Appendix Vol I.50 Union Beach Borough

Please find below the following documents specific to this jurisdiction that have been included as part of the plan update process.

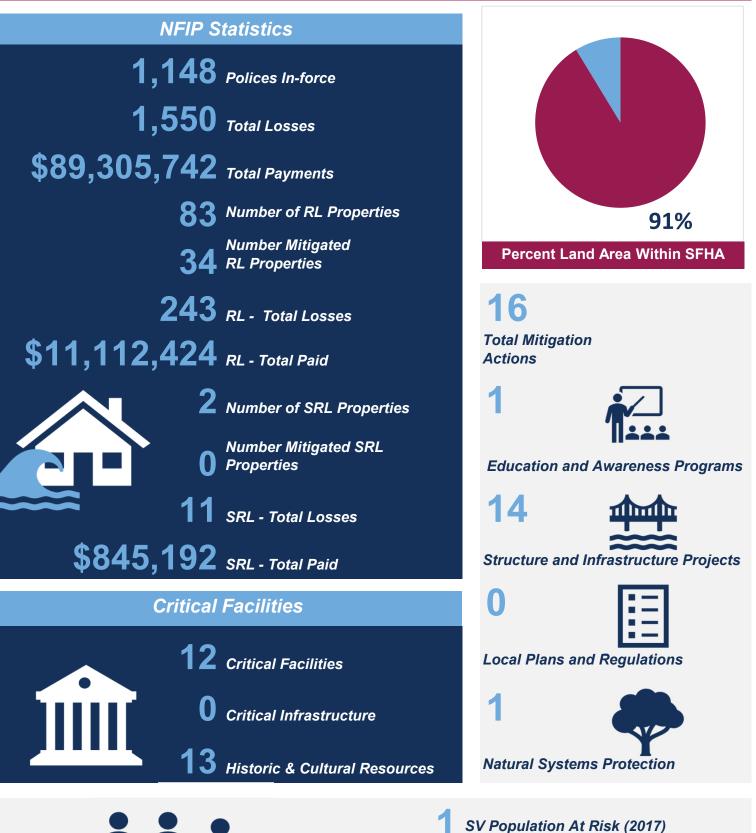
- Summary Sheet
- Mitigation Action Table
- Mitigation Action Worksheets
- Capability Assessment
- Flood Zone Map
- Sea Level Rise Vulnerability Map
- Meeting Material



Union Beach Borough



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5,144 *Population at Risk (2017)*

Union Beach, Borough of

Monmouth County HMP Mitigation Action Summary

Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
50_01	Implement the Army Corps of Engineers Shore Protection and Flood Control Plan for Flood Reduction Projects	The Army Corp Plan includes the following recommendations: installation of earthen levees, concrete flood walls, interior levees, primary and secondary drainage outlet structures, tide gate structures, road closure gate, road raising, three pump stations, beach fill and dune, two terminal groins, beach and dune nourishment every nine years.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	High	Mayor and Borough Council, ACOE, NJDEP	FEMA Hazard Mitigation Grant, Borough funding, Army Corp of Engineers, NOAA,	\$275,000,000.00	1 year	Ongoing
50_02	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on Repetitive Loss (RL) and Severe Repetitive Loss (SRL) properties	Mitigate approximately 1,222 homes.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Homeowners and/or Borough Administrator	FEMA HMA	\$82,200,000.00	2 years	Ongoing
50_03	Elevate Spruce Street, Center Street, and Fifth Street	Raising the elevation of the roadway to decrease the occurrence and severity of flooding in the area.		Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge			Borough administrator	FEMA Hazard Mitigation Grant, Borough funding	\$684,457.50		Completed
50_04	Elevate Front Street	Raising the elevation of the roadway to decrease the occurrence and severity of flooding in the area.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Administrator	FEMA Hazard Mitigation Grant, Borough funding, County Funding, NJDOT	\$400,000.00	1 year	Ongoing
50_05	Relocate Department of Public Works Main Building out of Flood Zone	Relocate Department of Public Works main building to a location above the FEMA working FIRM maps.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Administrator	FEMA HMA, Borough funding, CDBG- DR	\$1,500,000.00	1 year	Ongoing
50_06	Relocate Harris Garden Fire Company Building (Station 65-4) outside a Flood Zone	Relocate Harris Garden Fire Company Building to a location above the FEMA working FIRM maps.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Administrator	FEMA Hazard Mitigation Grant, Borough funding, CDBG	\$1,500,000.00	1 year	Ongoing
50_07	Elevate Florence Ave.	Raising the elevation of the roadway to decrease the occurrence and severity of flooding in the area.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge	High	Medium	Borough Administrator, Monmouth County	FEMA Hazard Mitigation Grant, Borough funding, County funding	\$300,000.00	1 year	Ongoing
50_08	Install Flood Warning Signage	Installation of flood warning signage.	Administrative	Structure and Infrastructure Project	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge	High	Low	Office of Emergency Management	Borough funding	\$5,000.00	1 year	Ongoing

Union E	Union Beach, Borough of					Monmouth County HMP Mitigation Action Summary						
Community Action #	Action Name	Action Description	Action Category	Action Type	Hazard(s) Addressed	Priority	Ease of Implementation	Responsible Party	Potential Funding Sources	Cost Estimate	Timeline	Action Status
50_09	Stream/Creek Cleaning and Maintenance	Debris and sediment accumulation in receiving waterways and creeks impedes flood flows.		Structure and Infrastructure Project	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge			Public Works, County Mosquito Commission	NRCS, HMA	\$5,000.00		Completed
50_10	Maintenance of Shore Protection Programs	Maintenance of the existing shore protection features.		Structure and Infrastructure Project	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge			Borough Engineer, Public Works	FEMA Hazard Mitigation Grant, Borough funding	\$100,000.00		Completed
50_11	Construct a Stone Revetment Wal	Construct a stone revetment wall along the Raritan Bay Waterfront beginning at the point of juncture of the Raritan Bay and Flat Creek and continuing east along the Borough's bay front for approximately 875 linear feet.	Mitigation - Risk Reduction	Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge	Medium	Medium	Borough Administrator	FEMA Hazard Mitigation Grant, Borough funding	\$1,900,000.00	5 + years	Ongoing
50_12	Storm Drain/Inlet Maintenance	Cleaning and maintenance of the existing storm drains and inlets.		Structure and Infrastructure Project	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge			Public Works	Borough funding, FEMA grant funding	\$5,000.00		Completed
50_13	Update the Borough's Emergency Warning System	Upgrade Borough's existing emergency warning system.	Administrative	Education and Awareness Programs	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge,	Medium	Low	Office of Emergency Management, Police Department	Borough funding	\$700,000.00	1 year	Ongoing
50_14	Purchase and Install Generators for Memorial School and Borough Hall	Memorial School and Borough Hall need generators in order to operate as shelters.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	All Hazards	High	Low	Borough Administration	FEMA HMA	\$400,000.00	1 year	New
50_15	Elevate Park Avenue	Elevate Park Avenue to keep roadway clear from flooding.	Mitigation - Continuity of Fuctional Use	Structure and Infrastructure Project	Flood, Hurricane and Tropical Storm	High	Medium	Borough Administration	FEMA HMA, Borough funding		1 year	New
50_16	Restore the Marsh Surrounding Flat Creek and Create an Upland Maritime Forest Berm	Restore the marsh surrounding Flat Creek and create an upland maritime forest berm buffering local residences from the marsh. The proposed concept could enhance, but not interfere with any USACE work for Union Beach, and help reduce flooding on Route 36, which provides access to the NWS Earle Pier Complex.	Mitigation - Continuity of Fuctional Use	Natural Systems Protection	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge	High	Low	Borough, County	New Jersey Corporate Wetlands Restoration Partnership (NJCWRP), FEMA HMA, National Fish and Wildlife		2 years	New

Community Action Number:	50_01 Union Beach, Borough of
Describing the Action	
Action Name:	Implement the Army Corps of Engineers Shore Protection and Flood Control Plan for Flood Reduction Projects
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	The Army Corp Plan includes the following recommendations: installation of earthen levees, concrete flood walls, interior levees, primary and secondary drainage outlet structures, tide gate structures, road closure gate, road raising, three pump stations, beach fill and dune, two terminal groins, beach and dune nourishment every nine years

Evaluating the Action	
Hazard(s) Addressed:	Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 2, 3, 5, 6
Risk Reduction:	The Army Corps of Engineers Shore Protection and Flood Control Project for Union Beach should be implemented and maintained to provide shore protection and flood control in the Borough.
Technical:	Technically feasible.
Political:	Advised by council and the Mayor.
Legal:	The community has the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	No negative social effects going forward with this project.
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain it. Borough would have to bid the project and cons.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	9

Cost Estimate:	\$275,000,000.00
Priority:	High
Scale of Ease of Implementation:	High
Responsible Party:	Mayor and Borough Council, ACOE, NJDEP
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding, Army Corp of Engineers, NOAA,
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action. Phase 1: acquire 5-10 beachfront properties and obtain 300 easements to allow for the work. Phase 2: levees, flood wall, pump stations, flood gates.

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Community Action Number	r: 50_02 Union Beach, Borough of
Describing the Action	
Action Name:	Acquire, elevate, or relocate buildings and infrastructure in flood prone areas, with a focus on 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:	Mitigate approximately 1,222 homes.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	1, 2, 3, 6
Risk Reduction:	Reduce potential damages to residential structures from high flood waters caused by Hurricanes, Tropical Storms, and Nor'easters. The entirety of Union Beach is within mapped surge hazard areas, and nearly all of the Borough was inundated during Superstorm Sandy. The Borough incurred millions of dollars in losses, and roughly 250 homes were destroyed.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	Property owners may need to relocate while the home raising is implemented.
Administrative Capability:	The community does have the personnel and homeowners will maintain projects.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	10

Implementing the Action

Cost Estimate:	\$82,200,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Homeowners and/or Borough Administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents, additionally current code r
Likely Funding Source(s):	FEMA HMA
Timeline:	2 years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; 300-400 homes have been elevated, roughly 800 more homes need to be elevated. Since several of these homes are RL or SRL, the Borough will look into FEMA's PDM funding. Cost of project is roughly \$100,000 per borns alouation.

\$100,000 per home elevation.

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Community Action Number	: 50_03 Union Beach, Borough of
Describing the Action	
Action Name:	Elevate Spruce Street, Center Street, and Fifth Street
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Raising the elevation of the roadway to decrease the occurrence and severity of flooding in the area.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 7
Risk Reduction:	The intersection of Spruce Street, Center Street and Fifth Street intersection and Pine Street and Third Street intersection is not at a sufficient elevation and is subject to flooding. These two roadways are located in a residential community and provide access to the park and residential structures.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain it. Borough would have to bid the project and construction.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A
Implementing the Action	
Cost Estimate:	\$684,457.50
Priority:	
Scale of Ease of Implementation:	
Responsible Party:	Borough administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding
Timeline:	
Action Status:	Completed

Notes:

Community Action Number	r: 50_04	Union Beach, Borough of
Describing the Action		
Action Name:	Elevate Front Street	
Action Category:	Mitigation - Continuity of Fuctional Use	
Action Type:	Structure and Infrastructure Project	
HMA Eligible Activity:	Structure Elevation	
Action Description:	Raising the elevation of the roadway to decrease the occurrence and severit	ty of flooding in the area.
Evaluating the Action		
Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surg	e
Goals:	2, 3, 7	
Risk Reduction:	Reduce the incidence of flooding in the flood prone area of Front Street. Ma are flood prone. Ingress/egress becomes an issue. In addition, drivers who a caught unaware of flood conditions risk damaging personal property and life	are unfamiliar with the area or who are
Technical:	This mitigation is technically feasible.	
Political:	This project was advised by council and the Mayor.	
Legal:	The community does have the legal authority to implement this project.	
Environmental:	There are no negative environmental impacts caused by this project and it v local regulations.	vill comply with all federal, state, and
Social:	There are no negative social effects going forward with this project.	
Administrative Capability:	The community does have the personnel and administrative capability imple Borough would have to bid the engineering and construction.	ement this action as well as maintain it.
Local Champion:	Council and the Mayor	
Other Community Objectives:	Capital Improvements	
STAPLEE Evaluation:	N/A	
Implementing the Action		
Cost Estimate:	\$400,000.00	

Cost Estimate:	\$400,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding, County Funding, NJDOT
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; ■MP application submitted by county – pending.

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Community Action Number	r: 50_05 Union Beach, Borough of
Describing the Action	
Action Name:	Relocate Department of Public Works Main Building out of Flood Zone
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Relocate Department of Public Works main building to a location above the FEMA working FIRM maps.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 7
Risk Reduction:	Reduce potential damages to Department of Public Works main building from high flood waters caused by storm surge. The Department of Public Works Building is located in a flood prone area and the Borough is unable to provide emergency repair services during flooding events.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, staff, and local regulations.
Social:	DPW workers may need to relocate while the structure is relocated
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain it. Borough would have to bid the engineering and construction.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A

Cost Estimate:	\$1,500,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA HMA, Borough funding, CDBG- DR
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; the problem with this action is there is little area outside SFHA for the new DPW building to locate and the building is not able to be floodproofed or elevated as it is too old. The front portion of the building will be demolished.

Community Action Number:	50_06 Union Beach, Borough of
Describing the Action	
Action Name:	Relocate Harris Garden Fire Company Building (Station 65-4) outside a Flood Zone
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Relocate Harris Garden Fire Company Building to a location above the FEMA working FIRM maps.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 7
Risk Reduction:	The Harris Garden Fire Company Building is located in a flood-prone area and the Borough is unable to provide firefighting services during flooding events.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, staff, and local regulations.
Social:	Harris Garden Fire Company workers may need to relocate while the structure is relocated.
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain the

	Borough would have to bid the engineering and construction.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A

implementing the Action	
Cost Estimate:	\$1,500,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding, CDBG
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; the Borough would like to consolidate Station 65-4 with Station 65-3 (located out of the SFHA). Station 65-1 and Station 65-2 are also considering consolidation to 65-3.

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Community Action Number	r: 50_07 Union Beach, Borough
Describing the Action	
Action Name:	Elevate Florence Ave.
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Raising the elevation of the roadway to decrease the occurrence and severity of flooding in the area.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 7
Risk Reduction:	A section of Florence Avenue is not at a sufficient elevation, and is subject to flooding. This road is important for maintaining egress and ingress in the municipality.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, staff, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain i Borough would have to bid the engineering and construction.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A

implementing the Action	
Cost Estimate:	\$300,000.00
Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator, Monmouth County
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding, County funding
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; County will raise road Florence Ave with their bridge elevation project. Currently in the design/permit phase.

Community Action Num	iber: 50_08 Union Beach, Borough o
Describing the Action	
Action Name:	Install Flood Warning Signage
Action Category:	Administrative
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Installation of flood warning signage.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge
Goals:	3, 7
Risk Reduction:	Many roads in the Borough of Union Beach are flood-prone. Ingress/egress becomes an issue. In addition, drivers who are unfamiliar with the area or who are caught unaware of flood conditions risk.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.

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Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The Borough has the personnel and administrative capability.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEF Evaluation:	Ν/Α

Cost Estimator	
Cost Estimate:	\$5,000.00
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Office of Emergency Management
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	Borough funding
Timeline:	1 year
Action Status:	Ongoing
Notes:	Ongoing 2015 action; radio station down, need to purchase new signs. Electric capabilities are already on poles.

Community Action Number:	50_09 Union Beach, Borough c
Describing the Action	
Action Name:	Stream/Creek Cleaning and Maintenance
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Debris and sediment accumulation in receiving waterways and creeks impedes flood flows.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Hurricane and Tropical Storm, Storm Surge
Goals:	3, 5, 6
Risk Reduction:	Cleaning and maintenance of waterways. These are priority for the Borough in order to ensure property drainage of flood waters and to reduce flooding events.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The Borough does have the personnel and administrative capability.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A
Implementing the Action	
Cost Estimate:	\$5,000.00
Priority:	
Scale of Ease of Implementation:	

Responsible Party:	Public Works, County Mosquito Commission
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	NRCS, HMA
Timeline:	
Action Status:	Completed
Notes:	Now an ongoing capability and part of the Public Works Maintenance Program.

Community Action Number	: 50_10 Union Beach, Borough o
Describing the Action	
Action Name:	Maintenance of Shore Protection Programs
Action Category:	
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Maintenance of the existing shore protection features.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Wave Action, Coastal Erosion, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 4, 5, 6
Risk Reduction:	The existing shore protection features (bulkhead, beach area) are the borough's first line of defense against wave action, storm surge, and flooding during storm events. Gaps in the line of protection, variations in the design level, or unmitigated circumstances that compromise the function of the overall system increase the vulnerability of people and property in the protected area.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The community does have the personnel and administrative capability to maintain it.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	N/A
Implementing the Action	
Cost Estimate:	\$100,000.00
Priority:	
Scale of Ease of Implementation:	
Responsible Party:	Borough Engineer, Public Works
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding
Timeline:	
Action Status:	Completed

Now an ongoing capability and part of the Public Works Maintenance Program. Tied to the Army Corp project.

Notes:

Community Action Number: 50_11 Union Beach, Borough or	
Describing the Action	
Action Name:	Construct a Stone Revetment Wall
Action Category:	Mitigation - Risk Reduction
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Localized Flood Risk Reduction Projects
Action Description:	Construct a stone revetment wall along the Raritan Bay Waterfront beginning at the point of juncture of the Raritan Bay and Flat Creek and continuing east along the Borough's bay front for approximately 875 linear feet.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	2, 3, 4, 5, 6
Risk Reduction:	The existing shore protection features bulkhead and a wide beach, which are the borough's first line of defense against wave action, storm surge, and flooding during storm events. Gaps in the line of protection, variations in the design level, or unmitigated circumstances that compromise the function of the overall system increase the vulnerability of people and property in the protected area.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community does have the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project
Administrative Capability:	The community does have the personnel and administrative capability implement this action as well as maintain it. Borough would have to bid the project and construction.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital Improvements
STAPLEE Evaluation:	11

Cost Estimate:	\$1,900,000.00
Priority:	Medium
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administrator
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.
Likely Funding Source(s):	FEMA Hazard Mitigation Grant, Borough funding
Timeline:	5 + years
Action Status:	Ongoing
Notes:	Ongoing 2015 action; if the Army Corp project doesn't happen, the Borough will build the stone revetment wall.

	Noninouth County Mitigation Action Worksheets		
Community Action Number: 50_12 Union Beach, Borough of			
Describing the Action			
Action Name:	Storm Drain/Inlet Maintenance		
Action Category:			
Action Type:	Structure and Infrastructure Project		
HMA Eligible Activity:	Localized Flood Risk Reduction Projects		
Action Description:	Cleaning and maintenance of the existing storm drains and inlets.		
Evaluating the Action			
Hazard(s) Addressed:	Flood, Extreme Wind, Nor'easter, Hurricane and Tropical Storm, Storm Surge		
Goals:	2, 3, 4, 5, 6		
Risk Reduction:	Cleaning and maintenance of the existing storm drains and inlets to prevent flooding, Union Beach is highly susceptible to storm surge and flooding therefor maintaining these systems is crucial.		
Technical:	This mitigation action is technically feasible.		
Political:	This project was advised by council and the Mayor.		
Legal:	This project was advised by council and the Mayor.		
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.		
Social:	There are no negative social effects going forward with this project.		
Administrative Capability:	The community has the personnel and administrative capability to maintain.		
Local Champion:	Council and the Mayor		
Other Community Objectives:	Capital Improvements		
STAPLEE Evaluation:	N/A		
Implementing the Action			
Cost Estimate:	\$5,000.00		
Priority:			
Scale of Ease of Implementation:			
Responsible Party:	Public Works		
Local Planning Mechanism:	Mitigation activities will be implemented according to all governing regulatory documents.		
Likely Funding Source(s):	Borough funding, FEMA grant funding		
Timeline:			
Action Status:	Completed		

Now an ongoing capability and part of the Public Works Maintenance Program.

Notes:

Community Action Number	: 50_13 Union Beach, Borough of
Describing the Action	
Action Name:	Update the Borough's Emergency Warning System
Action Category:	Administrative
Action Type:	Education and Awareness Programs
HMA Eligible Activity:	Miscellaneous/Other
Action Description:	Upgrade Borough's existing emergency warning system.
Evaluating the Action	
Hazard(s) Addressed:	Extreme Temperatures, Flood, Extreme Wind, Lightening, Nor'easter, Hurricane and Tropical Storm, Storm Surge, Wi
Goals:	3, 7
Risk Reduction:	Keeping the public informed of incoming atmospheric hazards is crucial to the health and safety of borough residents during storm events. Upgrading the existing system will keep the system capable with surrounding communities and the county.
Technical:	This mitigation is technically feasible.
Political:	This project was advised by council and the Mayor.
Legal:	The community has the legal authority to implement this project.
Environmental:	There are no negative environmental impacts caused by this project and it will comply with all federal, state, and local regulations.
Social:	There are no negative social effects going forward with this project.
Administrative Capability:	The community has the personnel and administrative capability to maintain the storm drains.
Local Champion:	Council and the Mayor
Other Community Objectives:	Capital improvements

STAPLEE Evaluation:

N/A

Implementing the Action \$700,000.00 Cost Estimate: Priority: Medium Scale of Ease of Implementation: Low **Responsible Party:** Office of Emergency Management, Police Department Local Planning Mechanism: Mitigation activities will be implemented according to all governing regulatory documents. Likely Funding Source(s): Borough funding Timeline: 1 year Action Status: Ongoing Ongoing 2015 action; the Borough would like three new sirens. Notes:

Community Action Numbe	er: 50_14 Union Beach, Borough of
Describing the Action	
Action Name:	Purchase and Install Generators for Memorial School and Borough Hall
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Generators
Action Description:	Memorial School and Borough Hall need generators in order to operate as shelters.
Evaluating the Action	
Hazard(s) Addressed:	All Hazards
Goals:	7
Risk Reduction:	Both Memorial School and Borough Hall lose power during severe events and need generators to operate as shelters.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.

	iotal services during energencies.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	OEM

Other Community Objectives:			
STAPLEE Evaluation:	N/A		
Implementing the Action	h		

Implementing the Action	
Cost Estimate:	\$400,000.00
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Borough Administration
Local Planning Mechanism:	EOP
Likely Funding Source(s):	FEMA HMA
Timeline:	1 year
Action Status:	New
Notes:	

Community Action Number	: 50_15 Union Beach, Borough of
Describing the Action	
Action Name:	Elevate Park Avenue
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Structure and Infrastructure Project
HMA Eligible Activity:	Structure Elevation
Action Description:	Elevate Park Avenue to keep roadway clear from flooding.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Hurricane and Tropical Storm
Goals:	7
Risk Reduction:	Park Ave floods during high tide and the First Aid Squad, Fire Station, OEM, and School access this roadway.
Technical:	Technically feasible.
Political:	No adverse political ramifications are expected.
Legal:	No legal impediments anticipated.
Environmental:	No adverse environmental impact anticipated.
Social:	Does not adversely affect any particular social group. Perceived by the public to be a good thing because it supports local services during emergencies.
Administrative Capability:	Borough has sufficient capacity and experience to administer this action.
Local Champion:	OEM
Other Community Objectives:	
STAPLEE Evaluation:	N/A
Implementing the Action	
Cost Estimate:	

Priority:	High
Scale of Ease of Implementation:	Medium
Responsible Party:	Borough Administration
Local Planning Mechanism:	EOP
Likely Funding Source(s):	FEMA HMA, Borough funding
Timeline:	1 year
Action Status:	New
Notes:	Very high priority.

Community Action Num	ber: 50_16 Union Beach, Borough
Describing the Action	
Action Name:	Restore the Marsh Surrounding Flat Creek and Create an Upland Maritime Forest Berm
Action Category:	Mitigation - Continuity of Fuctional Use
Action Type:	Natural Systems Protection
HMA Eligible Activity:	Floodplain and Stream Restoration
Action Description:	Restore the marsh surrounding Flat Creek and create an upland maritime forest berm buffering local residences fr the marsh. The proposed concept could enhance, but not interfere with any USACE work for Union Beach, and hel reduce flooding on Route 36, which provides access to the NWS Earle Pier Complex.
Evaluating the Action	
Hazard(s) Addressed:	Flood, Nor'easter, Hurricane and Tropical Storm, Storm Surge
Goals:	5, 6, 7
Risk Reduction:	Union Beach is at risk of coastal flooding due to its low-lying location containing large tracts of Bayshore wetlands and tidal Flat Creek. The floodplain along Flat Creek is an ecologically-sensitive area that has been disturbed and h eroded over time, degrading conditions, causing flooding and negative environmental impacts

	eroded over time, degrading conditions, causing flooding and negative environmental impacts
Technical:	Technically feasible.
Political:	The County and NWS Earle support this action.
Legal:	Project will be completed on public lands owned by the County or Borough; NJDEP permits and Soil Erosion and Sediment Control approvals may be required.
Environmental:	This action will improve the natural environment.
Social:	Does not adversely affect any particular social group.
Administrative Capability:	Borough has the capability to oversee this action, and the County is willing to help implement the Raritan/Sandy Hook Bay Coastal Resilience Planning Study projects.
Local Champion:	This project is one of 11 projects listed in the 2019 Raritan/Sandy Hook Bay Coastal Resilience Planning Study (by Monmouth County) and is supported by the County, the Borough, NWS Earle, and the Planning Study Technical
Other Community Objectives:	
STAPLEE Evaluation:	N/A

Cost Estimate:	
Priority:	High
Scale of Ease of Implementation:	Low
Responsible Party:	Borough, County
Local Planning Mechanism:	Raritan/Sandy Hook Bay Coastal Resilience Planning Study, NWS Earle Joint Land Use Study, Monmouth County Mast
Likely Funding Source(s):	New Jersey Corporate Wetlands Restoration Partnership (NJCWRP), FEMA HMA, National Fish and Wildlife Foundatio
Timeline:	2 years
Action Status:	New
Notes:	

Name: Dana Webb	Title: Engineering Support Technician
Jurisdiction: Union Beach Borough	Organization: T&M Associates

Local Mitigation Capabilities are existing authorities, policies, programs, and resources that reduce hazard impacts or that could be used to implement hazard mitigation activities. Please complete the tables and questions in the worksheet as completely as possible.

Planning & Regulatory

Planning and Regulatory Capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. Please indicate which of the following your jurisdiction currently has in place.

Plan	Yes/No	 What is the date/year of the plan? Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan	Yes	 2015 Accepted, July29, 2015 Yes, it does Yes, the plan promotes various storm and other hazardous related recovery efforts. Yes.
Capital Improvements Plan	Yes	 Annually Yes, the plan addresses flood mitigation. Yes. Yes, the plan implements flood mitigation actions.
Economic Development Plan	No	
Local Emergency Operations Plan	Yes	1.
Continuity of Operations Plan	Yes	1.2015 2.



Post-Disaster Recovery Plan	No	
Transportation Plan	No	
Stormwater Management Plan	Yes	 March 2, 2005 Yes, the Borough's Stormwater Pollution Plan does. Yes, the Borough's Stormwater Pollution Plan does. Yes.
Community Wildfire Protection Plan	No	
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	Yes	 Basic Operations Plan Brook Avenue Redevelopment Plan Strategic Recovery Planning Report Stormwater Capital Plan Rebuild by Design Floodplain Management Plan
Building Code, Permitting, and Inspections	Yes/No	Are codes adequately enforced?
		Version/Year:
Building Code	Yes	
Building Code Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	Score:
Building Code Effectiveness	Yes	Score: Rating:
Building Code Effectiveness Grading Schedule (BCEGS) Score	Yes	
Building Code Effectiveness Grading Schedule (BCEGS) Score Fire Department ISO rating		
Building Code Effectiveness Grading Schedule (BCEGS) Score Fire Department ISO rating Site Plan Review Requirements Land Use Planning and	Yes	Rating: Is the ordinance an effective measure for reducing hazard impacts?



Floodplain Ordinance	Yes	Yes, the Borough adopted FEMA's Flood Damage Prevention Ordinance. Yes, the ordinance is administered and enforced regularly.
Natural hazard ordinance (stormwater, steep slope, wildfire)	Yes	The Borough currently has a Stormwater Management and Stormwater Pollution Plan adopted and both are regularly enforced.
Flood Insurance Rate Maps	Yes	Yes, the 2013 Preliminary maps are adopted Yes, all FEMA mapping, preliminary and effective, are enforced regularly.
Acquisition of Land for Open Space and Public Recreation Uses		
Post-Disaster Recovery Ordinance	No	
Real Estate Disclose Ordinance	No	
Other (ie. Special Purposes Ordinance)	Yes	Special Purposes Ordinance and Growth Management Ordinance
How can the above capabilities	be expan	ded and improved to reduce risk?

Administrative & Technical

Identify whether your community has the following administrative and technical capabilities. These include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions. For smaller jurisdictions without local staff resources, if there are public resources at the next higher-level government that can provide technical assistance, indicate so in your comments.

Administration	Yes/No	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		
Maintenance Programs to Reduce Risk (e.g., tree trimming, clearing drainage systems)	Yes	 Public Works Maintenance Program Stream cleaning Drain Cleaning Catch basins Inlets Tree Trimming → part of state SW plan



Mutual Aid Agreements	Yes	With County
Staff	Yes/No FT/PT	Is the staff full time or part time? Is staffing adequate to enforce regulations? Is the staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Yes	Yes Yes Yes
Floodplain Administrator	Yes	The position is contracted through the Borough Engineer's office and is available at all times. Yes Yes Yes
Emergency Manager	Yes	Yes Yes Yes
Community Planner	Yes	Yes Yes Yes
Civil Engineer	Yes	Yes Yes Yes
Surveyor	Yes	Yes Yes Yes
GIS Coordinator	Yes	Yes Yes Yes
Scientists familiar with the hazards of the community	Yes	Yes Yes Yes
Other		
Technical	Yes/No	Describe capability Has capability been used to access/mitigate risk in the past?
Warning Systems/Services (Reverse 911, outdoor warning signals)	Yes	Code Red Reverse 911



Hazard Data and Information		
Grant Writing	Yes	The Borough Engineer's office provides Grant Writing services to the Borough.
Hazus Analysis	Yes	
Other		
How can the above capabilities I	pe expanded	and improved to reduce risk?
Social media		
• Website		



Financial

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resource	Access / Eligibility (Yes/No)	Has the funding resource been used in the past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital Improvements Project Funding	Yes	Yes, funding for CIP is used in part to prevent future hazardous events.
Authority to Levy Taxes for Specific Purposes	Yes	
Fees for Water, Sewer, Gas, or Electric Services	Yes	
Impact Fees for New Development	Yes	
Stormwater Utility Fee		
Incur Debt Through Private Activities	No	
Community Development Block Grant	Yes	
Other Federal Funding Programs	No	
State Funding Programs		
Other (e.g., withhold spending in hazard-prone areas)	Yes	Incur Debt through General Obligation Funds and Incur Debt through Special Tax and Revenue Bonds

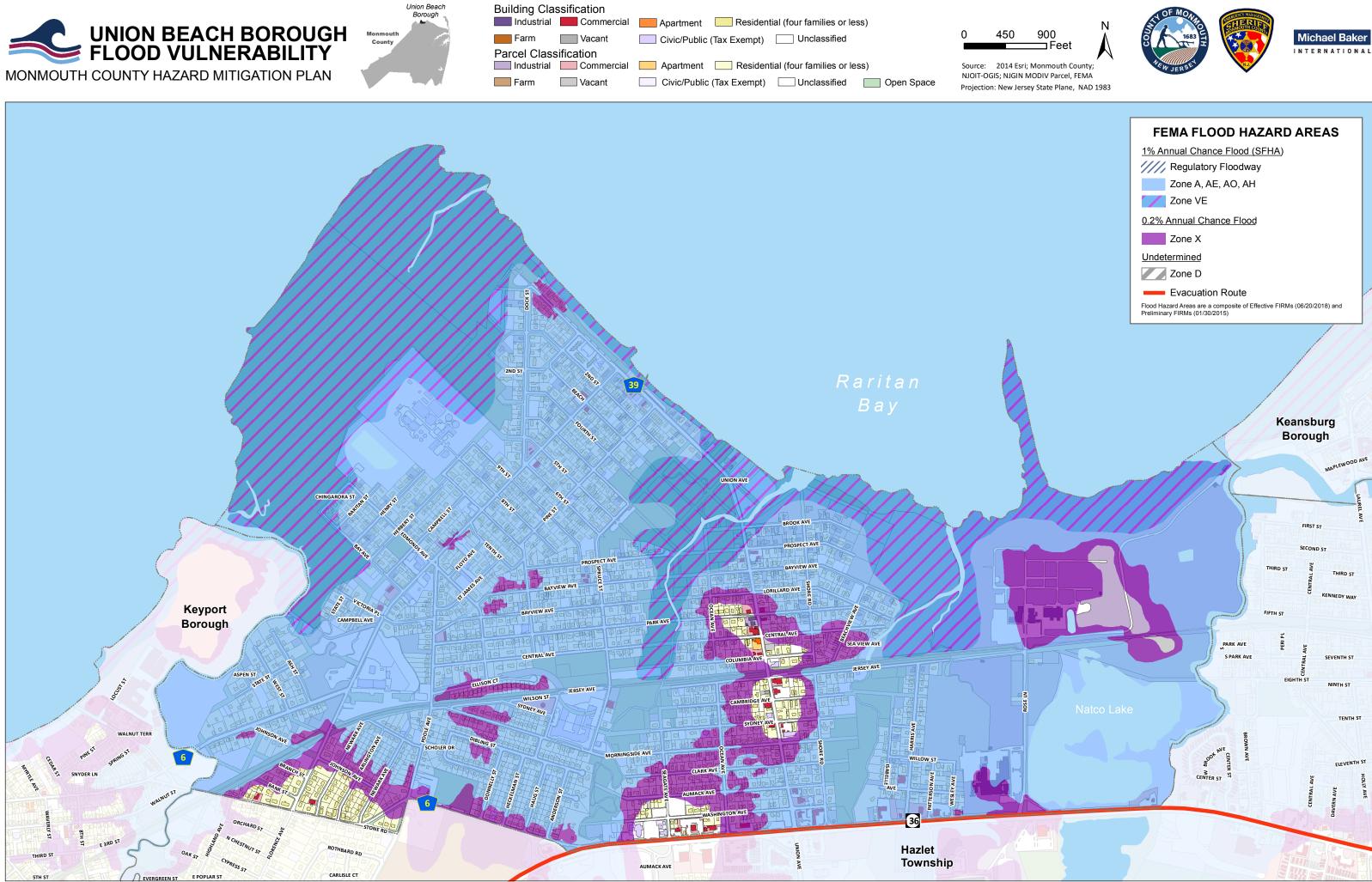


Education and Outreach

Identify education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information.

Program/Organization	Yes/No	Describe program/organization and how it relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local Citizen Groups or Non- Profit Organizations Focused on Environmental Protection, Emergency Preparedness, Access and Functional Needs Populations, etc.		
Ongoing Public Education or Information Programs (e.g., responsible water use, fire safety, household preparedness, environmental education)		
Natural Disaster or Safety Related School Programs		
StormReady Certification		
Firewise Communities Certification		
Public-Private Partnership Initiatives Addressing Disaster Related Issues		
Other		
How can these capabilities be expa	anded and i	mproved to reduce risk?





ide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS. map was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State









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Hazlet Township

A EVERGREEN ST E POPLAR ST ap was developed using the 10-04-18 statewide composite of parcel data published by the NJOIT-OGIS. The State of ffort to provide secure, accurate, and complete data and metadata. However, portions of the data and metadata may be incorrect or not current. Any errors or omissions should be reported for investigation to OGIS.

CARLISLE CT

Keyport Borough

NALNUT TERF



450



Source: 2014 Esri; Monmouth County; NJOIT-OGIS; NJGIN MODIV Parcel, FEMA Projection: New Jersey State Plane, NAD 1983





POTENTIAL SEA LEVEL RISE **INUNDATION AREAS**

1 Foot Sea Level Rise (2050)

3 Foot Sea Level Rise (2100)

Evacuation Route

Spatial Resolution and Accuracy: This map depicts inland extent and relative depth of inundation for 1ft. and 3ft. of SLR using NOAA SLR data with a vertical datum of Mean Higher High Water (MHHW). These inundation ranges are consistent with the Rutgers University's New Jersey Climate Adaptation Alliance Science and Technical Advisory Panel Report (STAP Report). The STAP Report estimates New Jersey will experience SLR between 1.0 and 1.8 feet prior to 2050, regardless of future greenhouse gas emissions. The data displayed on this map represents current conditions and does not consider natural processes such as erosion or marsh migration not consider natural processes such as erosion or marsh migration that will be affected by future sea level rise. Due to coarse spatial resolution, the user should not interpret the layers as precise inundation extents.

PARK AVE

HOO'

SENTER ST

S PARK AV

PERI

Keansburg Borough

> IRST S SECOND ST

> > THIRD

KENNEDY WA

SEVENTH ST

NINTH ST

TENTH ST

ELEVENTH





MEETING NOTES

Topic: Tilton Falls- Monmouth County HMP Update Meeting

Date: June 11, 2019

Time: 2:00 PM- 3:00 PM

Location: Borough Hall, 2nd Floor, 556 Tinton Avenue, Tinton Falls, NJ

Attendees:

Tom	Neff	Borough Engineer
Brittany	Ashman	MB Planner

Drafted by: Paige Kaspar

Introductions (Paige):

- Goals and Hazards
- What is Mitigation Hazard Planning?
- Funding Available
 - o HMA
- Mitigation Strategies

2015 Mitigation Action:

- Community Action 50_01 Implementation of the Army Corps of Engineers Shore Protection and Flood Control Ongoing
 - Beach fill/dunes
 - \circ Acquisition Phase 1: 5-10 beachfront whole lots, 300 hundred easements
 - Phase 2: levees, flood wall, pump stations, flood gates
 - East Beach area
 - West Beach area
 - New cost estimate = \$ 275 million
- Community Action 50_02 Elevate 1,222 homes ongoing
 - 300-400 homes have been elevated
 - There are 2,100 homes in total with 1,222 homes in the SFHA
 - Cost estimate = \$100,000 per house elevation





- Community Action 50_03 Raising Roadway (Spruce Street, Center Street, Fifth Street) Completed
- Community Action 50_04 Raising Roadway (Front Street) Ongoing
 - HMP application submitted by county pending
- Community Action 50_05 Relocate Department of Public Works Main Building Ongoing
 - There is little outside SFHA
 - The building is not able to be floodproofed or elevated as it is too old
 - The front portion of the building will be demolished
 - Communication w/ IFF company
- Community Action 50_06 Relocate Harris Garden Fire Company Building Ongoing
 - Consolidate fire stations into one station \rightarrow there are 3
 - 4 stations consolidating to one station, 4 will go into 3, 1 2 are figuring it out
- Community Action 50_07 Raising Roadway (Florence Ave) Ongoing
 - County will raise road Florence Ave bridge
 - Currently in the design/permit phase
- Community Action 50_08 Flood Warming Signage Ongoing
 - Radio station down
 - Purchase new signs
 - Electric already on poles
- Community Action 50_09 Stream/Creek Maintenance Completed
 - Now a capability
 - Public Works maintenance program
- Community Action 50_10 Maintenance of Shore Protection Features Ongoing
 - Now a capability
 - Tied to the Army Corp project
 - Public Works maintenance program
- Community Action 50_11 Construct a Stone Revetment Wall Ongoing
 - If Army Corp wall fails
- Community Action 50_12 Storm Drain/Inlet Maintenance Ongoing
 - Now a capability
 - Public Works maintenance program
- Community Action 50_13 Update Emergency Warning System Ongoing
 - o 3 sirens
 - Cost Estimate \$100,000

2020 Mitigation Actions (NEW):

- 14 Memorial School/Borough Hall need generators in order to operate as shelters
- 15 Raise Park Ave, floods during high tide, First Aid, Fire Station, OEM, and school roads need to be clear
 - This is a HIGH priority





Successes:

- Updating Borough Hall for security
 - o interior hallways are secure by cards
 - Transaction bullet proof windows
 - o Judges chambers secure (bringing into state/county judicial OAC code
 - Security cameras
- Had a meeting w/ RL & SRL properties prior to Sandy
 - Vacant cause of Sandy
 - Owners are selling to developers



Monmouth County Multi-Jurisdictional Hazard Mitigation Plan Update





Meeting: Union Beach HMP

Date: 06-13-19

Initial	Last Name	First Name	Title	Organization	Email Address
S	ferrone	1022	Coordinator	Union Beach	Schoperrone is @ a mail. court
Æ	Harriot Sr	John	Deputy	Union Beach DEM	Union Beach DEM HAZMAR 9310 Not. Con
	W, cki	Albin	Coupcil Pressident	UNION BEAch	AJWICKI @GMAil. Com
	DANSACK	DENNIS	Bono ENGL.	TEM Assec.	DOALBACK (2) TANO MASSUCIATES COM
	Heward	RUBERT	BORVUCH ADMINISTRATUR	UNION BEACH	RMHOWARDIR QUNION GEACHNJ. GOV
	Ashman	Britlany	Planner	MB	