

# **S o u t h o l d   2 0 2 0**

## **The New Comprehensive Plan for the Town of Southold**

### **Natural Hazards**

**Draft (7/30/13)**

#### **Introduction**

The Town of Southold is subject to natural hazards that can imperil human lives, property and the environment. Within the last century the Town has witnessed significant weather-related occurrences including numerous hurricanes, tropical storms, severe thunderstorms and nor'easters. The hazards from these storms include flooding, wind damage, shoreline erosion and tornados. Other natural hazards that occur, and are predicted to re-occur, are drought and extreme temperatures. Planning and preparing for natural hazards can and will help save lives and property.

Hurricanes, nor'easters, and other severe storms are noted as high risks for Suffolk County, and are predicted to occur frequently in Southold Town, according to the County's hazard mitigation plan.<sup>1</sup> The National Flood Insurance Program is predicting an increase in flooding frequency with more frequent coastal inundation as strong storms occur more often, and sea levels continue to rise. With 220 miles of shoreline, and over 1100 homes and many businesses located in the flood zone, the Town of Southold is vulnerable to coastal flooding.

Sea level rise will contribute to worsening coastal flooding over time, as well as related hazards such as salt-water intrusion into groundwater areas currently used for drinking water. According to measurement data from the National Oceanic and Atmospheric Administration (NOAA), sea level has risen about two inches in the Long Island area over the past twenty years (1993 – 2013). In the next twenty years, the rate of sea level rise is predicted to increase due to the warming of the oceans (water expands as it warms) and also due to ice melt from the polar regions. Studies project that Long Island will experience a two to five inch additional rise in sea level in the 2020's. If the rate continues to increase, however, the actual sea level rise in the 2020's could reach as high as ten inches.<sup>2</sup> This will result in more homes and infrastructure being vulnerable to the effects of future storms.

To help minimize potential damage to structures in vulnerable areas, the National Flood Insurance Program identified those areas most vulnerable to flooding. These areas are known as the Special Flood Hazard Area (see Figure \_\_\_\_), and are predicted to have a one percent likelihood of flooding in any given year. The Special Flood Hazard Area is also the area likely to flood during a 6 – 8' storm surge (as was experienced in Southold during storm Sandy in 2012). Flooding can also occur beyond the Flood Hazard Area during more powerful storms. Suffolk County maintains a storm surge model online that residents can use to see their potential vulnerability to flooding from different size storm surges. This model is available on the internet for public use, and is located at the following web address:  
<http://gis2.suffolkcountyny.gov/gisviewer/>.

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<sup>1</sup> Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan, 2007

<sup>2</sup> Climate Adaptation Guidebook for New York State, 2011

Coastal flooding causes erosion, another significant natural hazard for Southold. Erosion of the shoreline can also be caused by the normal processes of currents and wave action. Coastal erosion leads to loss of property and structures, and potentially hazardous conditions for waterfront landowners. There are areas in Southold Town that experience significant erosion problems, and steps need to be taken to deal with this issue.

In addition to increasing frequency of severe storms and related flooding, the 2011 ClimAid report from the New York State Energy Research and Development Authority (NYSERDA) also predicts increases in extreme heat events (heat waves) and droughts for Long Island. Extreme heat and drought can cause loss of human life, damage and loss of agricultural crops and landscaping, and reduction in the quantity and quality of drinking water.

Local government is charged with responding immediately before and after natural disasters to protect its citizens. Government has a **shared** responsibility with its constituents to plan and manage emergency resources. All Southold residents and visitors are encouraged to take personal responsibility for their own preparedness before an emergency is imminent. To fulfill its share of the responsibility for emergency planning, the Town produced a plan for responding to coastal storms.

In 1995, the Southold Town Board adopted the “Town of Southold Hurricane/Coastal Storm Emergency Response Plan” (herein noted as Emergency Response Plan) that serves as a template to guide the Town’s efforts to prepare and respond to weather-related emergencies. This plan was prepared with the assistance of the Suffolk County Department of Fire, Rescue and Emergency Services and the New York State Emergency Management Office. The plan defines the roles and responsibilities of Southold Town for responding to hurricanes and other coastal storms to save lives and reduce injuries. The Emergency Response Plan includes information about the location of emergency shelters, evacuation procedures, and other protective measures. It also establishes protocols enabling the Supervisor to declare a “State of Emergency.”

To implement the Emergency Response Plan, the Town has designated an “Emergency Preparedness Team” serving as the “Southold Town Office of Emergency Management.” This team consists of a diverse membership of employees from the Town, Fire Departments, Greenport Village and Fishers Island. They are responsible for preparing for, responding to, and managing the immediate impacts from natural hazards, and have successfully done so since their inception.

Emergency response is only one part of planning for natural hazards. Hazard mitigation, and post disaster recovery and reconstruction are the other main areas of natural hazard planning. Hazard mitigation planning was completed for Southold in 2009 when FEMA accepted the Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan. Southold participated in this plan along with most of the towns and villages in Suffolk County. The plan identifies hazards, assesses the risk from those hazards, and lists mitigation efforts for the County and each town. This mitigation plan must be updated every five years.

Post-disaster issues, at least short term, are discussed in the Town’s Emergency Response Plan, however, the Town needs to take a more comprehensive and long-term approach to post-disaster recovery planning. Preparing for a potentially devastating storm is prudent, and one of the objectives in this chapter includes a recommendation for creating such a plan.

Planning for natural hazards relates to several of the other chapters in this comprehensive plan. Building coastal resiliency into the Town’s plan will help the economy, make housing safer, and protect future investments in property, both private and public. For these reasons, the Natural Resources Chapter and the Land Use Chapter both contain significant references to planning for natural hazards and contain similar and additional goals to those put forth in this chapter.

## **Goals**

### **1. Mitigate the effects of natural hazards to achieve coastal resiliency, protect public safety and reduce economic loss.**

The Town faces numerous hazards that are likely to occur, including severe storms, nor’easters, and hurricanes. Mitigation involves taking steps to ensure those hazards will not cause injury or death to people, and to reduce economic loss to structures and other property. As mentioned above, the Town has a hazard mitigation plan that can be found within the County’s Multi-Jurisdictional Multi-Hazard Mitigation Plan (Hazard Mitigation Plan). This plan contains a profile of the County and Southold Town, identifies the potential hazards, assesses the risk of the hazards and proposes ways to reduce the impacts from the hazards (mitigation). This plan can be found online at the following web address: <http://apps.suffolkcountyny.gov/respond/> (click on “FEMA Approved Plan”).

Coastal resilience is a term used to describe a place’s ability to withstand coastal hazards such as sea level rise and flooding while minimizing threats to human life and property. The Hazard Mitigation Plan can be considered part of the Town’s coastal resilience plan, especially if sea level rise is added to the list of hazards that must be mitigated.

## **Objectives**

### **1.1. Prepare a coastal resilience plan for Southold Town.**

Working towards a town that is more resilient to coastal hazards will require a multi-step approach that results in changes to policies and regulations. Southold Town has already taken steps to become more resilient to coastal natural hazards such as flooding and erosion from storms and sea level rise through existing regulations relating to flood zones, wetlands and building codes. These and additional regulations from other levels of government need to be assessed for their effectiveness in mitigating the effects of coastal hazards.

In addition to this chapter, this plan contains goals and objectives in other chapters that will lead towards coastal resilience, including the Natural Resources and Environmental

Protection chapter and the Land Use chapter. Existing plans such as the County's Hazard Mitigation Plan also have a role to play in our coastal resilience plan.

After assessing existing tools and plans, data and models from the most reliable sources will be used to formulate a rational plan for improving our coastal resiliency wherever feasible. Sources including NOAA, FEMA, and New York State, as well as academic institutions can provide the information we need to identify the best way to proceed. Models such as interactive maps showing the land that sea level rise is predicted to affect are available from several sources right now, and will become more accurate over time. Examples of sea level rise models can be viewed at the following websites:

- NOAA's Sea Level Rise and Coastal Flooding Impacts interactive map  
<http://www.csc.noaa.gov/slr/viewer/#>
- Coastal Resilience.org website's Future Scenarios Map  
<http://coastalresilience.org/geographies/new-york-and-connecticut/future-scenarios-map>

1.1.1. Audit Southold's existing regulations related to coastal resilience.

1.1.2. Identify the best models for sea level rise.

Responsible Parties: Planning Board

Possible Partnerships: Emergency Preparedness Team, Office of the Town Engineer, Suffolk County, New York State

Possible Funding Sources: New York State Hazard Mitigation Grant, New York State DOS EPF Grant

Timeline: 2014

1.2. Participate in the update to Southold's hazard mitigation plan, which is part of the Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan.

This plan was drafted in 2007 and approved by FEMA in 2009. FEMA requires this plan be updated every five years. A current mitigation plan is important for a community to remain eligible for hazard mitigation grant funds that can help implement the mitigation measures.

See Appendix \_\_\_ for the current list of mitigation measures for Southold Town and Suffolk County.

1.1.1 Add 'extreme temperatures' as a significant hazard.

Extreme temperatures are identified as a hazard for Suffolk County, but the risk of extreme temperatures causing widespread problems was not considered

significant in the Multi-Hazard Plan. Recent studies are predicting an increase in the occurrence of extreme temperatures in the future, and making the case for considering what we might do to mitigate the effects of this hazard.

1.1.2 Add 'sea level rise' to the list of hazards.

As cited above, reports predict sea level to rise at an increasing rate in the near future. This will increase the Special Flood Hazard Area and eventually permanently flood the lowest-lying areas in Southold, making this a necessary hazard for which to plan and mitigate. Adding sea level rise as a hazard to be mitigated will help the Town take steps towards coastal resiliency.

1.1.3 Identify mitigation measures that have already been accomplished and remove them from the plan.

1.1.4 Identify new mitigation measures and add them to the plan.

Responsible Parties: Emergency Preparedness Team  
Possible Partnerships: Southold Planning Board and Planning Department  
Timeline: 2014

1.3. Implement the recommendations for hazard mitigation for Southold in the Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan.

The mitigation plan includes data and analyses for individual towns. Southold's portion of the plan includes a history of the occurrence of natural hazards, an analysis of its future vulnerability to those hazards, and a list of hazard mitigation initiatives.

Southold has a list of 17 mitigation measures in the current plan (see Appendix \_\_\_\_). Those measures include retrofitting evacuation routes from flood hazard areas, considering the relocation or elevation of structures in the floodplain, and stabilizing vulnerable bluffs.

1.3.1. Prioritize the mitigation measures.

1.3.2. Identify funding sources to implement mitigation measures.

Responsible Parties: Planning Board  
Possible Partnerships: Emergency Preparedness Team, Office of the Town Engineer, Suffolk County, New York State  
Timeline: 2014

1.4. Re-examine the location of the Coastal Erosion Hazard Area line.

In 1991 the Town of Southold enacted the "Town of Southold Coastal Erosion Hazard Area Law" to allow the Town to assume the responsibility, authority and administration of the Coastal Erosion Management Program established pursuant to Article 34 of the Environmental Conservation Law. The law regulates activities in an area called the Coastal Erosion Hazard Area (CEHA). This area is located along the shoreline where coastal erosion is most likely to occur. Development within the CEHA is generally prohibited due to the risk of erosion.

The line identifying the location of the CEHA (known as the "CEHA line") was mapped by the New York State Department of Environmental Conservation in the late 1980's. Since enactment of the law, shorelines have changed due to erosion caused by wave velocity and adverse weather conditions caused by storm events. Correspondingly, severe erosion and structural loss has been documented along the Peconic Bays, on Fishers Island and other shorelines in areas not included in the mapped Coastal Erosion Hazard Areas.

It is recommended that the Town work with the New York State Department of Environmental Conservation to re-assess the accuracy of the Coastal Erosion Hazard Areas and its applicability to unmapped areas along the Great Peconic Bay and Little Peconic Bay shorelines as a result of rate of erosion and frequent structural loss.

Responsible Parties: Planning Board  
Possible Partnerships: New York State DEC  
Timeline: 2014

#### 1.5. Update the Town of Southold Hurricane/Coastal Storm Emergency Response Plan.

The Town's Emergency Response Plan reflects the Town's efforts to expediently and effectively respond to natural hazard emergencies. This document serves as a valuable resource in assisting personnel responsible for preparing and responding to the damages of natural hazards. The existing plan is almost twenty years old and requires periodic updating to reflect changes in personnel, technology, and resources.

Responsible Parties: Emergency Preparedness Team  
Possible Partnerships: Suffolk County Department of Fire, Rescue and Emergency Services, New York State Emergency Management Office  
Timeline: 2014

## 2. Complete a Post Disaster Recovery & Reconstruction Plan

According to guidelines published by FEMA together with the American Planning Association<sup>3</sup>, this is “a plan for managing post-disaster recovery and reconstruction. Such a plan provides descriptions that include, but are not limited to, lines of authority, interagency and intergovernmental coordination measures, processes for expedited review, permitting, and inspection of repair and reconstruction of buildings and structures damaged by natural disasters.”

The post disaster plan differs from the emergency response plan in that it focuses on the long term recovery efforts that must occur beyond the emergency preparedness and response functions of government just before, during and right after an emergency event. The average timeline for emergency response efforts is three days, while recovery and reconstruction can go on for weeks, months or even years.

### 2.1 Consider creating a Recovery and Reconstruction Ordinance in the Town Code.

A Recovery and Reconstruction Ordinance is an action a community can take to better manage disaster recovery. This is an ordinance the Town would have in place to establish a set of rules and an operational organization to deal with the aftermath and long-term recovery from a major disaster.

Recovery and reconstruction ordinances typically create a recovery organization and authorize a variety of pre- and post-event planning and regulatory powers and procedures related to disaster recovery and reconstruction. This organization would operate parallel to and in cooperation with emergency operations, and generally continues on beyond the typical time-frame of emergency operations, and deals with issues outside the purview of typical emergency operations such as planning and building.

Some examples of areas a Recovery and Reconstruction Ordinance might cover include the following:

- a. Create temporary regulations dealing with debris hazard abatement, temporary use and repair permits, handling non-conforming uses, and permit fee waivers.

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<sup>3</sup> Planning for Post-Disaster Recovery and Reconstruction. 1998. Planning Advisory Service Report Number 483/484. Schwab, et. al.

- b. Emergency Contractor Certification. A system would be set up to help vet and establish the legitimacy of the flood of contractors that typically flow to regions experiencing a disaster.
- c. Create a recovery management organization that lasts into the long-term recovery phase and helps direct the preparation of recovery plans as well as helping to implement those plans. This organization or team is created by putting together an interdisciplinary team of staff and officials involving all aspects of town government, including Building, Information Technology, GIS, Planning, Engineers, Human Services, Public Works, Highway Department, Accounting and any others that might be able to help the effort.
- d. Creates a template Recovery Plan to be ready for details to be added depending on the type of disaster that occurs.
- e. Outlines public participation in Recovery planning.

Responsible Parties: Planning Board

Possible Partnerships: Emergency Preparedness Team

Timeline: 2015

### **3. Provide education to the public relating to natural hazards.**

3.1 Create an easy to read plan for residents and visitors that clearly describes what to do in the event of natural hazard emergencies.

3.2 Use social media as a tool to inform residents and visitors of natural disasters.

Responsible Parties: Planning Board

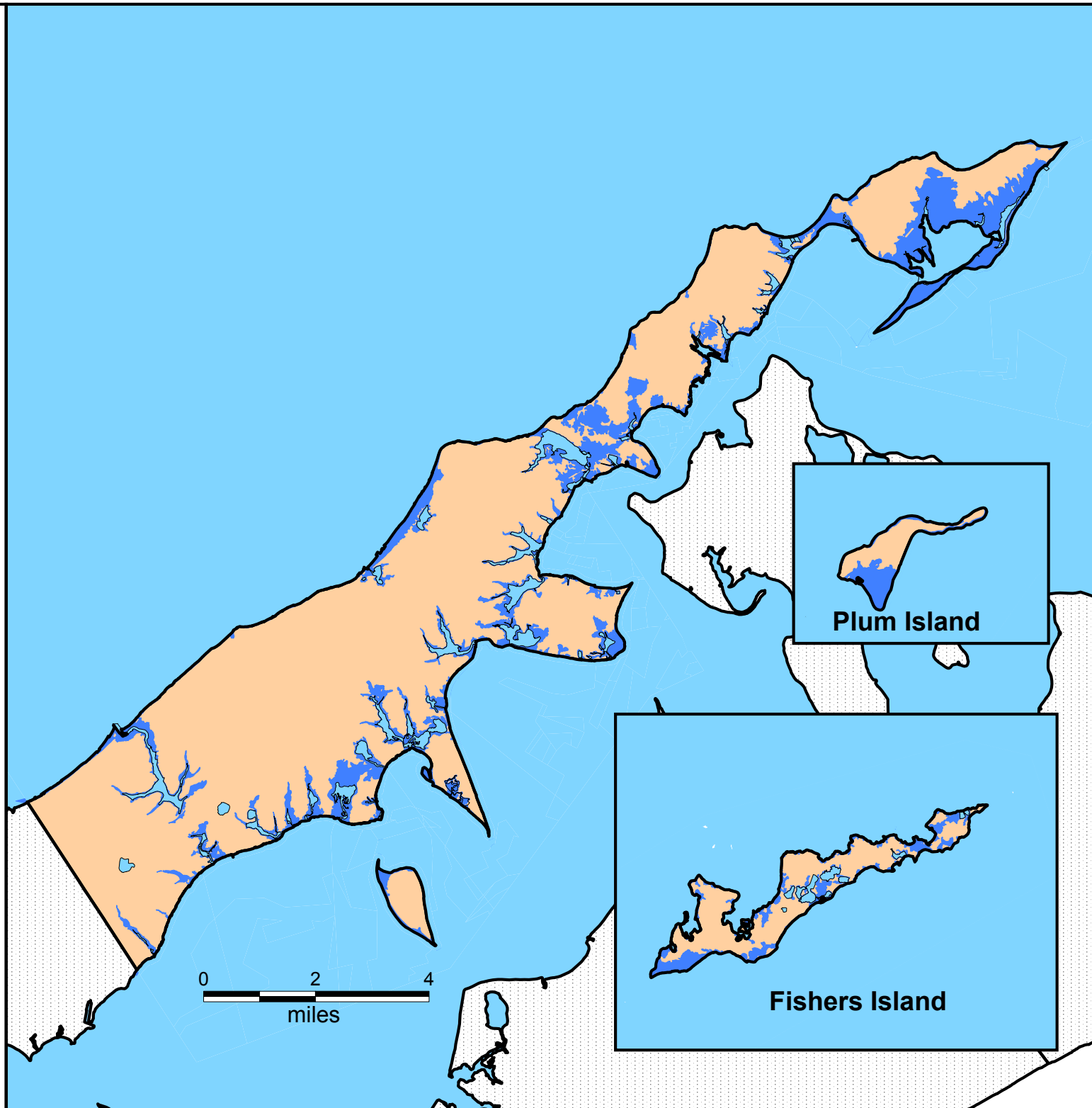
Possible Partnerships: Emergency Preparedness Team, Information Technology

Timeline: 2014



**Figure 1**  
**Town of Southold**

■ **Special Flood Hazard Area**



Map Prepared by  
Town of Southold  
Geographic Information System  
July 31, 2013

Suffolk County Real Property Tax Service Agency  
Tax Map and AREIS COPYRIGHT 2013, County of Suffolk, N.Y.

# Appendix \_\_\_\_

## Hazard Mitigation Measures

Southold Town (pages 9.28-10 - 9.28-12)

Suffolk County (pages 9.1-7 - 9.1-14)

(Excerpts from the Suffolk County Multi-Jurisdictional Multi-Hazard Mitigation Plan. View the entire plan online at the following web address:

<http://apps.suffolkcountyny.gov/respond/> (click on “FEMA Approved Plan”))

**F.) PROPOSED HAZARD MITIGATION INITIATIVES**

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
SO-1	Land acquisition within the flood plains, thus limiting the amount of development within the wetlands.	New and Existing	Flooding	2,5,8,15	TOS	High	FEMA hazard Mitigation Grant Funding, 2% Real estate transfer tax, community preservation fund	Short Term OG
SO-2	Retrofit the Town causeway seawalls	Existing	Flooding, Hurricane, Nor'Easter	2,15, 16	TOS	High	FEMA hazard Mitigation Grant Funding, Bonding, NYS DOT capital projects	Long Term DOF
SO-3	Erosion control by beach replenishment and with the use of hardened structures.	NA	Coastal Erosion	5,8,16	TOS	High	FEMA hazard Mitigation Grant Funding, Bonding	Short Term DOF
SO-4	Stabilize vulnerable bluffs by introducing natural vegetation and through the use of hardened structures.	Existing	Coastal Erosion	5,8,15	TOS	High	FEMA hazard Mitigation Grant Funding, Bonding, Property Owner funding	Short Term DOF
SO-5	Consider non-structural flood hazard mitigation alternatives for at risk properties within the floodplain, including those that have been identified as repetitive loss, such as acquisition/relocation, or elevation depending on feasibility. The parameters for feasibility for this initiative would be: funding, benefits versus costs and willing	New and Existing	Flooding, Hurricane, Nor'Easter, Severe Storms	2,15	TOS	High	FEMA hazard Mitigation Grant Funding, SBA Loans, Home owner funding	Long term, DOF

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
	participation of property owners.							
SO-6	Construct an Emergency Operations Center within one of the existing Town facility.	New and Existing	All Hazards	2,13, 14, 16	TOS	Medium	FEMA hazard Mitigation Grant Funding, Bonding	Short Term DOF
SO-7	Retrofit identified critical evacuation routes out of flood hazard areas for the probable impacts of flood, hurricane and Nor'easter.	Existing	Flooding, Hurricane, Nor'Easter, Severe Storms	2,15, 16	DOT	High	FEMA hazard Mitigation Grant Funding	Short Term DOF
SO-8	Dredge vulnerable seaways	NA	Coastal Erosion	2,15, 16	ACOE	Medium	Hazard Mitigation Grant Funding, NYS Funding	Long Term DOF
SO-9	Acquire property at feasible points in critical watersheds to establish storm water detention/retention facilities for stormwater management.	NA	Flooding, Hurricane, Nor'Easter, Severe Storms,	5,11,15,16	TOS	High	Hazard Mitigation Grant Funding, NYS Funding, Bonding, Suffolk County, 2% Community Preservation Fund	Short Term OG
SO-10	Support county-wide initiatives identified in Section 9.1 of the Suffolk County Annex.	New and Existing	All Hazards	All objectives	Town Supervisor/ Board MPC/ Suffolk County Emergency Management	Low	Existing programs and grant funding where applicable	Short Term OG
SO-11	Consider the development of a post –disaster action plan, including a debris management plan. This to be incorporated into existing emergency management plans.	NA	All Hazards	7, 12, 13	Public Safety/ Suffolk Co. Emergency Management	Medium	General Fund, FEMA Hazard Mitigation Grant Funding	Long term, DOF
SO-12	Consider participation in incentive-based programs such as, CRS and “Storm-Ready”.	New and Existing	Flood, Nor'Easter, Hurricane, Severe	1,2,3,7,13	Town Supervisor/ Board	Low	General fund through existing programs	Long Term

Initiative	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
			Weather					
SO-13	Elevate Town roadways through identified floodplains	Existing	Flooding, Hurricane, Nor'Easter, Severe Storms,	5,11,15,16	TOS	High	General Fund, FEMA Hazard Mitigation Grant Funding	Short Term
SO-14	Develop and/or enhance the current stormwater management system to be in compliance with federal and state regulations such that there will be a net reduction in the flood risk caused by stormwater impacts.	New and Existing	All except Wildfire, Infestation and Drought	2,3,4,5,6,7,9,11&15	TOS	Medium	General Fund (Highway), NYSDOT,SCDPW, FEMA Hazard Mitigation Grant Funding	Long Term (DOF)
SO-15	Continue to support the implementation, monitoring, maintenance and updating of this Plan, as defined in Section 7.0	NA	All Hazards	All Objectives	County/Town/Village	Low	Town/Village Budget	Long
SO-16	Strive to maintain compliance with and good-standing in the National Flood Insurance program.	New & Existing	Flood, Nor'Easter, Hurricane, Severe Storm	1,7,15,16	NFIP Floodplain Administrator	Low	Town/Village Budget	Short
SO-17	Enforce the seismic design provisions in the International Building Code for all new buildings and infrastructure	New and Existing	Earthquake	3,4,15&16	Town	Low	Town	Short

Notes: Short term = 1 to 5 years. Long Term= 5 years or greater. OG = On going program. DOF = Depending on funding. TOS = Town of Southold. ACOE = U.S. Army Corps of Engineers. DOT = Department of Transportation

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure?

**F.) PROPOSED HAZARD MITIGATION INITIATIVES**

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
SC-1	Creation of a Suffolk County Multi-Jurisdictional Comprehensive Debris Management Plan.	NA	All except Drought, Shallow Groundwater and Groundwater Contamination	1,3,4,5,7, & 8	3,4,5,13,14, & 15	SC Dept -Fire Rescue and Emergency Services (FRES) - Office of Emergency Management and Towns	Medium (Preliminary Estimate \$1,864,000)	FEMA-HMGP or PDM Grant and County Operating budget for local share	Long Term, DOF
SC-2	Stormwater Management – Nissequogue River and Lake Ronkonkoma areas – enhance stormwater conveyance capability in areas contributing to shallow groundwater.	New and Existing	All except Wildfire, Earthquake, Infestation and Drought	1,2,3,4, & 5	2,3,4,5,6,7, 9,11, & 15	SC Parks Dept	Medium (Preliminary Estimate \$794,000)	FEMA-HMGP or PDM Grant and County Operating budget for local share	Long Term, DOF
SC-3	Cooperate with federal, state and local agencies to study, identify, and remediate the causes of shallow groundwater and flooding issue.	New and Existing	All except Wildfire, Earthquake, Infestation and Drought	1,2,3,4, & 5	2,3,4,5,6,7, 9,11, & 15	SC Planning Department	Low	County Operating Budget and Capital Budget	Short Term
SC-4	Implement proactive stream/drainage maintenance system	New and Existing	All except Wildfire, Infestation and Drought	1,2,3,4, & 5	5,7,11,15 & 16	SC Dept Public Works (DPW)	Low	County Operating Budget	Short Term
SC-5	Provide backup power sources at vital critical facilities where necessary	Existing	All	1,2,3,5,7, & 8	3,7,14,15 & 16	SC FRES	Low, OG	Leverage Existing Red Cross Grant Program in conjunction with Suffolk & Nassau	Short Term

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
								Counties	
SC-6	Continue to support actions of the Wild Fire Task Force	New and Existing	Wildfire	1,2,3,4,5, & 7	1,2,3,4,5,6, 7,8,11,12,13,14,15, & 16	SC FRES	Low	County Operating Budget	Short Term
SC-7	Develop or enhance plans to include comprehensive evaluation of coastal storms and the reduction of their impacts at local level. Seek to coordinate all levels of planning in this area.	New and Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	All	1,2,3,4,5,6, 7,12,14,15, & 16	SC Planning Dept	High	FEMA FMA or PDM Grant and County Operating Budget for local share	Long Term, DOF
SC-8	Continue to develop, enhance and implement existing emergency response plans to utilize new and developing technology/information as it becomes available.	NA	All	All	3,4,5,12,13, 14, & 16	SC FRES - OEM	Low	County Operating Budget	Short Term
SC-9	Expand the public education on ways to protect their property before and during hazard events and where they can acquire the appropriate property protection measures	New and Existing	All	All	1,6,7,12,13, 14, & 15	SC FRES - OEM	Low	County Operating Budget	Short Term
SC-10	Continue/enhance the development of engineered beaches where appropriate	Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	1,2,3,4, & 5	2,4,5,6,15, & 16	SC Parks Dept	High	FEMA – FMA or PDM Grant and County Operating Budget for local share	Long Term, DOF
SC-11	Develop or enhance existing beach nourishment plans	Existing	Hurricane, Nor'Easter,	1,2,3,4, & 5	2,4,5,6,15 & 16	SC Parks Dept	High	FEMA – FMA or	Long Term,

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
			Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm					PDM Grant and County Operating Budget for local share	DOF
SC-12	Enhance operation of the Suffolk County Emergency Operations Center (EOC) through improvements in facilities/hardware/technology and information as it becomes available	NA	All	1,2,3,5,6,7, & 8	3,7,12,13,14, & 16	SC FRES - OEM	Low, OG	County Operating and Capital Budgets	Short Term
SC-13	Enhance functionality of Points of Distribution (PODs)	NA	All	1,3,4,7,& 8	3,7,12,13,14, & 16	SC FRES	Low, OG	Leverage existing programs with County Operating Budget	Short Term
SC-14	Expand and enhance Joint Emergency Evacuation Program (JEEP) program through improvements to technology and information as it becomes available.	NA	All except Shallow Groundwater, Groundwater Contamination and Infestation	1,3,6, & 7	3,12,13, & 14	SC FRES	Low, OG	Leverage existing programs with County Operating Budget	Short Term
SC-15	Resolve discrepancy between the Real Property Tax Dept and the Treasurers Office databases regarding number of tax parcels to support or enhance County-wide risk assessment	NA	All	5,6 & 7	1,3,14,15	SC Treasurer's Office and Real Property Dept with assistance from SC IT and/or SC GIS	Low, OG	Leverage existing programs with County Operating Budget	Short Term
SC-16	Cap Budget # 1729 Implement the Suffolk County Information Technology Disaster Recovery Plan	NA	All	2,3,5,7 & 8	3,12,13,14, & 16	SC Information Technology	Low (Budget Estimate \$2,100,000)	Suffolk County Capital Budget –	Short Term



Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
							)	transfer from General Fund	
SC-17	Cap Budget # 3230 Establishment of a Backup Fire Rescue Communications Facility	New and existing	All	1,2,3,5,6,7, & 8	1,4,12,13,14 & 16	SC FRES	Low (Budget Estimate \$2,175,000)	Suffolk County Capital Budget – Serial Bonds and transfer from General Fund	Short Term
SC-18	Cap Budget # 3418 Improvements to the Suffolk County Emergency Operations Center (EOC)	Existing	All	1,2,3,5,6,7, & 8	3,7,12,13,14 & 16	SC FRES - OEM	Low (Budget Estimate \$4,593,450)	Suffolk County Capital Budget – Serial bonds	Short Term
SC-19	Enhance emergency preparedness awareness by active participation in training exercises at both the county and local levels	NA	All	1,2,5,6, & 7	1,3,7,12,13, & 14	SC FRES – OEM	Low, OG	County Operating Budget	Short Term
SC-20	Curtail floodplain development by transferring flood-prone properties in the Narrows Bay area obtained by Suffolk County through tax lien procedures to the SC Parks, Recreation and Conservation Dept for open space purposes as per Narrow Bay Floodplain and Mitigation Plan 1997	Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	1,2,3,4,&5	2,3,5,6,&15	SC Planning Dept	Low, OG	Non payment of taxes	Standing Program
SC-21	Where appropriate, support retrofitting of structures located in flood-prone areas to protect structures from future damage, especially those known to be identified as 'repetitive loss'.	Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, Shallow	1,2,3,&5	2,3,4,6,15& 16	SC Planning Dept	High	FEMA FMA,SRL, RFC, HMGP or PDM Grant and County	Long Term, DOF

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
			Groundwater, and Severe Winter Storm					Operating Budget for local share	
SC-22	Where appropriate, support acquisition and relocation of structures from flood-prone areas, especially those known to be identified as 'repetitive loss"	Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, Shallow Groundwater, and Severe Winter Storm	1,2,3,4,&5	2,3,6,15&16	SC Planning Dept	High	FEMA FMA, SRL, RFCHMGP or PDM Grant and SC Existing Open Space Acquisition Program. Operating Budget for local share	Long Term, DOF
SC-23	Maintain ocean inlets at current locations and configurations. Close new inlets if they develop.	NA	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	1,2,3,&5	5,7,15&16	USACE and SC Planning Dept	High	Cooperative effort – USACE, NYS DEC, and SC	Long Term, DOF
SC-24	Through a regularly scheduled sand by-passing operation, stabilize ocean inlet channels for navigation and maintain the longshore transport of sand across the inlets.	NA	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	1,2,3,&5	5,7,15&16	USACE and SC Planning Dept	High	Cooperative effort – USACE, NYS DEC, and SC	Periodic maintenance dredging
SC-25	Participation in an multi-jurisdictional update of SC All Hazards Comprehensive Emergency Management Plan	NA	All	All	1,3,7,12,13, &14	SC FRES – OEM	Medium	County Operating Budget	Short Term

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
SC-26	Ensure that all appropriate county employees are NIMS trained and qualified	NA	All	6 & 7	7,12,13,& 14	SC FRES	Low	County Operating Budget	Short Term
SC-27	Enhance the flood protection at the Suffolk County Maximum Security Facility Jail	Existing	All except Earthquake, Wildfire, Infestation, Natural Groundwater Contamination and Drought	1,2,3,&5	2,3,5,15& 16	SC DPW	Medium	FEMA FMA, HMGP or PDM grant or County Capital/Operating Budget	Short Term
SC-28	Enhance the flood and shoreline protection at the Bergen Point Sewage Treatment Plant	Existing	All except Earthquake, Wildfire, Infestation, Natural Groundwater Contamination and Drought	1,2,3,&5	2,3,5,15& 16	SC DPW	Medium	FEMA FMA, HMGP or PDM grant or County Capital/Operating Budget	Short Term
SC-29	Develop and/or enhance the current stormwater management system to be in compliance with federal and state regulations such that there will be a net reduction in the flood risk caused by stormwater impacts	New and Existing	All except Earthquake, Wildfire, Infestation and Drought	1,2,3,4&5	2,3,4,5,6,7, 9,11&15	SC DPW	Medium	FEMA FMA, HMGP or PDM grant or County Operating/Capital budget	Long Term Depending on Funding (DOF)
SC-30	Enhance the building inventory for all of Suffolk County using latest technology and GIS applications for use within HAZUS-MH for future risk assessment to be performed by Suffolk County, Towns and Villages	NA	All	5,6, & 7	1,3,14 & 15	SC FRES with assistance from SC GIS and Town and Village GIS staffs	Medium	Leverage existing programs within the County, Town and Village Operating Budgets	Long Term Depending on Funding (DOF)

Initiative #	Mitigation Initiative	Applies to New and/or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
SC-31	Continue to develop, enhance and implement plans to protect the 6 ½ mile Bergen Point Sewage Treatment Plant Ocean Outfall Pipe from damage during coastal or other hazard events	Existing	Hurricane, Nor'Easter, Coastal Erosion, Severe Storm, Flood, and Severe Winter Storm	1,2,3,4, & 5	2,4,5,6,15, & 16	SC DPW and Parks Dept	High	FEMA FMA, HMGP or PDM grant and/or County Capital/Operating Budget	Long Term
SC-32	Retrofit critical facilities and infrastructure vulnerable to natural hazards.	Existing	All except Infestation, Natural Groundwater Contamination and Drought	1,2,5,7 & 8	2,13,15 & 16	Owners of critical facilities and infrastructure	High	FEMA HMGP or PDM grant and/or Operating Budgets	Long Term Depending on Funding (DOF)
SC-33	Continue to support the implementation, monitoring, maintenance and updating of this Plan, as defined in Section 7.0	NA	All Hazards	All Goals	All Objectives	County/Town/Village	Low	Town/Village Budget	Long
SC-34	Enhance the SC Comprehensive Emergency Management Plan (CEMP) to address hazards from earthquakes	NA	Earthquake	All	1,3,12,13,& 14	SC FRES - OEM	Low	FEMA HMGP or DMP Grant and/or County Operating Budget	Short

Initiative #	Mitigation Initiative	Applies to New or Existing Structures*	Hazard(s) Mitigated	Goals Met	Objectives Met	Lead Agency	Estimated Cost	Sources of Funding	Time-line
SC-35	Inquire about future development in all participating jurisdictions annually, at the annual plan review meeting, and map these locations within GIS/HAZUS to determine if they are/are not located within identified hazard areas. Update the plan with these findings.	New	All	2, 3, 4	3, 6, 15	SC FRES - OEM	Low	County Operating Budget	Short

Notes:

NA = Not applicable.

\*Does this mitigation initiative reduce the effects of hazards on new and/or existing buildings and/or infrastructure?