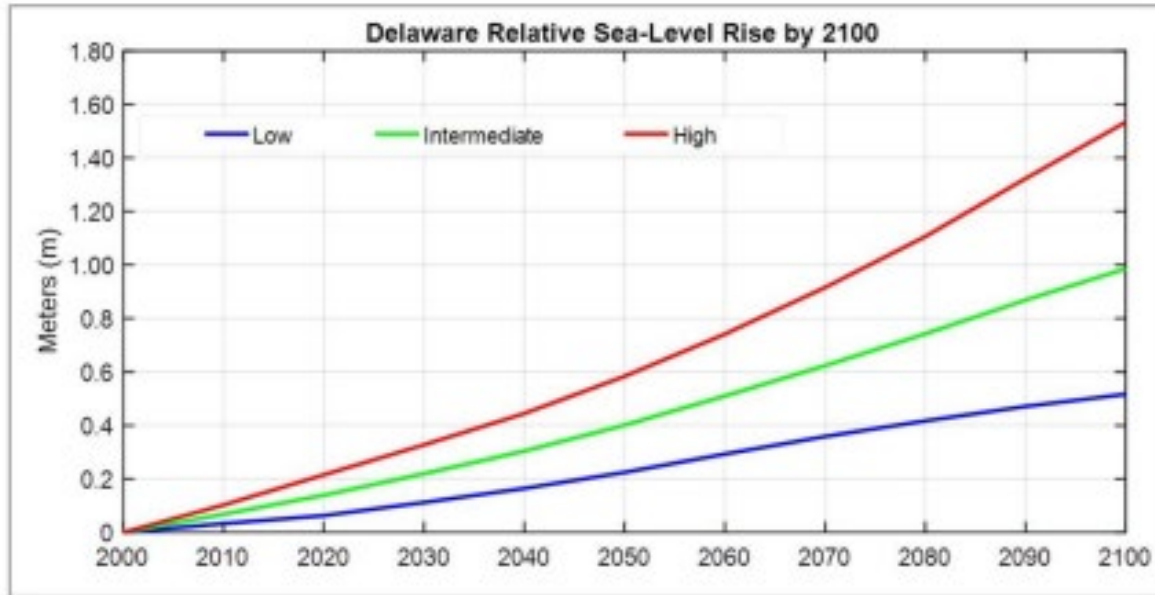


Figure 4 shows the 2017 Delaware SLR planning scenario curves to the year 2100.

Table 1. Summary of inundation impacts in Fenwick Island

Year	Percent of Buildings Inundated		Percent of Road Inundated
	Entire Town	West of SR1	Entire Town
2030	0.3%	0.4%	0.0%
2040	0.3%	0.4%	0.0%
2050	1.5%	2.2%	1.5%
2060	7.8%	11.2%	12.5%
2070	23.1%	32.9%	33.0%
2080	57.3%	81.7%	42.6%

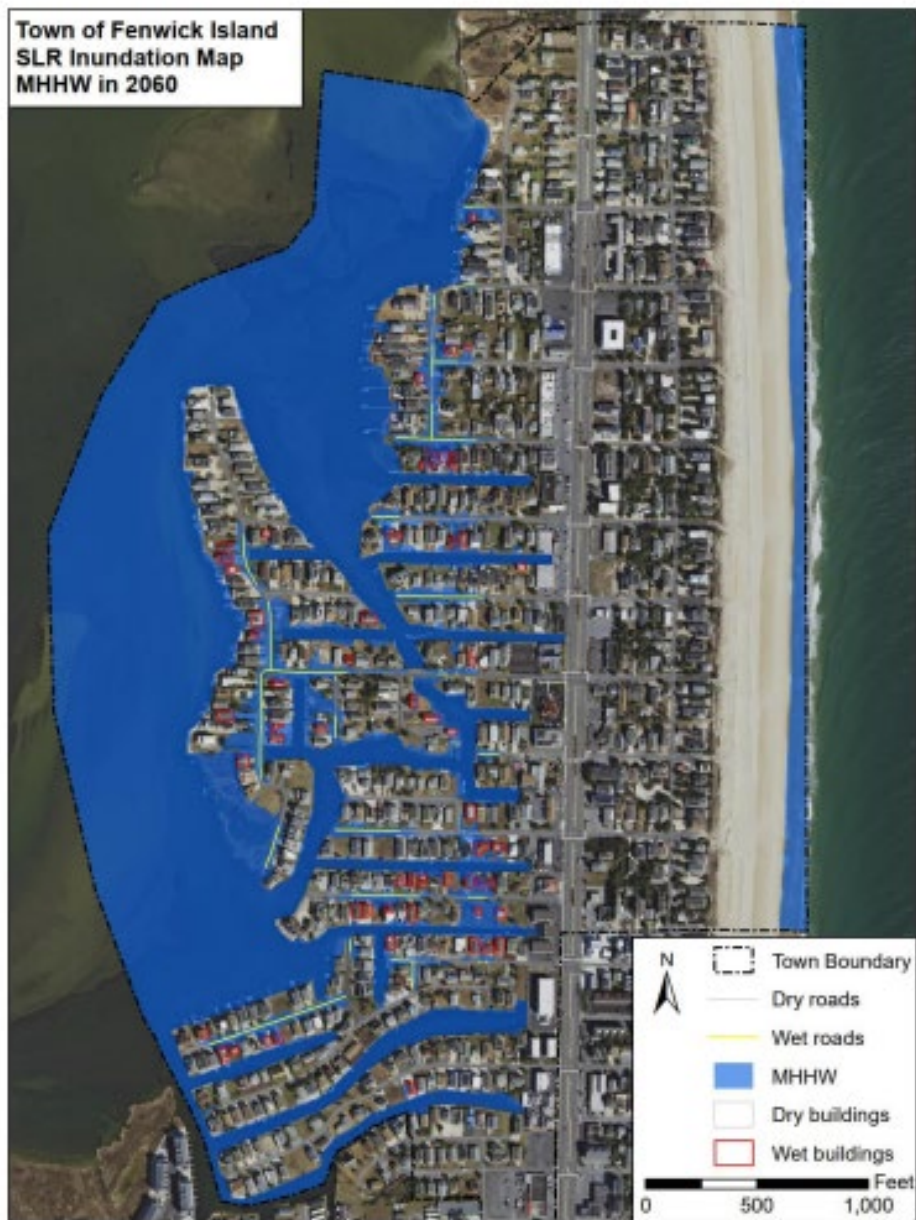
Reference: Delaware Sea-Level Rise Technical Committee, November 2017

<https://www.dgs.udel.edu/sites/default/files/projects-docs/Delaware%20SLR%20Technical%20Report%202017.pdf>

Predicted SLR impacts: 2050, 2060, and 2070

• <u>Short-term</u> 2050-60	<u>Mid-term</u> 2060-70	<u>Long-term</u> 2070-80
• Shultz	W Indian	Wright
• W Dagsboro	W Farmington	Bay
• McWilliams	W Cannon	Winward
• Bora Bora	W Bayard	Ebb Tide
• W Houston	W Atlantic	Bayard ext.
• W Georgetown	W S. Carolina	Bay Side
• W Essex	Mermaid	Surf
• Madison	Municipal Facilities??	Oyster Bay
• Glenn		High Tide
• W James		W Maryland & Island

Town of Fenwick Island
SLR Inundation Map
MHHW in 2060



Town of Fenwick Island
SLR Inundation Map
MHHW in 2080



AECOM suggested near-term tasks 2030 to 2040

- Code updates and specify bulkhead standards (height, materials, process)
- Raise awareness of impact of sea-level rise
- Continue to monitor the science of SLR and work with State, County, DELDOT and DNREC, and utilize the recommendations and implementation matrix of our Comprehensive Plan
- Advocate and support beach replenishment (State, DNREC and Army Corps of Engineers) Note: 13 beach replenishments since 1962!
- Begin the additional engineering, planning, and surveying for bulkhead replacement and other mitigation projects
- Consider codifying requirements for dwellings, pavements, drainage, etc.
- Assess vulnerability of municipal facilities

AECOM suggested tasks for 2040 to 2060

- Elevate bulkheads to 4-ft NAVD'88 standard by 2050
 - Requires additional engineering, planning and funding
 - All properties same elevation
 - Vinyl bulkheads have high level of protection and are cost effective
- Elevate (some) residences
- Update SLR guidelines: building materials, landscaping, building settings, etc.
- Raise streets
 - Coordination with DELDOT
 - Impact on businesses and others fronting on Route 1



Future Infrastructure Committee efforts

- Provide updated information to the community via the Town website and additional community engagement opportunities and seek feedback
- Learn more about sea-level rise
- Explore engineering solutions and options
- Monitor the efforts of coastal towns for ideas and opportunities
- Continue working with Delaware, Sussex C, and other organizations
- Getting permission from home-owners for permission to replace back-flow preventers on private property (60% approval so far)
- Survey of existing bulkheads and placement of signage for 4' NAVD'88
- Suggest code changes to Code and Ordinance Committee

Moderated Q&A

- **Please print your question or comment:**
 - One question to a card but submit as many cards as you like
- **Please share any relevant background/personal experience**
- **Name, local address, email or phone [for follow up]**
- **Please tell us if you would like to volunteer to help with Infrastructure Committee projects**