

## **CRS Activity 510**

### **Progress Report on Implementation of Credited Plan**

**Date this Report was Prepared:** December 1, 2023

**Name of Community:** Borough of Manasquan

**Name of Plan:** Monmouth County Multi-Jurisdictional Hazard Mitigation Plan

**Date of Adoption of Plan:** 08/27/2020

**5 Year CRS Expiration Date:** 08/27/2025

**1. How can a copy of the original plan or area analysis report be obtained:**

On the municipal website [www.manasquan-nj.gov/OEM](http://www.manasquan-nj.gov/OEM) or via hardcopy at the Office of Emergency Management or at the Manasquan Public Library

**2. Describe how this evaluation report was prepared and how it was submitted to the governing body, released to the media, and made available to the public:**

The Hazard Mitigation Planning Committee consists of the following members:

- Municipal Construction & Code Supervisor (Preventative Measures, Property Protection)
- Municipal Hazard Mitigation Program Coordinator (Natural Resources Protection, Structural Flood Control, Engineering)
- Municipal Emergency Management Coordinator (Emergency Services)
- Municipal Administrator / OEM Coordinator (Public Information)
- Municipal Planning Board Representative (Planning / zoning)

The Hazard Mitigation Planning Committee meets at least once annually and discusses recommended changes and updates to the mitigation items identified in the approved plan. The committee reviews and approves the annual progress report as submitted to the Governing Body annually in September. The annual report with recommended revisions shall be submitted to the Monmouth County Office of Emergency Management for revision to the Multi-Jurisdictional Hazard Mitigation Plan.

Hazard mitigation Planning Committee Meetings were held on the following dates in 2023:

- November 15

The 2022 Hazard Mitigation Planning report was prepared by the Municipal Hazard Mitigation Program Committee and emailed to the governing body, Monmouth County OEM and local media on December 1, 2023. The report is also available to the public on the municipal website [www.manasquan-nj.gov/OEM](http://www.manasquan-nj.gov/OEM).

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_01

Manasquan, Borough of

## Describing the Action

Action Name:	Complete the Borough Risk Assessment for Structures, Facilities, and Equipment in the Borough
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Conduct a hazard-specific, community-wide risk assessment of all structures, facilities, and equipment and identify, map, quantify, and rank vulnerable structures for each of the hazards. This will include identifying and mapping high hazard areas for each hazard addressed. This will also include inventorying and evaluating existing at-risk housing stock, commercial buildings, as well as public facilities and equipment and assessing each structure for vulnerabilities to each of the hazards addressed. This action will be a more detailed presentation and assessment of data from what is in the hazard mitigation plan.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge, Wildfire, Tornado
Goals:	1, 2, 4, 5, 6
Risk Reduction:	Specific structures, facilities, and equipment that are vulnerable to the above hazards have not been identified/quantified.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required.
Local Champion:	Office of Emergency Management will advocate for the project
Other Community Objectives:	This action supports the entire hazard mitigation effort within the municipality
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$150,000.00
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA, Community Resiliency Grants
Timeline:	2 years
Action Status:	Ongoing

**2023 Status Update:** This is an ongoing project. Flood risk maps have been developed and refined. Critical facilities have been identified and pre-flood mitigation actions have been added to the Coastal Flood Evacuation Plan.

Manasquan has partnered with Rutgers University to assist in the implementation of this action item. On February 23, 2021, the Borough sent a letter of support for "SCC-IRG Track 2: City-Scale Digital Twin for Smart, Democratic, Equitable, Learning (CITADEL) Communities in Hurricane and Storm Prone Climates" to utilize LIDR to accurately map housing stock. The Borough is awaiting Rutgers to proceed with implementation.

Although progress has been made in 2022-2023 towards implementation, the project has not been fully implemented (addressing all hazards) due to lack of resources (funding and administration) for the project.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_02

Manasquan, Borough of

## Describing the Action

Action Name: Establish Funding Mechanism for HMP

Action Category:

Action Type: Local Plans and Regulations

HMA Eligible Activity: Miscellaneous/Other

Action Description: Establish a funding mechanism and budget for hazard mitigation planning and mitigation actions.

## Evaluating the Action

Hazard(s) Addressed: Extreme Temperatures, Flood, Drought, Earthquake, Coastal Erosion, Extreme Wind, Lightening, Storm Surge, Wildfir

Goals: 1, 2, 3, 4, 5, 6, 7, 8

Risk Reduction: limited local funding available for hazard mitigation activities

Technical: Technically feasible, easily implemented.

Political: There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.

Legal: There are no apparent legal issues

Environmental: There is no environmental impact

Social: There is no social impact

Administrative Capability: The community has the personnel available but has not secured a permanent annual funding mechanism

Local Champion: Office of Emergency Management will advocate for the project

Other Community Objectives: This action supports the entire hazard mitigation effort within the municipality

STAPLEE Evaluation: N/A

## Implementing the Action

Cost Estimate: \$50,000.00

Priority:

Scale of Ease of Implementation:

Responsible Party: Office of Emergency Management

Local Planning Mechanism: Hazard Mitigation Plan

Likely Funding Source(s):

Timeline:

Action Status: Completed

### 2023 Status Update:

This action item was implemented by the Borough in 2022-2023.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_03

Manasquan, Borough of

## Describing the Action

Action Name:	Continue Monitoring the Implementation of the Hazard Mitigation Plan
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Monitor the implementation of the hazard mitigation plan and make updates to the plan as required. This includes forming a plan implementation steering committee to monitor progress on local mitigation actions as well as implementation monitoring schedule and outlining responsibilities.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 4, 5, 6, 7, 8
Risk Reduction:	Hazard mitigation plan must be monitored in order to gauge success and accomplish updates as required.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Monitoring and administering the Hazard Mitigation plan costs are considered low, however, administrative capacity of the Borough is exhausted and outside assistance may be required or the work load of administrative staff reduced in order to absorb the additional requirements of this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	This action supports the entire hazard mitigation effort within the municipality.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	Low
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing

**2023 Status Update:** This action item was implemented by the Borough in 2022-2023.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_04

Manasquan, Borough of

## Describing the Action

Action Name:	Implement a Program for Public Information on Hazard Awareness & Mitigation
Action Category:	
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Implement a comprehensive program for public information that systematically distributes hazard awareness information as well as actions that citizens can take to mitigate those hazards. The program will also promote household disaster preparedness as well as private mitigation efforts. This program will include the formation of a public information steering committee and will include specific public outreach goals, responsibilities and monitoring.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	3, 4, 5, 8
Risk Reduction:	The Borough is lacking a comprehensive all-hazards public information program.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning and public outreach.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capability to implement this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	Some of these public education activities may be eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	
Scale of Ease of Implementation:	
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan, floodplain management plan
Likely Funding Source(s):	Local Hazard Mitigation Program, Hazard Mitigation Planning Grants, Community Resiliency Grants HMGP funding
Timeline:	
Action Status:	Completed

### 2023 Status Update:

This action item was implemented by the Borough in 2022-2023.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_05

Manasquan, Borough of

## Describing the Action

Action Name:	Increase Public Warning Capabilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Increase public warning capabilities through the implementation of FEMA developed IPAWS alerting, upgrade warning siren coverage, implement a Reverse911 system, upgrade electronic warning sign system coverage, and improve use of web-based programs and social media for public warning.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 2, 3, 5, 7
Risk Reduction:	The Borough is lacking critical public warning capabilities.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for increased public warning capabilities, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	All of these public warning actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$150,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Emergency Operations Plan
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Ongoing
<b><u>2023 Status Update:</u></b>	This action item is 90% complete. The IPAWS element has been held up at the State level in regulatory review.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_06

Manasquan, Borough of

## Describing the Action

Action Name:	Develop a Drought Emergency Plan
Action Category:	Administrative
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Develop a drought emergency plan which includes criteria for drought-related actions, identifying local drought indicators, such as precipitation, temperature, guidance from NJDEP, and institute voluntary and mandatory water conservation measures during drought conditions and emergencies. This includes developing a drought communication plan and early warning system to facilitate timely communication of relevant information to officials, decision makers, emergency managers, and the general public.

## Evaluating the Action

Hazard(s) Addressed:	Drought
Goals:	1, 3, 4, 7
Risk Reduction:	The Borough has no plan for dealing with drought emergencies.
Technical:	Technically feasible, easily implemented.
Political:	There is current community support for hazard mitigation planning, however there is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Environmental Commission.
Other Community Objectives:	This action supports the objectives of emergency preparedness and environmental conservation.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$20,000.00
Priority:	Low
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Emergency Operations Plan -Hazardous Weather Annex
Likely Funding Source(s):	Municipal budget
Timeline:	1 year
Action Status:	Pending - Cost Updated

**2023 Status Update:** The project has not been implemented due to lack of resources (funding and administration) for the project. The Borough still prioritizes the development of a Drought Emergency Plan and it is recommended to remain in the plan with an increased cost of \$20,000.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_07

Manasquan, Borough of

## Describing the Action

Action Name:	Conduct Seismic Retrofitting of Structures, Facilities, and Equipment
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	This action item will include conducting seismic retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to bracing of generators, elevators, and other vital equipment, strengthening and retrofitting non-reinforced masonry buildings and non-ductile concrete facilities that are particularly vulnerable to ground shaking, retrofitting building veneers to prevent failure, anchoring rooftop-mounted equipment, and otherwise retrofitting structures and equipment to make earthquake resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from seismic damage. This item will also include requiring or encouraging seismic engineering measures and construction techniques that may include the mitigation actions listed above.

## Evaluating the Action

Hazard(s) Addressed:	Earthquake
Goals:	1, 2, 4, 6, 7
Risk Reduction:	The Borough has structures, including critical facilities and equipment, vulnerable to earthquakes.
Technical:	Technically feasible, difficult implementation. Seismic vulnerabilities solved for long term.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly chamber of commerce and home/business owners.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$300000.00
Priority:	Low
Scale of Ease of Implementation:	Medium
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Municipal budget
Timeline:	10+ years
Action Status:	Pending - Cost Updated

**2023 Status Update:** The project has not been implemented due to lack of resources (funding and administration) for the project. The Borough still prioritizes the implementation of seismic mitigation and it is recommended to remain in the plan with an increased cost of \$300,000.



# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_08

Manasquan, Borough of

## Describing the Action

Action Name:	Provide Back-up Power Generation for Critical Facilities
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	An inventory of all critical facilities and equipment shall be made and ranked in order of importance. Emergency back-up generators will be provided and maintained at each of the facilities.

## Evaluating the Action

Hazard(s) Addressed:	All Hazards
Goals:	1, 3, 7
Risk Reduction:	The Borough has critical facilities and equipment that are vulnerable to power failure.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required to implement this action.
Local Champion:	Possibly owners/operators of the critical facilities, OEM and Public Works.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$100,000.00
Priority:	High
Scale of Ease of Implementation:	1 (easy)
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Emergency Operations Plan
Likely Funding Source(s):	Potential HM Grant
Timeline:	n/a
Action Status:	Ongoing - Updated
<b><u>2023 Status Update:</u></b>	The Borough has identified that a second portable generator for powering the sanitary sewer lift station would be of benefit to the Borough as there are two lift stations and only one generator that must be rotated between the two stations in case of large power outage.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_09

Manasquan, Borough of

## Describing the Action

Action Name:	Provide Lightning Protection for Critical Facilities
Action Category:	Maintenance/Response/Recovery
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	This action item will include conducting lightning protection of these structures based upon rank (most vulnerable) and importance (most critical). This will include installing lightning protection devices and methods, such as lightning rods and grounding, on communications infrastructure and other critical facilities, as well as installing and maintaining surge protection on critical electronic equipment.

## Evaluating the Action

Hazard(s) Addressed:	Lightening
Goals:	2, 3, 5, 6, 7
Risk Reduction:	The Borough has critical facilities and equipment that are vulnerable to damage from lightning strikes.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	OK
Local Champion:	Possibly owners/operators of the critical facilities. OEM and Public Works.
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$100,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Municipal budget
Timeline:	
Action Status:	Complete
<b><u>2023 Status Update:</u></b>	This action item has been fully implemented and should be removed from the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_10

Manasquan, Borough of

## Describing the Action

Action Name:	Provide Erosion and Wave Protection along the Oceanfront by Constructing a Dune and Wall System along the Coastline
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Fortify a one-mile portion of coastline with and engineered dune and wall system consisting of high-strength steel wall covered by dune system and vegetation.

## Evaluating the Action

Hazard(s) Addressed:	Wave Action, Coastal Erosion
Goals:	2, 3, 6, 7
Risk Reduction:	The Borough has a 1-mile long unprotected coastline exposed to the ocean and storms.
Technical:	Technically feasible.
Political:	There is community resistance to using private property for the project as resistance to a permanent dune system.
Legal:	There may be issues with easements and/or impacts to residents views.
Environmental:	There is significant environmental issues with installing a hardened structure in the coastal zone.
Social:	There is significant resistance among oceanfront homeowners that would have their views negatively impacted.
Administrative Capability:	The Borough has the administrative capacity to implement this action, however outside funding is required.
Local Champion:	None identified.
Other Community Objectives:	This action supports the objectives of community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	Low
Scale of Ease of Implementation:	10 High
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA, Army Corp of Engineers
Timeline:	20+ years
Action Status:	Ongoing

### 2023 Status Update:

The project has not been implemented due to lack of resources (funding and administration) for the project. The Borough still prioritizes the implementation of coastal fortification and it is recommended to remain in the plan.

The US Army Corps of Engineers released a tentatively selected plan for coastal mitigation in 2021 which includes the above project. This project is expected to go into pre-construction/engineering & design by 2030.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_11

Manasquan, Borough of

## Describing the Action

Action Name:	Restore Natural Buffers to Mitigate Flooding Borough-Wide
Action Category:	Mitigation - Risk Reduction
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Mitigation Reconstruction
Action Description:	Provide natural resource restoration to existing dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains in order to enhance natural buffers and flood mitigation. This will include developing a comprehensive approach that combines dune, maritime forest, coastal wetlands, salt marsh and stream corridor restoration with potential flood mitigation opportunities and integrated high-water controls in order to reduce both riverine and tidal flooding and protects against sea level rise. The project will restore over 60-acres of coastal wetlands and maritime forest and 6-miles of stream corridors.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has a significant number of natural buffers including dunes, salt marshes, coastal wetlands, maritime forests, stream corridors and natural floodplains that are in a deteriorated state that can provide significant natural buffers and flood mitigation.
Technical:	Technically feasible.
Political:	There is community resistance to increased local property taxes.
Legal:	There may be issues with easements and/or other impacts to residents.
Environmental:	This is an environmental restoration project and although it has environmental impacts they should be all positive.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Environmental Commission and the Monmouth County Park System
Other Community Objectives:	This action supports the objectives of community resiliency and environmental quality.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$7,000,000.00
Priority:	Medium
Scale of Ease of Implementation:	Medium
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA, EPA, National Fish and Wildlife Foundation (NFWF), NOAA, New Jersey Corporate Wetlands Restoration
Timeline:	4 years
Action Status:	Ongoing

### 2023 Status Update:

The Fisherman's Cove is in the process of rehabilitation and a maritime forest and riparian buffer has been created on the existing parking lot through a partnership with Monmouth County and NJDOT in 2022.

Phase III - Parking Lot relocation & Natural Resource Restoration is scheduled to be completed in 2023-2024.

This action item should remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_12

Manasquan, Borough of

## Describing the Action

Action Name:	Enforce Compliance with NFIP's CRS Program
Action Category:	
Action Type:	Local Plans and Regulations
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	<p>Manasquan participates in the National Flood Insurance Program's (NFIP) Community Rating System (CRS). This project will include increased regulatory standards both in and out of the floodplain, including enacting and enforcing regulations that exceed NFIP minimum standards so that more flood protection is provided for any development. Existing ordinances will be reviewed and made more stringent, including requiring buildings to be constructed above the minimum elevation required by NFIP, requiring foundation protection on new buildings, requiring any new critical facilities to be build outside of the flood zone, requiring new development to provide positive drainage away from the structure, updating the definition of substantial improvement ta include accumulation of improvements counted over 10-years, as well as formally adopting the preliminary Flood Insurance Rate Maps (FIRMS). This will also include advising the public about the local flood hazard, flood insurance, and flood protection measures as part of an organize, Program for Public Information (Action Item #4) and increasing our flood warning dissemination and response capabilities (Action Item# 5). This item also includes work included in Action items 13-17, including implementing damage reduction measures for existing buildings such as elevation, acquisition, relocation, retrofitting, and maintenance of drainageways and retention basins.</p>

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	8
Risk Reduction:	The Borough needs to increase participation in the National Flood Insurance Program's (NFIP) Community Rating System (CRS).
Technical:	Technically feasible.
Political:	There is community resistance to increased regulatory standards.
Legal:	There are no legal issues.
Environmental:	There are no environmental impacts.
Social:	There is no social impact.
Administrative Capability:	The Borough has the administrative capacity to implement this action.
Local Champion:	Office of Emergency Management will advocate for the project.
Other Community Objectives:	These activities may be eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$5,000.00
Priority:	
Scale of Ease of Implementation:	
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan, Floodplain Management Plan
Likely Funding Source(s):	Local Hazard Mitigation Program
Timeline:	
Action Status:	Ongoing

### 2023 Status Update:

This action item was implemented by the Borough in 2022-2023.

This action item is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_13

Manasquan, Borough of

## Describing the Action

Action Name:	Floodproof Residential and Non-Residential Structures
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Dry Floodproofing of Non-residential Structures
Action Description:	This action item will include conducting flood proofing of these structures based upon rank (most vulnerable) and importance (most critical). These structures will be protected from flooding by a combination of methods, including, but not limited to wet floodproofing in a basement, wet floodproofing of areas above base flood elevation, using water resistant paints or other materials to allow for easy cleanup after floodwater exposure, and by dry floodproofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has residential, commercial, and public structures and equipment vulnerable to flooding, storm surge, Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types and ownership.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	possibly homeowners in flood zone, owners/operators of critical facilities.
Other Community Objectives:	This action supports the objectives of community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$150,000,000.00
Priority:	Medium
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	FEMA HMA
Timeline:	10+ years
Action Status:	Ongoing

**2023 Status Update:** The project has not been fully implemented due to lack of resources (funding and administration) for the project. Many home and business owners have conducted flood mitigation actions to their structures. A more comprehensive program with funding and standards should be implemented at the state or regional level. The Borough still prioritizes flood mitigation and it is recommended to remain in the plan with an increased cost of \$150,000,000.

Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_14

Manasquan, Borough of

## Describing the Action

Action Name:	Elevate Residential and Non-Residential Structures & Equipment, especially Repetitive Loss (RL) and Severe Repetitive Loss (SRL) Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	This action item will include elevating these structures based upon rank (most vulnerable) and importance (most critical). These structures, facilities, and equipment will be elevated at least 1-foot above minimum NFIP base flood elevation requirements to protect from flooding, storm surge & sea level rise.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6, 7
Risk Reduction:	The Borough has residential, commercial and public structures and critical facilities and equipment vulnerable to flooding, storm surge, and Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types & ownership.
Political:	There is community resistance to increased local property taxes.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact, as most neighborhoods have already undertaken home elevations.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	possibly homeowners in flood zone, owners/operators of critical facilities.
Other Community Objectives:	This action supports the objectives of community resiliency and these actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	8

## Implementing the Action

Cost Estimate:	\$275,000,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan, NFIP CRS Program, NJOEM, FEMA
Likely Funding Source(s):	FEMA HMA
Timeline:	20+ years
Action Status:	Ongoing

**2023 Status Update:** The project has not been fully implemented due to lack of resources (funding and administration) for the project. The cost has been updated to \$275,000,000.00. Many homeowners have elevated their structures. A more comprehensive program with funding and standards should be implemented at the state or regional level. The Borough still prioritizes flood mitigation and structure elevation and it is recommended to remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_15

Manasquan, Borough of

## Describing the Action

Action Name:	Relocate Structures, Critical Facilities, and Equipment out of Flood Hazard Areas, especially Repetitive Loss and Severe Repetitive Loss Properties
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Property Acquisition and Structure Relocation
Action Description:	This action item will include relocating of these structures based upon rank (most vulnerable, importance and most critical. These structures and facilities and equipment will be relocated to low-hazard areas to protect from flooding, wave action, storm surge, and Sea Level Rise. This may include compensating an owner or partial rights, such as easement or development rights, to prevent a property from being developed.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Wave Action, Storm Surge
Goals:	2, 5, 6
Risk Reduction:	The Borough has residential, commercial, and public structures and critical facilities and equipment located in high-hazard areas vulnerable to flooding, wave action, storm surge, and Sea Level Rise.
Technical:	Technically feasible, implementation difficult due to varied structure types and ownership issues.
Political:	There is community resistance to increased local property taxes and to retreating from coastal areas.
Legal:	There will be legal issues if property owners are unwilling to relocate.
Environmental:	There is a positive environmental impact for restoring previously developed areas to natural buffers.
Social:	There is a huge social impact in retreating from the coastal zone.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	None
Other Community Objectives:	This action supports the objectives community resiliency and these actions are eligible for credit under the Community Rating System and may lead to lower flood insurance premiums.
STAPLEE Evaluation:	6

## Implementing the Action

Cost Estimate:	\$630,000,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard mitigation plan, NFIP's CRS Program, Green Acres Fund, Blue Acres Program, NJOEM, FEMA
Likely Funding Source(s):	Community Resiliency Grants, FEMA's HMA Funding
Timeline:	20+ years
Action Status:	Ongoing

**2023 Status Update:** This action item was not implemented in 2022. The cost has been updated to \$630,000,000.00. The high cost and lack of funds and lack of desire to relocate have been the impediment to implementation. This action item should remain in the plan pending a federal funding program for this activity.



# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_16

Manasquan, Borough of

## Describing the Action

Action Name:	Elevate and/or Improve Drainage of Roadways in Flood-prone Areas
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Critical access roads in these areas will be elevated to protect from flooding and storm surge. Roadway drainage will be improved, one-way tide-flex type valves installed, and vulnerable shoulders will be stabilized using bioengineered bank stabilization techniques. Seawalls or other structures will be constructed to protect critical facilities located on the shoreline. Water and wastewater treatment facilities located in high-hazard areas will be flood-protected. This will include retrofitting structures to elevate them above forecasted sea level rise levels, retrofitting critical facilities to be 1 foot above the 500-year flood elevation (considering wave action) or the predicted sea level rise level, whichever is higher and replacing exterior building components with more hazard resistant materials.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	3, 5, 6, 7
Risk Reduction:	The Borough has roads and infrastructure located in high-hazard areas vulnerable to flooding, storm surge, and Sea Level Rise.
Technical:	Technically feasible, easily implemented.
Political:	There is community resistance to increased local property taxes, however there is community support for flood protection.
Legal:	There are no legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Emergency Response Agencies, MBIA, OEM, homeowners in affected areas.
Other Community Objectives:	This action supports the objectives community resiliency and emergency response.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$10,000,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Community Resiliency Grants, FEMA HMA funding, Transportation funds.
Timeline:	20 years
Action Status:	Ongoing

**2023 Status Update:** This action item is approximately 50% complete. Phase 2 of First Avenue is tentative for 2023. The following additional projects have been implemented:

- First Avenue - Phase I (2022)
- Euclid Ave (2021)
- East Main Street (2020)
- Stockton Lake Boulevard (2018/2019)
- Brielle Road (2015)

This action item should remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_17

Manasquan, Borough of

## Describing the Action

Action Name:	Construct a Seawall and Flood Gate
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	This action item includes the construction of a steel seawall along the Atlantic Ocean and a flood gate across the Manasquan Inlet. This project would protect all communities in the Manasquan River floodplain from coastal flooding, storm surge and sea level rise. The steel seawall would be covered in a man-made, vegetated dune and would be tied into high ground on the Sea Girt border to the north and a flood gate across Manasquan Inlet to the south. The same seawall would run the length of Point Pleasant Beach.

## Evaluating the Action

Hazard(s) Addressed:	Flood, Storm Surge
Goals:	1, 2, 6, 7
Risk Reduction:	A majority of the Borough flooding is from the Manasquan River. A seawall and/or flood gate would mitigate a majority of the flood risks for the Borough.
Technical:	Installing this flood gate would be both technically challenging and technically feasible.
Political:	There is community resistance to increased local property taxes, however there is community support for flood protection especially a large-scale project such as this.
Legal:	There may be significant legal issues regarding easements and homeowners views being blocked by dunes.
Environmental:	There is significant environmental issues with installing a hardened structure in the coastal zone.
Social:	There is significant resistance among oceanfront homeowners that would have their views negatively impacted by a seawall/dune system.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required. This would have to be a joint project undertaken by multiple municipalities, and administered at the State and/or Federal level.
Local Champion:	Emergency Response Agencies, MBIA, OEM, homeowners in affected areas
Other Community Objectives:	This action supports the objectives community resiliency and emergency response
STAPLEE Evaluation:	5

## Implementing the Action

Cost Estimate:	\$150,000,000.00
Priority:	High
Scale of Ease of Implementation:	High
Responsible Party:	Army Corp of Engineers
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Federal USACE funds, FEMA HMA
Timeline:	20 years
Action Status:	Ongoing

**2023 Status Update:** The US Army Corps of Engineers released a tentatively selected plan for coastal mitigation in 2021 which includes the above project. This project is expected to go into pre-construction/engineering & design by 2030.

This project should remain in the plan.

# Monmouth County Mitigation Action Worksheets

Community Action Number: 30\_18

Manasquan, Borough of

## Describing the Action

Action Name:	Conduct an Inventory and Retrofit Structures, Facilities, and Equipment to Sustain High Winds
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other/NA
Action Description:	An inventory of public and commercial buildings that are vulnerable to high winds will be identified; this action item will include conducting retrofitting of these structures based upon rank (most vulnerable) and importance (most critical). Such mitigation actions may include, but are not limited to, installing hurricane shutters or other protective measures, retrofitting gable end walls to eliminate wall failures in high winds, replacing existing non-ductile infrastructure with ductile infrastructure to reduce their exposure to hazardous events, retrofitting buildings with load-path connectors to strengthen the structural frames, reinforcing garage doors, anchoring roof-mounted heating, ventilation, and air conditioning units, retrofitting the emergency operations center to FEMA 361 standards, upgrading of reused buildings that will house critical facilities, and otherwise retrofitting structures and equipment to make wind resistant. This will also include reviewing building codes and structural policies to ensure they are adequate to protect older structures from wind damage. This item will also include requiring or encouraging wind engineering measures and construction techniques that may include structural bracing, straps and clips, anchor bolts, laminated or impact-resistant glass, reinforced pedestrian and garage doors, window shutters, waterproof adhesive sealing strips, or interlocking roof shingles.

## Evaluating the Action

Hazard(s) Addressed:	Extreme Wind
Goals:	1, 2, 4, 6, 7
Risk Reduction:	The Borough has structures, including critical facilities and equipment, vulnerable to high winds.
Technical:	Technically feasible, difficult implementation. Wind vulnerabilities salved for long term.
Political:	There is community resistance to increased local property taxes. There may be same resistance to increased building code regulations.
Legal:	There are no apparent legal issues.
Environmental:	There is no environmental impact.
Social:	There is no social impact.
Administrative Capability:	Currently the Borough does not have the administrative capacity to implement this action and outside assistance and/or funding is required.
Local Champion:	Possibly Chamber of Commerce
Other Community Objectives:	This action supports the objectives of emergency preparedness and community resiliency.
STAPLEE Evaluation:	N/A

## Implementing the Action

Cost Estimate:	\$2,625,000
Priority:	Low
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Hazard Mitigation Plan
Likely Funding Source(s):	Municipal budget
Timeline:	5 + years
Action Status:	Not Implemented

**2023 Status Update:** The project has not been implemented due to lack of resources (funding and administration) for the project. The cost has been updated to \$2,625,000. The Borough still prioritizes the implementation of wind damage mitigation and it is recommended to remain in the plan.