SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS (SECOG) ANNEX DOCUMENT

Southeastern Connecticut Council of Governments
Multi-Jurisdictional Hazard Mitigation and Climate Adaptation Plan Update

January 2025

SECOG
SOUTHEASTERN CONNECTICUT COUNCIL OF GOVERNMENTS

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LIST OF ACRONYMS

ARC	American Red Cross	HMCAP	Hazard Mitigation and Climate Adaptation Plan
ARPA	American Rescue Plan	HMP	Hazard Mitigation Plan
BOCA	Building Officials and Code Administration	IA	Individual Assistance
CCVI	Climate Change Vulnerability Index	NCDC	National Climatic Data Center
CIP	Capital Improvement Plan	NCEI	National Centers for Environmental Information
CIRCA	Connecticut Institute for Resilience and Climate Adaptation	NFIP	National Flood Insurance Program
CL&P	Connecticut Light and Power	NOAA	National Oceanic and Atmospheric Administration
DCRF	DEEP Climate Resilience Fund	NRCS	Natural Resources Conservation Service
DEEP	Connecticut Department of Energy and Environmental Protection	NWS	National Weather Service
DFIRM	Delineated Flood Insurance Rate Map	PA	Public Assistance
DOT	Connecticut Department of Transportation	PERSISTS	Permittable Equitable Realistic Safe Innovative Scientific Transferrable Sustainable
DPW	Department of Public Works	PMF	Probable Maximum Flow
EMD	Emergency Management Director	POCD	Plan of Conservation and Development
EMS	Emergency Medical Services	RL	Repetitive Loss
EO	Executive Order	SECOG	Southeastern Connecticut Council of Governments
EOC	Emergency Operation Center	SFHA	Special Flood Hazard Area
EOP	Emergency Operation Plan	STAPLEE	Social, Technical, Administrative, Political, Legal, Economic, and Environmental
FEMA	Federal Emergency Management Agency	STEAP	Small Town Economic Assistance Program
GC3	Governor's Council on Climate Change	USACE	United State Army Corps of Engineers
GIS	Geographic Information System	USDA	United States Department of Agriculture
HMA	Hazard Mitigation Assistance	WUI	Wildland-Urban Interface

1. Introduction

1.1. Purpose of Annex

The planning process for the multi-jurisdiction hazard mitigation plan (HMP) update commenced in April 2022 and ended in December 2022, spanning a period of nine months. The Southeastern Connecticut Council of Governments (SECOG) served as the coordinating entity for the HMP update and acted as the project's fiduciary, receiving a FEMA BRIC grant to undertake the multi-jurisdictional HMP process and administering the grant to ensure project progress and completion on behalf of all SECOG member municipalities and the SECOG Special District as a whole.

The planning process included 25 jurisdictions (SECOG as a regional council of governments special district, 22 municipalities and two tribal governments) with two participating together (Griswold and Jewett City) for a net total of 24 planning teams represented. For this 4th edition of the plan, SECOG elected to link the planning process to a parallel planning process administered by the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) that is known as "Resilient Connecticut 2.0" (stylized as *Resilient Connecticut*). The *Resilient Connecticut* program is described on CIRCA's web site at https://resilientconnecticut.uconn.edu/ and the expansion of the program into Southeastern Connecticut is described at https://circa.uconn.edu/2022/02/23/resilient-connecticut-expands-statewide/.

The linkage of the two planning processes was advantageous for the following reasons:

- Incorporation of climate change into the hazard mitigation plan update
- Increased interest from the local communities, especially for those interested in developing climate adaptation strategies.
- Direct incorporation of climate change vulnerability products developed by CIRCA including the Climate Change Vulnerability Index (CCVI) for flood and extreme heat vulnerabilities.
- Direct incorporation of combined sea level rise and coastal flood inundation simulations from CIRCA
- Positioning of SECOG and member local jurisdictions for new funding sources in Connecticut such as the new Department of Energy and Environmental Protection (DEEP) Climate Resilience Fund (DCRF)
- Consistency with the Governor's Council for Climate Change (GC3) outcomes from the 2020-2021 planning process
- Positioning of the actions for incorporation on the State's "resilience project pipeline" per Executive Order (EO) 21-3 issued at the end of 2021.

The purpose of this HMP annex is to provide an update to the hazard risk assessment and capability assessment provided in the previous HMP, to evaluate potential hazard mitigation measures and prioritize hazard mitigation projects specific to mitigating the effects of hazards on SECOG's own assets, and to establish SECOG's regional jurisdictional role in relation to member municipalities for the purposes of hazard mitigation planning and project implementation.

Background information and the regional effects of pertinent hazards are discussed in the main body of the Southeastern Connecticut Council of Governments (SECOG) Multi-Jurisdictional Hazard Mitigation and Climate Adaptation Plan (HMCAP). Thus, this annex is designed to supplement the information presented in the Multi-Jurisdictional HMCAP with more specific detail for SECOG and is not to be considered a standalone document.

1.2. Hazard Mitigation and Climate Adaptation Goals

The primary goal of the previous hazard mitigation plans adopted in 2013 and 2018 was to identify risks to hazards and potential mitigation measures for such hazards to ***reduce the loss of or damage to life, property, infrastructure, and natural, cultural, and economic resources.*** This included the reduction of public and private damage costs. Limiting losses of and damage to life and property was also meant to reduce the social, emotional, and economic disruption associated with a natural disaster.

Coinciding with the incorporation of climate adaptation and the alignment of this HMCAP with the *Resilient Connecticut* planning process administered by CIRCA, five new goals were developed for this HMCAP:

- Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.
- Address risks associated with extreme heat events, especially as they interact with other hazards.
- Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.
- Reduce losses from other hazards.
- Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.

SECOG fully agrees with the stated mitigation goals of the multi-jurisdictional mitigation plan.

1.3. Level of Participation in the HMP Planning Process

SECOG led and participated in all aspects of the HMCAP planning process. The HMCAP planning process commenced for SECOG and member municipal communities on April 20, 2022, with a presentation to the SECOG Board and SECOG staff and Executive Director, held at the SECOG office building. During this presentation, the consultant and CIRCA described the planning process and the approach for incorporating the *Resilient Connecticut* program into the hazard mitigation plan update, and notified the chief elected officials that invitations to local planning meetings would follow at the end of April. Local planning team meetings commenced on May 23, 2022, and ended on July 8, 2022. At least one SECOG staff member attended every municipal planning team meeting, as well as workshops with municipal hazard mitigation coordinators that were conducted in July and September 2022. Through staff participation in all HMCAP meetings and workshops, SECOG staff built an understanding of regional vulnerabilities and capabilities throughout the SECOG jurisdiction, as well as the ways that hazards can impact SECOG's own physical and personnel assets given their particular geographic location. For a full description of the public engagement process that was lead and attended by SECOG staff, please see Section 1.4 Planning Process in the main body of the Southeastern Connecticut Council of Governments Multi-Jurisdictional HMCAP.

2. SECOG Assets and Jurisdictional Profile

2.1. The SECOG Jurisdiction

SECOG is a regional council of governments and metropolitan planning organization enabled by state statute and the on-going membership of 22 municipalities in the southeastern corner of Connecticut. Within Connecticut, Councils of Government including SECOG have increasingly taken the place of counties as the principal regional coordinating intergovernmental entity. Connecticut's counties were abolished by legislation in 1959 (PA 152 An Act Abolishing County Government). Connecticut's Councils of Government had been previously enabled by state legislation in 1947 (PA 460 An Act Concerning Regional Planning). SECOG specifically came into being in 1961, first as the Southeastern Connecticut Regional Planning Agency (SCRPA), evolving into SECOG in 1992, and into its current geographic jurisdiction in 2015. The transition from counties to COGs as county-level equivalents has been slow to permeate federal administrative systems. However, in 2019, the Connecticut Office of Planning and Management successfully petitioned the Census Bureau to collect and report data based on COG boundaries as county-level equivalents. At the end of 2023, the Census Bureau granted this petition.

SECOG is responsible for regional land use and transportation planning for Southeastern Connecticut. SECOG's jurisdiction covers its 22 member communities, including the towns, cities and boroughs of: Bozrah, Colchester, East Lyme, Franklin, Griswold, City of Groton, Town of Groton, Jewett City, Lebanon, Ledyard, Lisbon, Montville, New London, North Stonington, Norwich, Preston, Salem, Sprague, Stonington, Stonington Borough, Waterford, and Windham. Two federally recognized Native American tribes, the Mashantucket Pequot Tribal Nation and the Mohegan Tribal Nation, are affiliate members of SECOG.

In the remaining subsections of this *Part 2. SECOG Assets and Jurisdictional Profile* of the SECOG HMCAP Annex, we demonstrate the characteristics of SECOG's real property, while also continuing to assert that as a regional agency, our service area jurisdiction includes the geographic extent of all member municipalities. Thus, each section 2.2 – 2.10 carries the following format:

The SECOG Jurisdiction: A summary of conditions for the SECOG jurisdiction.

Multi-Jurisdictional Hazard Mitigation Plan (MH-HMCAP) Reference: The citation of the section of the MJ-HMCAP that details the content for the entire SECOG jurisdiction that SECOG is adopting into this annex by reference.

SECOG's Organizational Assets: A summary of the particular conditions at SECOG's physical office location, and/or personnel, and policy framework.

Figure 1. Location of the SECOG Service Area Jurisdiction and SECOG Property Assets

Figure 2. Site Map - SECOG Property

2.2. Property and Physical Setting

The SECOG Jurisdiction: SECOG is a regional planning organization consisting of 22 municipalities in the southeastern corner of Connecticut. The member communities include the towns, cities and boroughs of: Bozrah, Colchester, East Lyme, Franklin, Griswold, City of Groton, Town of Groton, Jewett City, Lebanon, Ledyard, Lisbon, Montville, New London, North Stonington, Norwich, Preston, Salem, Sprague, Stonington, Stonington Borough, Waterford, and Windham. Two federally recognized Native American tribes, the Mashantucket Pequot Tribal Nation and the Mohegan Tribal Nation, are affiliate members of the SECOG.

The location of SECOG's service area in southeastern Connecticut places its residents at risk of damage from a variety of natural hazards. SECOG communities are at risk of experiencing inland flooding, hurricanes, summer storms, tornadoes, hail, severe winds, lightning, heavy snow, earthquakes, dam failure, and wildfires similar to other communities in the region. While the presence of Long Island provides a buffer against wave action from the open Atlantic Ocean, storms approaching from the

southeast can bypass Long Island and cause a direct hit on the SECOG coastline. Thus, coastal flooding and erosion are major concerns for the coastal SECOG communities and the shoreline along the tidal Thames River estuary.

MJ-HMCAP Reference: 2.2.1 Physical Setting

SECOG's Organizational Assets: SECOG's material assets are comprised of its office building and accessory warehouse, both of which are located on one parcel. SECOG's office location is purposefully central within its member community jurisdiction. The SECOG office is located at 5 Connecticut Avenue in the City of Norwich. The City of Norwich is an urban community founded in 1659. The community has since grown to a population of 40,125 as of the 2020 census. SECOG's physical position within the city is along its western central edge, between the Yantic and Norwichtown neighborhoods, near the municipal border with the Town of Bozrah to the west and Franklin to the northwest. While the southeastern area of the city near the confluence of the Yantic and Shetucket Rivers is the most densely developed area, the outlying western portion of the city, where the SECOG office is located, is relatively suburban and commercial. The SECOG office is located at the base of the Norwich Business Park. SECOG's office is proximate to several major transportation corridors, including Interstate 395, Route 2, and Route 32, and to the Yantic River.

2.3. Geologic Setting

The SECOG Jurisdiction: The SECOG region is in the northeastern part of the Appalachian Orogenic Belt, also known as the Appalachian Highlands, which extends from Maine southward to Mississippi and Alabama. The SECOG region contains several different bedrock formations. Along the coastline and extending approximately 16 miles inland, these formations are aligned in tight, alternating bands trending west to east. The bedrock formations then transition into wider, north-south trending bands throughout the northern towns in the region. There are numerous faults within the SECOG region. The two most significant fault lines are the Honey Hill Thrust fault (east-west trending) and the Lake Char Fault (north-south trending) which converge and comprise the Lake Char-Honey Hill Fault complex. The SECOG region is covered by a variety of sand and gravel deposits. Till areas contain an unsorted mixture of clay, silt, sand, gravel, and boulders deposited by glaciers as a ground moraine, while surficial materials in stratified drift areas are more homogenous.

MJ-HMCAP Reference: 2.2.2 Geologic Setting

SECOG's Organizational Assets: Geology is important to the occurrence and relative effects of natural hazards such as earthquakes. Thus, it is important to understand the geologic setting and variation of bedrock and surficial formations in lands underlying the City of Norwich, where the SECOG office is located. The City of Norwich lays above five bedrock formations which trend southwest to northeast across the area. The SECOG office area west of Interstate 395 is underlain by the Fly Pond member of the Tatnic Hill formation, the Yantic member of the Tatnic Hill formation, the Hebron gneiss, and the Canterbury gneiss. Each of these formations consists primarily of gneiss and schist which are relatively hard metamorphic rocks. There are three bedrock faults mapped within or near the City of Norwich boundary. The Honey Hill Fault, a thrust fault that is Devonian or Ordovician in origin, parallels the City's southern boundary with Montville. An unnamed fault runs southeast from the vicinity of Mohegan Park

to intersect with the Honey Hill Fault in Preston near Happyland. A third unnamed fault runs southeast from Baltic into Preston, approximately paralleling a portion of the City's boundary with Sprague.

The City's different surficial geologic formations include glacial till and stratified drift. The majority of the City is underlain by glacial till. Areas adjacent to the Shetucket River, the Yantic River (including SECOG office), Trading Cove Brook, and Byron Brook have extensive areas underlain by sand and gravel or floodplain alluvium. The amount of stratified drift present is important as areas of stratified materials generally coincide with floodplains. The amount of stratified drift also has bearing on the relative intensity of earthquakes and the likelihood of soil subsidence in areas of fill.

2.4. Drainage Basins and Hydrology

The SECOG Jurisdiction: The SECOG region lies within 16 regional watersheds as defined by the Connecticut DEEP. Most of these regional basins drain to the Thames River. The remaining basins drain either to the Connecticut River, the Pawcatuck River, or directly to Long Island Sound. The Southeast Shoreline includes primarily minor streams near the coast of Long Island Sound. The SECOG region has approximately 40 miles of shoreline along Long Island Sound, and numerous additional miles of shoreline along its many tidal estuaries. As a result of the presence of both coastal and riverine floodplains, the southeastern region is faced with significant flood hazards.

MJ-HMCAP Reference: 2.2.3 Hydrology and Drainage Basins

SECOG's Organizational Assets: SECOG's property is located in the Yantic River Regional drainage basin, which is part of the Thames River Major basin. The Thames River is a long tidal estuary in Connecticut. It flows south from Norwich approximately 15 miles, to New London and Groton, which flank its mouth at the Long Island Sound. SECOG's property drains to Yantic River and then to the Thames River, and ultimately, to Long Island Sound. The Yantic River is not flood controlled, and flooding due to severe weather is a frequent issue particularly in the Yantic and Norwichtown sections of the City. The SECOG office is located along this corridor, but at a higher elevation.

2.5. Land Cover

The SECOG Jurisdiction: The land area of the region is 616.6 square miles based on GIS town boundary data available from the Connecticut DEEP. Nearly 85% of the SECOG region is undeveloped, consisting of forests, wetlands, lands in agricultural use, active and passive recreation, and dedicated open space. Table 1 presents the 2016 land cover data for the region, as hosted by the University of Connecticut's Center for Land Use Education and Research (CLEAR) and prepared by the NOAA Office of Coastal Management. The coastal areas and regions adjacent to major watercourses are predominantly developed, whereas the outer regions are characterized by mixtures of forest, wetland, and agriculture. The highest developed density in the region is located along the Quinebaug River and the Thames River corridor (Jewett City in the Town of Griswold, Norwich, New London, and the City of Groton), and the Willimantic River in Windham. The northeastern corner of the region is particularly undeveloped and is dominated by the Pachaug State Forest.

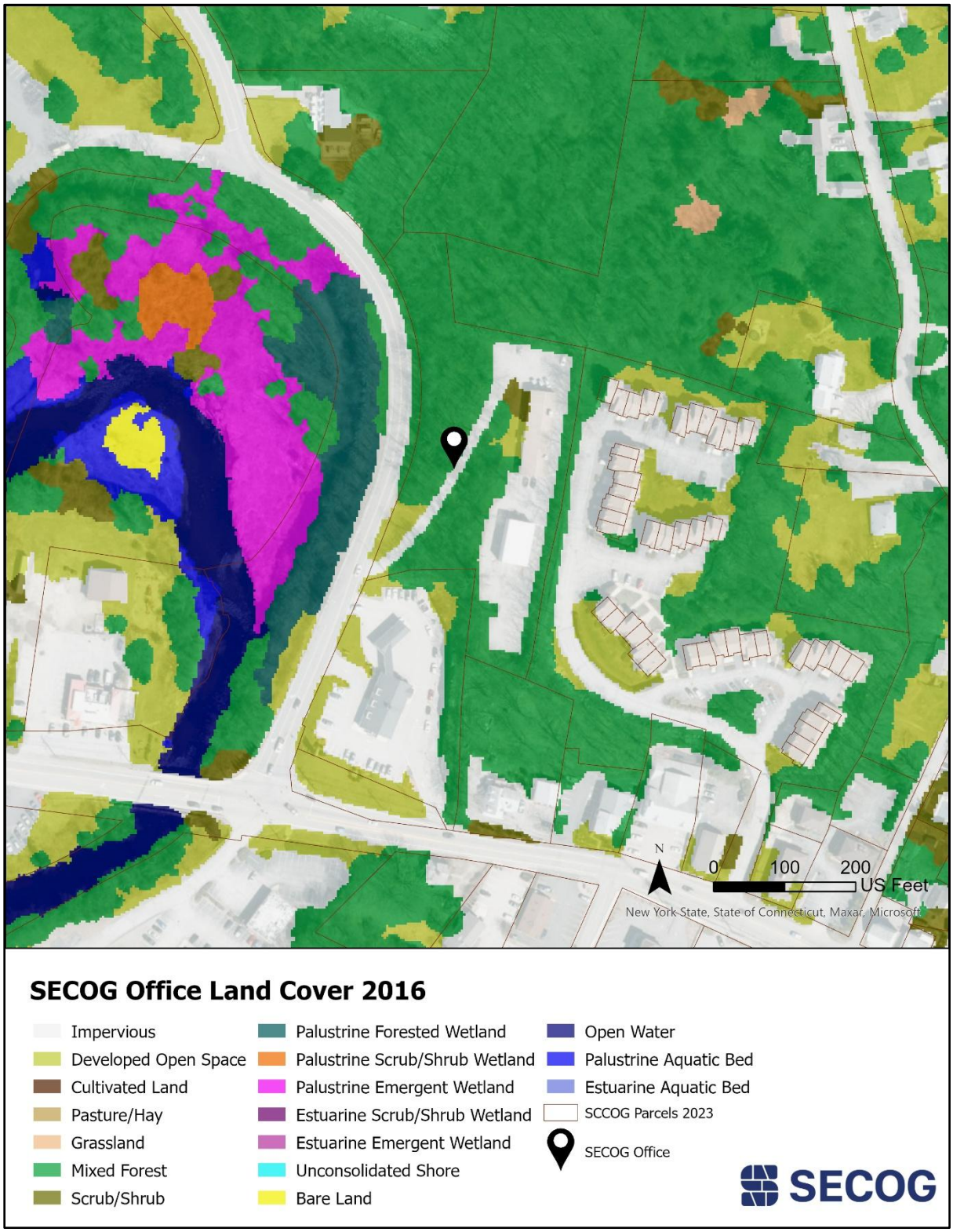
Table 1 SECOG Service Area Jurisdiction Land Cover

Land Cover Type (2016)	Area (acres)	% Coverage
Barren Land	3,027.38	0.77
Cultivated Crops	7,649.22	1.94
Developed, Impervious	28,550.77	7.23
Developed, Open Space	32,507.87	8.24
Estuarine Emergent Wetland	1,317.76	0.33
Estuarine Scrub/Shrub Wetland	39.74	0.01
Grassland/Herbaceous	12,585.65	3.19
Mixed Forest	252,221.05	63.91
Open Water	12,518.63	3.17
Palustrine Aquatic Bed	1,274.42	0.32
Palustrine Emergent Wetland	3,559.89	0.90
Palustrine Forested Wetland	18,962.50	4.80
Palustrine Scrub/Shrub Wetland	1,435.84	0.36
Pasture Hay	13,099.55	3.32
Scrub/Shrub	5,386.45	1.36
Unconsolidated Shore	489.56	0.12
Grand Total	**394,653.78**	**99.99**

MJ-HMCAP Reference: 2.4.1 Land Use

SECOG's Organizational Assets: According to the 2016 1-meter resolution land cover developed by the NOAA Office of Coastal Management, the land cover on SECOG's office parcel is a mixture of impervious surface, mixed forest, developed open space, and scrub/shrub. This land cover pattern is patched by many surrounding properties. However, the nearby presence of the Yantic River and its wetland and aquatic features is clearly represented in Figure 3.

Figure 3. Land Cover on the SECOG Property and Environs



2.6. Population, Demographics, and Development Trends

The SECOG Jurisdiction: According to the 2020 U.S. Census, the SECOG region's population is 278,607 persons, a decrease of 8,104 persons over the 2010 U.S. Census value of 286,711 persons. These figures include all municipalities falling within the 2022 boundaries of the SECOG region but exclude the relatively small permanent populations of the Mohegan Tribe and Mashantucket-Pequot Tribal Nation.

Past development in the SECOG region is concentrated near major rivers and Long Island Sound, with the highest population densities occurring near the mouth of the Thames River (New London and the City of Groton). The more densely populated and developed areas near Long Island Sound and the major rivers comprise the commercial and industrial center of the region, while residential uses are spread in various densities throughout the remaining SECOG communities. The region has grown by just over 4,000 housing units since 2011. The Southeastern Connecticut region has a strong economic base for commercial and industrial development that includes businesses in defense technology, healthcare, biotechnology, marine research, and tourism.

SECOG prepared a proposed development map as part of its 2017 Regional Plan of Conservation and Development (RPOCD), showing that future urban/high intensity uses will continue to be concentrated along the Thames and Yantic Rivers, the shoreline of Long Island Sound, the Pawcatuck River, and downtown Colchester, Jewett City, and Willimantic. Low and medium-density suburban uses will abut the urban uses and branch out along established State and local primary roads. Many areas, particularly along inland watercourses and water bodies are denoted as proposed conservation areas. The absence of public water and sewer systems is a major factor in the dispersed development patterns seen in the region. The need for new housing units has influenced development trends in Southeastern Connecticut. Apartment developments are proposed in parts of Stonington (Town), Groton City and Town, New London, Waterford, Montville, and Norwich. Even rural communities such as Lebanon are experiencing activity among large landowners considering new or expanded uses. For the most part, these new developments are not placing people in areas of risk. However, the communities will need to pay close attention to the risks and resilience of critical infrastructure (e.g. roads) that support new development.

MJ-HMCAP Reference: 2.4.2 Development Trends and 2.5 Population and Demographic Setting

SECOG's Organizational Assets: Currently, SECOG has a staff of 11 individuals that work at the SECOG office five days per week. There is also a large accessory warehouse building on the parcel that is used to store equipment and records. Typically, there are also five or fewer individuals hired on a part-time, apprenticeship, or shared service basis that are SECOG employees but who do not regularly report to the office, working on the road or out of home or local municipal offices on a rotating basis. The number of SECOG staff has gradually increased over time, typically in response to increased mandates for services, the collective needs of member jurisdictions, and increases in funding from the State of Connecticut or the receipt of grants. The SECOG office is not yet at capacity, and additional space remains for continued staff growth.

SECOG owns the land and structures associated with its office at 5 Connecticut Avenue in Norwich outright. SECOG has no plans to expand its structures or purchase additional property. SECOG engages

in regular building maintenance and periodic improvements, most recently addressing poor drainage areas on the developed portion of the parcel. Future improvements include planned roof replacement.

Many of the parcels surrounding SECOG are built-out commercial or multi-family residential properties. However, there are some larger single- and low-density multi-family parcels to the northeast of the SECOG site upgradient. Should zoning and site control ever allow, increase impervious surface on these properties increase runoff onto SECOG's lot if not properly controlled on-site.

Overall, new development and redevelopment on and around SECOG's property is not presently increasing risks to natural hazards. This is primarily because no significant changes are planned for the SECOG office parcel, and zoning presently confines larger adjacent parcels with large undeveloped extents to single-family uses. Per regulation, significant building work or new development on-site would be constructed per the flood damage prevention, wind loading, and snow loading requirements in the State Building Code.

2.7. Governmental Structure

The SECOG Jurisdiction: SECOG is a public agency. It was formed through local initiative to provide a basis for intergovernmental cooperation in dealing with a wide range of issues facing Southeastern Connecticut. SECOG operates under the provisions of Sections 4-124i through 4-124p of the Connecticut General Statutes. Duties assigned to Councils of Government include making a plan of conservation and development for the region; assisting municipalities within the region, as well as state and other public and private agencies; and performing a variety of advisory review functions. Under federal transportation law, SECOG functions as the region's Metropolitan Planning Organization (MPO), responsible for coordinating transportation planning in Southeastern Connecticut. In addition to its statutorily assigned duties, SECOG's functions include providing a basis for intergovernmental cooperation, aiding in the solution of regional issues, serving as a technical resource to its member municipalities, and providing a collective voice for the region.

The Policy Board of SECOG consists of the municipal chief elected officials from its 22 member municipalities. SECOG has several standing committees including the Executive Committee, the Legislative Committee, and the Nominating Committee. The Council's Bylaws allow other committees to form as needed. There are topic-specific committees and staff-level collaboratives to investigate and provide recommendations and support around high-need issues, such as solid waste management and stormwater, as well as project-based committees where SECOG staff support multi-jurisdictional grant applications to state and federal programs and execute subsequent project management tasks, ensuring the completion of project deliverables (see for example SECOG's current work with communities in the Yantic River watershed and flood risk mitigation, SECOG's leadership of grants from the Office of Local Defense Community Cooperation around multi-jurisdictional compatible land use planning and project implementation, and similar).

SECOG funding is derived from several sources. SECOG annually receives dues from each of its municipal members assessed on a per capita basis. The Council receives federal and state funds to conduct planning and transportation studies for the region. SECOG also offers technical assistance to local planning commissions in its member municipalities and tribal governments on a fee basis.

MJ-HMCAP Reference: 2.8 Governmental Structure

SECOG's Organizational Assets: SECOG's Executive Committee and Policy Board set SECOG's personnel policies.

2.8. Review of Existing Plans and Regulations

The SECOG Jurisdiction:

Regulations and Enforcement

SECOG, as a regional planning organization, does not have or administer any regulations. Instead, members voluntarily adopt and seek to abide by regional recommendations. Hazard prevention includes identification of risks and the use of land-use regulatory and other available management tools to prevent future damage. The municipalities in the southeast region have planning and zoning tools in place that incorporate floodplain management. Planning and zoning regulations, inland wetlands and watercourses regulations, harbor management regulations and building departments' enforcement of Building Codes are all important existing regulatory mechanisms that address hazard prevention and incorporate floodplain management. As described below, SECOG does employ building inspector and zoning enforcement officials as SECOG employees who, on a contract basis, provide these municipal services to small member towns that cannot support full-time staff in these positions. Through these shared regional resources, SECOG actively engages in the enforcement of state and local regulations that are critical to hazard prevention and risk mitigation.

Local POCDs

Each Connecticut municipality is required to prepare a local Plan of Conservation and Development (POCD) every ten years. One of the recommendations in each annex of the 2012 HMP was for the local municipality to incorporate elements of the 2012 HMP Update into its local planning efforts. Several communities have since the 2012 and 2017 HMP incorporated natural hazards into their POCD. Some communities have yet to extensively incorporate hazards, however, all do have hazard narrative to a certain degree. Table 2 summarizes the status of incorporation of natural hazard information into local POCDs:

Table 2. Status of Incorporation of Natural Hazards into Local POCDs

Geographic area	Year of Current POCD	Year of Next POCD	Current POCD Incorporates Natural Hazard Information?
Bozrah	2015	2025	Partially. Only addresses flooding.
Colchester	2015	2025	Yes.
East Lyme	2020	2030	Partially. Only addresses flooding, sea level rise, and wildfires.
Franklin	2013	2023	Partially. Only addresses poor drainage flooding.
Griswold	2018	2028	Partially. Only addresses flooding.
Groton, City	2018	2028	Yes.

Groton, Town	2016	2026	Yes.
Lebanon	2010	2020	Partially. Actions geared toward flooding.
Ledyard	2010	2020	Partially. Only addresses flooding and wildfires.
Lisbon	2016	2026	Partially. References 2012 HMP strategy.
Montville	2010	2020	Partially. Only addresses impediments to development.
New London	2017	2027	Partially. Only addresses flooding and sea level rise
North Stonington	2013	2023	Partially. Only recognizes need for resiliency.
Norwich	2013	2023	Partially. Only addresses sea level rise.
Preston	2014	2024	Partially. Only addresses wildfires.
Salem	2012	2022	Partially. Only addresses wildfires.
Sprague	2012	2022	Partially. Only addresses flooding.
Stonington, Borough	2012	2022	Partially. Only addresses flooding.
Stonington, Town	2015	2025	Yes.
Waterford	2015	2025	Yes.
Windham	2017	2027	Partially. Only addresses flooding.

Regional Plan of Conservation and Development (2017)

As required by Connecticut State Statue, the SECOG region has an established Regional Plan of Conservation and Development (RPOCD), drafted by SECOG staff, which was assembled with contributions from local boards and commissions, citizens, and citizen groups. The purpose of the RPOCD is "to promote with the greatest efficiency and economy the coordinated development of its area of operation and the general welfare and prosperity of its people." Large scale development projects are required to reference the Regional and State Plan of Conservation and Development to ensure consistency with established planning guidelines. The RPOCD discusses natural hazard threats to the region (winter storms, hurricanes, flooding, wind, climate change, and rising sea level) and presents resiliency goals for the region. Specifically, the RPOCD recommends that SECOG develop data for use by the region's towns that identify areas of future risk and develop a plan for near- and mid-term actions to adapt to the effects of climate change. The RPOCD also recommends that its member municipalities facilitate the elevation of at-risk properties by re-calibrating zoning regulation height limits and that they discourage new development in floodprone areas.

Metropolitan Transportation Plan

As the designated regional Metropolitan Planning Organization, SECOG is required to periodically adopt the Metropolitan Transportation Plan (MTP), which identifies the long-range transportation needs of the SECOG region and creates a general policy guide for the future allocation of available public resources to address those needs. The SECOG 2023-2045 MTP encourages and promotes the safe and efficient management, operation, and development of a cost-feasible intermodal transportation system that will serve the mobility needs of people and freight within and through urbanized areas of this state, while

minimizing transportation-related fuel consumption and air pollution. Goal 4 of the MTP is to provide a transportation system with "safety and reliability that meet the future needs of the region and can withstand potential natural hazards." Several elements of the plan support storm response, including diversion planning and the identification of critical infrastructure in areas at risk of flooding.

Stormwater Management

In response to a recommendation from the Connecticut Governor's Council on Climate Change (GC3), SECOG launched a pilot program in 2021 to help municipalities take steps to launch a stormwater authority. SECOG worked directly with four communities, Stonington, Waterford, Ledyard, and Preston, through 2023 on a feasibility study that evaluated municipal stormwater utility feasibility for each town. SECOG is continuing its regional stormwater technical assistance through the creation of a Regional Stormwater Collaborative, aimed at assisting communities in improving water quality and reducing flooding through better stormwater management and MS4 compliance.

Hazard Mitigation Planning

Since 2005, through four iterations, SECOG has served as the organizing and coordinating entity for accomplishing the Southeastern Connecticut Multi-Jurisdictional Hazard Mitigation Plan. The primary purpose of a Multi-Jurisdictional Natural Hazard Mitigation Plan (HMP) is to identify natural hazards and risks, existing capabilities, and activities that can be undertaken by a community to prevent loss of life and reduce property damages associated with identified hazards. The Disaster Mitigation Act of 2000 requires local communities to have a FEMA-approved mitigation plan in order to be eligible to receive Pre-Disaster Mitigation Program grants and Post-Disaster Hazard Mitigation Grant Program funds under the Hazard Mitigation Assistance program. SECOG's most recent Hazard Mitigation Plan, the present plan to which this special district annex corresponds, was completed in 2023.

SECOG completed a Critical Facilities Assessment in 2017, which studied site-specific vulnerabilities of 16 emergency services facilities located in storm surge or flood zones. This project was recommended in the 2012 Multi-Jurisdictional Hazard Mitigation Plan. Site-specific assessments examined flood, wind, and snow-load risks and provided recommendations for improvements, with the goal of reducing risk of service interruptions.

In early 2019, SECOG and a consultant team completed an initiative providing assistance to member municipalities enrolled in, or interested in joining, the National Flood Insurance Program (NFIP) Community Rating System (CRS). The CRS is a voluntary program in which NFIP communities are awarded points for documenting and undertaking activities that improve flood resilience. Based on CRS standing, NFIP communities are sorted into classes, in which premium discounts of 5-45% are awarded to flood insurance policy holders. SCEOG was successful in improving the CRS standing of three existing CRS communities, and four additional municipalities are scheduled to join. In addition to assisting interested municipalities, the CRS initiative/model also produced a regional Guidebook and Toolkit to assist interested municipalities in joining in the future.

MJ-HMCAP Reference: 2.9 Review of Existing Plans, Public Information, and Regulatory Structures and 4.3 Regional [Existing Capabilities]

SECOG's Organizational Assets: SECOG does not create plans specific to its organizational assets, only for the regional jurisdiction and subregional groups of jurisdictions in the service of member municipalities. SECOG staff advance initiatives identified in these plans in partnership with member municipalities. In that way, regional and subregional plans set a portion of SECOG's work program as SECOG follows up leadership in planning with partnership in plan implementation.

2.9. Critical Facilities, Sheltering Capacity, and Evacuation

The SECOG Jurisdiction: Numerous "critical facilities" including hospitals, medical centers, fire and police departments, and municipal buildings are located throughout the region. Critical facilities include William W. Backus Hospital in Norwich, Lawrence & Memorial Hospital in New London, Pequot Medical Center in Groton, Windham Hospital in Windham, and medical centers in the surrounding towns such as East Lyme, Ledyard, North Stonington, and Colchester. Every jurisdiction has a fire department, and most jurisdictions have a police department, however, several of the smaller rural towns have resident troopers through the Connecticut State Police. Other critical facilities include public water and sewer infrastructure and treatment plants, electrical and natural gas transmission lines and the Millstone Power Station, regional airports, ferries, and major highways in the region.

In 2017, SECOG completed an assessment of 19 critical facilities located in or adjacent to areas of flood risk to determine methods of making them more resilient to flood, snow, and wind risks under climate change, fulfilling an action listed in the 2012 edition of the multi-jurisdiction hazard mitigation plan. The following facilities were included in the assessment:

Table 3. Facilities Included in SECOG Critical Facility Resiliency Assessment

Municipality	Facility	Address	In FEMA Zone	Adjacent FEMA Zone
Stonington Borough	Fire House and EOC	100 Main St	AE	VE-14
	Borough Hall and Public Works	26 Church St	AE	500-yr
Stonington Town	Old Mystic FD	21 North Stonington Rd	500-yr	AE
	Quiambaug FD	50 Old Stonington Rd	AE	X
	Mystic FD	34 Broadway	AE	X
Groton Town	GLP Police and Fire	5 Atlantic Ave	AE	X
	Town Hall	45 Fort Hill Road	X	500-yr
Groton City	City Hall	295 Meridian St	X	500-yr
	Public Works	295 Meridian St	500-yr	X
New London	Fire HQ and EOC	289 Bank St	500-yr	AE/VE
Waterford	Quaker Hill Fire Co.	17 Old Colchester Rd	500-yr	AE
Montville	Chesterfield Fire Co.	1606 Hartford New London Tpke	X	AE
Norwich	Yantic Fire Co. No. 1	151 Yantic Rd	AE	Floodway
	Occum FD	44 Taftville Occum Rd	AE	500-yr
	Public Works	50 Clinton Ave	500-yr	AE
Preston	Public Works	423 Route 2	X	A
Sprague	Town Hall	1 Main St	AE	Floodway
	Public Works	1 Main St	AE	Floodway

Shelters in SECOG communities are listed in Table 4 based on communication with local officials and/or other available information. Note that in most cases the "capacity" represents a seated capacity and not

bedding-down capacity. Note that the Mashantucket Pequot Tribal Nation has mutual aid agreements through SECOG to house regional shelterees in the casino or hotel.

Most SECOG communities do not have a specific evacuation route map during emergencies. In general, local emergency personnel direct traffic from local roads to primary highways such as Interstate 95, Interstate 395, Route 2, Route 32, Route 49, Route 85, and Route 169. Evacuation routes should not include roads that can become submerged during coastal storms and riverine flooding. Any changes in shelter status, shelter locations, or roadway routing may require modifications to the evacuation map. Many of the coastal communities have installed evacuation signs in strategic locations that direct residents out of coastal flood zones.

Table 4. Shelters in the SECOG Region

City / Town / Tribe	Number of Local Shelters	Capacity of Local Shelters
Bozrah	3	>100
Colchester	2	800
East Lyme	3	2300
Franklin	3	318
Griswold	4	525
Groton, City of	2	250
Groton, Town of	2	1400
Lebanon	1	*
Ledyard	2	>100
Lisbon	1	150
Mashantucket Pequot Tribal Nation	2	400
Mohegan Tribe	1	50
Montville	1	>100
New London	2	3750
North Stonington	1	>100
Norwich	14	33,000
Preston	1	100
Salem	2	>100
Sprague	2	600
Stonington, Borough of	0	0
Stonington, Town of	2	1300
Waterford	5	5500
Windham	2	*
Total Capacity	**58**	**50,943**

*Sheltering capacities are not immediately available for Lebanon and Windham. Number of shelters may have fluctuated since the previous HMP, however capacities are as of the 2017 HMP.

MJ-HMCAP Reference: 2.6 Critical Infrastructure

SECOG's Organizational Assets: SECOG does not operate any critical facilities. NPU provides electric, water, sewer, and natural gas service to the SECOG office and the surrounding area. The SECOG office building is a critical facility in that it would enable employees to shelter in place during some emergencies. However, if forewarning is possible, the SECOG office does not open during emergency

events. For example, the flooding of the Yantic River and attendant emergency declaration in January 2025 did extend to and include the SECOG office building. However, flooding occurred early enough in the morning so that SECOG's Executive Director had enough notice to close the office and direct staff to work from home. During emergencies, SECOG's Executive Director and all service area communities receive information, instructions, and resources from CT DEMHS Region 4 coordinators.

Table 5. SECOG Assets - Critical Facilities

Facility	Address or Location	Emergency Power	Shelter	Cooling Center	In SFHA
SECOG Facilities					
SECOG Office Building/Warehouse	5 Connecticut Ave, Norwich	No	No	No	No

2.10. Repetitive Loss Properties

The SECOG Jurisdiction: A repetitive loss (RL) property is defined as any insurable building that has had two or more claims exceeding $1,000 that were paid by the National Flood Insurance Program (NFIP) within a ten-year period. As of June 19, 2022, there are a total of 115 repetitive loss properties (RLPs) in the SECOG region, with 51 of these being associated with inland flooding. The remaining 64 RLPs are affected by coastal flooding. Most of these properties are residential with the remainder being commercial properties. The greatest numbers of RLPs affected by inland flooding are located along the Yantic River in Norwich. Most of the structures are mapped within the 1% annual chance floodplain except for a few properties that appear to be affected by poor drainage or urban flooding. Such properties are mapped within the 0.2% annual chance floodplain or are located outside of mapped floodplains.

Table 6. Inland Flooding Repetitive Loss Properties in the SECOG Region

Town	Number of Properties			Total Payments
	Total	Residential	Non-Residential	
East Lyme	23	23	0	$1,512,677.31
Franklin	2	2	0	$47,836.72
Groton, City of	4	4	0	$125,781.10
Groton, Town of	6	6	0	$152,365.66
Groton Long Point Assoc.	5	5	0	$142,899.99
Ledyard	3	3	0	$35,226.66
Montville	2	2	0	$42,778.98
New London	17	16	1	$1,270,461.41
North Stonington	2	2	0	$36,691.99
Norwich	21	10	11	$1,475,790.11

Stonington, Borough	2	2	0	$141,398.29
Stonington, Town	18	16	2	$1,027,451.30
Waterford	10	10	0	$223,559.01
Total	**115**	**101**	**14**	**$6,234,918.53**

MJ-HMCAP Reference: 3.4.3.1.3 Existing Capabilities [Changing Precipitation Patterns]

SECOG's Organizational Assets: Despite its proximity to the Yantic River and the preponderance of inland RLPs associated with this waterbody described in the paragraph above, the SECOG office is located in a section of the corridor where the land slopes rapidly upward from the riverbank. SECOG's property is not located in the SFHA. SECOG does not carry flood insurance and has never made an NFIP-related claim.

2.11. Exposure to Climate-Affected Natural Hazards

SECOG's organizational assets are exposed to natural hazards affected by climate change (i.e., severe storms, droughts) as well as hazards that are not affected by climate change (i.e., earthquakes). The economic losses faced by SECOG from natural hazards, both climate-affected and non-climate-affected, is estimated at $291,500, the valuation of the building. SECOG staff estimate that total hazard losses for the last 10 years are limited to about $10,000 in downed tree removal costs caused by storm events. In total, SECOG's organizational assets in terms of its land and buildings are estimated at $464,800.

2.12. Average Annualized Losses

Average Annualize Losses (AAL) do not pertain to the COG as no National Centers for Environmental Information (NCEI) data, National Flood Insurance Program (NFIP) data, FEMA Public Assistance (PA) data, United States Department of Agriculture (USDA) data, National Risk Index (NRI) data, and Dam failure data are available to compute the AAL.

3. Extreme and Severe Storms

3.1. Climate Change Impacts

Climate change projections indicate varying changes in the frequency and intensity of severe storms and their relative hazards like precipitation and wind. It is expected that as global mean temperatures continue to rise, storms like hurricanes, tropical storms, and severe thunderstorms, may become more frequent and more intense. The degree to which these events might change, and the confidence levels in the models vary by event type.

Hurricanes and tropical storms are likely to be accompanied by higher wind speeds and an overall increase in intensity. Warm water and air temperatures are essentially the fuel source for the storm, therefore warmer temperatures mean an increase in fuel which can produce more intense winds and high precipitation levels.

While the future behavior of tornadoes and high wind events is a little more challenging to predict in comparison to hurricanes, it has been noted that the number of days of tornadic activity has decreased

in recent decades, though the number of tornadoes in a single day has increased.[1] There is a similar lack in confidence when projecting severe thunderstorm and wind events. Because these events are short-lived and relatively small-scale, monitoring and modeling are more challenging. Overall, however, future climate conditions are likely to become more conducive to the development of such events, therefore increasing the potential for occurrence.

Severe winter storm events, like hurricanes, are expected to become more intense under future climate conditions, however they are expected to become less frequent. These storms will continue to be capable of producing large amounts of precipitation, though in future decades this precipitation will consist of less snow and more wintry mix or rain.

These changes in storms could mean an increase in risk throughout the City of Norwich, where the SECOG office is located, or for specific populations, more severe storm damage and impacts, or an increase in flooding occurrences.

3.2. Hurricanes and Tropical Storms

3.2.1 Setting and Recent Occurrences

Several types of hazards may be associated with tropical storms and hurricanes including heavy or tornado winds, heavy rains, and flooding. Flooding and storm surge hazards are discussed in Section 4 and 5 of this annex. Wind hazards are widespread and can affect any part of the City of Norwich, where the SECOG office is located.

The last major hurricane or tropical storm wind event to affect the SECOG property prior to the 2012 edition of the HMP was associated with Hurricane Irene in August 2011. While trees fell throughout Norwich, power outages lasted up to a week in outlying rural areas since tree density was greater in these areas.

In 2012, Super Storm Sandy, a hybrid storm with both tropical and extra-tropical characteristics, brought high winds and coastal flooding to southern New England. Record breaking high tides and wave action was combined with sustained winds of 40 to 60 mph and wind gusts of 80 to 90 mph. Widespread significant statewide power outages of 667,598 lasted up to 8 days. City officials describe the impact of this Storm on Norwich as minimal. Nevertheless, the City of Norwich received nearly $800,000 in disaster relief from FEMA to cover the cost of damages from the storm.

On August 2, 2020, Tropical Strom Isaias swept through the State brining severe winds which resulted in the highest number of outage events Connecticut has ever experienced. With over 620,000 outages reported by Eversource alone, the state's largest electric supplier, residents across the SECOG region were without power, cable, and internet for extended periods of time. NPU reported a peak of 6,500 outages just after the storm. While this storm did not generate typical amounts of rainfall experienced during a tropical storm event, the wind damage exceeded expectations bringing down trees and power lines across the state.

[1] https://nca2018.globalchange.gov/chapter/2/

In 2021, there were four tropical storm events that passed through, or within 50 miles of, the state. Some of these events, which are described in more detail below, resulted in flooding along several brooks and stream crossings, including roadway washouts.

The 2021 events included Elsa, Fred, Henri, and Ida.

- July 9, 2021 (T.S. Elsa) – Elsa made landfall as a tropical storm in Florida and traveled along the eastern seaboard. It passed through Southeastern New England bringing high winds and rainfall. Gusts were reported over 40 mph, and residents throughout the region and state were left without power.
- August 19, 2021 (Extratropical Storm Fred) – This tropical event passed north of the state bringing heavy rain to some areas in Connecticut; there was a reported 5.14 inches in West Hartford. Fred also produced an EF-0 tornado in Windham County.
- August 22, 2021 (T.D Henri) – Hurricane Henri made landfall in Rhode Island as a tropical storm and then traveled northwest across the State of Connecticut. While the impacts for Henri were projected to be more severe than they actually were, the storm did result in heavy rainfall and thousands of power outages.
- September 1, 2021 (Hurricane Ida) – Though Hurricane Ida made landfall in Louisiana as a category 1, the storm moved south of Long Island as an extratropical storm and is reported to be costliest storm even since Hurricane Sandy a decade earlier. Ida caused major flooding across Connecticut and the Southeastern Region. For the first time, a statewide flash flood warning was issued. Several communities in the state, including the City of Norwich, warned residents to have minimal contact with surface waters due to the discharge of untreated sewage. There were reports of 7 to 8 inches of rainfall in the Southeastern Region, and as high as 8.58 inches in Uncasville.

  Schools were closed in the City after Ida as there were almost a dozen roads that were impassable, making safe bus transportation impossible. Several roads, apartment complexes and business parking lots experienced moderate to severe flooding. The city opened their shelter and offered sandbags to residents in need, and the fire chief and the department were continuously monitoring the Yantic River flood stages as the storm came and went.

The setting and recent occurrences of hurricanes and tropical storms for the SECOG Jurisdiction are described in the HMCAP sections 3.4.1.1.1 and 3.4.1.1.2.

3.2.2 Existing Capabilities protecting SECOG's Organizational Assets

Wind loading requirements are addressed through the state building code, which would govern any updates to the SECOG building (originally constructed in 1969). The Connecticut State Building Code was most recently adopted with an effective date of October 1, 2016. The code specifies the design wind speed for construction in all the Connecticut municipalities. The basic design wind speed ranges from 115 to 140 miles per hours, and the ultimate design wind speed for Norwich is 125 miles per hour; design wind speed is chosen depending on the building use (for example, hospitals must be designed to the higher wind speed). Note that changes in design wind speed figures since the previous HMP are largely the result of a shift from "nominal" to "ultimate" wind speeds, for compatibility purposes; see

the Connecticut Building Code or the American Society of Civil Engineers website for more information. Norwich has adopted the Connecticut Building Code as its building code.

Parts of trees (limbs) or entire tall and older trees may fall during heavy wind events, potentially damaging structures, utility lines, and vehicles. Utility lines are not located underground.

Within the City of Norwich, SECOG's office receives utility service from NPU and Algonquin Gas. NPU provides electricity, potable water, natural gas, and sewer service. NPU and Algonquin Gas perform trimming near their utilities and hire contractors for larger jobs. Coordination between the City and NPU is very strong; in fact, the current Emergency Operations Center is located at the NPU Administrative and Operations Center Building.

Warning is one of the best ways to prevent damage from hurricanes and tropical storms, as these storms often are tracked well in advance of reaching Connecticut. SECOG administrators can access National Weather Service forecasts via the internet as well as listen to local media outlets (television, radio) to receive information about the relative strength of the approaching storm. This information allows the SECOG Executive Director to activate its EOP and encourage employees to take protective or evacuation measures if appropriate. NOAA weather radios are located in a number of locations with large populations throughout Norwich, including the closest location to the SECOG office at Dodd Stadium.

3.2.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to hurricanes and tropical storms throughout the regional jurisdiction.

Regional Shared Resources

As described above, adherence to the Connecticut Building Code and design wind speeds is key in constructing buildings to withstand anticipated winds from hurricanes and tropical storms. Large municipalities in the jurisdiction can support in-house, dedicated building inspectors. However, to support smaller communities with less resources for staff, SECOG maintains a regional building inspector. Local communities can contract with SECOG to access this service. SECOG has taken this shared regional resourcing asset further and created a building inspector apprenticeship program, facilitating the development of additional building inspector capacity with up-to-date knowledge of building codes to support the region. After apprenticeship, the new building inspector takes on a full-time role with one of SECOG's municipalities.

Intermunicipal Grants Preparation and Administration

Hurricanes and tropical storm events threaten critical utilities. Through its grant preparation and administration core competence and service area, SECOG staff routinely assist local communities in obtaining resources and expertise to harden these systems. For example, SECOG applied for, received, and administered $800k in a grant from the federal Office of Local Defense Community Cooperation to accomplish 90% design and complete construction bid packages for hardening water, gas, and electrical utilities at their nexus between Groton's municipal utility provider (Groton Utilities) and SUBASE New London, an internationally significant defense installation. SECOG staff will continue to see this project

into its next phases, including the preparation of a $5M grant for all construction activities. Though Groton Utilities is technically able to act as the grant proposer and recipient for this activity, SECOG has been specifically requested to fill this role, so that Groton Utilities can maintain focus on daily operations without diverting existing internal staff capacity or adding new staff positions. SECOG routinely serves in the role of grant applicant and holder to supplement, complement, and extend municipal members' existing staff capacity in this way.

Regional Coordination and Communications Forums

SECOG is the forum for and provides staff to advance the needs of several regional intergovernmental committees and commissions. The SECOG Policy Board meets monthly and is attended by all member municipality Chief Executive Officers. Given its membership, several regionally significant non-governmental bodies also participate in these meetings, providing regular updates and responding to questions from municipal members and SECOG staff. Eversource utilities is one such participant, allowing for regular communication around utility activity and storm readiness and response updates.

Long-Range Regional Planning

SECOG's two principal long range planning products are the ten-year Regional Plan of Conservation and Development (RPOCD), and the four-year Metropolitan Transportation Plan (four-year planning cycle; at least 20-year planning horizon). The RPOCD serves as a blueprint for the Council of Governments and its member municipalities to follow in working together to promote the coordinated development of its area of operation and the general welfare and prosperity of its people. The Plan identifies shared goals for maintaining and expanding the region's infrastructure, promoting economic growth, meeting the housing needs of the region's residents, and protecting the health of the natural environment. The Resilience chapter of the current RPOCD includes a section on hurricane hazards, with a map of category 1-4 hurricane storm surge zones.

The Metropolitan Transportation Plan (MTP) identifies the long-range transportation needs of the SECOG region and creates a general policy guide for the future allocation of available public resources to address those needs. The SECOG 2023-2045 MTP encourages and promotes the safe and efficient management, operation, and development of a cost-feasible intermodal transportation system that will serve the mobility needs of people and freight within and through urbanized areas of this state, while minimizing transportation-related fuel consumption and air pollution. Goal 4 of the MTP is to provide a transportation system with "safety and reliability that meet the future needs of the region and can withstand potential natural hazards." Several elements of the plan support storm response, including diversion planning and the identification of critical infrastructure in areas at risk of flooding.

Regional Tools, Reports, and Studies

As the coordinating entity for successive iterations of the Multi-Jurisdictional Hazard Mitigation Plan, SECOG also takes on a role in project implementation tracking. For example, SECOG has developed a digitized, spatial dashboard of all 2023 HMCAP action items, and has enabled this database to be sortable by hazard type and driver. Consequently, the status of all HMCAP action items related to hurricanes and tropical storms can be readily called up and known.

Summary

In general, SECOG's capabilities to mitigate hurricane damage continue to increase significantly since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for building inspectors, grants preparation and administration related to projects with hurricane and tropical storm resilience outcomes, the maintenance of key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies. SECOG's ability to mitigate hurricane and tropical storm damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

3.2.4 Vulnerabilities and Risk Assessment

SECOG's organizational assets are vulnerable to hurricane and tropical storm wind damage and from any tornadoes (Section 3.3) accompanying the storm, as well as inland flooding (Section 5.2). Of particular concern are the blockage of vehicular and pedestrian circulation pathways on the SECOG property and the damage to the electrical power supply from falling trees and tree limbs.

Direct wind damage to newer buildings from hurricane or tropical storm-level winds is rare. However, given the age of the SECOG building (1969), it may not meet current building codes. Older buildings are particularly susceptible to roof and window damage from high wind events. This risk will be reduced with time as the SECOG buildings are remodeled or replaced with buildings that meet current codes.

The potential economic effect of wind damage to SECOG was evaluated in the Multi-Jurisdictional HMCAP. A separate analysis was not performed specifically for the SECOG building.

3.2.4.1 Hazard Losses for SECOG's Organizational Assets

SECOG staff estimate that total hazard losses for the last 10 years are limited to about $10,000 in downed tree removal costs caused by storm events. In total, SECOG's organizational assets in terms of its land and buildings are estimated at $464,800. Total economic damage from a hurricane or tropical storm that requires full building reconstruction would require building cost replacements estimated at $291,500 in materials plus construction labor.

The vulnerabilities and risk assessment of hurricanes and tropical storms for the SECOG Jurisdiction are described in the HMCAP section 3.4.1.1.4.

3.3. Tornadoes and High Wind Events

3.3.1 Setting and Recent Occurrences

Similar to hurricanes and winter storms, wind damage associated with severe thunder or summer storms and tornadoes has the potential to affect SECOG property. Furthermore, because these types of storms and the hazards that result (flash flooding, wind, hail, and lightning) might have limited geographic extent, it is possible for a summer storm to harm SECOG's environs without harming other areas of Norwich. Such storms occur each year, although hail and direct lightning strikes are rarer. No tornadoes have occurred in the area of SECOG since the last HMP.

A selection of summer storm damage in the City of Norwich where the SECOG office is located, as reported to the NCDC is presented below:

- April 12, 2008: An isolated severe thunderstorm produced penny-sized hail in Norwichtown.
- July 2, 2008: A severe thunderstorm produced quarter to half-dollar (up to 1.25-inch) hail along Dunham Street, with nickel-sized hail being reported in Norwichtown. A roof was reported as being blown off of a roof in Norwichtown, resulting in $100,000 in damage.
- May 12, 2009: A severe thunderstorm produced nickel-sized hail in Norwich.
- May 4, 2010: Scattered severe thunderstorms produced strong gusts that downed large branches in Norwich.
- May 8, 2010: Lightning struck a transformer, causing 5,000 people to lose power in the City.
- On July 25, 2013, the combination of a moist airmass and a wave of low pressure tracking north along a cold front just to the east of Long Island resulted in scattered showers and thunderstorms across Southeast Connecticut. The redevelopment of these showers and storms over the same area led to a period of persistent heavy rain, which resulted in flash flooding. The City of Norwich was hit the hardest with total accumulation estimates of 5 to 8 inches.

Other recent severe storm events include:

- On September 6, 2017, a cold front triggered severe storms in the county and caused tree damage in multiple communities. Nearby Colchester reported trees and wires down, and the Groton-New London Airport measured sustained winds at 44 mph and gusts of 56 mph.
- On April 13, 2020, a low pressure system resulted in high winds throughout New London County.
- On November 13, 2021, a tornado touched down in the Pawcatuck section of Stonington, and another further north in Plainfield. There were reports of uplifted trampolines, downed trees and powerlines, and an uplifted metal shed. This same storm also caused damage in other surrounding communities.

The setting and recent occurrences of tornadoes and high wind events for the SECOG Jurisdiction are described in the HMCAP sections 3.4.1.2.1 and 3.4.1.2.2.

3.3.2 Existing Capabilities Protecting SECOG's Organizational Assets

Warning is the most viable and therefore the primary method of existing mitigation for tornadoes and thunderstorm-related hazards. The NOAA National Weather Service issues watches and warnings when severe weather is likely to develop or has developed, respectively. SECOG's administration can access National Weather Service forecasts via the internet as well as listen to local media outlets (television, radio) to receive information about the relative strength of the approaching storm. This information allows the Executive Director to encourage employees to take protective measures if appropriate.

Aside from warnings, several other methods of mitigation for wind damage are employed by entities that regulate the way SECOG can redevelop its property, as explained in Section 3.2.2 within the context of hurricanes and tropical storms. In addition, the Connecticut Building Code includes guidelines for the proper grounding of buildings and electrical boxes to protect against lightning damage.

3.3.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

The core competencies and technical service areas through which SECOG contributes to local municipal member existing capabilities for mitigation and response to tornadoes and high wind events are the same as those summarized in Section 3.2.3, including capabilities in the areas of regional shared

resources, grants preparation and administration, regional coordination, long-range regional planning, and regional tools and resources.

Summary

In general, SECOG's capabilities to mitigate thunderstorm and tornado damage have increased since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for building inspectors, grants preparation and administration related to projects with thunderstorm and tornado resilience outcomes, the maintenance of key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies. SECOG's ability to mitigate thunderstorm and tornado damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

3.3.4 Vulnerabilities and Risk Assessment

Summer storms are expected to occur each year and are expected to at times produce heavy winds, heavy rainfall, lightning, and hail. Most thunderstorm damage is caused by straight-line winds exceeding 100 mph. Experience has generally shown that wind exceeding 50 miles per hour (mph) will cause significant tree damage during the summer season as the effects of wind on trees are exacerbated when the trees are in full leaf. The damage to buildings and overhead utilities due to downed trees has historically been the biggest problem associated with wind storms. Heavy winds can take down trees near power lines, leading to the start and spread of fires. Such fires can be extremely dangerous during the summer months during dry and drought conditions. Fortunately, fire risk to SECOG assets is mitigated by the City of Norwich's strong fire response, with the Yantic fire station nearby.

Lightning and hail are generally associated with severe thunderstorms and can produce damaging effects. Hail is primarily mitigated by warning. Lightning and hail are considered likely events each year, but are not expected to cause heavy damage to SECOG organizational assets.

Although tornadoes pose a threat to all areas of Connecticut, their occurrence is least frequent in New London County as compared with the rest of the State. Thus, while the possibility of a tornado striking SECOG property exists, it is an event with a very low probability of occurrence.

3.3.4.1 Hazard Losses for SECOG's Organizational Assets

The hazard losses for SECOG's Organization Assets from tornadoes and high wind events are the same as those summarized in Section 3.2.4.1 for hurricanes and tropical storms.

The vulnerabilities and risk assessment of tornadoes and high wind events for the SECOG Jurisdiction are described in the HMCAP section 3.4.1.2.4.

3.4. Severe Winter Storms

3.4.1 Setting and Recent Occurrences

Like hurricanes and summer storms, winter storms have the potential to affect the SECOG office. However, unlike summer storms, winter storms and the hazards that result (wind, snow, and ice) have more widespread geographic extent. In general, winter storms are considered highly likely to occur each

year (major storms are less frequent), and the hazards that result (nor'easter winds, snow, and blizzard conditions) can potentially have a significant effect on SECOG's property.

Some of the more severe storms prior to the 2017 HMP where SECOG's office is located include:

- The winter of 2010 – 2011 produced significant snowfall in Norwich. The City had to shovel the roofs of several municipal buildings, and some buildings sustained roof damage.
- Winter Storm Alfred in late October 2011 caused significant tree damage and additional power outages for several days in outlying areas. Trees which were able to withstand the heavy winds of Irene were not able to withstand both wind and snow load during Storm Alfred.
- 2013 featured exceptional snow events that severely taxed snow removal abilities of towns in the region. The blizzard of 2013 in early February dumped one to two feet of snow on the region. Another snowstorm struck the region in mid-March 2013 dumping upwards of one to two feet of snow in some parts of the county. The public assistance reimbursement for the February 2013 storm was $29,919.39.
- In January 2015, the City received 36 inches of snow in a single day.

Some of the more recent significant winter events include:

- A heavy storm came through the region on February 9, 2017, bringing blizzard conditions and heavy snowfall. The Town of Colchester reported 14.5 inches of snow, and 13 inches were reported along the coast in Groton.
- A late winter storm on March 12, 2018, resulted in 23 inches of snowfall in Oakdale, with reports of one to two feet in other parts of Northern New London County. The southern part of the region experienced 10 to 18 inches of snow, and strong wind gusts. There were also reports of downed trees throughout the region as a result of this storm.
- On January 28, 2022, the region was hit by a heavy snowstorm and blizzard like conditions. Parts of the region reported up to 22 inches of snowfall, and gusts up to 65 mph. There were also several hours of less than ¼ mile visibility. Snow drifts were also reported to be a challenge, with some areas experiencing drifts up to three and a half feet deep.

3.4.2 Existing Capabilities protecting SECOG's Organizational Assets

Existing programs applicable to winter storm winds are the same as those discussed in Sections 3.2.2 and 3.3.2. Programs that are specific to winter storms are generally those related to preparing plows and sand and salt trucks; tree trimming and maintenance to protect power lines, roads, and structures; and other associated snow removal and response preparations.

As it is almost guaranteed that winter storms will occur annually in Connecticut, it is important to locally budget fiscal resources toward snow management. SECOG contracts with a company to plow the office driveway and parking lot. The Norwich Public Works Department oversees snow removal in the City, plowing public roadways leading to the SECOG office. The City has established plowing routes that prioritize access to and from critical facilities. The Connecticut Department of Transportation (DOT) plows State roads. As two Connecticut DOT facilities are located in Norwich (District 2 Headquarters on Route 82 and a satellite garage in Occum), winter plowing of State roads in the city is generally timely.

The Connecticut Building Code specifies that a pressure of 30 pounds per square foot be used as the base "ground snow load" for computing snow loading for roofs. SECOG does not regularly monitor the

office and warehouse roofs to determine if shoveling is required and could take additional action to do so in future.

3.4.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

The core competencies and technical service areas through which SECOG contributes to local municipal member existing capabilities for mitigation and response to severe winter storms are the same as those summarized in Section 3.2.3, including capabilities in the areas of regional shared resources, grants preparation and administration, regional coordination, long-range regional planning, and regional tools and resources.

Summary

In general, SECOG's capabilities to mitigate severe winter storm damage have increased since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for building inspectors, grants preparation and administration related to projects with severe winter storm resilience outcomes, the maintenance of key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies. SECOG's ability to mitigate severe winter storm damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

3.4.4 Vulnerabilities and Risk Assessment

Severe winter storms can produce an array of hazardous weather conditions, including heavy snow, blizzards, freezing rain and ice pellets, flooding, heavy winds, and extreme cold. Further "flood" damage could be caused by flooding from frozen water pipes. Often, tree limbs on roadways are not suited to withstand high wind and snow or ice loads.

This section focuses on those effects commonly associated with winter storms, including those from blizzards, ice storms, heavy snow, freezing rain, and extreme cold. Warning and education can prevent most injuries from winter storms. Most deaths from winter storms are indirectly related to the storm, from outcomes like traffic accidents on icy roads and hypothermia from prolonged exposure to cold. SECOG staff can work from home, and a protocol that allows the Executive Director to close the office during a severe winter storm, limiting the risk of these threats. Damage to trees and tree limbs and the resultant downing of utility cables are a common effect of these types of events. Secondary effects can include loss of power and heat. The SECOG office building is not particularly susceptible to damage from heavy snow, however its flat roof is more susceptible to damage from heavy snow than sloped roofs. SECOG's driveway is a steep slope, but plowing and salting during storm events alleviates icing concerns.

3.4.4.1 Hazard Losses for SECOG's Organizational Assets

The hazard losses for SECOG's Organization Assets from severe winter storms are the same as those summarized in Section 3.2.4.1 for hurricanes and tropical storms.

The vulnerabilities and risk assessment of severe winter storm events for the SECOG Jurisdiction are described in the HMCAP section 3.4.1.3.4.

4. Sea Level Rise

4.1. Climate Change Impacts

Sea levels are rising at an increased rate across the globe. These rising waters are attributed to melting glaciers and ice sheets, as well as thermal expansion from warming ocean waters. Global sea level rise takes into account the major causes of rise, and the averages of rise around the world. Local sea level rise estimates consider the global changes but also characterize what is happening more locally such as changes in currents or land subsidence.

The University of Connecticut, Connecticut Institute for Resilience and Climate Adaptation (CIRCA) has, in accordance with state statute, developed local sea level rise projections for communities to use as a planning threshold. CIRCA recommends that communities plan for 0.5 meter (20") of sea level rise above 2001 levels by 2050. CIRCA intends to revisit this estimate and update the planning thresholds in the lifespan of this plan (2023-2028).

Even though sea level rise occurs over a longer period than other hazards, coastal communities are becoming increasingly concerned with the cascading impacts. Increased sea levels can cause a greater geographic reach for coastal flooding events, an increase in frequency or extent of "sunny day" flooding, an increase in storm surge extent, and saltwater inundation along the shoreline. All these impacts can damage properties, deteriorate infrastructure, cause access and egress challenges, and exacerbate coastal erosion processes.

4.2. Coastal Flooding

4.2.1 Setting and Recent Occurrences

Despite being located well inland from the Connecticut shoreline and on an elevation, the SECOG office is located in the City of Norwich, which has coastal resource areas that are tidally influenced. The coastal area of the City of Norwich consists of nearly 14 miles of riverfront associated with the Thames River, the lower section of the Yantic River upstream to Uncas Leap, and the lower section of the Shetucket River Greeneville Dam. The SECOG office is located upstream of the limit of tidal influence. The coastal resources found in Connecticut and described by DEEP are listed in the Multi-Jurisdictional HMCAP.

Homes, businesses, and industries are located near the shorefront along the coastal area of Norwich. However, the City's location at the headwaters of the Thames River places many properties, including the SECOG office, at higher elevations than low-lying areas adjacent to Long Island Sound. As such, the SECOG building does not experience coastal flooding, and only a few areas of the City of Norwich are at risk of coastal storm surge from hurricanes.

While coastal flooding is relatively infrequent in the City of Norwich, hurricanes and tropical storms have the potential to induce coastal flooding and storm surge that can impact structures. No coastal flooding or storm surge events have occurred since the time of the previous HMP.

4.2.2 Existing Capabilities Protecting SECOG's Organizational Assets

The SECOG office is protected indirectly by the City of Norwich maintaining hard structures in good condition, and provision of signage and warning systems that alert of potential coastal flooding impacts. The City utilizes the 1% annual chance floodplains delineated by FEMA in its floodplain development

regulations. These consist of the 1% annual chance floodplain with elevations (Zone AE) including floodway areas. The SECOG office is not located within the 1% annual chance floodplain.

The shoreline of Norwich contains many coastal flood control structures. Small, private bulkheads can be found in many of the commercially and industrially developed coastal neighborhoods. Larger structures such as the Trading Cove Dike and the Long Rock Dike are also located on the Thames River and provide some shoreline protection, helping to limit coastal flooding impacts upstream to the area of the SECOG building.

Like many inland communities, the City and COG lack existing policies and mitigation measures that are specifically designed to address sea level rise. Although SECOG and the City of Norwich do not currently have a plan to address sea level rise specifically, important pieces are in place in the form of the municipal codes and regulations cited in this HMP that have been enacted to minimize storm, erosion, and flood damage to structures, such as the City requiring that new buildings located in the floodplain have 18 inches of freeboard above the base flood elevation.

Although SECOG's capabilities to mitigate coastal flood damage are limited, the SECOG office is not threatened by immediate or long-term impacts of coastal flooding due to its location.

4.2.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to coastal flooding throughout the regional jurisdiction.

Regional Shared Resources

As mentioned in previous sections, larger municipalities within the SECOG jurisdiction often have the capacity to employ dedicated building inspectors who enforce state and local building codes, some of which may pertain to coastal flooding and sea level rise. In contrast, smaller communities with limited staff resources can utilize SECOG's regional building inspector and zoning enforcement officer through contractual agreements. SECOG has also established a building inspector apprenticeship program to support the workforce development of new inspectors with current expertise in building code. In an effort to strengthen the region's ability to enforce resilient and hazard-aware development, trainees will eventually transition into full-time roles within SECOG-affiliated municipalities upon completion of their training. The SECOG-based building inspectors and zoning enforcement officer enforce local codes that mitigate flood risk.

Intermunicipal Grants Preparation and Administration

As identified in SECOG's 2017 Critical Facilities Assessment, coastal Southeastern Connecticut communities face real threats to critical facilities from increased coastal flooding and sea level rise. COG staff, including SECOG's Director of Regional Planning and Environmental Planner, maintain established communications with local sustainability managers, grant coordinators, and town planners in shoreline municipalities to provide support, partnership, and technical assistance in coastal flooding mitigation grant activities as they arise. SECOG staff remain knowledgeable about current state and federal funding opportunities to advance coastal restoration and hazard mitigation projects. For example, SECOG staff routinely attend funder workshops, such as the 2024 Long Island Sound Study Sustainable & Resilient

Communities Eastern Connecticut Regional Funding Workshop, which was an information sharing session highlighting coastal resilience grant opportunities.

Additionally in the coming years, SECOG will be project partners with The Nature Conservancy and actively participate and provide project in-kind match in the Long Island Sound Futures Fund project "Identifying and Assessing Connecticut Coastal Crossings to Build Resilience." The goal of the project is to address challenges associated with inadequate crossings (e.g. culverts, bridges), and fill knowledge and capacity gaps. The project will 1) inventory all crossings within the Long Island Sound Coastal Watershed Boundary in Connecticut; 2) build the capacity of practitioners by training them in NAACC protocols; and 3) begin evaluating crossings in Southeastern Connecticut municipalities. These foundational steps are crucial not only for preserving and restoring freshwater and estuarine ecosystems, conserving aquatic species, mitigating the impacts of habitat fragmentation, but also for planning for climate and coastal flooding resilience through crossing upgrades.

Regional Coordination and Communications Forums

SECOG staff participate in several regional intergovernmental committees and commissions, including the Connecticut Division of Emergency Management and Homeland Security Region 4 Regional Emergency Planning Team (REPT), which meets monthly around several Regional Emergency Support Functions (RESFs). These RESFs are discipline oriented workgroups that provide collaborative planning and resource support within each discipline and act as subcommittees to the Region 4 REPT. While there is no RESF specific to coastal flooding or shoreline change, several RESF groups concern infrastructure, hazards, and personnel that would be implicated in a coastal flooding hazard event, including transportation, communications, public works and engineering, energy, and long-term community recovery and mitigation.

Long-Range Regional Planning

SECOG's ten-year Regional Plan of Conservation and Development (RPOCD) is the primary planning document used for long-range regional land use and development planning. The RPOCD has a section dedicated to climate change and rising sea levels. The plan also includes figures highlighting NOAA's Sea Level Rise and Coastal Flooding Impacts Viewer which can be used to view forecasted rising sea levels and hazards to coastlines.

Additionally, SECOG's regional 2023-2050 Metropolitan Transportation Plan (MTP) identifies a regional transportation goal of "safety and reliability that meet the future needs of the region and can withstand potential natural hazards." This plan also promotes funding resources, including the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) program, which allocates funds for planning, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure.

Regional Tools, Reports, and Studies

SECOG is the entity responsible for coordinating successive iterations of the Multi-Jurisdictional Hazard Mitigation Plan and takes on a role in local project implementation tracking. SECOG's digitized spatial dashboard of HMCAP action items has enabled users to sort HMCAP actions by hazard type and driver.

Consequently, the status of all HMCAP action items related to coastal flooding can be readily called up and known. There are 35 HMCAP actions that list coastal flooding as the main hazard driver.

Additionally, SECOG and CIRCA developed a Critical Facilities Assessment in 2017, which studied site-specific vulnerabilities of sixteen emergency services facilities located in storm surge or flood zones. The site assessments included recommendations for both short-term improvements to serve the site over the next 20 years, and long-term actions of value beyond 20 years. Several of the sites are situated in locations that will flood more frequently as climate change and sea level rise make storms more damaging and push coastal flood zones further inland.

SECOG, The Nature Conservancy (TNC), and the Southeastern Connecticut Enterprise Region (seCTer) partnered in 2017 to create a Southeastern Connecticut Regional Resilience Guidebook, which had a driving goal of helping SECOG communities secure greater clarity on the common challenges they face while providing a positive vision for continued dialogue, resource sharing, and collaborative leadership needed for regional resilience, both coastal and inland.

Summary

SECOG's capacity to mitigate coastal flooding at its own building is constant and has not needed to be addressed specifically. However, SECOG as an organization has the capability to provide an array of technical assistance to member municipalities as they prepare for and mitigate coastal flooding. The inclusion of coastal flooding hazards in various SECOG published or partnered plans demonstrates the importance of the issue and the COG's awareness of the need for potential mitigation, especially along the coastal portion of SECOG's jurisdiction.

4.2.4 Vulnerabilities and Risk Assessment

SECOG's physical organizational assets are not vulnerable to coastal flooding as the building is located in the City of Norwich, roughly twenty miles north of the nearest coast of Long Island Sound. The building is also roughly four miles upgradient from any tidally influenced areas of the Thames River.

4.2.4.1 Hazard Losses for SECOG's Organizational Assets

There have been no hazard losses to SECOG organizational assets in the last 10 years caused by coastal flooding. SECOG's property is not located in the SFHA. SECOG does not carry flood insurance and has never made an NFIP-related claim.

The vulnerabilities and risk assessment of coastal flooding for the SECOG jurisdiction are described in the HMCAP section 3.4.2.1.4.

4.3. Shoreline Change

4.3.1 Setting and Recent Occurrences

Shoreline change is primarily a natural process caused by wind, waves, and currents; however, it can also be attributed to human driven processes such as development, grading, and beach armoring or nourishment. As climate change impacts hazards such as severe storms, hurricanes and tropical storms, and sea level rise, shorelines have the potential to change at different rates than in decades past. As tidal ranges increase, and storm surge becomes higher and potentially more intense, these processes may become exacerbated. Rapidly changing shorelines can have an impact on coastal ecosystems

(particularly those that provide natural buffers), erode natural shorelines resulting in encroaching seas onto developed land, and may alter those shorelines that have been hardened to protect development and infrastructure.

For reasons described in the coastal flooding section, shoreline change has very little potential to impact SECOG property.

The setting and recent occurrences of shoreline change for the SECOG Jurisdiction are described in the HMCAP sections 3.4.2.2.1 and 3.4.2.2.2.

4.3.2 Existing Capabilities Protecting SECOG's Organizational Assets

As discussed in Section 4.2.2, the City of Norwich, where the SECOG office is located, is committed to planning for and regulating impacts from coastal hazards. While the City does not have specific regulations or policies for shoreline change, current existing regulations including site plan review process, floodplain regulations, and documents like the POCD all aim to limit and control disruptive coastal development, while simultaneously limiting damage to property in coastal areas.

4.3.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

The core competencies and technical service areas through which SECOG contributes to local municipal member existing capabilities for mitigation and response to shoreline change are the same as those summarized in Section 4.2.3 above in the areas of regional shared resources, intermunicipal and regional grants participation, regional coordination, long-range regional planning, and regional tools and resources.

Summary

SECOG's capacity to mitigate shoreline change at its own building is constant and has not needed to be addressed specifically. However, SECOG as an organization has the capability to provide an array of technical assistance services to its member municipalities as they prepare for and mitigate shoreline change. The inclusion of shoreline change impacts in various SECOG published or partnered plans demonstrates the importance of the issue and the COG's awareness of the need for potential mitigation, especially along the coastal portion of SECOG's jurisdiction.

4.3.4 Vulnerabilities and Risk Assessment

Coastal erosion and shoreline change is generally not an issue in the City of Norwich, nor for the SECOG building, since the majority of the shorefront in the City is almost fully developed (particularly along the industrial areas). Two dikes also protect the shoreline of the Thames River in the southern portion of Norwich. However, as sea level rises, the effectiveness of these structures could be undermined such that erosion will be able to occur landward of the walls necessitating expansion of the structures.

4.3.4.1 Hazard Losses for SECOG's Organizational Assets

There have been no hazard losses to SECOG organizational assets in the last 10 years caused by shoreline change.

The vulnerabilities and risk assessment of coastal flooding for the SECOG jurisdiction are described in the HMCAP section 3.4.2.2.4.

5. Changing Precipitation

5.1. Climate Change Impacts

Across the United States, annual precipitation has increased in the past century. However, this change is dependent upon the region. Here in the northeast, precipitation totals and intensity are believed to have increased and are projected to continue to increase during spring and winter months. However, climate change has also been linked to a reduction in snow cover extent, and an earlier spring melt. Winter precipitation may also change from snow to a wintry mix or rainfall due to warmer temperatures; so, while precipitation may increase it may not necessarily be an increase in snow.

Changes in precipitation can also shift the frequency and severity of droughts. As the climate warms, surface soil moisture is likely to decrease as evaporation rates rise. This decrease in soil moisture, and potentially longer periods of time between intense precipitation events, could potentially mean longer and stronger droughts.

These changes in precipitation can have various types of impacts. With an increase in intense precipitation, flooding events may become more frequent, damage to crops may occur, and spring flood trends may shift with less snow and more rain. Droughts on the other hand can also cause damage to crops, stress livestock and agricultural operations, and also reduce drinking public water supplies and private wells.

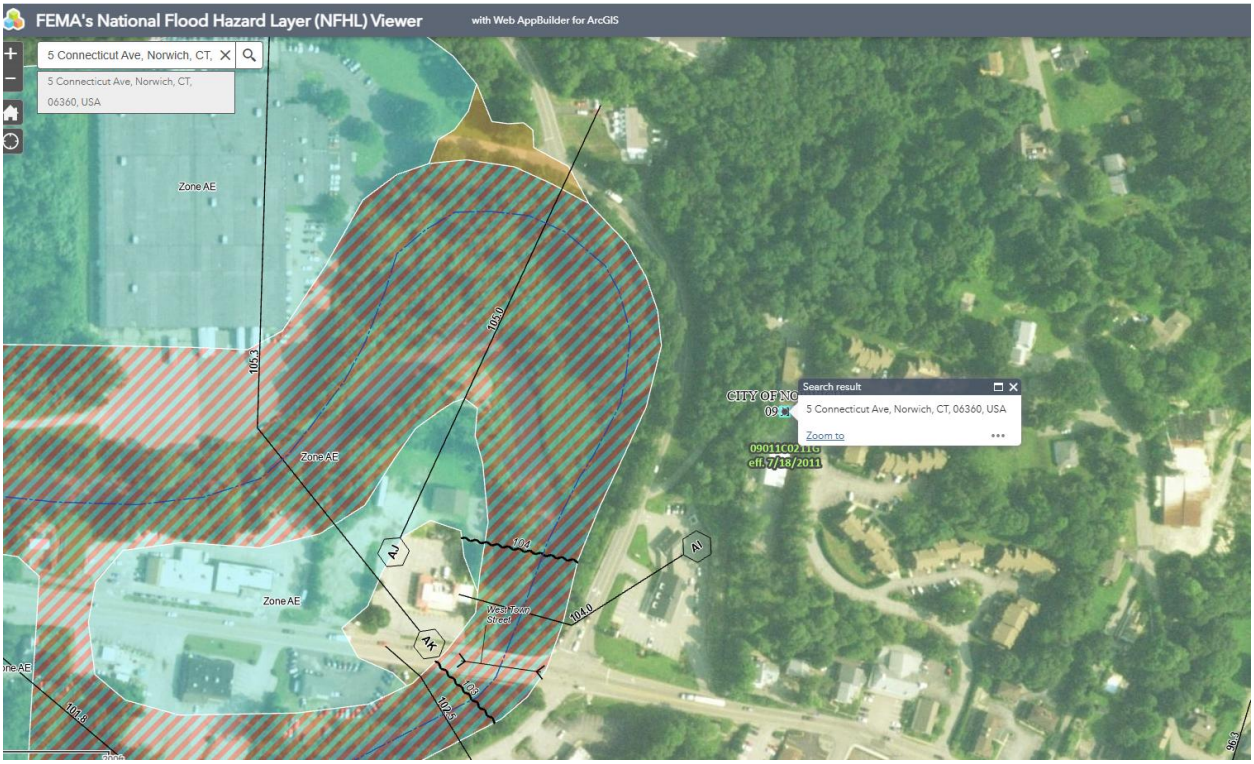
5.2. Riverine and Pluvial Floods

5.2.1 Setting and Recent Occurrences

Flooding is one of the primary natural hazards that impact the area of the region in which SECOG is located each year. While riverine flooding is of primary concern, nuisance flooding and poor drainage are also issues at several locations. Flooding is typically caused by heavy rainstorms but can also be caused by relatively light rain falling on frozen ground, ice jams, or dam failures (as discussed in Section 5.4). Given the amount of impervious surface coverage in the area, rain events also have the secondary impact of pollutants running off into waterways, which harms habitat and impacts drinking water and livelihoods. Of urgent concern, however, is flooding along the Yantic River, a watercourse that is not protected by upstream flood protection projects.

SECOG's property lies adjacent to the Yantic River, separated only by Connecticut Avenue, but outside of the SFHA as shown in Figure 4. While its offices are situated atop a high hill that prevent river flooding from directly impacting structures, ingress and egress could become impossible due to flooding at the bottom of the hill and along the primary transportation networks that also run along the Yantic.

Figure 4. National Flood Hazard Viewer Results for Flood Risk at the SECOG Property



The Yantic River begins where the Deep River, Sherman Brook, and Exeter Brook converge, in southwest Lebanon. Spanning a little over fourteen miles, the end of the Yantic River converges with the Shetucket River to form the Thames River. In January of 2024, a high volume of rain fell on existing snow in a part of Connecticut that had already been experiencing a winter season of repeated rainfall. These conditions caused the Yantic River to flood. Reports of a partial failure of the Fitchville Pond Dam in Bozrah, upstream of Norwich, added another layer of risk. The City of Norwich declared an emergency and all residences and businesses were required to evacuate. SECOG administration was able to swiftly limit risk by closing the office. No SECOG property sustained damage due to this event.

A selection of other flood events that have impacted the Yantic River since 1990, as listed in the Yantic River Natural Hazard Mitigation Plan (2000), by the NCDC, and from accounts by City officials are listed below:

- January 1994: An ice jam followed by a quick thaw caused minor flooding at numerous locations along the Yantic River.
- March 1998: Flood height on the Yantic River measured at slightly more than 11 feet (a 10% annual chance flood).
- October 28, 2006: Flash flooding closed side roads adjacent to Interstate 395.
- March 2, 2007: Widespread flash flooding occurred due to heavy rainfall. Several roads were closed in Yantic.
- April 16, 2007: A nor'easter produced heavy rainfall that led to flooding along the Yantic River.

- December 12, 2008: Widespread rainfall produced up to 4.5 inches of rain in Norwich, causing major flooding along the Yantic River. The Yantic River crested at 11.82 feet and impacted Yantic and Norwichtown with many businesses forced to close due to flooding.
- March 2010 floods: Two heavy rainfall events occurred producing significant flooding in the region. The City experienced more flooded basements than it ever experienced previously, including in areas that never had an issue with flooding. The Yantic Fire Engine Company No. 1 sustained flood damage. One employee parking lot was closed at Backus Hospital. Water rescues were performed on Interstate 395 in Norwich. The NCDC listed an estimated $280,000 in property damage to homes and businesses occurred.
- March 30, 2014: Several inches of rain fell across Southern Connecticut resulting in flooding on the Yantic River. The Yantic River at Yantic exceeded its flood stage of 9.0 feet at 7:00 AM, crested at 10.10 feet at 10:00 AM and fell back within its banks at 5:45 PM. Numerous roads in Norwich were under two feet of water as a result. West Town Street under Interstate 395 was closed.
- Hurricane Ida, which produced several inches of rain across the state, caused flooding along the Yantic River in multiple locations. Parking lots and roadways were also flooded as a result of drainage issues. City officials and staff monitored the Yantic River, and it was noted that the levels for the river reach the 6th highest levels in history. Backus Hospital reported three feet of flooding in the parking lots due to sheetflow from the middle school. The city reported that there were some areas that flooded during Ida that do not typically flood during heavy rain events.

The setting and recent occurrences of riverine and pluvial floods for the SECOG Jurisdiction are described in the HMCAP sections 3.4.3.1.1 and 3.4.3.1.2.

5.2.2 Existing Capabilities Protecting SECOG's Organizational Assets

Although SECOG buildings are unlikely to experience significant direct effects from high precipitation and flooding, the ability to come to or leave the property is likely to become hazardous due to impacts on the transportation networks providing access to the buildings.

To anticipate these challenges, SECOG administrators can access National Weather Service forecasts via the internet as well as listen to local media outlets (television, radio) to receive information about precipitation and its impact particularly on the Yantic River. This information allows the SECOG Executive Director to encourage employees to work from home or to shelter in the SECOG office, depending on the time of rainfall. NOAA weather radios are located in a number of locations with large populations throughout Norwich, including the closest location to the SECOG office at Dodd Stadium.

More broadly, the City of Norwich attempts to mitigate inland flood damage and flood hazards impacting the area around SECOG by utilizing a wide range of measures including restricting activities in flood prone areas, replacing bridges and culverts, promoting flood insurance, acquiring flood prone structures, maintaining drainage systems, through education and outreach, and by utilizing warning systems. The City is a Class 8 participant in the CRS, and this participation has helped enhance capabilities for flood risk management.

Building Improvements

SECOG is currently undergoing a capital improvement project to upgrade its main office building. Proposed and budgeted improvements relevant to precipitation include replacing the roof and including an ice and water shield as well as replacing watertight connections. Additionally, SECOG plans to enhance waterproofing around the foundation and walls by installing a foundation wrap, footing drain, crushed stone, and by sloping asphalt away from the building.

Summary

In general, municipal capabilities to mitigate flood damage, including in areas immediately surrounding SECOG, have increased since the 2017 edition of the HMP was adopted, partly through the process of entering the CRS program. SECOG itself requires little action to maintain its facilities in the event of significant precipitation. Efforts instead are focused on timely warning of employees of hazardous rainfall situations and implementing work-from-home practices.

5.2.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to issues raised by precipitation changes throughout the jurisdictional region.

Intermunicipal Grants Preparation and Administration

The Yantic River poses a particular problem to SECOG and its neighbors during high-precipitation weather events. However, the impact of precipitation is also present and notable throughout the entire region SECOG serves. In response to the most recent flooding that occurred in January of 2024, SECOG has been working as a primary project partner on Resilient Yantic River project, a $200,000 grant-funded planning initiative which will assess flood mitigation and adaptation options in three flood risk target areas along the Yantic, initiate community conversations, and result in three engineered concept designs for implementation projects to reduce flood risk. These engineering services will also include cost-benefit analyses, a critical step in making the case for grants and funding to accomplish these projects.

Regional Coordination and Communication Forums

The Eastern Connecticut Conservation district (ECCD), with support from SECOG, NECCOG, CT DEEP, UConn CLEAR and others, previously hosted the Eastern CT Stormwater Collaborative to provide a regional approach to managing pollution from municipal stormwater discharges, as well as MS4 requirements and stormwater best management practices (BMPs). This initiative was funded for two years by the Community Foundation of Eastern Connecticut. Changes in funding arrangements and staff eventually caused the efforts to cease. However, SECOG has recently revived the Stormwater Collaborative by training staff in MS4 requirements and best practices to provide technical knowledge and guidance in this matter and by gauging interest in participation from member municipalities. SECOG plans to host the first meeting of this new iteration of the Collaborative this year.

Long-Range Regional Planning

SECOG's ten-year Regional Plan of Conservation and Development (RPOCD) is the primary planning document used for long-range regional land use and development planning. The RPOCD has a section dedicated to resilience and natural hazards, including a section on flooding. The plan also includes figures highlighting the SFHA throughout the region. SECOG's 2019 Regional Wastewater Management Plan also provides municipalities within its jurisdiction with pertinent information regarding precipitation's impact on wastewater efforts.

Tools, Reports, and Studies

SECOG recently prepared and adopted an Open Space Plan, out of which came specific tasks and tools related to the impact of precipitation. One of these tools is the publicly accessible Open Space Dashboard which includes mapping layers to viewing drainage basins, erosion susceptibility, and MS4 towns. This tool can aid stakeholders in making strategic decisions about where to locate development to both mitigate the impact of development on water sources subject to precipitation and to protect areas that should serve as natural filtering systems for precipitation from impervious cover that accompanies development.

5.2.4 Vulnerabilities and Risk Assessment

Inland flooding due to overbank flooding along the Yantic River is the most common type of flooding experienced by the area immediately surrounding the SECOG property, although nuisance flooding in basements is also extremely common. Flooding does not pose a major risk to SECOG directly because of its position atop a high hill. However, flooding is a concern for roadways leading to the property and may inhibit emergency response times as well as damage roads and guardrails, undermine power lines, scour bridges, and wash out culverts.

5.2.4.1 Hazard Losses for SECOG's Organization Assets

There have been no hazard losses to SECOG organizational assets in the last 10 years caused by precipitation change. SECOG's property is not located in the SFHA. SECOG does not carry flood insurance and has never made an NFIP-related claim. As discussed in Section 5.2.2., SECOG has previously and plans to continue improvements and maintenance projects that protect organizational assets from poor drainage and nuisance and pluvial flooding.

The vulnerabilities and risk assessment of riverine and pluvial floods for the SECOG Jurisdiction are described in the HMCAP section 3.4.3.1.4

5.3. Drought

5.3.1 Setting and Recent Occurrences

A drought can occur during any season when there is a long, abnormally dry period. These events are naturally occurring during periods of limited precipitation. In recent years, droughts have become flashier and more frequent throughout the region. Some of the more severe and impactful events include:

- **2016 –** A statewide drought that lasted almost two years and peaked in 2016, resulted in water conservation efforts throughout the southeastern part of the region, elevated fire risks in some areas, and was noted as the 11th driest spring on record.
- **2020 –** From June to December, New London County experienced a moderate to severe drought, with the county being declared a Stage 3 by the Connecticut Interagency Drought Work Group.
- **2022 –** During the development of this plan, the region was in an ongoing drought, with severe drought conditions in August 2022. New London County was declared a Stage 3 drought emergency on August 18, 2022.
- **2024 –** A Stage 2 drought was declared for all of Connecticut after the driest two-month period in Connecticut's history since 1905 when drought recording began.

The setting and recent occurrences of drought for the SECOG Jurisdiction are described in the HMCAP sections 3.4.3.2.1 and 3.4.3.2.2.

5.3.2 Existing Capabilities Protecting SECOG's Organizational Assets

The SECOG property is subject to drought conditions in the same way as all commercial businesses in the City of Norwich. The City, like many communities, does not have specific regulations geared toward drought mitigation. One of the main purposes of the City's zoning regulations is, however, to protect the public health, safety, and welfare of residents. A clean, adequate water supply is certainly a public health concern.

SECOG water supply is served by NPU, which relies on Deep River Reservoir in Colchester and the Stony Brook Reservoir in Montville. In addition, the Norwichtown Well is a backup source of supply, and NPU has two emergency surface water supplies in Norwich: the Fairview and Bog Meadow Reservoirs. Having a City-owned utility with multiple water supply sources potentially increases drought resilience, increasing the city's capacity to provide adequate water.

The U.S. Drought Monitor is a national resource that many state and local entities use to monitor regional conditions in relation to drought development. The weekly reporting issued by the partnership includes a drought intensity scale which includes five stages from "abnormally dry" to "exceptional drought." While this resource is available to the City for determining drought conditions, the Connecticut Interagency Drought Workgroup (IDW) uses this and other resources to monitor drought conditions specifically for the state. The City of Norwich has this IDW and state-specific drought emergency declarations as a resource to prepare for, and respond to, droughts.

SECOG's property includes very little curated landscaping and is instead surrounded by a natural wooded area that, while potentially impacted by drought, does not require water maintenance from SECOG. Water usage on the property is limited to office uses such as restrooms, drinking water, and for climate control systems.

5.3.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Droughts can be severely disruptive to agricultural operations, drinking water supplies, ecosystems, and recreation. Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to issues raised by drought throughout the jurisdictional region.

Intermunicipal Grants Preparation and Administration

SECOG's grant writing and administration extends to drought resilience. For example, SECOG recently coordinated and convened nine coordinating entities, including six towns in the region, on an application for funding from the EPA in a reginal project related to extreme heat mitigation. One of the proposed projects included is to enhance water supply continuity in the Town of Colchester. This project would build public water resilience by ensuring interconnection during peak demand and drought conditions. If implemented, this project would address the challenge of maintaining uninterrupted water supply for 5,000 people in addition to the Town's four municipal cooling centers.

Regional Coordination and Communication Forums

While SECOG does not currently conduct direct drought-related programming, it has participated in regional bodies that indirectly address the issue of drought. Examples include SECOG staff participation in the Eastern Water Utility Coordinating Committee (EWUCC) and the Regional Water Committee. The EWUCC was formed out of GA Public Act 85-535 and CGS 25-33d through 25-33j which encourages public water suppliers and COGs to collaborate on solving water supply issues. SECOG is a statutory member of the EWUCC, which has since produced two Coordinated Water System Plans for the region (2003 and 2016).

5.3.4 Vulnerabilities and Risk Assessment

The entire City of Norwich is vulnerable to drought, but the degree of vulnerability varies. Because SECOG relies on NPU for water service and not a private well, it is arguably at less risk in the instance of drought given NPU's network of emergency supply sources. However, these surface water sources are faced with water level and quality challenges during extended periods of drought. As such, SECOG employees may be imposed with mandatory water conservation requirements during these times.

5.3.4.1 Hazard Losses for SECOG's Organizational Assets

There have been no hazard losses to SECOG organizational assets in the last 10 years caused by drought. Water restrictions would not cause any prolonged loss to the building or to SECOG's personnel output. In an instance where water was not available at the SECOG office, employees would be instructed to operate under work from home protocols.

The vulnerabilities and risk assessment of drought for the SECOG Jurisdiction are described in the HMCAP section 3.4.3.2.4

5.4. Dam Failure

5.4.1 Setting and Recent Occurrences

Dam failures can be triggered suddenly with little or no warning and often in connection with natural disasters such as floods and earthquakes. Dam failures can occur during flooding when the dam breaks under the additional force of floodwater. In addition, a dam failure can cause a chain reaction where the sudden release of floodwater causes the next dam downstream to fail. While flooding from a dam failure generally has a limited geographic extent, the effects are potentially catastrophic depending on the downstream population. A dam failure affecting the City of Norwich is considered a possible event each year with potentially critical effects. During the 2024 flooding of the Yantic River, there was a

limited breech and partial failure of the Fitchville Pond Dam in Bozrah. The SECOG office was part of the evacuation area put into place as a precaution to mitigate the impacts of a potential full dam failure.

The setting and recent occurrences of dam failure for the SECOG Jurisdiction are described in the HMCAP sections 3.4.3.3.1 and 3.4.3.3.2.

5.4.2 Existing Capabilities Protecting SECOG's Organizational Assets

Dams in the region whose failure could impact the City of Norwich, and thus, SECOG, are under the jurisdiction of the Connecticut DEEP. The dam safety statutes are codified in Section 22a-401 through 22a-411 inclusive of the Connecticut General Statutes. Sections 22a-409-1 and 22a-409-2 of the Regulations of Connecticut State Agencies have been enacted, which govern the registration, classification, and inspection of dams. Dams must be registered by the owner with the DEEP according to Connecticut Public Act 83-38. Owners of high and significant hazard dams are required to maintain EAPs for such dams. The Fitchville Pond Dam in Bozrah is a private dam that was formerly used to provide power to mills in Yantic but is no longer active. An EAP does exist for the dam. After the 2024 partial failure, the State of Connecticut is leading enforcement activities related to ensuring dam safety.

5.4.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Over 250 dams are registered across the region, with potentially several other minor dams scattered throughout. Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to the possibility of dam failures.

Intermunicipal Grants Preparation and Administration

SECOG's grant administration competencies contribute to dam removal projects. As described above in section 5.2.3, in response to the most recent flooding that occurred in January of 2024, SECOG has been working as a primary project partner on Resilient Yantic River project, a $200,000 grant-funded planning initiative which is assessing flood mitigation and adaptation options in three flood risk target areas along the Yantic. One of these target areas includes the Upper Falls Dam. The City owns the Upper Falls Dam on the Yantic River. This former hydropower dam is located downstream of the Sherman Street bridge. The City wishes to remove this dam as part of a Sherman Street bridge project since backwater conditions from this dam exacerbate flooding at the Sherman Street bridge. This project has not yet been completed, but the City continues to be interested in investigating the impacts that removal would have. SECOG has been instrumental in working with the City of Norwich to ensure that this project is covered by the Resilient Yantic River project and being the main proponent of combining two complementary grant project scopes into a single process that will result in a full dam removal feasibility study for the Upper Falls Dam, realizing opportunities for increasing funding, project, and scope efficiency.

Tools, Reports, and Studies

SECOG's Open Space Dashboard, which provides multiple layers of mapping to understand open space resources in the region, includes a layer indicating the location of dams in the region. The Open Space Plan also provides information on the role of dams and dam removals in the approaching regional wildlife habitat concerns. In fact, one of the Plan's target regional goals is to develop regional priorities for dam removal.

5.4.4 Vulnerabilities and Risk Assessment

SECOG's assets are not subject to direct impact from potential dam failures. However, resulting flooding from dam failure would impact the surrounding community and thus may have secondary impacts on SECOG operations. The following dams may pose a risk to accessing SECOG property or to the water supply.

- *Bog Meadow Reservoir Dam* – Bog Meadow Reservoir has a Class B dam that impounds the headwaters of Norwichtown Brook. The potential dam failure inundation area of the Bog Meadow Reservoir Dam was originally prepared by Lenard & Dilaj Engineers sometime in the late 1970s. The potential inundation area includes both residential and commercial areas as well as Interstate 395. No structures would be affected until floodwaters reached the vicinity of West Town Street, at which point many commercial and industrial buildings would be affected on West Town Street, Case Street, Clinton Avenue, Wawecus Street, Pleasant Street, and Sturtevant Street. The Public Works Headquarters would also be impacted on Clinton Avenue. Residences on West Town Street, Lee Avenue, Sholes Avenue, Woodrow Avenue, Everett Avenue, Sturtevant Street, and Pleasant Street would also be impacted. The inundation area ends at the Yantic River under the assumption that the increase in stage would not reach the level of the 1% annual chance flood.

- *Deep River Reservoir Dam* – Deep River Reservoir has a Class C dam that impounds Deep River in Colchester. The reservoir is used for potable water supply. This dam is owned and maintained by NPU. The potential inundation area includes primarily residential areas and a few roadways. No structures would be affected until floodwaters reached the vicinity of Reservoir Road in Lebanon, at which point the Deep River Water Treatment Plan owned and operated by NPU would be inundated as would 10 nearby structures that appear predominantly residential. Floodwaters would then likely overtop Route 2 and proceed to the Yantic River where it would inundate an area wider than the 1% annual chance flood event.

- *Fitchville Pond Dam* – Fitchville Pond has a Class C dam that is an impoundment of the Yantic River. The impoundment was formerly used to provide power to mills in Yantic. The dam is privately owned. Today the impoundment is used for recreation and is heavily silted in such that the dam does not impound a significant amount of water. While a dam failure inundation area for this impoundment is not believed to exist, the 0.2% annual chance floodplain of the Yantic River between the dam and Yantic would provide a suitable interim dam failure inundation area.

5.4.4.1 Hazard Losses for SECOG's Organizational Assets

There have been no hazard losses to SECOG organizational assets in the last 10 years caused by dam failures. Because it is located on a hilltop, there is low risk of SECOG's facilities being directly subject to the impacts of a dam failure. However, dam failure that leads to flooding could hinder access to and from and the buildings during working hours or significantly damage transportation and utility networks that serve the SECOG property.

The vulnerabilities and risk assessment of potential dam failures for the SECOG Jurisdiction are described in the HMCAP section 3.4.3.3.4

6. Rising Temperatures

6.1. Climate Change Impacts

On average, the annual temperature across the U.S. has increased by 1.8°F when looking at the entire period of record. Accelerated warming patterns between 1979 and 2016 have been observed with satellite and surface data, and paleoclimate records show that some of the recent decades have been the warmest in the past 1,500 years.[2]

In general, periods of freeze and frost have decreased, therefore lengthening the period between the first winter freeze and spring thaw, since the early 1900's. These warming temperatures impact snowfall and accumulation, alter seasonal patterns, and can disrupt certain natural processes. In addition, warming temperatures can act as fuel for other natural hazards such as wildfires, droughts, hurricanes and severe storms, and play a role in changing precipitation patterns.

In addition to exacerbating some natural hazards, extreme heat waves are becoming more frequent, which can also have a serious impact on public health. In recent years, the region has experienced numerous heat waves, with several consecutive days of extremely hot temperatures and high heat indexes. Infrastructure can also be at risk during heat waves as some components, such as roadways or bridges, have not been designed to withstand ongoing, extreme temperatures.

6.2. Extreme Heat

6.2.1 Setting and Recent Occurrences

An extreme heat event can occur at any time during the warmer months and can be defined as temperatures that hover 10°F or more above the average high temperature for the region. These events typically last for a prolonged period and are accompanied by high humidity. A heat wave typically lasts three or more days with temperatures over 90°F for those days.

Since 2012, 480 days over 85°F have been recorded at the NPU weather stations, 165 of which were over 90°F. During the summer of 2022, 45 days over 85°F were recorded, 21 of which were at least 90°F. Many of these high temperature days occurred in July and August, with some of these extreme temperatures occurring outside summer months in May and October. Table 7 -presents the daily maximum temperatures recorded at the Groton New London Airport and NPU weather stations. Those values that are bold are above 90°F.

Table 7. Daily Maximum Temperatures (°F) from May to September Since 2017

	May		June		July		August		September	
	GNL	*NPU*	*GNL*	*NPU*	*GNL*	*NPU*	*GNL*	*NPU*	*GNL*	*NPU*
2017	85	**93**	89	**94**	88	**92**	87	89	86	89
2018	80	**91**	87	**90**	89	**101**	91	**94**	90	92
2019	83	85	88	**91**	94	**96**	88	**91**	87	84
2020	75	81	82	**91**	**92**	**96**	89	**92**	87	87
2021	88	87	86	**96**	86	**94**	88	**96**	82	85

[2] https://nca201758.globalchange.gov/chapter/2/

2022	**93**	**92**	85	**92**	**91**	**96**	**91**	**94**	**94**	85
GNL = Groton New London station & NPU = Norwich Public Utilities station										

The setting and recent occurrences of extreme heat for the SECOG Jurisdiction are described in the HMCAP sections 3.4.3.3.1 and 3.4.3.3.2.

6.2.2 Existing Capabilities Protecting SECOG's Organizational Assets

SECOG regularly receives notices from Connecticut's Department of Emergency Management and Homeland Security (DEMHS) regarding dangerous weather events, which include warnings for extreme heat. The Executive Director analyzes these notices and distributes them to staff to ensure safety and awareness. If the situation calls for it, the Executive Director can instruct staff to work from home ahead of time to avoid any potential threats that an extreme heat event can pose.

6.2.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to extreme heat throughout the regional service area jurisdiction.

Intermunicipal Grants Preparation and Administration

SECOG's grant writing and administration services to the region include projects related to extreme heat. For example, throughout 2024, SECOG staff coordinated nine partnering entities (SECOG, two community-based organizations, and six municipalities) to complete an application for the EPA's Community Change Grant program to fund eleven extreme heat mitigation projects. SECOG staff compiled data from the EPA's Environmental Justice Community Screen Community Reports to describe existing public health challenges related to extreme heat, GHG pollution, and air quality, including life expectancy, disease frequencies, various pollutants, proximity to superfund sites, and more. Based on this data, SECOG structured the application around project proposals that prioritized disadvantaged communities. Proposed project types ranged across tree planting, HVAC upgrades to cooling centers, AC unit giveaways to disadvantaged populations, and more. SECOG staff performed valuable planning work and analyzed the inputs and outputs of these proposed projects to greater understand their impact and the transformative effect they could have on the region.

Regional Coordination and Communications Forums

As a Council of Governments that serves 22 municipalities, SECOG is often invited to meetings and forums that have complex implications in various places across the service area jurisdiction. Recently, SECOG has been a part of multiple discussions with UCONN and DEEP regarding multiple urban centers in the region and the high heat locations within them. SECOG maintains a strong partner network with local, regional, and statewide entities – ensuring that staff time is dedicated to attending these gatherings, transferring the information gained into impactful regional projects, and informing member municipalities of lessons learned, opportunities for pursuing hazard mitigation projects, best practices, and similar.

Regional Tools, Reports, and Studies

SECOG is the entity responsible for coordinating successive iterations of the Multi-Jurisdictional Hazard Mitigation Plan and takes on a role in local project implementation tracking. SECOG's digitized spatial dashboard of HMCAP action items has enabled users to sort HMCAP actions by hazard type and driver. Consequently, the status of all HMCAP action items related to extreme heat can be readily called up and known. There are 39 HMCAP actions that list extreme heat as the main hazard driver. SECOG annually tracks each municipality's efforts on these tailored action items to determine local progress, derive the current regional context of resiliency, and prepare for next steps.

Another example of a SECOG-created resource related to extreme heat is a forthcoming StoryMap documenting the data and analysis work that SECOG performed for the EPA Community Change Grant. This StoryMap will provide key context on extreme heat in Southeastern Connecticut by relaying how this phenomenon came to be, what the fallout has been, and what planning has been done to address the evolving issue. The narrative will highlight the alarming health, air quality, and pollution risks across our region and how they relate to rising temperatures. To show SECOG's findings in a visual fashion, a heat vulnerability map, created by UCONN CIRCA, along with a tree cover map will be displayed to determine the severity of extreme heat across 22 unique municipalities. Several solution possibilities will be explored such as tree planting and carbon sequestration, building-oriented improvements akin to cooling centers and HVAC upgrades, permeable pavement and green infrastructure, and enhanced education and planning to heighten preparedness.

Summary

In general, SECOG's capabilities to mitigate extreme heat damage continue to increase significantly since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for grants preparation and administration related to projects with extreme heat outcomes, the maintenance of key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies. SECOG's ability to mitigate extreme heat damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

6.2.4 Vulnerabilities and Risk Assessment

UConn CIRCA has developed a tool to aid in understanding extreme heat vulnerability for communities across the state. This tool, known as the Climate Change Vulnerability Index (CCVI), is comprised of dozens of factors that contribute to a community's heat sensitivity, exposure, adaptive capacity, and ultimately the overall heat vulnerability. The CCVI has been used as a tool to characterize heat vulnerability for the City of Norwich and by extension the location of SECOG's office. The distribution of heat vulnerability in the vicinity of the SECOG office can be seen in Figure 5-.

SECOG's office is at the convergence of two major highways in the region, Route 2 and Interstate 395. Thus, there is much impervious surface in the immediate surroundings in the form of gas stations, commuter lots, restaurants, on/off ramps, and business parks. However, SECOG's proximity to critical facilities in Norwich such as shelters, including two cooling centers, results in relatively high adaptive

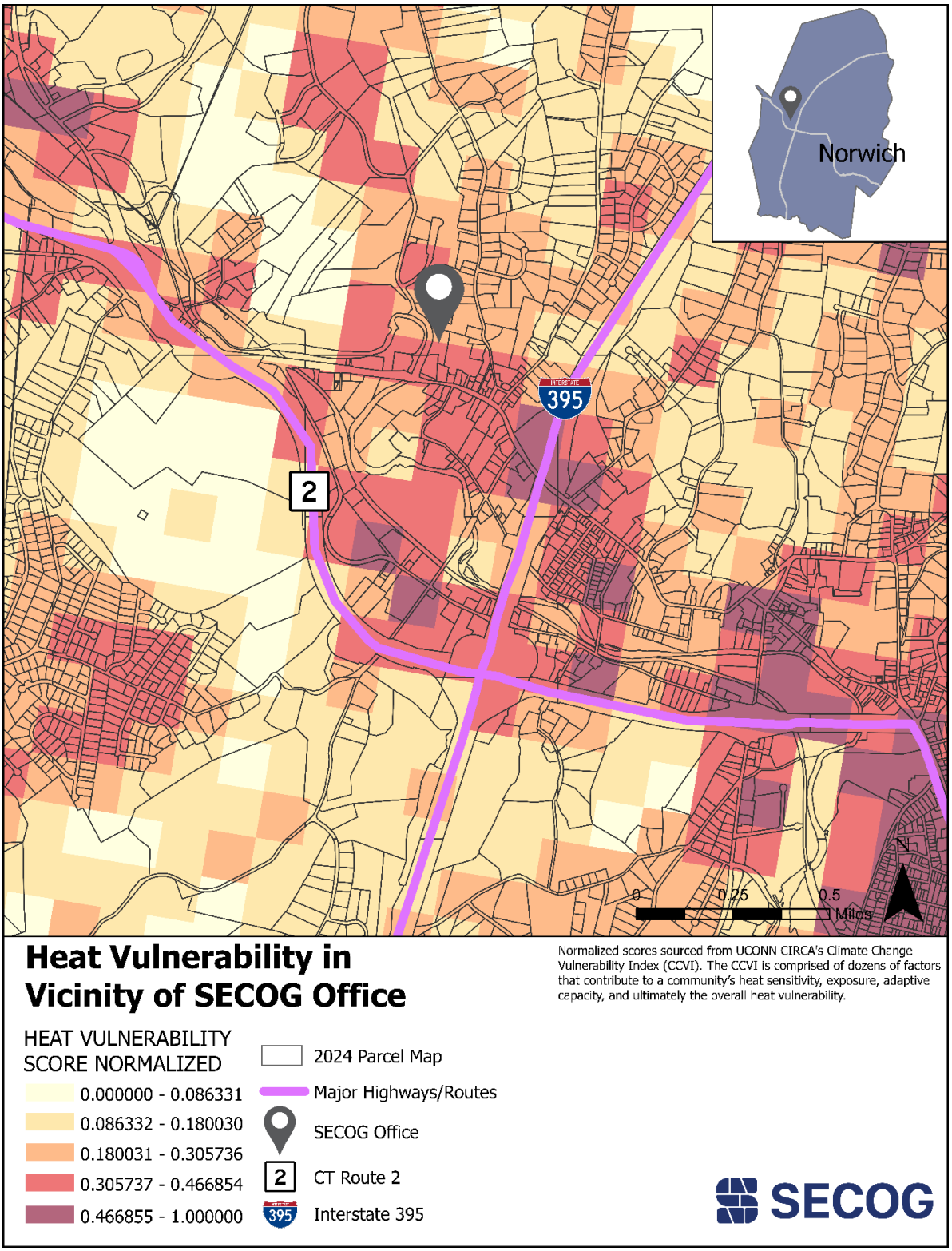
capacity as well. Additionally, the office is surrounded by trees on all sides. Therefore, the balancing of these factors puts SECOG's office in the level of moderate to high heat vulnerability.

6.2.4.1 Hazard Losses for SECOG's Organizational Assets

There are no reported losses for SECOG's assets related to extreme temperatures. SECOG does not anticipate hazard losses related to high heat. In an instance where cooling was not available at the SECOG office, employees would be instructed to operate under work from home protocols.

The vulnerabilities and risk assessment of extreme heat for the SECOG Jurisdiction are described in the HMCAP section 3.4.4.1.4

Figure 5. CCVI Heat Vulnerability for the SECOG Office



6.3. Wildfires

6.3.1 Setting and Recent Occurrences with SECOG's Organizational Assets

Wildfires are considered to be highly destructive, uncontrollable fires. The most common causes of wildfires are arson, lightning strikes, and fires started from downed trees hitting electrical lines. Thus, wildfires have the potential to occur in the vicinity of SECOG's office location in western Norwich. Fortunately, no wildfires have occurred in the vicinity of the SECOG office since the last HMP.

The setting and recent occurrences of wildfires for the SECOG Jurisdiction are described in the HMCAP sections 3.4.4.2.1 and 3.4.4.2.2.

6.3.2 Existing Capabilities protecting SECOG's Organizational Assets

Monitoring of potential fire conditions is an important part of mitigation. SECOG regularly receives notices from Connecticut's Department of Emergency Management and Homeland Security (DEMHS) regarding dangerous weather events, which includes warnings for active wildfires. These warnings also include impacts to air quality, dry conditions, and burn bans in place. The Executive Director analyzes these notices and distributes them to staff to ensure safety and awareness. If a wildfire poses threats to the office and the welfare of the staff, the Executive Director can instruct staff to work from home ahead of time to avoid any potential threats that a wildfire event can pose. If a prospective measure is not available to take, SECOG staff can evacuate to several shelter locations in the City of Norwich. For example, during the Yantic River Flood of January 2024, those in the river's vicinity (including SECOG staff) were ordered to evacuate to Kelly Middle School. In a wildfire situation, staff would follow the relevant evacuation orders if given.

Existing mitigation for wildland fire control is typically focused on building codes, public education, Fire Department training, and maintaining an adequate supply of equipment. The City of Norwich's EOP recommends a 30-to-50-foot cleared radius be maintained around homes and buildings to prevent wildfires. Adding to the protection of SECOG's assets, the Yantic Volunteer Fire Department is located less than a mile from the SECOG office and could arrive quickly in the event of an emergency.

In general, SECOG's capabilities to immediately mitigate wildfire damage to its assets exist mainly within the context of the City of Norwich's ability to do so. SECOG's office is located in a wooded area and does not maintain the recommended cleared radius, but there is a buffer of paved parking spaces from the tree line to the building. Additional effort could be put into achieving and maintaining this cleared area and monitoring the building for overhanging trees and other potential pathways for fire to readily interfere with SECOG's assets. SECOG's ability to mitigate wildfire damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

6.3.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

As temperatures climb year after year, often coupled with periods of little rain, SECOG is treating the threat of wildfires with more severity. SECOG's core competencies and technical service areas are starting to contribute more to the existing capabilities for mitigation and response to wildfires.

Regional Tools, Reports, and Studies

SECOG is the entity responsible for coordinating successive iterations of the Multi-Jurisdictional Hazard Mitigation Plan and takes on a role in local project implementation tracking. SECOG's digitized spatial dashboard of HMCAP action items has enabled users to sort HMCAP actions by hazard type and driver. Consequently, the status of all HMCAP action items related to wildfire can be readily called up and known. There are 9 HMCAP actions that list wildfire as the main hazard driver. SECOG annually tracks each municipality's efforts on these tailored action items to determine local progress, derive the current regional context of resiliency, and prepare for next steps.

Summary

In general, SECOG's capabilities to mitigate wildfire damage continue to increase significantly since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for building inspectors, grants preparation and administration related to projects with extreme heat outcomes, the maintenance of key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies.

6.3.4 Vulnerabilities and Risk Assessment

The risk for wildfire in the vicinity of SECOG's assets is considered low for several reasons. First, the office exists in a largely developed location, meaning that there are few outlying areas where a wildfire could advance to the office undetected. As such, there have been no major fires in recent history that were remotely close to SECOG's office. Secondly, SECOG's assets exist in a network of public water service provided by NPU. This public water service provides sufficient water volume and pressure to fight a fire if one breaks out near or at the office. Third, as stated previously, the Yantic Volunteer Fire Department is located less than a mile from the SECOG office and could arrive quickly in the event of an emergency. Thus, if a wildfire did occur in the vicinity of the SECOG office, the resources are there for it to be extinguished quickly and efficiently.

6.3.4.1 Hazard Losses for SECOG's Organizational Assets

There are no reported losses for SECOG's Organizational Assets related to wildfires. However, a wildfire could result in a complete loss of SECOG's physical organizational assets. In total, SECOG's organizational assets in terms of its land and buildings are estimated at $464,800. Total structural damage from a wildfire that requires full building reconstruction would require building cost replacements estimated at $291,500 in materials plus construction labor. SECOG's more recent files and output are backed up to cloud-based storage services, limiting the potential for information loss and project disruption.

7. Earthquakes

7.1. Climate Change Impacts

Earthquakes are not a climate related hazard, therefore there are no expected impacts as a result of climate change. There are however secondary impacts that could be a concern and amplify the damages of an earthquake. The deterioration of infrastructure from extreme heat or salt water as a result of coastal flooding or sea level rise may weaken certain components making them more prone to damage or collapse during an earthquake event. Flooding events can also leave some landscapes at a higher risk of landslides; an earthquake could potentially prompt a landslide in post-flooded areas.

7.2. Earthquakes

7.2.1 Setting and Recent Occurrences Coincident with SECOG's Organizational Assets

An earthquake is a sudden rapid shaking of the earth caused by the breaking and shifting of rock beneath the earth's surface. Earthquakes can cause buildings and bridges to collapse; disrupt gas, electric, and telephone lines; and often cause landslides, flash floods, fires, avalanches, and tsunamis. Earthquakes can occur at any time and often without warning. Detailed descriptions of earthquakes, scales, and effects can be found in Section 8 of the Multi-Jurisdictional HMP. Despite the low probability of an earthquake occurrence, earthquake damage presents a potentially catastrophic hazard to the City of Norwich, where the SECOG office building is located. However, it is very unlikely that the city would be at the epicenter of such a damaging earthquake. No major earthquakes have affected the area since the last HMP.

The setting and recent occurrences of earthquakes for the SECOG Jurisdiction are described in the HMCAP sections 3.4.5.1.1 and 3.4.5.1.2.

7.2.2 Existing Capabilities Protecting SECOG's Organizational Assets

The Connecticut Building Codes include design criteria for buildings specific to each region as adopted by Building Officials and Code Administrators (BOCA). These include the seismic coefficients for building design. The City of Norwich has adopted these codes for new construction, and they are enforced by the Zoning and Building Department. Any major renovations to SECOG property would be required to comply with these codes. Due to the infrequent nature of damaging earthquakes, City land use policies do not directly address earthquake hazards. Earthquakes are indirectly addressed through policies preventing residential development in areas prone to collapse such as below steep slopes or areas prone to liquefaction. SECOG's property is located outside of these high-risk areas.

SECOG has adequate backup storage of documents, projects, and records in cloud-based platforms for continued functionality following an earthquake.

7.2.3 SECOG's Contribution to Existing Capabilities in its Service Area Jurisdiction

Several of SECOG's core competencies and technical service areas contribute to existing capabilities for mitigation and response to earthquakes throughout the region.

Regional Shared Resources

As described above, adherence to the Connecticut Building Code and seismic coefficients is key in constructing buildings to withstand anticipated earthquake impacts. Large municipalities in the jurisdiction can support in-house, dedicated building inspectors. However, to support smaller communities with less resources for staff, SECOG maintains a regional building inspector. Local communities can contract with SECOG to access this service. SECOG has taken this shared regional resourcing asset further and created a building inspector apprenticeship program, facilitating the development of additional building inspector capacity with up-to-date knowledge of building codes to support the region. After apprenticeship, the new building inspector takes on a full-time role with one of SECOG's municipalities.

Intermunicipal Grants Preparation and Administration

Through its grant preparation and administration core competence and service area, SECOG staff are currently administering a grant from the Office of Local Defense Community Cooperation that includes the execution of a Tabletop Emergency Preparedness exercise for utility service continuity of operations at Submarine Base New London and local communities. The selected scenario is based on a large earthquake event design to significantly break water, gas, and electrical utilities at their nexus between Groton's municipal utility provider (Groton Utilities), Eversource natural gas, and SUBASE New London, and key structures and transportation routes, such as the I-95 Gold Star bridge. SECOG staff obtained the grant to make this earthquake preparedness work possible, conducted procurement processes to obtain an emergency preparedness exercise design consultant, is participating in exercise design and the tabletop event as an observer, and is ensuring all deliverables associated with a meaningful tabletop exercise to inform response during an earthquake scenario. SECOG routinely serves in the role of grant applicant and holder to supplement, complement, and extend local staff capacity in this way.

Regional Coordination and Communications Forums

SECOG is the forum for and provides staff to participate in several regional intergovernmental committees and commissions, including the Connecticut Division of Emergency Management and Homeland Security Region 4 Regional Emergency Planning Team (REPT), which meets monthly around several Regional Emergency Support Functions (RESFs). These RESFs are discipline oriented workgroups that provide collaborative planning and resource support within each discipline and act as subcommittees to the Region 4 REPT. While there is no earthquake-specific RESF, several RESF groups concern infrastructure, hazards, and personnel that would be implicated in an earthquake event, including transportation, communications, public works and engineering, mass care and housing, urban search and rescue, energy, and long-term community recovery and mitigation.

Regional Tools, Reports, and Studies

As the coordinating entity for successive iterations of the Multi-Jurisdictional Hazard Mitigation Plan, SECOG also takes on a role in project implementation tracking. For example, SECOG has developed a digitized, spatial dashboard of all 2023 HMCAP action items, and has enabled this database to be sortable by hazard type and driver. Consequently, the status of all HMCAP action items related to earthquakes storms can be readily called up and known.

Summary

In general, SECOG's capabilities to mitigate earthquake damage continue to increase significantly since the 2017 edition of the hazard mitigation plan was adopted. The addition of new staff and new programs has widened regional service delivery in shared staff resource provision for building inspectors, grants preparation and administration related to projects with earthquake resilience outcomes, participation in key regional coordination forums, and refined and expanded regional plans, tools, reports, and studies. SECOG's ability to mitigate earthquake damage to its own property is constant, as SECOG's general budget for office maintenance and site control and ability to execute these improvements is consistent.

7.2.4 Vulnerabilities and Risk Assessment

Surficial earth materials behave differently in response to seismic activity. Unconsolidated materials such as sand and artificial fill can amplify the shaking associated with an earthquake. In general, the City of Norwich has areas underlain with by stratified drift along watercourses. Near to the Yantic River, a portion of the SECOG parcel is mapped by CTDEEP as underlain with coarse-grained stratified drift. These areas, containing SECOG's lower driveway connection to Connecticut Avenue, are potentially more at risk of earthquake damage than the portions of the property underlain by glacial till. The two structures on the SECOG parcel are not located in the mapped surficial stratified drift area. The best mitigation for future development in areas of sandy material is the application of the most stringent standards in the Connecticut Building Code, exceeding the building code requirements, or, if the city deems necessary, the possible prohibition of new construction.

Three bedrock fault lines exist within or near the City of Norwich. Unlike seismic activity in California, earthquakes in Connecticut are not associated with specific known active faults. However, bedrock in Connecticut and New England in general is typically formed from relatively hard metamorphic rock that is highly capable of transmitting seismic energy over great distances. For example, the relatively strong earthquake that occurred recently in Virginia was felt in Connecticut because the energy was transmitted over a great distance through such hard bedrock.

As with many buildings built in the 1960s and 1970s, SECOG's office was likely not built to current building codes. Thus, the building and accessory paved circulation routes are at risk of at least moderate damage from a significant earthquake. Areas of steep slopes can collapse during an earthquake, creating landslides. The SECOG office is located on a slope. Thus, landslides are a concern.

Seismic activity can also break utility lines such as water mains, gas mains, electric and telephone lines, and stormwater management systems. Damage to utility lines can lead to fires, especially in electric and gas mains. Dam failure can also pose a significant threat to developed areas during an earthquake. For this HMP, dam failure has been addressed separately in Section 10.0. As noted previously, several types of utility infrastructure in Norwich serving the SECOG office are located above ground. A quick and coordinated response with NPU will be necessary to inspect damaged utilities following an earthquake, to isolate damaged areas, and to bring backup systems online.

7.2.4.1 Hazard Losses for SECOG's Organizational Assets

There have been no earthquake related damages to SECOG's organizational assets. In total, SECOG's organizational assets in terms of its land and buildings are estimated at $464,800. Total economic damage from an earthquake that requires full building reconstruction would be the sum of building cost replacements estimated at $291,500 in materials plus construction labor.

The vulnerabilities and risk assessment of earthquakes for the SECOG Jurisdiction are described in the HMCAP section 3.4.5.1.4.

8. Mitigation Strategies and Actions

8.1. Status of Previous Mitigation Strategies and Actions

No previous actions are noted because this is SECOG's first HMCAP Annex.

8.2. Active Mitigation Strategies and Actions with Prioritization

The proposed actions for SECOG to undertake from 2025 through 2028 are listed in Table 8 on the next page.

The actions with the highest PERSISTS score and the highest STAPLEE score are different, which is consistent with the intent of the two scores. PERSISTS scores tend to be higher for actions that maximize public safety while advancing climate science and being transferable to other communities, whereas STAPLEE scores tend to be higher for actions that are highly cost effective and technically feasible for reducing losses from hazards. The SECOG Organizational actions are limited, we can advance all identified actions in the plan period.

Because of our relationship with member municipalities, this annex also reproduces and includes the full list of actions for the region as Table 9. In addition to SECOG's Organizational actions, SECOG intends to focus on any and all municipal action items where we receive local requests for assistance in advancing the action, particularly through multi-jurisdictional projects that advance similar types of actions and across multiple project locations and communities. We anticipate a focus on action items that align with the two major hazard drivers included in the overall HMCAP goals related to (1) flooding and (2) extreme heat.

Table 8. SECOG Organizational Actions and STAPLEE and PERSISTS Scores

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
COG1	Assist with the digitization of building permits and building code-related actions as recommended in the report from the Digitization of Building Code Records Working Group (January 2023).	More than one goal.	Prevention	Executive Director	$100,000 - $500,000	FEMA BRIC, SCCOG Regional Services Funds	7/2024 - 6/2027	Medium	13	8	104
COG2	Partner with the Mohegan Tribe to formally make sections of Mohegan Sun available for extreme heat respite during NWS heat watches and heat warnings.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Executive Director	$0 - $10,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	Medium	15	8	120
COG3	Work with CIRCA to scope a corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Natural Resources Protection	Executive Director	$100,000 - $500,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	High	24	3	72
COG4	Assign to the Regional Water Supply Management team an action item to review potential for water system expansions in the region, with initial focus areas of Franklin and Montville.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2023 - 6/2024	High	12	8	96
COG5	Evaluate the costs and benefits of enrolling communities into the MyCoast program.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2023 - 6/2024	Low	16	4	64

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
COG6	Use the results and model provided in the recent CIRCA MRG-funded Stormwater Utility Feasibility Study to advance understanding of stormwater utility costs and benefits in the SCCOG region, either through extended research, white papers, or using the study model in different municipalities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Executive Director	$50,000 - $100,000	DEEP Climate Resilience Fund	7/2023 - 6/2024	Medium	20	8	160
COG7	Work with CIRCA to scope a complex climate adaptation and resilience study and concept design (through Resilient Connecticut 2.0 Phase III) that addresses flooding and extreme heat events.	More than one goal	More than one category	Executive Director	$0 - $10,000	CIRCA Resilient Connecticut	4/2023 - 12/2023	Medium	22	8	176
COG8	Support seCTer in its evaluation of risks to small businesses and determine appropriate actions for the HMCAP, which can be amended to the HMCAP in 2024-2025.	More than one goal	More than one category	Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2024 - 6/2025	High	22	11	242
COG9	Review the maintained cleared area around SECOG buildings for compliance with recommendations for preventing wildfire damage and clear vegetation where necessary.	Reduce losses from other hazards that are affected by climate change	Prevention	Executive Director	$10,000 - $50,000	SECOG Annual Budget	7/2025 - 6/2026		13	15	195
COG10	Replace the SECOG office roof with extra accommodation for heavy snow load potentials.	Ensure that critical facilities are resilient	Property Protection	Executive Director	$50,000 - $100,000	SECOG Annual Budget	7/2026 - 6/2027		14	22	308

Table 9. Community Hazard Mitigation and Climate Adaptation Actions

																							PERISTS Criteria									Weighted STAPLEE Criteria																	
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
Bozrah	BZ1	Pursue the American Red Cross-certification to make Fields Memorial School the primary shelter and a cooling center, and additional certifications if needed for the back-up shelters which include both Bozrah Moose Lodge 950 (alternate shelter) and the Volunteer Fire Company	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$50,000 - $100,000	Municipal Operating Budget	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	2	16	2	0	1	0	1	1	1	0	1	0	0	1	0	0	4	64
Bozrah	BZ2	Acquire standby power for Town Hall and Senior Center, especially given their imporance as cooling centers; and secure reliable transportation options for people to access these cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Bozrah	BZ3	Partner with chicken farms and related facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	No	3	2	3	3	1	1	2	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
Bozrah	BZ4	Partner with chicken farms and related facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian flu outbreaks.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	No	3	2	3	3	1	1	3	2	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
Bozrah	BZ5	Install a snow fence along areas with snow drift related challenges including along Brush Hill Road and Wawecus Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects			Yes									Public Works	$10,000 - $25,000	Municipal CIP Budget	7/2023 - 6/2024	Low	No	3	2	3	3	0	0	0	3	14	1	0	1	0	1	1	1	0	0	0	0	1	0	0	2	28
Bozrah	BZ5	Consider flood mitigation study along Yantic River to characterize risks to properties and Stockhouse Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes		Yes				Office of the Chief Elected Official	$50,000 - $100,000	FEMA HMA Scoping Study; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	Low	No	3	2	3	3	2	2	0	3	18	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	108
Bozrah	BZ7	Partner with CT DEEP's Dam Safety team to deliver a unified message to dam owners that inspections and risk communication are necessary. Target year 1 for working with DEEP and year 2 for the messaging to dam owners.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes				Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	No	3	2	2	3	0	0	0	2	12	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	72
Bozrah	BZ8	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	No	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Bozrah	BZ9	Integrate elements of this HMP into the Plan of Conservation and Development during the update.	More than one goal	Education & Awareness	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	Municipal Operating Budget	7/2024 - 6/2025	High	No	3	3	3	3	0	0	0	1	13	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	78
Colchester	CO1	Ensure that the new Senior Center includes cooling center capabilities and the appropriate resources needed for use such as standby power; and secure reliable transportation options for people to access cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Colchester	CO2	Improve the visibility of hazard mitigation information on the Town Website	More than one goal	Education & Awareness	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Medium	No	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	0	0	4	52
Colchester	CO3	Perform regular maintenance and upkeep of the re-purposed Connecticut Yankee early warning sirens, including acquiring the necessary parts for the system to make sure they remain usable for local notifications.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes		Emergency Management	$25,000 - $50,000	Municipal CIP Budget; Preparedness Grants	7/2024 - 6/2025	Medium	No	3	3	2	3	0	0	0	2	13	2	0	1	0	1	1	1	0	0	0	0	1	0	0	3	39
Colchester	CO4	Update the Subdivision Regulations and Flood Hazard Areas Ordinance to reflect the CT DEEP Model Flood Regulations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	3	0	0	0	3	15	2	0	2	0	2	1	1	0	1	0	0	0	1	0	10	150
Colchester	CO5	Develop fire pond and/or dry hydrants language to be incorporated into the next Subdivision Regulation amendments.	Reduce losses from other hazards that are affected by climate change.	Property Protection										Yes		Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Medium	No	2	2	3	3	0	0	1	2	13	2	0	1	0	2	1	1	0	1	0	1	0	0	0	9	117
Colchester	CO6	Complete a drainage/flooding master plan for the town that prioritizes the stream crossings with the most needs.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes				Public Works	$50,000 - $100,000	DEEP Climate Resilience Fund; Municipal Operating Budget; Municipal CIP Budget	7/2025 - 6/2026	Medium	No	3	3	3	3	2	3	2	3	22	1	0	2	0	1	1	1	0	1	0	1	1	1	0	8	176
Colchester	CO7	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	No	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Colchester	CO8	Partner with chicken farms and related facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	No	3	2	3	3	1	1	2	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
Colchester	CO9	Partner with chicken farms and related facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian flu outbreaks.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	No	3	2	3	3	1	1	3	2	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
East Lyme	EL1	Research and pursue mitigation strategizes and funding to promote the resiliency of Town-owned critical facilities including assessment of flood, wind, and snow loading; backup power, etc. Determine recommendations for subsequent consideration.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Building Official	$25,000 - $50,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Medium	Serves the EJ census tract	3	3	3	3	2	3	2	2	21	2	0	2	0	1	1	1	0	0	0	0	1	1	0	6	126
East Lyme	EL2	Acquire and install new communications tower at Public Safety Building.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Emergency Management	$100,000 - $500,000	Preparedness grants	7/2023 - 6/2025	High	Serves the EJ census tract	3	2	3	3	0	0	0	2	13	2	0	1	0	1	1	1	0	0	0	0	1	0	0	3	39
East Lyme	EL3	Distribute hazard mitigation and preparation materials at Town-sponsored events and coordinate with activities needed for CRS maintenance.	More than one goal	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Serves the EJ census tract	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	65
East Lyme	EL4	Evaluate the feasibility of designating a new cooling center in the northern part of East Lyme; and secure reliable transportation options for people to access cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$25,000 - $50,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Low	No	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	0	0	0	1	0	0	5	80
East Lyme	EL5	Identify any possible hazard mitigation techniques and funding sources for water and sewer infrastructure, particularly water wells, booster pump station and wastewater pump stations. Employ these funds to dry floodproof or relocate facilities located in hazardous coastal areas or other areas prone to flooding to mitigate water and sewer service disruption and environmental releases during disaster events.	More than one goal	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes	Yes	Yes	Yes				Water & Sewer	$500,000 - $1M	CWSRF; DWSRF; FEMA HMA; STEAP	7/2024 - 6/2026	High	Serves the EJ census tract	2	3	3	3	2	3	2	3	21	2	0	2	0	1	1	1	0	0	0	1	2	2	0	7	147
East Lyme	EL6	Execute one additional sewer pumping station resiliency project (floodproofing or standby power).	More than one goal	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes	Yes		Yes			Yes	Water & Sewer	$100,000 - $500,000	FEMA HMA; CWSRA; STEAP	7/2024 - 6/2026	High	Serves the EJ census tract	3	2	3	3	1	3	2	3	20	2	0	2	0	1	1	1	0	0	0	1	1	2	0	9	180
East Lyme	EL7	Enhance resiliency of Water and Sewer Communication Infrastructure, including standby power generation at communication hubs (water towers, relay stations). Primary communication systems should be provided with secondary backup communication systems, preferably using different technologies and/or locations to mitigate outages during disaster events or vandalism.	More than one goal	Water & Wastewater Utility Projects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Water & Sewer	$500,000 - $1M	CWSRF; DWSRF; FEMA HMA; STEAP	7/2024 - 6/2026	High	Serves the EJ census tract	3	3	3	3	0	0	0	2	14	2	0	2	0	1	1	1	0	0	0	1	2	2	0	7	98
East Lyme	EL8	Increase site security at all water and wastewater facilities by providing video surveillance outside and in some cases inside critical facilities to monitor locations in the event that personnel cannot safely access facilities during a disaster event or to ensure site security is not compromised. Sites should also be evaluated for the integrity of existing barriers such as gates and fencing and make improvements where necessary.	More than one goal	Water & Wastewater Utility Projects							Yes			Yes		Water & Sewer	$500,000 - $1M	CWSRF; DWSRF; STEAP; IIJA SLCGP	7/2024 - 6/2026	High	Serves the EJ census tract	3	3	3	3	0	0	0	2	14	2	0	1	0	1	1	1	0	0	0	0	2	2	0	3	42
East Lyme	EL9	In accordance with the recommendations of the historic and cultural resources resiliency planning effort in 2016-2017, determine if any at-risk structures that are not yet eligible for historic designation may be eligible in the future. Determine possible risks to historic properties and identify possible mitigation efforts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes				Yes	Yes	Yes		Yes			Land Use Staff	$10,000 - $25,000	SHPO	7/2025 - 6/2026	Low	Uncertain	3	2	3	3	0	2	0	2	15	1	0	1	0	1	1	1	0	1	0	1	1	2	0	7	105

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria								Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
East Lyme	EL10	Conduct a study and develop a policy and procedure for upgrading stormwater collection and discharge systems to keep up with sea level rise, storm frequency and intensity, and aging infrastructure. This procedure will specify when and how system components should be upgraded or retrofitted, and how this could be integrated into capital improvement, and identify other possible resilient stormwater management infrastructure funding opportunities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$50,000 - $100,000	Municipal Operating Budget	7/2024 - 6/2026	Medium	Serves the EJ census tract	2	3	2	3	3	3	3	22	1	0	2	0	1	1	1	0	1	0	1	1	2	0	9	198
East Lyme	EL11	Fund and construct secondary egress for the Bush Hill Drive neighborhood along the town-owned right-of-way.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes	Yes	Yes	Yes		Yes				Yes	Yes	Public Works	$500,000 - $1M	Municipal CIP Budget	7/2023 - 6/2025	Medium	No	2	1	3	3	1	1	1	2	14	1	0	2	0	1	1	1	0	0	0	0	2	0	0	2	28
East Lyme	EL12	Conduct feasibility study to elevate at-risk sections of Atlantic Street.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2025	High	No	2	1	2	3	2	2	2	3	17	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	85
East Lyme	EL13	Conduct feasibility study to elevate at-risk sections of Bush Hill Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2025 - 6/2026	High	No	2	1	2	3	2	2	2	3	17	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	85
East Lyme	EL14	Conduct feasibility study to elevate at-risk sections of Brook Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2026 - 6/2027	High	No	2	1	2	3	2	2	2	3	17	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	85
East Lyme	EL15	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Uncertain	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
East Lyme	EL16	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses, and coordinate with CRS activities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Uncertain	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
East Lyme	EL17	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Benefits the EJ census tract	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Franklin	FR1	Move the primary shelter function from the Fire Department to the Elementary School and ensure standby power and access are appropriate.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Franklin	FR2	Complete standby power installations and AC upgrades at primary and secondary cooling centers; and secure reliable transportation options for people to access cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Franklin	FR3	Partner with chicken farms and related facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	No	3	2	3	3	1	1	2	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
Franklin	FR4	Partner with chicken farms and related facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian flu outbreaks.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	No	3	2	3	3	1	1	3	2	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
Franklin	FR5	Partner with Norwich Public Utilities to expand the public water system further north into the town to help reduce drought risks to properties with private wells.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes			Yes	Yes	Office of the Chief Elected Official	>$1M	DWSRF; STEAP, NPU CIP Budget	7/2025 - 6/2027	Medium	No	2	2	1	3	2	2	2	2	16	1	0	2	0	1	1	1	0	0	0	1	2	0	0	4	64
Franklin	FR6	Partner with Windham Water Works to expand the public water system further south into the town to help reduce the drought risks to properties with private wells.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes			Yes	Yes	Office of the Chief Elected Official	>$1M	DWSRF; STEAP,WWW CIP Budget	7/2025 - 6/2027	Medium	No	2	2	1	3	2	2	2	2	16	1	0	2	0	1	1	1	0	0	0	1	2	0	0	4	64
Franklin	FR7	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
Franklin	FR8	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	No	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
Franklin	FR9	Run local planning exercises that increase readiness to respond to natural disasters and climate challenges such as flooding, severe storms, and extreme heat events.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	1/2024 - 12/2024	Medium	No	3	3	3	3	0	1	1	2	16	2	0	1	0	1	1	1	0	0	0	0	0	1	0	6	96
Franklin	FR10	Update the flood damage prevention ordinance and zoning regulations to reflect the CT DEEP Model Flood Regulations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Yes					Yes						Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	No	3	3	3	3	0	0	0	3	15	1	0	2	0	2	1	1	0	1	0	0	0	1	0	9	135
Franklin	FR11	Develop formalized guidance for stormwater infrastructure, culvert, and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from NOAA Atlas 14 as it is updated to become NOAA Atlas 15; and incorporate into regulations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	Municipal Operating Budget; SCCOG Municipal Service Funds	7/2023 - 6/2024	Medium	No	3	3	3	3	2	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	12	252
Franklin	FR12	Consider the purchase of off-road firefighting vehicle(s)/equipment to provide additional response capability to respond to forest fires.	Reduce losses from other hazards that are affected by climate change.	Preparedness & Emergency Response										Yes		Fire Department	$50,000 - $100,000	Assistance to Firefighters and Other Preparedness Grants	7/2025 - 6/2026	Low	No	3	3	3	3	0	0	0	1	13	1	0	2	0	1	1	1	0	1	0	1	1	0	0	7	91
Franklin	FR13	Acquire a new fire engine	Reduce losses from other hazards that are affected by climate change.	Preparedness & Emergency Response										Yes		Fire Department	$100,000 - $500,000	Assistance to Firefighters and Other Preparedness Grants	7/2025 - 6/2026	Medium	No	3	3	3	3	0	0	0	1	13	1	0	2	0	1	1	1	0	1	0	1	1	0	0	7	91
Franklin	FR14	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	No	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Griswold	GR1	Identify locations and move forward with the pursuit of funding for the POCD's recommendation to add Fire Department substations in areas not adequately served by the existing Fire Stations.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Office of the Chief Elected Official	>$1M	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	2	0	1	0	1	1	1	0	0	0	0	2	0	0	1	14
Griswold	GR2	Ensure that the new senior center and old senior center building are fitted with appropriate amenities and access to be used as cooling centers; and secure reliable transportation options for people to access cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Jewett City	JC1	Construct flood wall extension towards Wedgewood Road to prevent floodwaters from circumventing the existing wall and inundating the plant	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes				Borough Public Utilities and Town Public Works	$500,000 - $1M	FEMA HMA	7/2025 - 6/2026	Medium	Yes - distressed municipality	2	2	3	3	1	2	1	3	17	1	0	2	0	1	1	1	0	0	0	2	2	2	0	8	136
Jewett City	JC2	Pursue funding for the acquisitions or elevations of the approximately 35 condominium units on South Main Street that were flooded during the storm of March 2010.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes		Yes				Office of the Borough Warden	>$1M	FEMA HMA	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	2	3	1	1	1	3	16	1	0	2	0	1	1	1	0	0	0	2	2	2	0	8	128
Griswold	GR3	Conduct a floodplain study to determine the boundary of the floodplain adjacent to the Volunteer Fire Department Station 55; determine whether the boundary is close enough to the building to warrant construction of a flood-prevention retaining wall.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$10,000 - $25,000	FEMA HMA Scoping Study	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	1	2	2	2	2	2	2	16	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	80
Griswold	GR4	Remove the Rubber Pond Dams	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes				Office of the Chief Elected Official	>$1M	NOAA/NFWF; DEEP; IIJA RFPBR	7/2026 - 6/2027	Low	Yes - distressed municipality	3	2	3	3	2	3	2	3	21	1	0	2	0	1	1	1	0	0	0	0	2	2	0	4	84
Jewett City	JC3	Pursue funding for floodproofing the sewer pumping station that serves the condominiums on South Main Street given that this station has a high flood risk.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes					Yes		Yes				Borough Public Utilities and Town Public Works	$100,000 - $500,000	FEMA HMA; CWSRA; STEAP	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	2	3	3	2	2	1	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria									Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
Jewett City	JC4	Support property acquisitions in the Borough as needed when funding allows.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes					Yes		Yes				Office of the Borough Warden	>$1M	FEMA HMA	7/2024 - 6/2027	Medium	Yes - distressed municipality	3	1	3	3	1	1	1	3	16	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	96
Griswold	GR5	Support property acquisitions in the Town as needed (for example, Mill Road) when funding allows.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes					Yes						Office of the Chief Elected Official	>$1M	FEMA HMA	7/2024 - 6/2027	Medium	Yes - distressed municipality	3	1	3	3	1	1	1	3	16	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	96
Griswold	GR6	Conduct a feasibility study for addressing septic system challenges in the Lake Road area, either through sewer extension, septic system relocations, or installation of a community subsurface sewage disposal system.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Yes					Yes		Yes				Public Works	$50,000 - $100,000	CWSRF; EPA 319; STEAP	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	1	2	3	1	2	2	3	17	2	0	1	0	1	1	1	0	0	0	1	1	2	0	7	119
Griswold	GR7	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Groton Town	TG1	Expand the availability of standby power in the Town's critical facilities (including but not limited to the Senior Center, which can be used as a cooling center).	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	0	0	0	1	0	0	5	80
Groton Town	TG2	Assess mobility constraints for accessing all emergency shelters (including cooling centers) and critical facilities.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	0	0	0	0	0	0	7	112
Groton Town	TG3	Upgrade the new middle school generator to ensure backup power capacity is sufficient to run the entire building.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Groton Town	TG4	Install air-conditioning units in emergency shelters so that they can be used safely during summertime emergencies	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	Preparedness grants	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Groton Town	TG5	Upgrade the standby generator at the High School so that it is capable of powering the entire building	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Groton Town	TG6	Work with the City of Groton to create an open space corridor along Birch Plain Creek to increase flood capacity.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes			Yes	Yes	Yes						Office of the Chief Elected Official	>$1M	DEEP Open Space Grants; Land Trusts	7/2024 - 06/2028	Low	Yes - distressed municipality	3	2	2	3	2	2	2	3	19	1	0	1	0	1	1	1	0	0	0	0	2	2	0	2	38
Groton Town	TG7	Seek funding to assess/study all roads/highways susceptible to storm surge, sea level rise, severe rainfall flooding events, sunny day flooding, etc.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes	Yes		Yes				Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; CT DOT or LOTCIP; Municipal CIP Budget	7/2024 - 06/2028	Medium	Yes - distressed municipality	2	1	2	3	2	2	2	3	17	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	85
Groton Town	TG8	For the Groton Long Point Police/Fire Facility: Partner with the jurisdiction to complete additional utility room dry floodproofing and expanded wet floodproofing as recommended in the Southeastern Connecticut Critical Facilities Assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Office of the Chief Elected Official	$50,000 - $100,000	FEMA HMA	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	3	1	1	1	3	17	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	136
Groton Town	TG9	Consider flexible yard requirements and regulatory incentives to allow for and encourage larger separations of buildings from coastal high hazard areas and encourage or require property owners to build as far back from eroding shorelines and vulnerable beach areas as possible.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Yes		Yes	Yes	Yes							Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	3	2	2	2	3	19	1	0	1	0	1	1	1	0	1	0	0	0	2	0	7	133
Groton Town	TG10	Provide technical assistance to owners of non-residential structures that suffer flood damage regarding floodproofing techniques such as wet and dry floodproofing.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes		Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2024 - 06/2028	Medium	Yes - distressed municipality	3	2	2	3	2	2	2	3	19	1	0	2	0	1	1	1	0	0	0	1	0	1	0	9	171
Groton Town	TG11	Develop a protocol to address redevelopment of buildings severely damaged or destroyed after a major coastal storm.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Building Official	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	3	2	2	2	3	19	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	114
Groton Town	TG12	Conduct beach nourishment and revegetation as needed to keep up with erosion, such as Esker Point Beach and others.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection					Yes							Conservation Staff	$500,000 - $1M	NOAA/NFWF; LISFF; Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	2	2	3	1	1	2	1	1	13	1	0	1	0	1	1	1	0	0	0	1	2	1	0	3	39
Groton Town	TG13	Secure funding to construct and implement the Groton Long Point Road and Groton Long Point Bridge design upgrades to maintain emergency egress and address sea level rise and coastal storms. Work with CT DOT as needed to complete the elevations and upgrades.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	>$1M	DEEP Climate Resilience Fund; CT DOT or LOTCIP; IIJA BIP; Municipal CIP Budget	7/2024 - 06/2028	High	Yes - distressed municipality	2	1	2	3	2	2	2	3	17	1	0	2	0	1	1	1	0	1	0	1	2	1	0	6	102
Groton Town	TG14	Study risk of storm surge inundation in coastal floodplain areas (including Groton Long Point and Mumford Cove) - study to include assessment of critical infrastructure, homes, and businesses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$500,000 - $1M	NOAA/NFWF; LISFF; Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	1	2	3	2	3	2	2	18	1	0	1	0	1	1	1	0	0	0	0	2	2	0	2	36
Groton Town	TG15	Using the process developed by CIRCA for Resilient Connecticut pilot projects in Branford and Fairfield, work with Amtrak and the State to study potential bridge replacements at town owned Poquonnock Road and state-owned South Road underpasses to facilitate enhanced emergency transportation. Evaluate potential drainage Improvements at the South Road and Poquonnock Road underpasses to reduce flooding. This actions includes studies and concept design but not construction	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes		Yes						Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut; CT DOT	7/2024 - 06/2028	High	Yes - distressed municipality	2	2	1	3	2	2	3	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
Groton Town	TG16	Determine if any at-risk structures that are not yet eligible for historic designation will be eligible in the future. This may take the form of a historic resources survey.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Land Use Staff	$10,000 - $25,000	SHPO	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	2	3	3	0	2	0	2	15	1	0	1	0	1	1	1	0	1	0	1	1	1	0	6	90
Groton Town	TG17	Implement specific pump station resilience recommendations resulting from the feasibility study completed in 2022.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Public Works	$500,000 - $1M	FEMA HMA; CWSRA	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	3	2	2	2	3	20	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	120
Groton Town	TG18	Seek funding from DEEP Climate Resilience Fund to develop a Climate Action Plan (including vulnerability assessment).	More than one goal	More than one category	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Sustainability Manager	$100,000 - $500,000	DEEP Climate Resilience Fund	4/2023 - 9/2024	High	Yes - distressed municipality	3	3	3	2	2	3	2	3	21	2	0	1	0	1	1	1	0	0	0	0	1	2	0	5	105
Groton Town	TG19	Seek funding for Poquonnock Plains Park evaluation from DEEP Climate Resilience Fund.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes					Yes						Sustainability Manager	$100,000 - $500,000	DEEP Climate Resilience Fund	4/2023 - 9/2024	High	Yes - distressed municipality	3	1	2	2	2	2	1	2	15	1	0	1	0	1	1	1	0	0	0	0	1	1	0	3	45
Groton Town	TG20	Partner with the Town of North Stonington, Town of Ledyard, Town of Stonington, and the Native American tribes to ensure that risks downstream of Long Pond are characterized in the new Emergency Action Plan for the Long Pond Dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes		Yes		Office of the Chief Elected Official	$10,000 - $25,000	Municipal Operating Budget; SCCOG Municipal Service Funds	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	1	0	1	1	1	0	1	0	0	1	1	0	4	84
Groton Town	TG21	Partner with the Town of Stonington and the Town of Ledyard to determine appropriate steps to reduce risks associated with additionally breaching of the Whitford Pond Dam; document in a report that lists potential solutions.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes		Yes		Office of the Chief Elected Official	$25,000 - $50,000	NOAA/NFWF; DEEP Climate Resilience Fund	7/2024 - 6/2025	High	Yes - distressed municipality	2	2	3	3	3	2	3	21	1	0	1	0	1	1	1	0	1	0	0	1	2	0	5	105
Groton Town	TG22	Participate in a dam failure tabletop exercise for Long Pond with the Towns of Ledyard, Stonington, and North Stonington.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes		Yes		Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	105
Groton Town	TG23	Ensure that copies of EAPs for all the Groton Utilities dams are on file with the Town of Groton Office of Emergency Management.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes		Yes		Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	84
Groton Town	TG24	Work with Groton Utilities to conduct a tabletop exercise (drill) that simulates a potential dam failure.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes		Yes		Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	Low	Yes - distressed municipality	3	3	3	3	1	1	1	2	17	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	85
Groton Town	TG25	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

																				PERSISTS Criteria								Weighted STAPLEE Criteria														
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permitable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERSISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
Groton Town	TG26	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
Groton Town	TG27	Work with SCCOG and CIRCA to scope a corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	$100,000 - $500,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	High	Yes - distressed municipality	3	3	3	3	3	3	3	3	24	1	0	1	0	1	1	1	0	0	0	0	1	1	0	3	72
Groton Town	TG28	Secure funding to advance at least one recommendation from the Mystic resiliency study scheduled for completion in 2023.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes							Sustainability Manager	>$1M	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2026	Medium	Yes - distressed municipality	2	2	2	3	2	2	1	1	15	1	0	1	0	1	1	1	0	0	0	1	2	1	0	3	45
Groton Town	TG29	Apply for participation in the Community Rating System (CRS) and solicit interest in involvement from Groton Long Point and Noank Fire District.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Medium	Yes - distressed municipality	3	3	2	2	1	1	1	1	14	2	0	1	0	1	1	1	0	0	0	1	0	1	0	8	112
Groton Town	TG30	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Groton Town	TG31	Advance design and seek funding for replacement of the Eccleston Brook culvert at Route 1 with a larger culvert or bridge	More than one goal	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	CT DOT; LOTCIP; DEEP Climate Resilience Fund; FEMA HMA; Save the Sound; IIJA AOP	7/2023 - 6/2025	Low	Yes - distressed municipality	2	1	3	3	2	3	2	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152
Groton Town	TG32	Advance design and seek funding for replacement of the Haleys Brook culvert at River Road with a larger culvert or bridge	More than one goal	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	CT DOT; LOTCIP; DEEP Climate Resilience Fund; FEMA HMA; Save the Sound; IIJA AOP	7/2023 - 6/2025	Low	Yes - distressed municipality	2	1	3	3	2	3	2	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152
Groton Town	TG33	Advance design and seek funding for replacement of the Haleys Brook culvert at Cow Hill Road with a larger culvert or bridge	More than one goal	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	CT DOT; LOTCIP; DEEP Climate Resilience Fund; FEMA HMA; Save the Sound; IIJA AOP	7/2023 - 6/2025	Low	Yes - distressed municipality	2	1	3	3	2	3	2	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152
Groton Town	TG34	Advance design and seek funding for replacement of the West Branch Red Brook culvert at Pumpkin Hill Road with a larger culvert or bridge	More than one goal	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	CT DOT; LOTCIP; DEEP Climate Resilience Fund; FEMA HMA; Save the Sound; IIJA AOP	7/2023 - 6/2025	Low	Yes - distressed municipality	2	1	3	3	2	3	2	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152
Groton City	CG1	For Groton City Hall, pursue recommendation from the Southeastern Connecticut Critical Facilities Assessment that drainage improvements be designed and constructed to minimize future risks of stormwater entering the basement.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Office of the Chief Elected Official	>$1M	FEMA HMA; Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	2	3	1	2	1	2	17	1	0	2	0	1	1	1	0	0	0	1	2	1	0	5	85
Groton City	CG2	For Groton Public Works, pursue recommendations from the Southeastern Connecticut Critical Facilities Assessment that public works buildings be wet and dry-floodproofed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Public Works	>$1M	FEMA HMA; Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	2	3	1	2	1	3	18	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	108
Groton City	CG3	Ensure that cooling centers have appropriate access, standby power, and reliable means of public transit to utilize them.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers [this action relates to objectives in the City's Community Resilience Plan]	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; Transit District; IIJA BBFP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Groton City	CG4	Coordinate with the Southeast Area Transit District as well as the Groton public school bus program to identify gaps and opportunities for collaboration on providing access to shelters, cooling centers, and other key areas during emergency and during every-day situations.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers [this action relates to objectives in the City's Community Resilience Plan]	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Emergency Management	$100,000 - $500,000	Transit District; Groton Public Schools	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	0	0	0	1	0	0	5	80
Groton City	CG5	Identify location for at least one new spray parks/spray pads.	Address risks associated with extreme heat events, especially as they interact with other hazards [this action relates to objectives in the City's Community Resilience Plan].	Preparedness & Emergency Response									Yes			Recreation	$100,000 - $500,000	Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	3	2	1	1	2	1	15	1	0	1	0	1	1	1	0	0	0	0	1	0	0	2	30
Groton City	CG6	Work with the Town of Groton to create an open space corridor along Birch Plan Creek to increase flood capacity.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Natural Resources Protection	Yes		Yes	Yes	Yes	Yes						Office of the Chief Elected Official	>$1M	DEEP Open Space Grants; Land Trusts	7/2024 - 06/2028	Low	Yes - distressed municipality	3	2	2	3	2	2	2	3	19	1	0	1	0	1	1	1	0	0	0	0	2	2	0	2	38
Groton City	CG7	If property owners become interested, support the pursuit and acceptance of FEMA funding for home elevations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA	7/2024 - 06/2028	High	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	98
Groton City	CG8	Develop regulations to promote desired home elevations in historic districts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Land Use Staff	$0 - $10,000	DEEP Climate Resilience Fund	7/2025 - 6/2026	High	Yes - distressed municipality	3	1	2	3	1	0	2	3	15	1	0	1	0	2	1	1	0	1	0	1	0	1	0	9	135
Groton City	CG9	Develop formalized guidance for stormwater infrastructure, culvert, and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from NOAA Atlas 14 as it is updated to become NOAA Atlas 15.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	12	252
Groton City	CG10	Develop a green infrastructure plan and concept design for reducing the generation of stormwater in the watershed that includes Five Corners; this plan may also include drainage improvement recommendations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes			Yes			Land Use Staff	$100,000 - $500,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut; LISFF	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	2	3	3	3	3	23	1	0	2	0	1	1	1	0	1	0	1	1	2	0	9	207
Groton City	CG11	Conduct stormwater analysis of at least one drainage area to develop specific recommendations for modifications to the drainage system.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	2	2	2	2	3	19	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	152
Groton City	CG12	Undertake at least one stormwater system capacity improvement project.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Public Works	$500,000 - $1M	Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	3	2	1	2	1	3	17	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	102
Groton City	CG13	Conduct at least one community engagement event to demonstrate potential methods of reducing stormwater generation from private properties.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness	Yes					Yes						Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	2	2	2	1	2	16	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	96
Groton City	CG14	Evaluate feasibility of enacting a stormwater utility.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes	Yes	Yes						Office of the Chief Elected Official	$10,000 - $25,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	2	3	1	2	3	18	1	0	1	0	1	1	1	0	1	0	1	1	2	0	7	126
Groton City	CG15	Identify one City-owned property and reduce the area of impervious surfaces.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes			Yes			Land Use Staff	$100,000 - $500,000	Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	2	2	1	1	1	3	15	1	0	2	0	1	1	1	0	0	0	0	1	2	0	6	90

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria								Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
Groton City	CG16	Develop incentive program to encourage private property owners to convert impervious surfaces to land that generates less runoff.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes			Yes			Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	2	3	1	3	2	18	1	0	1	0	1	1	1	0	0	0	0	2	0	6	108
Groton City	CG17	Identify one City-owned property and implement retention, detention, and infiltration techniques.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	2	2	1	1	1	2	14	1	0	2	0	1	1	1	0	0	0	0	1	2	0	6	84
Groton City	CG18	Develop incentive program to encourage private property owners to implement retention, detention, and infiltration techniques.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	2	2	3	1	3	2	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
Groton City	CG19	Conduct at least one community engagement event to foster awareness of extreme heat vulnerabilities. CIRCA's climate change vulnerability index (CCVI) viewer for heat vulnerability can be used as the mapping tool for this event.	Address risks associated with extreme heat events, especially as they interact with other hazards [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness									Yes			Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	2	3	3	3	2	2	21	2	0	1	0	1	1	1	0	0	0	0	0	1	0	6	126
Groton City	CG20	Conduct at least one community engagement event to foster capacity-building for vulnerable populations through education about climate risks; and informing them of municipal, regional, and state protocols and resources, and providing technical and financial assistance to support efforts.	More than one goal [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	2	3	3	3	2	2	21	2	0	1	0	1	1	1	0	0	0	0	0	1	0	6	126
Groton City	CG21	Develop an aggressive and forward-thinking urban forestry program that will significantly increase the density of trees throughout the City.	More than one goal [this action relates to objectives in the City's Community Resilience Plan].	More than one category						Yes			Yes			Office of the Chief Elected Official	$500,000 - $1M	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	2	2	3	2	2	2	18	2	0	1	0	1	1	1	0	1	0	0	2	2	0	4	72
Groton City	CG22	Partner with the Connecticut Green Bank to identify specific residential properties that can be retrofitted or constructed using new approaches for efficiency around cooling and reducing heat.	Address risks associated with extreme heat events, especially as they interact with other hazards [this action relates to objectives in the City's Community Resilience Plan].	Property Protection									Yes			Office of the Chief Elected Official	$500,000 - $1M	Connecticut Green Bank	7/2024 - 6/2025	Medium	Yes - distressed municipality	3	3	2	3	2	2	2	2	19	2	0	1	0	1	1	1	0	1	0	1	2	2	0	6	114
Groton City	CG23	Conduct at least one community business engagement event to foster awareness of steps to take for become more resilient by developing continuity and recovery plans and protocols, and by making changes to their operations, physical layout, and organization.	More than one goal [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes			Yes		Yes	Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Low	Yes - distressed municipality	3	2	2	2	2	2	2	2	17	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	102
Groton City	CG24	Apply for funding to develop small business resiliency guidelines in southeastern Connecticut; partner with SCCOG for this purpose.	More than one goal [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes			Yes		Yes	Land Use Staff	$10,000 - $25,000	seCTer; SCCOG	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	3	2	2	2	2	2	18	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	108
Groton City	CG25	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Groton City	CG26	Repair seawall at Shore Avenue to protect sewer mains.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects					Yes							Public Works	$500,000 - $1M	CWSRF; Municipal CIP Budget including bonds.	7/2023 - 6/2025	High	Yes - distressed municipality	2	2	2	3	2	2	1	2	16	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	96
Groton City	CG27	Conduct engineering studies of specific, at-risk culverts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes					Yes						Public Works	$50,000 - $100,000	Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	3	2	2	2	1	2	17	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	136
Groton City	CG28	Conduct a drainage study around Shennecossett Beach area to inventory drainage infrastructure, ownership, and need for repairs or capacity increase.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$50,000 - $100,000	DEEP Climate Resilience Fund; LISFF	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	2	2	2	2	1	2	16	1	0	1	0	1	1	1	0	0	0	0	1	2	0	4	64
Groton City	CG29	Conduct a feasibility study for elevating Shennecossett Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes								Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	2	2	2	3	3	3	2	3	20	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	100
Groton City	CG30	Conduct a feasibility study for elevating Thames Street	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes								Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	2	2	2	3	3	3	2	3	20	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	100
Groton City	CG31	Conduct a feasibility study for elevating Eastern Point Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes								Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	2	2	2	3	3	3	2	3	20	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	100
Groton City	CG32	Conduct a feasibility study for elevating Shore Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes								Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	2	2	2	3	3	3	2	3	20	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	100
Groton City	CG33	Clearly mark Tyler Avenue as an alternate evacuation route with signage.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes								Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	1	0	0	0	1	0	8	112
Groton City	CG34	Develop traffic and transportation study to characterize how climate change impacts may affect emergency access and egress in the City and its adjacent communities.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	More than one category	Yes	Yes	Yes	Yes	Yes	Yes						Office of the Chief Elected Official	$100,000 - $500,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2026	Low	Yes - distressed municipality	3	3	3	3	2	3	2	3	22	2	0	1	0	1	1	1	0	0	0	0	1	1	0	4	88
Groton City	CG35	Post and maintain signs signifying alternate evacuation routes from coastal areas.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term [this action relates to objectives in the City's Community Resilience Plan].	Structural Projects	Yes		Yes	Yes	Yes							Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	2	0	2	0	1	1	1	0	1	0	0	0	0	0	8	112
Groton City	CG36	Task subcommittee with identifying "receiving areas" and develop amendment to POCD.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	More than one category	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$0 - $10,000	Municipal Operating Budget	7/2024 - 6/2026	Low	Yes - distressed municipality	3	3	2	3	3	3	2	2	21	1	0	1	1	1	1	1	0	0	0	1	0	0	0	4	84
Groton City	CG37	Develop adaptation plan for Jupiter Point.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases the frequency and severity of floods [this action relates to objectives in the City's Community Resilience Plan].	More than one category	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$25,000 - $50,000	FEMA BRIC Scoping; DEEP Climate Resilience Fund; LISS	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	1	2	3	2	2	2	2	17	1	0	1	0	1	1	1	0	0	0	1	1	1	0	5	85

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

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																					PERISTS Criteria								Weighted STAPLEE Criteria													
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permitable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
Ledyard	LD14	Participate in a dam failure tabletop exercise for Long Pond with the Towns of Stonington, Groton, and North Stonington.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes			Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	High	Benefits two distressed municipalities	3	3	3	3	2	2	3	21	1	0	1	0	1	1	1	0	0	0	0	0	1	0	**5**	105
Ledyard	LD15	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	1	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	**6**	72
Ledyard	LD16	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	No	3	2	3	3	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	**4**	52
Ledyard	LD17	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Benefits the EJ census tract	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	**6**	84
Lisbon	LI1	Identify a permanent cooling center and ensure that standby power is available to operate the air conditioning; and ensure that transit or alternate transportation options are available for people to reach the cooling center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Lisbon	LI2	Undertake an engineering study to identify flood risk reduction options for the Newent Road corridor.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes						Public Works	$25,000 - $50,000	DEEP Climate Resilience Fund; STEAP	7/2024 - 6/2026	High	No	2	2	2	3	2	2	2	3	18	1	0	1	0	1	1	1	0	0	0	1	1	1	0	**5**	90
Lisbon	LI3	Develop formalized methodology for stormwater infrastructure, culvert, and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from NOAA Atlas 14 as it is updated to become NOAA Atlas 15.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	SCCOG Municipal Services Funds; Municipal Operating Budget	7/2023 - 6/2024	Medium	No	3	3	3	3	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	**12**	252
Lisbon	LI4	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	No	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	**6**	84
Lisbon	LI5	Extend public water systems from NPU and Jewett City Water Company to reduce drought impacts to properties currently served by private wells; and to provide fire protection.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Yes	Yes	Yes				Yes			Yes		Office of the Chief Elected Official	>$1M	DWSRF; STEAP; NPU CIP Budget	7/2026 - 6/2028	Low	No	3	2	2	3	0	0	0	3	13	1	0	2	0	1	1	1	0	0	0	2	2	0	0	**6**	78
Lisbon	LI6	Conduct hydraulic studies along Blissville Brook to prioritize the bridge and culvert replacements at Bundy Hill Road and School House Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes				Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; STEAP	7/2024 - 6/2025	Medium	No	3	2	3	3	0	2	0	3	16	2	0	2	0	1	1	1	0	0	0	1	1	2	0	**9**	144
MPTN	MP1	Acquire a backup generator for the Child Development Center and convert it to a backup shelter (since portions of the primary shelter are not usable during high wind events).	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Tribal Council and Emergency Management	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2028	Medium	Federally recognized tribe	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
MPTN	MP2	Evaluate suitability and upgrade as necessary doors and windows of the public safety building/EOC to withstand wind and severe storm damage.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes									Tribal Council and Emergency Management	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Federally recognized tribe	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
MPTN	MP3	Continue to monitor TTHM levels in drinking water and replace carbon filters, and keep abreast of development of mitigation strategies to reduce TTHM levels in the water supply.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes		Yes			Tribal Utilities	$500,000 - $1M	Tribal Utility Funds; EPA Grants; FEMA grants	7/2026 - 6/2028	Low	Federally recognized tribe	3	3	3	3	2	2	2	21	2	0	2	0	1	1	1	0	1	0	0	2	0	0	**4**	84
MPTN	MP4	Keep abreast and informed about the corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes		Yes			Yes	Tribal Council	$100,000 - $500,000; no cost to MPTN	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	Medium	Federally recognized tribe	3	3	3	3	3	3	3	24	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	72
Mohegan Tribe	MT1	Ensure that the new use of the former daycare building takes into consideration elements of resilience (standby power, resilient access, backup sheltering or cooling center uses, etc.).	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Tribal Council and Emergency Management	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Federally recognized tribe	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Mohegan Tribe	MT2	Identify transit and transportation options for elderly people to use the cooling center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Tribal Council and Emergency Management	$0 - $10,000	Tribal Funds; IIJA BBFP	7/2023 - 6/2025	High	Federally recognized tribe	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	0	0	0	0	0	0	**7**	112
Mohegan Tribe	MT3	Finalize implementation of the Everbridge system for tribal resident emergency notification.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Tribal Council and Emergency Management	$0 - $10,000	Tribal Funds	7/2023 - 6/2024	Medium	Federally recognized tribe	3	3	3	3	0	0	0	3	15	2	0	1	0	1	1	1	0	0	0	0	0	0	0	**5**	75
Mohegan Tribe	MT4	Characterize the risks to tribal land from rising sea level along the Thames River estuary.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes		Yes	Yes	Yes							Conservation Staff	$10,000 - $25,000	Tribal Funds; NOAA/NFWF	7/2023 - 6/2025	Low	Federally recognized tribe	3	2	3	3	3	3	2	22	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	66
Mohegan Tribe	MT5	Consider surveying all tribal buildings, particularly historic buildings to determine their ability to withstand wind loading.	Reduce losses from other hazards that are affected by climate change.	Property Protection	Yes	Yes	Yes									Building Official	$10,000 - $25,000	Tribal Funds	7/2023 - 6/2025	Medium	Federally recognized tribe	3	3	3	3	1	1	1	18	2	0	2	0	1	1	1	0	0	0	0	1	0	0	**5**	90
Montville	MV1	Identify formal cooling centers from the available candidates (Senior Center and Town Hall gym), ensure standby power is available to operate air conditioning, and ensure that transit or alternate transportation methods are available.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Montville	MV2	Maintain the Middle School as a local shelter for situations when the regional shelter in East Lyme cannot be accessed.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	0	0	0	1	0	0	**5**	80
Montville	MV3	Using the process followed for the other critical facilities in the SCCOG Critical Facilities Assessment, asses the Montville Fire Company site and the roadway in front, as it provides access to and from the facility.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes		Yes				Office of the Chief Elected Official	$10,000 - $25,000	DEEP Climate Resilience Fund; STEAP	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	3	3	2	2	2	20	1	0	2	0	1	1	1	0	0	0	0	1	1	0	**5**	100
Montville	MV4	Actively partner with the Chesterfield Fire Company to monitor for any future floodproofing needs which may include relocation, as described in the Southeastern Connecticut Critical Facilities Assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Office of the Chief Elected Official	$10,000 - $25,000	Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	3	3	2	2	2	20	1	0	2	0	1	1	1	0	0	0	0	1	1	0	**5**	100
Montville	MV5	Pursue funding to improve drainage along Laurel Point Drive near Oxoboxo Lake.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; Municipal CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	2	1	3	2	1	1	0	3	13	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	39
Montville	MV6	Pursue funding to improve the drainage system on Fitch Hill Road near the intersection with Old Fitch Hill Road.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	1	3	2	0	1	0	3	13	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	39
Montville	MV7	Extend sewer system to reduce flood impacts to septic systems and make private properties and critical facilities more resilient.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes	Yes						Water & Sewer	>$1M	CWSRF; Municipal CIP Budget	7/2023 - 6/2028	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	2	2	2	0	**8**	112
Montville	MV8	Extend public water systems to reduce drought impacts to properties currently served by private wells; and to provide fire protection.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes			Yes		Water & Sewer	>$1M	DWSRF; Municipal CIP Budget	7/2023 - 6/2028	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	2	2	0	0	**6**	84
Montville	MV9	Educate residents via mailer on the importance of water conservation during dry periods as to avoid wells running dry.	Reduce losses from other hazards that are affected by climate change.	Education & Awareness							Yes					Conservation Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	3	3	2	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	0	0	**4**	52
Montville	MV10	Work with the Mohegan Tribe and other stakeholders to address the drainage concern/post-Ida damage on Driscoll Drive.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	Municipal CIP Budget	7/2024 - 6/2026	Low	Yes - distressed municipality	3	1	2	2	0	0	0	3	11	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	33
Montville	MV11	Provide links and information to natural hazard mitigation and preparedness on the Town emergency management website.	More than one goal	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	0	0	**4**	52
Montville	MV12	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes		Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	**6**	72
Montville	MV13	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes		Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	1	0	0	**4**	52

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria									Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
Montville	MV14	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
New London	NL1	Ensure that the cooling centers (library, senior center, and Winthrop school) are accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$25,000 - $50,000	Transit District; IIJA BBFP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	1	0	1	1	1	0	0	0	1	0	0	3	48
New London	NL2	Consider surveying all City-owned buildings to determine their ability to withstand wind loading.	Reduce losses from other hazards that are affected by climate change.	Property Protection	Yes	Yes	Yes									Building Official	$25,000 - $50,000	Municipal Operating Budget	7/2023 - 6/2025	Low	Yes - distressed municipality	3	3	3	3	2	1	1	3	19	1	0	2	0	1	1	1	0	0	0	0	1	0	0	4	76
New London	NL3	Develop formalized guidance for stormwater infrastructure, culvert, and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from NOAA Atlas 14 as it is updated to become NOAA Atlas 15.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	12	252
New London	NL4	Upgrade stormwater collection and discharge systems to keep up with rising sea level, using the CIRCA planning figures as a reference.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$100,000 - $500,000	Stormwater Utility Revenues	7/2026 - 6/2028	Medium	Yes - distressed municipality	3	3	2	2	3	3	2	3	21	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	168
New London	NL5	Execute FEMA HMA BRIC grant for flood mitigation and resiliency design along the east side of Bank Street and west side of the Amtrak rail line.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes								Economic Development	>$1M	FEMA HMA Scoping Study	1/2023 - 12/2024	High	Yes - distressed municipality	3	2	2	3	3	3	2	2	20	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	120
New London	NL6	Ensure that development at Fort Trumbull is resilient to flooding, storm surges, and sea level rise; coordinate with CT DEEP to develop a site specific resilience plan if needed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Yes		Yes	Yes	Yes	Yes						Economic Development	$0 - $10,000	Municipal Operating Budget	1/2023 - 12/2024	High	Yes - distressed municipality	3	2	3	3	2	3	2	3	21	1	0	2	0	1	1	1	0	1	0	1	0	2	0	11	231
New London	NL7	Ensure that the new Community Center at Fort Trumbull has satellite sheltering and/or cooling center uses for the greater Fort Trumbull community.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Economic Development	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	1	1	0	0	8	128
New London	NL8	Undertake an engineering study to identify flood risk reduction options for the two underpasses that are used to access Fort Trumbull.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes		Yes						Public Works	$50,000 - $100,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	3	2	2	2	3	20	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	160
New London	NL9	Conduct feasibility study and design to make the WWTP more resilient to storm surge and sea level rise.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes							Water & Sewer	$50,000 - $100,000	CWSRF; Municipal CIP Budget	7/2026 - 6/2028	Medium	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	168
New London	NL10	Pursue Briggs Brook improvements including grading, flood management, and development of a flood resilient city park. The short-term focus should be development of appropriate feasibility studies and concept designs.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes					Yes						Economic Development	>$1M	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2026 - 6/2028	Medium	Yes - distressed municipality	3	2	2	2	3	3	2	3	20	1	0	1	0	1	1	1	0	0	0	1	2	2	0	4	80
New London	NL11	Conduct feasibility study and designs to make sewer pumping stations more resilient to storm surge and sea level rise.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes							Water & Sewer	$50,000 - $100,000	FEMA HMA; CWSRF	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	168
New London	NL12	Determine if any at-risk structures that are not yet eligible for historic designation will be eligible in the future. This may take the form of a historic resources survey.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Land Use Staff	$25,000 - $50,000	SHPO	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	2	3	3	0	2	0	2	15	1	0	1	0	1	1	1	0	1	0	1	1	1	0	6	90
New London	NL13	Conduct a tabletop exercise or drill among different departments to practice coordination relative to historic structures after a severe flood event.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes		Yes	Yes	Yes	Yes						Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	Low	Yes - distressed municipality	3	1	2	2	2	0	1	2	13	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	65
New London	NL14	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
New London	NL15	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
New London	NL16	Distribute hazard mitigation and preparedness information at City sponsored events.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	70
New London	NL17	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
New London	NL18	In collaboration with the Urban Tree Initiative, prioritize green space and urban tree plantings in new development projects and high heat or highly impervious areas.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Natural Resources Protection						Yes			Yes			Land Use Staff	$100,000 - $500,000	DEEP Climate Resilience Fund; Urban Tree Initiative	7/2023 - 6/2027	Medium	Yes - distressed municipality	3	2	2	3	2	1	1	2	16	2	0	1	0	1	1	1	0	0	0	1	1	2	0	7	112
North Stonington	NS1	Establish an overnight shelter in Town, capable of providing cooling during extreme heat events. Ensure that standby power is installed and that transit or alternate means of transportation are available to bring elderly and those without vehicles to the facility.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
North Stonington	NS2	Compile a list of addresses of structures within the 1% annual chance floodplain and track repair costs to help with substantial damage and substantial improvement (SD/SI) determinations.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Building Official	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2028	Low	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	2	0	1	1	1	0	1	0	1	0	1	0	10	140
North Stonington	NS3	Perform outreach to floodprone property owners regarding the availability of competitive grant funding for flood mitigation projects.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	65
North Stonington	NS4	Utilize the recently available extreme rainfall data to determine existing stormwater infrastructure and culvert sizing and encourage upgrades where undersized, transitioning from NOAA Atlas 14 to NOAA Atlas 15 when available in 2023.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	SCCOG Municipal Services Funds; Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	12	252
North Stonington	NS5	Partner with the Connecticut Department of Transportation to facilitate the upgrade of culverts along Pendleton Hill Road (Route 49).	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	CT DOT; IIJA AOP	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	2	3	2	0	0	0	3	13	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	78
North Stonington	NS6	Apply to DEEP Climate Resilience Fund award for Shunock River watershed flood mitigation study	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes					Yes		Yes				Office of the Chief Elected Official	$100,000 - $500,000	DEEP Climate Resilience Fund	7/2023 - 12/2023	Medium	Yes - distressed municipality	3	2	3	2	3	3	2	3	21	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	168
North Stonington	NS7	Directly support the repairs to the Long Pond dams and spillway by issuing the required permits and approvals in parallel with CT DEEP approvals. Partner with the Town of Ledyard, Town of Stonington, Town of Groton, and the Native American tribes to ensure that risks are characterized in the new Emergency Action Plan for the Long Pond Dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes				Office of the Chief Elected Official	$10,000 - $25,000	Municipal Operating Budget; SCCOG Municipal Service Funds	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	2	0	1	1	1	0	1	0	0	1	1	0	6	126
North Stonington	NS8	Work with SCCOG and CIRCA to scope a corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	$100,000 - $500,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	High	Yes - distressed municipality	3	3	3	3	3	3	3	3	24	1	0	1	0	1	1	1	0	0	0	0	1	1	0	3	72
North Stonington	NS9	Participate in a dam failure tabletop exercise for Long Pond with the Towns of Ledyard, Groton, and Stonington.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes			Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	High	Yes - distressed municipality	3	3	3	3	2	2	2	3	21	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	105
North Stonington	NS10	Work with CT DEEP to ensure that the owners of high hazard dams have current EAPs and keep local copies on file for review during high-precipitation events in the area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response						Yes		Yes			Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	84

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
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Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria								Weighted STAPLEE Criteria															Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
North Stonington	NS11	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
North Stonington	NS12	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
North Stonington	NS13	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
North Stonington	NS14	Partner with chicken farms and livestock facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	Yes - distressed municipality	3	2	3	3	1	1	2	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
North Stonington	NS15	Partner with chicken farms and livestock facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian flu outbreaks.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	Yes - distressed municipality	3	2	3	3	1	1	3	2	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
North Stonington	NS16	Extend fire protection to future at-risk areas through public water systems or the installation of dry hydrants.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes			Yes		Office of the Chief Elected Official	>$1M	DWSRF; STEAP	7/2023 - 6/2026	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	2	2	0	0	6	84
North Stonington	NS17	Extend the existing public water systems to adjacent areas served by private wells to reduce drought risks to private properties and critical facilities.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	>$1M	DWSRF; STEAP	7/2024 - 6/2028	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	1	2	0	0	4	56
North Stonington	NS18	Secure funding for construction of a water tower near the fire department that could be used for firefighting response, or water needs during drought.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	>$1M	DWSRF; STEAP	7/2024 - 6/2028	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	1	2	0	0	4	56
Norwich	NW1	Ensure that the cooling centers (library and senior center) are accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$25,000 - $50,000	Transit District; IIJA BBFP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	1	0	1	1	1	0	0	0	0	1	0	0	3	48
Norwich	NW2	Conduct a study of the floodplain surrounding the Occum Fire Department building to determine extent of flood risk. This determination may be used to modify or retire the recommendations in the Southeastern Connecticut Critical Facilities Assessment to eliminate the basement.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes		Yes				Floodplain Manager	$25,000 - $50,000	Municipal Operating Budget	7/2024 - 6/2025	Low	Yes - distressed municipality	3	2	3	2	0	0	0	2	12	1	0	2	0	1	1	1	0	1	0	0	1	0	0	5	60
Norwich	NW3	Annually provide FEMA grant information to Yantic Fire Company to ensure they are aware of opportunities to reduce flood risk to the building. This action replaces full execution of the recommendations in the Southeastern Connecticut Critical Facilities Assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes		Yes				Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	2	3	0	0	0	2	12	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	48
Norwich	NW4	Dry floodproof the utility room at Public Works as recommended in the Southeastern Connecticut Critical Facilities Assessment, unless the room is considered at low risk because the boiler was removed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Public Works	$100,000 - $500,000	FEMA HMA; Municipal CIP Budget	7/2024 - 6/2025	Medium	Yes - distressed municipality	3	3	3	3	1	1	1	3	18	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	144
Norwich	NW5	Pursue a FEMA map revision for the Terminal Way area, as the floodway designation is not consistent with the tidal characteristics of the Thames River estuary.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes		Yes						Planning and Neighborhood Services	$10,000 - $25,000	Municipal Operating Budget	7/2024 - 6/2025	Medium	Yes - distressed municipality	3	2	2	1	0	0	0	2	10	1	0	2	0	1	1	1	0	1	0	2	1	0	0	9	90
Norwich	NW6	Execute the Thamesville Coastal Revitalization Project planned by Federal agencies. The cost estimate is for staff support. If this project does not go forward with the Federal agencies, it can be removed from this list in 2028.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes		Yes						Office of the Chief Elected Official	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	2	3	3	3	2	3	21	1	0	1	0	1	1	1	0	0	0	2	0	1	0	9	189
Norwich	NW7	Implement recommendations of the ARPA-funded drainage study located in the watershed that includes Kelly Middle School and Backus Hospital.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$500,000 - $1M	FEMA HMA; Municipal CIP Budget	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	1	1	1	2	17	2	0	2	0	1	1	1	0	0	0	1	2	2	0	7	119
Norwich	NW8	Replace undersized culverts in Hunters Road to reduce risk of flooding and washouts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	LOTCIP; FEMA HMA; Municipal CIP Budget	7/2025 - 6/2026	High	Yes - distressed municipality	3	1	2	3	1	1	1	2	14	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	112
Norwich	NW9	Develop designs for eventual installation of a new stormwater system in the Laurel Hill/Sunnyside area.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$25,000 - $50,000	FEMA HMA; Municipal CIP Budget	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	1	2	3	1	1	1	2	14	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	98
Norwich	NW10	Develop appropriate flood mitigation recommendations after FEMA completes the re-mapping of the Spaulding Pond/Spaulding Brook corridor. These recommendations can then be carried into the next edition of this plan.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Planning and Neighborhood Services	$25,000 - $50,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	2	2	3	2	2	2	2	18	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	144
Norwich	NW11	Assist NPU with completion of the sewer separation project through coordination and direct support as needed.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes					Yes						Public Works	>$1M	CWSRF; NPU CIP Budget	7/2023 - 6/2025	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	1	0	1	2	2	0	7	98
Norwich	NW12	Working with an engineering firm or non-profit conservation entity, determine the feasibility of removing the Upper Falls dam on the Yantic River to eliminate backwater flooding at Sherman Street	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes				Public Works	$100,000 - $500,000	NOAA/NFWF; LISFF; IIJA RFPBR	7/2025 - 6/2026	Medium	Yes - distressed municipality	3	2	2	2	2	1	3	17	1	0	2	0	1	1	1	0	1	0	0	1	2	0	7	119
Norwich	NW13	Create more greenspace in the Greenville Area and other urban heat islands in the City such as the Route 82 corridor. This should be accomplished by developing a master plan with typical concept designs to be applied in Greenville and along Route 82.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Natural Resources Protection	Yes					Yes			Yes			Planning and Neighborhood Services	$100,000 - $500,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut; LISFF	7/2024 - 6/2025	High	Yes - distressed municipality	3	2	3	2	3	3	2	3	21	2	0	2	0	1	1	1	0	0	0	1	1	2	0	9	189
Norwich	NW14	Conduct an impervious surface evaluation to inventory largely paved parcels to ultimately reduce imperviousness, increase green space, and address parking requirement needs in the city. Utilize the Holyoke Impervious Surface Management Plan (refer to Mass MVP report inventory) as a potential template.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Natural Resources Protection	Yes					Yes			Yes			Planning and Neighborhood Services	$100,000 - $500,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut; LISFF	7/2025 - 6/2026	High	Yes - distressed municipality	3	3	2	2	3	3	3	3	22	2	0	2	0	1	1	1	0	0	0	1	1	2	0	9	198
Norwich	NW15	Support additional linear park and trail systems in the 1% annual chance floodplain, and expand the Heritage Riverfront Walkway.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes			Yes		Yes		Yes				Planning and Neighborhood Services	>$1M	FEMA HMA (for acquisitions); Trail Grants	7/2023 - 6/2027	Medium	Yes - distressed municipality	3	2	3	2	1	1	1	3	16	1	0	1	0	1	1	1	0	0	0	1	2	2	0	4	64
Norwich	NW16	Directly support voluntary acquisitions (buyouts) of 1, 2, 3, and 4-unit residential structures (i.e., houses) in areas of flood risk and convert to open space.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes			Yes		Yes		Yes				Planning and Neighborhood Services	>$1M	FEMA HMA	7/2023 - 6/2028	Medium	Yes - distressed municipality	3	3	3	3	0	0	0	3	15	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	90
Norwich	NW17	Directly support voluntary acquisitions (buyouts) of commercial and industrial properties in areas of flood risk and convert to open space when these properties cannot be feasibly re-used or redeveloped.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes			Yes		Yes		Yes				Planning and Neighborhood Services	>$1M	FEMA HMA	7/2023 - 6/2028	Medium	Yes - distressed municipality	3	3	3	3	0	0	0	3	15	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	90
Norwich	NW18	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	Yes - distressed municipality	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
Norwich	NW19	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses, and coordinate with CRS activities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	High	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	52
Norwich	NW20	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes	Yes	Yes	Yes		Yes		Yes				Planning and Neighborhood Services	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Norwich	NW21	Identify rock outcrops and steep slopes with additional natural resource potential and prioritize for conservation efforts.	Reduce losses from other hazards that are affected by climate change.	Prevention	Yes					Yes					Yes	Planning and Neighborhood Services	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	0	3	13	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	78
Norwich	NW22	Consider additional regulations and design standards for development of properties with slopes greater than 15%.	Reduce losses from other hazards that are affected by climate change.	Prevention	Yes					Yes					Yes	Planning and Neighborhood Services	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	0	3	13	1	0	1	0	2	1	1	0	1	0	0	0	1	0	7	91

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria								Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
Norwich	NW23	Conduct study and design to reduce flood risk at the Bean Hill Substation, which serves critical facilities such as the emergency backup Norwichtown Well. This action is for the study and design; construction is deferred.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	NPU Electric Division	$100,000 - $500,000	NPU CIP budget; DEEP Climate Resilience Fund; FEMA HMA	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	1	2	18	2	0	2	0	2	1	1	0	0	0	2	2	2	0	10	180
Norwich	NW24	Conduct study and design to reduce flood risk at the Shipping Street Sewer Pumping Station. This action is for the study and design; construction is deferred.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes		Yes						NPU Sewer Division	$100,000 - $500,000	NPU CIP budget; DEEP Climate Resilience Fund; FEMA HMA	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	3	0	1	1	16	2	0	2	0	2	1	1	0	0	0	2	2	2	0	10	160
Preston	PR1	Because Preston Plains Middle School is the emergency shelter for storms, water supply, and charging, formalize its use as a cooling center. Ensure that standby power can operate the AC and that transit or alternate transportation options are available to bring seniors and other vulnerable people to the cooling center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Emergency Management	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Serves the EJ census tract	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Preston	PR2	Look for opportunities to harden power lines and evaluate the feasibility of a microgrid (potentially solar) for Town facilities such as Public Works and Preston Plains School.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$500,000 - $1M	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Serves the EJ census tract	3	3	3	3	1	0	0	15	2	0	2	0	1	1	1	0	1	0	0	2	0	0	4	60
Preston	PR3	Incorporate wet and dry floodproofing of the Public Works Garage (recommended in the Southeastern Connecticut Critical Facilities Assessment) into the Town's long term planning by including such plans in the POCD (2024) and the Capital Improvements Plan.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Public Works	$0 - $10,000	Municipal CIP Budget; FEMA HMA	7/2023 - 6/2024	Medium	Serves the EJ census tract	3	3	3	3	0	0	0	15	1	0	2	0	1	1	1	0	0	0	1	0	2	0	10	150
Preston	PR4	Determine an appropriate frequency to distribute flood-hazard informational materials (print vs. social media) and set-up a mechanism to do this annually.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes	Yes	Yes						Emergency Management	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during January	Medium	Serves the EJ census tract	3	3	3	3	0	0	0	14	1	0	1	0	1	2	1	0	0	0	0	0	1	0	4	56
Preston	PR5	Incorporate flooding risk information into the fire prevention program given at schools.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness										Yes		Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Low	Serves the EJ census tract	3	3	3	3	0	0	0	14	1	0	1	0	1	1	1	0	0	0	0	0	0	0	4	56
Preston	PR6	Identify specific remaining opportunities for open space in the SFHA; incorporate this into the POCD when it is updated in 2024.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes		Yes	Yes	Yes	Yes						Planning	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Serves the EJ census tract	3	2	3	3	0	0	0	14	1	0	1	0	1	1	1	0	1	0	0	0	2	0	7	98
Preston	PR7	Extend public water supply along Route 2 to reduce drought risks to critical facilities, essential facilities, and private properties.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Office of the Chief Elected Official	>$1M	DWSRF; Municipal CIP Budget; MPTN Utility Funds	7/2024 - 6/2026	Medium	Located in EJ tract	3	2	3	3	0	0	0	14	1	0	2	0	1	1	1	0	0	0	1	2	0	0	4	56
Preston	PR8	Extend fire protection to the former State Hospital property as this remains an at-risk area.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects										Yes		Office of the Chief Elected Official	>$1M	DWSRF; NPU CIP Budget	7/2024 - 6/2026	Medium	No	3	2	3	3	0	0	0	14	1	0	2	0	1	1	1	0	1	0	2	2	0	0	7	98
Preston	PR9	Develop locally-adopted recommendations resulting from the stormwater authority and utility feasibility study conducted by CDM Smith for SCCOG in 2022 using CIRCA's municipal resilience grant.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes						Office of the Chief Elected Official	$0 - $10,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	High	Benefits the EJ census tract	3	3	2	2	2	2	2	18	1	0	1	0	1	1	1	0	1	0	1	0	1	0	8	144
Preston	PR10	Upgrade drainage system, where feasible and necessary, during roadway improvements along Route 2A in the historic village area.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	>$1M	CT DOT; LOTCIP; Municipal CIP Budget	7/2023 - 6/2025	Medium	Located in EJ tract	3	2	3	2	0	0	0	13	1	0	2	0	1	1	1	0	0	0	1	2	1	0	5	65
Preston	PR11	Reduce the potential for stormwater-related erosion and washouts at the Riverwalk site using stormwater infrastructure and green infrastructure.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Office of the Chief Elected Official	>$1M	FEMA HMA; STEAP; CT DECD; Private funds from Riverwalk	7/2023 - 6/2025	High	No	3	2	3	2	2	2	3	19	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	114
Preston	PR12	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Benefits the EJ census tract	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Salem	SA1	Designate a permanent cooling and warming center and ensure that access, transportation to the center, and backup power are appropriate.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2024 - 6/2026	High	No	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Salem	SA2	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	No	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Salem	SA3	Conduct an inventory of stream crossings to determine if any should be upsized to reduce risks of flooding or washouts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$25,000 - $50,000	DEEP Climate Resilience Fund; STEAP	7/2024 - 6/2026	Medium	No	3	3	3	3	1	1	3	18	1	0	2	0	1	1	1	0	1	0	1	1	2	0	9	162
Salem	SA4	Partner with chicken farms and related facilities to develop reliable, drought-resilience water supplies and standby power that is capable of operating cooling equipment.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	USDA/NRCS; STEAP	7/2023 - 6/2026	High	No	3	2	3	3	1	1	2	17	1	0	1	0	1	1	1	0	0	0	1	1	2	0	6	102
Salem	SA5	Partner with chicken farms and related facilities to develop emergency response plans that describe how to manage extreme heat events, droughts, power outages, and avian flu outbreaks.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes		Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	USDA/NRCS; SCCOG funds	7/2023 - 6/2026	High	No	3	2	3	3	1	1	3	18	1	0	1	0	1	1	1	0	0	0	1	0	2	0	8	144
Sprague	SP1	Ensure that the cooling centers (Town Hall, school, and fire department) have appropriate standby power to operate AC and are accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Sprague	SP2	Replace or augment the standby power at Shetucket Village senior housing to allow for operation of the AC system.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants; STEAP	7/2023 - 6/2025	High	Yes - distressed municipality	3	2	3	3	0	0	2	15	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	90
Sprague	SP3	Eliminate the utility room in the basement of the Public Works/Town Hall Complex and relocate utilities to a higher location, as recommended in the Southeastern Connecticut Critical Facilities Assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Building Official	$100,000 - $500,000	FEMA HMA; Municipal CIP Budget	7/2024 - 6/2026	Medium	Yes - distressed municipality	3	3	3	3	1	0	0	3	16	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	128
Sprague	SP4	Incorporate wet floodproofing of remaining low areas in the Public Works/Town Hall Complex, or construction of a floodwall protecting that site, into the Town's long term planning by including such plans in the POCD (2028) and the Capital Improvements Plan.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes					Yes						Building Official	$100,000 - $500,000	FEMA HMA; Municipal CIP Budget	7/2026 - 6/2028	Medium	Yes - distressed municipality	3	3	3	3	1	0	0	3	16	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	128
Sprague	SP5	When replacing or upgrading aged sewer and sewer treatment infrastructure, incorporate standby power and hardening techniques to make them more resilient. This action should be achieved by adding appropriate narratives to the POCD (2028) and capital improvement plans.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes	Yes	Yes			Yes		Yes			Yes	Water & Sewer	$100,000 - $500,000	CWSRF; FEMA HMA	7/2026 - 6/2028	Medium	Yes - distressed municipality	3	3	3	3	1	0	0	3	16	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	128
Sprague	SP6	Utilize the Reverse 9-1-1 system to telephone warnings into affected areas, and add DFIRM floodplain areas to the database.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes				Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	2	0	1	0	1	1	1	0	0	0	0	0	0	0	5	70
Sprague	SP7	Integrate additional elements of this HMCAP into the Plan of Conservation and Development during the next update (2028).	More than one goal	More than one category	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$0 - $10,000	Municipal Operating Budget	7/2027 - 6/2028	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	1	0	0	0	0	0	5	70
Sprague	SP8	Partner with CT DEEP to ensure that the owners of high hazard dams have current EAPs and maintain local copies that can be easily reviewed before or during severe precipitation events. Ensure that changes in dam ownership are reflected in EAPs.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes			Yes		Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	84
Sprague	SP9	In coordination with CT DEEP, complete upgrades and repairs to the Paper Mill Pond Dam, which was acquired by the Town in recent years.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	>$1M	FEMA HHPD	7/2024 - 6/2026	High	Yes - distressed municipality	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	1	0	0	2	1	0	4	56
Sprague	SP10	Develop a new/initial EAP for the Paper Mill Pond Dam, which was acquired by the Town.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes			Yes	Emergency Management	$25,000 - $50,000	Municipal CIP Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	1	0	1	1	1	0	1	0	0	1	1	0	4	56

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

																				PERISTS Criteria								Weighted STAPLEE Criteria																	
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
Sprague	SP11	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	6	84
Stonington Borough	BS1	Utilize the library and Fire Department as local cooling centers for instances when the Stonington High School cannot be reached. This may require expanded hours and access to these two facilities, as well as standby power for the library.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	No	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	6	96
Stonington Borough	BS2	Investigate feasibility of creating new egress from the Borough.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$50,000 - $100,000	DEEP Climate Resilience Fund	7/2025 - 6/2026	Medium	No	3	3	1	3	2	2	1	3	18	2	0	1	1	1	1	1	0	1	0	0	1	1	0	3	54
Stonington Borough	BS3	As recommended in the Southeastern Connecticut Critical Facilities Assessment, floodproof the utility room in the Borough Hall. Use the base flood elevation plus two feet freeboard plus 20 inches for sea level rise per PA 18-82.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Building Official	$100,000 - $500,000	FEMA HMA; STEAP	7/2023 - 6/2024	Medium	No	3	3	3	3	2	2	1	3	20	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	140
Stonington Borough	BS4	Upgrade stormwater collection and discharge systems to keep up with rising sea level with particular attention to those areas of concern identified in the stormwater infrastructure assessment.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$100,000 - $500,000	Municipal CIP Budget	7/2023 - 6/2024	High	No	3	3	1	2	3	3	2	3	20	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	140
Stonington Borough	BS5	Work with the Town of Stonington to conduct a critical equipment inventory at the WWTF to begin design solutions and to ensure that the Facility is protected from coastal flooding and storm surge.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$50,000 - $100,000	CWSRF; WPCA CIP Budget	7/2023 - 6/2024	High	No	3	3	3	3	1	1	1	2	17	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	136
Stonington Borough	BS6	Evaluate the feasibility of large-scale flood protection projects such as construction of a seawall around the Borough. This should be accomplished by focusing on land, parcels, and easements potentially available. Future phases should focus on engineering aspects.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$25,000 - $50,000	FEMA HMA Scoping; Municipal CIP Budget	7/2024 - 6/2025	Low	No	2	3	1	2	1	2	2	1	14	1	0	1	1	1	1	1	0	0	0	1	1	1	1	2	28
Stonington Borough	BS7	Send Borough staff to a State Historic Preservation Office / Connecticut Trust for Historic Preservation training for local historic district commissioners and Certified Local Governments on managing historic districts in Connecticut	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes							Land Use Staff	$0 - $10,000	SHPO	7/2025 - 6/2026	Medium	No	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	1	0	1	0	1	0	8	104
Stonington Borough	BS8	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes							Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	6	72
Stonington Borough	BS9	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses, and coordinate with CRS activities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes							Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during this month	High	No	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	1	0	4	52
Stonington Borough	BS10	Coinciding with the beginning of hurricane season, annually hold a workshop at the library to present all-hazards warning, response, and mitigation information.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Floodplain Manager	$0 - $10,000	Municipal Operating Budget	6/2023 and annually during this month	Medium	No	3	2	3	3	0	0	0	1	12	1	0	1	0	1	1	1	0	0	0	0	0	1	0	5	60
Stonington Town	TS1	Ensure that the cooling centers (Police Station and High School) are accessible from transit lines or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$25,000 - $50,000	Transit District	7/2023 - 6/2025	High	Serves the EJ census tracts	3	3	3	3	0	0	2	16	2	0	1	0	1	1	1	0	0	0	0	1	0	0	3	48
Stonington Town	TS2	Pursue recommendations from the Southeastern Connecticut Critical Facilities Assessment for the Quiambaug Fire Department. Partner with the Fire District to design wet and dry floodproofing of the building including an opinion of probable costs; in parallel, execute a planning study for potential relocation of the facility. Compare the two studies and costs, and determine next steps.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$25,000 - $50,000	FEMA HMA FMA or HMGP Scoping Grant	7/2023 - 6/2025	High	No	3	2	3	3	1	1	1	3	17	1	0	2	0	1	1	1	0	0	0	1	1	2	0	8	136
Stonington Town	TS3	Pursue recommendation from the Southeastern Connecticut Critical Facilities Assessment for the Mystic Fire Company. Partner with the Fire Company to acquire funding and floodproof the utility room at Mystic Fire Department.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Office of the Chief Elected Official	$50,000 - $100,000	FEMA HMA FMA or HMGP Project Grant	7/2023 - 6/2025	Medium	No	3	2	3	3	1	0	0	3	15	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	105
Stonington Town	TS4	Pursue elevation of properties that suffer flood damage, prioritizing repetitive loss properties	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Planning	$100,000 - $500,000	FEMA HMA FMA or HMGP Project Grant	7/2023 - 6/2028	High	No	3	2	3	3	0	0	0	3	14	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	98
Stonington Town	TS5	Develop a prioritization process to pursue the acquisition and demolition of floodprone properties with conversion to open space, targeting repetitive loss properties.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes		Yes	Yes	Yes	Yes						Planning	$0 - $10,000	FEMA HMA FMA or HMGP Project Grant	7/2023 - 6/2028	Medium	No	3	3	3	3	0	0	0	3	15	1	0	2	0	1	1	1	0	1	0	1	0	1	0	10	150
Stonington Town	TS6	Determine appropriate methods of floodproofing sewer pumping stations and secure funding for improvements. Begin with the one which was funded for 2023-2024.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes		Yes						WPCA	$100,000 - $500,000	CWSRF; or FEMA HMA HMGP Scoping Grant	7/2023 - 6/2027	High	Serves the EJ census tracts	3	3	3	3	0	1	0	3	16	2	0	2	0	1	1	2	0	0	0	1	1	2	0	10	160
Stonington Town	TS7	Determine appropriate methods of floodproofing the WPCFs (WWTPs) and secure funding for improvements.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes		Yes	Yes								WPCA	>$1M	CWSRF; FEMA HMA HMGP or BRIC Scoping Grant; CIP	7/2023 - 6/2027	High	Serves the EJ census tracts	3	3	3	3	0	1	0	3	16	2	0	2	0	1	1	2	0	0	0	1	2	2	0	8	128
Stonington Town	TS8	Determine the feasibility and cost of establishing a second mode of egress for the Bishops Cove neighborhood.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes								Office of the Chief Elected Official	$25,000 - $50,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2026 - 6/2028	Low	No	3	1	2	3	0	0	0	3	12	1	0	1	0	1	1	1	0	0	0	0	1	1	0	3	36
Stonington Town	TS9	Execute a living shoreline project at the Mystic Boathouse.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection					Yes							Planning and Public Works	>$1M	NOAA/NFWF; LISS	7/2023 - 6/2025	High	No	3	0	3	2	3	3	3	3	20	1	0	2	0	1	1	1	0	0	0	1	2	2	0	6	120
Stonington Town	TS10	Develop a design for elevating the Mason's Island causeway and the approaches.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes							Planning and Public Works	$100,000 - $500,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2028	High	No	2	1	2	3	2	2	2	3	17	1	0	2	0	1	1	2	0	0	1	1	1	1	0	7	119
Stonington Town	TS11	Design a living shorelone at Chippechaug Cove on Mason's Island in accordance with the NFWF grant received for such purpose.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection					Yes							Office of the Chief Elected Official	$100,000 - $500,000	NOAA/NFWF; LISS	7/2023 - 6/2025	Medium	No	3	1	2	2	3	3	3	3	20	1	0	1	0	1	1	1	0	0	0	0	1	2	0	4	80
Stonington Town	TS12	Develop formalized methodology for stormwater infrastructure, culvert, and bridge construction and replacement that requires utilization of the most up-to-date extreme rainfall data from NOAA Atlas 14 as it is updated to become NOAA Atlas 15.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Benefits the EJ census tracts	3	3	3	3	2	2	2	3	21	1	0	2	0	2	1	1	0	1	0	1	0	2	0	12	252
Stonington Town	TS13	Determine the feasibility and cost of elevating the following Town-owned road: Holmes Street	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes								Planning and Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2025	High	No	2	2	2	3	3	3	2	3	20	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	140
Stonington Town	TS14	Determine the feasibility and cost of elevating the following Town-owned roads: Cottrell Street and Washington Street	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes								Planning and Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2025 - 6/2026	Medium	No	2	2	2	3	3	3	2	3	20	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	140
Stonington Town	TS15	Determine the feasibility and cost of elevating the following Town-owned roads: Broadway Avenue and Church Street	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes								Planning and Public Works	$10,000 - $25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2026 - 6/2027	Medium	No	2	2	2	3	3	3	2	3	20	1	0	2	0	1	1	1	0	0	0	1	1	1	0	7	140
Stonington Town	TS16	Complete evaluation of the Pawcatuck flood protection system and determine if it can be accredited, and how that may occur, to ensure that risks are reduced on the Pawcatuck side of the levee.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes								Public Works	$25,000 - $50,000	Municipal CIP Budget	7/2023 - 6/2025	High	No	3	1	3	3	0	0	0	2	12	1	0	2	0	1	1	1	0	1	0	2	1	0	0	9	108
Stonington Town	TS17	Assess the feasibility of a large-scale diking project to protect Mystic from flooding. This should be conducted as part of a comprehensive Mystic planning effort, distinct from the next action which refers to the potential Army Corps-funded study.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA Scoping; Municipal CIP Budget	7/2024 - 6/2027	Medium	No	2	2	1	2	1	1	1	2	12	1	0	1	1	1	1	1	0	0	0	1	1	0	1	1	12

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	PERISTS Criteria									Weighted STAPLEE Criteria														Product Score
																						Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	
Stonington Town	TS18	Assess the feasibility of a large-scale diking project to protect upper Mystic from flooding. This should be conducted as part of a Mystic planning effort by the Army Corps of Engineers. The proposed (pending) study area extends from Isham Street to the Elm Grove Cemetery. The cost estimate is for the Town's share.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Office of the Chief Elected Official	$100,000 - $500,000	Municipal CIP Budget	7/2024 - 6/2027	Medium	No	2	2	1	2	1	1	1	12	1	0	1	1	1	1	1	0	0	0	1	1	0	1	**1**	12
Stonington Town	TS19	Send Planning staff to a State Historic Preservation Office/Connecticut Trust for Historic Preservation training for local historic district commissioners and Certified Local Governments on managing historic districts in Connecticut.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Planning	$0 - $10,000	SHPO	7/2025 - 6/2026	Low	Benefits the EJ census tracts	3	2	3	3	0	0	2	13	1	0	1	0	1	1	1	0	1	0	1	0	0	0	**7**	91
Stonington Town	TS20	Develop locally-adopted recommendations resulting from the stormwater authority and utility feasibility study conducted by CDM Smith for SCCOG in 2022 using CIRCA's municipal resilience grant.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes						Office of the Chief Elected Official	$0 - $10,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	High	Benefits the EJ census tracts	3	3	2	2	2	2	2	18	1	0	1	0	1	1	1	0	1	0	1	0	1	0	**8**	144
Stonington Town	TS21	Partner with Mystic Seaport Museum to execute a DEEP Climate Resilience Fund award for a vulnerability assessment and resilience plan. Study shall identify actions to be taken with or without development of flood protection systems for portions of Mystic. Examples include relocating buildings, elevating buildings that can be elevated, and making other modifications that do not eliminate historicity.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes			Yes			Office of the Chief Elected Official	$100,000 - $500,000	DEEP Climate Resilience Fund	4/2023 - 9/2024	High	Benefits EJ populations through programming	3	2	3	2	3	3	3	22	1	0	1	0	1	1	1	0	0	0	2	1	2	0	**8**	176
Stonington Town	TS22	Support Mystic Seaport Museum in the development of designs for interventions that mitigate risks to the Mystic Seaport Museum's campus from sea level rise, increased storm surge, increased precipitation events, increased heat, and other impacts stemming from the forces of climate chanae.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes			Yes			Office of the Chief Elected Official	$100,000 - $500,000	DEEP Climate Resilience Fund; CIRCA Resilient Connecticut; and SHPO	4/2023 - 9/2024	High	Benefits EJ populations through programming	3	2	3	2	3	3	3	22	1	0	1	0	1	1	1	0	0	0	2	1	2	0	**8**	176
Stonington Town	TS22A	Support Mystic Seaport Museum in the development of designs for green infrastructure in the parking lots combined with additional retention/detention, with the co-benefits of reducing stormwater generation and providing some extreme heat mitigation.	Address risks associated with extreme heat events, especially as they interact with other hazards.	Natural Resources Protection	Yes					Yes			Yes			Planning and Public Works	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund; LISFF	4/2023 - 9/2024	Medium	Benefits EJ populations through programming	3	2	3	2	3	3	3	22	1	0	2	0	1	1	1	0	0	0	2	1	2	0	**10**	220
Stonington Town	TS22B	Support Mystic Seaport Museum in the development of designs additional (incremental) elevation of internal roads to reduce the ponding.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes								Planning and Public Works	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund	4/2023 - 9/2024	Low	Benefits EJ populations through programming	3	2	3	2	1	2	2	18	1	0	2	0	1	1	1	0	0	0	2	1	1	0	**9**	162
Stonington Town	TS22C	Support Mystic Seaport Museum in the development of designs for pilot project: eliminate basement and elevate an at-riss building.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Building Official	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund; SHPO	4/2023 - 9/2024	Medium	Benefits EJ populations through programming	3	2	3	2	1	2	2	18	1	0	2	0	1	1	1	0	0	0	2	1	2	0	**10**	180
Stonington Town	TS22D	Support Mystic Seaport Museum in the development of designs pilot project: relocate structures (buildings).	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes								Building Official	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund; SHPO	4/2023 - 9/2024	Low	Benefits EJ populations through programming	3	2	3	2	1	2	2	18	1	0	2	0	1	1	1	0	0	0	2	1	2	0	**10**	180
Stonington Town	TS22E	Support Mystic Seaport Museum in the development of designs for seawall or bulkhead repairs to make more resilient to sea level rise and wave energy	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund; SHPO	4/2023 - 9/2024	Medium	Benefits EJ populations through programming	2	2	2	2	3	3	2	19	1	0	2	0	1	1	1	0	0	0	2	1	2	0	**10**	190
Stonington Town	TS22F	Support Mystic Seaport Museum in the identification and study of methods to negotiate a shoreline that will allow visitors to engage with the floating museum pieces by replacing hardened, fixed shoreline features with responsive systems that change with water levels (i.e. living shorelines and floating docks).	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes		Yes	Yes	Yes							Planning and Public Works	$100,000 - $500,000	Mystic Seaport Museum; DEEP Climate Resilience Fund; NOAA/NFWF; LISFF	4/2023 - 9/2024	Medium	Benefits EJ populations through programming	2	2	2	2	3	3	2	19	1	0	1	0	1	1	1	0	0	0	2	1	2	0	**8**	152
Stonington Town	TS23	Execute CIRCA's Municipal Resilience Grant (MRG) to redesign a resilient seawall along Holmes Street.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$100,000 - $500,000	CIRCA MRG	1/2023 - 6/2023	High	No	2	1	3	3	3	3	3	21	1	0	2	0	1	1	1	0	0	0	1	1	1	0	**7**	147
Stonington Town	TS24	Develop final design and construction plans for resilient seawall along Holmes Street.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes							Public Works	$100,000 - $500,000	Municipal CIP Budget	7/2023 - 6/2024	High	No	2	1	3	3	3	3	3	21	1	0	2	0	1	1	1	0	0	0	1	1	1	0	**7**	147
Stonington Town	TS25	Working with the Town of Ledyard, complete the bridge replacement for Lantern Hill Road over Whitford Brook.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes						Public Works	$100,000 - $500,000	LOTCIP; STEAP; IIJA BIP	7/2023 - 6/2024	High	Benefits two distressed municipalities and tribal lands	3	2	3	3	1	1	0	16	1	0	2	0	1	1	1	0	1	0	1	1	2	0	**9**	144
Stonington Town	TS26	Partner with the Town of North Stonington, Town of Ledyard, Town of Groton, and the Native American tribes to ensure that risks downstream of Long Pond are characterized in the new Emergency Action Plan for the Long Pond Dams.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	$10,000 - $25,000	Municipal Operating Budget; SCCOG Municipal Service Funds	7/2023 - 6/2024	High	Benefits two distressed municipalities and tribal lands	3	3	3	3	2	2	3	21	1	0	1	0	1	1	1	0	1	0	0	1	1	0	**4**	84
Stonington Town	TS27	Partner with the Town of Ledyard and the Town of Groton to determine appropriate steps to reduce risks associated with additional breaching of the Whitford Pond Dam; document in a report that lists potential solutions.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	$25,000 - $50,000	NOAA/NFWF; DEEP Climate Resilience Fund	7/2024 - 6/2025	High	Benefits one distressed municipality	2	2	3	3	3	2	3	21	1	0	2	0	1	1	1	0	1	0	0	1	1	0	**6**	126
Stonington Town	TS28	Work with SCCOG and CIRCA to scope a corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes		Yes			Yes	Office of the Chief Elected Official	$100,000 - $500,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	High	Benefits two distressed municipalities and tribal lands	3	3	3	3	3	3	3	24	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	72
Stonington Town	TS29	Participate in a dam failure tabletop exercise for Long Pond with the Towns of Ledyard, Groton, and North Stonington.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes					Yes		Yes			Yes	emergency Management	$0 - $10,000	Municipal Operating Budget	7/2025 - 6/2026	High	Benefits two disressed municipalities	3	3	3	3	2	2	3	21	1	0	1	0	1	1	1	0	0	0	0	0	1	0	**5**	105
Stonington Town	TS30	Complete the fire suppression water main crossing of Whitford Brook in Old Mystic.	Reduce losses from other hazards that are affected by climate change.	Property Protection							Yes			Yes		Public Works	$50,000 - $100,000	Municipal CIP Budget	7/2023 - 6/2024	Medium	Benefits one distressed municipality	3	1	3	3	0	0	0	13	1	0	2	0	1	1	1	0	1	0	2	1	0	0	**9**	117
Stonington Town	TS31	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	1	0	0	0	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	**6**	72
Stonington Town	TS32	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses, and coordinate with CRS activities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during this month	High	No	3	2	3	3	0	0	0	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	**4**	52
Stonington Town	TS33	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Planning	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Benefits the EJ census tracts	3	2	2	3	0	0	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	**6**	84
Stonington Town	TS34	Ensure that plans for the new Pawcatuck Park include resilience meaures such as increasing floodplain storage (through removal of the Noyes Well mound), invasive species management, drought tolerant vegetation, and incorporation of respite from extreme heat.	More than one goal	More than one category	Yes					Yes	Yes		Yes			Office of the Chief Elected Official	$100,000 - $500,000	STEAP; FEMA BRIC Scoping; Municipal Bond funds	7/2023 - 6/2025	High	Located in EJ tract	3	2	2	2	2	2	3	18	2	0	2	0	1	1	2	0	0	0	1	1	2	0	**10**	180
Waterford	WF1	Ensure that the cooling center (Community Center) has appropriate standby power to operate AC and is accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	Serves the EJ census tracts	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Waterford	WF2	Identify at least one secondary cooling center in a more accessible, centrally located position; ensure that it has appropriate standby power to operate AC and is accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	High	Serves the EJ census tracts	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Waterford	WF3	Maintain at least one school as a backup local shelter for situations when the regional shelter in East Lyme cannot be accessed.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Office of the Chief Elected Official	$100,000 - $500,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Medium	Serves the EJ census tracts	3	3	3	3	0	0	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

																					PERISTS Criteria								Weighted STAPLEE Criteria													
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permitable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
Waterford	WF4	Ensure that goals and objectives related to resilience are consistently structured between the Climate Change Risk Assessment and Adaptation Study (2017), the POCD (2023), and this HMCAP.	More than one goal	More than one category	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes			Planning	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Benefits the EJ census tracts	3	3	3	3	0	1	0	2	15	1	0	1	0	1	1	1	0	0	0	0	0	1	0	**5**	75
Waterford	WF5	Establish a process for the phasing-in of new policies related to sea level rise (freeboard, infrastructure retrofits, road elevations, etc.). The process could include incorporation of additional goal statements into the POCD (2023) and capital improvement plans.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Prevention	Yes		Yes	Yes	Yes							Planning	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Benefits the EJ census tracts	3	3	3	3	0	3	0	2	17	1	0	2	0	1	1	1	0	1	0	1	0	1	0	**10**	170
Waterford	WF6	Implement and construct roadway resilience design along Gardiners Wood Road including road elevation, resurfacing, and culvert/pipe installations to mitigate flood risks along this single egress route.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes		Yes						Public Works	>$1M	LOTCIP; STEAP; DEEP Climate Resilience Fund	7/2023 - 6/2024	Medium	No	3	1	3	3	2	2	2	3	19	1	0	2	0	1	1	1	0	0	0	1	2	2	0	**6**	114
Waterford	WF7	Acquire and install evacuation signs in coastal flood hazard areas.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Preparedness & Emergency Response	Yes		Yes	Yes	Yes							Emergency Management	$10,000 - $25,000	Municipal CIP Budget	7/2023 - 6/2025	Medium	No	3	2	3	3	0	0	0	2	13	2	0	2	0	1	1	1	0	1	0	0	1	1	0	**7**	91
Waterford	WF8	Ensure that sewer pumping stations have a method for connecting emergency power and are adequately floodproofed with specific focus on those particularly vulnerable, such as Mago and Bolles, as identified in the SCCOG Wastewater Management Plan and the Coastal Resilience Plan.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes	Yes	Yes	Yes	Yes	Yes				Yes	Yes	Water & Sewer	$100,000 - $500,000	CWSRF; FEMA HMA	7/2024 - 6/2027	High	Benefits the EJ census tracts	3	3	3	3	1	1	0	3	17	1	0	2	0	1	1	1	0	0	0	1	1	2	0	**8**	136
Waterford	WF9	Pursue the acquisition and demolition of flood damaged properties with conversion to open space, prioritizing repetitive loss properties that have been severely damaged.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Natural Resources Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	>$1M	FEMA HMA	7/2023 - 6/2028	Medium	No	3	3	3	3	0	0	0	3	15	1	0	2	0	1	1	1	0	0	0	1	2	2	0	**6**	90
Waterford	WF10	Upgrade stormwater collection and discharge systems to keep up with rising sea level, with particular focus on areas of concern including the Ridgewood system in Alewife Cove.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$500,000 - $1M	Municipal CIP Budget; Stormwater Utility Fees (if implemented)	7/2024 - 6/2027	Medium	No	3	2	2	3	2	2	2	2	18	1	0	2	0	1	1	1	0	0	0	1	2	2	0	**6**	108
Waterford	WF11	Identify needs and funding sources for roadway and infrastructural improvements needed to reduce isolation risk in certain areas including Quaker Hill, West Neck, Great Neck, and Gardiners Wood. This action should result in a written report or statement prior to the update of this HMCAP in 2027-2028.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$10,000 - $25,000	LOTCIP; STEAP; DEEP Climate Resilience Fund	7/2024 - 6/2027	Medium	No	3	3	2	3	2	2	2	2	19	1	0	2	0	1	1	1	0	0	0	1	1	1	0	**7**	133
Waterford	WF12	Increase capacity and implement additional improvements along Braman Road to reduce the risk of the road being cut off by flooding and eliminating egress for the Great Neck area.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Public Works	$500,000 - $1M	LOTCIP; STEAP; DEEP Climate Resilience Fund	7/2024 - 6/2026	Medium	No	3	1	2	3	1	1	1	3	15	1	0	2	0	1	1	1	0	0	0	1	2	1	0	**5**	75
Waterford	WF13	Replace culverts and/or elevate sections of Niles Hill Road at Fenger Brook.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes					Yes						Public Works	$500,000 - $1M	LOTCIP; STEAP; DEEP Climate Resilience Fund	7/2024 - 6/2026	Medium	No	3	1	3	2	1	1	1	3	15	1	0	2	0	1	1	1	0	0	0	1	2	2	0	**6**	90
Waterford	WF14	Partner with CT DEEP and Dominion to identify a solution to improve secondary access to Millstone Station with possible solutions including pond restoration to improve tidal flow, construction of a fishway, and road elevation.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Yes	Yes	Yes	Yes	Yes	Yes				Yes	Yes	Office of the Chief Elected Official	$25,000 - $50,000	Dominion Funds; NOAA/NFWF; LISFF	7/2025 - 6/2028	Medium	No	2	1	2	3	3	3	2	3	19	1	0	1	0	1	1	1	0	0	0	0	1	2	0	**4**	76
Waterford	WF15	Partner with CIRCA and CT DEEP to identify solutions for areas experiencing high erosion rates along the shore and Niantic River.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects					Yes							Office of the Chief Elected Official	$25,000 - $50,000	CIRCA Resources	7/2025 - 6/2028	Medium	No	2	1	1	2	3	3	3	3	18	1	0	1	0	1	1	1	0	0	0	1	1	1	0	**5**	90
Waterford	WF16	Send out flood and storm related information to all town residents via email/electronically, and a similar message via mail to residents in flood zones, including the 0.2% annual chance flood hazard area. An annual frequency is ideal.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes		Emergency Management	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during this month	Medium	Benefits the EJ census tracts	3	3	3	3	0	0	0	2	14	2	0	1	0	1	2	1	0	0	0	0	0	1	0	**5**	70
Waterford	WF17	Develop locally-adopted recommendations resulting from the stormwater authority and utility feasibility study conducted by CDM Smith for SCCOG in 2022 using CIRCA's municipal resilience grant.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	More than one category	Yes		Yes	Yes	Yes	Yes						Office of the Chief Elected Official	$0 - $10,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	High	Benefits the EJ census tracts	3	3	2	2	2	2	2	2	18	1	0	1	0	1	1	1	0	1	0	1	0	1	0	**8**	144
Waterford	WF18	Determine if any structures at risk (to flooding and severe storms) that are not yet eligible for historic designation will be eligible in the future. This may take the form of a historic resources survey.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Planning	$10,000 - $25,000	SHPO	7/2024 - 6/2026	Low	Benefits the EJ census tracts	3	2	3	3	0	2	0	2	15	1	0	1	0	1	1	1	0	0	0	1	1	1	0	**5**	75
Waterford	WF19	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	High	No	3	3	3	1	0	0	0	2	12	1	0	1	0	1	1	1	0	1	0	0	0	1	0	**6**	72
Waterford	WF20	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigation flood losses.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Yes		Yes	Yes	Yes	Yes						Floodplain Manager	$0 - $10,000	Municipal Operating Budget	1/2024 and annually during this month	High	No	3	2	3	3	0	0	0	2	13	1	0	1	0	1	2	1	0	0	0	0	0	1	0	**4**	52
Waterford	WF21	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes		Yes		Yes				Planning	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Benefits the EJ census tracts	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	**6**	84
Windham	WD2	Acquire generators for the Town Hall and the Community Center/Rec Center/Senior Center.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes			Yes		Yes	Yes	Yes	Yes	Public Works	$100,000 - $500,000	FEMA HMA; Other Preparedness Grants	7/2023 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	2	0	1	1	1	0	1	0	0	1	0	0	**6**	96
Windham	WD3	Ensure that the cooling centers (Community Center/Senior Center, Town Hall, and Kramer Elementary School) are accessible using transit or alternate transportation options.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Office of the Chief Elected Official	$10,000 - $25,000	Transit District; IIJA BBFP	7/2025 - 6/2025	High	Yes - distressed municipality	3	3	3	3	0	0	2	2	16	2	0	1	0	1	1	1	0	0	0	0	1	0	0	**3**	48
Windham	WD4	Provide Educational Materials and Links Regarding Natural Hazard Preparedness on Town Website.	More than one goal	Education & Awareness	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Emergency Management	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	Medium	Yes - distressed municipality	3	2	3	3	0	0	0	2	13	1	0	1	0	1	1	1	0	0	0	0	0	0	0	**4**	52
Windham	WD5	Execute FEMA HMA BRIC grant for scoping related to flood mitigation, water quality, and other resiliency needs for the Willimantic Reservoir, dam, and treatment facility.	More than one goal	More than one category	Yes	Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Windham Water Works	$100,000 - $500,000	FEMA HMA Scoping	1/2023 - 12/2024	High	Yes - distressed municipality	3	3	2	3	2	2	1	3	19	1	0	1	0	1	1	1	0	0	0	1	1	1	0	**5**	95
Windham	WD5A	Evaluate feasibility of hydropower operations at Willimantic Reservoir dam.	More than one goal	More than one category	Yes	Yes	Yes						Yes	Yes	Yes	Windham Water Works	$50,000 - $100,000	DEEP Climate Resilience Fund	1/2023 - 12/2024	Low	Yes - distressed municipality	3	3	1	2	3	2	1	3	18	1	0	1	0	1	1	1	0	0	0	1	1	1	0	**5**	90
Windham	WD5B	Identify funding sources and partner agencies to evaluate sedimentation challenges in the Willimantic Reservoir associated with releases from Mansfield Hollow Dam.	More than one goal	Water & Wastewater Utility Projects	Yes					Yes	Yes	Yes				Windham Water Works	$10,000 - $25,000	LISFF; DWSRF	1/2023 - 12/2024	Medium	Yes - distressed municipality	3	3	2	2	1	2	1	2	16	1	0	1	1	1	1	1	0	0	0	1	1	1	0	**3**	48
Windham	WD5C	Determine the feasibility of a Windham Water Works microgrid that could support the nearby supermarket and pharmacy in southern Mansfield.	More than one goal	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Windham Water Works	$10,000 - $25,000	DEEP Climate Resilience Fund	1/2023 - 12/2024	Low	Yes - distressed municipality	3	2	1	2	1	1	1	2	13	1	0	1	0	1	1	1	0	0	0	1	1	0	0	**4**	52
Windham	WD5D	In the lifespan of this HMCAP (before 2027), conduct at least one set of meetings with UConn and CWC about potential interconnections in Mansfield.	More than one goal	Water & Wastewater Utility Projects							Yes			Yes		Windham Water Works	$0 - $10,000	WWW Operating Budget	7/2023 - 6/2028	Medium	Yes - distressed municipality	3	3	2	3	0	0	0	3	14	1	0	1	0	1	1	1	0	0	0	1	0	0	0	**6**	84
Windham	WD6	Partner with DOT to improve the Bridge Street Bridge crossing over the Willimantic River, targeting DOT's enhanced funding for resiliency projects.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes					Yes						Public Works	>$1M	CT DOT; IIJA BIP	7/2024 - 6/2026	Low	Yes - distressed municipality	3	1	2	3	0	0	0	3	12	1	0	2	0	1	1	1	0	0	0	1	2	1	0	**5**	60
Windham	WD7	Compare elevations of WWTP assets and infrastruture to the base flood elevations associated with the Natchaug River and Willimantic River plus applicable freeboard (likely two feet); and determine if funds should be set aside for resiliency projects.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes					Yes						WPCA	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	2	0	1	1	1	0	0	0	1	0	2	0	**10**	140
Windham	WD8	Compare elevations of sewer puming station infrastruture to the base flood elevations associated with nearby flood sources, plus applicable freeboard (likely two feet); and determine if funds should be set aside for resiliency projects.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Water & Wastewater Utility Projects	Yes					Yes						WPCA	$0 - $10,000	Municipal Operating Budget	7/2023 - 6/2024	High	Yes - distressed municipality	3	3	3	3	0	0	0	2	14	1	0	2	0	1	1	1	0	0	0	1	0	2	0	**10**	140
Windham	WD9	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes					Yes		Yes				Land Use Staff	$0 - $10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	Yes - distressed municipality	3	2	2	3	0	0	2	2	14	1	0	1	0	1	1	1	0	0	0	0	0	2	0	**6**	84

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.

																					PERISTS Criteria										Weighted STAPLEE Criteria														
Community	Action Number	Hazard Mitigation and Climate Adaptation Actions	Primary Hazard Mitigation and Climate Adaptation Goal	Type of Action	Severe Storms: Tropical Storms and Hurricanes	Severe Storms: Tornadoes and High Winds	Severe Storms: Winter Storms	Sea Level Rise: Coastal Floods	Sea Level Rise: Shoreline Change	Changing Precipitation: Riverine and Pluvial Floods	Changing Precipitation: Droughts	Changing Precipitation: Dam Failure	Rising Temperatures: Extreme Heat	Rising Temperatures: Wildfires	Earthquakes	Responsible Department	Approximate Cost Range	Potential Funding Sources	Timeframe	Community Priority	EJ Area?	Permittable	Equitable	Realistic	Safe	Innovative	Scientific	Transferable	Sustainable	Total PERISTS	Social Benefit	Social Cost	Technical Benefit	Technical Cost	Administrative Benefit	Administrative Cost	Political Benefit	Political Cost	Legal Benefit	Legal Cost	Economic Benefit	Economic Cost	Environmental Benefit	Environmental Cost	Total STAPLEE	Product Score
SCCOG	COG1	Assist with the digitization of building permits and building code-related actions as recommended in the report from the Digitization of Building Code Records Working Group (January 2023).	more than one goal	Prevention	Yes	Yes	Yes	Yes		Yes			Yes	Yes	Yes	Executive Director	$100,000 - $500,000	FEMA BRIC, SCCOG Regional Services Funds	7/2024 - 6/2027	Medium	Several are located in SCCOG	3	3	2	2	1	0	1	1	13	1	0	2	0	2	2	1	0	1	0	1	1	1	0	**8**	104
SCCOG	COG2	Partner with the Mohegan Tribe to formally make sections of Mohegan Sun available for extreme heat respite during NWS heat watches and heat warnings.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Yes	Yes	Yes						Yes	Yes	Yes	Executive Director	$0 - $10,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2023 - 6/2025	Medium	Several are located in SCCOG	3	2	3	3	0	0	2	2	15	2	0	2	0	1	1	1	0	1	0	0	0	0	0	**8**	120
SCCOG	COG3	Work with CIRCA to scope a corridor study for Lantern Hill Road that evaluates its capabilities and risks relative to providing access between and among MPTN, Ledyard, North Stonington, the Eastern Pequots, Stonington, and the Old Mystic part of Groton.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Natural Resources Protection	Yes					Yes		Yes			Yes	Executive Director	$100,000 - $500,000	SCCOG Special Projects; DEEP Climate Resilience Fund; CIRCA Resilient Connecticut	7/2024 - 6/2025	High	Benefits two distressed municipalities and tribal lands	3	3	3	3	3	3	3	3	24	1	0	1	0	1	1	1	0	0	0	0	1	1	0	**3**	72
SCCOG	COG4	Assign to the Regional Water Supply Management team an action item to review potential for water system expansions in the region, with initial focus areas of Franklin and Montville.	Reduce losses from other hazards that are affected by climate change.	Water & Wastewater Utility Projects							Yes			Yes		Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2023 - 6/2024	High	Several are located in SCCOG	3	2	2	3	0	0	0	2	12	1	0	2	0	1	1	1	0	0	0	1	0	0	0	**8**	96
SCCOG	COG5	Evaluate the costs and benefits of enrolling communities into the MyCoast program.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Yes		Yes	Yes	Yes							Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2023 - 6/2024	Low	Several are located in SCCOG	3	1	2	2	2	2	2	2	16	1	0	1	0	1	1	1	0	0	0	0	0	0	0	**4**	64
SCCOG	COG6	Use the results and model provided in the recent CIRCA MRG-funded Stormwater Utility Feasibility Study to advance understanding of stormwater utility costs and benefits in the SCCOG region, either through extended research, white papers, or using the study model in different municipalities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Yes		Yes	Yes	Yes	Yes						Executive Director	$50,000 - $100,000	DEEP Climate Resilience Fund	7/2023 - 6/2024	Medium	Several are located in SCCOG	3	3	3	2	2	2	2	3	20	1	0	1	0	1	1	1	0	1	0	2	1	1	0	**8**	160
SCCOG	COG7	Work with CIRCA to scope a complex climate adaptation and resilience study and concept design (through Resilient Connecticut 2.0 Phase III) that addresses flooding and extreme heat events.	More than one goal	More than one category	Yes		Yes	Yes	Yes	Yes			Yes			Executive Director	$0 - $10,000	CIRCA Resilient Connecticut	4/2023 - 12/2023	Medium	Yes; this is a CIRCA program goal	3	2	2	3	3	3	3	3	22	2	0	1	0	1	1	1	0	0	0	1	0	1	0	**8**	176
SCCOG	COG8	Support seCTer in its evaluation of risks to small businesses and determine appropriate actions for the HMCAP, which can be amended to the HMCAP in 2024-2025.	More than one goal	More than one category	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Executive Director	$0 - $10,000	SCCOG Regional Services Funds	7/2024 - 6/2025	High	Several are located in SCCOG	3	2	3	3	2	3	3	3	22	2	0	1	0	1	0	1	0	0	0	2	0	1	0	**11**	242

Notes on STAPLEE Criteria:
Benefit or Cost = 1
Neutral = 0
Technical Economic Factors are double-weighted.